

THE SOUTH AFRICAN MODEL AIRCRAFT ASSOCIATION



Proficiency Tests and Merit Awards for Fixed-Wing Powered Models

Revision 2011

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SAMAA PROFICIENCY TESTS FOR FIXED WING POWERED MODELS

SECTION 1

GENERAL

This booklet deals with **fixed wing powered aircraft** similar books exist within the SAMAA Manual for proficiency tests for helicopters, gliders control line and other types of aircraft.

INTRODUCTION

In the interest of the hobby and sport of Model Aircraft, it is essential that first,

- an adequate standard be set before a **beginner** be allowed to fly on his own without a qualified instructor in attendance, and secondly,
- that further challenges be set to challenge the model aircraft Pilot to improve his flying skills.

With these two main objectives in mind, SAMAA have produced, over the years, a number of Proficiency Tests.

The first set of proficiency tests introduced in the 70's was the "Propeller" series, which due to a number of irregularities was discontinued and was replaced in 1984 by the present "Merit" system, which is represented by the four qualifications of , Bronze, Silver, Gold and Instructors, with a fifth, the Solo being added.

The "Bronze Merit" was regarded by SAMAA as the minimum requisite for a Radio Control Pilot to fly a model on his own. But in 2001 following criticism from many SAMAA Members and Clubs, it was decided that a more forgiving (in terms of flying requirements) and more comprehensive (in terms of general safety knowledge) test be introduced. **This test is now known as the "Solo".**

The purpose of this "solo" test is to ensure a model Pilot's ability to fly and control a model aircraft safely when other members are present and flying, it also ensured that the model Pilot had been instructed on his Club's Bye-laws, Safety Rules, the SAMAA Operating Manual, and has an understanding and working knowledge of the equipment and radio installation, and a basic understanding related to model safety, behavior and aerodynamics.

Other changes to the present SAMAA proficiency regulations relate to:

- level of qualification needed to "Instruct" or teach a Beginner. (see Club Instructor)
- the level of competence required for a model Pilot to be allowed to fly at an airshow held at his own club with public present.

Also added to this Booklet is a "Teaching sequence" for Pupil or beginner Pilots. This is a milestone recorded and progress log which should make it much easier for Club Instructors to monitor the progress of a beginner or pupil.

SECTION 2

DEFINITIONS

For clarity, let's define some of the terms used in this Booklet, these are:

- *Pupil Pilot* - a Pupil Pilot is paid up SAMAA Member who is learning to fly a R/C model aeroplane, and has not yet obtained his "Solo" status.
WHEN FLYING, WITH OTHERS PRESENT, HE SHALL BE ACCOMPANIED BY AN EXPERIENCED SAMAA QUALIFIED CLUB INSTRUCTOR.
- *Pilot* - a member who is in charge of an aeroplane, and who can fly a model aeroplane and has achieved the minimum qualifications of a "Solo".
When he switches on his radio transmitter he becomes a Pilot.
- *SAMAA* - is the South African Model Aircraft Association which is the Coordinating and Controlling Body for Aeromodelling in South Africa. All SAMAA Rules and Regulations are to be incorporated into and enforced at all SAMAA registered clubs.
- *Registered Club* - Is a field or flying site that has been set out for model aircraft flying. and has been registered by SAMAA
The club or site will have a responsible committee elected by the members to control and run the model flying.
- *Member* - means a fully paid up member of SAMAA who is in good standing with the association.
- *Pilot Box/Pilot Area* - means designated area from which Pilots fly their aeroplanes.
- *Frequency Peg Board* - shall mean the frequency control system used by the club to ensure control over all the frequencies which may be used at the field.

- *Pit Area* - shall mean the area between the club house and the Pilot boxes on the runway nearest to the club house.
- *Run Up Area* - shall be an area off to the side of the taxiways where engines can be checked without interfering with aircraft in the pit area or the hearing of the Pilots flying.
- *Transmitter Control Area* - shall be the area at the back of the pit area where all Transmitters are impounded in a switched off state when not in use.
- *Transmitter* - shall be a purpose made, commercially available unit which shall operate on ICASA approved Model Aircraft Frequencies and be Type approved by ICASA, to work within the tolerances of the frequency band without interfering with the adjacent frequency or other frequency bands.
- *Buddy Box* - is a system whereby the Instructor has a "master" Transmitter and the Pupil Pilot has the slave transmitter and the Instructor can assume control of the airplane as required.
- *Simulator* - A simulator is presently one of the best and cheapest methods available to learn to fly. In principle it is an attachment to your computer which allows you to learn to fly a model aircraft on your computer screen (Similar to a Computer Game).
- *Aircraft or Aeroplane* - Shall mean a conventional powered fixed wing model aircraft, either a trainer or stick of 25 to 60 size, for the Solo, and up to the Silver test. Sports or competition type powered model aircraft Should be used for the Gold and Instructors tests. The final decision on the type of model aircraft that may be used for the actual test remains with the judges. (see clause 8.2)
- *Frequency Peg/Marker* - will be the marker used to identify the radio

frequency being used by the pilot at the field. The "PEG ON" system of control will be used.

- *Rules and Regulations* - these shall mean the SAMAA Rules and safety Regulations, the Club Rules and Regulations. The SAMAA Operations Manual, special Rules and Regulations which have been specifically modified to accommodate any particular club requirements.
- *Club Instructor* - A person, who in the Club's Committee views, is qualified to assist a beginner to learn to fly. A member who in their views, is proficient or has obtained a proficiency level which makes him competent to instruct beginners. This means that, if circumstances dictate, ie the club does not have the qualified members, a member with a Solo or Bronze and with at least 12 months practical flying could, be appointed a Club instructor. Unless, there are special circumstances, a Club instructor must hold a SAMAA silver merit.

Any two Club Instructors, with SAMAA silver or higher can test a pupil pilot and award a "Solo" status. (note; the form must be signed off by club committee members.)

The Club Instructor is critical to the future of the model flying, and in teaching of beginners and pupil pilots in the club, achieve Solo status, is a unenviable, but essential service to the hobby.
- *SAMAA Instructor* - A Pilot who has satisfactorily obtained his SAMAA Instructor Merit, and who has demonstrated to the SAMAA Instructor Judges that he has a good understanding of the Safety Rules, and comparative scoring system, will be allowed to judge when accompanied by a second qualified SAMAA Instructor and awarded a SAMAA merit for Solo, Bronze, Silver or Gold.
- *SAMAA Instructor Judge* - After a Pilot has satisfactorily performed and has obtained his SAMAA Instructors merit, he could be appointed to a SAMAA Instructor Judge status at SAMAA's discretion provided he fulfills the following

criteria:

- (a) He shall be a fully paid up member of SAMAA and be in good standing with regards to previous payments.
- (b) He shall have a minimum of 7 (Seven) years' involvement in model flying.
- (c) He shall have judged at competitions and at National level.
- (d) He shall be mature.
- (e) He shall be respected in the flying fraternity.

It must be stated that it is SAMAA's decision as to how many Judges they wish to appoint in an area or Regions, and Instructor Judges will only be appointed as and when the need arises.

This status may be removed if the appointee, becomes inactive, or does not perform his duties.

- *Display Pilot* - Is a pilot who regularly flies at Air Displays or at displays or demonstrations where the public are present.

SECTION 3

STEPS TO TEACHING A PUPIL PILOT TO FLY

This section has been introduced to set down some guidelines to Club Instructors who have undertaken the task of teaching a new modeler to fly.

It is intended to outline the things that a pilot should know, and its objective is to assist and remind the Instructor of things that he takes for granted and assumes others know.

