

Has This Ever Happened To You?

By Bob Kugler

You're flying your favorite airplane. You're doing the maneuvers that you've done a hundred times before. The weather is perfect. The wind is steady, light and blowing in your favorite direction. You are having a great time. You couldn't feel more comfortable.

Then, without warning your old friend develops a mind of it's own. While doing a simple, straight and level fly-by, your plane throttles up. Then it rolls over, and spins into the ground. something has gone seriously wrong. Your first thought is "I've been shot down!"

This may or may not be true. After you have had time to regroup and analyze the situation, you may be able to determine the actual cause of the crash. A postmortem is always worth doing so you can prevent the problem from recurring.

What are the possibilities?

1. Someone turned on a transmitter on your frequency.
2. Outside radio interference.
3. Receiver battery failure.
4. Transmitter battery failure.
5. Radio Failure.
6. Receiver switch failure.
7. Mechanical failure.
8. Pilot error.

My limited experience has shown that most planes are lost as a result of mechanical or electronic failure (items 3,4,5,6 and 7). Next comes pilot error. This includes letting the plane get too far away, losing it in the sun, getting confused while inverted, stalling the plane too close to the ground, throwing the wrong switch on your transmitter, or simply trying one too many turns while dead stick. The least frequently seen cause of RC plane crashes is radio interference (items 1 and 2). Yet this is the one we think of first. This is probably because it is one of the few causes that we can blame on someone or something else.

Here are some things you can do which may prevent these problems.

1. When installing the switch harness in your plane, you may want to locate it inside the plane. Cut a piece of thin music wire so when bent to shape, it will extend from the switch to the outside of the plane. This will help the switch stay clean and oil free.
2. When installing the radio in your plane, shield the receiver and battery from vibration by wrapping them in closed cell high density foam. In time vibration will loosen the internal electronic components of an unprotected radio. Prolonged vibration can also cause a short in an on board battery. While you're at it, make sure your servos are shock mounted by using the little rubber grommets and sleeves that come with the radio.
3. Before you assemble your plane, make sure that the servos, battery, and receiver are secure in the plane. Ensure that all radio connectors are in place. Check the control surfaces for excessive play, cracks or bindings.

4. Walk the flight line and pits. Check to see who is sharing your frequency. Let them know you are there and ask them if anyone else is using the channel. Don't assume that everyone uses the board when flying. You may run into a new person who is not familiar with our system, or you may find someone whose tag fell off the board.

5. Use the frequency control board.

6. Always do a pre-flight inspection of your airplane.

Check your flight pack battery with a good expanded scale volt meter. If you check this before each flight, you will get to know how much battery is needed for a flight and therefore if you have enough battery for the next flight. A recent article in RCM suggests that you leave the ESV connected for at least 30 seconds to get an accurate reading. I have tried this and have seen the needle drop. If the battery is weak, it will show up here.

Check to see that all the controls are working and in the right direction. When I first started I could not remember which way the ailerons were supposed to work until I started using a catch phrase. When I test my aileron, I push the stick to the right and watch the right aileron. I say "right up" to myself. If the right aileron moves up, it's working correctly.

Check the meter on your transmitter. These batteries are reliable, but they do sometimes fail.

People who faithfully check their receiver batteries sometimes forget to glance at the transmitter meter. Range check your radio system. This is rarely done, but it can uncover an otherwise undetected problem. It should be done with the engine running so if any of the radio components are loose the vibration may cause it to act up.

Test to see if another transmitter is turned on. This can be done by turning on your transmitter and receiver. Move the sticks to the corners, much like you would when performing a snap roll. While holding the sticks in that position, turn off your receiver switch. Next, turn off your transmitter. This will leave the ailerons, rudder, elevator and throttle off center. Turn on the receiver switch. If the control surfaces should center themselves, or begin to twitch, your receiver is getting hit by another radio or some sort of outside interference. **DO NOT FLY!**

If you think there is radio interference on your channel and I happen to be at the field, do the following: (1) Don't fly. (2) Ask me to scan your channel with the club's scanner before you fly. We may be able to identify the culprit. We have used the scanner to find people who are using one channel with their tag on another. We have also found signals appearing on channels with no radio in the vicinity on those frequencies. This may be a case of 3IM or someone using a transmitter at a nearby picnic grove.

If you are already flying and your plane starts going crazy, hold your transmitter as high above your head as possible. Notify everyone on the flight line that you are going on the field. Run toward your plane. If you can get your transmitter closer to the receiver in your plane, it may provide a strong enough signal to override any interference. I have seen this technique used several times by our Chief Instructor, Joe Felonk. It Works.