

ADELAIDE GOLDEN ERA AIR RACES 2011

The Adelaide Golden Era Air Races are flown every two years to celebrate the Golden Era of air racing. The races are organised by Adelaide Golden Era Air Races, which is a Sub Committee of the Constellation Model Flying Club Inc.

Five classes will be flown,
Golden Era Inline
Golden Era Radial
Reno Warbirds
Texan AT 6
Formula 1

The rules for this competition have been formulated over some years and intended to capture the spirit of the exciting races of the 30's and 40's and early years of Formula 1.

Entrants

When entries for the races commence, entrants from the previous race will automatically be sent an entry form. Others who express an interest in entering the next race can apply by contacting the Registrar.

There will be a maximum entry of all classes set at 72 to ensure adequate flying for entrants.

Each entrant is permitted to enter any two of the five classes to be run.

Fee for each class entered is \$125.

As this event is open to the public all competitors must have MAAA Gold Wings endorsement and abide by the general rules, class rules, MAAA Code of Conduct and the field procedures of the Constellation Model Flying Club.

General Rules

The general rules should be read in conjunction with the Class rules and part 5.1.1 of the Australian Pylon rules which are applicable except that which is covered in the following document which takes precedent.

Noise Limits:

A limit of **98db** is applicable measured at Three (3) metres from the engine, over grass. The reading being the average of that taken at front and from each side inline with the engine. The sound metre will be positioned one metre above the ground up wind from the model.

This limit will be strictly enforced and no correspondence regarding the limit will be entertained.

Permit to Fly: No Model will be permitted to enter the race unless a Permit to fly is valid for the model. The Permit must be dated at least 21 days before the first day of the races. Under no circumstance will a flight test for the issue of an original permit for an aircraft be carried out during the duration of the races.

Entrants will be required to make a declaration that the entrant has had 6 flights of the entered model before the event.

All entrants must produce the Permit to fly for inspection. Random safety inspections may be carried out if the safety officer so requires. An appropriate MOP inspector must check repaired damage.

Any aircraft that exhibits unpredictable handling characteristics in the air and on the ground, such as uncontrolled takeoff direction, violent pitching, skidding or unpredictable flight, will be cause for disqualification.

Telemetry

Not permitted during racing.

Communication during racing:

Contact by radio or other signals from an observer to the caller of a contestant, or contestant, during racing is specifically prohibited and will incur a disqualification of the contestant.

Processing

Processing of models will be available on the Sunday and Thursday prior to the races commencing.

Please Note Due to the number of aircraft in the event we need to commence flying as early as possible on Friday morning. To assist this, local SA entrants will **only** be processed on the Sunday and Thursday prior to the races. Interstate visitors are encouraged to arrive as early as possible on the Friday morning to have their aircraft processed.

Reserve Model

1 reserve model may be used provided that it has been processed and test flown. Note reserve model does not have to be same as the original but must be processed in the same way as other models of that class.

Callers/Observer:

Every contestant must have an observer/caller during the flight .An extra helper is also permitted

Hard Hats

Will be supplied and must be worn, however bring your own if you have one.

Protests

A protest fee of \$100 is payable, which will be returned if the protest is upheld.

A contestant can make no protest concerning noise. Noise control is solely in the hands of the Contest Director.

Any decision by Judges is final--This also means any disqualification by safety line judges.

Safety

This is **PARAMOUNT!** Any pilot who infringes the SAFETY LINE - a line 30 metres from the public, or nearby house and property will score ZERO for that flight on first offence, and will be disqualified and unable to fly on a further offence (two strikes and you're out!) Furthermore **ANY PILOT WHO FLIES OVER ANY PART OF THE PUBLIC ENCLOSURE WILL BE DISQUALIFIED IMMEDIATELY.** (Disqualification means no further flying for you!)

Any aircraft flown below the height of the pylons during a race will incur an **altitude cut** and score ZERO for that flight.

Any pilot whose flying is undisciplined, and or appears not to have accurate control of his aircraft, whether it is lack of pilot skills or an unstable aircraft, so as in the Contest Director's /Safety Officer's opinion to be at risk to the public or other contestants will be grounded.

