



**THE NETHERLANDS
SPECIAL MILITARY AVIATION
REGULATION**

**NLD-SMAR-FDSE
Flying Displays and Special Events
AMC & GM**

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**MILITARY AVIATION AUTHORITY
THE NETHERLANDS (MAA-NLD)**

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AMC.FDSE.15 Flying Display Organisation and Management

1. **Applicability of this Regulation.** NLD-SMAR-FDSE applies to all personnel involved in conducting Display Flying, Role Demonstrations and Flypasts (Mil) in military registered Air Systems. Additionally, at all times, the most restrictive limitations of this Regulation or the following should be applied:
 - a. Orders issued by the Director of Operations (DO) for Air Systems falling under his or her responsibility conducting Display Flying, Role Demonstrations or Flypasts (Mil).
 - b. Orders issued by the DO, FEO or FDD for a specific event.
 - c. **Nato Stanag 3533.** NLD has ratified Stanag 3533 thus more stringent limits in the Stanag should apply.
 - d. Regeling luchtvaartvertoningen where a CAA Flying Display Permission exists for a display venue. Whilst the CAA Flying Display Permission will be time bounded, any Participants flying military registered Air Systems on the same day are subject to the limitations of the CAA Flying Display Permission and the Regeling luchtvaartvertoningen regardless of what time they conduct their flying activity.
 - e. Designation of a PDA or a DA.
 - f. Any relevant host nation Regulations and orders when conducting Display Flying, Role Demonstrations or Flypasts (Mil) outside the NLD.
2. **Director of Operations (DO)** The DO is the person within the Royal Netherlands Air Force accountable for managing, organising and executing a Flying Display where the RtL is at least ALARP and Tolerable according to an MAA approved safety methodology. The DO can appoint a delegated authority for these tasks such as an accountable manager.
3. **FEO.** Where an event is held over non MOD-establishments and/or there is no AM, the FEO should accept accountability for the event. If the FEO is unable or unwilling to accept accountability the event should not have military registered Air Systems participating.
4. **Appointing Flying Display Executives.** The appropriate authority should appoint suitable Flying Display Executives as follows:
 - a. **FEO.** The post of FEO should be held by a SQEP.
 - b. **FDD.** The post of FDD (and Assistant FDD, when required) should be held by a SQEP who should not be a Participant at the Flying Display. An FDD is not required if the Flying Display involves only one participant and the participant is authorised or qualified to act as an FDD.
 - c. In case of a single air system event the role of FEO and FDD can be combined.
5. **Boundaries of Responsibility.** It is recognised there may be some overlap of the safety management responsibilities between the FEO and the FDD in this case the overlap should be mitigated.
6. **AM Responsibilities.** The accountable Manager (AM) should retain responsibility for the safe operation of Air Systems in their Area of Responsibility (AoR) at Flying Displays and when conducting Role Demonstrations and Flypasts (Mil). Responsibility may be mandated to the FDD.
7. **Authority to conduct and notification of flying displays.** Authority to conduct a Flying Display over MOD-establishment is given by the DO or delegated authority and the MAA-NLD should be informed at least 70 days in advance of the event by means of an '*Aanvraag vergunning luchtvaartvertoning*'. Additionally, the establishment of a

temporary restricted area may also be required. Administrative arrangements for such events should be detailed in orders or instructions.

8. Events over (non) MOD establishments/areas in the NLD.

a. Flypast or Role demonstrations with military registered air systems only.

Flypasts or Role demonstrations may take place without an MAA-NLD Flying Display Permission. However, they must be notified to the MAA-NLD 70 days in advance. The MAA-NLD may consider an event that only has Flypasts or Role Demonstrations to be categorised as a Flying Display if they consider it necessary. Reasons for this may include:

- (1) Flying Display Complexity as per para 24;
- (2) Large gatherings of people.

b. Flying Display Events with military registered air systems only. Such events are MAA-NLD regulated and the CAA will not issue a Flying Display Permission; in these circumstances Participant's AM should (providing they assess the activity is appropriate, ALARP and Tolerable) apply to the MAA-NLD for a 'vergunning Luchtvaartvertoning' having:

- (1) Ensured that the FEO understands and accepts accountability for the event in lieu of a DO as per para 3;
- (2) Ensured the FDD understands that this Regulation applies to the event and he complies with its requirements fully;
- (3) Confirmed that the event is suitable for their Air Systems to conduct Display Flying.
- (4) The 'vergunning Luchtvaartvertoning' should consist of the following items as a minimum:
 - i. Location of the display;
 - ii. Description of Display area;
 - iii. Date and timeframe of the display
 - iv. Flying Display Director appointed.

