

Learning to Fly at Holdfast Model Aero Club

Introduction

Building and flying radio-controlled aircraft is a rewarding and enjoyable hobby for people of all ages. In this modern day and age nearly every person who comes to join our Club has done some research on the Internet. Those YouTube videos are fun to look at but it is not as easy as it looks. It is actually a little bit harder to master the art of RC flying than you might think. Somebody said once that it is a bit like “patting your head and rubbing your stomach at the same time”. Perhaps that’s true. It certainly requires good hand to eye coordination but don’t worry, plenty of others have gone before you and succeeded! This document describes the training program used at Holdfast MAC.

Frequently Asked Questions

1. Why join a club?

Holdfast is affiliated with Model Aerosport South Australia (MASA <https://www.masa.org.au/>) and the Model Aeronautical Association of Australia (<https://www.maaa.asn.au/>). The advantages of this affiliation are summarised on the website, but probably the most important is the insurance cover that is provided to members. Flying RC models is potentially dangerous and so pilots are not permitted to fly at HMAC without this insurance cover. Pilots are covered by the MAAA policy at all stages of the HMAC training program. While it is possible (but not easy!) to teach yourself with some of the modern systems it is risky to do so without insurance cover.

2. How long will it take me to learn to fly RC?

Anywhere between a few weeks and many months. It depends how often you can get to the field and if the weather is suitable. And it depends on your own skills. Older people may take longer than younger people.

3. How much should I spend to get started?

Nothing to have a try out. The Come & Try sessions are free and will help you decide if RC flying is for you. If you decide to continue, then apply for membership and pay the club fees (see website <https://holdfastmac.asn.au/general-info/apply-for-membership/>). Do not purchase your own equipment in the early stages. When you have learnt to fly you will be in a much better position to determine what type of model and equipment you wish to purchase. It also means that your initial outlay is just the club membership fees. You can defer the larger expense on models to a later date.

4. What happens if I crash the plane?

Well, we will take a lot of care for that not to happen but it can. However, as the training is done on club equipment there is no cost to you other than your club fees. You will be much less likely to crash your own models if you have learnt to fly first.

5. What are the Club Rules?

HMAC is in a very public area with two very busy roads on the boundaries. The Club takes a very serious approach to safety. We have been at the current site for over thirty years and we intend to stay. The full set of rules can be found at <https://holdfastmac.asn.au/general-info/flying-rules-and-regulations/>.

6. Does the Club offer any social activities?

Yes. We have monthly meetings in our comfortable Clubrooms and there will be many opportunities to visit other Clubs as your skills improve. We have regular BBQ lunches and monthly flying competitions which are lots of fun. You will be in a group of like-minded people and should enjoy exchanging information at the field. Some people who have time on their hands spend all day at the field chatting and flying. Our facilities are available 7 days a week.

7. What Qualifications do I need to fly Solo at HMAC field?

You must have one of the MAAA wings ratings to fly solo at HMAC. The MAAA wings ratings are:

Bronze Wings

The bronze wings category is for modellers who fly models under 2kg. It's a great step towards progress up the scale to bigger and more powerful models.

Silver Wings

Silver wings is applicable to members flying models weighing over 2kg. The only difference in the requirements for Bronze and Silver wings is the weight of the model used in the flight test.

Gold Wings

Gold wings are awarded for pilots who can complete more difficult manoeuvres including Cuban eights, inside loops and horizontal rolls.

8. What do I do if I have some flying skill (perhaps learnt while park flying) but have no MAAA qualifications?

You will be issued with a log book and given the opportunity to demonstrate your flying skills at a training session. If instructors judge your flying skills to be good enough you will be asked to take a flight test. You will not be permitted to fly solo until a MAAA wings rating is obtained and recorded.

The Steps in learning RC at HMAC are as follows:

Step 1 - Mode 1 or Mode 2?

Before you make your first flight you must decide what mode you will use on your transmitter. Once you start on a particular Mode it is very hard to change over to another Mode. So this decision must be made before you start. To understand the difference between Mode 1 and 2 you need to understand the basic controls of a fixed wing aircraft. If you are not familiar with the controls please refer to the first four pages of [The Simple Guide to Radio Controlled Flying](#).



Mode 1. Has Aileron and Throttle on the right stick and Elevator and Rudder on the left stick. Having the two primary controls on separate sticks makes it easier to understand the basic functions in the early stages.

Mode 2 on the other hand has the Aileron and Elevator on the right stick and Throttle and Rudder on the left stick. The intention is to copy the full size aircraft “joystick”. But every time you move the right stick there is a fair chance that you will move both aileron and elevator, causing an unwanted movement of controls.

There is much debate about which mode is better. Mode 1 is the way that most people in our Club fly. It is also the way that most people in Australia fly. Mode 1 is useful if later in your flying you would like a local expert to test fly or help with setting up an advanced aerobatic model or a sophisticated glider because most of those fixed wing local expert pilots will fly Mode 1. As a consequence we recommend Mode 1 unless you have a good reason to choose mode 2.

On the other hand mode 2 is normal in the USA and parts of Europe. Most YouTube videos will show Mode 2. Many claim Mode 2 is better suited to drones and helicopters and many ready to fly drones V2.5 -31 March 2019

come with a mode 2 transmitter. So if you are contemplating flying helicopters or drones it may be better to fly mode 2.

