Choosing Your First Radio Control (RC) Model Plane and Equipment

Making your Purchase

It might surprise you to learn that prices have come down considerably over recent years making the hobby more affordable. However, world politics can have an adverse effect on prices. Virtually all aero modelling supplies and kits come from overseas countries. No longer do newcomers have to learn to build before they can fly. Models of today are usually "Almost Ready to Fly" (ARF) which means that they are pre-built and require only simple assembly or Plug and Play (PNP) which means you just add the receiver and batteries. Radio transmitters and receivers are incredibly sophisticated and cheaper than ever before.

The best model to start with is a fixed wing aircraft. We do not teach students to fly pure gliders (i.e. without a motor) and we do not teach helicopter flying or drone flying. You will see experienced HMAC members flying these models and you can certainly graduate onto these types once you have reached the basic Bronze Wings standard.

Electric, Glow or Petrol Power

In recent years, electric powered models have become dominant at HMAC, and the electric powered Apprentice models are used in our training program. Electric power is clean and simple but flight times are usually less than 10 minutes. Batteries and dedicated safe chargers are expensive. You will need at least three battery packs. Batteries need replacing regularly.

Glow power is more traditional but the engine is noisy and oily, and needs precise tuning to start and run. Glow fuel, plus oil, with nitro added is expensive.

There are many petrol powered engines available, but they are generally a larger capacity which suit larger models. They use petrol with a small amount of oil.

A model with a well set up glow or petrol engine and good size tank can stay in the air for 15-20 minutes.

Both electric motors and glow/petrol engines drive propellers which can cut you. The exception is ducted fan where the fan blades are enclosed within the model's fuselage or on external nacelles.

The choice is yours. Many of our members have both types of power plant but to limit initial expense we would recommend one or the other for a first purchase. Whichever you choose you will require some extra equipment at the field depending on the power source.

IC flight kit	**Electric flight kit**
Glow plug battery (glow driver)	Batteries (usually LiPo)
12v electric starter	Multi chemistry type battery charger & balancer
Spare glow/spark plugs	Battery capacity checker
Glow/spark plug spanner	Connectors - it is a good idea to settle on one or two types, e.g. one for small currents and a larger one for higher currents. This facilitates the interchange of batteries between models.
Container of fuel	Soldering iron and solder at home
Fuel pump (manual or electric)	Green "Safe Tag"
Spare propellers to suit model. Selection of adhesives for field repairs. Various tools e.g. screwdrivers, long nose pliers, medical forceps (for fishing out servo leads), small adjustable spanner, hobby knife.	

Recommended Radio systems

Having reached Bronze Wing standard you should have an idea of what types of model you may like to fly in the future as this determines the number of channels you will need. Nearly all transmitters (even the entry level ones) are computer transmitters. The radio systems require both a transmitter and receiver. The following table sets out the number of servos/channels required in a few types of model.

	Simple sport model	Sport model	Sports/Scale with flaps & retracts	Electric glider
	With SAFE system	Dual aileron	Dual aileron, flap & elevator, retracts	Dual aileron, dual flaps
Aileron	1	2	2	2
Flaps			2	2
Elevator	1	1	2	1
Rudder	1	1	1	1
Throttle	1	1	1	1
Stability or retract	1		1	
Total	5	5	9	7

So if you intend to stick with simple sports models then we would suggest a 6 channel system would be quite adequate.

If you intend to go onto more complex models we would suggest an 8 or 9 channel transmitter. It is better to pay a bit more initially for a transmitter that will not have to be replaced in a year or two. Voice and telemetry capability, while not essential, are available on some radio systems.

The Spektrum transmitters from our sponsor Model Flight are excellent transmitters and Model Flight provides local technical support. In addition many of the Bind and Fly models come installed with Spektrum receivers, so if you are interested in those types of models then Spektrum is a good way to go. But there are other high quality brands including Futaba, FrSky, Hitech, Jeti and Multiplex so do some research before purchasing.

Choosing your first aircraft

You have learnt to fly on the Eflite Apprentice electric aircraft. This is a relatively light model with a flying weight of about 1.3 kg. It is also relatively fragile and not suited to high load aerobatic manoeuvres. So while it is a great model to learn on a more robust model is more suitable to progress your flying.

There are many suitable models both (ARF) and kit models that would make a great first model. HMAC recommends that your first model should have the following characteristics:

- Have a high wing to give it inbuilt stability
- Be of reasonable size with a wing span of about 1.5 m or greater to help with visibility
- Have a strong undercarriage with reasonable size wheels to cope with the cracks on our strip
- Be capable of basic aerobatic manoeuvres like loops and rolls
- Be heavier than 2 kg if you wish to use the model to go for Silver Wings. Remember the Bronze and Silver Wings flight tests are the same the only difference being the weight of the model
- Not essential but preferable to have a disarming switch installed if electric powered.

There are a many suitable models to choose from.

The best place to buy your model and RC equipment is at a local hobby shop specialising in RC aircraft, such as our sponsor Model Flight. Feel free to search interstate suppliers if you wish but it is a lot simpler and safer to buy locally. Do not be tempted to buy cheap models from overseas or even eBay. There will most likely be no back up or after sales support if you do. The local hobby shop will sell only radio systems approved for use in Australia and Australian Consumer laws apply. HMAC Instructors will inspect your model and its RC installation for safety before the first flight.