

DAE and Performer accreditation guidelines and validation forms

Performer Accreditation – 13th Revision



RECREATION AVIATION ADMINISTRATION OF SOUTH AFRICA

SPECIAL AIR EVENTS - PERFORMER ACCREDITATION

26th January 2012

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1. DEFINITION OF TERMS

- 1.1. Aerobatics is defined as flight with a bank angle in excess of 90 degrees and a pitch angle in excess of 45 degrees from the ground plane, or the limitations placed upon the aircraft and/or the performer flying it, whichever is the lesser.
- 1.2. Category is defined as types of aircraft that share similar characteristics.
- 1.3. Discipline is defined as a display discipline such as a solo flat display, a formation flat display, a solo aerobatic display or a formation aerobatic display.
- 1.4. Type is defined as different models of aircraft within a Category. For clarification a Zlin 50 is a different type from a Pitts Special within the Category of Sport Aerobatic Aircraft.
- 1.5. "Sport Aerobatic Aircraft" is defined as any aircraft that is designed for the specific purpose of executing aerobatic manoeuvres.
- 1.6. "General Aviation Aircraft" is defined as any aircraft that is designed for training, utility, cargo, passenger transport and that may be capable of executing certain aerobatic manoeuvres.
- 1.7. "DAE" is defined as the Display Authorization Examiner.
- 1.8. The male gender (him, his, he) shall equally imply the female gender (her, hers, she).

2. INTRODUCTION

Any person wishing to perform at an air show event on the air side of the crowd line must satisfy the RAASA approved Safety Officer presiding at the event that he or she is capable of doing so in a manner that does not endanger spectators, other performers or property. It is not reasonable to expect the Safety Officer to make such a judgment on the day of the event while he is faced with the myriad of other issues requiring his attention.

A system of performer accreditation/authorisation has therefore been created by the DAC and the Recreation Aviation Administration of South Africa that alleviates the Safety Officer from making such a critical decision on the day. Notwithstanding this abovementioned system, the Safety Officer may however judge a non-aerobatic flat display prior to the specific event and approve such flat display to be performed at the specific event only.

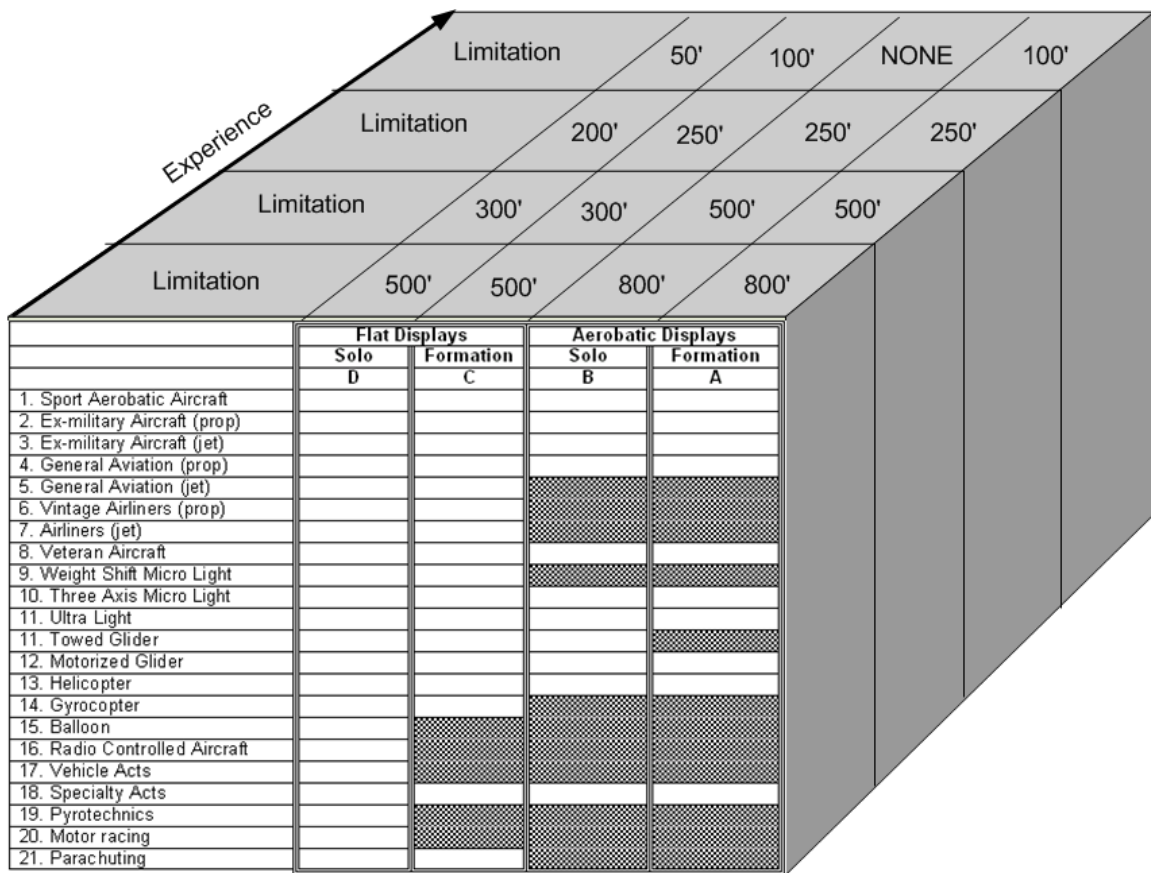
All aspects dealing with the performer accreditation process, including the appointment of DAEs, currency requirements, curricula, censure and the appeal process are outlined in this document. Performer Accreditation applies to any discipline of performance including solo and formation aerobatics in piston and turbine powered fixed wing aircraft, rotor wing aircraft, radio controlled aircraft, gliders, parachuting, motor racing and specialty acts as detailed in the table below:

1. Sport Aerobatic Aircraft
2. Ex-military Aircraft (prop)
3. Ex-military Aircraft (jet)
4. General Aviation (prop)
5. General Aviation (jet)
6. Vintage Airliners (prop)
7. Airliners (jet)
8. Veteran Aircraft
9. Weight Shift Micro Light
10. Three Axis Micro Light
11. Light Sport Aircraft
11. Towed Glider
12. Motorized Glider
13. Helicopter
14. Gyrocopter
15. Balloons
16. Radio Controlled Aircraft
17. Vehicle Acts
18. Specialty Acts
19. Pyrotechnics
20. Motor racing
21. Parachuting

Flat Displays		Aerobatic Displays	
Solo	Formation	Solo	Formation
D	C	B	A

A performer will be issued with a Display Authorisation in one or more categories (1 to 21) and disciplines (A to D) such as 1A (Formation Aerobatics in Sport Aerobatic Aircraft such as a Zlin 50 or Pitts Special) or 2C (Flat formation displays in an ex-military propeller driven aircraft such as a Harvard or Albatross).

Each item of the Display Authorization has specific limitations associated with it such as type restrictions, minimum heights and specific display sequences. The limitations are relaxed as the performer gains experience in air show display flying. This concept is illustrated below:



The limitations on the experience axis of the cube are provided for illustration purposes only. For each category and discipline specific experience criteria and concomitant limitations are specified in this document.

3. DISPLAY AUTHORIZATION COMMITTEE

The Display Authorization Committee is a committee appointed by RAASA that oversees the performer accreditation process, approves new DAEs, and approves the issuing of Display Authorizations by RAASA and where necessary may recommend to RAASA the revocation or suspension of such accreditation once a formal hearing has been conducted by a RAASA appointed disciplinary committee.

3.1. Display Authorization Committee Appointment

- 3.1.1. RAASA will be responsible for appointing the Display Authorization Committee.
- 3.1.2. A person may be removed from the Display Authorization Committee by a majority vote of the Display Authorization Committee.
- 3.1.3. A minimum of five individuals of which one will be a RAASA official will at any time Form the Display Authorization Committee, all of who shall be a member of the Aero club of SA.
In the event that the committee consists of less than five individuals RAASA will use its best endeavours to appoint additional members as soon as practical.
- 3.1.4. The Display Authorization Committee will, subject to availability of individuals, approve persons to be appointed by RAASA to provide a reasonable spread of experience over the categories of performers that are envisaged in the subsequent sections of this document.

3.2. Display Authorization Committee Responsibilities

- 3.2.1. The Display Authorisation Committee shall approve nominated DAE's in the Various categories and disciplines, and RAASA shall then appoint such DAE's.
- 3.2.2. Review DAE approvals for RAASA appointment or renewal.
- 3.2.3. Recommend to RAASA the Revocation of DAE appointments.
- 3.2.4. Recommend changes to the Performer Accreditation process to RAASA for inclusion or amendment to the MOP.
- 3.2.5. Establish the criteria for performer accreditation for disciplines from the various sub-sections of the Aero Club that include: Aerobatics, Aero-modelling, Ballooning, the Experimental Aircraft Association, Gliding, Hang-gliding, Helicopter flying, Power Flying, Parachuting, Micro Lighting and Gyro Copters.
- 3.2.6. Shall recommend to RAASA which professional accreditation from other bodies outside of the ambit of RAASA should be recognized such as: Airliner displays, Jet-car and drag-racing events, Pyrotechnic and firework displays, displays by the South African Air Force, General Aviation Displays and others where required.
- 3.2.7. Shall recommend to RAASA to investigate allegations of violations of the specific provisions and overall intent of this document by any person. Should, after adequate investigation and deliberation and a majority vote of the full Display Authorisation Committee, a determination be made, that any person affected by this document has violated a specific provision or overall intent of this document, the committee may recommend to RAASA to revoke the individual's accreditation, this being either the DAE status, the Display Authorisation, or both, as the case may be.

3.3. Display Authorization Committee Exclusions

3.3.1. The South African Air Force and South African Police Airwing will undertake as per their own procedures, to ensure that all of their airshow participants will be correctly signed out and authorised to perform their displays.

3.3.2. ATNS will accredit its personnel to act as Air Traffic Controllers at air show events.

3.4 Display Authorisation Committee procedures

3.4.1 The DA Committee shall meet as frequently as is required and possible with at least one formal meeting per annum, and such meetings may be in person, by electronic conference or by any other appropriate means.

3.4.2 The contact address for any correspondence or any incidental matter directed at the Display Committee shall be that of RAASA.

4. APPOINTMENT OF DISPLAY AUTHORIZATION EXAMINERS

Any person may apply to become a DAE by completing the DAE application form in Annexure B of this document and forwarding such document to the administration office of RAASA for the attention of the Display Authorization Committee.