9. Responsibility of display executives.

a. FEO. The FEO is responsible for all matters pertaining to the wider planning and execution of the event. The FEO is responsible for:

- (1) The production of an event Risk Assessment on behalf of the AM;
- (2) Hazard identification and the subsequent assessment, application of control measures and mitigations of the risks associated with the Flying Display elements of an event;
- (3) Production and promulgating of a Flying Display Risk Assessment to all Participants at the earliest opportunity;
- (4) Event occurrence reporting compliant with NLD-SMAR-1;
- (5) Ensuring that the Local Authorities are involved in the planning from the earliest opportunity possible;
- (6) Designating a Display Area. Details of obstacles, hazards, structures occupied by non-essential personnel and any anticipated areas of Secondary Spectators.

b. FDD. The FDD is responsible for the operational aspects of the flying display. The FDD is responsible for:

- (1) The coordination, control and safety of all flight activities conducted as part of

- a Flying Display;
- (2) Monitoring flying discipline during a Flying Display;
- (3) The scrutiny of all Participants' PDA, DA, letter of exemption from regulatory compliance or national equivalent(s);
- (4) The briefing (including the production of written Display Pilots' notes) and debriefing of Participants;
- (5) Control of the Flying Display program and cancellation or modification of the program in the case of adverse weather or other conditions that directly affect the Flying Display;
- (6) Ensuring appropriate orders for the Flying Display are in place, including orders for incident and post-crash management;
- (7) Coordinating the completion and submission of a list of Participants and seeking approval from the CAA (via the MAA-NLD) for national civil and (foreign) military registered Air System involvement at their event;
- (8) The validation of foreign display Participants as required;
- (9) Spectators within the Display Area should be annotated on a map which is part of the display order and is promulgated to all Participants and MAA-NLD;
- (10) Request Restricted Airspace (Tijdelijk Gebied met Beperkingen) in accordance with procedure AFMU "aanvraag luchtruim" if applicable.

10. Flying Control Committee. An FCC should be appointed by the FDD for Flying Displays where there are 4 or more Display Items. The MAA-NLD may grant an exemption from this requirement for Flying Displays of low complexity (see GM.FDSE.15). The FDD should issue the FCC with appropriate terms of reference. The FCC should:

- a. assist the FDD with the safe execution of the Flying Display;
- b. assist the FDD to monitor the standard and Flying Display related discipline of Participants;
- c. assist the FDD in the validation of any display Participants, if required;
- d. provide the FDD with specialist knowledge regarding Display Items;
- e. provide the FDD with SQEP opinion in the case of any regulatory infringements or concerns regarding flying discipline;
- f. advise the FDD on restrictions or additional limitations if required;
- g. monitor the conduct of all display Participants for regulatory compliance;
- h. intervene or stop, on the grounds of safety, any display Participant or, in extreme cases where the FDD cannot be consulted, the whole Flying Display;
- i. be available throughout the period of the Flying Display.

11. Display participants of military organised events. The FDD should ensure that:

- a. A preliminary list of Participants (aviation.approvals@mindef.nl) is submitted to the MAA-NLD at least 42 days in advance of the event;
- b. National and Foreign military and civilian Air Systems have approval from the MAA-NLD (see also NLD-SMAR-4) and/or NLD-CAA to conduct Display Flying;
- c. Participants hold a valid DA or a national equivalent as evidence of their competence to conduct Display Flying, even if conducting a Flypast;
- d. The Participant submits the planned (zero wind speed) ground track of their Display Sequence overlaid on imagery (or suitable scale mapping) of the display venue to the FDD and FEO as soon as possible, but no later than 30 days before the event.