Most models should be processed before Friday morning, and contestants will be required to fly a proving flight, with the exception of local entrants who have had the opportunity to fly previously. There will be an open day at Constellation model airfield for contestants to demonstrate their model on the weekend before the races. Demonstration flights may also be flown on the Thursday before the races, for those contestants who are available.

Conduct of the Race

Heats will commence on Friday morning at 10am and will continue as long as there is enough daylight. We expect to run five to six heats per hour on present indications. There will be four models to a heat and 10 laps flown per heat. Entrants for a heat will be marshalled to the starting position, as soon as possible after the completion of the previous heat.

Ready Box

Ready boxes are provided for three groups of aircraft and competitors are asked to be prepared with aircraft and caller at least three heats before they are scheduled to race.

Scoring

The time registered in seconds for ten laps is subtracted from 300. The final score is a total of all the heats flown, less any heat dropped.

One pylon cut will incur a 10% penalty, two or more cuts will score zero for that heat.

A safety line cut will score zero for that heat and disqualification for a second offence.

Any aircraft flown repeatedly below pylon height during a race may incur an altitude cut and score zero for that heat.

Flying past the start line before the countdown clock reaches zero will result in an extra lap having to be flown.

Flying over any part of the public enclosure will result in immediate disqualification from the rest of the races.

Heats

The number of heats to be flown depends on the time available and the number of contestants but should be at least four. If sufficient are flown the worst may be dropped.

Race Procedures

NOTE: - THE STARTER MAY DIRECT SOME VARIATION OF THE FOLLOWING PROCEDURE IF REQUIRED.

At the call of the start, a three (3) minute time slot will commence and all competitors must start their engines and takeoff within this three-minute slot. Anyone who cannot start, or who takes off, has problems, and lands will NOT be able to restart and will forfeit the heat. A takeoff that is aborted before the model is airborne may be attempted again within the three minutes, provided that the takeoff path of any other contestants in the heat is not impeded or infringed.

Takeoff

The starter will direct the takeoff direction, which will almost always be into the prevailing Westerly sea breeze.

As soon as all models are airborne, or at the expiry of the 3-minute start time, the starter will signal (whistle) the beginning of the one-minute rundown on the clock display. The race commences at the conclusion of the one-minute rundown.

Time periods

Will be denoted by an audible signal (whistle).

One-minute countdown

Countdown to the start will commence on a visible large clock, and an audible signal will indicate the start of the race.

Timing will start on the audible signal/completion of the countdown, and finish when the contestant crosses the line after ten laps.

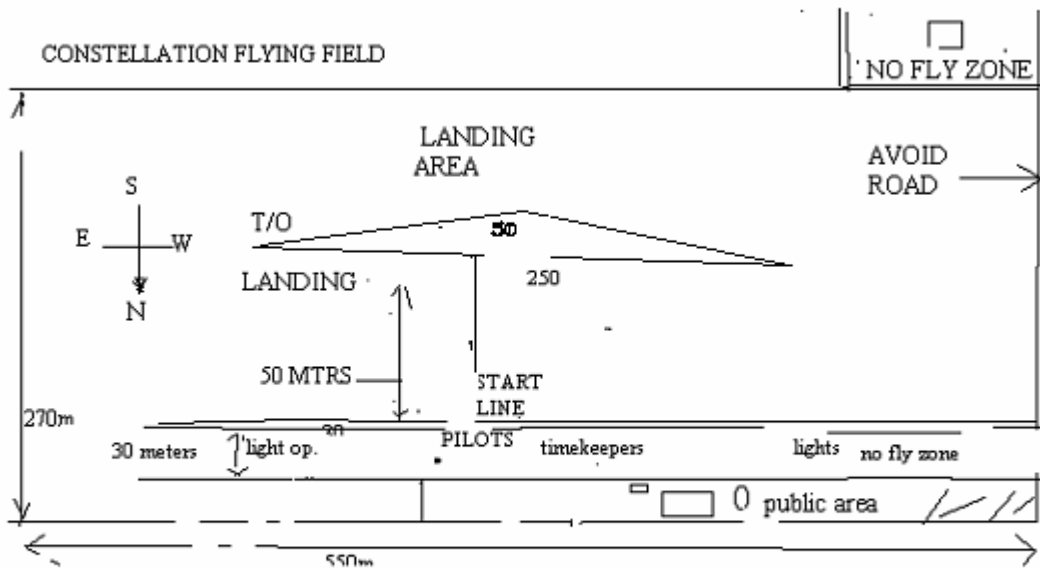
After all aircraft have completed, landing will be into wind at the starter's direction.
 The next heat contestants will be ready to move to the start boxes during the landing sequence.
 Times for heats are expected to be about three to four minutes. If you finish early you are to climb clear of the race to the east of the field. Land as soon as all contestants in the heat have finished their ten laps.