4.1. Categories of DAEs

The following categories of performer accreditation in the four disciplines (solo flat, formation flat, solo aerobatic and formation aerobatic) are required by RAASA:

Index of Qualification Requirements				
Category	Discipline			
	Flat		Aerobatic	
	Solo	Formation	Solo	Formation
1. Sport Aerobatic Aircraft	N/A	N/A		
2. Ex-military Aircraft (prop)				
3. Ex-military Aircraft (jet)				
4. General Aviation (prop)				
5. General Aviation (jet)			N/A	N/A
6. Vintage Airliners (prop)			N/A	N/A
7. Airliners (jet)			N/A	N/A
8. Veteran Aircraft				
9. Weight Shift Micro Light			N/A	N/A
10. Three Axis Micro Light				
11. Light Sport Aircraft				
11. Towed Gliders				N/A
12. Motorized Gliders				
13. Helicopters				
14. Gyrocopters			N/A	N/A
15. Balloons		N/A	N/A	N/A
16. Radio Controlled Aircraft		N/A		N/A
17. Vehicle Acts		N/A	N/A	N/A
18. Specialty Acts		N/A	N/A	N/A
19. Pyrotechnics		N/A	N/A	N/A
20. Motor racing		N/A	N/A	N/A
21. Parachuting		N/A	N/A	N/A

It is recognized that in each of the above categories there are ill-defined areas. For example: A Tiger Moth is an ex-military propeller aircraft, yet it is first and foremost a veteran aircraft. A Samba could be registered as a micro light or as a light sport aircraft yet it is foremost an light sport aircraft. A Piaggio Albatross is an ex-military aircraft yet it is first and foremost a type certified General Aviation Aircraft. It is further recognized that a person rated on a Harvard is not realistically qualified to issue a Display Authorisation for high performance ex-military aircraft such as the Sea Fury or Mustang. In all cases, the principle of relevant experience will apply. For the sake of clarity the following examples are used to illustrate the categories:

1. Sport Aerobatic Aircraft	Pitts, Zlin 50, Extra 300, Cap 222, Yak 55, SU-29, SU-31, Slick 360
2. Ex-military Aircraft (prop)	Harvard, Yak 52, Mustang, Sea Fury
3. Ex-military Aircraft (jet)	Impala, L39, L29, Buccaneer, Hunter, Lightning
4. General Aviation (prop)	Piper Arrow, Cessna 185, Beechcraft Baron, Piaggio Albatross, Citabria
5. General Aviation (jet)	Learjet, Citation, Challenger
6. Vintage Airliners (prop)	DC3, DC4, Junkers JU 52
7. Airliners (jet and Turbo - prop)	Boeing, Airbus, Embraer 135, Jetstream 42
8. Veteran Aircraft	Tiger Moth, Auster, Stinson
9. Weight Shift Micro Light	
10. Three Axis Micro Light	Streak Shadow, Cheetah, Bantam
11. Light Sport Aircraft	Jabiru, Samba, Flamingo
11. Towed Gliders	
12. Motorized Gliders	Lambada, Steme
13. Balloons	
14. Radio Controlled	Jet, Turboprop, Pulse Jet, Piston

4.2. DAE Minimum Qualification Requirements

A DAE is a person who can critically and objectively analyze the suitability of an individual to be issued with performer accreditation and as such must be a person of good standing in the air show industry.

The table below stipulates the index number of the minimum qualification requirements that must be met to be eligible as a DAE for each category and discipline.

Index Number	Requirements
0	Must have flown in air shows during the preceding five years, or have acted in the training, assessing or supervisory role in the category and discipline. Must have had flight experience in the category and discipline as a pilot in command. Must be a member of the AeCSA in good standing. Must meet the geographic and availability requirements of the air show community.
1	Must hold an aerobatic rating as approved by the SAC or Military and issued by RAASA, or prior to the rating system, have applicable aerobatic experience on the category of aircraft in question.
2	Must have formation aerobatic experience on the category of aircraft in question.
3	Must be a person who is a recognized authority by his peers in the air show industry in that particular category and discipline.
4	Must have formation experience on the category of aircraft in question.
5	Must have held the post of Training, Supervisory or Fleet Captain at a bona fide airline that operated the category of aircraft in question.
6	Must be a recognized authority in this field.

Index of Qualification Requirements				
	Flat		Aerobatic	
	Solo	Formation	Solo	Formation
1. Sport Aerobatic Aircraft			0, 1, 3	0, 1, 2, 3
2. Ex-military Aircraft (prop)	0, 3	0, 3, 4	0, 1, 3	0, 1, 2, 3
3. Ex-military Aircraft (jet)	0, 3	0, 3, 4	0, 1, 3	0, 1, 2, 3
4. General Aviation (prop)	0	0, 4	0, 1, 3	0, 1, 2, 3
5. General Aviation (jet)	0, 3	0, 4		
6. Vintage Airliners (prop)	0, 5, 3	0, 5, 4, 3		
7. Airliners (jet)	0, 5, 3	0, 5, 4, 3		
8. Veteran Aircraft	0	0, 4	0, 1, 3	0, 1, 2, 3
9. Weight Shift Micro Light	0	0, 4		
10. Three Axis Micro Light	0	0, 4	0, 1	0, 1, 2
11. Light Sport Aircraft	0	0, 4	0, 1	0, 1, 2
11. Towed Gliders	0	0, 4	0, 1	
12. Motorized Gliders	0	0, 4	0, 1	0, 1, 2
13. Helicopters	0	0, 4	0, 1, 3	0, 1, 2, 3
14. Gyrocopters	0	0, 4		
15. Balloons	0			
16. Radio Controlled	6		6	
17. Vehicle Acts	6			
18. Specialty Acts	6			
19. Pyrotechnics	6			
20. Motor racing	6			
21. Parachuting	6			

4.3. DAE Selection Standards

In addition to meeting the minimum explicit qualifying criteria stipulated above, the candidate must possess the judgment and insight required to evaluate the flying skills, aerobatic flying qualities (where applicable) and mental preparation of the applicants being evaluated. Notwithstanding any of the above, the selection and approval of a DAE candidate remains at the discretion of the DAC

4.4. Term of Appointment

A DAE shall be appointed by the RAASA for a period of three years and shall after this period be evaluated for re-appointment for a further term of three years. There is no limitation on the number of terms that a DAE may serve. The Display Authorization Committee will take the following factors into account when evaluating a DAE for re-appointment:

- 4.4.1. The number of evaluations conducted in the previous three year period.
- 4.4.2. The quality and thoroughness of evaluation reports submitted by the DAE.
- 4.4.3. The safety record of the performers to whom the DAE granted Display Authorisation.
- 4.4.4. Any grievances concerning the DAE.
- 4.4.5. The geographic need, and/or the need within a category for DAEs.
- 4.4.6 RAASA shall issue the DAE with a letter of acceptance.

