



**SPORT AEROBATIC CLUB  
OF  
SOUTH AFRICA**

**REGULATIONS/MANUAL OF PROCEDURE  
FOR THE CONDUCT  
OF  
AEROBATIC CONTESTS**

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## 1. INTRODUCTION

It is the intention of the Sport Aerobatic Club (SAC) to run all contests to the latest CIVA Regulations as far as possible. However, some of the CIVA Regulations are simply not appropriate to local contests, in general terms the CIVA Regulations will apply, unless there is a specific local regulation contained in this document. In these instances, the local rule will automatically override the CIVA Regulation.

Should the Contest be an FAI approved Aerobatic Competition, the CIVA Regulations Section 6, Part 1, must be strictly adhered to, the Contest must also be approved by SASCO.

In the CIVA Regulations reference is made to the International Jury, for local purposes such decisions which would be referred to an International Jury, will be referred to Chief Judge & Contest Director.

All figures referred to in these Regulations are as per FAI Aresti Aerobatic Catalogue as currently in use by CIVA.

It is up to each competitor and official to ensure that they are familiar with the latest CIVA Regulations and FAI Aresti Aerobatic Catalogue.

The following bodies are referred to in these regulations in the abbreviated form:-

- AeCSA – Aero Club of South Africa
- CIVA – International Aerobatics Commission (part of the FAI)
- FAI – Federation Aeronautique Internationale
- SAC – Sport Aerobatic Club of South Africa
- SACAA – South African Civil Aviation Authority

## 2. GENERAL REGULATIONS

### 2.1 Contest Categories

Contests will consist of one or more of the following categories: -

- a. Classic
- b. RV Aircraft
- c. Glider
- d. Sportsman/Light Sport Aircraft (LSA)
- e. Intermediate/Yak52
- f. Advanced
- g. Unlimited
  
- h. In addition, Graduate classification flights may take place and a contest category established, with awards as appropriate, these form part of the overall SAC training programme for an Aerobatic Rating issued by SACAA on behalf of SAC.

### 2.2 Contest Approvals

All Contests will require the sanction of the AeCSA & SACAA. In the case of an International event the approval of the FAI & CIVA will also be required, as well as SASCO.

SAC will establish the following:

- 1. Venue of Competition
- 2. Date of Competition
- 3. Entry Fee
- 4. Air Space waivers via SACAA

### 2.3 Contest Entries

- a. National Championship Awards will only be made to pilots permanently based in South Africa; additional awards will be given to visiting pilots, who should be encouraged to compete at our contests.
- b. The title National Aerobatic Champion will be established from the Unlimited Class or the Advanced Class if there is no valid Unlimited Class (three entrants).

If there is only one Unlimited entrant at the National Championships, then that competitor will be eligible to be awarded National Champion title status subject to achieving an overall score of 65% or more, failing which the highest placed Advanced entrant will be awarded the National Champion title.

Where there are less than three competitors in a category, a category champion cannot be established. In these circumstances an overall contest champion may be established by allowing all entrants to fly in their appropriate categories, with a contest champion being established on a best percentage score basis. Champions may still be established in those categories with multiple entrants, in addition to an overall contest champion. This provision does not apply to the National Championships, where awards will be given strictly by categories with multiple entries only.

Medals will be awarded to the top three ranked competitors in each category, and to those that achieve an overall score of 60% or higher in those categories with less than three entries.

Pilots who are current in a category according to their aerobatic rating status should not normally be allowed to enter a lower category. A pilot who has not competed at his category for **two** years shall automatically revert to the next lower category at his next contest, unless approved by the Contest Director and SAC Committee. Thereafter he may only compete in future contests at the higher category once he achieves an overall score above 60%, otherwise he is required to compete at the lower category. In cases where the pilot elects to compete in future contests at the lower category after achieving an overall score above 60%, he shall do so as an H/C entrant.

In exceptional circumstances, such as the unavailability of a suitable aircraft, pilot entries at a lower category shall be considered prior to the acceptance of paperwork by both the Contest Director and Chief Judge. Such entries will be accepted as H/C entries.