Finals Draw

The final rounds of the heats will be flown on Sunday afternoon with models grouped together based on earlier results to help create a "Finals" type atmosphere.
 Spare crystals should be available to avoid frequency clashes.

Racecourse Layout

Minor changes may be made on the day.



ANNEX A

GOLDEN ERA CLASS-- Inline and Radial

Entries are to be a scale representation of any full size aircraft that either attempted to qualify, qualified, or competed in either the Thompson Trophy Races in the USA, or the King's cup races in the United Kingdom, or other races of similar type during the 'Golden Era' No 'builder of the model rule' applies.

Inline refers to aircraft using an inline engine and radial to aircraft using a radial engine.

SIZE of MODEL

Model must conform to the basic scale outlines and meet a TOTAL MINIMUM SIZE OF -

MONOPLANES---WINGSPAN PLUS FUSELAGE LENGTH TO TOTAL 156 " (3.96M)

BIPLANES- 117" (2.97M), wingspan is based on the larger (upper) wing.

Scale details

Models are to conform to basic scale outlines, Scale detail eg rivets. Panel outlines, etc are not compulsory. Three views or other documentation is required to verify scale likeness for static judging.

A clear windscreen or canopy as applicable and a pilot bust installed in the cockpit are required. **Please note** dolls and cartoon characters are not acceptable.

An instrument panel with at least three scale size gauges is required.

COLOUR SCHEMES

Scale colour schemes are not required and a personalised scheme is encouraged to assist in identification of the model should more than one example of a prototype be entered.

If using an ARF aircraft every effort should be made to differentiate your model, as it is very difficult for lap and light operators to separate the same model with the same colour scheme.

AIRCRAFT WEIGHT

Minimum Weight: Minimum weight of 3lbs (1.37Kg) per Engine 10 cc is required.

For example 100cc engine minimum wt. = 30lbs. (13.64Kg) (note max eng size 100cc)

Weight is measured dry.

An absolute minimum of 7.5 Kg (16.5lbs) applies.

Maximum Weight: Aircraft must have a valid permit to fly which fixes the max wt. at 25Kg (55lbs) (dry)

AIRFOILS

Wing and tail group airfoils may be any suitable for model aircraft but must follow scale plan form.

Tail dimension may be increased by 5% to ensure good flying characteristics.

Control surface dimensions may be varied as long as the aircraft outline is not affected.

Flaps are not compulsory even if the original aircraft used them.

LANDING GEAR

MUST be scale i.e. if the original aircraft had retractable gear the model must do so. The use of wheel pants is optional.

Landing gear must be robust enough to allow normal and repeated taxi, takeoff, and landing operations.

A steerable tail wheel must be fitted. (May be used in place of a tailskid.)

FLYING WIRES & STRUTS

If these are used by the prototype they must be fitted, but need not be functional.

Wires must be .032" (0.8mm) diameter minimum, or structural metal, and cannot be made of nylon cord or other similar material.

ENGINES

A maximum size of 100 cc. is allowed. (6.0 Cu") Spark ignition engines must be fitted with an external kill switch and all engines must be able to be shut off from the TX. (Note min weight of the aircraft to be at least 3 lbs (1.37Kg) per 10 cc, absolute minimum 7.5 Kg.)

