



*The
Australian
Light Aircraft
Championships*

**RULES AND
REGULATIONS**

**The Royal Federation of Aero Clubs
Of Australia**

AUSTRALIAN LIGHT AIRCRAFT CHAMPIONSHIPS RULES & REGULATIONS CONTENTS

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1 GENERAL INFORMATION

(1.11, 1.13 Revised September 1998, 1.1, 1.3 Revised September 2012)

(1.49 - Deleted September 1998)

Introduction

- 1.1 The Australian Light Aircraft Championships are conducted annually by the Royal Federation of Aero Clubs of Australia in accordance with the RFACA ALAC Rules and in compliance with the relevant aviation authority legislation and approvals as granted for the event. The Championships are open to amateur* pilots holding a minimum of a current GFPT issued by the national aviation authority.

***Note:** The term amateur includes former professional pilots who have not engaged in commercial or military flying in any form for a period exceeding two (2) years prior to the commencement of the event.

Competitors

- 1.1 All competitors must have a minimum of a current GFPT and be endorsed and current on the type of aircraft in which they intend competing.
- 1.3 The holder of a Commercial or Air Transport Pilot Licence is eligible to compete providing he/she has not engaged in commercial or military flying in any form in the two year period preceding the date of Australian Light Aircraft Championships;
- 1.2 All competitors for all events must be certified on the official RFACA entry form by a CFI of a Licenced Flying Training Organisation as qualified and competent for the event they are entering.
- 1.3 Competitors in the Formation Flying event must produce evidence of being qualified to conduct formation flying in accordance with the appropriate CASA legislation. The team must also provide evidence that they have recently flown together as a formation team.
- 1.4 Competitors in the Aerobatics event must produce evidence of holding a current Low Level Aerobatic Approval.
- 1.5 Competitors in the Streamer Cutting who wish to perform aerobatic manoeuvres must produce evidence of holding a current Aerobatic Approval.
- 1.6 A competitor may represent only one organisation and may enter each event only once in any one Championship.
- 1.7 All competitors shall attend the Main Pilots' briefing which will be held at a time and place to be notified annually. However, where a competitor is unavoidably prevented from attending the Main Pilots' Briefing he/she must report to the Championships Director before competing in any event. Failure to do so may involve disqualification.

The Championships

- 1.8 The Championships consist of the following five events:
- Aerobatics
 - Forced Landing
 - Formation Flying
 - Spot Landing
 - Streamer Cutting

RFACA Team Championship

***(Revised September 1998)**

- 1.9* Each RFACA Member Club or Association may enter one or more teams for the RFACA Team Championship.
- 1.10 Each team must enter three events, one of which must be Forced Landing. The three events must be advised to the Championship Secretary prior to the commencement of the Championships.
- 1.11* Each team must be represented by a minimum of two competitors. The name of the competitor representing each Team in each of the three events nominated for the RFACA Team Championship must be advised by the Member Club or Association to the Championship Secretary prior to the commencement of the Championships.

Individual & Overall Championships

- 1.12 The competition for the Individual Championship, the Overall Championship and the RFACA Team Championship will be conducted at the same time.
- 1.13 To qualify for the Overall Championship a competitor must compete in a minimum of three events (excluding Formation Flying), one of which must be the Forced Landing. The three qualifying events may include those entered as a member of a Club Team.
- 1.14 Members of teams competing in the RFACA Team Championship are automatically competing for the Individual Championship and for the Overall Championship subject to 1.15.
- 1.15 Organisations or Clubs may enter one or more individual competitors as their representatives in each of the five events, (subject to Rule 1.8 above).

Trophies

- 1.16 The Perpetual Federation Team Trophy shall be awarded to the Club or Association whose Team wins the RFACA Team Championship and a memento shall be awarded to each member of the winning team.
- 1.17 The Perpetual Federation Shield for each event may only be held by RFACA Member Clubs and Associations. Should an event be won by a competitor from a non RFACA Member Club or Association, the Perpetual Federation Shield for that event will be awarded to the RFACA Club or Association whose member achieves the highest score in that event.
- 1.18 Medallions will be awarded to competitors gaining first, second and third places in each event.
- 1.19 In the Formation Flying event each pilot in the teams gaining first, second and third place will be awarded a medallion.
- 1.20 A trophy shall be awarded to the competitor winning the Overall Championship.

Scoring

- 1.21 All competitors' scores will be factored to, or awarded from, 100 points for each event.
- 1.22 The final score for each competitor in the Forced and spot Landing Competitions will be the average of three rounds, each round being flown with a different Air Judge.
- 1.23 The final score for each competitor in the Streamer Cutting competition will be the average of two streamers, cut consecutively with the same Air Judge.
- 1.24 Scoring for the RFACA Team Championship shall be as follows:
 - (i) Scores for each event will be factored to 100 points.
 - (ii) The final points scored in each of the three nominated events by the team competitors will be added together.
 - (iii) The team having the highest total points shall be declared the winner of the RFACA Team Championship.
- 1.25 Scoring for the Individual and Overall Championship shall be as follows:
 - (i) The competitor with the highest final score in each event shall be declared the winner and champion for that event.
 - (ii) Second and third places will be awarded respectively to the competitors with the next highest final scores.
 - (iii) The final points scored in the three events nominated by each competitor in the Overall championship shall be added together and the competitor with the highest total points shall be declared the Overall champion.
- 1.26 Should only one entry be received for any one event the entrant (or, for Formation Flying, the entrants) must perform and be judged in accordance with the Rules to be allocated points for the event.
- 1.27 In the event of teams or individual competitors having the same number of total points, final placings may be determined by video replay.

Aircraft

- 1.28 The Australian Light Aircraft championships are open to serviceable VH registered aeroplanes provided that where an Air Judge is carried such aircraft must be fitted with fully functioning dual controls.
- 1.29 All competing aircraft must be fitted with a serviceable safety harness or shoulder and lap strap safety harness for both occupants and such safety harness is to be used by both occupants.
- 1.30 All competing aircraft, complete with Maintenance Release and Aircraft Flight Manual or equivalent document, must be made available for scrutiny by the designated officials as required prior to taking part in the Championships.
- 1.31 Any luggage or loose objects are to be properly restrained.
- 1.32 Details of speeds and power settings which would affect the judging in any event must be submitted to the Championship Director prior to the commencement of the Championships.
- 1.33 For the purpose of these Rules, the "undercarriage" is defined as the main wheels of the aircraft.
- 1.34 QFE altimeter setting will be used for all events unless otherwise advised at the Main Pilots' Briefing.