### 2.4 Contest Officials

SAC will appoint the following Officials:

1. Registrar/Scorer
2. Contest Director
3. Chief Judge
4. Judges
5. Starter
6. Air Traffic Advisory Officer (where applicable)

### 2.5 Duties of appointed officials

### 1. Registrar/ Scorer

Drawing up of supplementary rules  
Distribution of entry forms & supplementary rules  
Determining closing date for entries & paperwork  
Receiving entries on the day of the Contest  
Issuing paperwork to Judges as required, including flight order  
Determining flight order  
Receiving score sheets from the Judges  
Calculating Contest Scores  
Checking that entrants have a valid pilots licence, aerobatic rating valid for the class entered, valid aircraft documentation, valid insurance cover and SAC Membership  
Bringing to the attention of the Contest Director & Chief Judge any entrant not compliant with i) above

### 2. Contest Director

Safety will at all times be the primary consideration of the Contest Director. The Contest Director is in effect the General Manager for the event, specific areas of responsibility are as follows:-

Conduct the Contest in accordance with SAC, CIVA, SACAA & AeCSA Regulations  
Appoint Contest Officials not already covered by SAC  
Act as the Safety Officer on behalf of SAC, SACAA & AeCSA  
Marking of the Aerobatic Box  
Coordination with airfield, SACAA Officials as required  
Ensuring SACAA Regulations are adhered to  
Withdrawing a contestant for safety reasons or failure to adhere to Contest Regulations  
Crowd Control  
Ensuring an Air Traffic Advisory service is in place to advise air traffic in the vicinity of the airfield  
Designation of landing & take-off procedures  
Designation of parking areas for competing aircraft  
Provision of emergency services including paramedics  
Receiving protests  
Posting scores  
Chairman of the Technical Commission  
Chairman of Protest Board  
General site logistics  
Arranging catering for officials, competitors & guests  
Ensuring Judges requirements have been catered for  
Ensuring efficient radio communication between officials  
Ensuring a suitable fuel supply is present  
Verifying that the insurance for liability is in order prior to the contest  
*i. For International events in addition to the above CIVA Regulations Section 6, Part 1 will be strictly adhered to and monitored by the FAI approved and CIVA appointed International Jury.*

### 3. Chief Judge

Safety at all times will be the primary consideration of the Chief Judge, who controls the contest flying in general and more specifically:-

Manages the Judging line  
Acts as the Safety Officer for flying operations within the aerobatic performance zone

Performs the duties of a regular Judge as required  
Determines in conjunction with the Contest Director, that weather conditions are within limits as per the CIVA Regulations  
Determines direction of flight  
Conducts the Pilot briefing  
May withdraw a competitor for reasons of safety  
May terminate or interrupt a contest flight for reasons of safety  
May exclude any person from a contest for un-sporting behaviour  
Conducts the Judges briefing  
Determines the flight order of classes  
Interprets CIVA, SAC & SACAA rules as required  
Member of the Technical Commission  
Member of the Protest Board  
May exclude a competitor who violates the traffic pattern, has executed unscheduled aerobatic manoeuvres, or operated an aircraft in unsafe manner  
*i. For International Events the Chief Judge will be appointed by CIVA.*

#### **4. Judges**

All Judges will operate under the direct supervision of the Chief Judge and will be responsible for all aspects of the grading of aerobatic flights in accordance to CIVA Regulations. Judges fall into four categories as follows:

Senior Judge – who attained International status and is included on the list of International Judges maintained by CIVA

Judge – A person familiar with CIVA judging criteria & the FAI Aresti Catalogue, capable of checking an unlimited free sequence, who has officiated in at least six aerobatic competitions as Trainee Judge including the Nationals

Trainee Judge – A judge familiar with CIVA judging criteria & the FAI Aresti Catalogue, capable of checking an unlimited free sequence, who has officiated in less than six aerobatic competitions. It is a requirement that the Trainee Judge has acted as an assistant judge in at least four contests.

Pilots - with at least a confirmed Sportsman Aerobatic Rating, as required in the event of a shortage of judges, pilots may be assigned to the judging line by the Contest Director.

*i. For International Events the Judges will be appointed by CIVA*

#### **5. Assistant Judges**

Assistant Judges are appointed on an ad-hoc basis and will work under the supervision of the Judge they have been assigned to. Competing pilots may be assigned to the judging line by the Contest Director to assist in categories other than which they are competing.

