

DAE Seminar

Chris Kidd / Paul Szluha

Scope

- DAE Seminar – Chris Kidd
- CAA / DAE Agreement – Paul Szluha
- CAP 403 and CAP 1724 – Paul Szluha
- Overview of 2019 Season – Chris Kidd
- SRG 1300 – Paul Szluha
- DAE Oversight – Paul Szluha
- Standardisation – Chris Kidd
- DA Paperwork – Paul Szluha
- How you can support the display industry – Chris Kidd
- What can we do for you? – Chris Kidd
- Questions

DAE Seminar

- Why here and why now?
 - Gatwick is now very full
 - I have limited staff and getting them to organise another seminar amongst all the others we do is proving challenging
 - Shrivenham gives an opportunity to interface and learn from the rest of the display community rather than operate in isolation
- November is an ideal time to allow you to provide feedback
 - Opportunity for suggested topics to be discussed but no suggestions received
- Also good time to allow you to feed into the documents before publication

CAA / DAE Agreement

- Why we need a mutually signed agreement.
- The origins of the DAE role is set out in Article 86(10) of the ANO: “The CAA may authorise a person to conduct such examinations or tests for the purposes of Article 86 as it may specify”.
- In order to ensure that both the CAA and DAE have clearly understood and can comply with their respective roles, responsibilities and functions, insofar as meeting the requirements of the ANO and CAP guidance materials for DAE’s, the CAA now relies upon the signed CAA / DAE Agreement as the record of this compliance.
- The signed CAA / DAE Agreement validates the insurance cover that is available to each DAE. However, even if DAEs have their own insurance, there is still a requirement to sign the agreement for the reasons set out in the previous paragraph.

CAA / DAE Agreement

- Appendix F in Edition 1 of CAP1724 – becoming Appendix E in Edition 2
- F5 The CAA expects the following of each DAE:
 - a) The maintenance of the highest possible display flying standards
 - b) The adherence to all rules and regulations, including this document and those pertaining to General Aviation and display flying
 - c) The sharing of experience and the imparting of knowledge to display pilots that fall under their supervision
 - d) A willingness to discuss and share HF considerations with the display flying community
 - e) Attendance at the DAE Syndicate meeting held at a Flying Display Symposium at least once every 3 years
 - f) Regular engagement with the CAA GA Unit over matters pertaining to DAs and the DAE / DA system in general
 - g) Engagement with the EOO regarding availability for observation
 - h) A willingness to learn from each other
 - i) The promotion of a 'just culture' amongst the display community in general, but particularly towards display pilots that fall under their supervision
 - j) The timely and accurate completion of DA and DAE related forms
 - k) Feedback to the CAA GA Unit regarding any Flying Display related matters

CAA / DAE Agreement

- Appendix F in Edition 1 of CAP1724 – becoming Appendix E in Edition 2
- F6 DAEs can expect the following from the CAA:
 - a) Support through the EOO for all matters relating to DA applications, renewals and upgrades
 - b) Support in decision making regarding the suitability of new DA applicants
 - c) Feedback from at least one DAE evaluation every 3 years
 - d) Timely communication of pertinent safety information in the event of any DA suspension where the CAA considers there are lessons to be learnt by the wider community
 - e) Continued engagement when developing Flying Display matters and particularly the safety culture
 - f) Third party liability insurance as detailed in Appendix E

CAP 403 and CAP 1724

- CAP 403 on Public Consultation now
 - Mature document
 - Very few changes
- CAP 1724 scheduled for Public Consultation on Monday
 - Immature document (only on edition 2)
 - Some changes to be aware of
- Both CAP 403 and CAP 1724 have been internally reviewed and reviewed by the FDFG (which includes DAEs) prior to release into the public domain
- Please help us, and the display community, by reading them and feeding back **suggestions** via the consultation!