Director

- 1.35 The Championship Director (who may have one or more assistants) and a Deputy Director will be appointed annually by the Executive of the Federation.
- 1.36 The Director is in overall charge of the Championships and is responsible for:
 - (i) The good management and safe conduct of the Championships;
 - (ii) Penalising or disqualifying a competitor for misconduct or failure to obey the Rules in accordance with advice tendered by the Stewards;
 - (iii) Organisation of all briefings.

Stewards

- 1.37 At least two Stewards, one of whom shall be Chief Steward, will be appointed annually by the Executive of the Federation.
- 1.38 The principal functions of the Stewards will be to:
 - (i) Watch over the conduct of the event and report to the Director any unfairness or infringement of the Regulations or behaviour prejudicial to the safety of other competitors or the public or in any way prejudicing the event;
 - (ii) Advise on interpretation of the Rules and Regulations; investigate protests, report their findings to the Director and advise him regarding any penalties to be imposed;
 - (iii) In exceptional circumstances take such action as is necessary to ensure the safety of competitors and the public.

Judges

- 1.39 Judges are responsible for the scrutiny of aircraft and documents as necessary.
- 1.40 The required number of Air Judges, including one who shall be nominated as Chief Air Judge, shall be appointed annually by the Executive of the Federation. Any suitably qualified person may be so appointed.
- 1.41 Subject to the approval of the Executive of the Federation, the host club for the Championships shall appoint the required number of suitably qualified persons as Ground Judges, one of whom shall be nominated as Chief Ground Judge.
- 1.42 All Judges shall be required to attend briefings as advised by the Director prior to the commencement of the Championships.

Marshals

- 1.43 Subject to the approval of the Director, the host club shall appoint suitable persons as Aircraft Marshals, one of whom shall be the Chief Marshal.

Chairman

- 1.44 The Chairman of the Championships, who shall normally be the President of the R.F.A.C.A., shall be appointed by the Executive of the Federation.

Secretary

- 1.45 The Secretary of the Championships, who shall normally be the Administration Officer of the R.F.A.C.A. shall be appointed by the Executive of the Federation.

Entries

- 1.46 All entries for the Australian Light Aircraft Championships are to be submitted on the prescribed form and accompanied by the required entry fees. The form and fees must be lodged with the Secretary of the Championships by the date notified each year. Late entries may be accepted at the discretion of the Secretary.

Sporting Licences

- *1.47 Deleted September 1998.

2 FORCED LANDING

(2.30(ii) Revised July 2007)

Procedure

- 2.1 The object of the Forced Landing Competition is to land the aircraft on a marked area of the runway following a simulated engine failure whilst carrying out the checks and drills as specified in these rules.
- 2.2 The forced landing is to be conducted so as to conform to the procedures as outlined in the approved flight instructor manual and as briefed by the Championship Director.
- 2.3 Competitors are required to fly three circuits, each with a different air judge.
- 2.4 The competitor shall act as pilot in command under the supervision of the air judge.
- 2.5 Normally the climb to 2500 ft will be from a right hand pattern, the descent will be to a left hand pattern and QFE altimeter setting will be used. These conditions will only vary if advised at the main pilots' briefing, or the pilot briefing for this event.
- 2.6 The competitor shall climb the aircraft to 2500 ft and position it over the touchdown markers and heading in the direction of intended landing. At this point the competitor says "READY". The air judge initiates the forced landing by closing the throttle.
- 2.7 The air judge shall make all actual radio transmissions.

2.8 Scoring

- Judging starts and scores are allocated from the reduction of power and continues to the completion of the landing roll.
- 2.9 A maximum of 100 points may be scored for each attempt.
- 2.10 The point system is as follows:
Air Technique 50 points
Ground score 50 points
- 2.11 A competitor's final score will be the average of the three attempts.

Air Technique

- 2.12 The forced landing score sheet in Appendix 2.3 gives details of items and point scores applicable. An explanation is set out in Appendix 2.1.
- 2.13 Each competitor will be required to nominate the following speeds on the air judge score sheet: glide speed without flap, with partial flap, with full flap and the minimum approach speed. In the case of an aircraft without flap, a sideslip speed must be nominated. Such speeds shall not be less than those stated in the aircraft Flight Manual or the Manufacturer's data manual, which must be available for inspection by the Air Judge.

Ground Judging

- 2.14 The responsibility for ground judging and allocation of ground scores rests in the hands of the Chief Ground Judge and two assistant ground judges. The three ground judges will be assisted by a number of line judges.
- 2.15 The aircraft must clear a 1.2 metre fence prior to landing.
- 2.16 The landing path will be divided into ten sections, each carrying points as set out in the diagram in Appendix 2.2.
- 2.17 Where the undercarriage straddles the boundary between two scoring sections, the average of the two will count as the ground score.
- 2.18 Landings will be graded as NORMAL, REBOUND or BOUNCE.

Normal Landing

- 2.19 A normal landing is one where the main wheels of the aircraft touch down on the runway and remain firmly in contact with it.
- (i) In tricycle undercarriage aircraft the touchdown must be made on the main wheels with the nosewheel clear of the runway.
 - (ii) In tailwheel aircraft the touchdown on the main wheels must be made with the tail clearly lower than the horizontal.
 - (iii) In both types of aircraft where one main wheel touches down before the other, except in the case of a crosswind landing, where a flag will be flown to indicate crosswind landings are applicable, scores will be taken as follows:
 - (a) Touchdown before the 60 metre line: Initial Score is taken when the one mainwheel first touches the runway.
 - (b) Touchdown after or on the 60 metre line: Score is taken when both main wheels are firmly on the ground.
 - (iv) In a crosswind landing touchdown may be made on the into-wind main wheel and the score will be taken from when that wheel remains firmly on the ground. Touchdown on the out of wind wheel incurs a penalty.

Rebound

- 2.20 A rebound is a minor bounce where one or both main wheels leave the runway for a short distance. It may be caused by the reaction to touchdown or recoil of the undercarriage. It is not caused by a heavy landing.
- (i) If the initial and second point of contact of the main wheels with the runway are within the same ground scoring box then it is classed as a rebound and the points allocated to that box will count as the ground score.
 - (ii) If the initial point of contact is in one box and the second point of contact is in an adjacent box then it is still classed as a rebound but the box which has the lesser value will count as the ground score.

Bounce

- 2.21 If the initial and second point of contact are separated by one complete box or more then the landing is classified as a bounce. The value attached to the lesser of the two contact boxes will count as the score. This landing attracts a bounce penalty.
- (i) In the case of a multiple bounce, the lesser of the two values attached to the box of initial contact and the box of permanent contact will count as the score. This landing attracts multiple bounce penalties.
 - (ii) If the final point of contact with the runway is outside the scoring area then the contestant is disqualified from that attempt.
 - (iii) If, in the opinion of the Chief Ground Judge and at least one of the two assistant ground judges, a competitor has performed a landing which results in a bounce, even though the initial and second point of contact are in the same box or adjacent boxes, the landing will attract a bounce penalty.