*i. For International Events the Assistant Judges will be approved by CIVA.*

#### **6. Starter**

The starter is responsible to the Contest Director and will liaise closely with the Chief Judge, he specifically is responsible for the following:-

The orderly and prompt release of competition flights

Liaison with the Chief Judge for any change in flight order

## **7. Air Traffic Advisory Officer**

This official is responsible for monitoring air field and approach frequencies, to advise incoming traffic of the status of the aerobatic operations at the contest site. This is an essential part of the safety operation of a contest. The designated Officer must fulfil the requirements of CARS with regards to air frequency operations. Please note that this is an advisory operation and not an air traffic control function, incoming pilots can be advised of aerobatic operations and be advised to remain clear and similarly can be advised of the prevailing traffic pattern at the airfield, at no time can clearance ever be given to take-off or land. In the event of a situation where incoming traffic does not acknowledge information or has chosen to ignore the advice given, the Chief Judge must be informed immediately and the competition flight terminated or interrupted as appropriate. The designated person must be the holder of a Radio Licence in terms of ICASA Regulations.

- i. For International Events the aerobatic venue shall be controlled by ATNS, with the safety frequency monitored and operated by the Chief Judge at the event, as laid out in CIVA Regulations Section 6, Part 1*

## **2.6 Contest Bodies**

SAC will appoint the following Contest Bodies:-

### **2.6.1 Protest Board**

The Protest Board shall consist of the Contest Director, who shall preside over the Board, the Chief Judge and any Officials as deemed appropriate to consider the protest at hand. The Board is responsible for the prompt and orderly conduct of any hearing following a protest, rendering it's decisions and notifications to any parties concerned in writing.

### **2.6.2 Technical Commission**

The Technical Commission will be responsible to the Contest Director and may consist of any of the following:-

An aircraft Maintenance Engineer

Any other person deemed appropriate by the Contest Director

The duties of the Technical Commission are specified in CIVA Regulations Section 6 – paragraph 1.4.4.

## **3. Operating Regulations**

### **3.1 (a) – Pilot Qualifications Local**

- a. Minimum pilot qualification for piston engine aircraft (excluding LSA) shall be a PPL and an Aerobatic Rating appropriate to the class entered
- b. Minimum pilot qualification for LSA Aircraft shall be a National Pilots Licence and an Aerobatic Rating appropriate to the class entered

- c. Minimum pilot qualification for gliders shall be a Gliding Pilots Licence and an Aerobatic Rating
- d. Competitors are required to have practised the Free Known and Free sequences, as applicable, within the last thirty days preceding the contest and be prepared to sign a declaration to that effect. The penalty for making a false declaration will be automatic exclusion from the contest and suspension of the competitor's aerobatic rating, pending a disciplinary hearing.
- e. All competitors must be fully converted to fly the type of aircraft to be used in the competition in the terms of CARS.

**3.1 (b) – Pilot Qualifications International**

**a) Shall be in accordance with CIVA Regulations Section 6, Part 1**

**3.2 Pilot Briefing**

This briefing is compulsory for all competitors and is generally not open to the public, the contest will be deemed to have commenced once the briefing has taken place. A briefing will also take place at the commencement of each day's flying. The briefing will be conducted jointly by The Contest Director & Chief Judge and shall include the following:-

- a. Introduction of Contest Officials
- b. Weather forecast and winds aloft
- c. Official wind direction
- d. Description of the performance zone
- e. Holding Areas
- f. Minimum altitudes
- g. Recall procedures & safety measures
- h. Radio frequencies
- i. General contest arrangements

**3.2 Judges Briefing**

This briefing will be conducted before the first competition flight commences

**3.3 Recall Procedure**

- a. The primary recall will be by means of radio from the Chief Judge on the designated radio frequency. Failure to communicate with the Chief Judge at the commencement of the flight will require the pilot to break off the contest flight and land in an appropriate manner if radio failure has occurred. Failure to adhere to this procedure will automatically result in the flight being disqualified from the Contest.
- b. At any point in the flight should the Chief Judge call "Break – Break" the pilot is required to stop his sequence immediately and come to level upright flight and await further information from the Chief Judge.
- c. As an emergency recall procedure any flight must be terminated, if a smoke flare is seen to be discharged from the Judges Position or flight line.