5. RULES FOR DISPLAY AUTHORIZATION EXAMINERS

The DAE shall abide by the rules specified in this section, as determined by the RAASA. Where an applicant for a DA believes that the DAE does not abide by these rules, he or she may follow the grievance procedure outlined in this document.

5.1. General Rules of Conduct and Ethics

- 5.1.1. The DAE may only evaluate applicants flying aircraft in the category and discipline in which he or she has been specifically approved to evaluate.
- 5.1.2. No DAE shall evaluate outside his or her area of competence, experience, aircraft expertise or background as set out in the RAASA list that details which type of aircraft, category and disciplines that the DAE has been approved to evaluate.
- 5.1.3. The DAE should actively seek to avoid the perception that there is a conflict of interest. It is recognized that this will be difficult if the DAE is himself an active display pilot.
- 5.1.4. All evaluations shall be accomplished in a manner that is fair and equitable to all applicants.
- 5.1.5. The DAE must not approve an applicant based on his or her recollection of an applicant's flight unless that flight was specifically agreed upon ahead of time to be a flight evaluation for the issuance of a Display Authorization. The date of the test be entered on the evaluation form.
- 5.1.6. The flight evaluation must be pre-planned and the DAE must observe the performance for the specific purpose of evaluating that applicant's competence as a performer within the appropriate category.
- 5.1.7. At all times the DAE shall conduct himself or herself in a manner that reflects the professionalism of the air show industry and upholds the good name of the AeCSA, ASSA and RAASA.
- 5.1.8. The DAE should guide, mentor and encourage the less experienced performer.
- 5.1.9. The DAE shall bring any unsafe act or practice to the attention of the individual or individuals involved and the RAASA Display Authorization Committee.
- 5.1.10. The DAE shall submit all test forms for filing to the central administration office, RAASA for record keeping, whether the candidate passed or failed the evaluation.
- 5.1.11. The DAE shall at all times abide by all terms and conditions of this document.

5.2. DAE Authority

- 5.2.1. A DAE may change the limitations imposed on an individual performer's Display Authorization based on the guidelines stipulated in this document.
- 5.2.2. During the annual renewal with RAASA the DAE may remove categories and disciplines from the applicant's Display Authorization if the applicant does not meet the currency requirements, notwithstanding the areas of expertise of the DAE.
- 5.2.3. Where an individual does not agree with the decision of the DAE he or she may appeal to the RAASA.
- 5.2.4. The Display Authorisation Committee will not issue recommendations nor overturn the decision of the DAE, provided that all the

process requirements have been met, except where a performer is under formal review by the RAASA and Display Authorisation Committee.

5.2.5. The DAE has the right to recuse himself of the evaluation of a candidate.

5.3. DAE Responsibility

5.3.1. The DAE shall be familiar with the content of the constitutions of the RAASA, AeCSA, and their regulations, including this document

5.3.2. During the evaluation of a performer the DAE shall be in possession of this document.

5.3.3. The evaluation shall be conducted in accordance with the rules and standards embodied in this document.

5.3.4. The DAE shall ensure that every performer evaluation that is conducted, whether successful or not, is recorded on the evaluation form attached as Annexure A and is forwarded to the RAASA administration office within 14 days of the evaluation being undertaken.

5.4. Addressing Unsafe Conduct

5.4.1. In the event that one or more DAE's observe unsafe conduct at an air show event he or they shall first bring it to the attention of the performer(s) involved, this shall then be Notified to the RAASA Operations department ASAP by the relevant DAE.

5.4.2. When the DAE(s) above believes that talking to the individual performer has not resolved the matter, the DAE(s) shall address the matter with the Safety Officer and air show Flight Director at the Airshow as soon is practically possible. The Safety Officer in turn shall include this incident in the post event report.

5.4.3. If, after addressing the matter with the individual performer, the DAE, Flight Director or Safety Officer still believe that the situation has not been satisfactorily resolved, the DAE or Safety Officer shall submit a Formal report to RAASA

5.4.4. RAASA and the Display Authorisation Committee will place the performer under formal review, and in accordance with the PAJA.

5.5. Accidents

1.5.1. Following any airshow accident in which the DAE was the pilot of the aircraft, the DAE shall refrain from further evaluation activities pending an initial review of the accident, to be completed by the RAASA and the Display Authorization Committee within 30 days.

5.5.2. In the event that the DAE was the pilot who had an air-show related accident, the RAASA and the Display Authorisation Committee will meet in person or via telephone conference call and may recommend an appropriate course of action to RAASA.