Countback

- 2.22 If, when placings are being determined, a tie occurs then a countback will take place. The winner will be the competitor with the greatest number of normal landings and the least number of rebounds, bounces and heavy landings, and subject to Rule 1.29.

Penalties**Air Judging**

- 2.23 The air judge shall not allocate part points on the score sheet.

Ground Judging

- 2.24 No penalty is incurred for a rebound.
- 2.25 The bounce as defined in Rule 2.21 attracts a bounce penalty. Multiple bounces attract multiple penalties.
- 2.26 Ten points are lost for the following:
- (i) Each bounce
 - (ii) Touching down on the out of wind wheel in a crosswind landing.
- 2.27 Twenty points are lost for:
- (i) A three point or nosewheel first landing in a tricycle undercarriage aircraft.
 - (ii) A main wheels landing in a tail wheel aircraft where the tail is level with or higher than the horizontal.

Disqualification

- 2.28 A competitor will be disqualified from the **whole event** if:
- (i) The aircraft is, in the opinion of the air judge, flown in a dangerous manner.
 - (ii) One or more tyres are deflated to a pressure lower than that officially recommended.
 - (iii) False or misleading information is supplied to any official.
- 2.29 A contestant is disqualified from **that attempt** if the Ground judge determines that:
- (i) The aircraft touches down before the fence
 - (ii) The aircraft breaks the fence
 - (iii) If any part of the aircraft touches the fence and causes it to fall to the ground
 - (iv) The undercarriage is not kept within the touchdown area width
 - (v) The aircraft is not firmly on the ground by the last touchdown line.
- 2.30 A contestant is disqualified from **that attempt** if the Air judge determines that:
- (i) The power is applied (other than the allowable clearing burst) before touchdown
 - (ii) Turn to final approach was not completed by 200ft
 - (iii) The aircraft is sideslipped below 100 ft
 - (iv) Flap is raised, partially or fully, on final approach after the fence has been crossed
 - (v) The approach speed is below the Minimum stated in the Flight Manual or Manufacturer's data manual
 - (vi) The sequence of flying or emergency procedures is displayed in any form in the cockpit
 - (vii) In the interests of safety the air judge considers it necessary to take over control of the aircraft
 - (viii) A flapped aircraft is sideslipped with flaps down.

APPENDIX 2.1**Interpretation of Forced Landing Score Sheet**

Note: This Appendix to be read in conjunction with the Forced Landing Air Judges Score Sheet (Appendix 2.3). A maximum of 50 points may be awarded for air technique. The air judge will allocate all points for air technique.

1 General

- 1.1 Each of the four descending turns must be visually cleared for other traffic. The competitor must say out loud, "clear right, clear ahead, clear left" as the check is carried out. One point will be allocated for each correctly cleared turn.
- 1.2 The engine must be cleared once only, prior to base turn, by smoothly advancing the throttle and then returning to idle.
- 1.3 Safety checks covering all the items listed below are to be stated aloud and, where possible, the items are to be indicated by hand. These checks may be completed at any time after entering downwind.

Brakes	-	Off
Mixture	-	Idle cut off
Fuel	-	Off
Ignition	-	Off
Hatches	-	Unlocked
Harness	-	Tight

2 Before Base Leg (17 points)

- 2.1 The glide is to be stabilised at the nominated glide speed without flap on the initial leg and maintained until flap is lowered on base leg.
- 2.2 Simulated trouble checks covering all of the items listed below are to be carried out by stating them out loud and indicating them by hand.

Carb heat	-	Hot
Fuel	-	On (or both or other tank) and sufficient
	-	Pump on, pressure OK
Mixture	-	Rich
Oil temp & pressure	-	Within range
Ignition	-	Check left and right mag.
Throttle	-	Linkage check
Primer	-	Locked

- 2.3 The distress message is to be stated aloud but not transmitted. As a minimum the message must include:

MAYDAY, MAYDAY, MAYDAY (Callsign)
 SIMULATED ENGINE FAILURE
 LANDING ON RUNWAY (Number)
 AT (Aerodrome)
 POSITION (Crosswind/Downwind)
 ALTITUDE (At time of call)
 PERSONS ON BOARD (Number)

2.4 Passenger Briefing is to be stated aloud and must include the following:

WE HAVE HAD AN ENGINE FAILURE
 WE ARE GOING TO LAND ON RUNWAY (Number)
 SECURE YOUR HARNESS
 STOW LOOSE ARTICLES
 AFTER LANDING VACATE THE AIRCRAFT QUICKLY
 FOLLOW MY INSTRUCTIONS

3 Base Leg (9 points)

- 3.1 Use of Flap: - To obtain full points the competitor must lower part, but not more than 2/3, of the full flap available.
- 3.2 Sideslipping : - Aircraft without flap may commence Sideslipping after the turn onto base has been completed. More than one sideslip may be made without penalty.
- 3.3 Control of Airspeed: - To obtain full points on base leg the competitor must stabilise the airspeed at that nominated on the score sheet.

4 Final Approach (24 points)

- 4.1 Use of Flap: - To obtain full points the competitor must lower full flap on final leg
- 4.2 Sideslipping: - To obtain full points aircraft without flap must not be sideslipped below 200 ft AGL
- 4.3 Control of Airspeed: - To obtain full points on final leg the competitor must stabilise the airspeed at that nominated on the score sheet.

5 Final Approach Control

The control on final approach will be judged according to the following:

