

RA 2335 - Flying Displays, Display Flying, Role Demonstrations and Flypasts

Rationale

Military involvement in Flying Displays, Display Flying, Role Demonstrations and Flypasts¹ plays an important role in Defence Engagement in the UK and abroad. These activities also allow Heads of Establishment (HoE)² to engage with the families and friends of serving military personnel, and Commanders to engage with their local communities. Flying Displays, Display Flying, Role Demonstrations and Flypasts can involve Aircraft operating in close proximity to gatherings of people; this activity involves an increase in Risk to Life (RtL) over normal operating and if not managed effectively this Risk could become intolerable. This Regulatory Article (RA) regulates all UK military registered Aircraft³ (when conducting Display Flying, Role Demonstrations and Flypasts (Mil) worldwide) and foreign military registered Aircraft (when conducting Display Flying, Role Demonstrations and Flypasts (Mil) in the UK); additionally, it regulates all Flying Displays held over MOD-Occupied Property⁴ in the UK, and, Flying Displays held over non MOD-Occupied Property in the UK that involve military registered Aircraft only. It ensures that appropriate individuals are made responsible for all facets of planning, organizing, managing and delivering Flying Displays, Display Flying, Role Demonstrations and Flypasts (Mil) to ensure RtL remains As Low As Reasonably Practicable (ALARP)⁵ and Tolerable.

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Applicability

Applicability of this RA

Applicability of this RA. When conducting Flying Displays, Practises and validations this RA applies to the following:

- a. The HoE, Event Organizers (EO) and Flying Display Directors (FDD) of Flying Displays held over MOD-Occupied Property.
- b. Aviation Duty Holders (ADH), Accountable Managers (Military Flying) (AM(MF)), EO and FDD involved in Display Flying over non MOD-Occupied Property that involves UK military registered Aircraft only.
- c. All personnel involved in conducting Display Flying, Role Demonstrations or Flypasts (Mil) utilizing military registered Aircraft⁶.
- d. All personnel involved in conducting Display Flying or Flypasts utilizing civil registered Aircraft over MOD-Occupied Property.
- e. All foreign military registered Aircraft when conducting Display Flying, Role Demonstrations and Flypasts (Mil) in the UK.

¹ Words and terms in this Regulation with capitalization are defined in either [MAA 02: ►MAA Master Glossary◄](#) or ►UK◄ CAA CAP 403.

² ►Refer to MAA02 – MAA Master Glossary. Note that the MAA02 definition of HoE requires all MOD establishments to have a HoE and, for the context of this Regulation, where a Defence Contractor Flying Organization is also the operator of an unlicensed non-MOD Aerodrome then by definition a HoE will be in place. Additionally, the term HoE also includes Commanding Officers of aviation capable His Majesty's (HM) / MOD Ships. ◄

³ That is any Aircraft on the Military Aircraft Register or any Aircraft ►utilized and piloted◄ by the MOD.

⁴ The term 'over MOD-Occupied Property' refers to Display Flying, Role Demonstration or Flypast activity conducted for personnel located within the boundaries of an MOD site even if the activity is conducted over civilian land or water.

⁵ Refer to [RA 1210 – Ownership and Management of Operating Risk \(Risk to Life\)](#).

⁶ This includes all military registered Remotely Piloted Air Systems (RPAS) detailed in the [RA 1600 Series: Remotely Piloted Air Systems](#).

Definitions

Definitions Relevant to this RA

2. **Aerobatic Manoeuvres.** Intentionally performed manoeuvres which involve angles of pitch or bank greater than 90° to the horizon or yawing through angles greater than 20°. Exceptions to this definition are:
 - a. Stalling and spinning.
 - b. Operational training manoeuvres stipulated by ADH / AM(MF).
 - c. Yawing turns in Rotary Wing Aircraft and Vertical and Short Take-Off and Landing (VSTOL) Aircraft.
 - d. Trials or air weapons range manoeuvres stipulated by appropriate authorities.
3. **Car Parks.** Where the term 'Car Park' is used in this RA, it applies to Car Parks to which Spectators have access during Flying Displays, Role Demonstrations or Flypasts and as such will be considered in the same manner as the Spectator Area.
4. **►UK◄ Civil Aviation Authority (CAA) Flying Display Permission.** A Permission granted by the ►UK◄ CAA for a Flying Display in accordance with (iaw) the Air Navigation Order (ANO) and Civil Aviation Publication (CAP) 403⁷ through either an Article 86 Permission or a Standardised European Rules of the Air (SERA) 5005(f)(2) Private Flying Display Permission; throughout this RA these are referred to as a ►UK◄ CAA Flying Display Permission.
5. **Congested Area⁸.** Any area which is substantially used for residential, industrial, commercial or recreational purposes.
6. **Crowd Line.** The line delineating the closest edge of any area, including Car Parks, accessible to Spectators with respect to the Display Area / Display Line.
7. **Display Area.** The Display Area is the ground area footprint of the airspace within which displaying Aircraft may be manoeuvred below the following heights; subject to the limits of the ►UK◄ CAA Flying Display Permission (if applicable), any restrictions imposed by the FDD, and the individual Participant's Public Display Authority (PDA) or Display Authorization (DA):
 - a. Military Aircraft:
 - (1) 500' Minimum Separation Distance (MSD) for Aerobatic Manoeuvres.
 - (2) 250' MSD for Non-Aerobatic Manoeuvres in Fixed Wing Aircraft.
 - (3) 100' MSD for Non-Aerobatic Manoeuvres in Rotary Wing Aircraft.
 - b. Civilian Aircraft⁹:
 - (1) SERA.5005(f)(1) and SERA.5005(f)(2).
8. **Display Authorization (DA).** A national document detailing the groups and categories of civilian Aircraft in which a pilot is authorized to display, together with any limitations and other specific endorsements.
9. **Display Datum.** The Display Datum is the point on the Display Line upon which individual displays are based and is normally the centre point of the crowd¹⁰.
10. **Display Flying.** Any flying activity designed to demonstrate an Aircraft's performance beyond that normally carried out during routine operations and training, whether or not it is performed in front of the public. A DA, PDA or foreign equivalent is required (except during Display Flying work-up training as per RA 2335(2)).
11. **Display Flying Supervisor.** A Suitably Qualified and Experienced Person (SQEP) selected by the ADH / AM(MF) to supervise Display Flying Aircrew during their work-up period and throughout the display season.

⁷ ► Refer to CAP 403 – Flying Displays and Special Events: Safety and Administrative Requirements and Guidance. ◄

⁸ Refer to Schedule 1 of the ANO 2016 ►or UKMLFH. ◄ For planning purposes and clarification, a golf course attached to a Congested Area is considered part of that Congested Area and must be treated as such when considering overflight restrictions.

⁹ Civil registered Aircraft limitations and minima are detailed in the ANO, SERA.5005 Visual Flight Rules and CAP 403.

¹⁰ FDD may elect not to mark the Display Datum if there is a suitable and easily recognisable physical feature in the correct position.

Definitions

12. **Display Team / Display Item.** A single, formation or group of Aircraft, flying as one single display 'act' throughout.
13. **Display Line / Display Axis.** A line defining the track along which displaying Aircraft may operate.
14. **Display Pilot.** A pilot who holds a DA, DA Exemption, or civilian equivalent issued by their National Aviation Authority, or a military PDA, which allows them to participate in a Flying Display.
15. **Display Sequence.** The Display Sequence is a complete list of all the individual manoeuvres, in chronological order, that are intended to be demonstrated by a Participant during a Flying Display¹¹.
16. **► Display Site.** The Display Site is the combined area encompassing the Display Area and the surrounding airspace utilized for the Flying Display. ◀
17. **Event Organizer (EO).** The EO is the person responsible for all matters pertaining to the wider planning and execution of an event that includes a Flying Display and for the Safety of the general public, both at the event and those affected by the wider impacts of the event.
18. **Flying Control Committee (FCC).** A group of suitably experienced persons appointed to assist the FDD with the Safety Management of a Flying Display.
19. **Flying Display.** Any event at which Display Flying is deliberately performed for the purpose of providing an exhibition or entertainment. ► For the purpose of this RA a Flying Display commences when the first Aircraft begins Display Flying to the point the last Aircraft finishes Display Flying. ◀
20. **Flying Display Director (FDD).** The person responsible for the safe conduct of a Flying Display¹².
21. **Flying Display Director Mentor (FDD Mentor).** A FDD that has been accredited under the joint ► UK ◀ CAA / MAA FDD accreditation scheme so endorsed as to permit mentoring of aspiring FDDs¹³.
22. **Flypast (Mil).** A Flypast (Mil) involves military registered Aircraft flying, either singly or in formation, over or past a gathering of Spectators along a pre-planned route without manoeuvring, other than when necessary for safe and accurate navigation ► or repositioning. ◀ Accordingly, ► Flypasts ◀ will not include Aerobatic Manoeuvres ► but may include up to 3 pre-planned passes. ◀
23. **High and Low Energy Display Flying.** Display Flying is considered High Energy if it contains Aircraft with a Max Take Off Mass of >1200 kg or the Aircraft display at >150 Knots Indicated Air Speed (KIAS); all other Display Flying is considered Low Energy.
24. **MOD-Occupied Property**¹⁴. An Aerodrome in the occupation of the MOD or of any visiting force in the UK¹⁵ or any other premises in the occupation or under the control of the MOD.
25. **Participant.** An airborne performer or any person directly involved in the conduct of ► ◀ Display Flying, Role Demonstrations or Flypasts.
26. **Public Display Authority (PDA).** A document detailing the Display Sequence or individual manoeuvres a military Display Pilot is authorized to conduct in a specific Aircraft, together with any limitations and other specific endorsements.
27. **Role Demonstration.** Any flying activity designed to demonstrate an Aircraft's performance commensurate with that normally carried out during routine operations and training.

¹¹ The CAP 403 equivalent is a Display Routine - A series of linked manoeuvres to be performed during a Flying Display.

¹² The EO and FDD might in some cases be the same person.

¹³ The ► UK ◀ CAA and MAA review the FDD accreditation list annually and invite SQEP Tier 3 FDD's to become FDD Mentors. Whilst FDD Mentors are usually Tier 3, experienced FDDs from Tier 1 and Tier 2 will be considered but will not mentor a FDD of a higher Tier.

