

Annual Safety Review 2018

There was no safety review meeting in 2018 because the technical committees and specialist bodies were unable to send representatives.

The reported incidents suggests that the competition element of the BMFA where flying is tightly controlled by competition safety regulations is not the target group who need to attend the safety review meeting, rather it is the representatives from Clubs via their Areas who should attend. The FFTC reported the new rules which allow the contest director to stipulate where flying takes place has had a positive effect on safe flying.

There has been an increase in reported incidents and thus insurance claim over the past few months, this could be a result of the good weather we have had which probably resulted in more flying. A review of the insurance claims shows a worrying increase in claims for damage to vehicles, the cost of these claims is rising due to the ownership of newer and more expensive vehicles. There will be an article in the next BMFA news which will highlight this issue.

Robert Coggan from the ESAG group submitted the following report:

RF Interference at Warwick MFC

Supported the club in investigating model losses, possibly due to a microwave beam crossing their field. Tests flown using a telemetry equipped model, but results are inconclusive. The problem appears to be very intermittent and tests will continue to be run by club members. No further action required - watching brief.

Extension of 5.8GHz Band for WiFi Use

Ofcom added section 8/3 to IR2030 v1.9 (Jul 2017) to include technical specifications for WiFi use in the 5725MHz - 5850MHz band. Became law on 7 Aug 2017. There are two significant changes from the original consultation documents: reduction of maximum power from 4W eirp to 200mW eirp, and a ban on outdoor use. These relaxations are welcome and should reduce the risk of interference with outdoor FPV video downlinks. There is still a long term risk with indoor FPV activity as new WiFi hardware is rolled out. IR2030 has had two further amendments, the latest version being v1.11 (Feb 2018).

Note that IR2030/8/3 permits airborne use, but only **within** the airframe e.g. local WiFi on an airliner. It is **not** for use in FPV video downlinks. This is still covered in IR2030/1/23 (Oct 2010) for "Non-specific Short-range Radio Devices", 5725MHz - 5875MHz at 25mW eirp max. I have not heard of any conflicts so far, but it would be prudent to advise members via BMFA News & Handbook, and also ask for feedback on any incidents.

Wireless Trainer Modes

Many of the latest generations of 2.4GHz transmitters are offering wireless trainer connections as an alternative to the traditional buddy lead. Spektrum, for example, use the full 100mW main signal to "bind" the buddy transmitter to the instructor's transmitter. I have seen this used several times and found it quite reliable. However, FrSky have implemented a trainer mode using a secondary RF module with their own implementation of Bluetooth. It is difficult to find a proper specification for this, but it appears to be based on Bluetooth 4.0 +LE which has an output of

10mW max. Two members in my club recently tried this with FrSky QX7 transmitters which use buried antennas (presumably pcb tracks). It initially worked fine, however, when the instructor turned and put his body between the two transmitters, the link failed and control appeared to be passed back to the instructor's transmitter despite him still pulling the trainer switch. He missed the audio cue due to external noise and the model flew uncontrolled for a while until he realised something was wrong, dropped the switch and took full control. The club has put a temporary ban on Bluetooth based trainer links until more knowledge is gained. The forums indicate others having similar reliability problems. I will investigate further, with tests and online searches, but it maybe something we want to open a discussion on and ask for feedback, perhaps through the "Chacksfield Chat" column?

Range Testing

Apparently some of the minor brands of transmitters do not appear to have a Range Test mode. Any knowledge of this?

Also note that whilst the reduced power "Range Test" mode of 2.4GHz transmitters is very useful for checking Tx/Rx installations with various orientations, motor interference etc, it does not prove that full power is output in normal mode. I personally lost two models a few years ago due to a failed RF amplifier module - it worked at close range in reduced power, but didn't transmit full power when flying. I still use the reduced power check on any new or modified installation to initially check for antenna shadowing, interference etc, but prefer to routinely use a low cost RF power checker (from Model Radio Workshop) to confirm full power. One for the Handbook?

Radio Installation

I am amazed at some of the poor RF practices, especially installation of receivers and antennas - loose, squashed up, sharply bent (breaking the antenna wire), incorrect orientation, antennas placed adjacent to each other, next to wiring, batteries etc..... the list goes on. This seems more prevalent with newcomers to the hobby, but models should be checked out by their instructors! Perhaps we need to target some advice to instructors? BMFA News, Handbook, ASRC.

I am always happy to write up any advice etc for the web, Handbook or BMFA News - just ask and it shall be done!

Robert Coggan

In addition one of the clubs which I am associated with has temporarily banned the use of mix and match Tx/Rx systems as they have had some incidents of control loss. I consulted the Futaba engineer at Ripmax his recommendation is not to do this particularly when a computer Tx which receives software upgrades is being used.

Peter Halman

Vice Chairman, Chairman Safety Review Committee.