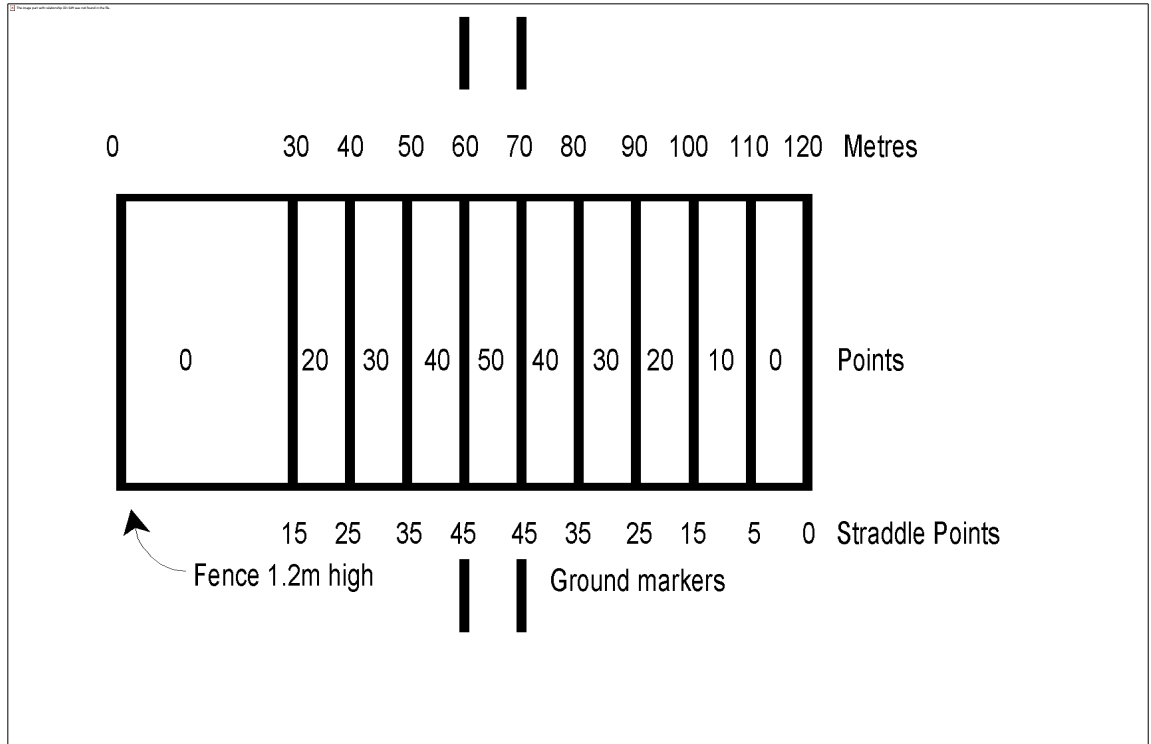
- 5.1 GOOD - Turn complete by 300 ft, the track is straight and on an extension of the runway centreline, the attitude is constant for each flap setting and the airspeed is correct for each flap setting.
- 5.2 SAFE - If one of the above criteria is assessed by the air judge as being less than good.
- 5.3 POOR - If more than one of the above criteria is assessed by the air judge as being less than good.
- 5.4 UNSAFE - If any one of the above deviate to such a degree that the air judge deems the approach to be unsafe and takes over control of the aircraft.

6 Landing Technique

The landing technique will be judged as follows:

- 6.1 GOOD - If the aircraft touches down firmly but not hard in the centre of the strip and on the main wheels so that the direction is straight. There should be no drift and the nosewheel must be clear of the runway. Tailwheel aircraft must clearly be in a tail down attitude.
- 6.2 SAFE - If any one of the above criteria is assessed by the air judge as being less than good.
- 6.3 POOR - If more than one of the above criteria is assessed by the air judge as being less than good.
- 6.4 UNSAFE - If any of the above deviate to such a degree that the air judge deems the landing to be unsafe and takes over control of the aircraft.

FORCED LANDING GROUND SCORING SYSTEM



APPENDIX 2.3

FORCED LANDING AIR JUDGE SCORE SHEET

**AUSTRALIAN LIGHT AIRCRAFT
CHAMPIONSHIPS
FORCED LANDING AIR JUDGE SCORE SHEET**

Air Judge:

NAME	GLIDE SPEED WITHOUT FLAP
PREFERRED NAME	GLIDE SPEED PARTIAL FLAP
CLUB	GLIDE SPEED FULL FLAP
AIRCRAFT REG YR	MINIMUM APPROACH SPEED
STARTING NUMBER	SIDESLIP NON FLAP AIRCRAFT
ROUND NUMBER	

BEFORE BASE LEG	POINTS	BEFORE BASE LEG	POINTS	FINAL LEG	POINTS	FINAL LEG	POINTS
TROUBLE CHECKS		FINAL CHECKS		USE OF FLAP		FINAL APPROACH CONTROL	
FUEL ON CONTENTS/TANKS	1	BRAKES OFF	1	FLAP NIL	0	GOOD	5
FUEL PUMP & PRESSURE	1	MIXTURE IDLE CUTOFF	1	FLAP UP TO 2/3	0	SAFE	2
CABE HEAT HOT	1	FUEL OFF	1	FULL FLAP	3	POOR	-5
MIX RICH PRIMER LOCKED	1	IGNITION OFF	1			UNSAFE / FINAL TURN < 200FT	DISQ
IGNITION CHECK L&R	1	HATCHES UNLOCKED	1				
OIL TEMP & PRESSURE	1	HARNESST TIGHT	1				
THROTTLE LINKAGE CHECK	1			SIDESLIPPING IN NON-FLAP ACFT		LANDING TECHNIQUE	
				RECOVERY BY 200FT AGL	3	GOOD	5
				RECOVERY BY 100FT AGL	-10	SAFE	2
				RECOVERY BELOW 100FT AGL	DISQ	POOR	-5
						UNSAFE	DISQ
CLEAR TURN ONTO X/ WIND	1						
DISTRESS MESSAGE	1	BASE LEG - USE OF FLAP					
PASSENGER BRIEF	1	FLAP NIL	0				
CLEAR TURN ONTO D/W	1	FLAP UP TO 2/3	3				
		FLAP OVER 2/3	0				
AIRSPPEED CONTROL							
WITHIN ± 5kt	5						
WITHIN ± 10kt	0						
OUTSIDE ± 10kt	-5						
CLEAR TURN ONTO BASE	1						

AIR TECHNIQUE TOTAL	
GROUND POINTS TOTAL	
GRAND TOTAL	
Totaled by:	
Checked by:	
Air Judge signature:	

3 FORMATION FLYING COMPETITION

Procedure

- 3.1 Each team shall consist of three (3) aircraft. Teams will be judged on their performance from engine start until shut down, unless otherwise advised at the Formation pilots' briefing.
- 3.2 Emphasis will be placed upon team effort throughout. The time limit for the complete demonstration is 30 minutes.
- 3.3 Formation runs must be carried out at an altitude of not less than 500 ft AGL by all teams.
- 3.3.1 Overlapping of wings is permitted only where it is safe to do so and in accordance with the relevant CASA regulations.

Judging

- 3.4 Judging will be carried out by five (5) judges appointed by the Championship Director.
- 3.5 All flying must be undertaken within easy sighting distance of the Judges whose location will be notified at the Formation Pilots' Briefing. Station changes should be performed within a 15 degree arc overhead of Judges.

Compulsory Programme

- 3.6 The following programme must be performed by each team:

Difficulty Factor

(i)	Start up -	
(ii)	Taxi out	5
(iii)	Take-off in formation or form up after stream takeoff	10
(iv)	Vic Formation	5
(v)	Formation change	5
(vi)	Echelon port	5
(vii)	Formation change	5
(viii)	Echelon starboard	5
(ix)	Formation change	5
(x)	Line astern	5
(xi)	Free Formation (See Note)	10
(xii)	Landing in formation or spacing on landing	10
(xiii)	Taxi in	5
(xiv)	Shut down	-
(xv)	Grouping of the complete Demonstration	15

NOTE: (xi) The Free Formation will consist of only **ONE** formation pattern of the team's choosing. Free manoeuvres involving a break in formation are difficult to judge. Synchronised flying and manoeuvres that involve crossing or opposing flight paths will not be deemed to be in formation by the judges.