¹⁴ As defined in CAP 403 and ANO 2016, [Article 86 Para 15 \(a\)](#).

¹⁵ Visiting Force is any visiting foreign military in this context.

Definitions

28. **Secondary Spectator.** A person viewing a Flying Display from a location which has not been specifically designated for Spectators by the EO or FDD. This definition may include third parties.
29. **Spectator.** A person attending a Flying Display specifically to witness the event.
30. **Spectator Area.** An area specifically designated for Spectators by the EO or FDD and approved by the FDD for Flying Display Safety purposes which includes all areas to which Spectators have access during the Flying Display.

Regulation 2335(1)**Flying Display Organization and Management**

- 2335(1) All Flying Displays, Practises and Validations **shall** be planned, managed, organized and delivered ensuring RtL is ALARP and Tolerable.

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31. **Applicability of this Regulation.** RA 2335(1) **should** apply to:
- The HoE, EO and FDD of all Flying Displays held over MOD-Occupied Property;
 - ADH / AM(MF), EO and FDD for events held over non MOD-Occupied Property where the only Participants are military registered Aircraft.

HoE Responsibilities

32. **HoE.** The HoE **should**:
- Be accountable for planning, managing, organizing and delivering a Flying Display, assuring themselves that RtL is ALARP and Tolerable.
 - Issue Terms of Reference (ToRs) to the EO and FDD that appropriately bound their responsibilities (see para ►63◄ for guidance).
 - Provide a safe operating environment within which Aircraft can conduct Display Flying.
 - As an ADH-facing ►and AM(MF)-facing◄ entity, actively support the relevant ADH / AM(MF), or equivalent, in their management of Air Safety and identify any decision, activity or change in circumstances that has the potential to introduce new or increased RtL to an ADH / AM(MF)'s operations, or which challenges the achievement of their ALARP and Tolerable status¹⁶.
33. **Appointing Flying Display Executives.** The HoE **should** appoint suitably experienced Flying Display Executives as follows:
- EO.** The post of EO **should** be held by a suitably experienced person.
 - FDD.** The post of FDD (and Deputy FDD, when appointed) **should** be held by a SQEP who **should not** be a Participant in the Flying Display. Additionally, the FDD **should**:
 - Hold a valid FDD accreditation for the Tier of Flying Display being held, iaw para 40, ►66, 67 and 68. ◄
 - Be current for the Tier of Flying Display being held, iaw para 40, ►66, 67, 70 and 71. ◄
 - The FDD **should** have primacy over the EO in all matters concerning Air Safety.
34. **Flying Displays held over non MOD-Occupied Property with military registered Aircraft only.** Where a Flying Display is held over non MOD-Occupied Property and / or there is no HoE, the EO ►or FDD◄ **should** accept Accountability for the HoE responsibilities listed at para 32, 33, 48 and 52 of this RA. If the EO ►or

¹⁶ ►Refer to [RA 1032 – Aviation Duty Holder-Facing Organizations and Accountable Manager \(Military Flying\)-Facing Organizations - Roles and Responsibilities](#). ◄

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FDD is unable or unwilling to accept Accountability the Flying Display **should not** involve military registered Aircraft.

ADH / AM(MF) Responsibilities

35. **ADH / AM(MF) Responsibilities.** ADH / AM(MF) **should** retain responsibility for the safe operation of Aircraft in their Area of Responsibility (AoR) when they are involved in Display Flying, Role Demonstrations and Flypasts (Mil).

36. ADH / AM(MF) **should** ensure that Display Flying conducted by Aircraft within their AoR is specifically included within the Air System Safety Case (ASSC)¹⁷.

Authority and Permissions

37. **Authority to conduct Flying Displays.** Authority to conduct a Flying Display over MOD-Occupied Property **should** be given by the HoE and the MAA informed (DSA-MAA-Display-Forms@mod.gov.uk) at least 42 days prior to the event using [RA 2335 Form 1 \(Flying Display Notification Form\)](#). **▶ The HoE should detail in orders the ◀ administrative arrangements for such events ▶ ◀.**

38. **Events over non MOD-Occupied Property in the UK.** Where an event is held over non MOD-Occupied Property, military registered Aircraft **should** only conduct Role Demonstrations or Flypasts (Mil), unless a **▶ UK ◀** CAA Flying Display Permission is in place.

a. **Flying Displays over non MOD-Occupied Property in the UK with military registered Aircraft only.** Such events are MAA regulated for which a **▶ UK ◀** CAA Flying Display Permission **▶ will not ◀** be issued; in these circumstances a Participant's ADH / AM(MF) **should** (providing they assess the activity is appropriate, ALARP and Tolerable) apply to the MAA for a Waiver to para 38 iaw MAA03¹⁸ having:

- (1) Assured themselves that an EO and FDD have been appointed.
- (2) Ensured that the EO understands and accepts Accountability for planning, managing, organizing and delivering the **▶ Event. ◀**
- (3) Ensured that the FDD understands that this RA applies to the event and complies with its requirements fully.
- (4) **▶ Assured themselves that the FDD has conducted a Risk Assessment in lieu of a HoE as per para 32. ◀**
- (5) Confirmed that the venue is suitable for their Aircraft to conduct Display Flying.

b. Where there are multiple Participants and more than one ADH / AM(MF), the ADH / AM(MF) with the most Aircraft involved in the Flying Display **should** liaise with the other Participants ADH / AM(MF) prior to submission of a combined Waiver request, covering all Aircraft involved, to the MAA.

39. **Participation of non-Release to Service (RTS) UK military registered Aircraft.** Participation of non-RTS UK military registered Aircraft at Flying Displays, Role Demonstrations or Flypasts (Mil) **should** be approved by the Aircraft ADH / AM(MF). Such activity **should** conform with the Air System Military Permit to Fly **▶ ◀**. The MAA **should** be informed of such activity (DSA-MAA-Display@mod.gov.uk) at least 14 days prior to the event.

40. **Flying Display Categorization.** The following criteria **should** be used by HoE, EO and FDD in conjunction with Table 1 to categorize Flying Displays into Tiers¹⁹; FDDs **should** be accredited to at least the same Tier as that of the Flying Display:

a. **High ▶ and ◀ Low Energy ▶ Display Flying (as per para 23). ◀**

b. **Complexity.** HoE, EO and FDD **should** consider the following criteria when making a judgement on whether an event is High or Low complexity:

¹⁷ Refer to [RA 1205 – Air System Safety Cases](#).

¹⁸ Refer to **▶ Annex B ◀** of [MAA03: MAA Regulatory Processes](#).

¹⁹ The MAA may increase the Tier of event anticipated by the HoE, EO and FDD.

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- (1) **Airspace.** Consider the complexity of the airspace surrounding the display venue, including proximity to Controlled Airspace or areas with specific limitations that may affect the type of Aircraft displaying.
- (2) **Geography.** Consider the Hazards posed by the terrain along with the event layout.
- (3) **Congested Areas.** Consider the proximity, density and size of Congested Areas.
- (4) **Secondary Spectators and Third Parties.** Consider the likelihood and controllability of Secondary Spectators and third parties gathering outside the designated Spectator Areas▶◀ and any effect the Flying Display might have on members of the public in the vicinity. Consider the proximity of major roads, railway lines and local infrastructure and how busy they are likely to be during the event.
- (5) **Display Length.** Consider the effect of the Flying Display window on deconfliction issues, eg 3 items over 2 hours may be less complex than 3 items over 15 minutes.
- (6) **Display Team▶²⁰◀ / Display Item Size.** Consider the number and type of Aircraft in a Display Team / Display Item with respect to the size and nature of the display venue.
- (7) **Event Type.** Consider the type of event and how Display Flying activity is integrated; ▶ie◀ is the Flying Display the focus of the event or just an additional attraction?

Table 1. Flying Display Tiers

No of Items ²⁰	Low Complexity Low Energy	Low Complexity High Energy	High Complexity Low Energy	High Complexity High Energy
1	Tier 1	Tier 1	Tier 1	Tier 1
2-3	Tier 1	Tier 2	Tier 1	Tier 2
4-7	Tier 1	Tier 2	Tier 2	Tier 2
8-12	Tier 2	Tier 2	Tier 2	Tier 3
13+	Tier 3	Tier 3	Tier 3	Tier 3

Note: Any Flying Display with a High Energy Display Team of 3 or more Aircraft **should** be categorized as a minimum Tier 2.

EO, FDD and FCC Responsibilities

41. **EO.** The EO **should** be responsible for all matters pertaining to the wider planning and execution of the event. As a minimum the EO **should**²¹:
 - a. Be responsible for the production of an event Risk Assessment.
 - b. Ensure that appropriate insurance arrangements are in place for all participating Aircraft, whether participating as a Static Display, Flypast, Role Demonstration or conducting Display Flying²².
42. **FDD.** At events over MOD-Occupied Property the FDD is responsible to the HoE for the safe conduct of the Flying Display. As a minimum, the FDD **should** be responsible for²¹:
 - a. Designating a Display Area. Details of Obstacles, Hazards, Structures occupied by non-essential personnel and any anticipated areas of Secondary Spectators or third parties within the Display Area **should** be annotated on a 1:50,000 scale map which is promulgated to all Participants at least 42 days prior to the event.

²⁰ A Display Team is classed as a single Display Item.

²¹ This list is not exhaustive, and the HoE may wish to expand responsibilities within ToRs.

²² For insurance requirements see [JSP 360 - ▶Use of Military Aerodromes by Civil Aircraft◀](#), Part 2: ▶Guidance◀, Chapter 2: ▶Insurance and Fees◀, Para 4.