Any fuel that is MAAA legal may be used.

EXHAUST SYSTEMS

No tuned pipes or exhaust augmentation is allowed. Effective Mufflers must be fitted.

ENGINE COWLING

Engines must be **FULLY** cowled as per the prototype, and only the spark plug, ignition wire, and carburettor may protrude. Exhaust should exit as close as possible to the scale position.

Note that a small portion of the exhaust manifold may protrude, but the main body of the muffler must be cowled as per the prototype. External covered mufflers that are outside the scale plan form are not permitted

SERVOS and LINKAGES

Shall be of sufficient power for the size and weight of the aircraft.

Elevators Must use one servo a side, each with a minimum torque rating of 69 in-oz/ 4.5kg-cms.
Alternatively one servo driving both sides with a minimum rating of 105 in-oz/ 7 kg-cm

Ailerons Each aileron must use a servo with a minimum rating of 69 in-oz /4.5kg.
Servos must be visible for inspection i.e. with the wing off, or through an access panel.

Clevises All flight control surfaces must have linkage and clevises of at least 4-40 size. Pull -Pull activation is recommended with 4-40 linkages. Clevises must have keepers, and control horns must be of sufficient size and strength to handle the large loads; and must have minimal play.

RADIOS

Transmitter Must be MAAA checked or approved. (No time limit).

Batteries All radio systems shall be powered by batteries of 1200 mah MINIMUM capacity (1800 mah recommended) Note: in systems that use two receivers, 2 X 700 mah is acceptable.

RENO UNLIMITED CLASS

Entries are to be a scale representation of **ANY** single engine fighter aircraft that flew in combat during WWII or in the Unlimited Class at the Reno National Championship Air Races. (Note- Non-war bird types –Lancair, Pond Racer, etc are not eligible.)

MODEL DETAILS

<u>SIZE</u>	Minimum Wingspan 84"
<u>ENGINE</u>	Any unmodified, stock petrol motor using the supplied carburettor to a maximum capacity of 62cc, an external kill switch must be fitted and the engine must be able to be turned off from the TX.
<u>FUEL</u>	Petrol/oil mixture only
<u>COWL</u>	For an inline engine type model (e.g. Mustang) the cylinder head may protrude from scale outline. As much of the engine as practicable must be cowled.

MUFFLERS

Effective Mufflers must be fitted. The muffler must be under cowl; however the header pipe may protrude. A large Expansion muffler carried outside the scale cowl is not permitted.
Tuned pipe or other exhaust augmentation is not permitted.
The noise limit in General Rules will apply.

SCALE DETAILS

Models are to be recognisable scale models, conforming to scale outlines, Scale detail e.g. rivets. Panel outlines, etc are not compulsory. Three views or other documentation may be required to verify scale likeness for static judging.
A clear windscreen or canopy as applicable, and a pilot bust installed in the cockpit are required; dolls and cartoon characters are not acceptable.
An instrument panel with at least three scale size gauges is required.
Flaps are not compulsory even if the original aircraft used them.

COLOUR SCHEMES

Scale colour schemes are not required and a personalised scheme is encouraged to assist in identification of the model should more than one example of a prototype be entered.
If using an ARF aircraft every effort should be made to differentiate your model, as it is very difficult for lap and light operators to separate the same aircraft with the same colour scheme.

AIRCRAFT WEIGHT

Minimum Weight.	24 Lbs (10.9 Kg)
Maximum Weight	55 Lbs (25.0 Kg)

AIRFOILS

Wing and tail group airfoils may be any suitable for model aircraft.
Wing and tailplane plan form shall be scale to the prototype.
Control surface dimensions may vary 5% but must reflect the Prototype.

LANDING GEAR

MUST be scale i.e. If the original aircraft had retractable gear the model must do so.
Landing gear must be robust enough to allow normal and repeated taxi, takeoff and landing operations.
A steerable tail wheel must be fitted. Tail wheels need not be retractable.