The duties of the Club Instructor are four fold:

- 1. Check out the Pupil Pilots aeroplane before the first flight, or after any repairs by doing the pre-flight checklist set out in sections of this booklet.**
- 2. Instruct the Pupil Pilot on SAMAA MOP`s, the Club's Constitution, and Flying Procedures and the Clubs' Safety Rules and Safety Code.**
- 3. Instruct briefly on a number of general subjects as outlined under "General Instruction".**
- 4. Teach the Pupil Pilot to fly.**

3.1 CHECKOUT THE PUPIL/BEGINNER'S AEROPLANE

Each and every aeroplane should be checked out structurally, and for the method and correctness of the radio, motor and equipment installation. For this purpose it is suggested that the preflight checklist in Section 5 be used.

3.2 FIELD ETIQUETTE AND SAFETY RULES

This is the Instructors' second duty:

At this time most clubs have not prepared introductory courses to cover the safety rules etc. as set out in this section 3.2 of the General Instructions in section 3.3, but it is hoped that in due course Clubs will introduce lectures to ensure that pupil pilots and new members understand the Rules and the Basics of how the hobby is structured. Therefore presently it is up to the Instructor to run through the Constitution book covering:

- (a) – Club Rules and Flying Procedures;
- (b) – Safety Rules, Safety Code and Procedures;
- (c) – Bye-Laws and Special Regulations.
- (d) – SAMAA Rules.

THIS IS A MUST.

3.3. GENERAL INSTRUCTION

The Instructors' third duty covers a fairly large scope.

To date, most Clubs have not prepared a lecture course. It is up to the Instructor to do his best to give the Pupil grounding in the following:

3.3.1 Theory of Flight

- (i) basics.
- (ii) speed/lift. (Bernoulli principles).
- (iii) stalling.
- (iv) centre of gravity (forward-safe, rearward-disastrous).
- (v) the 3 axis (yaw, pitch, roll).
- (vi) control surface function.
- (vii) adverse yaw.
- (viii) air density and temperature.
- (ix) mass and wing loading.

3.3.2 Radio Functions

- (i) very basic theory.
- (ii) actions and functions of Tx.

- (iii) actions and functions of Rx.
- (iv) checks, range, batteries, etc.
- (v) maintenance and charging.
- (vi) PCM receiver "failsafe" settings.
- (vii) Buddy box use
- (viii) Home Simulator.

3.3.3 Frequency Control

- (i) Describe the system used in South Africa, i.e. "PEG ON" in detail, emphasising discipline and consequences of failure to observe these Frequency Control rules.
- (ii) The system used is "peg on" board before switching on Transmitter.
- (iii) Transmitter impound system.

3.3.4 Pre-Flight Checks

- (i) radio/start up/mixture at high – low rpm/mixture when aircraft nose up, reliable idle, etc.
- (ii) engine power limits, propeller size.
- (iii) control checks.
- (iv) taxi and runway discipline.
- (v) runway entrance, hold for landing aeroplane, permission from other Pilots flying.
- (vi) line up and delays.
- (vii) club local flying and safety rules.

3.3.5 Flying

- (i) power for height, elevator for speed.
- (ii) acquisition of stick "feel" – practise.
- (iii) simple turns and correction during manoeuvres.
- (iv) normal turns and manoeuvres.
- (v) disorientation - stick time.
- (vi) dangers of flying through the sun.
- (vii) basic aerobatics and correction.
- (viii) changing altitude.
- (ix) accurate positioning of aeroplane in the sky.
- (x) approach and landing pattern.
- (xi) landing.
- (xii) take-off procedures (use of rudder at lower speeds).
- (xiii) touch and go's.
- (xiv) identification of pupil's weakness, revision and practise to improve.
- (xv) first solo flight.
- (xvi) Solo Proficiency Test.

- (xvii) one month check-up and correction of any problem.

3.3.6 Proficiency Testing

Reasons and purpose of proficiency tests. (Refer to Section I and Section 8)

3.4. TAKE-OFF AND FLYING

Now comes the hard work for the Instructor, his fourth duty – teaching the Beginner or Pupil to fly.

NO PUPIL PILOT MAY FLY HIS AIRCRAFT WITHOUT AN INSTRUCTOR OR QUALIFIED FLYER IN ATTENDANCE.

Once the Pupil has listened to all the above theory, has forgotten more than half and misunderstood a quarter, he is now ready to fly, but again only after having the Instructor explain the following to him:

3.4.1 Pre Flight Check procedure

1. Re-check control movements before you taxi.
2. Taxi
 - (i) explain up elevator for a tail dragger
 - (ii) straight taxiing
 - (iii) torque effect.
3. Nose wheel effective.
4. Speed (i.e. enough power for take off).
5. Refuel if necessary.
6. Explain "aerial theory" of orientation (don't point aerial at aeroplane).
7. Explain "stick towards the wing that's down" theory of orientation when aeroplane is coming towards the Pilot.
8. Explain stick movements, and use of trims and rates if necessary.
9. Explain position of hands and fingers on the transmitter.
10. Give commands to pupil and check his response to positioning aeroplane.

3.4.2 Flight Checks

1. Take-off.
 - (i) more speed than usual.
 - (ii) keep climb out flattish until safe height attained.
2. Check and adjust trims on transmitter.
3. Land immediately if trims are way-out or aeroplane behaves abnormally.
4. After test flight, land and adjust trim on aeroplane to re-centre trims on transmitter.
5. Re-check trims in flight, re-adjust if necessary.

3.4.3 TEACH THE PUPIL PILOT TO FLY

Flying – Sequence of Teaching

Here each Instructor has his own individual idea as how best to teach a Pupil, but the basics throughout the world show that the normal is:

- Take-off by the Instructor, either using pupils or Buddy Box, climb to a reasonable height, throttle back and trim out for straight and level flight.
- Hand over transmitter to Pupil who will do hours and hours of left and right turns, squares, figure eight's, etc.
- Landing by Instructor.
- The Pupil learning to taxi, as this teaches him to use rudder and throttle.
- The Pupil flying further hours of circuits, at gradually decreasing height above ground.
- The Pupil's first landing.
- Further flying circuits, practising approaches and flight over runways.
- First takeoffs.
- Practising takeoffs, landings, flying the solo test pattern, approaches and landings.
- Performing and passing the "solo" test.
- Periodic check-ups.

The Instructor's job is well done and he is a mental wreck, but guess what...there will still be dozens of new members over the years who will still want to learn to fly!

We believe that some of the points which must become part of the Instructor's vocabulary ad nausea are:

- **Is your peg on the board?**
- **When did you last check your batteries?**
- **Have you checked out your aeroplane?**
- **Have you fuelled up?**
- **Have you switched on, and selected the correct model?**
- **Mind/be careful of the spinning propeller.**
- **Have you pulled out your aerial. (if applicable)**
- **Do not fly over the pits.**
- **Get more height.**
- **Announce your intentions to the other pilots.**
- **Have you switched off?**

- **Have you taken your peg off the board.**
- **Is your transmitter back in the Tx impound.**

SECTION4

BEGINNERS / PUPIL PILOT MILESTONE LOG

4.1 PUPILS/BEGINNERS MILESTONES

This section now sets out the proposed learning – "achievement milestones" for teaching Pupils and to help achieve uniformity we have produced a Progress Log, we suggest that these milestones become a club standard in that any Instructor can see at a glance the status and progress of the Pupil, and carry on instruction from that point.

A suggestion to clubs is that a cardboard print of the Progress Log be issued to the Pupil, and this card is then presented to the Instructor before the Pupil flies. This is then finally signed off by the Instructor and a Judge after the "Solo" test is done.