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- b. Hazard identification and the subsequent assessment of Risk, application of control measures and mitigations associated with the Flying Display elements of an event;
 - c. Production and promulgation of a Flying Display Risk Assessment to all Participants at least 42 days prior to the event.
 - d. The coordination, control and Safety of all flying activities conducted as part of a Flying Display.
 - e. Monitoring flying discipline during a Flying Display.
 - f. The scrutiny of all Participants' DA, DA Exemption, PDA or foreign Participants national equivalents for regulatory compliance.
 - g. The briefing (including the production of written Display Pilots' notes) and debriefing of all Participants.
 - h. Control of the Flying Display programme and cancellation or modification of the programme in the case of adverse weather or other conditions that directly affect the Flying Display.
 - i. The appointment and management of a FCC, if applicable (see para ►43◄ and ►44◄).
 - j. Ensuring appropriate orders or instructions for the Flying Display are in place, including orders or instructions for Incident and Post-Crash Management.
 - k. Coordinating the completion and submission of [RA 2335 Form 2 \(Foreign Military Participant Application Form\)](#) seeking Approval from the MAA (DSA-MAA-Display-Forms@mod.gov.uk) for foreign military registered Aircraft involvement at least 42 days prior to the event and [RA 2335 Form 3 \(Foreign Military Participant Validation Form\)](#) iaw para 46 and ►77.◄
 - l. Event Occurrence reporting.
 - m. Ensuring the Local Authority Safety Advisory Group (SAG) is involved in the planning from the earliest opportunity possible.
 - n. Ensuring appropriate airspace reservations have been considered iaw CAP 403 and the relevant submissions are made using ►UK◄ CAA [on-line Airspace Coordination and Obstacle Management form](#) within the timescales specified²³.
 - o. Providing written feedback to the MAA (DSA-MAA-Display-Forms@mod.gov.uk) using [RA 2335 Form 4 \(Flying Display Director Post Event Feedback Form\)](#) within 7 days of the event.
 - p. When appointed, issue the FCC with ToRs that bound its responsibilities.
43. **FCC.** An FCC **should** be appointed by the FDD for Flying Displays where there are 4 or more Display Items.
44. **FCC Responsibilities.** As a minimum, the FCC's responsibilities **should** include:
- a. Assisting the FDD with the safe ►delivery◄ of the Flying Display.
 - b. Assisting the FDD to monitor the standard and Flying Display related discipline of Participants.
 - c. Assisting the FDD in the validation of any display Participants, if required.
 - d. Providing the FDD with specialist knowledge regarding Display Items.
 - e. Providing the FDD with SQEP opinion in the case of any regulatory infringements or concerns regarding flying discipline.
 - f. Advising the FDD on restrictions or additional limitations if required.

²³ The establishment of a Restricted Airspace (Temporary) (RA(T)) requires the issue of a statutory instrument by the Department for Transport and ►requires notification◄ a minimum of 90 days in advance of the event. RA(T) applications ►are◄ requested from and submitted to the ►UK◄ CAA Airspace Regulation department at: AROps@caa.co.uk.

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- g. Monitoring the conduct of all display Participants for regulatory compliance.
- h. Intervening or stopping, on the grounds of Safety, any display Participant or, in extreme cases where the FDD cannot be consulted, the whole Flying Display.
- i. Being available throughout the period of the Flying Display.

Foreign Military Participants at Flying Displays in the UK

45. **FDD Responsibilities.** If foreign military Aircrew²⁴ intend to participate at a Flying Display in the UK, the FDD **should** ensure that:

- a. Foreign military Participants are approved to conduct Display Flying, Role Demonstrations or Flypast (Mil) at Flying Displays in the UK by the MAA.
- b. Foreign military Participants are validated to conduct Display Flying, Role Demonstrations or Flypast (Mil) at Flying Displays in the UK, if required (see para ►46◄ and ►77◄).
- c. A completed [RA 2335 Form 2 \(Foreign Military Participant Application Form\)](#) is submitted to the MAA (DSA-MAA-Display-Forms@mod.gov.uk) at least 42 days prior to the event.
- d. The foreign military Participant submits the planned (zero wind speed) ►◄ Display Sequence ►◄ to the FDD ►which◄ **should** include detail on minimum heights and maximum speeds for each manoeuvre. The FDD **should** use this information to confirm the Participant complies with this RA ►and that◄ the Display Sequence is suitable for the Display ►Site. Confirmation that the sequence is suitable **should** be included within the RA 2335 Form 2 submission. A map showing the Display Site with the Display Sequence footprint overlaid may be included with the Form 2 submission or provided when requested by the MAA. The FDD **should** ensure ◄ the Display Item ►is included within the ◄ Flying Display Risk Assessment ►◄.
- e. Where a foreign military display Participant has a nationally approved sequence (PDA or equivalent) which does not adhere to the limits within this RA then the ►HoE (or equivalent accountable individual for a UK CAA regulated event), working with the FDD or EO, ◄ **should** consider which is safer; to request the foreign display Participant to change the approved display or to submit a Waiver request¹⁸ to the MAA to allow the nationally approved sequence to be flown.

46. **Foreign Military Participant Validations.** If required by the MAA, HoE, EO or the FDD, the validation of such Participants **should** be conducted by the FDD, or a suitably experienced individual nominated by, and on behalf of, the FDD.

- a. **Validation Reporting.** The FDD **should** complete and submit [RA 2335 Form 3 \(Foreign Military Participant Validation Form\)](#) to the MAA (DSA-MAA-Display-Forms@mod.gov.uk) prior to the Flying Display for which the validation is intended. For further guidance see para ►77.◄
- b. **Validation during a Flying Display.** Validation of a Participant **should not** take place during the Flying Display for which the validation is intended. ►Validation may take place on the day of a Flying Display but in order to protect Spectators, Secondary Spectators and third parties, validation **should not** take place after the arrival on site of the first Spectator through to the departure from site of the last Spectator. ◄
- c. **Validation in areas where overflight of Third Parties or Secondary Spectators cannot be avoided.** When validating a Display Sequence at a venue where the display footprint either overflies or could overfly third parties or Secondary Spectators, then the FDD **should** assess the Risk to these persons and, if appropriate, conduct validation at an alternative location. If the Risk to third parties and Secondary Spectators cannot be avoided, then the HoE

²⁴ For further guidance ►on foreign military registered Aircraft Participating at UK Flying Displays◄ see para ►76-77.◄

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should ensure the Risk is ALARP and Tolerable and record the decision appropriately.

Foreign Military Registered Aircraft conducting Flypasts (Mil) at Other Events

47. **Foreign Flypast (Mil).** Foreign military registered Aircraft conducting a Flypast (Mil) at an event other than a Flying Display in the UK do not require formal MAA Approval; however, the relevant sections of [RA 2335 Form 2 \(Foreign Military Participant Application Form\)](#) **should** be submitted to the MAA (DSA-MAA-Display-Forms@mod.gov.uk) at least 14 days prior to the event and the activity **should** be conducted iaw RA 2330²⁵ and the UK Military Low Flying Handbook (UKMLFH)²⁶.

Safety Considerations

48. **Secondary Spectators and Third Parties.** The HoE, EO and FDD **should** take all reasonable steps to minimize the Risk to Secondary Spectators and third parties. Particular consideration **should** be given to the following:

- a. **Congested Areas.** Flight over Congested Areas **should** be conducted iaw RA 2330²⁵. Where flight over Congested Areas cannot be undertaken iaw RA 2330²⁵ the HoE, working with the FDD **▶ and / or EO ◀**, **should** put in place appropriate mitigations to ensure RtL is ALARP and Tolerable and request a Waiver against RA 2330²⁵, iaw MAA 03¹⁸.
- b. **Roads and Railways.** The HoE, working with the FDD and EO, **should** put in place and record appropriate mitigations to ensure RtL is reduced to ALARP and Tolerable for third parties on busy roads and railways surrounding a Flying Display venue.
- c. **Secondary Spectators.** The HoE, working with the EO, **should** identify areas likely to be occupied by Secondary Spectators and take all reasonable steps to prevent Secondary Spectators gathering in high-Risk areas. Prevention will not always be possible; in this case the EO **should** take all reasonable steps to inform Secondary Spectators of the Risk to them and record the mitigations taken.
- d. **▶ Third Parties.** The HoE, working with the EO, **should** identify areas likely to be occupied by third parties and take all reasonable steps to relocate them. This may not always be possible; in this case the EO **should** take all reasonable steps to inform third parties of the event. The HoE **should** ensure that any RtL is reduced to ALARP and Tolerable and record decisions made and mitigations taken. ◀
- e. **Curtailing a Flying Display due to Secondary Spectators or Third Parties.** The presence of Secondary Spectators or third parties may not automatically require a Flying Display to be curtailed or abandoned; an EO and / or FDD **should** use their judgement to assess the Risk against the mitigations taken and satisfy the HoE that all reasonable steps to ensure any RtL is reduced to ALARP and Tolerable.

49. **Arrivals and Departures at Flying Display venues.** All arrivals and departures at display venues **should** be conducted iaw Aerodrome procedures and / or extant Regulations.

50. **Use of PDA or DA privileges during arrivals and departures.** Participants **should not** use the privileges of their PDA or DA during arrivals or departures unless explicitly approved by the FDD; such Approvals **should** be limited to pre-arranged Display Flying practises or when the arrival or departure is conducted as part of the Display Sequence during the Flying Display itself.

51. **Minimum Public Safety Considerations.** HoE, EOs and FDDs **should** ensure that, as a minimum, the following specific requirements for public Safety are met:

- a. Spectator Areas **should** be clearly delineated by barriers. At display venues where the Spectator Area also has defined sides, the Crowd Line, for the purpose of an Aircraft maintaining the correct lateral separation distances,

²⁵ Refer to [RA 2330 – Low Flying](#).

²⁶ UKMLFH para 01.04.07 and 01.04.08 refers.

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should be considered to run along the front and down the sides of the Spectator Area.

b. Adequate markings **should** be set up in the Display Area to enable Participants to maintain appropriate separation from the Spectator Areas. Details of ground markings and lateral separation distances are at paras ►54◄ and ►112◄ respectively.

c. Aircraft approach and departure routes to the Display Area **should** be chosen to avoid overflight of Spectator Areas. These routes **should** minimize Risk for adjacent Congested Areas, see paras ►48a◄ and ►103.◄

d. Aircraft parking areas **should** be out of bounds to Spectators when engines are running or Aircraft are taxiing ►within the parking area.◄

e. Suitable routes for emergency vehicles **should** be established, clearly marked, and kept free from obstruction at all times.

f. Participants **should** advise the FDD of specific Hazards relating to their Aircraft. The EO and / or FDD **should** check the hazardous materials of military registered Aircraft on the MOD Aircraft Crash Hazards Document Set (accessible via MOD computer systems only)²⁷.