CAP 403 and CAP 1724

- CAP 1724 significant changes

Formation briefings and walk throughs

- 1.12. A formation leader is responsible in ensuring that a thorough formation briefing is given and **must** ensure sufficient time is available to conduct one.
- 1.13. All formations at Flying Displays **must** be briefed prior to flying¹⁰ and the brief **should** include a walkthrough. The following **must** be briefed as a minimum:
 - a) The formation positions of each pilot and aircraft
 - b) SUTTO – startup procedures, taxi order, spacing, formation
 - c) Formation join-up
 - d) Formation changes
 - e) Formation spacing
 - f) Formation minimum height (the most restrictive of the entire formation)¹¹
 - g) Formation minimum separation distance from the crowd (the most restrictive of the entire formation)
 - h) Recovery / landing sequence
 - i) Emergencies – formation break-out, loser plan (including formation leadership), radio fail
- 1.14. Having briefed the formation, if the formation leader is not content with the ability, currency or competence of any of the pilots in the formation, then the leader should not allow that pilot to take part in the formation.

CAP 403 and CAP 1724

- CAP 1724 significant changes

The recording of Flying Display related activities

- 1.43. DA holders **should** record all DA renewals, upgrades and displays (both actual and practise) along with all associated skill levels in their log books to provide:
- a) documented evidence of compliance with currency requirements
 - b) DAEs with reference material for consideration when assessing evaluation requirements
 - c) evidence and supplementary information when applying for DA renewals and upgrades

Limited level (aL) aerobatic evaluation criteria

- 6.2. Limited aerobatic authorisations are designed to provide a stepped entry into aerobatics for display pilots. As such, the authorisation will be limited to simple, upward vector manoeuvres only.
- 6.3. The evaluation criteria for limited level aerobatic authorisations are as follows:
- a) **Combinations.** Half Cuban 8 only (five eighths of an inside loop combined with a half roll on diving exit line)
 - b) **Rolls.** Upward vector aileron rolls