- 3.7 Teams may arrange the sequence of presentation to suit their own requirements but must;
- (i) Present the following details to the Championship Secretary before the commencement of the championships:
 - a. Evidence that team members hold approval to fly in formation, i.e. Photostats of Log Book entry to this effect;
 - b. A Sequence Sheet (6 Copies) including details of the Free Manoeuvre, for each direction;
 - (ii) Advise the direction to be flown, in writing, to the Championship secretary no later than the commencement of the Formation Pilot's Briefing immediately prior to the event.

Scoring

- 3.8 Teams will be given a score ranging upwards from 0-10 for each manoeuvre and for start-up, taxiing, take-off, landing and shutdown. The resultant score will be multiplied by a "difficulty" factor for each manoeuvre as indicated at para 3.6. The total points scored by each team will be factored to 100.
- 3.9 Any team taking longer than 30 minutes for the whole event will be penalised five (5) points for each extra minute. For this purpose timing starts when the formation commences to move from the parking area and stops when the aircraft come to rest after returning to the parking area.
- 3.10 If a stream landing is directed, points will be allocated for even spacing of the aircraft as they cross the threshold of the landing area. Spacing on the final approach shall be not less than a minimum safe distance.
- 3.11 Nil points will be awarded if a team:
- (i) Omits a programmed manoeuvre
 - (ii) Flies a manoeuvre deviating from the flow chart.

Disqualification

- 3.12 A team will be disqualified for any one or more of the following breaches:
- (i) Descending below the minimum authorised height other than for take off or landing
 - (ii) Failure to attend the mandatory pilots' briefing
 - (iii) Performing a manoeuvre against which the aircraft is restricted
 - (iv) Operating an aircraft with a known defect that renders it unairworthy
 - (v) Failing to carry enough fuel and oil to enable an aircraft to take-off, hold, fly the programme, land and taxi to the parking lines plus 45 minutes reserve fuel.

Meteorological Conditions

- 3.13 The cloud base should be such as to enable contestants to take off and climb to the minimum authorised height whilst the maximum wind should not exceed 20 knots. However, the director may deviate from these conditions after a meeting with the contestants where at least one-third of those present agree to continue the event.
- 3.14 In the interests of safety the Director may direct a stream take-off and landing. However, should the crosswind component exceed 15 knots the contest will be postponed or cancelled.

4 SPOT LANDING

(Revised November 1995)

Procedure

- 4.1 The object of the spot landing competition is to fly a low level circuit and land on a marked area of the runway whilst carrying out the checks and drills as specified in these rules.
- 4.2 The techniques and procedures adopted are to conform to the performance landing procedure as outlined in the approved flight instructor manual and as briefed by the championship Director.
- 4.3 Competitors are required to fly three circuits, each with a different air judge.
- 4.4 The competitor shall act as pilot in command under supervision of the air judge.
- 4.5 A left hand circuit at 500 ft AGL is to be flown using QFE altimeter setting, unless otherwise advised at the main pilot briefing or the briefing for this event.
- 4.6 The air judge shall make all actual radio transmissions.

Scoring

- 4.7 The entire circuit from application of power to runway exit shall be judged.
- 4.8 A maximum of 100 points may be scored for each circuit.
- 4.9 The point system is as follows:
- | | |
|---------------|-----------|
| Air Technique | 50 points |
| Ground Score | 50 points |
- 4.10 A competitor's final score will be the average of the three attempts.

Air Technique

- 4.11 The Spot Landing Score Sheet in Appendix 4.3 gives details of items and point scores applicable. An explanation is set out in Appendix 4.1
- 4.12 Each competitor is required to nominate the following speeds on the air judges score sheet; climb, base leg with flap, final approach with partial flap and with full flap, and minimum approach. Such speeds shall not be less than those stated in the Aircraft Flight Manual or the manufacturer's data manual which must be available for inspection, by the air judge.

Ground Judging

- 4.13 The responsibility for ground judging and allocation of ground scores rests in the hands of the Chief Ground Judge and two assistant ground judges. The three ground judges will be assisted by a number of line judges.
- 4.14 The aircraft must clear a 1.2 metre fence prior to landing.
- 4.15 The landing path will be divided into ten sections, each carrying points as set out in the diagram in Appendix 4.2.
- 4.16 Where the undercarriage straddles the boundary between two scoring sections, the average of the two will count as the ground score.
- 4.17 Landings will be graded as NORMAL, REBOUND, BOUNCE.

Normal Landing

- 4.18 A normal landing is one where the main wheels of the aircraft touch down on the runway and remain firmly in contact with it.
- (i) In tricycle undercarriage aircraft the touchdown must be made on the main wheels with the nose wheel clear of the runway.
 - (ii) In tail wheel aircraft the touchdown on the main wheels must be made with the tail clearly lower than the horizontal.
 - (iii) In both types of aircraft where one main wheel touches down before the other, except in the case of a crosswind landing, scores will be taken as follows:
 - (a) Touchdown before the 60 metre line: the initial score is taken when the one mainwheel first touches the runway.
 - (b) Touchdown after or on the 60 metre line: the score is taken when both mainwheels are firmly on the ground.
 - (iv) In a crosswind landing the touchdown may be made on the into-wind wheel and the score will be taken from when that wheel remains firmly on the ground. A touchdown on the out of wind wheel incurs a penalty.

Rebound

- 4.19 A rebound is a minor bounce where one or both main wheels leave the runway for a short distance. It may be caused by the reaction to touchdown or recoil of the undercarriage. It is not caused by a heavy landing.
- (i) If the initial and second point of contact of the main wheels with the runway are within the same ground scoring box then it is classed as a rebound and the points allocated in that box will count as the ground score.
 - (ii) If the initial point of contact is in one box and the second point of contact is in an adjacent box then it is still classed as a rebound but the box which has the lesser value will count as the ground score.

Bounce

- 4.20 If the initial and second points of contact are separated by one complete box or more then the landing is classed as a bounce. The value attached to the lesser of the two contact boxes will count as the score. This landing attracts a bounce penalty.
- (i) In the case of a multiple bounce the lesser of the two values attached to the box of initial contact and the box of permanent contact will count as the score. This landing attracts multiple bounce penalties.
 - (ii) If the final point of contact with the runway is outside the scoring area then the contestant is disqualified from that attempt.
 - (iii) If, in the opinion of the Chief Ground Judge and one of the two assistant ground judges, a competitor's landing results in a bounce even though the initial and second contact point are in the same or adjacent boxes the landing will attract a bounce penalty.