52. **Risk Management.** The HoE, working with the EO and FDD, **should** ensure that Hazards to public Safety specific to their event are identified and that Risk Assessments are carried out. The core elements of a Risk Assessment, that focuses on RtL, that **should** be conducted are:

- a. Hazard identification.
- b. Assessment of the Risk (likelihood, consequence, who is exposed, existing mitigation, and accountability).
- c. Reduce Risk until ALARP. Ensure residual Risk is Tolerable.
- d. Record significant findings.
- e. Monitor and review.

53. HoEs **should** maintain clear, unambiguous and auditable records of each of their Risks including details of Risk decisions and periodic Risk reviews.

54. **Main Display Line and other Ground Markings.**

a. Full use **should** be made of existing ground features such as Runways or taxiways, supplemented as necessary by other visual means including markers (preferably with vertical extent) and lighting. Markers **should** be fixed firmly to minimize the effect of downwash.

b. The Main Display Line **should** be 230 m from the Crowd Line and parallel to it.

c. FDDs **should** consider recognizable and / or compelling features that may be a distraction to Participants when considering how to mark the Main Display Line, eg a non-parallel taxiway or Runway²⁸.

d. FDDs **should** mark the Display Datum if there is not a suitable and easily recognisable physical feature to identify the correct position²⁸.

e. FDD **should** provide additional markings to assist Participants ►to◄ identify appropriate minimum ►lateral◄ separation distances from the Crowd Line for various aspects of each Participants' Display Sequence, where these are different from the 230 m minimum separation distance. If used, FDD **should** ensure that Participants are fully briefed on their position and meaning iaw para ►42g.◄

²⁷ MOD Aircraft Crash Hazard information can be obtained from the RAF Events Team, Royal Navy or Joint Helicopter Command Flying Display Tasking Cells, from the Display Teams themselves or, in extremis via the RAF Regional Liaison Officer (RAFRLO).

²⁸ The FDD may elect not to mark features such as Display Datum, supplementary Display Lines and even the Main Display Line if there is a suitable and easily recognizable physical feature, at least the minimum required lateral separation distance from the Crowd Line, and in the correct orientation.

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55. **Control of Explosives and Pyrotechnics.** The use of explosives and blank ammunition for simulated ground-bursts, smoke, pyrotechnics or other special effects displays during a Flying Display **should** be strictly controlled by a competent person appointed by the EO. Debris from such effects **should not** impinge on Aircraft, Spectators, third parties or the Runway / taxiways and the scale of any effects **should** be known prior to the event. Briefings for ground officials and Participants **should** describe the hazardous nature of such devices. Furthermore, Participants **should** be appropriately authorized to conduct such activity.

Civil Registered Aircraft at Flying Displays over MOD-Occupied Property

56. The FDD **should** ensure that pilots flying civil registered Aircraft²⁹:

- a. Hold a valid DA, DA Exemption, or national equivalent as evidence of their competence to conduct Display Flying, even if only conducting a Flypast.
 - (1) If a civilian pilot does not hold a valid DA then they **should not** be permitted to utilize a SERA.5005(f)(2) Exemption as per para ►79. ◀
- b. Notify the FDD of their intended Display Routine at least 24 hours in advance;
 - (1) This **should** include the measures the pilot would take if they needed to diverge from the intended Display Routine (for example due to wind effects), and confirm that the intended Display Routine complies with the airspace restrictions (local avoids, the anticipated location of Secondary Spectators and third parties) derived from the event Risk Assessment.
 - (2) ►Civilian pilots who do not have a formal Display Routine for Display Flying **should** submit a list of approved manoeuvres to the FDD. Prior to the Flying Display briefing, the pilot and FDD **should** agree on the manoeuvres to be used for the display. The pilot **should** confirm that the Display Site is suitable for their display and that they can comply with any airspace restrictions (local avoids, the anticipated location of Secondary Spectators and third parties) derived from the event Risk Assessment. ◀
- c. Demonstrate that the intended manoeuvres comply with the conditions placed on their Aircraft's ►UK CAA ◀ Certificate of Airworthiness, ►UK CAA Permit to Fly or national equivalent if not a UK registered Aircraft. ◀
- d. Do not breach the minima permitted by their DA, DA Exemption or national equivalent.
- e. Comply with the separation distances, minima and restrictions detailed within RA 2335(3).

57. ►UK ◀ CAA Exemptions³⁰ at MAA-regulated events. ►As part of a reciprocal arrangement (see para 121) ◀ the MAA accepts a ►UK ◀ CAA Permission for civilian Display Participants to display at MAA regulated events law their ►UK ◀ CAA Display Authority, which may permit flight ►that is less restrictive than ◀ the minima outlined in SERA.5005 and RA 2335. Consequently:

- a. The FDD at a MAA-regulated event may accept a DA for a Participant flying a civil registered Aircraft where the DA would allow the Participant to breach any part of this RA. ►In such cases, ◀ the FDD **should** identify the areas where the display ►routine ◀ is not compliant with MAA Regulatory Publications (MRP) ►and inform the HoE. ◀
- b. The HoE **should** assess ►any ◀ additional Risk caused by non-compliance and ensure that this Risk is ALARP and Tolerable. ►If the Risk cannot be reduced to ALARP and Tolerable, the HoE **should not** allow the display to take place. ◀ The HoE **should** record the decision appropriately.

58. **Civil Registered Aircraft flown over MOD-Occupied Property by pilots without a DA for that Aircraft.** FDD **should not** allow civil registered Aircraft flown by

²⁹ For military Display Pilots flying MOD-owned civil registered Aircraft the requirements detailed in RA 2335(2) ►◀ apply.

³⁰ Other than a DA Exemption which permits a pilot to conduct Display Flying without a DA.

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pilots without a DA or DA Exemption for that Aircraft to conduct Display Flying, Role Demonstrations or Flypasts over MOD-Occupied Property without first seeking endorsement from the ►UK◄ CAA via GA@CAA.co.uk. The MAA **should** be informed of such activity (DSA-MAA-Display@mod.gov.uk) at least 14 days prior to the event.

59. **Minimum Lateral Separation Distances for civilian Participants.** The minimum lateral separation distances specified at para ►112◄ **should** apply to all Aircraft in all cases.

Warning and Stop Calls

60. **Standard Warning and Stop Calls.** If the FDD and / or FCC perceive minima are being encroached, breached or have Safety concerns that require the cessation of a Participants Display Sequence / Routine, the Standard Warning and Stop Calls and responses at Table 2 **should** be used. ►Where Safety critical circumstances require a radio call that is not listed below, the FDD or FCC member **should** make the radio call using clear unambiguous language. When such a call is made the FDD **should** ensure a Defence Aviation Safety Occurrence Report (DASOR) is submitted.◄

Table 2. Standard Warning and Stop Calls

FDD / FCC Warning Call	Pilot Response
'(Callsign) Too Low'	'Roger (Callsign)'
'(Callsign) Too Close'	'Roger (Callsign)'
FDD / FCC Terminate Call	Pilot Response
'(Callsign) Terminate'	'Wilco (Callsign)'
FDD / FCC Stop Call	Pilot Response
'(Callsign) Stop Stop Stop, Acknowledge'	'Wilco (Callsign)'

a. **Too Low Call.** A 'Too Low' Call **should** be made at an appropriate time if the FDD and / or FCC assess that an Aircraft has descended below the Participant's PDA or DA minima or the minima in place for the Flying Display.

b. **Too Close Call.** A 'Too Close' Call **should** be made at an appropriate time if the FDD and / or FCC assess that an Aircraft has breached the minimum lateral separation distance appropriate to that Display Item.

c. **Terminate Call.** A 'Terminate' Call **should** be used when a Participant is required to suspend Display Flying for a reason other than their fitness or competence (eg intruder Aircraft, birds, etc). A 'Terminate' Call can also be used by a Participant to notify their intention to halt a display if deemed necessary for any reason. At the discretion of both the FDD and the Participant, the Display Sequence / Routine may be resumed if safe to do so.

d. **Stop Call.** A 'Stop' Call **should** be made if the FDD and / or FCC has a Safety concern related to a Participants' fitness or competence; additionally, a 'Stop' Call **should** be made if a third Warning Call is required. Once a 'Stop' Call has been made, the Participant **should not** continue their display or recommence their Display Sequence / Routine. A 'Stop' Call can be made outright, or because of the need to issue a third Warning Call.

e. Where an event has a Participant with a non-radio capable Aircraft, a fully briefed procedure **should** be established to enable communication of Standard Warning and Stop Calls.

f. For 'Stop' Calls, once the Flying Display is complete (or earlier if safe and practicable) the FDD **should**:

- (1) Confirm the Participant understands they have been stopped and explain why.
- (2) Where the Participant is flying a civil registered Aircraft, inform the ►UK◄ CAA General Aviation Unit as soon as practicable on 01293

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573919 and, if appropriate, submit a Mandatory Occurrence Report (MOR).

(3) Where the Participant is flying a military registered Aircraft or the event is conducted over MOD-Occupied Property, submit a DASOR³¹.

(4) Record the event on the [RA 2335 Form 4 \(Flying Display Director Post Event Feedback Form\)](#)³².



61. **▶ Action after the Issue of a Stop Call.** Where the FDD / FCC has issued a 'Stop' Call³³ due to a breach of minima or limits, or other Safety concerns surrounding military Display Participant fitness or competence, the Participant **should**:

- a. Cease further Display Flying until approved by their ADH / AM(MF).
- b. Submit a DASOR as soon as practicable.

62. **Action after the Issue of a Warning Call.** ADH / AM(MF) **should** issue orders or instructions which state the actions to be taken by Display Participants after a Warning Call is issued. ◀

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Flying Display Organization and Management

Management of a Flying Display

63. **Boundaries of Responsibility.** When HoE are considering the ToRs for the EO and FDD, there are a number of responsibilities that they may wish to allocate. These ▶may◀ include, but are not limited to:

- a. The location of Car Parks.
- b. The location and number of Spectator Areas.
- c. Aircraft parking and marshalling areas.
- d. Aircraft refuelling areas.
- e. Emergency vehicle access and egress points.
- f. Emergency control centre location and set up.