The FDD should use this to confirm the Participant complies with this Regulation and incorporate the Display Item into their Risk Assessment, if required;

- e. The participant notifies the FDD of their intended Display Sequence at least 24 hours in advance;
 - f. The participant demonstrates that the intended manoeuvres comply with the conditions placed on their Air System's Certificate of Airworthiness or Permit to Fly;
 - g. The participants do not breach the minima permitted by their DA or national equivalent;
 - h. Comply with the separation minima detailed within this Regulation.
12. **Minimum Display Height for Participants Flying Civil Registered Air Systems.** The Participants DA specifies the minimum heights to which the holder may display, and FDDs could permit them to operate to those minima considering they are within the limitations of this regulation or 'vertoningsbeschikking' whichever is more restrictive.
 13. **Lateral Separation Distances and Participant and Spectator Separation for Military and Civilian Participants.** To ensure safe separation between spectators and participants during the display, FDDs should ensure that the minimum horizontal and vertical separation distances detailed in AMC.FDSE.25 Separation Distances, Minima and Restrictions are complied with by all participants.
 14. **Validation of display items.** When required the validation of display items should be carried out by the FDD with the assistance of the FCC. Validations should not take place during the actual Flying Display or Special Event for which the display item is intended.
 15. **Post Event Feedback.** All FDD should provide written feedback to the MAA-NLD within 14 days after the event. The feedback is form free, should contain a summary of the general course of the event and any occurrences.
 16. **Spectator safety.** The FDD **should not** permit any maneuver likely to jeopardise the safety of spectators in the event of an aircraft malfunction or aircrew misjudgment. Likewise, arrangements on the ground **should** be made to ensure safety risks to spectators are as low as reasonably practicable.
 17. **Arrivals and Departures at Flying Display venues.** All arrivals and departures at display venues should be conducted in accordance with the aerodrome procedures and the existing regulations. Pilots of Air Systems should not use the privileges of their PDA or DA during arrivals or departures unless explicitly authorised by both the FDD and the aerodrome's Air Traffic Controller; such approvals should be limited to pre-arranged Display Flying practices or when the arrival or departure is conducted as part of the Display Sequence during the Flying Display itself.
 18. **Ground Markings.** Full use should be made of existing ground features such as runways, supplemented as necessary by other visual means including Day-Glo markers (preferably with vertical extent) and lighting. Markers should be fixed firmly to minimise the effect of downwash.
 19. **Static Displays and Spare Aircraft.** Aircraft approved to participate in Static Displays or deployed as spare airframes, **should** arrive and depart venues using standard maneuvers (e.g. run in and break to land). Other nonstandard or aerobatic maneuvers constitute display flying requiring a PDA.
 20. **Main Display Line.** In accordance with Stanag 3533 the main display line would normally be 230m from the crowd line and parallel to it. The FDD may elect not to mark the main display line if there is a suitable and easily recognisable physical feature, at least the minimum required distance from the crowd line and in the correct orientation.
 21. **CAA Exemptions.** An FDD at an MAA-NLD regulated event should not accept a CAA **exemption** for a Participant flying a civilian registered Air System where that exemption would allow the Participant to breach any part of this Regulation

22. **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, the following Standard Warning Calls and responses should be used:

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,	'Wilco (Callsign)'

Table 1. Standard Warning and Stop Calls

- a. **Too Low Call.** A 'Too Low' Call should be made at an appropriate time if the FDD/FCC assess that an Air System has descended below the pilot'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/FCC assess that an Air System 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 stop 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 may be resumed if safe to do so.
- d. **Stop Call.** A 'Stop Call' should be made if the FDD and/or FCC have 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 be allowed to recommence their display.
- e. Where an event has a Participant with a non-radio capable Air System, 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 Participants understand they have been stopped and explain why;
 - (2) Where the Participant is flying a civilian registered Air System, inform the CAA General Aviation Unit as soon as reasonably practical;
 - (3) Submit a safety report in compliance with NLD-SMAR-1;
 - (4) Record the event in the Post Event Feedback.

GM.FDSE.15 Flying Display Organisation and Management

23. **Flying Display Complexity.** AM, FEO and FDD should consider the following when making the judgement on whether an event is High or Low complexity:
- a. **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 Air System displaying.
 - b. **Geography.** Consider the hazards posed by the terrain along with crowd and event layout.
 - c. **Congested Areas.** Consider the proximity, density and size of built up and

Congested Areas.