PROGRESS LOG**Pupils Status – Milestones**

Member's Name: Type of Aeroplane:

Club Name:

SAMAA Number:

MILESTONES ACHIEVED

Item	Flying	Ground	Signature and Date
1	Explain Frequency Control System, Control Functions, Movement of Sticks, Flying Criteria to pupil	Demonstrate Frequency Peg System. Explain Basic Safety Rules, and Flying Rules	
2	Aeroplane checked out, trims ok, flies ok	Airworthiness checklist ok	
3	Pupil can ground taxi, do left and right hand circles and figure eight's at altitude	Club Safety, field and Flying Rules known by pupil	
4	Pupil can do left and right hand circles and figure eight's at low altitude, as well as trim our aircraft and do landing approaches	Safety Procedures know and practiced by pupil	
5	Pupil can do landings including dead stick landings	Safety and flying rules and procedures known	
6	Pupil can do takeoffs	Basic aerodynamics known	
7	Pupil passes solo test and is qualified to fly solo at Barnstormers Club	Has satisfied Instructor on knowledge of Safety, Club Rules and Basic Aerodynamics	

Instructor's Signature: _____ Date: _____

Judge 1 Signature: _____ Date: _____

SECTION 5**PRE-FLIGHT CHECKLIST**

5.1 (a) The checks as set out in (Points 5.2 to 5.8), are general check-checklist items and should be used in part or in whole by all Pilots no matter how experienced they are to check out their aeroplanes before the first flight of the day. It is to be used in whole by Pupil Pilots who are doing their Solo proficiency tests. The intention is that the pupil pilot will demonstrate to the Solo judges that he has a thorough knowledge of his aircraft and the details which make for safe flying.

5.1 (b) This same checklist should be used by the Instructor to check out a Beginner or Pupil's aeroplane before it's first flight. To assist the Pilot, this section has been set out in a logical sequence so that each check or set of checks follows the previous one. The Pupil must be present during the check as he will be required, at a later date, to perform this check for the instructor before obtaining "Solo" status, and he has much to learn.

5.2 Airworthiness
Here is the first of the Instructors duties.

It is a prerequisite that any new, **untried** or **repaired** aeroplane be properly checked before its first flight. The check-lists which follow are brief but reasonably comprehensive and, if in the views of the Instructor, the aeroplane is not airworthy or is unsuitable for a Pupil, now is the time to say so. It is pointless for a Pupil to try to fly an unsuitable aeroplane which he will crash and which will convince him that this hobby is not for him.

If the plane fits the above category, it should be grounded until such time as the alterations, modifications or replacement is done to the satisfaction of the Instructor. A list of the defects, if not fixable at the field, should be given to the Pupil by the Instructor. A copy of this same list must be given to the Safety Officer with the Pupils name, the type of aeroplane, and his reasons for not allowing the plane to be flown clearly documented thereon.

Checks to be done by the Instructor must include the following:

- Explain to the Pupil, during the check out of the aeroplane, his observations and his reasons for any adjustments that are made.
- If this check is being done at the field – RESERVE THE TRANSMITTER FREQUENCY BEFORE STARTING THE CHECK. Confirm that the frequency is an approved SAMAA frequency.

5.3 CHECK LIST:

Structure

1. Check wing for warps.
2. Check ailerons.
 - (i) method of attachment (hinges pinned, etc.)
 - (ii) check aileron/wing gap and temporarily seal with tape if excessive.
 - (iii) movement (correct direction and adequate movement, especially if 2 servo's fitted in Wing).
3. Check the centre section of the wing for strength, and the wing overall for stiffness.
4. Check that the tail plane is on straight and square.
5. Check that the fin is on straight and square.
6. Check the method of attaching tail surfaces to fuselage.
7. Check the rudder and elevator hinges (pinned), and the control surface gaps.
8. Check rudder and elevator movements.
 - (i) correct direction and amount of movement, (adequate or excessive).
 - (ii) kwiklinks (control rod locks) correctly fitted to both ends of push rods.
 - (iii) check to see if elevator and rudder are firmly fixed.
9. Check method of mounting engine.
 - (i) type of mount.
 - (ii) correct type and number of screws.
 - (iii) servo linkage, movement correct.
 - (iv) no metal to metal linkages to cause noise.
10. Check fuel tank.
 - (i) is it at the correct level?
 - (ii) position, can it move or rotate?
 - (iii) correct plumbing to tank, are the pressure and clunk systems okay?
 - (iv) filter(s) fitted.
11. Check nose wheel or tailwheel (whichever fitted).
 - (i) drag.
 - (ii) correct direction of movement.
 - (iii) amount of movement.
 - (iv) linkages okay, no metal to metal links.
 - (v) tracks straight when servo is at centre.
 - (vi) property mounted with bracket
 - (vii) shaft nearly vertical or slight aft rake

12. Check main wheels.
 - (i) drag.
 - (ii) method of attachment to fuselage, and wheels to axles.
 - (iii) tracking straight.
 - (iv) position of wheels relative to CG.

5.4 Radio Installation

1. Check servo tray and/or aileron servo attachment.
 - (i) trays screwed down correctly.
 - (ii) servos mounted correctly on grommets.
 - (iii) screws in servo output arms.
 - (iv) kwiklinks on push rods fitted and adjusted correctly.
 - (v) no binding of output arms or push rods over full servo throw, including trims.
2. Check battery
 - (i) position and, method of fixing. Can it move and alter C of G, etc.?
 - (ii) check battery voltage under load.
 - (iii) set up "fail safe" settings if applicable.
 - (iv) check switch position and movement of switch
3. Check receiver position and protection.
4. Check position of aerial. (Old and new requirements)
 - (i) restraint inside fuselage, not under tension.
 - (ii) away from servos and output arms.
 - (iii) method of attachments to fin and/or tail plane.
 - (iv) not doubled back on itself.
 - (v) not inside fuselage alongside metal control rods?
 - (vi) protected at exit point of fuselage.
 - (vii) not inside carbon fibre fuselage
 - (viii) Is aerial correctly orientated (2.4GHZ)
5. Linkage on servos.
 - (i) no metal to metal contact.
 - (ii) nyrod outers glued down at both ends and supported in the middle of a long run.
 - (iii) end of control rods properly restrained.
6. Foam rubber packaging (not plastic foam) where necessary.
7. (i) Servo leads okay and plugged into receiver properly.
 - (ii) Servo lead plugs anchored into receiver.

8. Check linkage to elevator, rudder, ailerons, throttle and nose wheel.
 - (i) method of attachment.
 - (ii) throttle travel correct or override provided.
 - (iii) nose wheel shock absorber (on leg and linkage).
 - (iv) clearance of aileron linkages when wing attached to fuselage.
 - (v) kwiklinks or clevis locks in place.
9. Check movement of servos.
 - (i) servos move smoothly with no grinding noises, jerkiness or buzzing.
 - (ii) no binding during full throws and trims.
 - (iii) all moving in the correct directions relative to stick movements on ailerons, elevator, rudder, throttle and nose wheel.
 - (iv) set up rates if thought necessary.
 - (v) Check failsafe settings on servos if PCM receiver used. (Motor to stop – balance of servos to hold.)
 - (vi) Set all trims to zero, if required adjust mechanical settings
 - (vii) Programme in exponential if though beneficial
 - (viii) Special check on direction if 2 Aileron Servo's fitted.

5.5 Assembly

1. Check if covering of total aeroplane okay.
2. Check wing incidence.
3. Check tail plane incidence.
4. Check thrust line of motor.
 - (i) viewed from side for down thrust.
 - (ii) check to top of fin for right thrust.
5. Check all control surfaces are aligned with flying surfaces, i.e. elevator, rudder and aileron.
6. Check position of Centre of Gravity.
7. Method of attaching wing to fuselage.
8. Wing square on fuselage.
 - (i) viewed from front.
 - (ii) viewed from back.
 - (iii) viewed from top.
 - (iv) check aerial, servo leads or battery wire not trapped.

5.6 Engine Checks

1. Propeller.
 - (i) correct size for engine.
 - (ii) correct type for engine (not pure nylon).
 - (iii) prop nut tight (no pliers please).
 - (iv) propeller balanced
 - (v) spinner if used, tight
2. Glow Plug.
 - (i) correct type.
 - (ii) firmly tightened, but not over tight.
3. Carburettor.
 - (i) mounted firmly.
 - (ii) idle adjusted correctly.
4. Fuel.
 - (i) tank full with correct type fuel.
 - (ii) filter recommended in fuel line.
5. Silencer.
 - (i) check that the silencer is an approved, unmodified unit.
 - (ii) check that the silencer is properly attached to the motor.
 - (iii) if deemed excessively noise add baffles or modify.