64. **FCC.** The FCC will consist of suitably experienced personnel appropriate for the Tier of Flying Display, the Aircraft participating, and will be issued with ToR from the FDD. The FCC may include the FDD, who may act as Chairperson of the FCC, and additional members who have the requisite experience of Display Flying and / or Flying Display planning, organization, management and delivery. Chairpersonship of the FCC may also be delegated.

65. **Categorization of an Event as a Flying Display.** The HoE (EO or FDD for events with no HoE), may categorize an event that only has Flypasts or Role Demonstrations as a Flying Display if they consider it necessary. Reasons for this may include:

- a. The complicated nature of an event (such as very unusual mixed formations).
- b. Large gatherings of people.
- c. Complex geography or airspace restrictions.

FDD Accreditation

66. **FDD Accreditation Course.** The ▶UK◀ CAA / MAA conduct joint FDD Accreditation Courses to qualify FDDs in the UK.

- a. **Military Applicants.** The MAA approves military applicants to attend the FDD Accreditation Course. Military applicants will need to provide justification

³¹ If a FDD is unable to access the Air Safety Information Management System (ASIMS) to submit a DASOR then they **should** contact the MAA via email (DSA-MAA-Display@mod.gov.uk) and request guidance on how to submit a DASOR.

³² MAA equivalent to ▶UK◀ CAA Form Safety Regulation Group (SRG) 1305.

³³ ▶iaw para 60.◀

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for the application and their suitability for the FDD role, which will be endorsed by the relevant HoE or ADH³⁴.

b. **FDD Accreditation.** A joint ►UK◄ CAA / MAA FDD Accreditation Panel is convened after FDD Accreditation Courses to review each candidates' performance during the course. The FDD Accreditation Panel will consider their experience, preparation for and interaction during the course, and their examination results and then accredit them as a Tier 1, 2 or 3 FDD.

c. **'Mil' and 'Civ' Accreditation.** The FDD Accreditation Panel will also consider, based on the experience of individuals, and their knowledge and understanding of the Regulations as demonstrated during the course, whether they will be accredited as a 'Mil', 'Civ' or 'Civ / Mil' FDD.

(1) **Mil.** The individual is only permitted to be FDD / Deputy FDD at Flying Displays regulated by the MAA iaw RA 2335.

(2) **Civ.** The individual is only permitted to be FDD / Deputy FDD at Flying Displays regulated by the ►UK◄ CAA iaw CAP 403.

(3) **Civ / Mil.** The individual is permitted to be FDD / Deputy FDD at either ►UK◄ CAA or MAA regulated Flying Displays. The individual may be accredited to a different Tier for each category.

67. **Validity.** An FDD's qualification will remain valid for a period of 3 years from the date of accreditation.

68. **Deputy FDD.** An appropriately accredited FDD³⁵ may act as Deputy FDD to provide resilience for an event. The individual(s) ►will◄ be annotated as a Deputy FDD on the RA 2335 Form 1, or application for a ►UK◄ CAA Flying Display Permission.

69. **Currency.** To maintain currency, individuals will act as FDD at the appropriate Tier of event at least once every two years. However if, for example, a Tier 3 FDD only acts as FDD for a Tier 1 or Tier 2 Flying Display within the currency period, Tier 3 currency will be lost and currency at the lower Tier will be maintained. ►If an event is cancelled on the day due to inclement weather, currency credit will be given to the FDD.◄

70. **Deputy FDD Currency.** Currency may also be maintained by acting as a Deputy FDD provided that:

a. They are annotated on the RA 2335 Form 1 or application for ►UK◄ CAA Flying Display Permission.

b. They take an active part in the planning, organization, management and delivery of the Flying Display.

c. They are in attendance for the duration of the Flying Display.

d. The nature and extent of their Deputy FDD participation, and the intent to reset their currency, is annotated by the primary FDD on the [RA 2335 Form 4 \(Flying Display Director Post Event Feedback Form\)](#). ►◄

71. **Shadow FDD.** Tier 1 or Tier 2 accredited FDDs may shadow the FDD for a higher Tier event in order to build experience. This Shadow FDD role can be used to improve the level of competence to support an upgrade application to a higher Tier in the future. The primary FDD will record the level of participation of the Shadow FDD on the [RA 2335 Form 4 \(Flying Display Director Post Event Feedback Form\)](#). ►◄ which will enable the ►UK◄ CAA and MAA to properly assess the level of experience of the individual if an upgrade is requested at a later date.

a. If the primary FDD is an FDD Mentor, the Shadow FDD will ensure that their participation in the planning, organization, management and delivery of the Flying Display is appropriately logged and countersigned by the FDD Mentor so

³⁴ Military applicants will only be accepted when their qualification is primarily for military purposes; supported by the HoE or ADH. Serving military personnel who are not required to act as an FDD for military purposes may apply for accreditation through the ►UK◄ CAA.

³⁵ A FDD who is accredited for the Tier of Flying Display at which they are Deputising.

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that any experience gained can be demonstrated at the time of application for an upgrade.

72. **FDD Revalidation.** A qualified FDD may renew their accreditation following successful completion of a FDD Revalidation Course. The FDD Revalidation Course considers the same criteria as the FDD Accreditation Course and is also assessed by a joint ►UK◄ CAA / MAA FDD Accreditation Panel. Candidates' successful completion of the FDD Revalidation Course will extend their FDD qualification for a further 3 years. ►Exceptionally, the MAA may conduct in-field revalidations. The in-field revalidation process involves oversight of the preparations and delivery of a Flying Display. An FDD wishing to revalidate in the field will contact the MAA at least 3 months prior to the Flying Display at which the in-field revalidation will take place.◄

73. **FDD Upgrades.** To upgrade to a higher FDD Tier or from 'Mil' or 'Civ' to 'Civ / Mil', FDDs are required to provide the ►UK◄ CAA / MAA with ►evidence◄ of events they have been involved with. This is to demonstrate that they have gained the necessary experience to be considered for an upgrade to the higher Tier. Their submission is required to include detail on their involvement in the planning, organization, management and delivery of the events. ►FDD upgrade applications will be endorsed by the relevant HoE or ADH. FDDs can expect to upgrade on the next available FDD course and also expect an MAA Assurance visit to a Flying Display being undertaken at their new Tier. Exceptionally the MAA may conduct in-field upgrades. The in-field upgrade process involves oversight of the preparations and delivery of a Flying Display at the requested Tier. An FDD wishing to upgrade in the field will contact the MAA at least 6 months prior to the Flying Display at which the in-field upgrade will take place.◄

- a. ►◄
- b. ►◄
- c. ►◄

74. **Revocation.** If ►Safety concerns are raised regarding◄ an FDD ►◄ an investigation will be undertaken iaw the Defence Aviation Flowchart Analysis of Investigation Results II (DA FAIR II) system detailed in the MAA Manual of Air Safety³⁶. After the investigation, the following actions are available to the ►UK◄ CAA and / or MAA:

- a. No action.
- b. Downgrade Tier.
- c. Further training.
- d. Suspension.
- e. Complete revocation.

75. **SQEP Recording.** ►◄ The MAA is responsible for administering military personnel ►◄ and will also ensure the correct competency is recorded on the military Joint Personnel Administration System. ►This data will detail an individual qualification (ie the Tier of Flying Display they are accredited to conduct) and will record the Flying Displays that they have directed³⁷. Military accredited FDDs details can be provided on request by the MAA.◄

Foreign Military Registered Aircraft Participating at UK Flying Displays

76. **Responsibilities of the MAA.** The MAA maintains oversight of all foreign military registered Aircraft participating at UK Flying Displays on behalf of the MOD. The MAA ensures the Participant is SQEP, suitably approved at a national level and the proposed Display Sequence complies with this RA using the documentation supplied by the Participant and the FDD.

77. **Validation.** The MAA and / or the FDD can mandate the validation of any ►foreign military◄ display Participant ►in order to ensure the display Participant can fly a Display Sequence compliant with the MRP or in accordance of any provisions

³⁶ The ►UK◄ CAA also uses the Flowchart Analysis of Investigation Results (FAIR) System which is detailed in CAP 403.

³⁷ If recorded on the Flying Display Notification / ►UK◄ CAA Flying Display Permission Application and FDD Post Event Feedback Form.

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stipulated in Waiver Approvals where compliance cannot be demonstrated. ◀ When the MAA mandates validation, then that validation may take place at any display venue within the same display season and, where a Participant has more than one authorized Display Sequence, then validation of any one of the Display Sequences is normally accepted by the MAA as sufficiently appropriate to validate the Participant to fly all Display Sequences.

a. **Requirement for Validation.** The first UK Display by a foreign Display Participant requires a validation. Subsequent venues and Displays may be required to be validated. The ▶◀ decision on subsequent validations will be made by the MAA once the documentation for this venue has been supplied by the Participant and the FDD.

b. **Subsequent Display Validations.** FDDs may utilize information from any previous in-season validation as part of their documentation submitted to the MAA. The MAA may mandate validation if the new Display Site layout presents significantly greater limitations, or any Display Sequence has been changed since the original validation. Subsequent validations follow the same process as for the initial validation.

Public Safety

78. **Safety and Risk Assessment.** Guidance on managing and recording Risk is contained within RA 1210⁵.

79. **Civil Participants Operating Minima.** The ▶UK◀ CAA has granted the MOD a Permission for civilian Participants holding a DA or DA Exemption to operate ▶to less restrictive◀ minima ▶than that◀ stated in SERA.5005(f)(2) during Flying Displays held over nominated MOD-Occupied Properties. The Permission is obtained annually and is held by the MAA.

80. **CAP 403 – Flying Displays and Special Events: Safety and Administrative Requirements and Guidance.** CAP 403 provides additional guidance to EO and FDD for the Safety planning associated with a Flying Display, including working with Local Authorities, Emergency Services, Highways Authorities, SAG and wider Health and Safety Executive requirements.

Regulation 2335(2)

Display Flying, Practises, Role Demonstrations and Flypasts (Mil)

2335(2) ADH / AM(MF) **shall** ensure that personnel involved in conducting Display Flying, Practises, Role Demonstrations and Flypasts (Mil) are competent and appropriately trained, approved, authorized and supervised.

