PROGRAMMING THROTTLE CUT FOR ELECTRIC AIRCRAFT

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PROBLEM

Electric powered model airplanes are more dangerous than glow or gas powered airplanes in at least one respect; if the battery is connected to the electronic speed controller (ESC), inadvertently bumping the throttle may turn them on.

SOLUTIONS

Safety solutions include arming switches (where a separate action is required after connecting the battery to actually connect the ESC) and a throttle cut function enabled in the transmitter, or both. When the throttle cut function is activated on the transmitter, the throttle channel output sets the throttle (via the ESC) to off regardless of the position of the throttle stick. The activation function has to be on a two position switch, where two stable positions are available (throttle cut on and throttle cut off), not a momentary or push button switch which is used for glow or gas powered planes to kill the engine when at idle.

PROGRAMMING A KILL SWITCH ON A TRANSMITTER

You may find some of the following when programming a kill switch on your transmitter.

1. Many modern transmitters have a "throttle cut" function. However this function may be designed to shut off a gas or glow engine when the throttle is at the low position. At high throttle, the function does not work and full throttle may be the result. Also, some of these transmitters use a momentary button to active the cut. Not for electrics.

2. Some transmitters have a dual mode "throttle cut". It can be programmed to shut off a glow or gas engine or programmed to shut off the ESC. In some cases the function is on a switch, which is appropriate. However, in at least one case, the manual says it "disarms the ESC". Not sure what that means.

3. In some cases, the dual mode "throttle cut" function, when set to ESC, appears to operate properly for electric models. The language used in the manual is: "When Thr. Cut is active, the throttle position is held regardless of the throttle stick position". This is what we want.

4. If your transmitter does not have a proper throttle cut function but does have at least one channel mix available, you can program it to perform a throttle cut function. See the LCAA web page under "Club Info./General Information/How It's Done" for details about how to do this.

5. If you have a Spectrum DX7s, DX-8, DX-9 or higher transmitter, the throttle cut function is available in the Function List for the particular model selected and you don't need to resort to using mixing.

Bottom Lines:

1. **Activate or program a kill switch on your transmitter for safety.**

2. **When done with the programming, check it out using the channel monitor function (or whatever it's called for your brand of radio) to make sure that when throttle cut is engaged, the transmitter channel output does not move from "off" regardless of throttle stick position. Do this before arming your airplane or installing its battery.**

3. **If your transmitter does not have a channel monitor function, remove the propeller from the aircraft and check out the operation of the throttle cut function.**

4. **With a throttle cut function enabled, be sure to get in the habit of putting the transmitter switch in the cut position to activate it:**

   a. **Before turning on the transmitter (of course you do that before plugging in the battery and turning on the receiver, don't you?)**

   b. **Or, before plugging in the aircraft battery**

   c. **And immediately after landing and taxiing the aircraft to the pilot station (before picking it up for transport back to the pits) and/or before picking up the aircraft from the runway if it doesn't have a landing gear.**