Countback

- 4.21 If, when placings are being determined, a tie occurs then a countback will take place. The winner will be the competitor with the greatest number of normal landings and the least number of rebounds, bounces and heavy landings.

Penalties**Air Judging**

- 4.22 The air judge shall not allocate part points on the score sheet.

Ground Judging

- 4.23 No penalty is incurred for a rebound.
- 4.24 The bounce as defined in para. 4.20 attracts a bounce penalty. Multiple bounces attract multiple penalties.
- 4.25 Ten points are lost for the following:
- (i) Each bounce
 - (ii) Touching down on the out of wind wheel in a crosswind landing.
- 4.26 Twenty points are lost for the following:
- (i) A three point or nosewheel first landing in a tricycle undercarriage aircraft.
 - (ii) A mainwheels landing in a tailwheel aircraft where the tail is level or higher than the horizontal.

Disqualification

4.27 A competitor will be disqualified from the **whole event** if:

- (i) The aircraft is, in the opinion of the air judge, flown in a dangerous manner.
- (ii) One or more tyres are deflated to a pressure lower than that officially recommended.
- (liii) False or misleading information is supplied to any official.

4.28 A competitor will be disqualified from **that attempt** if the Ground Judge determines that:

- (i) The aircraft touches down before the fence
- (ii) The aircraft breaks the fence
- (iii) If any part of the aircraft touches the fence and causes it to fall to the ground
- (iv) The undercarriage is not kept within the touchdown area width.
- (v) The aircraft is not firmly on the ground by the last touchdown marker.

4.29 A competitor will be disqualified from **that attempt** if the Air Judge determines that:

- (i) The aircraft is sideslipped below 100 ft
- (ii) Flap is raised, partially or fully, on final approach after the fence has been crossed
- (iii) The approach speed is below the minimum stated in the Flight Manual or manufacturer's data manual
- (iv) A flapped aircraft is sideslipped with flaps down
- (v) In the interests of safety the air judge considers it necessary to take over control of the aircraft.

APPENDIX 4.1**Interpretation of Spot Landing Score Sheet**

Note: This Appendix is to be read in conjunction with the Spot Landing Air Judge Score Sheet (Appendix 4.3). A maximum of 50 points may be awarded for air technique. The air judge will allocate all points for Flying Technique.

1. Take-off (2 points)

- 1.1 Take-off power must be smoothly applied.
- 1.2 The take-off path must be in the centre of the runway.

2. Initial Leg (4 points)

- 2.1 After take-off checks applicable to the type must be made in the first half of the initial leg. As a minimum they must include:

FLAP	-	Up
CARB HEAT	-	Cold
OIL TEMP & PRESSURE	-	Within Range

- 2.2 Climb speed on initial leg must be within 5 knots of that nominated on the score sheet.
- 2.3 The initial track must be on an extension of the centreline.
- 2.4 The turn onto crosswind leg must be made at 500 ft (plus or minus 50 ft).
- 2.5 Before making any turn the competitor must say out loud, "Clear right, clear ahead, clear left", while taking appropriate action to ensure that it is clear to turn.

3. Crosswind Leg (2 points)

- 3.1 The track on crosswind leg must be at right angles to the runway.
- 3.2 The turn onto downwind leg must be made in accordance with para 2.5 above.

4. Downwind leg (5 points)

- 4.1 Downwind checks appropriate to the type must be carried out early in the leg. They must be stated out loud and where possible the items should be touched. The minimum acceptable must include the following:

BRAKES	-	Off
UNDERCARRIAGE	-	Down
MIXTURE	-	Rich
FUEL	-	On and Sufficient
HATCHES	-	Secure
HARNESSES	-	Tight

- 4.2 If there is preceding traffic in the same event the aircraft which immediately precedes the competitor must be pointed out to the air judge.
- 4.3 The downwind track must parallel the runway.
- 4.4 The height throughout the downwind leg must not be in error by more than 50 ft.
- 4.5 The turn onto base leg must be made in accordance with para. 2.5 above.

5 Base Leg (8 points)

- 5.1 Flap is to be used when speed is reduced on base leg.
- 5.2 The speed on base leg must stabilise at that nominated on the score sheet.
- 5.3 The track on base leg must be at right angles to the runway.
- 5.4 The turn onto final must be in accordance with para. 2.5 above.

6. Final Approach (16 points)

- 6.1 The turn onto final must be completed at 500 ft. A tolerance of 50 ft is allowed.
- 6.2 The speed/speeds on final must be within 5 knots of those nominated with one exception. At no time is the airspeed to be lower than the minimum approach speed as per the aircraft Flight Manual or manufacturer's data manual.
- 6.3 To gain full points full flap must be used on final approach.
- 6.4 Aircraft without flap will be awarded five points provided there is no side slipping.
- 6.5 Final checks appropriate to the type must be made on final approach.

7. Profile, Attitude and Direction (5 points)

The profile, attitude and direction will be assessed as follows:

- 7.1 GOOD - If the approach gradient is consistent, the speed constant and the final track is on the runway centreline.
- 7.2 SAFE - If any one of the above criteria is assessed by the air judges as being less than good.
- 7.3 POOR - If more than one of the above criteria is assessed by the air judge as being less than good.
- 7.4 UNSAFE - If any of the above deviate to such a degree that the air judge deems the approach to be unsafe and takes over control of the aircraft.

8. Landing Technique (7 points)

A flag will be flown to indicate crosswind landings are applicable.