[WARN ABOUT THE DANGERS OF A SPINNING PROPELLER]

6. Start engine.
 - (i) check high speed setting, set intermediate setting.
 - (ii) check for fuel foaming.
 - (iii) check idle and adjust so that motor stops on pulling throttle trim back.
 - (iv) recheck over full rev range and sort out problems.
- (v) motor maintains revs with aeroplane nose held vertically up.
- (vi) check that the noise level is within SAMAA and Club limits when engine is at full revs.

5.7 Range Checks

1. Identifying frequency of transmitter
2. Peg on frequency before operating transmitter
3. Output meter on the transmitter reading correctly and in the "green" at plus 9.6V.
4. Check receiver battery voltage under load.
5. Check operating range with transmitter aerial collapsed.
(Should be at least 30 meters, see manufacturers specification)

5.8 Buddy Box

1. Correctly connected and control surface movements correct.

NOTE Explain adjustments to the Pupil and let him observe, learn and participate with the necessary checks and adjustments and range check, and buddy box settings.

SECTION 6

6.1 REQUIREMENTS FOR "SOLO" TEST

From the attached "Solo Proficiency Test Score Sheet" it can be seen that the flying manoeuvres required are basic. This is intentional, the reason for this test is to **demonstrate to the two SAMAA silver rated pilots that you, the Beginner or Pupil, have enough knowledge of the club procedures and experience the ability to fly, without an Instructor present, when you are on the flightline with other pilots flying and that you will not be a liability or danger to those present, including spectators and their property at the flying field.**

The solo test will be judged by two SAMAA silver rated pilots, neither of whom taught you, the oral and model check tests should be carried out, and should be followed by one flight as detailed on the Solo proficiency test sheet. If in the views of the judges the pilot is competent then he passes if the judges are uncertain of the pilots ability they;

- (i) May have him redo the maneuvers they were unhappy with or
- (ii) Make him redo the preflight or the whole test flight

Please note that if:

- (i) The pilot does not have his SAMAA card with him.**
- (ii) If the model to be used, is in the views of the judges not airworthy, or representative of models flown at the club.(see 8.2)**
NO TEST will be done.

This qualification fulfills the requirement of the SAMAA Insurance for flying unaccompanied on the flight line with other pilots present.

The first two items, Oral (general and safety) and Pre-flight, will require some homework from you.

These solo tests will be arranged and conducted in a formal manner, with the correctly qualified persons present at the tests. After the test the duly signed test papers will be approved by the Club Safety Committee or Chairman before being placed on file and a photostat copy being forwarded to SAMAA

General Manager by fax, post or e-mail. The solo certificate will be posted to the pilot.

Right, let's get on with a description of the requirements for the manoeuvres.

Takeoff into the Wind

The runway used will be the one nearest into the wind and the Pupil will be required to do a takeoff which consists of the following:

- Apply power smoothly
- Keep reasonably straight down the runway on takeoff
- Keep straight, climbing slowly, (not hanging on propeller) for at least 5 seconds
- Do a gentle turn away from the pits

Left and Right Hand Circuits

Here the Pupil must demonstrate his ability to do circuits while maintaining a reasonable level.

- After takeoff, climb to a reasonable height
- Announce your intention, i.e. left or right circuit, when the airplane is in front of you
- Proceed to do the turn
- When the turn is complete, repeat the manoeuvre in the opposite direction

Showing a lack of control or uncertainty in your flying will result in a retest of this manoeuvre.

Horizontal Eight

This is a manoeuvre with a smooth transit in between the two turns.

- When the plane is in front of you start either a left or right hand turn
- Continue the turn, trying to close back to the starting point
- Cross the starting point and proceed with the other hand turn crossing back near or over the start point.

Dead Stick Landing

At some point in the test, the Judges will tell you to cut your plane's motor. This command will always be in such a position that you will be able to land on the runway.

- On receiving the command to cut, you must throttle your motor back to idle/stop
- You must judge your circuit and approach so as to be able to land into the wind on or near the runway in use

Landing

See 7.2.15 , except that Landing on or near the runway is acceptable. Landing on the pit side of the runway or in an uncontrolled manner means a test failure.

6.2. SOLO PROFICIENCY TEST SHEET

Attached is a "Solo" Test sheet divided into:

(a) Flying

You will have seen this test is scored on pass or fail. The judge's may, if doubt exists, require you to repeat any of the manoeuvres listed. The test will consist of one flight.

The Judges will tell you whether you passed or failed. Their decision is final. A test may be redone a second time on the same day provided that there is time and the judges believe you are capable of passing the test.

(b) Oral and Preflight Check

This part of the Solo test is actually the more difficult part, as it requires you know and understand something about the frequency control, Club Rules and the workings of a model aeroplane.

This above test is in two parts:

(1) The Oral Test

This is in the form of random questions which will be asked, and answered to the satisfaction of the judges. A list of the types of questions is set out on pages 20 and 21.

(2) The preflight check

This will be based on the SAMAA Instructors check list (per section 5 of this booklet).

And is a hands on test where you check out your model in front of the judges, and show that you understand the problem areas of a model which could cause an accident and need regular checking.

As stated elsewhere, a lack of knowledge on the frequency control system the basic Club, safety and field Rules will ensure that you fail the test.

PROFICIENCY TEST SHEET SOLO TEST



The South African Model Aircraft Association

Description of Manoeuvre	First Flight		Remarks
	Judge 1	Judge 2	
Oral Test – eight questions regarding flying / safety			
Pre-flight Check & Frequency Control – and club rules			
Check of aircrafts equipment			
Controlled take-off into wind			
Left Hand Circuit – end of circuit parallel to runway			
Right Hand Circuit – end of circuit parallel to runway			
Two consecutive Horizontal Eights – cross-over at center			
Simulated "Deadstick" Landings – engine on at low speed			
Landing approach from left			
Landing approach from right			
Landing into wind			
		PASS	FAIL
<i>PLEASE PRINT THE FOLLOWING DATA:</i>		<i>DATE:</i>	
PILOTS NAME: _____		SAMAA NO: _____	
CLUB: _____		DATE: _____	
PILOTS SIGNATURE: _____			
CLUB INSTRUCTOR 1 _____		SAMAA NO: _____	
Signature: _____			
CLUB INSTRUCTOR 2 _____		SAMAA NO: _____	
Signature: _____			
Approval Club Chairman _____			
Approval Proficiency Officer _____			
Badge Issued: _____		Date: _____	

TYPICAL QUESTIONS TO BE ASKED FOR SOLO/BRONZE BADGES

Answers to all these questions will have been covered by your Instructor during your "learning to fly period" or should be common knowledge.

1. Which areas are you not allowed to fly over and why?
2. What do you do if you want to fly and there is a peg on your radio frequency?
3. How do you set about checking your motor if it does not want to start?
4. How long does your receiver battery last in a day and how do you know it is ok for another flight?
5. What is your procedure when you arrive at the club?
6. Why is it dangerous to lean over the motor to adjust the needle valve when the motor is at full throttle?
7. Why do the Club Safety Rules state that you should not taxi your aeroplane in the pit area?
8. Why is it essential that you secure the frequency spot and place your peg on it before switching on your transmitter?
9. What would you do if on take-off, just after becoming airborne, your aeroplane turned towards the pit/spectator area?
10. If there are Pilots standing, say three (3) meters from and halfway down the runway and you needed the full runway for take-off, what would you do?
11. If you are going to land and see someone on the runway trying to retrieve an aeroplane, what would you do?
12. If you were lined up ready for take-off and during your final check you notice a servo glitching, what would you do?
What would you do if you saw -
 13. - That the tail plane is loose -
 14. - That the aeroplane is vibrating badly -
 15. - That the wing is skew -
 16. - That the undercarriage is skew or loose -
 17. - That some covering is loose -
 What would you do if you heard -
 18. - Someone yelling "DEADSTICK" – When you were about to take off -
 19. - Someone yelling "LANDING" – What would you do?
20. If you are the most senior person at the field and the duty officer is not present, what would your duty be?
21. If you see a child running in the pit area, what would you do?
22. If you see a child with a transmitter, what would you do?
23. If you are the duty officer for the day, what would you do:-
 - i) If someone is ignoring the safety rules?
 - ii) If after a verbal warning they still persist in ignoring the rules?
24. What are your duties of a safety officer of the day?
25. What do you do if you want to fly and your frequency spot is not on the board?
26. What would you do if after waiting patiently for your frequency spot, the peg is not removed?

