

I am 67 years of age. I have been flying model aircraft on and off for many years. I also learned to fly full sized aircraft in the 1990's, but sadly had to stop before being able to qualify for an unrestricted pilots license. I have about 50 hours experience as a student pilot.

## History

Model aircraft have been flown since the 1850's and the Wright brothers themselves used flying model aircraft to develop their manned flying machines.

Radio controlled model aircraft were first flown in the 1930's and were demonstrated to many air forces including the Luftwaffe, RAF and USAAF. The earliest aircraft flown remotely using television for guidance and radio for control were used in the Second World War by the USAAF and the Luftwaffe.

Since that time electronic components have been shrinking and about 15 years ago a Canadian man was credited as the first person to fit a security camera with a video transmitter to a model aeroplane and fly it around a golf course in Canada. This idea quickly caught on.

This technique is known as First Person View or FPV flying. My experience is with fixed wing models, so I shall confine my comments to this aspect of flying. My first FPV experience occurred in 2010 when I fitted a video camera and video transmitter to a free flight model aeroplane that was modified to be controlled by a simple three channel radio system, this allowed me to control the motor, elevator (pitch) and rudder (yaw). I quickly learned two important things. The park I was flying in was too small and there were too many other users on the 2.4GHz ISM band I was using for the video link. I needed to move.

## My Experience

Since then I have developed my skills and gained experience and now enjoy my time in the air immensely. I have also found many friends nearby and around the world who share this interest. The internet is a wonderful thing.

I will not go into detail, but I am able to fly and control my aircraft over considerable distances. I have had my share of mishaps, but I don't fly in populated areas. I am aware of the need to operate my equipment in a safe manner and I believe I do. To my knowledge I have not caused anyone any injury or inconvenience.

## My observations

Most of the people I associate with fly fixed wing models, but the few I know who fly multi-rotors, have the same attitude. Few people will fly more than 3 kilometres from the launch point.

We fly model aircraft that are available to the general modelling community as kits. Plastic foams are the main constituent of fixed wing models. We prefer to source the necessary equipment to put on the models for ourselves. We generally do not buy aircraft that are "ready to fly". Most of these are barely more than toys and what we build, are aircraft that are far more capable than those available "off the shelf".

Our aircraft are electric powered and use Lithium Polymer batteries, although there is an increasing interest being shown in the newer Lithium Ion batteries appearing on the market. One of the appeals of the Li-Ion cells is that they are lighter for the same electrical capacity than LiPo's and will therefore reduce the overall weight of the model. The typical aircraft has a wingspan between 1.5

and 2.2 metres and weigh between 2 and 3 kilograms. Control of the aircraft is achieved by use of “off the shelf” Radio Control systems that can be purchased at any hobby shop, both local and on line. 36MHz and 2.4GHz can be used, but most favour 433MHz because this frequency give a more reliable control link. The video systems are not usually stocked by local hobby stores and must be sourced on line from specialist stores that supply the hobby electronics or security market. Other specialist electronics are also sourced on line, these include such aids as On Screen Displays and flight controllers which generally give the pilot an “instrument panel” which is overlaid on the video picture used for piloting the aircraft. The other aid usually included with the OSD is a flight controller which may be considered an “auto pilot” which will allow the pilot to concentrate on other aspects of the flight while the aircraft is kept on course and altitude by the flight controller. It will usually incorporate a “Return to Home” function which can be activated by the pilot or set as a “fail-safe” should the radio control link be lost.

We tend to fly away from the metropolitan area. While there are places used in the metro area to test equipment and such, anything more serious is done well away from population centres.

This is a pastime I feel is poorly understood by those who make regulations, I have had limited contact with members of Model Flying Clubs and the MAAA. They do not seem to understand how this works and generally regard our part in the hobby with some hostility. We understand the importance of not flying over people, buildings etc and to stay below 400' and to stay away from airfields. Once launched, our aircraft are beyond visual line of sight in a few seconds, but that does not mean these aircraft are beyond our control, far from it. In my opinion, drawing from my experience, I have as good a view of the world from my video link than I remember having from the pilot's seat of a Cessna 152.

#### In Conclusion

I would welcome some sensible regulations for my hobby. It should be done in consultation with those who fly this way, to do otherwise would be to leave us operating underground. My suggestion would be to have a knowledge test something like the Basic Aeronautical Knowledge test for student pilots. This could be followed by a practical test which would include demonstration of the candidates ability to operate the aircraft in a safe manner. A licence could then be issued which should include a relevant section regarding the various radio equipment used (much like how the Student Licence incorporated a radio licence to operate the VHF equipment on a light aircraft).

Registration and or inspection of the aircraft to be used beyond VLOS (visual line of sight) might also be considered. In my opinion they should be fitted with a failsafe system which will enable a return to home function to be enabled if needed.

I'd also suggest the RPAV pilot would then notify Air Services Australia when and where they plan to fly and receive clearance to do so. I've not usually had a problem where I fly, but helicopters seem commonly to be below 500' AGL, happily, one can hear them a long way away.

I urge you to consider this issue carefully. There has been too much sensationalism about this activity in my view, but it is clear to me that regulation is necessary to facilitate effective control of the use of “off the shelf” vehicles by novices who can all too easily be left behind by an aircraft they do not understand. If done well, then this hobby could also be used by young people as an entry into a very rewarding career. I believe this style of model flying could have a bright future.