*In the case of an International Event, RT procedure is strictly defined in CIVA Regulations section 6, Part 1, this is restricted to a radio check with the Chief Judge giving the competitors reference number, in the event of an emergency the Chief Judge is restricted to calling "Break, Break, Break" and as required "Land, Land, Land" no other communication is allowed by the CIVA Regulations. The Contest Director will ensure that all competitors are capable of understanding the restricted RT messages before flying commences, no other language proficiency is required.*

**3.5 International Events restriction of use of airspace**

*International Competitors will at all times be restricted to the designated performance zone as defined in CIVA Regulations Section 6, part 1 and within a reasonable distance to allow for take-off, landing and approach to the performance zone, in no case will this exceed 1 NM as*

designated in Chapter 14 of the approved ARO for Aerobatics, unless they are in possession of a SCAA approved licence validation allowing cross country flights.

### 3.6 Safety Pilots

Safety pilots will only be allowed in exceptional circumstances and will automatically render the pilot "Hors-Concours" (H/C) for the contest, scores however may be posted and published. H/C pilots may with the agreement of the Contest Director be included in the Graduate Class, when such a class has been declared for a specific contest.

### 3.7 Height Limitations

Height limitations will follow CIVA Regulations for all International classes, with the following exception, Advanced & Unlimited Classes flown at altitude, (defined as 3,500' above sea level); will automatically be entitled to a free break in all competition sequences & Intermediate/Yak52 will be 700' with a disqualification altitude of 500'.

The height limitations for those classes not recognised by CIVA will be as follows:-

- |                         |   |                        |                                |
|-------------------------|---|------------------------|--------------------------------|
| a. Classic              | - | Minimum altitude 1000' | Disqualification altitude 700' |
| b. Sportsman            |   | "                      | "                              |
| c. RV Aircraft          |   | "                      | "                              |
| d. Light Sport Aircraft | - | "                      | "                              |

Please note that the Graduate Training Scheme will also follow the above height restrictions

### 3.8 Unknown Programmes

- Unknown programmes, for Intermediate/Yak52, Advanced & Unlimited classes shall follow the CIVA Regulations with regards to content, with the exception of the procedure for the drawing of the figures, which will be as follows:
- Unlimited  
Competitors will draw lots to determine the selection of unknown figures, if there are less than ten entrants; competitors will select multiple figures in the order established until ten figures have been established.
- Advanced & Intermediate/Yak52  
Competitors will draw lots to determine the selection of unknown figures, if there are less than ten entrants; competitors will select multiple figures in the order established until ten figures have been established.
- Sportsman Class/LSA, Classic & RV Aircraft  
Competitors will fly a sequence prepared by the SAC Committee.
- Note: At certain contests where time is restricted pre-prepared Unknown sequences will be distributed at the pilot briefing.

### 3.9 Entries by Foreign Pilots & Pilots with previous contest history and not current

The entry of foreign pilots should always be encouraged, they will require becoming honorary members of SAC and SCAA can issue an aerobatic rating on the basis of their known experience, entry to an appropriate class can be established by the Contest Director and Chief Judge.

Local pilots with previous aerobatic experience will in all cases require being in possession of an aerobatic rating issued by SCAA. Should they require entering a contest at a higher level than their current rating allows, their previous history at SAC contests will be taken into account and then as required the Free Known Programme of the class entered may be required to be flown before a Board of Judges.

### 3.10 Protests

- a. In general terms protests must be submitted in writing to the Contest Director as set out in the CIVA Regulations and FAI Sporting Code, specifically the following should apply:
- b. The protest should set out which regulation is involved and the applicable paragraph references should be included applicable to SAC, CIVA or FAI Regulations.
- c. A deposit of R100 is required; this will be returned in the event of the protest being upheld but forfeited to SAC funds if the protest is denied.

### 3.11 Aircraft Types

Four types of aircraft are currently recognised by SAC:

- a. Piston engine aircraft
- b. Light Sport Aircraft (LSA) as defined in SACAA Regulations
- c. Gliders
- d. In all categories the manufacturer or designer (in the case of homebuilt aircraft) must have approved the aircraft for aerobatic manoeuvres, the limitations of which must be clearly set out in the aircraft operator's handbook.

## 4. Programmes to be flown at Contests & Championships

- a. In general terms the CIVA Regulations will apply to the Unlimited, Advanced & Intermediate/Yak52 classes, the remaining classes will be as follows:

Sportsman/LSA, Classic & RV Aircraft

- b. The minimum programmes that can be flown at the National Championship to declare a class Champion is two.
- c. Light Sport Aircraft will operate within the Sportsman Class, where three such aircraft are entered into a contest, a separate Sub-Category may be established.
- d. Graduate may be flown at a contest as part of the SAC aerobatic rating training scheme, Graduate's may only fly at the Nationals to warm-up the Judges, scores may be counted in the award of their ratings in terms of the SAC training scheme.