27. What would you do if you find out that someone has placed a peg on the board but he is no longer at the field?
28. What would you do if you want to fly but left your frequency peg at home?
29. What would you do if your motor stalls on the threshold/runway prior to take-off and other Pilots are waiting to take-off?
30. What would you do if you are about to fly and when you switch on your transmitter the meter shows red or under 9 volts?
31. How do you know the state and condition of your flight and transmitter battery packs?
32. What would you do if you notice that you forgot to switch off your transmitter an hour or so ago?
33. What would you do if it starts to rain whilst you are flying?
34. What would you do if there is lightning whilst you are flying?
35. What would you do if you notice a full-size aeroplane or helicopter is flying lower than you are?
36. What would you do if you notice a glider, old-timer aeroplane or beginner flying aimlessly?
37. What would you do if you are flying and the cell phone on you rings?
38. What would you do if you feel ill or faint while you are flying?
39. What would you do if you lose sight of your aeroplane in the sky?
40. What would you do if you are in a thermal going up and want to get down?
41. What would you do if the throttle on your aeroplane sticks at full throttle whilst flying?
42. Why does an aeroplane pull to the left on take-off?
43. Why do most models have down thrust?
44. Why do most models have right thrust?
45. What precautions should be taken when circumstances requires landing down wind?

SECTION 7

7.1 THE BRONZE, SILVER, GOLD AND INSTRUCTORS PROFICIENCY TESTS

7.1.1 Requirement for SAMAA Bronze, Silver, Gold and Instructor's Merit are as follows:

No proficiency test may be judged or signed off by an Instructor, who was not present at the test, or who taught the pilot undergoing test.

Tests for, "Bronze", "Silver" and "Gold"

These tests may be judged by any **two members with SAMAA instructor** status.

Tests for "Instructors" Proficiency

Will be judged by two judges, one of whom shall be a **SAMAA Instructor and the other on SAMAA Instructor Judge.**

NB!! No Pilot will be allowed to do an Instructors proficiency test without having first passed the Gold proficiency test.

SAMAA has provided for the following proficiency tests: -

The Solo Level
 The Bronze Level
 The Silver Level
 The Gold Level
 The Instructors Level
 Display Pilot

Sample score sheets are attached. The score sheets are designed to be used for two rounds of whichever test the Pilot has taken, (Solo and bronze only one test required) and are to be scored by both Judges. These tests will be arranged and conducted in a formal manner, with the appropriately approved persons present at the tests. The original test papers will be submitted to the Club Committee for approval and will require ratification by the main club committee before being sent to SAMAA, to be entered into the central proficiency register. Clubs are requested to keep a copy of each test sheet sent to the SAMAA office.

7.1.2 Scoring

The scoring system for the proficiency tests (except Solo) will be on the same basis as for pattern flying, i.e., out of a total 10, per manoeuvre. It must be pointed out that the purpose of these tests is to determine the Proficiency of the Pilot rather than the accuracy of flying the manoeuvres. It must also be emphasised that the landing approach pattern is probably the most important aspect of the proficiency tests and therefore competent approaches from both base legs are essential for the attainment of proficiency merit.

The scoring standard used has been set by the SAMAA Instructor Judges and although more relaxed than that used for FAI Competitions, is still stringent especially for Instructors' Merit level.

On each scoresheet is a preflight check, please note that this preflight check is a pass or fail and the final score is unaffected by this item but obviously a fail in the preflight check is a test fail. The divisor used is the number of manoeuvres undertaken and scored. The final score is the average of the four sub-totals. (2 Judges x 2 flights) for a pass on a merit to be achieved. The average score must equal or exceed the passing percentage required and no manoeuvre may score less than the minimum score of 3, 4 or 5 specified for that merit test.

Do be careful, a minimum score for a manoeuvre for say a Silver Merit requires one eight, or two sevens to offset a minimum score of 4 and achieve the ultimate percentage!

7.1.3 Test Failure

In any of the proficiency tests a score less than the minimum specified for the test is a failure for the whole test and the test must be repeated in total. So a fail in one manoeuvre in the first round means that there is no point in flying the second round of that test as you have failed.

7.1.4 Repeat Test

Two attempts at the same proficiency badge will be allowed on the same day provided time permits.

7.1.5 Time before a Retest

If a Pilot has failed both attempts at a proficiency level, he will have to wait and practice for one month before a retest will be allowed. The complete test will be redone, and no cognizance will be taken of previous attempts.

7.1.6 Level of Entry

A Pilot may do his first test at any level up to Gold, a pass at any level of proficiency automatically qualifies the Pilot for the levels below.

7.1.7 Proficiency Badges

The initial badge awarded for any proficiency level is presently for free. If the qualifying Pilot wishes to purchase the badges of the levels below that which he has qualified for he may do so at a cost of R30-00. This figure of R30-00 is the current price and is subject to increase by the SAMAA Committee, dependant on badge costs, etc.

7.1.8 Time Out

Should a Pilot, for some valid reason, such as to refuel or as a result of a deadstick, require to land, he shall be entitled to, and shall in no way be penalized provided he requests time out and then proceeds to land in a controlled manner on the runway in use. After the problem has been rectified, he will resume his test at the point it was interrupted.

7.1.9 Time Between Flights

A Pilot will be given, if he so requests, or if circumstances rule, be given a break between flights. The length of this break will be at the discretion of the Judges.

7.1.10 Pilot's Briefing

A Pilot's briefing will be held at the beginning of the test session. The Judges will host this session. All Pilots doing tests will be properly briefed as to what is required of them. And at this time the candidates must clear any queries they have on the tests to be performed or the manoeuvres required.

7.1.11 Debriefing

If time permits, a debriefing will be held by the Judges and the results of the Proficiency tests will be made available.

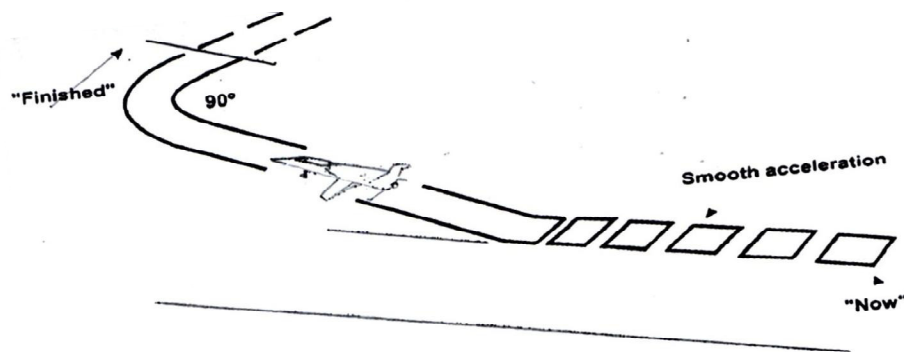
7.2 Proficiency Test Manoeuvres

7.2.1 Preflight Check

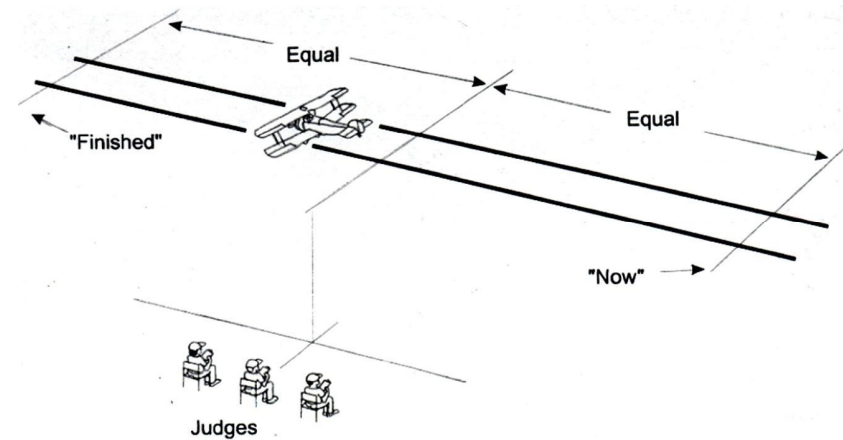
This will be done by the pilot being tested on the aeroplane before any flight testing takes place and is to be a complete safety and airworthiness check. It must demonstrate to the Instructor(s) judging the test that the pilot understands the workings of a model. The attached listing in Sections 3.3 and 3.4 of this document give the requirements for a preflight check.