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Display Flying, Practises, Role Demonstrations and Flypasts (Mil)

81. **Applicability of this Regulation.** RA 2335(2) **should** apply to all personnel involved in conducting Display Flying, Practises, Role Demonstrations and Flypasts (Mil) in UK military registered Aircraft and, as far as reasonably practicable, foreign military registered Aircraft participating at events in the UK. Additionally, ▶◀ the most restrictive limitations of this RA or the following **should** always be applied:

- a. North Atlantic Treaty Organization (NATO) Standardization Agreement (STANAG) 3533 / Allied Flight Safety Publication (AFSP) 5, if applicable³⁸.
- b. Orders or instructions issued by the ADH / AM(MF) for Aircraft in their AoR conducting Display Flying, Practises, Role Demonstrations or Flypasts (Mil).
- c. Orders or instructions issued by the HoE, EO or FDD for a specific event.
- d. CAP 403 where a ▶UK◀ CAA Flying Display Permission exists for an event. Whilst the ▶UK◀ CAA Flying Display Permission will be time bounded, any Participants flying military registered Aircraft on the same day **should** apply the limitations of the CAA Flying Display Permission and CAP 403 regardless of

³⁸ If a Flying Display involves Participants from two or more NATO Nations the NATO STANAG / AFSP 05 applies.

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what time they conduct their flying activity unless Approval is obtained from the MAA (DSA-MAA-Display@mod.gov.uk) at least 14 days prior to the event.

- e. PDA, DA or DA Exemption.
- f. Any host nation Regulations and orders or instructions when conducting Display Flying, Practises, Role Demonstrations or Flypasts (Mil) outside the UK.

Aircrew and Support Personnel

82. **Display Flying Aircrew.** ADH / AM(MF) **should** ensure that:

- a. The Aircrew selected to conduct Display Flying are SQEP in both airborne and ground-based aspects of Display Flying.
- b. Where Display Flying Aircrew are responsible for conducting Risk Assessments, they are appropriately trained and supported.
- c. Display Flying Aircrew hold a valid PDA and / or DA prior to conducting Display Flying at a Flying Display.

83. **Display Flying Supervisor.** ADH / AM(MF) **should** nominate a SQEP Display Flying Supervisor.

84. **Display Flying Support Personnel.** ADH / AM(MF) **should** allocate sufficient support personnel and / or resource to allow Aircrew selected for Display Flying to safely and effectively conduct activity throughout the display season.

85. **Ground Knowledge.** ADH / AM(MF) **should** ensure that, in addition to the pre-season Display Flying work-up detailed in para ►88,◄ Aircrew and support personnel selected for Display Flying are appropriately trained in the relevant non-flying aspects of Display Flying, such as Human Factors, Fatigue Management, Supervision and relevant regulatory knowledge (ie RA 2335, the ANO, CAP 403 and CAP 1724).

Pre-Season and Practise Display Flying

86. **Practise Display Flying.** ADH / AM(MF) **should** assure themselves that practise Display Flying is conducted in such a way and at such a location as to ensure that RtL to Participants, Secondary Spectators and third parties is ALARP and Tolerable.

87. **Practise Display Flying Minimum Height.** ADH / AM(MF) **should** promulgate orders or instructions stipulating who can approve Display Flying Aircrew to operate at a height lower than those specified in orders or instructions for routine operations and training; this **should not** be delegated below Sqn Cdr / OF-4. The individuals detailed in orders or instructions are responsible for signing the Display Flying Aircrew's training ►record◄³⁹.

88. **Pre-Season Display Flying Work-Up and PDA.** Pre-season Flying Display practises **should** be personally authorized by the Display Flying Supervisor. The following points **should** be applied when authorizing and supervising Display Flying work-up flights:

- a. The work-up **should** be of a progressive nature leading, in stages, down to the approved display heights, and initially conducted only over their own airfield unless the ADH / AM(MF) directs otherwise.
- b. Consideration **should** be given to the use of appropriate Synthetic Training Devices for initial practise displays.
- c. The previous season's Display Pilot **should** be used in an advisory and / or monitoring capacity during practise and validation.
- d. Each practise Display Flying sortie **should** be monitored by the Display Flying Supervisor. If the Display Flying Supervisor is on the ground, they **should** be in a suitable position to ensure they are not a distraction to the Display Flying Aircrew.
- e. All practise Display Flying below 2000' MSD **should** be video recorded.
- f. A record of Display Flying practises detailing weather, Runway, etc. **should** be maintained in the Display Flying Aircrew's training ►record.◄

³⁹ Or electronic equivalent.

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Public Display Authority

89. **ADH / AM(MF) Display Sequence Approval.** The Display Flying Aircrew and the Display Sequence **should** be approved by the ADH / AM(MF) using [RA 2335 Form 5 \(Public Display Authority Form\)](#) as the mechanism to signify that final Approval has been granted to conduct Display Flying in front of the general public. The MAA **should** be provided with a completed copy of RA 2335 Form 5 (Public Display Authority Form) once the PDA has been awarded via DSA-MAA-Display-Forms@mod.gov.uk:

90. **PDA Form.** The PDA, as detailed on the approved RA 2335 Form 5, **should** detail all of the permitted activity, as well as any limitations, and **should** be made available to the FDD. Deviations **should not** be permitted without Authorization by the ADH / AM(MF). If a FDD is unable to accept the Participant's ► ◄ PDA or Display Sequence the Participant **should not** perform.

91. **Deviations from PDA.** Deviations from the PDA or permitted modifications to the Display Sequence, as detailed on the approved RA 2335 Form 5 (Public Display Authority Form), **should not** be permitted without Authorization by the ADH / AM(MF). If a FDD is unable to accept the Participant's ► ◄ PDA or Display Sequence the Participant **should not** perform.

92. **Role Demonstrations.** Role Demonstrations do not necessarily require a PDA, however, ADH / AM(MF) **should** issue orders or instructions that, as a minimum, detail the following:

- a. Approved Role Demonstration manoeuvres that may be conducted by Aircraft within their AoR.
- b. The approval mechanism, clearance procedures and Authorization process for Role Demonstrations.
- c. Safety Management procedures, limitations and restrictions.
- d. Competence / SQEP requirements of the Aircrew and other personnel in the air and on the ground.

93. **Flypasts (Mil).** Flypasts (Mil) do not constitute Display Flying so do not require a PDA. However, ADH / AM(MF) **should** publish orders or instructions detailing appropriate limitations specific to the conduct of Flypasts (Mil) on Aircraft within their AoR. ► A Flypast (Mil) **should not exceed 3 pre-planned passes.** ◄

► ◄

94. ► ◄
- a. ► ◄
 - b. ► ◄

95. ► ◄

Display Venue Suitability

Display Venues. ADH / AM(MF) **should** take reasonable measures to assure themselves that display venues at which Aircraft within their AoR perform are suitable, safe and appropriate for the Aircraft and its intended Display Sequence. This **should** include being satisfied that:

- a. The EO and FDD are suitably experienced or qualified iaw RA 2335(1).
- b. RtL attributable to Display Flying, Role Demonstrations or Flypasts (Mil) remains ALARP and Tolerable including having reviewed the FDDs briefing material and Flying Display Risk Assessment.

Parachuting at Flying Displays

96. **Parachuting**⁴⁰. When participating at a Flying Display, MOD approved parachute display teams⁴¹ **should** be deemed to be on duty. MOD personnel

⁴⁰ While parachuting itself does not constitute a Participant iaw RA 2335, this para is included for the assistance of the EO and FDD.

⁴¹ ► MOD Parachute display teams ◄ governed by the MRP (ie generation of Force Elements at Readiness parachuting ► ◄) and ► ◄ governed by the ► UK ◄ CAA via CAP 660 – Parachuting ► ◄.

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participating in non MOD-approved parachute display teams are deemed to be part of a civilian parachute display team and are not on duty⁴².

97. **Parachuting Permission.** MOD **▶ approved ◀** parachute display teams using **▶ UK ◀** CAA display parachuting Regulation **should** be in possession of a valid Parachuting Permission or Exemption Certificate issued by the **▶ UK ◀** CAA, and the parachute display **should** be conducted iaw that Permission or Exemption.

98. **Parachuting Governance.** MOD approved parachute display teams **should** comply with orders or instructions issued by their respective Duty Holder. **▶ MOD approved ◀** parachute display team leaders **should** be responsible for parachuting and flying operations carried out by that display team, the provision of a qualified Drop Zone Safety Officer / Drop Zone Controller⁴³, and ensuring adequate liaison and co-ordination is conducted with the FDD.

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Display Flying, Practises, Role Demonstrations and Flypasts (Mil)

99. **Applicability of RA 2335 or CAP 403.** Tables 3 and 4 show Flying Display Participants which Regulations (relevant to Flying Displays) apply and therefore what flying activity is permitted.

Table 3. Events over MOD-Occupied Property

	MOD-Occupied Property			
	Military Registered Aircraft		Civil Registered Aircraft	
	Flying Display	Other Event	Flying Display	Other Event
Permitted Activity	Display Flying, Role Demonstrations and Flypast (Mil) (iaw para ▶ 110 ◀ and ▶ 111 ◀)	Role Demonstrations and Flypast (Mil) (iaw paragraph ▶ 113 ◀)	Display Flying and Flypast	As per the ANO / SERA
Regulation (most restrictive of)	RA 2335	RA 2335	RA 2335 CAP 403	As per the ANO / SERA

Table 4. Events over non MOD-Occupied Property

	Non MOD-Occupied Property in the UK			
	▶ UK ◀ CAA Flying Display Permission⁴⁴			
	Yes		No	
	Military Registered	Civil Registered	Military Registered	Civil Registered
Permitted Activity	Display Flying, Role Demonstrations and Flypast (Mil) (iaw para ▶ 110 ◀ and ▶ 111 ◀)	Display Flying and Flypast	Display Flying ⁴⁵ , Role Demonstrations and Flypast (Mil) (iaw para ▶ 113 ◀)	As per the ANO / SERA
Regulation (most restrictive of)	RA 2335 CAP 403	CAP 403	RA 2335	As per the ANO / SERA

Note: For Flying Displays outside the UK, military registered Aircraft must comply with the most restrictive of RA 2335 and relevant national Regulations⁴⁶.

