Learning to Fly at Holdfast Model Aero Club

Introduction

Building and flying radio-controlled model 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 Model Aero Club.

Steps in learning to fly RC models at HMAC

Step 1 – Come and Try

Book a free "Come and Try" trial flight session on our website (holdfastmac.asn.au/come-and-try/). We provide qualified instructors, Club owned aircraft and dual control radio sets. If you demonstrate basic aptitude and wish to continue, an instructor will invite you to become a member and join our **L**ow cost **I**ntegrated **F**light **T**raining (LIFT) program in which you will learn to fly under the guidance of an experienced instructor using Club-supplied equipment.

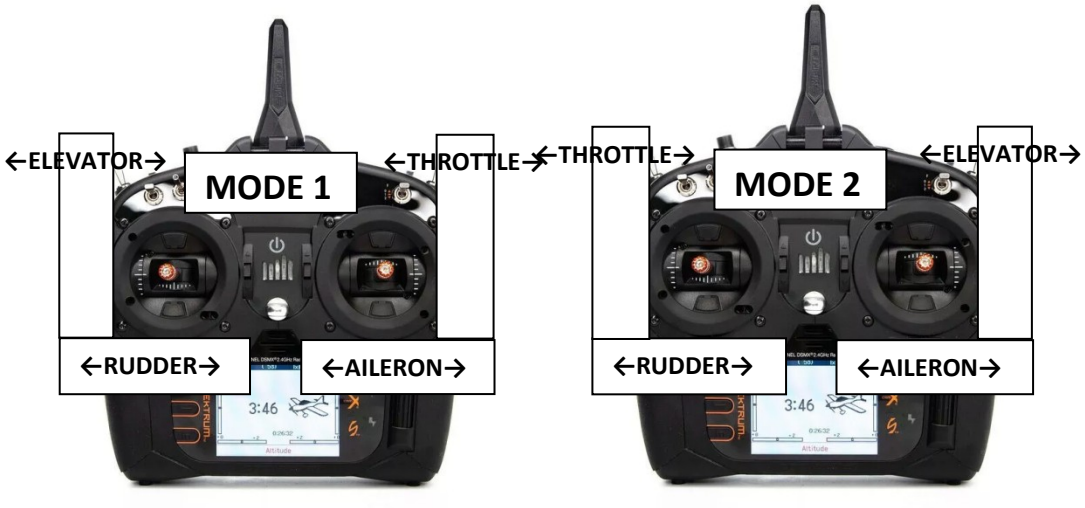
We recommend that you do not purchase your own equipment at this early stage.

Step 2 - Mode 1 or Mode 2?

Before you make your trial 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 holdfastmac.asn.au/documents/2018/05/guide-to-rc-flying.pdf/

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 and operate 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.

On the other hand mode 2 is normal in the USA and parts of Europe. Most YouTube videos will show mode 2. Many claim that mode 2 is better suited to drones and helicopters and many ready to fly drones 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 3 – Join the Club and the LIFT program
Once you have been invited to join the Club to participate in our Low Cost Integrated Flight Training (LIFT) program and you decide to do so, the Club will send you an application form and payment details.

The advantage of the LIFT program 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. Also the Club carries the risk in case of damage to a model.

You will continue in this program 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, attendance at training sessions and weather.

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 program. 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.

Step 4 - Purchase your own model and gain flying experience
Having gained your Wings you need to purchase your own equipment. By this stage you will have a better idea of what types of transmitters are available and what type of model aircraft would be appropriate for you. Your instructors are happy to offer advice on what 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.

Frequently Asked Questions

1. **Why join a club?** Holdfast is affiliated with Model Aerosport SA (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. Once you have been invited to join the Club to participate in our Low Cost Integrated Flight Training (LIFT) program you will be advised of the fee. You can defer the expense of purchasing a transmitter and model until you graduate from the LIFT program.

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.

There are two key documents on our website:
HMAC By-laws - holdfastmac.asn.au/flying-rules-and-regulations/
Members' Handbook – holdfastmac.asn/members-handbook/

All members are expected to be familiar with the By-laws and Handbook which cover all aspects of the Club's operations.

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 occasional 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 to members 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 2 kg. 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 2 kg. 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 to pilots who can complete more difficult manoeuvres including spins, Cuban eights, inside loops and horizontal rolls.

Notwithstanding the above Wings categories, the Club reserves the right to impose restrictions on the type of model flown depending on the ability of the member.

8. What do I do if I have some flying skill (perhaps learnt while park flying) but have no MAAA qualifications?
Book a Come and Try trial flight.

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 an hour or more 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 a receiver, but usually includes servos and propulsion system. Popular with established RC users with favourite receiver to "plug in".
RC	Radio Control (usually on the 2.4 GHz 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 (glow driver) is connected to the glow plug 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). An electric starter is a safe way to start an engine.
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 Safety Regulations. Membership of HMAC includes insurance and affiliation with MASA and the MAAA.
MAAA Wings	HMAC follows the MAAA Wings proficiency system with slight modification for local conditions. Bronze for models up to 2 kg, Silver for 2 kg to 7 kg. Gold Wings are awarded for proficiency in prescribed aerobatic manoeuvres. HMAC 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.