7.2.2 Takeoff into the wind

The takeoff will be judged on model control, particularly use of rudder, use of throttle, length of run and angle of ascent. Where a tail dragger is used for the test, a reasonable amount of swing on initial acceleration should be tolerated. The takeoff should start from a standstill and is complete when the model has performed a 90° turn away from the Pilot.

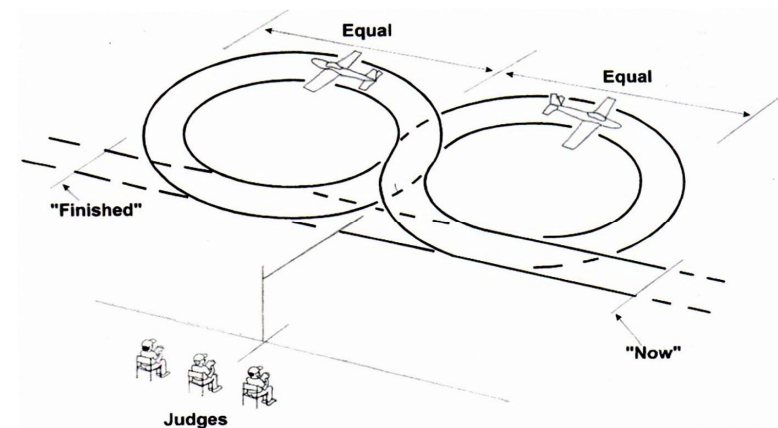


7.2.3 Straight and level flight into wind for five seconds at an altitude of between 17 and 34 metres.



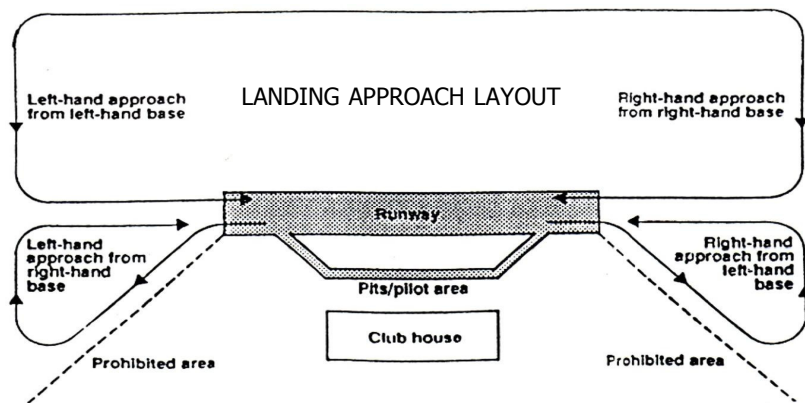
7.2.4 Two "figures of eight"

One into wind, the other downwind whose longitudinal axis shall be parallel to the runway of takeoff. Altitude will be maintained within reasonable limits and consistency of the figure of eight will be judged, taking into account any wind strength. Altitude should be between 17 and 34 metres. The model approaches in straight and level flight, performs a quarter circle turn away from the Pilot, followed by a 360° turn in the opposite direction. This is then followed by a 270° turn in the original direction. The manoeuvres is complete after the model has passed the Pilot in straight and level flight in the direction of the original entry into the manoeuvres.



7.2.5 Approaches from both sides and both bases

The Pilot will demonstrate to the satisfaction of the judges that he can make a satisfactory **approach** to within 10 feet (3 metres) of the runway centre from either direction and from both left and right base legs, on **both** attempts of the test. The sketch below will clarify how the approaches should be made to prevent the Pilot flying, **in the no fly area**, above or behind the club house. The criteria for a pass in this test is whether the Pilot could land the aeroplane safely from any direction of approach.



7.2.6 The Landing

The landing would be straight into wind on the active runway, and touchdowns should be within the first one third of the runway length. A small bounce, particularly with a tail dragger will be tolerated.

7.2.7 One Inside Loop

From straight flight, parallel to the runway of takeoff, the model pulls up into a circular loop and resumes straight and level flight on the same heading as the entry. The throttle may be reduced at the top of the loop as appropriate to the type of aeroplane and the loop completed after which the throttle is opened and normal flight resumed.

7.2.8 Slow Pass Into Wind

Straight and level at about 5 metres above ground, throttle back to a safe low speed and do a low pass into wind parallel to runway in use.

7.2.9 One Roll

Starts from straight and level, flown into wind parallel to runway of take-off, aeroplane to roll axially (unless otherwise stated) to left or right until a full roll is completed with the wings level and aeroplane is at the same heading and at the same altitude as at the entry.

7.2.10 Spiral Decent

This is not a flat spin, the motor must always be below the tail. Suggested method for performing a spiral decent is: obtain sufficient height, from level

flight, throttle back motor, some up elevator, apply rudder and if required, some aileron, allow some 2 – 3 turns in say a 10-15 degree nose down attitude corkscrew type decent. Recover to level flight.

7.2.11 Consecutive Rolls

Starts from straight and level, flown into wind, parallel to runway of takeoff, plane to roll axially (unless otherwise stated) to left or right until roll is finished. The recovery should be at the same heading and altitude as entry. Slight changes in altitude, depending on aircraft type will be acceptable.

7.2.12 Emergency Landing

For this manoeuvres the Pilot will be told to cut throttle and land. An idling motor will be acceptable, and the Pilot will land into the wind on the runway of takeoff. The use of the throttle, or landing off the runway scores zero.

7.2.13 Outside Loop

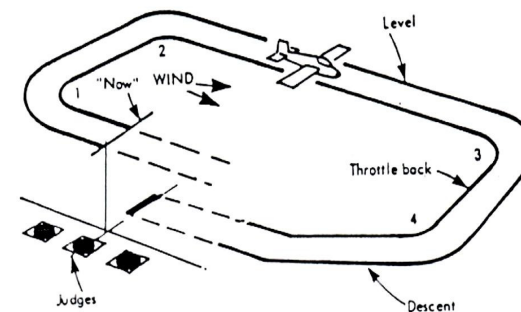
Obtain sufficient height flying downwind parallel to runway of takeoff from straight and level, shut throttle, give down elevator to dive down into a circular loop. Open throttle at about 4 o'clock position pushing back up to entry altitude to complete the loop.

7.2.14 Cross Wind Landing

As per normal landing, but rudder or aileron should be applied to keep the aeroplane flying down the runway before landing.

7.2.15 Landing Pattern

The landing pattern should be of the rectangular approach type and should demonstrate the ability to control rate of descent and throttle setting. The final approach and touchdown must be smooth and demonstrate a consistent rate of descent and speed. All landings shall be on the runways. Where no runway exists, landings will be within 3 metres of the assumed centre line of the runway. Acceptance will be at the discretion of the Judges and their decision shall be final.