CAP 403 and CAP 1724

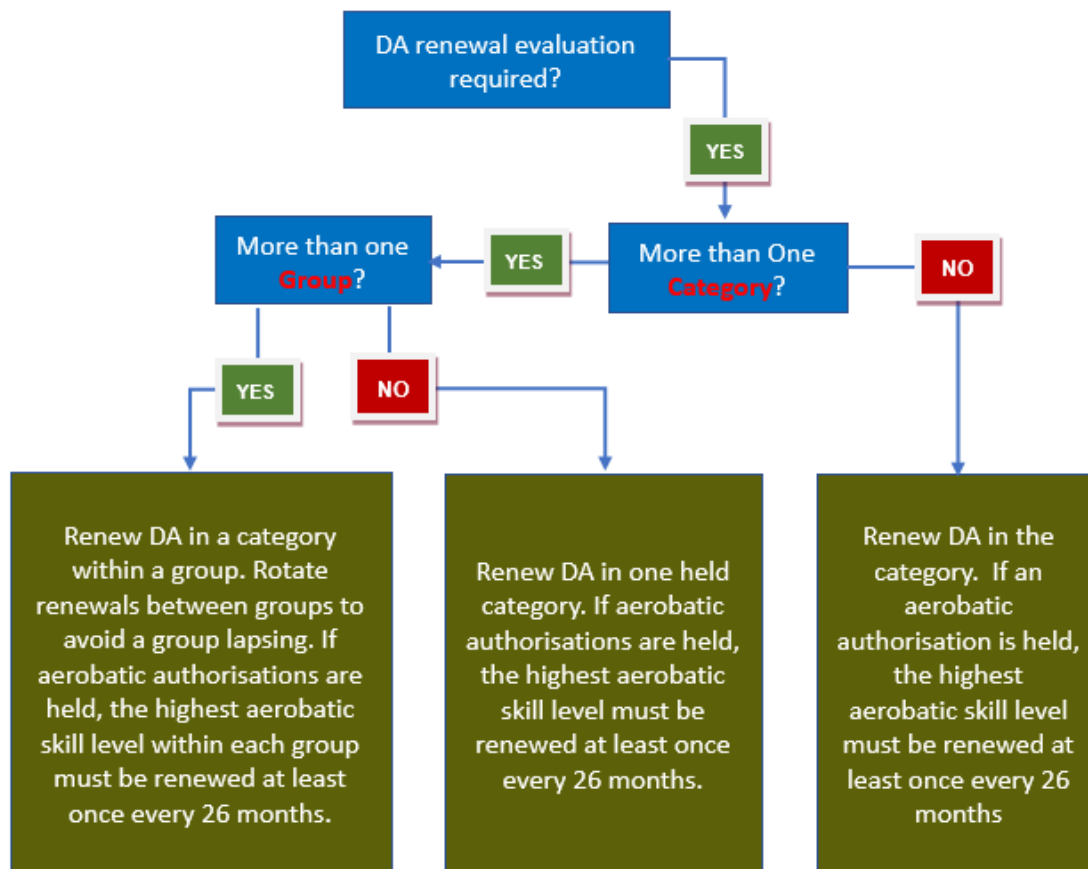
- CAP 1724 significant changes

Aircraft Categories for Display Authorisations		
Notes:		
1. All engine power ratings in this table are measured at Sea Level.		
Group	Category	Description
<u>Single Engine Piston (SEP)</u>	A	<u>≤200 hp</u>
	B	<u>201 hp to ≤600 hp</u>
	C	<u>≥600 hp</u>
<u>Multi Engine Piston (MEP)</u>	D	<u>≤300 hp total</u>
	E	<u>301 to ≤600 hp</u>
	F	<u>>600 hp, single pilot, specified by type</u>
	Z	<u>>600 hp, multi-pilot/crew, specified by type</u>
	C1	<u>Single engine, single seat, jet powered</u>

CAP 403 and CAP 1724

- CAP 1724 significant changes

Renewal requirements - All groups and categories except JPA



CAP 403 and CAP 1724

- CAP 1724 significant changes

- 11.17. Every Display Pilot **must** complete a successful renewal evaluation within each rolling 13 month period⁴⁵ otherwise their DA will lapse.
- 11.18. A display pilot authorised in one category **shall** renew their DA in the appropriate category. If an aerobatic authorisation is held, a renewal at the highest aerobatic skill level **must** be carried out at least once every 26 months.
- 11.19. A display pilot authorised in more than one category within one group **may**⁴⁶ renew their DA by rotating between each category. If aerobatic authorisations are held, the highest aerobatic skill level must be renewed at least once every 26 months.
- 11.20. A display pilot authorised in more than one group **must** renew their DA in a category within a group. To avoid a group lapsing, display pilots **must** renew by rotating between groups. If aerobatic authorisations are held, the highest aerobatic skill level **must** be renewed at least once every 26 months.
- 11.21. Where more than one group is held, any group that hasn't been renewed within a 26 month period **shall** be considered as lapsed. Display Pilots are required to 'unlock' the lapsed group in order to display in a category within that group. Provided the DA has not expired, the lapsed group **may** be 'unlocked' at any time by carrying out a renewal evaluation with an appropriately qualified DAE.

Renewal requirements - Categories G1, G2 and H (JPA group)

- 11.22. A display pilot authorised on one or more categories in the JPA group **must** renew each category every 13 months.
- 11.25. DA renewals may be anticipated and carried out up to three months prior to expiry dates without loss of continuity.

Overview of 2019 Season

- Number of Displays increased!

	DS 17	DS 18	DS 19
Number of Article 86 Events	144	139	152
Number of SERA Flying displays	51	62	51

- Several TOO LOW and TOO CLOSE – is this an issue?

	DS 17	DS 18	DS 19
Number of 'Too low' calls	10	16	18
Number of 'Too Close' calls	8	19	24

Overview of 2019 Season

- Paperwork still a problem
 - There will never be a situation where no paperwork exists
 - However, the standard of document completion needs to be raised
 - Discuss this later
- STOPS
 - 2 x STOP calls
 - 1 x very low manoeuvre (should have been a STOP/TERMINATE)
 - Lets discuss.....