## 5. Summary of Requirements per Class

### 5.1 Unlimited

#### Programmes

The Free Known Programme	–	As per CIVA Regulations
The Free Unknown Programmes	–	As per CIVA Regulations
The Final Free Style	–	As per CIVA Regulations

#### Height Limitations

Lower – 100 m	-	(330')
Upper – 1000 m	-	(3, 280')

#### Disqualification

Lower - 50 m	-	(164')
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#### Penalties

Figures Flown after 15 minutes will not be scored		
Lower Height Limit	-	250 points
Upper Height Limit	-	50 points

Programme Interruption	-	150 points
Training Figure Violation	-	30 points
Box Infringement	-	30 points
Starting Slot Infringement	-	250 points

## 5.2 Advanced

### Programmes

The Free Known Programme	-	As per CIVA Regulations
The Free Unknown Programmes	-	As per CIVA Regulations

### Height Limitations

Lower – 200 m	-	(660')
Upper – 1,100 m	-	(3, 609')

### Disqualification

Lower - 100 m	-	(330')
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### Penalties

Figures Flown after 15 minutes will not be scored

Lower Height Limit	-	200 points
Upper Height Limit	-	30 points
Programme Interruption	-	100 points
Training Figure Violation	-	30 points
Box Infringement	-	20 points
Starting Slot Infringement	-	200 points

## 5.3 Intermediate / Yak52

### Programmes

The Free Known Programme	-	As per CIVA Regulations
The Free Unknown Programmes	-	As per CIVA Regulations

### Height Limitations

Lower – 700' (CIVA 200m)	-	(700')
Upper – 3,700' (CIVA 1,200 m)	-	(3, 700')

### Disqualification

Lower – 500' (CIVA 100 m)	-	(500')
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### Penalties

Figures Flown after 15 minutes will not be scored

Lower Height Limit	-	200 points
Upper Height Limit	-	30 points
Programme Interruption	-	50 points
Training Figure Violation	-	30 points
Box Infringement	-	20 points
Starting Slot Infringement	-	200 points

## 5.3 Sportsman/ LSA/ Classic / RV Aircraft

### Programmes

The Known Compulsory	-	As per SAC Sequence
The Free Programme	-	As per shown below
The Unknown Programmes	-	As per SAC Regulations

### Height Limitations

Lower	-	1000'
Upper	-	4000'

## Disqualification

Lower - 700'

## Penalties

Figures Flown after 15 minutes will not be scored

Lower Height Limit - 100 points

Upper Height Limit - 30 points

Programme Interruption - 50 points

Training Figure Violation - 30 points

Box Infringement - 15 points

Starting Slot Infringement - 100 points

## Free Programme Versatility (compulsory figures)

Maximum figures - Not Applicable

Maximum Total K - 120

No Individual figure less than 10k

Family 1 - Not required

Family 2 - Not required

Family 5 - At least one figure (Not applicable to Classic)

Family 6 - Not required

Family 7 - At least one figure from sub-families 7.2 & 7.3

Family 8 - At least one figure

Family 9.1 to 9.4 - At least one figure from each sub-family

Family 9.9 to 9.10 - Not required

Family 9.11 - Only one figure (Optional for Classic and RV competitors whose aircraft don't have inverted fuel systems)

## 5.5 Gliders

### Programmes

The Known Compulsory - As per CIVA Free Known Programme

The Free Programme - As per CIVA Regulations

The Free Unknown Programmes - As per CIVA Regulations

The Final Free Style - As per CIVA Regulations

## 6. Contest Formats

When a contest extends over two days or more, three programmes shall be flown, i.e.

Known Compulsory/Free Known Programme

Free Programme

Unknown Programme/s

Note: When Graduate flights take place at a Contest the known programme will be flown multiple times as appropriate, for classification purposes either the average of all flights will be taken or if this has not achieved 70%, then the last flight flown will count.

For one day contests the Free Known Programme will be flown and an Unknown Programme for Unlimited, Advanced and Intermediate/Yak 52 classes. Sportsman/RV competitors will be required to fly the Known and Free programmes only.

## 7. Video

At the National Championships it is essential that a video recording is made of all flights in the Advanced & Unlimited categories and it is recommended that this also be applicable to all categories.

Wherever possible it is recommended that video should be used at all competitions.