NB! (This does not remove the requirement to report and incident or accident to the accident investigations department)

6. RULES FOR DISPLAY AUTHORIZATION APPLICANTS

- 6.1. Any applicant seeking an evaluation should contact the RAASA offices and request a copy of the applicable documentation. Where the applicant has access to the internet the documents may be downloaded from the RAASA web site.
- 6.2. Prior to the evaluation, the applicant should become familiar with the RAASA Ground and Flight Evaluation Standards used by the DAE in performing an evaluation (see Annexure A).
- 6.3. The applicant will select a DAE from the list of DAEs which is available on the RAASA website or which may be obtained from the RAASA offices.
- 6.4. The applicant will contact the DAE and make arrangements for a suitable time and location for the examination.
- 6.5. The applicant shall obtain the appropriate approved airspace in which the evaluation flight is to take place on the day(s) in which the evaluation is scheduled to take place.
- 6.6. The evaluation site must be accessible to the DAE by surface, since the DAE will observe the evaluation flight from the ground.
- 6.7. The applicant shall produce upon request by the DAE, appropriate documentation to show that both the pilot and aircraft are authorized by the CAA or RAASA for the type of flying to be demonstrated. These documents include, but may not be limited, to the following:
 - 6.7.1 A valid rating or licence for the category of performer accreditation. In the case of an Aircraft Display Authorization this would be a pilot's license with appropriate type ratings.
 - 6.7.2. (a) An Aerobatic qualification as approved by an Aviation Training Organisation (ATO) whose aerobatic syllabus has been accepted by RAASA, or a National Air Force and issued by the RAASA, or;
(b) An aerobatic rating as approved by the Sports Aerobatic club (SAC), and issued by RAASA, where such a qualification is specifically required for the discipline in which the Display Authorisation is being requested.
 - 6.7.3. An appropriate rating from a recognized organisation for categories such as parachuting, racing or pyrotechnics.
 - 6.7.4. An appropriate approval or authorisation covering the time and airspace for the flight evaluation. This could involve RAASA, CAMU, the landowner's and local authority approval.
 - 6.7.5. The Certificates of Registration Airworthiness or an Authority to Fly
 - 6.7.6. Evidence that the aircraft is structurally capable of performing the contemplated manoeuvres safely.
 - 6.7.8. Operating limitations, if appropriate.
 - 6.7.9. The Display Authorization Application form in Annexure A of this document with the relevant sections completed.

7. RULES FOR AEROBATIC DISPLAY AUTHORIZATIONS

7.1. An “Aerobic Qualification” or an “Aerobic Rating” is a pre-requisite for any pilot that wishes to obtain a Display Authorisation in the discipline of aerobatics.

RAASA recognises and will issue aerobic qualifications or ratings to applicants that have been approved from one of three sources on completion of their training.

7.1.1 The Sport Aerobic Club is a body, which is a section of the Aero Club of South Africa, is empowered with the responsibility for managing competition aerobatics. The SAC has developed and adopted a clearly defined set of criteria and a system of progression within the competition aerobic arena from the international body governing aerobatics (CIVA). The accumulated body of knowledge is summarised in a comprehensive document which has RAASA and SACAA approval.

7.1.2 An Aviation Training Organisation (ATO) that is approved by the SACAA to Conduct aerobic training. On conclusion of the aerobic course offered by such an ATO, the candidate must successfully meet the requirements of the Sport Aerobic Club’s syllabus for their “aerobic rating”.

1.1.3 Thereafter, RAASA shall issue the candidate with an aerobic qualification certificate or rating on receipt of the appropriate application forms as signed by a suitably rated instructor.

1.1.4 A National Air Force, provided that the applicant qualified for the receipt of “Military Wings” at the end of the course and that aerobic training was included in the course Curriculum. Having provided documentary evidence of being trained in aerobatics and also that he/she has maintained currency within the preceding 12 months, the candidate may be issued with an aerobic rating by the RAASA.

1.1.5 In the event that currency in aerobatics has not been maintained, the candidate would need to subject him/herself to either the SAC or an ATO for an aerobic proficiency check.

1.2. The Performer Accreditation Process combines the Aerobic qualification or rating with the Display Authorisation requirements for the performing of aerobatics at air shows and special air events as follows:

7.2.1 Any pilot who wishes to incorporate aerobatics in all or part of a display at an air show or special air event will need to obtain an Aerobic Qualification or an aerobic rating as issued by the RAASA. Only once these requirements have been satisfied, may the pilot present himself for testing for an Aerobic Display Authorisation.

7.2.2 The Display Authorisation Examiner will take into account the candidate’s overall aerobic experience, previous display experience (if any) and the aircraft type or types that he wishes to have endorsed on his Display Authorization.

The SAC offers valuable guidelines for those that are starting off in the field of Aerobatics and the criteria for progressing from their Graduate Class right through to the Unlimited Class. The DAE should be well acquainted with the SAC’s system of progression.

7.2.3 The Display Authorization Examiner will impose appropriate restrictions on the candidate’s Display Authorization based on:

a. The type and nature of aerobic flying that the candidate has been exposed to:

Competition aerobatics

Military aerobatics

Sport Aerobatics

Aerobatics performed under the ambit of a commercial operator that holds an Aerial Operating Certificate (AOC) for aerobatic displays.

b. The type of aircraft that the candidate wishes to perform displays in:

Sport, vintage and veteran aerobatic aircraft

Semi-aerobatic aircraft

Ex-military aerobatic aircraft

Aircraft capable of advanced or unlimited competition aerobatic Manoeuvres.

7.3 Competency in spinning, but not necessarily within a linked aerobatic sequence, must be demonstrated by any candidate wishing to obtain a Display Authorization..

7.4 Any member of a Formation Aerobatic Team must have satisfied the requirements for the issue of both an Aerobatic qualification or rating issued by RAASA as in 7.1 above and an Aerobatic Display Authorisation.

7.5 Any member of a Formation Team, who as part of his display, breaks away and displays aerobatics on his own, will need to have obtained an Aerobatic qualification or rating as in 7.1 above, and an Aerobatic Display Authorisation.