Overview of 2019 Season

- STOP 1
 - Gazelle at Weston
 - Good call. Reported to CAA on the day of the incident. Pilot contacted by FDD. Pilot contacted by DFSO and told that his DA was temporarily suspended.
 - CAA carried out an investigation using FAiR model
 - Pilot made an error
 - Pilot's DA reinstated 3 days later
 - Thoughts?

Overview of 2019 Season

- STOP 2
 - Catalina at Scottish Airshow
 - Misidentified line, overflow car park and spectators on first pass. FDD issued a too close call and added extra comm to help pilot find the line. Second pass pilot overflow the crowd again. FDD issued STOP call and reported to the CAA. FDD and CAA spoke to pilot after he landed back at DUX.
 - CAA carried out an investigation using FAiR model
 - Pilot made an error
 - Pilot's DA reinstated 2 days later
 - Thoughts?

Overview of 2019 Season

- Close call
 - Pitts at Dunsfold
 - Made an error in a vertical manoeuvre outside the display area. Took longer than normal to recover in the vertical dive. Resulted in getting very close to the ground. Experienced FDD let the pilot continue. A STOP call here was valid, so was a Terminate.
 - Pilots can also call a terminate for themselves (scared himself – why continue?)
 - Pilot made an error
 - CAA discussed the incident with both Pilot and FDD, narrative released in Mid Season Update so everyone can learn
 - No punitive action taken by CAA – why would we?
 - Thoughts?

SRG 1300

- Positives:
 - Gives us visibility of the sector
 - Allows us to be part of the renewal process
 - Helps us get a feel for the varying standard of DAs and DAEs
 - Assists in standardisation
 - Puts the onus on the DA, not the DAE or CAA
- Negatives:
 - Some duplication on the form (ex military aircraft)
 - Qualifications section is free text
 - Initially it took an unacceptably excessive amount of time for the CAA to process applications

SRG 1300

- Changes:
 - Remove duplication
 - Upload of SRG 1303B will be mandatory
 - Make it clear that the recommendations section should only include what the DAE saw on the evaluation
 - Make recommendations section drop down selections
 - Remove question concerning upload of CAP 1724 checklist
 - Remove reference to Appendix D Checklist in declaration but state that evaluation carried out iaw CAP 1724
 - Area for adding previous display history
 - Add category and aircraft type that the evaluation was conducted on
 - Provide supporting guidance on completion of the form (same as guidance in CAP 1724)
- Anything else?

DAE Oversight

- EOO is Paul Szluha
- Deputy is Michael MacDonald
- Why do we do it?
 - Standardisation across all DAEs
 - Raise the overall standard
 - Ensure that DAEs are operating to the up-to-date guidance docs
 - Gather feedback for future amendments
- How do we do it?
 - EOO will visit 15 DAEs per annum at a time a place that suits you
 - EOO will observe a DA evaluation then provide you with verbal and written feedback
 - Please, when asked, make yourself available!

DAE Oversight

- DAE Validity Period
 - 3 years post appointment
 - We are behind on our EOO visits therefore many DAEs will be extended via letter

DAE Validity period. The EOO has been to visit you and observed an evaluation. They have provided you with verbal and written feedback and renewed your DAE.

Can you now:

- a. Renew DAs in categories you don't hold yourself?
- b. Upgrade DAs in disciplines you are not qualified to evaluate in?
- c. Consider yourself 'reset' and renew the same DA for a third consecutive time?
- d. All of the above?

Standardisation

- We want to try and standardise DAEs across all categories and disciplines where possible
- Allows a common language to be used
- Improves the quality of the DAs
- Improves safety of flying displays
- 3 methods:
 - EOO visits – already covered
 - Training
 - Review SRG 1300s

Standardisation

- Training
 - Expect to be invited to a DAE training event in March
 - Embryonic planning at this stage
- Likely to cover:
 - Planning
 - Briefing
 - What to look for during an evaluation
 - Debriefing
 - Providing written feedback
- Baselines the standard we are looking for
- Need current DAEs to help us run it, any volunteers?