7.2.16 Recovery from unusual altitudes.

The judge(s) will, while the pilot is under test, with his hands off the Tx, place the aircraft in an unusual flight altitude on two separate occasions during the flight and the pilot under test will demonstrate his ability to recover from the unusual altitude, the first reaction being to close the throttle. (This may be dependant on the circumstances at the time).

7.2.17 Fast low pass downwind

Straight and level at about 4 metres above the ground and parallel to the runway in use.

7.2.18 Inverted figures of eight

Two inverted figures of eight, one into the wind the other downwind, whose longitudinal axis shall be parallel to the runway of take off. Altitude will be maintained within reasonable limits and consistency of the figure eight will be judged, taking into account any wind strength. The model approaches in straight and level flight, rolls inverted, performs a quarter circle turn away from the Pilot, followed by a 360° turn in the opposite direction. This is then followed by a 270° turn in the first direction. The manoeuvres and roll upright, back into straight and level flight, on its original heading.

7.2.19 Other Manoeuvres

If there are any other Manoeuvres which you do not understand ask the Instructor who is testing you to explain what he requires.

SECTION 8

8. MISCELLANEOUS INFORMATION ON PROFICIENCY

8.1 **Proficiency Status**

Obtaining a proficiency rating has a number of advantages:

- (i) It improves your flying
- (ii) It defines where and when you may fly within the SAMAA System with specific proficiencies. These are detailed below:

For fixed wing proficiency levels:

Solo: Allows you to fly at your Club without a competent person in attendance when others are flying

SAMAA Bronze: Gives you the pilot the same rights as a solo qualification and some Clubs use the Bronze level as their lowest level of qualification.

SAMAA Silver: This is the minimum level that pilots should try to achieve as it gives them a number of advantages:

- (a) Most Clubs will allow a pilot with a Silver merit to teach pupil pilot to fly although there is usually a 6 month probationary period between the pilot achieving his silver merit and the time he is allowed to teach others to fly.
- (b) With a silver a pilot will be allowed to participate in and fly a model at an airshow at his own Club.
- (c) This silver merit will qualify him to test a pupil pilot for a solo rating. A proviso being that he may not test the pupil if he taught him to fly.
- (d) The silver qualification is generally accepted as the entry qualification to fly in competitions. You may not fly large scale, twin engined models, jets or pylon model aircraft if you do not have the relevant SIG Certification.
- (e) A silver will allow you to participate in many special events like float flying, cross country etc. where although the event is at a non- Registered site, the public are not present and the risks are low.

SAMAA Gold: Now you are really starting to fly and a Gold will:

- (a) Allow you to fly at any airshow display or event at a non registered (but temporarily approved) field in the presence of spectators. One limitation to the above is that you may not fly a large scale, twin engined model, jet or pylon racer without the applicable SIG Certification.
- (b) You are allowed to test for Solo and Bronze proficiency.

SAMAA Instructors:

Allows:

- (a) You the pilot to fly a fixed wing airplane in any event, airshow etc. a proviso to this is that you may not fly a large scale, twin engined model, Jet or pylon racer without the applicable SIG Certification.
- (b) As a SAMAA instructor you are qualified to test (with the required Instructor or Instructor judge) for SAMAA Solo, Bronze, Silver, Gold and Instructor proficiency.

SAMAA Instructor Judge:

Allows:

- (a) You to test (with a further SAMAA Instructor present) pilots for SAMAA Instructor Status.

8.2 **Type of aircraft**

The question is often asked as to what type of aircraft may be used to fly your proficiency test.

The quick answer is any model aircraft that can do the maneuvers listed to the satisfaction of the Judges. Our recommendation is a 25 to 60 size (or equivalent) trainer or stick for up to gold, and a more advanced sports or intermediate model for the instructors test.

The model aircraft used must be able to fly the maneuvers correctly, i.e. a loop for instance must be minimum of 35 metres diameter and the aircraft must fly around this loop, not flop over at the top.

So choosing say an electric flat wing foamie will actually penalise your scores, especially in windy weather unless you are a good flyer.

But, the final adjusticator of the suitability of the model will be the two judges scoring the tests, and their scoring will decide if you pass.

Whether the model is electric, glow or otherwise is not important, the thing that matters is: Can it fly the sequence to the satisfaction of the judges and clearly demonstrate that the pilot is proficient.

8.3 Qualifications to fly a large scale, Jet, pylon racer or special aircraft.

Recently, there have been a number of accidents and incidents at airshows, where large models have crashed, these have been related to the ability of the pilot to **safely** fly the model involved.

Discussions are presently taking place with regards to a pilot having a qualification higher than **solo** before being allowed to fly the larger fixed wing models, such as Large Scale, Jets, Pylon racers and multi engined models as well as any other special difficult to fly, or very fast models.

To qualify to fly one of the above types of models it is now a proposed and recommended that firstly the pilot obtain a **silver** proficiency and also that the appropriate SIG test you the pilot on the model to be flown and issue a clearance certificate / rating, confirming that you have done the conversion and are competent to fly this model in public.

Without this clearance certificate you will NOT be allowed to fly the model at a Airshow or Public display.

8.4 Validity of Proficiency status

Pilots with SAMAA proficiency qualifications should be aware that a lapse of 3 years in SAMAA membership will automatically cancel any proficiency rating above "Solo".

A signed letter from your Club Chairman and one other Club Committee member is required to reinstate your "Solo" level proficiency status with SAMAA.

This confirmation shall be accompanied by a signed solo test form.

8.5 Instructor Judge

It should be noted that the appointed position of Instructor Judge is subject to review by the SAMAA proficiency Sub-Committee. If it is found that an Instructor Judge is not committed to performing the duties expected from him then he can be requested by SAMAA to relinquish his Judge status.

8.6 Commercial use of Model Aircraft

To clarify any misunderstanding, anyone involved in flying models commercially or for gain is not eligible for SAMAA insurance cover.

8.7 Central register for Proficiency and badges

8.7.1 SAMAA General Manager will keep a Central Register of all proficiency tests passed. It is expected that Clubs will organize the proficiency tests and the Judges and that the Committee of the Club will, sign off the proficiency tests and send a copy to the General Manager at SAMAA to be recorded.

The Club should, for safety sake, keep a copy in their records.

The SAMAA will in due course issue the relevant certificates and badge and print the latest and highest qualification or qualifications obtained on the SAMAA pilot's membership card.

8.7.2 Should a proficiency test/s not be accepted by the General Manager for whatever reason a copy will be returned to the club for follow-up/clarification.

8.7.3 The present price of a badge is R30,00 (subject to manufacturing price), and this price will be charged, for each badge required.

8.8 Proficiency qualification through a SIG

As there is a strong reluctance by some of the better pilots in the country to do proficiency tests with their expensive models, it has been agreed that pilots who have, and are competing in competitions and who regularly obtain high scores in these competitions, could earn or qualify for a proficiency level.

The SIGS have discussed and agreed with their committee and members the scores which need to be obtained to qualify for a proficiency level, and these have been accepted by SAMAA.

An example of this is the recently ratified F3A (pattern) criteria as follows:

- Award a SAMAA bronze proficiency to any pattern pilot who achieves or achieved a minimum average score of 50% in a recognized MAASA National competition.
- Award a SAMAA silver proficiency to any pattern pilot who achieves or achieved a minimum average score of 55% in a recognised National MAASA competition.

- Award a SAMAA GOLD proficiency to any pattern pilot who achieves or achieved a minimum score of 60% in a recognized MAASA National competition.
- Similar criteria are presently being agreed to with the other SIGS and these will be found on the SAMAA Website under the respective SIG.

8.9 Model Powered Aircraft of Over 25kgs or with Wing Spans Exceeding 5 Metres

Model Aircraft which exceed the above size and weight are presently not classified by the CAA as Model Aircraft, and are not allowed to fly in the RSA. Negotiations are in progress with the CAA, and a Procedure is being formulated to allow models of up to 45 Kgs, to be certificated, and to participate as models, subject to special conditions relating to structural strength, safety aspects, and inspection during construction, as well as flying test and combined Certification of both the pilot and the Model aircraft, as a unit.