7.6 For members of a Formation Aerobatic Team, the demonstration of competency for the initial Aerobatic Display Authorisation is a "once-off" requirement for a Formation Aerobatic Display Authorisation. Thereafter the candidate is only required to maintain the necessary display currency to keep the Formation Aerobatic Display Authorisation valid.

7.7 Aerobatic pilots may keep their Display Authorizations valid by maintaining the necessary display currency.

7.8 A pilot wishing to incorporate in any display sequence:

- a) Tumbles
- b) Gyroscopic manoeuvres
- c) Flat and/or accelerated spins
- d) Positive snap rolls in excess of 1.5 rotations
- e) Negative snap rolls
- f) Tail slides
- g) Torque rolls

will need to furnish proof of having undergone appropriate training, and demonstrate competence in advanced spinning.

7.9 Lower level limits than those laid down for the various classes of competition aerobatics may be granted to the candidate by RAASA appointed DAEs who are expected to council, advise, mentor and observe the candidate's attitude and ability as an aerobatic display pilot. Due cognisance will be taken of the level to which the candidate has progressed within the spheres of competition, military or commercial aerobatics.

8. GENERAL RULES FOR DISPLAY AUTHORIZATIONS

8.1 The performer who holds a Display Authorization is entitled to display at public events that are held under the auspices of Recreation Aviation Administration of South Africa.

- 8.2 Where the performer within an organization that has permission from the Recreation Aviation Administration of South Africa, or as a special permission, or under an aerial operating certificate (AOC), to perform public displays, such performances are considered to be acceptable for currency requirements.
- 8.3 A performer is issued with a single Display Authorization that contains a list of all categories, disciplines, types of aircraft and limitations. All amendments are applied to this single Display Authorization.
- 8.4 The evaluation for the issue or amendment of a Display Authorization requires the applicant to perform the planned sequence in the specific type of equipment (or simulator if applicable) at a mutually agreed venue between the DAE and the applicant.
- 8.5 The addition of an aircraft type to the Display Authorization is considered to be an amendment to the Display Authorization. The limitations applicable to the existing Display Authorization are applicable to the type that is added to the Display Authorization.
- 8.6 The evaluation for the annual renewal may be conducted at an RAASA approved air show event where the DAE is present and has agreed to observe the performance. The DAE must be satisfied that the performer has met the requirements for renewal. Such a renewal at an air show event cannot be used to relax any existing limitation.
- 8.7 Where the applicant wishes to apply for a lower limit or expanded repertoire of manoeuvres, such evaluation needs to be arranged at a location other than an air show event, where such manoeuvres at reduced limits can be demonstrated.
- 8.8 The annual evaluation does not need to be conducted in every type of aircraft for which the performer has a Display Authorization. However the DAE must be satisfied that the applicant has performed at least one display during the preceding 12 months in every category and discipline for which the performer has a Display Authorization.
- 8.9 Should the performer not meet the currency requirements in any category and discipline, such category and discipline shall be removed from the Display Authorization, unless the applicant makes arrangements for the evaluation in such category and discipline.
- 8.10 Where a performer still has a valid Display Authorization but does not meet the requirements for renewal in terms of annual display experience, the DAE must critically evaluate whether the performer's height limitation should be increased to a higher limit.
- 8.11 Where a performer's Display Authorization has lapsed for longer than four months but the performer meets the annual renewal criteria, the performer must make arrangements with the DAE to fly the planned sequence at a mutually agreeable time and place. The same height limitation can be imposed as before.
- 8.12 Where a performer's Display Authorization has lapsed for longer than four months and the performer does not meet the annual renewal criteria, the DAE should apply the criteria of an initial issue. Subject to the performer's past experience the initial height limitation may be set as low as 250 feet, depending on the performer's past experience and currency.
- 8.13 Ground evaluation and the flight evaluations must be conducted within 30 days of each other.
- 8.14 In the event that the Display Authorization Committee determines that a Display Authorisation is materially inaccurate or has been incorrectly issued, such Display Authorisation will become null and void.
- 8.15 Evidence of falsification by either the applicant or the evaluating DAE shall be cause for immediate suspension of the DAE Status or Display Authorization and such matter shall be handed to the Air Show South Africa ethics committee.

8.16 In the case of pyrotechnics;

8.16.1 There are 3 primary ratings and these are as follows:

1. Pyrotechnician - Theatrical and Stage effects.
2. Pyrotechnician - Fireworks
3. Pyrotechnician - Special Effects. (Film and TV pyrotechnic effects).

A Special Effects rating is the highest rating in pyrotechnics. In addition to the Special Effects rating other special approvals such as the use of certain commercial explosives may be given to the pyrotechnician by the Chief Inspector of Explosives.

Any pyrotechnician that offers to create large explosions (fire balls) or any film or TV type effects at a public event must be licensed by the SAPS for Special Effects.

1.16.2 Information on any pyrotechnician or blaster can also be obtained from the **SAPS explosives unit in Pretoria 012 393 2756**

9. EXPERIENCE CRITERIA FOR HEIGHT LIMITATIONS

A Display Authorization for flying displays will have a minimum height limitation imposed. The limitation is based on the performer's past experience. As the performer gains experience in the air show environment and demonstrates his competence, the DAE may reduce the height limitations.

9.1 Fixed Wing Aircraft – Flat Displays		
	Limitation	Criteria
Initial Issue	500'	Has not previously participated in air show events. Is not familiar with the air show environment. The ground evaluation was marginal. The total flying experience is less than 500 hours
Initial Issue	300'	Has not previously participated in air show events. Has demonstrated an in-depth understanding of the topics in the ground evaluation. The total flying experience is 500 hours or greater

Amendment	200'	Has a current limitation of 300'. Has participated in 5 displays at 3 different venues during the preceding 24 months.
Amendment	50'	Has a current limitation of 200'. Has participated in 8 Displays at 5 different venues during the preceding 48 months.