SERVOS-

Shall be of sufficient power for the size and weight of the aircraft.

Elevators- Must use one servo a side, each with a minimum torque rating of 69 in-oz/ 4.5kg-cms.
Alternatively one servo driving both sides with a minimum rating of 105 in-oz/ 7 kg-cm

Ailerons- Each aileron must use a servo with a minimum rating of 69 in-oz /4.5kg.
Servos must be visible for inspection i.e. with the wing off, or through an access panel.

Clevises- All flight control surfaces must have linkage and clevises of at least 4-40 size. Pull -Pull activation is recommended with 4-40 linkages. Clevises must have keepers, and control horns must be of sufficient size and strength to handle the large loads; and must have minimal play.

RADIOS

Transmitter Must be MAAA checked or approved. (No time limit)
Batteries All radio systems shall be powered by batteries of 1200 mah MINIMUM capacity (1800 mah recommended) Note: in systems that use two receivers, 2 X 700 mah is acceptable.

AT-6 CLASS

This will be a standard class based on the Midwest AT6 kit.

Aircraft is to be built from the Midwest kit, or may be constructed from plans to identical dimensions, or from an approved fibreglass or ARF kit, to identical dimensions. Aircraft will be measured during processing.

Fixed or retractable landing gear may be used, with steerable tail wheel.

Dummy engine allowed and encouraged, a scale size spinner must be fitted.

Scale colour schemes are not required and a personalised scheme is encouraged to assist in identification of the model should more than one example of a prototype be entered.

If using an ARF aircraft every effort should be made to differentiate your model, as it is very difficult for lap and light Operators to separate the same model with the same colour scheme.

No "builder Of the Model" rule applies.

A Pilot Bust is required; dolls and cartoon characters are not acceptable.

MODEL DETAILS

SIZE

1. Minimum wing thickness, measured at the junction of the centre section and outer wing.
(i.e. the start of the wing taper) ----- 55mm
2. Minimum wing thickness at Wing Tip (i.e. last rib) ----- 25mm
3. The wing thickness must taper in a straight line to the tip.
4. Minimum wing length from the centre section and outer section join, to the wing tip ---- 740 mm

ENGINE

120 Size engines of the following make only to be used

Webra Magnum Moki GMS Thunder Tiger. O.S 120 AX

Engines must be stock and unmodified. Maximum Carburettor throat size 9.50 mm and must be the carburettor as supplied with the engine from the manufacturer.

Super chargers, rootes type blowers, fuel pumps, air chambers and tuned pipes are NOT allowed.

The engine must be able to be turned off from the TX.

FUEL

Will be supplied, and refuelling will be under strict control. Fuel will be 10% nitro with 18% synthetic/castor mix

MUFFLERS

Mufflers-Only simple expansion type mufflers can be used. The muffler must be under cowl.

Maximum noise level 98db measured as per General Rules. No Dubb Jett type is permitted.

PROPELLER

A standard propeller - APC 15x10 will be supplied and pre-balanced. Contestants may use their own

APC15x10 that must not be modified (except for balancing and crankshaft size)

WEIGHT

Minimum aircraft weight 14 lbs. (6.36Kg.) (Dry).

WHEELS

Must have a minimum diameter of 100mm and a minimum thickness of 20mm.

PERMIT TO FLY

Entrants are required to have a Permit to fly for their aircraft (even though the weight is less than 7Kg.)

SERVOS-

Shall be of sufficient power for the size and weight of the aircraft.

Elevators- Must use one servo a side, each with a minimum torque rating of 69 in-oz/ 4.5kg-cms.

Alternatively one servo driving both sides with a minimum rating of 105 in-oz/ 7kg-cm

Ailerons- Each aileron must use a servo with a minimum rating of 69 in-oz /4.5kg.

Servos must be visible for inspection i.e. with the wing off, or through an access panel.

Clevises- All flight control surfaces must have linkage and clevises of at least 4-40 size. Pull -Pull activation is recommended with 4-40 linkages. Clevises must have keepers, and control horns must be of sufficient size and strength to handle the large loads; and must have minimal play.