Standardisation

- Review of SRG 1300s
- Narratives. Think about what might happen if you were asked to provide evidence as to what you did. Could you recall exactly what happened? This DAE probably could:

Airborne Evaluation

Max 3000 chars

Please give details of the airborne evaluation undertaken. This should include any safety points, the type of flight (eg Aerobatic, formation, tailchase, flypast, limbo, etc), the pre-flight briefing, pre-flight actions, positioning and wind allowance, timing, content of display, presentation and framing, adherence to limits, general handling and post-flight debrief. *

The evaluation was conducted at Duxford aerodrome and was flown in Spitfire MK XIX which flies on a UK CAA Permit to Fly. The display comprised a series of flypasts linked by turns, 360s, wing-overs, ½ Cubans, reverse wing-overs, a barrel roll & a dimming aileron roll. To assess the applicant's adaptability he was briefed to follow the standard display with a short 'flat' display simulating an 800 ft cloudbase. Throughout the applicant was open to advice and suggestions but was also able to explain the rationale for his chosen display design. An impressive professional performance overall. I have no hesitation in recommending that his 'new' DA be issued with similar categories and minima to his previous authorisation.

Standardisation

- What about this?

Please give details of the airborne evaluation undertaken. This should include any safety points, the type of flight (eg Aerobatic, formation, tailchase, flypast, limbo, etc), the pre-flight briefing, pre-flight actions, positioning and wind allowance, timing, content of display, presentation and framing, adherence to limits, general handling and post-flight debrief. *

Full display routine at North Weald down to display heights (100 ft agl), including aerobatic manoeuvres (aileron rolls, derry turns, steep wingovers). All satis

- And this?

Ground Assessment

Max 3000 chars

Please give details of the ground assessment undertaken. This should include the applicant's knowledge of ANO Articles 7 – 11, 86, 240, 241, Rules of the Air Regulations, SERA and low flying rules, CAP 403 and CAP 1724. *

Good knowledge of all relevant regulations

Standardisation

- How about this one?

Ground Assessment

Max 3000 chars

Please give details of the ground assessment undertaken. This should include the applicant's knowledge of ANO Articles 7 – 11, 86, 240, 241, Rules of the Air Regulations, SERA and low flying rules, CAP 403 and CAP 1724. *

Ground assessment conducted in accordance with the CAP 1724 Annex D evaluation checklist. As John is a Shuttleworth Collection pilot there are a number of checklist items that are covered through ground training, QFI checks and Quiz's. These are captured through collection record keeping under the control of the Collection Flying Order Book and CAP 632 OCM. John briefed timings and weather and all essential items that the DAE needed with respect to the solo aerobatic detail. Overall John showed thorough knowledge of the aircraft and excellent behaviour. As an observation across the season, John is an experienced DAE and QFI which shined through on this assessment. The overall sortie brief was a straightforward. Specific points were negotiating a slot with ATC

Please give details of the airborne evaluation undertaken. This should include any safety points, the type of flight (eg Aerobatic, formation, tailchase, flypast, limbo, etc), the pre-flight briefing, pre-flight actions, positioning and wind allowance, timing, content of display, presentation and framing, adherence to limits, general handling and post-flight debrief. *

Airborne evaluation conducted iaw CAP 1724 Annex D evaluation checklist. Revalidation flown as a practice display. Wind 340/8 CAVOK – off crowd wind with display axis on main runway 28/10. Walk around satisfactory, no specific points other than thorough check for lose articles; John repositioned aircraft away from a FOD'd area of the PAN – good awareness. Timing and coordination were all satisfactory helped by a very quiet airfield. Overall well flown smooth and well-presented aerobatic sequence in unchallenging wind conditions. Energy management and handling at the apex of the loop was good. Transition to wing overs and fly pasts was well executed. Overall tightly flown to the 230 m line for the aerobatic portion with no separation busts or base height transgressions. One finesse point – the display shifted and ended up biased on one occasion to crowd left. This was partly due to adaptations required due to the limited space encountered for B axis manoeuvres where it was not possible to conduct any form of looping manoeuvre on B axis without either overflying neighbouring houses or crossing the 230 m line. John adapted well by flying high wing overs back onto the A axis and linked these with the next part of the sequence. John debriefed honestly and critically highlighting the energy management and adaptation for the wind and display area. No safety points. John conducted a good, safe, aerobatic, CAT B work out leading to a recommendation to revalidate John's DA for all existing categories, skill levels and minimum heights.