(Refer to the General Manager for the latest information)

8.10 Reinstating Previous Proficiency

Since the introduction of the new proficiency tests some 15 plus years ago there have been numerous request from holders of the old SAMAA qualification to have these converted to the new system.

After considerable discussion it has been agreed by the Management Committee, that provided adequate and satisfactory evidence can be provided, the SAMAA Proficiency Sub Committee will investigate, and after consideration, will advise the Members of the outcome. (It is likely that the highest proficiency awarded will be one lower than the original.)

The information required is as follows:

- A copy of the original certificate or a certified Photograph of the merit badge obtained.
- A written motivation, with as many details possible of where, when and by whom the test were done.
- A confirmation from your club Chairman and a Committee Member that you are still a competent and active flyer.

Please remember clause 8.4 "validity" applies.

8.11 Club Instructors and Judges

To assist SAMAA or the Regions in approving proficiency tests, it is requested that **all clubs** doing their own proficiency tests should submit to the General Manager at SAMAA lists of their appointed instructors, together with their SAMAA numbers and present proficiency status, as well as the names of the proficiency authorizing Committee Members of the club.

9. SAMAA TEST SHEETS

Included in this booklet are test sheets for:

- SAMAA Solo
- SAMAA Bronze
- SAMAA Silver
- SAMAA Gold
- SAMAA Instructors

The above sheets are to be completed with all relevant information, signatures must be legible and if forms or information is missing. The sheets will be returned to the club for completion.

9.1 Display Pilot Rating

A Display Pilots' Rating is also available, but is presently not used. This merit can be awarded to Instructor rated Pilots who **regularly** fly at public displays or demonstrations. To maintain a **DISPLAY** Rating the Pilot must re-fly his Instructor Rating test **annually** in front of two SAMAA appointed Instructor Judges.

9.2 General

- No Pilot holding a rating under the **GOLD** proficiency level shall be allowed to fly in front of the public at any public display on a SAMAA registered or approved field.
- Any Pilot who wishes to fly at public displays **regularly** must hold a minimum of an **INSTRUCTOR** rating.
- Pilots who fly at airshows or displays at their own SAMAA registered club fields shall hold a minimum of a current **SILVER** rating.
- Pilots participating at Full Size Airshows will hold an **INSTRUCTORS** Rating as a minimum.
- **Airshows and Displays**

Please ensure that SAMAA are informed in writing of any Display or flying event where the public are present at either a SAMAA registered or at a non-SAMAA registered site and that permission is obtained for the Display event to validate your groups/clubs insurance cover and comply with the CAA regulations.

Contact the General Manager of SAMAA for help in this or any other respect concerning proficiency.

9.3 Queries

All queries on proficiency should be addressed to the General Manager of SAMAA. Should he be unable to answer your query directly he will refer the query to the SAMAA Proficiency Sub Committee.



The South African Model Aircraft Association

PROFICIENCY TEST SCORE SHEET
BRONZE LEVEL

Description of Manoeuvre	First Flight			
	Judge 1	Judge 2		
Preflight Check PASS / FAIL	-----	-----	-----	-----
1.Take Off into Wind				
2.Straight and Level flight for 5 seconds				
3.Two Horizontal Figure Eights				
4.One Inside Loop				
5.Slow Low Pass into Wind				
6.Left Hand Landing approach from Right Hand Base				
7.Right Hand Landing approach from Left Hand Base				
8.Left Hand Landing approach from Left Hand Base				
9.Right Hand Landing approach from Right Hand Base				
10.Landing into Wind				
Minimum Score per Manoeuvre	3	3		
SCORE SUB TOTALS				
TOTAL SCORE 2 FLIGHTS				
DIVIDE BY 2				
AVERAGE % IS				
PASSING PERCENTAGE IS			50%	
N.B. If less than the minimum score is achieved for any manoeuvre, the flight attempt will be deemed a failure				
<i>PLEASE PRINT THE FOLLOWING DATA:</i>				
PILOT'S NAME	_____	SAMAA NO	_____	
CLUB NAME	_____	DATE	_____	
PILOT'S SIGNATURE	_____			
JUDGE 1	_____	SAMAA NO	_____	
		SIGNATURE	_____	
JUDGE 2	_____	SAMAA NO	_____	
		SIGNATURE	_____	
Judges Comments:				
Club Committee Approval Chairman:				
Proficiency Officer:				

PROFICIENCY TEST SCORE SHEET
SILVER LEVEL



The South African Model Aircraft Association

Description of Manoeuvre	First Flight		Second Flight	
	Judge 1	Judge 2	Judge 1	Judge 2
Preflight Check PASS / FAIL	-----	-----	-----	-----
1.Take Off into Wind				
2.Straight and Level flight for 5 seconds				
3.Two Horizontal Figure Eights				
4.One Inside Loop				
5.Slow Low Pass into Wind				
6.Left Hand Landing approach from Right Hand Base				
7.Right Hand Landing approach from Left Hand Base				
8.Left Hand Landing approach from Left Hand Base				
9.Right Hand Landing approach from Right Hand Base				
10.Landing into Wind				
Minimum Score per Manoeuvre	3	3	3	3
SCORE SUB TOTALS				
TOTAL SCORE 4 FLIGHTS				
DIVIDE BY 4				
AVERAGE % OF BOTH FLIGHTS				
PASSING PERCENTAGE IS	50%			
N.B. If less than the minimum score is achieved for any manoeuvre, the flight attempt will be deemed a failure				
<i>PLEASE PRINT THE FOLLOWING DATA:</i>				
PILOT'S NAME	_____	SAMAA NO	_____	
CLUB NAME	_____	DATE	_____	
PILOT'S SIGNATURE	_____			
JUDGE 1	_____	SAMAA NO	_____	
		SIGNATURE	_____	
			SAMAA NO	_____
JUDGE 2	_____	SAMAA NO	_____	
		SIGNATURE	_____	
			SAMAA NO	_____
Judges Comments:				
Club Committee Approval Chairman:				
Proficiency Officer:				



The South African Model Aircraft Association

PROFICIENCY TEST SCORE SHEET
GOLD LEVEL

Description of Manoeuvre	First Flight		Second Flight	
	Judge 1	Judge 2	Judge 1	Judge 2
Preflight Check PASS / FAIL	-----	-----	-----	-----
1.Take Off into Wind				
2.Straight and Level flight for 5 seconds				
3.Two Horizontal Figure Eights				
4.Two Inside Loops				
5.Spiral Descent				
6.Two or More Consecutive Rolls				
7.One Inverted Figure Eight				
8.Slow Low Pass into Wind				
9.Emergency Landing (called anytime during flight)				
10.Left Hand Landing approach from Right Hand				
11.Right Hand Landing approach from Left Hand				
12.Left Hand Landing approach from Left Hand Base				
13.Right Hand Landing approach from Right Hand				
14.Landing into Wind				
Minimum Score per Manoeuvre	4	4	4	4
SCORE SUB TOTALS				
TOTAL SCORE FOR 4 FLIGHTS (Min 336)				
DIVIDE BY 5,6				
AVERAGE % OF BOTH FLIGHTS				
PASSING PERCENTAGE IS	60%			
N.B. If less than the minimum score is achieved for any manoeuvre, the flight attempt will be deemed a failure				
<i>PLEASE PRINT THE FOLLOWING DATA:</i>				
PILOT'S NAME	_____	SAMAA NO	_____	
CLUB NAME	_____	DATE	_____	
PILOT'S SIGNATURE	_____			
JUDGE 1	_____	SIGNATURE	_____	
			SAMAA NO	_____
JUDGE 2	_____	SIGNATURE	_____	
			SAMAA NO	_____
JUDGES COMMENTS				
Club Approvals				
Chairman				
Proficiency Officer				