- d. **Secondary Spectators and Third Parties.** Consider the likelihood and controllability of spectators gathering outside the designated Spectator Enclosure and any effect the 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.
- e. **Display Length.** Consider the effect of the Flying Display window on (external) deconfliction issues.
- f. **Display Team Size.** Consider the number and type of Air Systems in a display team with respect to the size and nature of the display venue.

24. **FDD Competencies.** The MAA-NLD will only approve an FDD if they are endorsed by the DO and:

- a. Hold or have held a valid ATC or Pilot's license.
- b. Have completed a dedicated training and successfully passed the appropriate examinations and assessments. The training program will include but is not limited to:
 - (1) CAA/MAA-NLD Rules;
 - (2) Staffing and appointment of support personnel;
 - (3) Site assessment;
 - (4) Risk assessment;
 - (5) Display Lines;
 - (6) Display Minimum Heights;
 - (7) Interaction with local operators;
 - (8) Selection of display elements;
 - (9) Civil Participation;
 - (10) Display with Mixed elements (parachutes, land vehicles, drones etc);
 - (11) Special effects (Pyrotechnics, blank firing, RC aircraft, etc);
 - (12) Air Races and Rallies;
 - (13) Non-aerodrome based events.

25. **Validity.** An FDD's qualification will remain valid for a period of 5 years subject to their ongoing suitability (SQEP) for the role.

26. **Assistant FDD.** An appropriately qualified FDD may act as Assistant FDD to provide resilience for an event. This individual(s) must be annotated as an Assistant FDD on the '*Aanvraag Vergunning Luchtvaartvertoning*'.

27. **Currency.** To maintain currency the FDD must act as a FDD at least once every three years. Currency may be reset by acting as an Assistant FDD provided that:

- a. They are annotated on the '*Aanvraag vergunning luchtvaartvertoning*' or application for CAA Flying Display Permission;
- b. They take an active part in the planning and execution of the Flying Display;
- c. They are in attendance for the duration of the Flying Display;
- d. The nature and extent of Assistant FDD participation, and the intent to reset their currency, is annotated by the primary FDD on the FDD Post Event Feedback Form.

28. **FDD Trainee.** The primary FDD must record the level of participation of the trainee FDD in the 'Post Event Feedback Form' which will enable the MAA-NLD to properly assess the level of experience of the individual. The primary FDD must ensure that the on the job training of the trainee FDD in the planning and/or execution of the Flying Display is appropriately logged and countersigned by the trainee FDD so that any experience gained can be demonstrated.
29. **FCC.** The FCC will consist of SQEP appropriate for the Flying Display and will be appointed by the FDD. The FCC may include the FDD, who may act as Chairman of the Committee, and additional members who have the requisite expertise of Display Flying and/or Flying Display organisation/conduct. Chairmanship of the FCC may also be delegated.
30. **Boundaries of Responsibility.** When the organisation of the flying display is considering the terms of reference for the FEO and FDD, there are a number of responsibilities that they may wish to allocate. These include, but are not limited to:
- a. the location of car parks;
 - b. the location and number of spectator enclosures;
 - c. Air System parking and marshalling areas;
 - d. Air System refuelling areas;
 - e. emergency vehicle access and egress points;
 - f. Emergency Control Centre location and set up;
 - g. ownership of the event Risk Register.
31. **Guidance on Requirement for Validation.** The MAA-NLD is likely to require validation where an individual Participant is new, they have not displayed in the NL before, or for any formation team with greater than 4 Air Systems. For instance by flying the exercise outside of the main event.
32. **Minimum Public Safety Considerations.** Specific minimum requirements for public safety are:
- a. Spectator areas (defined as designated spectator enclosures and associated car parks) must be clearly delineated by barriers. The forward boundary of the spectator area, beyond which the Display Sequence is carried out, is referred to as the 'crowd line'. At display venues where the spectator area also defines sides, the crowd line is, for the purpose of an Air System maintaining the correct lateral clearances, to be considered to run along the front and down the sides of the spectator area;
 - b. adequate markings will be set up in the Display Area to enable Participants to maintain appropriate separation from the spectator areas. Details of ground markings and separation distances are given in AMC.FDSE.25.;
 - c. Air System approach and departure routes to the Display Area will be chosen to avoid overflight of the spectator areas. These routes will minimise risk for adjacent Congested Areas. Based on a risk assessment assessed by the MAA-NLD and permission of the FDD, overflight of the spectator area may be granted;
 - d. Air System parking areas will be out of bounds to spectators when engines are running or Air Systems are taxiing;
 - e. suitable routes for emergency vehicles will be established, clearly marked, and kept free from obstruction at all times;
 - f. Hazardous Materials. Civilian and Military Participants can advise FDD on specific hazards relating to their Air Systems.