9.2 Fixed Wing – Aerobatic Displays		
	Limitation	Criteria
Initial Issue	700'	Has not previously participated in air show events.
Initial Issue	300'	Has validated and participated in military aerobatic displays
Initial Issue	250'	Has achieved proficiency as a wingman in an established formation aerobatic team
Initial Issue	200'	Has participated in the advanced or unlimited category of competition aerobatics in three national championships
Amendment	500'	Has participated in 4 aerobatic displays at 3 different venues during the preceding 12 months at a limitation of 700'.
Amendment	250'	Has participated in 6 aerobatic displays at 4 different venues during the preceding 24 months at a limitation of 500'.
Amendment	None	Has participated in 8 aerobatic displays at 6 different venues during the preceding 24 months at a limitation of 250'. Has undertaken 2 critiqued demonstration sessions in front of the DAE.

9.3 Rotor Wing Fixed – Flat Displays		
	Limitation	Criteria
Initial Issue	250'	Has not previously participated in air show events.
Amendment	100'	Has participated in 5 displays at 4 different venues during the preceding 24 months at a limitation of 250'.
Amendment	None	Has participated in 10 displays at 6 different venues during the preceding 24 months at a limitation of 100'.

9.4 Rotor Wing – Aerobatic Displays		
	Limitation	Criteria
Amendment	500'	Must be the holder of a Rotor Wing Flat Display Authorization without any height limitation.

10. EXEMPTION LEVELS FOR PERFORMERS

Due recognition must be given for the experience that many performers within the airshow display arena have attained.

Therefore, except for the rules governing Aerobatic Display Authorisations (Section 7), candidates that have flown 9 displays at 6 different venues within the past 36 months, or 30 displays over a ten year period, qualify for exemption from the annual Ground and Flight Evaluations that are required for the renewal of their Display Authorizations.

The annual renewal criteria, as listed in section 11, must have been met.

For any relaxation of height limitations or a change in category, type or discipline, the process as laid down in Annexure A for the amendment of a Display Authorization must be followed.

11. ANNUAL RENEWAL CRITERIA FOR PERFORMERS

11.1 Fixed Wing Aircraft – Flat Displays		
Annual Renewal		To qualify for a renewal, must have participated in 2 displays at 2 different locations during the preceding 12 months.
11.2 Fixed Wing – Aerobatic Displays		
Annual Renewal		To qualify for renewal must have participated in 4 aerobatic displays at 4 different locations during the preceding 12 months.
11.3 Rotor Wing Fixed – Flat Displays		
Annual Renewal		To qualify for renewal must have participated in 4 displays at 3 different locations during the preceding 12 months.
11.4 Rotor Wing – Aerobatic Displays		
Annual Renewal		To qualify for renewal must have participated in 4 displays at 3 different locations during the preceding 12 months.

12. GUIDANCE FOR PERFORMANCE EVALUATION

The following general guidelines should be observed by the DAE in evaluating an applicant's knowledge and skills:

12.1 Satisfactory Performance

The evaluation is passed if, in the judgement of the DAE, the applicant demonstrates satisfactory performance during both the Ground Evaluation and Flight Evaluation phases of the practical test.

12.2 Unsatisfactory Performance

If, in the judgement of the DAE, the applicant's performance is totally unsatisfactory during any part of the ground evaluation phase, the test shall be discontinued. At the discretion of the DAE, if the applicant's knowledge is lacking in certain areas, the applicant's knowledge may be reviewed and brought up to a satisfactory level of performance before continuing the test.

If, in the judgement of the DAE, the applicant's performance is unsatisfactory during any part of the flight evaluation portion of the flight evaluation phase, the test is failed, and shall be terminated.

12.3 Record of Unsatisfactory Performance

The applicant's unsatisfactory performance that led to the test failure shall be noted in the appropriate section of the form. The completed form should be forwarded to the RAASA offices within 14 days of the evaluation.

12.4 Ground Evaluation Standards

During the ground evaluation phase, the DAE must keep in mind that this portion of the evaluation presents an opportunity to review all the areas of knowledge unique to air show flying. For some pilots, this session may be the only formal review of air show aerodynamics, density altitude effects, physiology, energy, and other specific issues that impact on air show displays. The DAE must allow sufficient time and attach sufficient importance to this phase so that each applicant will remember the concepts and principles discussed.

12.5 Air Show Safety Concepts

The first part of the ground evaluation checklist concentrates on aerodynamics, density altitude and physiology. The applicant should have a working knowledge about the relationship of turn and pull out radii to TAS and radial "g". Where aerobatic flight is involved, the applicant must know the indicated airspeed for his/her aircraft at which the tightest turn and lowest pull-out can be made. The applicant must understand the relationship between kinetic energy and potential energy in air show flying. The applicant must know how to determine if a particular manoeuvre is energy gaining or energy losing under various conditions of weight and density altitude.

The applicant must understand the effect of density altitude upon TAS in relation to IAS, on the performance of aircraft engines, and on the ability to gain and/or maintain energy. The relationship between pull-out distances (altitude) and TAS should be discussed.

The main point in discussing physiology with each applicant is to impress upon him/her the need to take a good personal physiological inventory before each and every flight. The inclusion of this step in every pre-flight and the use of this personal physiological inventory in planning the flight is critical to safe flying. The DAE should also review the effects of stress, hydration, fatigue, and other human factors.

