Learning to fly a radio controlled aircraft

KiwiFlyer Correspondent Janice Angus continues her series on aero modelling. This time the subject is Learning to Fly.

UNFORTUNATELY for those new to aero modelling, the reality can be many hours of painstaking construction, followed by a maiden flight measured in seconds, resulting in a model resembling matchsticks. Flying a radio controlled aircraft is challenging. Some people pick it up more quickly than others but the best way to master the sticks is to train with an instructor through an aero modelling club.

To find your local club go to the Model Fly New Zealand website. This is the governing body of aero modelling in NZ . They maintain the "Wings Badge" administration and provide a great source of information on the sport. Their website is www.nzmaa.org.nz

Most clubs have a club trainer and operate a "buddy" flight training system. This is where two transmitters (one for student and the other for instructor) are connected via a cable enabling the instructor to quickly take control if needed.

As with a full sized aircraft, the basic model aircraft is flown and manoeuvred with four control inputs – ailerons, elevator, throttle and rudder. All 4 channel transmitters have these controls as standard and also have trim to fine tune the controls.

Depending on their preference, pilots will fly either mode 1 or mode 2. This refers to the way the transmitter stick controls are configured. Mode 1 has aileron and throttle control on right, with elevator and rudder control on left. Mode 2 has elevator and aileron control on right, with throttle and rudder control on left.

For learners, a docile and predictable trainer aircraft is recommended. Typically this type of model has asymmetrical wings with little dihedral and is set with moderate travel on control surfaces. When set up correctly a trainer will practically fly itself in level flight during calm conditions.

Though knowledge of the theory of flight is helpful in understanding the dynamics of flying radio controlled aircraft, being able to judge distance and perspective is rudimentary to successful and enjoyable flying. Most instructors will initially concentrate on getting the student comfortable with flying in a circuit and familiar with the effect of control inputs.

Rob Wilson (Instructor) and Alan Roberts of the Papakura Manukau Aeromodellers Club about to embark on a flying lesson.

There's a good reason to start with a $100 aeroplane. Damaged ones will usually be up and running again a week later.

The model pilot's career path extends to fast jets too, in this case a turbine powered Vampire.

It can initially be difficult getting your head around the fact that the inputs for flying away from you are opposite to when you are flying your aircraft towards you. With time, this will become second nature and you won't even think about it.

The mantra of instructors is "fly at least two mistakes high!". More air between the aircraft and the ground gives the instructor valuable time to react and correct if the student has "lost it" and has the plane is heading for the dirt at a great rate of knots.

Learning to fly takes a lot of concentration. A good instructor will recognise when the student has had enough and bring the lesson to an end. Just like with full size aircraft, it is not unusual for brain fade to set in after a very short time, resulting in erratic flying.

As with learning any new skill, confidence is a big factor and the best way to build confidence is to spend time perfecting the basics. Having access to a flight simulator can help immensely with getting a student competent at controlling the model. Many clubs have flight simulators students can hire for a small fee.

Once the student has demonstrated competence in the ability to fly straight and level in a circuit, the next stage is learning to take off and land. Learning to master different flying conditions and crosswinds is important. This stage of training is the most challenging for the instructor as the aircraft is close to the ground and the margin of error and time to correct is greatly lessened. The adrenaline can really be pumping for both parties during this phase but is equally matched by the satisfaction of the first successful flight.

Eventually the instructor will determine when the student is ready to "go solo" and the coupling of the transmitters will cease, though a student will probably fly with the instructor close at hand observing initially. Many instructors are also qualified to do flight tests for the Wings Badges.

Typically, once a pilot has their wings badge and a few hours under their belt on the trainer aircraft they will look to progress to a more challenging model. An intermediate model allows more aerobatics and the thrill of pushing the envelope to test and extend the pilot's skills. Beware, this is also the stage when you can experience the pain of crashing and get to practice your repair skills. As frustrating as this may seem at the time, remember – "you can't bake a cake without breaking a few eggs." Just don't apply the same theory if you're learning to fly full size aircraft.