33. **Secondary and third party spectators** FEO/FDD should take all reasonable steps to minimise the risk to Secondary Spectator and third parties. Particular consideration should be given to the following:
 - a. **Congested Areas.** FEO should put in place and record appropriate mitigation to reduce the risk to personnel within Congested Areas;
 - b. **Roads and Railways.** FEO should put in place and record appropriate mitigation to reduce the risk to third parties on busy roads and railways surrounding a display venue;
 - c. **Secondary Spectators.** FEO should identify areas likely to be occupied by Secondary Spectators, take all reasonable steps to prevent Secondary Spectators gathering in high risk areas and record the mitigation taken. Prevention will not always be possible; in this case FEO should take all reasonable steps to inform Secondary Spectators of the risk to them;
 - d. **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 FEO/FDD shall use their judgement to assess the risk against the mitigations taken above and satisfy themselves that all reasonable steps to minimise RtL have been taken.
34. **Supplementary Markings.** FDD may provide additional markings to assist Participants identify appropriate minimum distances from the crowd line for various aspects of their Display Sequence, where these are different from the normal 230m minimum. If used, FDD must ensure that Participants are fully briefed on their position and meaning.
35. **Civil Participants Operating Minima.** Civil Participants holding a DA or letter of exemption are allowed to operate below the minima stated in SERA.5005(f)(2), during a Flying Display at nominated MOD-establishments. This clearance is obtained annually and held by the Participant.

AMC.FDSE.20 Display Flying, Role Demonstrations and Flypasts (Mil)

36. **Display Flying Aircrew.**
 - a. The AM should ensure that the aircrew selected to conduct Display Flying are suitably qualified and experienced in both airborne and ground-based aspects of Display Flying;
 - b. Where Display Flying Aircrew are responsible for conducting Risk Assessments, they should be appropriately trained and/or supported;
 - c. Display Flying Aircrew should be authorised by their PH Flight Operations to conduct Display Flying at a Flying Display.
37. **Display Flying Supervisor.** The AM should nominate a SQEP Display Flying Supervisor when deemed necessary.
38. **Display Flying Support Personnel.** The AM should allocate sufficient support personnel and/or resource to allow aircrew selected for Display Flying to safely and effectively conduct activity throughout the season.
39. **Practice Display Flying.** The DO should assure him- or herself that practice 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.
40. **Practice Display Flying Minimum Height.** The DO should promulgate orders stipulating who can approve Display Flying Aircrew to a lower height; this should not be delegated below Sqn Cdr. That individual is responsible for signing the aircrew's training folder.
41. **Pre-Season Display Flying Work-up and PDA.** Pre-season display practices should be personally authorised by the PH Flight Operations or Display Flying Supervisor. The following points are relevant to the Display Flying Work-up:

- a. The Work-up should be of a progressive nature leading, in stages, down to final approved display heights, and initially conducted only over their own airfield unless the DFS or AM directs otherwise;
 - b. consideration should be given to the use of appropriate simulators for initial practices;
 - c. the previous season's Display Pilot should be used in an advisory/monitoring capacity during practice and validation;
 - d. each practice Display Flying sortie should be monitored by the Display Flying Supervisor. If the Display Flying Supervisor is on the ground, he should be in a suitable position to ensure he is not a distraction to the Display Flying Aircrew;
 - e. a record of Display Flying practices detailing weather, runway, etc. should be kept in the aircrew's training folder;
 - f. the Display Flying Aircrew and the Display Sequence should be approved by the DO as the mechanism to signify that final approval has been granted;
 - g. all practice Display Flying sorties should, where practicable, be video recorded.
42. **Basic Knowledge.** The AM should ensure that, in parallel to the airborne work-up in para 53, aircrew and support personnel selected for Display Flying are appropriately trained in the relevant non-flying aspects of Display Flying, such as Fatigue, Supervision and relevant regulatory knowledge.
43. **Deviations from PDA.** Deviations from the clearances or permitted modifications to the Display Sequence, as detailed on the approved PDA Form, should not be permitted without authorisation by the DO. If a FDD is unable to accept the Participant's approved Display Sequence the Participant should not perform.
44. **Role Demonstrations.** Role Demonstrations do not necessarily require a PDA, but the AM, or delegated authority, should approve Role Demonstration manoeuvres. The AM orders should detail the following:
- a. the approval mechanism, clearance procedures and authorisation process for Role Demonstrations;
 - b. safety aspects, limitations and restrictions;
 - c. Competence/SQEP requirements of the aircrew in the air and on the ground.
45. **Military Flypasts (Mil).** Military Flypasts do not constitute Display Flying so do not normally require a MAA-NLD Flying Display Permission. However, the DO should have orders detailing appropriate limitations specific to the Air Systems under their responsibility.
46. **Stop Calls.** Where the FDD/FCC has issued a 'Stop Call' due to a breach of minima or limits, or other safety concerns surrounding the Participants fitness or competence, the Participant:
- a. should not conduct further Display Flying until they have permission from their AM;
 - b. should submit a safety report in compliance with NLD-SMAR-1 as soon as practicable.
47. **Warning Calls.** The DO should issue orders which state the actions to be taken by Display Flying Aircrew after a Warning Call has been issued to them.
48. **Display Venues.** The DO should take all reasonable measures to assure that display venues at which their Air Systems perform are suitable, safe and appropriate for the Air System and Display Sequence. This should include being satisfied that:
- a. the FEO and FDD are suitably qualified and/or experienced in accordance with this Regulation;
 - b. RtL attributable to Display Flying, Role Demonstrations or Flypasts (Mil) remains at least ALARP and Tolerable including having reviewed the FDDs briefing material and event Risk Assessment.

GM. FDSE.20 Display Flying, Role Demonstrations and Flypasts (Mil)

49. **Parachuting.** When participating at a Flying Display, MOD approved parachute display teams will be deemed to be on duty. Parachute display teams will be in possession of a valid Parachuting Permission and exemption certificate and the parachute display must be conducted in accordance with AM orders. Parachute display team leaders will be responsible for parachuting and flying operations carried out by that display team, the provision of a qualified Drop Zone Safety Officer, and ensuring adequate liaison and co-ordination with the FDD .
50. **Role Demonstrations or Military Flypast being Categorised as Display Flying.** The MAA-NLD may, if they deem appropriate or based on a safety assessment, categorise Role Demonstrations or Flypast (Mil) as Display Flying.

AMC.FDSE.25 Separation Distances, Minima and Restrictions

51. **Overflight of Spectators.** All Participants should avoid overflight of spectator areas at a Flying Display except as specifically authorised by the Display Director and approved by the MAA-NLD for non-aerobatic manoeuvres.
52. **Inside the Display Area.** Participants should avoid performing aerobatic manoeuvres above any structures occupied by non-essential personnel or known Secondary Spectators within the Display Area to the maximum extent possible. If this is unavoidable it should be addressed in a risk assessment. Additionally, any non-aerobatic overflight of the above during a Display Sequence should not be less than 500' AGL.
53. **Outside the Display Area.** Display Aircrew should adhere to 250' AGL for non-aerobatic manoeuvres and 500' AGL for aerobatic manoeuvres outside the Display Area.
54. **Lateral Separation.** The following minimum lateral separation distances should apply to all military registered Air Systems at all Flying Displays and civilian Air Systems at Flying Displays over MOD-establishments. Where a FDD, Participant or their operating authority considers that a greater separation is required for any specific Air System 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 separation of 15m should be maintained between spectator areas and the nearest point of the Air System concerned. This limit applies to Air System taxiing or air-taxiing, except when such taxiing is away from a marked taxiway and without the assistance of a marshaller, when the minimum separation is increased to 65m.
- b. **In-Use Runways.** The minimum separation between the nearer edge of any runway used for conventional Fixed Wing take-off and landings (including 'touch and go' and 'low approach') and the crowd-line should be 100m. However, for light Air Systems with a MTOM of ≤ 1200 kg, and a take-off and landing speed of less than 100 KIAS, this separation may be decreased to 65m. 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 for that Air System), if its edge is at least 230m from the crowd at all points.
- c. **In Flight.** The normal minimum separation between the crowd line and Air System displaying in flight, including Rotary Wing displays that involve aerobatics, should be 230m. However, the following additional minima apply for specific circumstances:
- (1) **High Speed Air System.** Where the displaying Air System is at a speed in excess of 300 KIAS, and has a velocity vector towards a spectator area, the minimum separation should be increased to 450m.
- (2) **Low Energy Air System.** For low energy Air Systems the minimum separation