100. **Role Demonstrations or Flypast (Mil) being Categorized as Display Flying.** ADH / AM(MF) may, if they deem appropriate, categorize Role Demonstrations or Flypast (Mil) as Display Flying.

⁴² **▶ As defined in respective single Service policies concerning duty status. ◀**

⁴³ Drop Zone Safety Officers are not required to attain FDD Accreditation.

⁴⁴ Unless the MAA have approved a Flypast (Mil) to be conducted on the same day as the **▶ UK ◀** CAA Flying Display Permission.

⁴⁵ For an event which involves military registered Aircraft only (see para 38a of this RA).

⁴⁶ NATO STANAG 3533, AFSP 5 **▶ or any host nation Flying Display Regulations. ◀**

Regulation 2335(3)

Separation Distances, Minima and Restrictions

2335(3) Authorized minimum vertical and lateral separation distances, and other applicable minima and restrictions **shall** be complied with at all times during Display Flying, Practises, Role Demonstrations and Flypasts.

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Separation Distances, Minima and Restrictions

General

101. ► **ADH / AM(MF) Approval for overflight of Congested Areas.** Display Flying, Practises, Role Demonstrations and Flypasts (Mil) over Congested Areas²⁵ **should** be approved by the Aircraft ADH / AM(MF) in advance. Where a Congested Area, as defined in MAA 02⁴⁷, is within the Display Site of a civilian event where the UK CAA has issued a Flying Display Permission then the ADH / AM(MF) **should** determine if the Display Sequence will overfly the Congested Area and if so, ensure a Waiver request iaw MAA 03¹⁸ has been applied for. ◀

102. **Congested Areas.** Display Flying, Practises, Role Demonstrations or Flypasts (Mil) below 2000' MSD over Congested Areas (as detailed in the UKMLFH) **should** be conducted iaw RA 2330²⁵ and the UKMLFH. If Display Flying, ► **Role Demonstration or Flypast** ◀ over the Congested Area is considered appropriate, the ADH ► / AM(MF) **should** ◀ conduct a Risk Assessment considering Spectators, Secondary Spectators and third parties, and **should** ensure ► **the** ◀ Participant's flight over the Congested Areas is ALARP and Tolerable. This **should** be recorded formally in the event's Risk Assessment. In addition:

- a. **Military Regulated Events.** The HoE **should** seek a Waiver iaw MAA 03¹⁸ for ► ◀ Display Participants flying over the Congested Area at ► **heights** ◀ less than those stipulated in RA 2330²⁵ para ► **26.** ◀ Flight over the Congested Area may be part of a Display Sequence, positioning for a Display Sequence, transition to the Display Area, conducting a Display Practise or conducting a validation.
- b. **Civilian Regulated Events.** ► **UK and foreign military Aircraft** participating at a UK CAA regulated event are military regulated and **should** operate to the most restrictive of RA 2335 or CAP403. For flight in Congested Areas RA 2335 is the most restrictive Regulation and Waivers **should** be sought as follows:
 - (1) **UK Military Participants.** In lieu of an HoE the ADH / AM(MF) **should** seek a Waiver iaw MAA 03¹⁸ for UK Display Participants flying over the Congested Area at heights less than those stipulated in RA 2330²⁵ para 26. This Waiver is required when conducting a Display Sequence, positioning for a Display Sequence, transition to the Display Area, conducting a Display Practise or conducting a validation.
 - (2) **Foreign Military Display Participants.** Foreign military display participants do not operate under a ADH construct but are approved by the MAA. For flight over Congested Areas at heights less than those stipulated in RA 2330²⁵ para 26 the FDD **should** seek a Waiver iaw MAA 03¹⁸. This Waiver is required when conducting a Display Sequence, positioning for a Display Sequence, transition to the Display Area, conducting a Display Practise or conducting a validation.
- c. **Events over Civilian Occupied Property involving only Military Display Items.** Where an event is held over civilian property involving only military Display Items the UK CAA will not issue an Article 86 Permission and the event will be military regulated. If the event is an Air Display the FDD **should** confirm that the ADH has conducted a Risk Assessment and obtained a Waiver iaw MAA03¹⁸ for flight over the Congested Area at heights less than those stipulated in RA 2330²⁵ para 26. If the event is a Role Demonstration or Flypast

⁴⁷ ► MAA02 MAA Master Glossary. ◀

Acceptable Means of Compliance 2335(3)

(Mil) then the ADH, in addition to conducting their Risk Assessment, **should** obtain a Waiver for flight over the Congested Area iaw MAA 03¹⁸ ◀

103. ▶ ◀

104. **Performance Limitations - Speed.** An absolute true limit of Mach 0.90 or 600 KIAS (whichever is reached first) **should not** be exceeded.

105. **Performance Limitations - Multi-Engine Fixed Wing Aircraft.** Multi-Engine Fixed Wing Aircraft **should not** fly below the speed at which it is still possible to climb away, without change of configuration, if any one engine fails.

106. **Weather Minima.** ADH / AM(MF) **should** stipulate the minimum weather conditions for Display Flying, Practises, Role Demonstrations and Flypasts (Mil) by Aircraft in their AoR. The following table **should** be the absolute minimum weather conditions for Participants that hold a valid PDA or DA when operating at a Flying Display (or during PDA work-up iaw RA 2335(2)); the Visual Meteorological Conditions (VMC) minima in RA 2307⁴⁸ apply at all other times:

Table 5: Weather Minima

Type of Aircraft	Type of display		Weather Minima	
			cloud base (feet)	visibility
VSTOL ⁴⁹ , Rotary Wing and other Aircraft with a stalling speed below 50 KIAS	Flypasts, non-aerobatic Display Flying and Role Demonstrations	Solo Aircraft	500	1500 metres
		Formations	500	3000 metres
	Aerobatic Display Flying	Solo Aircraft	800	3000 metres
		Formations	1000	5 km
All other Aircraft	Flypasts, non-aerobatic Display Flying, 'flat' Aerobatic Display Flying and Role Demonstrations	Solo Aircraft	500	5 km
		Formations	1000	5 km
	Aerobatic Display Flying	Solo Aircraft	1000	5 km
		Piston Formations	1000	5 km
		Jet / Turboprop Formations	1500	5 km

Notes: (i) Where a 'flat aerobatic display' is a Display Sequence considered for the Aircraft it **should** be formally approved as part of the Participant's PDA.

(ii) Subject to FDD approval, Aircraft unable to display because of low cloud base may fly an instrument approach to land, touch-and-go or low approach.

Display Flying Separation Distances, Minima and Restrictions

107. **Overflight of Spectators.** All Participants **should** avoid overflight of the Spectator Areas unless a Waiver has been granted for a specific condition such as crowd rear arrival. The Risk created by overflight of Secondary Spectators and third parties during a Flying Display, validation or Practise **should** be assessed by the HoE to ensure RtL is ALARP and Tolerable. The associated Risks, mitigations and decisions **should** be documented.

108. **MSD Inside the Display Area.**

a. Participants **should not** perform Aerobatic Manoeuvres above any structures occupied by non-essential personnel, Secondary Spectators ▶ or third parties ◀ within the Display Area.

b. Participants **should not** perform non-aerobatic overflight of any structures occupied by non-essential personnel, Secondary Spectators ▶ or third parties ◀ during a Display Sequence at less than 500' MSD within the Display Area.

⁴⁸ Refer to [RA 2307 – Rules of the Air](#).

⁴⁹ This only applies to VSTOL Aircraft operating in VSTOL mode.

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109. **MSD Outside the Display Area.** UK and foreign military Participants **should** adhere to the following MSD outside of the Display Area at Flying Displays in the UK⁵⁰:

- a. Aerobatic Manoeuvres – All Aircraft⁵¹. 500 feet MSD.
- b. Fixed Wing Aircraft – Non-Aerobatic Manoeuvres. 250 feet MSD.
- c. Rotary Wing Aircraft – Non-Aerobatic Manoeuvres. 100 feet MSD.

110. **Minimum Heights at a Flying Display.** ADH / AM(MF) **should** specify minimum heights for Display Flying, Role Demonstrations and Flypast (Mil) flown by their Aircrew, dependent upon the Aircraft type, Aircrew experience and location of the event. However, they **should not** be less than the MSD⁵² specified in Table 6 ► **unless para 109c applies** ◀:

Table 6. Minimum Heights Part 1

	MSD (feet) as part of PDA Display Sequence at a Flying Display			
	Fixed Wing	Rotary Wing	Fixed Wing Close Formation	Rotary Wing Close Formation
Flypast Only - Wings Level Flight ≤20° Angle of Bank (AOB)	100	50	250	100
Non-Aerobatic Flight ≤90° AOB	100	100	300	100
Aerobatic Manoeuvres, Inverted Flight and Link Manoeuvres	300	300	300	300

- a. **Link Manoeuvres.** Where one Aerobatic Manoeuvre is linked directly to another, Aircraft **should** remain above the minimum height for Aerobatic Manoeuvres throughout the transition. Where an Aerobatic Manoeuvre is followed by a Non-Aerobatic Manoeuvre, Participants **should** be certain of capturing the minimum height for Aerobatic Manoeuvres during the recovery before continuing descent to the non-aerobatic minima specified in Table 6.
- b. **Manoeuvre After Take-Off.** Once safely airborne and not below 50 feet MSD throughout the manoeuvre, the Participant may commence a turn away from the Crowd Line to capture the appropriate Display Line. No more than 60° AOB **should** be used and a positive climbing vector **should** be maintained throughout the manoeuvre. On crossing the appropriate Display Line (if the Runway is inside it) the Participant **should** be at or above 100 feet MSD.
- c. **Rotary Wing and VSTOL Aircraft.** Rotary Wing and VSTOL Aircraft ► **should operate iaw** ◀ the MSD in Table 6 ► **unless conducting** ◀ hovering and transition manoeuvres ►◀.