Standardisation

- And finally?

Airborne Evaluation

Max 3000 chars

Please give details of the airborne evaluation undertaken. This should include any safety points, the type of flight (eg Aerobatic, formation, tailchase, flypast, limbo, etc), the pre-flight briefing, pre-flight actions, positioning and wind allowance, timing, content of display, presentation and framing, adherence to limits, general handling and post-flight debrief. *

Airborne evaluation conducted iaw CAP 1724 Annex D evaluation checklist. Revalidation flown as a practice display. Wind 340/8 CAVOK – off crowd wind with display axis on main runway 28/10. Walk around satisfactory, no specific points other than thorough check for loose articles; John repositioned aircraft away from a FOD'd area of the PAN – good awareness. Timing and coordination were all satisfactory helped by a very quiet airfield. Overall well flown smooth and well-presented aerobatic sequence in unchallenging wind conditions. Energy management and handling at the apex of the loop was good. Transition to wing overs and fly pasts was well executed. Overall tightly flown to the 230m line for the aerobatic portion with no separation busts or base height transgressions. One finesse point – the display shifted and ended up biased on one occasion to crowd left. This was partly due to adaptations required due to the limited space encountered for B axis manoeuvres where it was not possible to conduct any form of looping manoeuvre on B axis without either overflying neighbouring houses or crossing the 230m line. John adapted well by flying high wing overs back onto the A axis and linked these with the next part of the sequence. John debriefed honestly and critically highlighting the energy management and adaptation for the wind and display area. No safety points. John conducted a good, safe, aerobatic, CAT B work out leading to a recommendation to revalidate John's DA for all existing categories, skill levels and minimum heights.

Now that DAEs have got the hang of SRG 1300, in order to raise the standard, we **will** be returning sub standard forms in DS 20

Standardisation

- Please bear this in mind...

Record keeping

- 5.18. DAE's **shall** keep detailed records of all evaluations and **must** be able to produce such records when requested by the CAA. The method and quality of record keeping will be subject to inspection during evaluations observed by the CAA.
- 5.19. DAE's **should** produce and use checklists for reference during evaluations. These checklists will subsequently form an integral part of the records to be kept and it is important to ensure that the topics required by this CAP (as applicable) are included in each evaluation.
- 5.20. An example evaluation checklist can be found at Appendix C.

These records **will** be required to be provided for any sub standard SRG 1300 applications that are returned

DA Paperwork

- Constant feedback from FDDs stating that many DAs are unable to complete paperwork correctly or legibly
 - Main issue is the correct completion of SRG 1327
 - This is painful for both the FDD and the pilot as it results in a considerable amount of time going back and forth and ultimately results in an increased burden of paperwork prior to a display
 - Hazardous materials section should contain information that 1st responders need to know.
 - Recommend the use of a 1st responders guide to include not only details of hazardous material but seat belt release, break-in areas, canopy release, etc.
 - **It is in the pilot's own interest that this information is provided**
- You need to emphasise this during your evaluations please
- What else can we / should we do?

How you can support the Display Industry

- Provide us with feedback
- Engage with the CAA
- We are available to discuss whatever you wish
- We are happy to amend documents, processes, procedures, guidance material etc providing there is a compelling requirement to do so
- We are happy to take suggestions on how to do things better
- You may not get what you want but if you don't ask....
- Engagement is vital – no more shouting down the phone or making non fact based sweeping statements please

The team and what can we do for you?

- We lack display experience in our team
 - We rely on DAs and DAEs to help us in this area
 - How important is this to you?

- What can we do better?
 - Over to you!

Any Questions