should be 150m.

- (3) **Rotary Wing.** For normal take-off and landing, and during transitional manoeuvres, the minimum separation should be 65m. For other stages of non-aerobatic flight, or at any time when an underslung load is carried, the minimum separation **should** be 100m.
- (4) **Vertical and Short Take Off and Landing (VSTOL) Air Systems (Incl V-22).** For vertical take-off and landing, and during non-wing borne flight at low speed, the minimum separation should be 150m. By the time conventional wing borne flight is achieved, the Air System should be at the normal minimum separation of 230m.
- (5) **Balloons.** At displays where balloons operate, FDD should follow the guidance in *Regeling Luchtvaartvertoningen*.
- (6) **Airships.** Airships are operated as lighter-than-air Air Systems, and as such should be subject to regulations applying to Fixed Wing Air Systems.
- (7) **Remotely Piloted Air Systems (RPAS) and model Aircraft.** RPAS <4kg should be operated in conjunction with delegated regulation EU 947/2012 for civilian participants and HDBV-14 for military participants. Larger systems shall adhere to the low energy system or rotary wing requirements depicted in (2) and (3) as appropriate.

55. **Dual Spectator Areas.** In the case of Flying Displays at airfields/locations where spectator areas are on both sides of the display axis, the minimum distances between the display line/runway and the spectator areas, specified above, should apply on both sides of the display line/runway.

56. **Minimum Heights at a Flying Display.** The DO should specify minimum heights for Display Flying, flown by their aircrew, dependent upon the Air System type, aircrew experience and location of the event, based on a safety assessment. However, they should not be less than the height AGL specified in the tables below:

AGL (Feet) as part of PDA Display Sequence at a Flying Display				
	Fixed Wing	Rotary Wing	Fixed Wing Formation	Rotary Wing Formation
Level Flight $\leq 89^\circ$ Angle of Bank (AOB)	100	100	300	100
Aerobatic Manoeuvres, Inverted Flight and Link Manoeuvres	300	300	300	300
Any other Manoeuvres	300	100	300	100

Table 2. Minimum Heights Part 1

- a. **Post Level Flight $\leq 89^\circ$ AOB Manoeuvre.** Having completed a Level Flight pass below 300' AGL, up to 60° AOB should be used to achieve the appropriate height AGL.
- b. **Link Manoeuvres.** Minima as per Table 5 unless positioning for a non- aerobatic profile or landing. Participants should be certain of capturing the minimum height (min 300') during the recovery from an aerobatic manoeuvre before continuing descent to level flight minima as per Table 5.
- c. **Rotary Wing and VSTOL Air Systems.** Rotary Wing and VSTOL Air Systems may operate below the AGL in Table 5 during hovering and transition manoeuvres.
- d. **Manoeuvre After Take-Off.** Once safely airborne and not below 50' minimum separation distance throughout the manoeuvre, the Participant may commence a turn away from the crowd line to capture the appropriate display line. AOB up to 60° should be used and a positive climbing vector should be maintained throughout the manoeuvre. The Participant should achieve the following criteria:
 - (8) **On crossing the appropriate display line (if runway is inside it).** Be at or above 100' AGL.
 - (9) **By 180° displaced from the take-off direction.** Be at or above 300' AGL.