111. **Minimum Heights when not part of a PDA Display Sequence at a Flying Display.** ADH / AM(MF) **should** specify minimum heights for Role Demonstrations and Flypasts (Mil) when not part of a PDA Display Sequence at a Flying Display. These heights **should** be dependent upon the Aircraft type, Aircrew experience and the location of the event. However, they **should not** be less than the MSD specified in Table 7:

⁵⁰ Civilian Participants are to adhere to the ANO / SERA outside the Display Area.

⁵¹ This limitation applies from when the Aircraft commences its run in for its Display Sequence, Role Demonstration or Flypast (Mil) to when it has completed its Display Sequence, Role Demonstration or Flypast (Mil).

⁵² Where the Flying Display is outside the UK, the most restrictive of this Regulation and any applicable local / national orders ► **apply.** ◀

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Table 7. Minimum Heights Part 2

	MSD (feet) when NOT part of a PDA Display Sequence at a Flying Display			
	Fixed Wing	Rotary Wing	Fixed Wing Close Formation	Rotary Wing Close Formation
Flypast Only - Wings Level Flight $\leq 20^\circ$ AOB	100	50	250	100
Role Demonstration Manoeuvres - Non-Aerobatic Flight $\leq 90^\circ$ AOB	250	100	500	250
Aerobatic Manoeuvres, Inverted Flight and Link Manoeuvres	500	N/A PDA Required	N/A PDA Required	N/A PDA Required

112. **Lateral Separation.** The following minimum lateral separation distances **should** apply to all military registered Aircraft at all Flying Displays and civilian registered Aircraft at Flying Displays over MOD-Occupied Property. Where a HoE, FDD, Participant or their ADH / AM(MF) considers that a greater separation is required for any specific Aircraft or manoeuvre, that minimum **should** be identified and complied with:

- a. **Ground Operations.** During all ground operations, including refuelling, servicing and at any time when engines or rotors are running, a minimum ►lateral◄ separation distance of 15 m **should** be maintained between Spectator Areas and the nearest point of the Aircraft concerned. This limit applies to Aircraft taxiing or air-taxiing, except when such taxiing is away from a marked taxiway and without the assistance of a marshaller, when the minimum ►lateral◄ separation distance **should** be increased to 65 m.
- b. **In-Use Runways.** The minimum ►lateral◄ separation distance between the near edge of any Runway used for conventional Fixed Wing take-off and landing (including 'touch and go' and 'low approach') and the Crowd Line **should** be 100 m ►except◄ for light Aircraft with a Maximum Take-Off Mass (MTOM) of ≤ 1200 kg, and a take-off and landing speed of less than 100 KIAS, this separation may be decreased to 65 m. Other than for emergencies, a Runway **should** only be used for non-standard take-off or landing (defined as one not practised as a Standard Operating Procedure conducted during routine operations and training for that Aircraft), if its near edge is at least 230 m from the Crowd Line at all points.
- c. **In Flight.** The normal minimum ►lateral◄ separation distance between the Crowd Line and Aircraft conducting Display Flying, ►Role Demonstration or Flypast◄ including Rotary Wing displays that involve aerobatics, **should** be 230 m. However, the following additional minima apply for specific circumstances:
 - (1) **High Speed Aircraft.** Where the displaying Aircraft is at a speed in excess of 300 KIAS, and has a velocity vector towards a Spectator Area, the minimum ►lateral◄ separation distance **should** be increased to 450 m.
 - (2) **Low Energy Display Flying.** For Low Energy Display Flying, as defined in para 23, the minimum ►lateral◄ separation distance **should** be 150 m.
 - (3) **Rotary Wing.** For normal take-off and landing, and during transitional manoeuvres, the minimum ►lateral◄ separation distance **should** be 65 m. For other stages of non-aerobatic flight, or at any time when an underslung load is carried, the minimum ►lateral◄ separation distance **should** be increased to 100 m.
 - (4) **VSTOL Aircraft (including Tilt Rotor Aircraft).** For vertical take-off and landing, and during non-wing borne flight at low speed, the minimum ►lateral◄ separation distance **should** be 150 m. By the time

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conventional wing borne flight is achieved, the Aircraft **should** be at the normal minimum ►lateral◄ separation distance of 230 m.

(5) **Balloons.** At displays where balloons operate, FDD **should** follow the guidance in CAP 403 and CAP 1741⁵³.

(6) **Airships.** Airships are operated as lighter-than-air Aircraft, and as such **should** be subject to Regulations applying to Fixed Wing Aircraft.

(7) **Model Aircraft.** FDD **should** follow the guidance given in CAP 403 and CAP 722 Unmanned Aircraft System Operations in UK Airspace⁵⁴.

(8) **RPAS⁵⁵.** RPAS **should not** be operated in a manner that presents undue Risk or Hazard to any person, ►vehicle,◄ vessel ►or◄ Structure. ►The HoE **should** ensure RPAS are operated iaw CAP 1789A or any lateral separation limits specified in the applicable RA 1600 Series Regulation or the RPAS Letter of Endorsed Categorization. If this separation criteria differs from that in this RA, the most stringent limit **should** be applied.◄

d. **Dual Spectator Areas.** In the case of Flying Displays at airfields / locations where Spectator Areas (and / or concentrations of Secondary Spectators) are on, or expected to be on, both sides of the Display Axis, the minimum lateral separation distance between the Display Line and the Spectator Areas, specified above, **should** apply on both sides of the Display Line.

Role Demonstrations and Flypasts (Mil)

113. **Minimum Heights at any other event.** ADH / AM(MF) **should** specify minimum heights for Role Demonstrations and Flypasts (Mil) not conducted as part of a Flying Display. These heights **should** be dependent upon the Aircraft type, Aircrew experience and the location of the event. However, they **should not** be less than the MSD specified in Table 8:

Table 8. Minimum Heights Part 3

	MSD (feet) at any other event			
	Fixed Wing	Rotary Wing	Fixed Wing Close Formation	Rotary Wing Close Formation
Flypast Only – Wings Level Flight ≤20° AOB	250	100	500	250
Role Demonstration Manoeuvres - Non-Aerobatic Flight ≤90° AOB	250 ⁵⁶	100 ⁵⁷	500	250
Aerobatic Manoeuvres, Inverted Flight and Link Manoeuvres	500	N/A PDA Required	N/A PDA Required	N/A PDA Required

Other Restrictions when conducting Display Flying, Role Demonstrations or Flypasts (Mil)

114. **Control of Engines.** Engines **should not** be deliberately shut down or feathered in flight; symmetrical thrust **should** be maintained at all times. In the event of an engine failure or unintended shutdown, the Display Sequence, Role Demonstration or Flypast **should** be Terminated;

115. **Armament.** Live weapons **should not** be carried at Flying Displays and all weapons circuit-breakers and switches **should** be in the 'safe' condition (except for flares and pyrotechnics when approved under the conditions at para ►118◄).

116. **Rotary Wing and VSTOL Aircraft.** Rotary Wing and VSTOL Aircraft **should not** be flown ►or taxied◄ in such proximity to buildings or Aircraft on the ground as to

⁵³ Refer to [CAP 1741 – Balloon Declared Operator Guidance](#).

⁵⁴ Refer to ►CAP 1789A – Unmanned Aircraft Systems.◄

⁵⁵ Refer to [RA 1600 Series: Remotely Piloted Air Systems](#).

⁵⁶ VSTOL Aircraft may operate below the MSD in Table 8 during hovering and transition manoeuvres iaw para ►112.c (4).◄

⁵⁷ Rotary Wing Aircraft may operate below the MSD in Table 8 during hovering and transition manoeuvres iaw para ►112.c (3).◄

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cause a Hazard from downwash. If conducting underslung load activity, due consideration **should** be given to the load becoming unstable or detached;

117. **Parachute Demonstration / Display.** During the whole period scheduled for parachuting, all flying activity within the descent airspace and Parachute Landing Area⁵⁸, except that which is necessary for dispatching parachutists, **should** cease. The engines of Fixed Wing Aircraft **should** be shut down and Rotary Wing Aircraft rotors **should not** be turning until the last parachutist has landed;

118. **Use of Flares and Pyrotechnics.** The use of flares and pyrotechnics during a Flying Display **should** be subject to a specific Risk Assessment and final approval by the ADH / AM(MF) of the participating Aircraft, the HoE, the EO and the FDD. Flares, signal and smoke cartridges, and pyrotechnics **should** only be fired from such a height and position that prevents any remnants of the device landing among Spectators, near taxiing or static Aircraft, supporting personnel, ground equipment or third parties.

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Separation Distances, Minima and Restrictions

119. **► RPAS as part of a Flying Display.** Additional guidance on inclusion of an RPAS into a UK CAA regulated Flying Display can be found in CAP 403.

120. RPAS Safety guidance is the responsibility of the ADH / AM(MF) / RPAS Responsible Officers / RPAS Accountable Managers (AM) / Civilian Operator and the HoE, who, through the FDD, will ensure that RPAS displaying as part of a Flying Display maintain safe separation iaw the ADH / AM(MF) / RPAS Responsible Officers / RPAS AM / Civilian Operator's safe operating guidelines.

- a. The HoE will record any Risks, ensure that the RtL caused by the operation of RPAS at a Flying Display is ALARP and Tolerable and will record the Risks and mitigations appropriately.
- b. The FDD will:
 - (1) Ensure that all RPAS activity is appropriately deconflicted from any crewed Display Items.
 - (2) Review the RPAS safe separation minima prior to the event; where minima are unavailable, or the HoE deems them to be inappropriate then the FDD will apply the minima applicable to a fixed wing Display Item.
 - (3) Ensure RPAS used to provide media footage or live feeds are deconflicted from the Flying Display by either time or distance. If distance deconfliction is taking place, RPAS operating areas will be deconflicted from the Display Area and all display crews briefed on RPAS operations, locations and timings.
 - (4) Ensure that RPAS are not flown as part of a Display Item with a crewed Aircraft.

121. **UK Military Participants at UK CAA-regulated events.** The UK CAA accepts a PDA for UK military Display Participants to display at UK CAA regulated events. FDD for UK CAA regulated Flying Displays may accept the PDA of UK military registered Aircraft as proof that they are competent and current in all required facets of Display Flying, as detailed in CAP 403. ◀

⁵⁸ Including planned alternate Parachute Landing Areas.

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