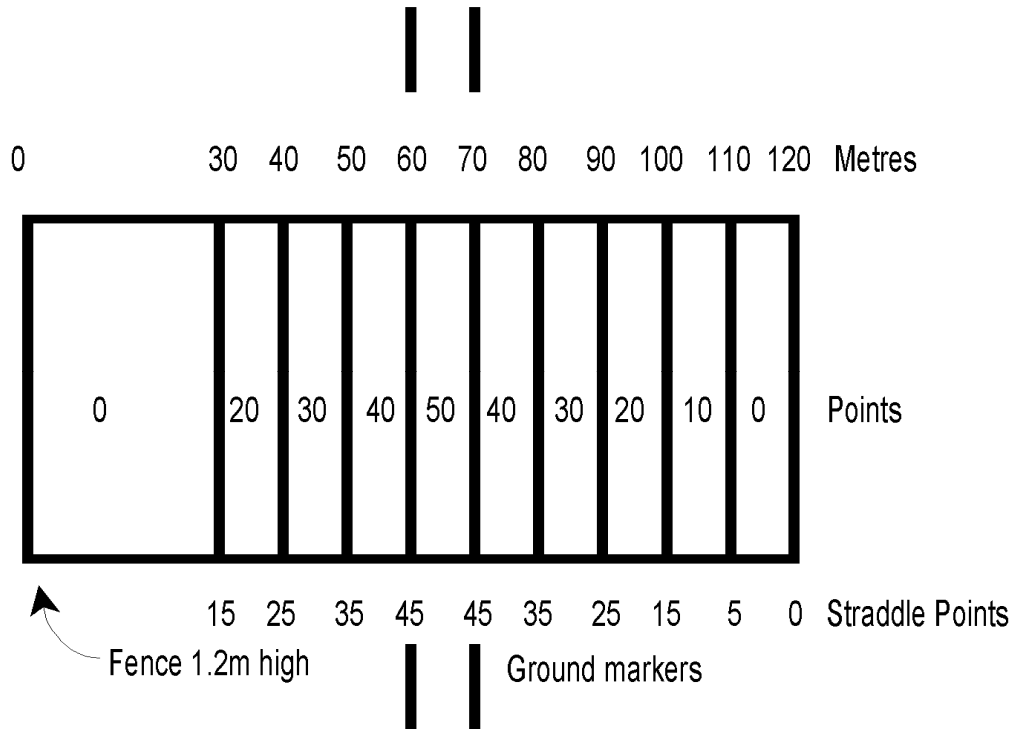
The landing technique will be assessed by the air judge as follows:

- 8.1 GOOD - If the aircraft touches down firmly but not hard in the centre of the strip and on the main wheels so that the direction is straight. There is to be no drift and the nose wheel must be clear of the runway. Tail wheel aircraft must clearly be in a tail down attitude.
- 8.2 SAFE - If any one of the above criteria is assessed as being less than good.
- 8.3 POOR - If more than one of the above criteria is assessed as being less than good.
- 8.4 UNSAFE - If any of the above deviate to such a degree that the air judge deems the landing to be unsafe and takes over control of the aircraft.

9. Landing Roll (1 point)

- 9.1 The landing roll shall be in the centre of the runway. The exit speed will be at normal taxi speed.

SPOT LANDING GROUND SCORING SYSTEM



**AUSTRALIAN LIGHT AIRCRAFT CHAMPIONSHIPS
SPOT LANDING AIR JUDGE SCORE SHEET**

**AUSTRALIAN LIGHT AIRCRAFT CHAMPIONSHIPS
SPOT LANDING AIR JUDGE SCORE SHEET**

Air Judge:

NAME	NOMINATED AIRSPEEDS
PREFERRED FIRST NAME	CLIMB: kt
CLUB:	BASE WITH FLAP kt
AIRCRAFT REG VH:	FINAL APPROACH (1) kt
STARTING NUMBER	FINAL FULL FLAP kt
ROUND NUMBER:	MIN APPROACH SPEED kt

TAKEOFF	POINTS
POWER APPLICATION SMOOTH	1
CENTRE OF RUNWAY	1
INITIAL LEG	
AFTER TAKEOFF CHECKS	1
CLIMB SPEED $\pm 5kt$	1
TRACK ON RWY CENTRELINE	1
CLEAR & CORRECT TURN XWIND	1
CROSSWIND LEG	
TRACK SQUARE TO RUNWAY	1
CLEAR & CORRECT TURN TO DW	1
DOWNWIND LEG	
DOWNWIND CHECKS	1
NOMINATE PRECEDING ACFT	1
TRACK PARALLEL TO RWY	1
DOWNWIND HEIGHT $\pm 50ft$	1
CLEAR & CORRECT TURN TO BASE	1

BASE LEG	POINTS
FLAP NIL	0
FLAP UP TO 2/3	1
FLAP OVER 2/3	0
AIRSPEED $\pm 5kt$	5
TRACK SQUARE TO RWY	1
CLEAR & CORRECT TURN TO FINAL	1
FINAL TURN	
COMPLETED AT 500ft $\pm 50ft$	5
FINAL APPROACH	
NOMINATED AIRSPEED $\pm 5kt$	5
FULL FLAP	5
AIRCRAFT WITHOUT FLAP NO SLIP	
FINAL CHECKS	1
PROFILE/ATTITUDE/DIRECTION	
GOOD	5
SAFE	2
POOR	-5
UNSAFE	DISO

LANDING TECHNIQUE	POINTS
GOOD	7
SAFE	2
POOR	-5
UNSAFE	DISO
LANDING ROLL	
ON RWY CENTRELINE UNTIL EXIT	1
AIR TECHNIQUE TOTAL	
AIR TECHNIQUE TOTAL	
GROUND POINTS TOTAL	
GROUND POINTS TOTAL	
GRAND TOTAL	
Grand Total	
Totalled by:	
Checked by:	
Air Judge Signature:	

5STREAMER CUTTING COMPETITION (Revised July 2007)

Procedures

- 5.1 Each competitor shall attempt to cut two streamers consecutively with the same air judge.
- 5.2 Each competitor shall aim to cut each streamer four times in the least elapsed time without descending below 1000 ft AGL.
- 5.3 Start altitude shall be 4000 ft AGL and finish altitude not below 1000 ft AGL.
- 5.4 The air judge shall use a stopwatch to record the time from streamer drop to last cut.

Rules for Streamer Cutting

- 5.5 The competitor must drop the streamer while the aircraft is in a straight and level attitude.
- 5.6 Only streamers supplied by the RFACA can be used
- 5.7 At least two cuts are to be made from steep turns, one from a left turn and one from a right turn. The other two cuts may be made from other manoeuvres.
- 5.8 Aerobatic manoeuvres may only be performed by competitors who have produced evidence of holding a current Aerobatic Approval and in an aircraft currently cleared in Aerobatic Category.
- 5.9 Aerobatic manoeuvres must not be carried out below 3000 ft AGL.
- 5.10 A competitor must not continue to chase the streamer below 1000 ft AGL.
- 5.11 The use of flap whilst attempting to cut the streamer is prohibited.

5.12 AIRCRAFT

5.12.1 General

- Type:** Any type of certificated and VH registered light aeroplane may be used.
- Handicap:** Aircraft handicap factors apply – See 5.18
- Limitations:** Aircraft are to be flown within the limitations of their airworthiness certification. Exceeding these limitations will result in disqualification for that attempt.

5.12.2 Manoeuvres Permitted:

Normal category Aircraft –

These aircraft are certificated for Non-acrobatic operation.

Non-acrobatic operation includes any manoeuvres incident to normal flying, stalls (except whip stalls), and turns in which the angle of bank is not more than 60 degrees.