AGL (Feet) when NOT part of a PDA Display Sequence at a Flying Display				
	Fixed Wing	Rotary Wing	Fixed Wing Formation	Rotary Wing Formation
Level Flight $\leq 20^\circ$ AOB	100	50	500	250
Any other manoeuvres in accordance with all other extant Regulation				

Table 3. Minimum Heights Part 2

57. **Minimum Heights at any other event.** The DO 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 Air System type, aircrew experience and location of the event. However, they should not be less than the minimum separation distance specified in the table below:

AGL (Feet) at any other Event				
	Fixed Wing	Rotary Wing	Fixed Wing Formation	Rotary Wing Formation
Level Flight $\leq 20^\circ$ AOB	250	100	500	250
Any other manoeuvres in accordance with all other extant Regulation				

Table 4. Minimum Heights Part 3

58. **Congested Areas.** Role Demonstrations or Flypasts (Mil) below 1000' AGL over Congested Areas should only be conducted in accordance with the details laid down in the *Ontheffing minimum vlieghoogte* issued by the MAA-NLD.

59. **Weather Minima.** The AM should stipulate the minimum weather conditions for Display Flying, Role Demonstrations and Flypasts (Mil) by Air Systems in their OPS Manual.

a. 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:

Type of aircraft	Type of display		Weather minima	
			cloud base	visibility
VSTVOL, Rotary Wing And other aircraft with a stalling Speed below 50 KIAS	Flypasts, and Role Demonstrations	Solo aircraft	500 feet	1500 metres
		Formations	500 feet	3000 metres
	Aerobatic Display Flying	Solo aircraft	800 feet	3000 metres
		Formations	1000 feet	5 km
All other Air Systems	Flypasts, non- aerobatic Display Flying and 'flat' Aerobatic Display Flying and Role Demonstrations	Solo aircraft	500 feet	5 km
		Formations	1000 feet (see note iii)	5 km (see note iii)
	Aerobatic Display Flying	Solo aircraft	1000 feet	5 km
		Piston Formations	1000 feet	5 km
		Jet / turboprop Formations	1500 feet	5 km

Table 5. Weather Minima.

Notes:

- (i) A 'flat aerobatic display' should be formally approved as part of the Participant's PDA; use of the lower 1000 ft cloud base minima should be subject to a Risk Assessment which is to be approved by the DO and accepted by the MAA-NLD.
- (ii) Subject to FDD approval, Air Systems unable to display because of low cloud base may fly an instrument approach to land, touch-and-go or low approach, limited basic manoeuvres and circuits. 200' minimum vertical separation from the prevailing cloud base is to be maintained and the visibility is not to be less than 5 km.
- (iii) Large formations (>16 Air Systems) require 8 km visibility and a cloud base of at least 2000'.

60. **Performance Limitations.**

- a. **Speed.** An absolute true limit of Mach 0.90 or 600 KTAS (whichever is reached first) should not be exceeded in flight.
- b. **Multi-Engine Fixed Wing Air Systems.** Multi-Engine Fixed Wing Air Systems should not fly below the speed at which it is still possible to climb away, without change of configuration, if any one engine fails.

61. Other Restrictions When Conducting Display Flying, Role Demonstrations or Flypasts (Mil).

- a. **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 should be terminated.
- b. **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).
- c. **Rotary Wing and VSTOL Air Systems.** Rotary Wing and VSTOL Air Systems should not be flown in such proximity to buildings or Air Systems on the ground as to cause a possible hazard from downwash. If conducting underslung load activity, due consideration should be given to the load becoming unstable or detached.
- d. **Parachute Demonstration/Display.** During the whole period scheduled for parachuting, all flying activity within the descent airspace and Drop Zone, except that which is necessary for dispatching parachutists, should cease. The engines of Fixed Wing Air Systems should be shut down and Rotary Wing aircraft rotors should not be turning until the last parachutist has landed.
- e. **Use of Flares and Pyrotechnics.** The use of flares and pyrotechnics from the air during a Flying Display should be subject to a specific Risk Assessment and final approval by the DO of the participating Air System, the AM, the FEO and the FDD. Flares, signal cartridges and pistol smoke cartridges, should only be fired from such a height and position that prevents any remnants of the device landing at an unwanted location, e.g. among spectators, near taxiing or static Air Systems, supporting personnel or ground equipment.

Final Clause

This regulation is known as NLD-SMAR-FDSE AMC & GM. This regulation will be published on the intranet site and internet site of the Ministry of Defence.

The Hague, 30 April 2021

For the Minister of Defence,

The Director of the Military Aviation Authority – The Netherlands



J.P. Apon
Air Commodore