The majority of HMAC members fly Mode 1 but this is changing as more new members choose Mode 2. New students are free to choose as the Club wireless buddy box system can easily be configured to accommodate either mode 1 or mode 2.

Step 2 – Try Out

Book a free trial flight session on our website. We provide qualified instructors, Club owned aircraft and dual control radio sets. This will enable you to decide if the sport is for you without any initial expense. We recommend that you do not purchase your own equipment at this early stage.

Step 3 – Join the Club and the LIFT scheme

If you decide to continue learning after the initial free try outs then you must join the club to participate in our Low cost Integrated Flight Training (LIFT) program (<https://holdfastmac.asn.au/learn-to-fly/>). The advantage of the LIFT scheme is that you learn on club equipment and so can defer the expense of purchasing a transmitter and model until you have a better idea of where your interests lie. So your initial outlay is the fees to join the club (see the website for the fee schedule <https://holdfastmac.asn.au/general-info/apply-for-membership/>). Also the club carries the risk in case of damage to a model. You will be provided with a log book which sets out the training syllabus ([HMAC Log Book](#)).

You will continue in this scheme until you reach Solo or Wings standard. Achievement of either wings ratings means that you are competent to fly your own models safely at our field. The time to reach Bronze or Silver standard varies depending on aptitude and attendance at training sessions.

You can use a club Apprentice model (under 2 kg) to do a Bronze wings flight test and once you have gained your Bronze wings you are no longer eligible to participate in the LIFT scheme. You have graduated! You must then purchase your own equipment to continue flying.

You may wish to purchase your own equipment when you are near graduation especially if you wish to undertake a Silver wings flight test as this requires a heavier model over 2 kg (see the next section).

Step 4 - Purchase your own model and gain flying experience.

Having gained your Bronze wings you need to purchase your own equipment. By this stage you will have a better idea of what is available and what models of transmitter and model would be appropriate for you. Your instructors are happy to offer advice on which type of model may be best suited to your skill level. Purchase the equipment and with the help of instructors set it up and have the model test flown by an instructor. As you gain more experience you may wish to purchase other models. It is advisable to have an instructor test fly any new models.

Appendix 1

Glossary of Terms used in RC Modelling.

| Term | Meaning |
|------------------------|--|
| ARF (or ARTF) | Almost Ready to Fly. A pre constructed kit that usually only requires a few night's work to assemble. Adhesives will usually be required. Some further components such as propulsion system and electronics will need to be purchased. ARF models have revolutionised aero modelling but you can still build a Kit from scratch if you want to. |
| RTF | Ready to Fly. Means just that. It's all in the box. Sometimes components just click or screw together without glue. |
| PNP | Plug and Play. Similar to the RTF. Means that the basic ARF kit does not include radio, but usually includes servos and propulsion system. Popular with established RC users with favourite radio to "plug in". |
| RC | Radio Control (usually on the 2.4GHz band) Sometimes referred to as "Remote Control". |
| Glow Motor (IC engine) | A simple type of Internal Combustion engine that runs on very safe Methanol fuel and uses a device similar to a spark plug that glows continuously for ignition. Sometimes referred to as "Nitro" Engine but the Nitro is just a fuel additive. A low voltage battery is connected just to start the engine. The size of the engine is generally referred to in Imperial terms (.40 - .46 -.60 cubic inches or about 6.5 to 10 cubic centimetres). |
| Brushless Motor | Very popular, powerful electric motor which uses a dedicated Electronic Speed Controller (ESC) and a lightweight Lithium battery. Replaces most Glow Motor IC engines. |
| MASA | Model Aerosport SA is the official body representing South Australian Aero modellers. We are affiliated with the MAAA through affiliation with MASA. |
| MAAA | Model Aeronautical Association of Australia. The National body that represents thousands of Club Members and is charged with managing Model Aircraft in accordance with Civil Aviation Regulations. Membership of HMAA includes Insurance and affiliation with MASA and the MAAA. |
| MAAA Wings | HMAA follows the MAAA Wings proficiency system with slight modification for local conditions. Bronze for models up to 2KG, Silver for 2KG to 7KG. Gold wings are awarded for proficiency in prescribed aerobatic manoeuvres. HMAA requires Members to have Gold wings for the 7-25 KG Class. |
| Tricycle Undercarriage | One nose-wheel and two main-wheels. Easy to steer on the ground and the propeller does not normally come in contact with the ground. |
| Tail dragger | Two main wheels and a tiny tail wheel. Sturdy, old style undercarriage but may have a tendency to nose over. |
| Ailerons | Control surfaces. One on each wing. They move in opposite directions to each other and provide "roll control". |
| Elevator | One control surface on the tailplane. This provides "pitch control". |
| Rudder | Single control surface on the vertical tail. This provides "yaw control" but is not used to turn the plane in the air. It is a balancing control for coordinating the ailerons and elevator. Not as difficult as it sounds. |
| Flaps | One on each side of the wing close to the fuselage. Used on some models only. They move together, in the same direction and are generally used for landing only. Not essential but give a scale-like appearance. |