Utility Category Aircraft

These aircraft are certificated for limited acrobatic operation. Limited acrobatic operation includes any manoeuvres incident to normal flying, stalls (except whip stalls), spins (if approved for the particular type of airplane), lazy eights, chandelles, and steep turns in which the angle of bank is more than 60 degrees.

Acrobatic Category Aircraft

The acrobatic category is limited to airplanes intended for use without restrictions other than those shown to be necessary as a result of required flight tests. Any such restrictions specific to a particular type, such as manoeuvres approved, entry speeds etc. are to be found in the aircraft's Type Certification Data Sheet and will be placarded in the cockpit and listed in the aircraft's flight manual if any.

5.12.3 Manoeuvring Speed

Whilst a competitor may exceed the aircraft's manoeuvring speed the competitor will be disqualified from that attempt if full or abrupt movement of the flight controls or approach to a stall occurs at air speeds above the manoeuvring speed.

5.12.4 Use of Flap

Competitors will be disqualified from that attempt if flap is used during the attempt.

Points Score

- 5.13 A base time of 40 seconds will equal 100 points, i.e. four cuts in 40 seconds = 100 points.
- 5.14 One point will be deducted for each second taken over the base time of 40 seconds, e.g. a competitor who takes 60 seconds to complete four cuts is 20 seconds over the base time and therefore incurs a deduction of 20 points from 100. The Competitor scores 80 points on that attempt.
- 5.15 A competitor who takes 140 or more seconds to complete four cuts has a nil score for that attempt.
- 5.16 Where a competitor takes less than 40 seconds to complete four cuts of the streamer, 2 points per second will be added to the score. e.g. a competitor who takes 38 seconds to complete four cuts is 2 seconds under base time and gains four points on the base score. Competitor scores 104 points for that attempt.
- 5.17 A competitor's final score will be the average of the two attempts.
- 5.18 Aircraft handicap factors will be notified to competitors prior to the championship.

Judging

- 5.19 Air judges require a stopwatch, score sheet and six streamers.
- 5.20 The aircraft is to be in a straight and level attitude with the speed optional but within the aircraft window/canopy open limitations when the competitor is ready to drop the streamer. With window/canopy open and the streamer in sight of the air judge competitors are to state when ready.

- 5.21 When the air judge says "Go" the competitor is to drop the streamer and the air judge starts the stopwatch. As each pass is made the air judge will call out "Cut One", "Cut Two", "Cut Three" and "Cut Four", or "Miss", as appropriate. On completion of the fourth cut the stopwatch is to be stopped and the elapsed time recorded on the score sheet.

Streamers

- 5.22 If in the opinion of the air judge a streamer fails to stream, another may be used.
- 5.23 If the streamer streams but rolls into a ball during or after a pass no other streamer is allowed.

Disqualification

- 5.24 A competitor will be disqualified from the event for performing or attempting to perform an aerobatic manoeuvre:
- (i) In a non aerobatic aircraft;
 - (ii) While not holding a current aerobatic approval;
 - (iii) At or below 3000 ft AGL
- 5.25 A competitor will also be disqualified from the event if he/she:
- (i) Descends below 1000 ft AGL while chasing or cutting the streamer;
 - (ii) Loses control of the aircraft. Loss of control includes but is not limited to stalling either intentionally or unintentionally.
 - (iii) Exceeds the Aircraft Flight Manual Operating Limitations.
- 5.27 A competitor will be disqualified from that attempt if full or abrupt movement of the flight controls or approach to a stall occurs at air speeds above the manoeuvring speed.
- 5.28 Where a competitor is disqualified the reason is to be noted on the score sheet.
- 5.29 If at any time during the flight (from start up to parked position) the air judge has reason to take over manipulation of the aircraft, the competitor shall be disqualified *from the event*, unless the air judge considers that such action was not caused by the fault of the competitor.

6 AEROBATICS (6 revised September 2012)

General Information

- 6.1 There will be two levels of Aerobatic Competitions
- Level 1: Graduate
 - Level 2: Sportsman
- 6.1 The Aerobatic Competitions will be conducted in accordance with the rules and Regulations as distributed by the Royal Federation of Aero Clubs of Australia.
- 6.2 Details of the compulsory sequences to be flown by competitors will be notified annually by the Royal Federation of Aero Clubs of Australia.
- 6.3 The minimum height will be 1500 ft AGL.
- 6.4 Competitors must produce written evidence of holding a current Low Level Aerobatic approval (to 1500 ft AGL).
- 6.5 Aircraft being used in this event must be currently cleared in an Aerobatic Category.
- 6.6 When ready to commence, each competitor will broadcast the call "Competitor Number ready to commence".

- 6.7 The winner of Level 1 in each ALACs will only be eligible to compete at Level 2 in subsequent years
- 6.8 Detailed rules and judging criteria will be available from the Federation Office.

7 PROTESTS - APPEALS

Complaints

- 7.1 A competitor may request the Director or a delegated official to investigate any operational matter with which the competitor is dissatisfied. If after the investigation the complainant is still dissatisfied he or she may make a protest.

Protests

- 7.2 Decisions by Air Judges and Ground Judges are final subject only to the scrutiny of score sheets by officials and the protest/appeal provisions under this section.
- 7.3 Competitors only have the right to protest. However, officials may at all times take action even when no protest has been made to them.
- 7.4 A protest must be made in writing to the Director accompanied by a fee of \$30.00 or such sum as may be prescribed from time to time.
- 7.5 The Stewards will investigate a protest in the first place and report their findings to the Director whom they will advise in regard to any penalties which may be imposed.
- 7.6 The decision of the Director will be binding except in the case of appeals as provided for in paragraph 7.8.
- 7.7 A fee lodged with a protest will be refunded if the protest is upheld.

Appeals

- 7.8 A competitor has the right to appeal to the Royal Federation of Aero Clubs of Australia against a decision taken by the Director, the Stewards or the penalty imposed.

8 NOTES FOR JUDGES AND SCORE KEEPERS

Competitors

- 8.1 The list of competitors for each event should be checked for any last minute change of entries.

Air Judge Score Sheets

- 8.2 Air judge score sheets shall be retained by the Air Judge and either handed to a marshal, if asked during the event or to the control centre at the conclusion of the event.

Ground Judge Score Sheets

- 8.3 Ground judge score sheets are provided for each competitor in all events except Streamer Cutting.
- 8.4 The chief ground judge shall collect the ground score sheets for the Forced and Spot Landing competitions from the control centre prior to the start of each event. They should be handed to an official who will collect them either during or at the end of each event.
- 8.5 The judges of the Aerobatics and Formation Flying competitions shall collect the score sheets from the control centre prior to the start of each event. They should be returned to the control centre at the end of the event.
- 8.6 Copies of air and ground score sheets will be available to competitors fourteen days after the championships on written request to the RFACA Office. (The Round numbers and Judge's names will be deleted).