RADIOS

Transmitter Must be MAAA checked or approved. (No time limit)

Batteries All radio systems shall be powered by batteries of 1200 mah MINIMUM capacity (1800 mah recommended) Note: in systems that use two receivers, 2 X 700 mah is acceptable.

FORMULA 1 CLASS

Entries are to be a scale representation of any full size aircraft that attempted to qualify, qualified, or competed in either the Goodyear Trophy or Formula 1 type during the 'Golden Era' up to **1977**. No 'builder of the model rule' applies

SIZE of MODEL

Model must conform to the basic scale outlines of the prototype being modelled

MONOPLANES Minimum wingspan 80 inches (2.0m) and a maximum wingspan of 90 inches (2.25m)

BIPLANES Minimum wingspan of 70 inches (1.75m), wingspan is based on the larger (upper) wing.

AIRCRAFT WEIGHT No Minimum weight applies

Maximum Weight with valid permit to fly 25Kg

AIRFOILS

Wing and tail group airfoils may be any suitable for model aircraft, but must follow scale plan form.

Tail dimension may be increased by 5% to ensure good flying characteristics and control surface dimensions may be varied as long as the aircraft outline is not affected.

SCALE DETAILS

Models are to conform to basic scale outlines of the aircraft being modelled, Scale detail e.g. rivets. Panel outlines, etc are not compulsory.

Please Note: Three views or other documentation **is** required to verify scale likeness for static judging.

A clear windscreen or canopy as applicable, and a pilot bust installed in the cockpit are required; dolls and cartoon characters are not acceptable.

An instrument panel with at least three scale size gauges is required.

Flaps are not compulsory even if the original aircraft used them.

COLOUR SCHEMES

Scale colour schemes are not required and a personalized scheme is encouraged to assist in identification of the model should more than one example of a prototype be entered. Colour schemes may reflect the modern style used in today's F1. If using an ARF aircraft every effort should be made to differentiate your model, as it is very difficult for lap and light operators to separate the same model with same colour scheme.

LANDING GEAR

MUST be scale. Retracting undercarriage is not permitted and the use of wheel pants is mandatory.

Landing gear must be robust enough to allow normal and repeated taxi. Takeoff and landing operations.

A steer able tail wheel must be fitted. (May be used in place of a tailskid.)

FLYING WIRES & STRUTS

If these are used on the prototype they must be fitted but need not be functional. Wires must be .032" (0.8mm) Diameter minimum or structural metal, and cannot be made of nylon cord or other material.

ENGINES

A maximum size of 56cc. is allowed. Spark ignition engines must be fitted with an external kill switch and all engines must be able to be shut off from the TX.

Any fuel that is MAAA legal may be used but pressurized injection systems may not be used.

EXHAUST SYSTEMS

No tuned pipes or exhaust augmentation is allowed. Effective Mufflers must be fitted.

ENGINE COWLING

Engines must be cowled as appropriate in the side cheeks or as an inverted installation, exhaust manifolds may protrude but the main body of the muffler should not be external to the scale plan form.

SERVOS-

Shall be of sufficient power for the size and weight of the aircraft.

Elevators- Must use one servo a side, each with a minimum torque rating of 69 in-oz/ 4.5kg-cms. Alternatively one servo driving both sides with a minimum rating of 105 in-oz/ 7kg-cm

Ailerons- Each aileron must use a servo with a minimum rating of 69 in-oz /4.5kg. Servos must be visible for inspection i.e. with the wing off, or through an access panel.

Clevises- All flight control surfaces must have linkage and clevises of at least 4-40 size. Pull -Pull activation is recommended with 4-40 linkages. Clevises must have keepers, and control horns must be of sufficient size and strength to handle the large loads; and must have minimal play.

RADIOS

Transmitter Must be MAAA checked or approved. (No time limit)

Batteries All radio systems shall be powered by batteries of 1200 mah MINIMUM capacity (1800 mah recommended) Note: in systems that use two receivers, 2 X 700 mah is acceptable.