12.6 Review of Applicant's Proposed Performance Sequence

The goal in reviewing the entire sequence is to review the sequence design in relationship to the aircraft's capabilities, preservation of energy, adaptability to changes in density altitude and weather, demand on the pilot both physically and mentally, and the flow of the programme.

The DAE should proceed through the applicant's written sequence and pause at each manoeuvre to examine it and discuss it by covering the topics above. The applicant must know the minimum energy state (airspeed and altitude) for various density altitudes which he/she must have as entry parameters for every manoeuvre in the sequence. This item must be covered for every manoeuvre in the sequence by the DAE.

The applicant for an initial issue of a Display Authorisation will be required to adhere to the manoeuvre sequence flown during the flight evaluation, as recorded in the information sent to the RAASA office with the completed flight evaluation, in subsequent air show performances. However, variances in the sequence that increase the safety of the performance by compensating for factors such as density altitude, wind and terrain considerations shall be allowed, providing that no new manoeuvres that have not been demonstrated are included in such modifications. Manoeuvres may be deleted from the sequence.

12.7 Special Considerations

The DAE should refer to the appropriate checklist item if the applicant is flying a speciality act. A thorough discussion of each item is required. In certain situations, the DAE may have related but not personal experience in a speciality or new act. This is a good chance to ask the applicant to explain the unique facets and safety requirements of his or her speciality or plans for a new air show act. The DAE may also find it helpful to contact another DAE who specializes in a related field such as comedy, inverted ribbon cuts, truck top landings, air to air, air to ground, or ground to air transfers or wing-walking. In these situations, the Chairman of the Display Authorization Committee will be advised before recommendations are forthcoming.

12.8 Emergency Procedures

An important issue that the DAE should bear in mind when reviewing emergencies is the decreasing number of options the pilot has in any given emergency as the total energy level (airspeed and altitude) of the aircraft decreases. Special care should be taken by the DAE to include speciality act circumstances into the discussion of each emergency. Examples include such emergencies as engine failure during a formation manoeuvre or during a wing-walking act. Once again, the idea here is to take the time to think about these possible emergencies so that the pilot can recall his or her plan when the circumstances arise.

13. COMPLETING THE EVALUATION FORMS

13.1 INITIAL ISSUES, AMENDMENTS AND RENEWALS

- 13.1.1 Forms 13.1.1 through 13.1.10 must be completed by any applicant for the **initial** issue of, or an **amendment** to the height limitation, type, category or discipline of a Display Authorisation, or for those applicants that do not meet the requirements of Section 10 (Exemption levels for Performers)
- 13.1.2 For those applicants that meet the requirements of Section 10 (Exemption levels for Performers) only form 13.1.8 "Display Experience" needs to be submitted to RAASA for renewal of the Display Authorisation.
- 13.1.3 RAASA will check this form against Section 11 (Renewal Criteria for Performers) to ensure that the necessary requirements have been met.

13.2 GROUND EVALUATION FORMS

- 13.2.1 **No Ground Evaluation needs to be conducted for applicants that have met the requirements of Section 10 (Exemption levels for Performers)**
- 13.2.2 The DAE must complete forms 13.2.1 and 13.2.2 for any application for the initial issue of, or an amendment to the height limitation, type, category or discipline of a Display Authorisation.
- 13.2.3 Ground Evaluations need to be conducted for applicants that do not meet the requirements of Section 10 (Exemption levels for performers)
- 13.2.4 The DAE must complete the forms between 13.2.3 through 13.2.10 that are applicable to the application.
- 13.2.5 For the issue of a Formation Aerobatics DA, both forms 13.2.3 and 13.2.4 must be completed.

13.3 FLIGHT EVALUATION FORMS

- 13.3.1 **No Flight Evaluation needs to be conducted for applicants that have met the requirements of Section 10 (Exemption levels for Performers)**
- 13.3.2 The DAE must complete form 13.3.1. for any application for the initial issue of, or an amendment to the height limitation, type, category or discipline of a Display Authorisation.
- 13.3.3 A Flight Evaluation needs to be conducted for applicants that do not meet the requirements of Section 10 (Exemption levels for Performers)
- 13.3.4 The DAE must complete the forms between 13.3.2 through 13.3.8 that are applicable to the application.
- 13.3.5 For the issue of a Formation Aerobatics DA, both forms 13.3.2 and 13.3.3 must be completed

13.4 EVALUATION RESULTS

- 13.4.1 **No Evaluation Results need to be specified for applicants that have met the requirements of Section 10 (Exemption levels for Performers)**
- 13.4.2 The DAE should complete this section and specify the authorizations, limits and other conditions applicable to this applicant.
- 13.4.3 Record sheets 1, 2 and 3 must be completed and placed on record with the Aeroclub of South Africa.

14. APPLICANT GRIEVANCES

- 14.1 Should an applicant not be satisfied with the treatment or evaluation received by a DAE, a formal grievance may be filed against the DAE with the DAC.
- 14.2. The DAE has the right to refuse to conduct an evaluation on an individual.
- 14.3. The applicant should submit the written grievance to the Chairman of the Display Authorisation Committee within 14 days of the date of the evaluation.

- 14.4. The Chairman of the Display Authorisation Committee shall give the DAE five working days to respond to the written grievance in writing.
- 14.5. The Chairman shall convene the Display Authorisation Committee to consider the written submission from the applicant and DAE.
- 14.6. The Chairman will prepare a response to the applicant detailing the finding and ruling of the Display Authorisation Committee.
- 14.7. If the applicant is not satisfied with the response he or she is at liberty to lodge a complaint with RAASA.