How to Program an ESC

Throttle stick method

All ESCs that I'm aware of can be programmed using the throttle stick on your transmitter. It's best to do this either with your plane well secured, or with the prop off, just in case you do the wrong thing at the right time!

The one thing that you will always want to do with this method is to calibrate the throttle. Here are the steps that generally work, but check your ESC's instructions to make sure:

1. Remove the prop from your plane or secure it so it cannot go anywhere or damage anything if the motor suddenly starts in either direction of rotation.
2. Bind your transmitter to the plane, and make sure it is controlling it.
3. Turn off the power going to the esc and receiver in the plane.
4. Advance the throttle stick to 100%. You will want to make sure that the trim isn't down, so that it really is 100%. And, we are assuming that you haven't gone into the transmitter programming to bring it down less than 100%.
5. Make sure that power is still on in your transmitter.
6. Turn the power on to the esc and receiver in the plane.
7. After you hear a few beeps, pull the throttle stick back to 0%.
8. The ESC will then make a few more beeps to confirm the task is complete, and you are now ready to rumble!

Note that if you leave the throttle stick at 100% too long, it will enter the advanced programming mode, and that's not what you want for calibrating the throttle. Instructions for your ESC will outline this procedure, and will also tell you what sort of beeps the ESC is going to make and when.

With most ESC's you can also use the throttle stick to select other options for how the ESC is going to operate, and/or see what options are already selected. You should refer to your ESC's instructions for this. If you don't have them, most are available on the internet. Just do a Google search for the manufacturer and model of your ESC.

Essentially, it most often will involve something like this: Leave the stick at 100% in step 3 above until there is a further set of beeps and/or tone that confirms it is in the advance mode. It will then begin cycling through the options available, with a certain number of beeps being assigned to each option. When you get to the option you want to see or alter, move the stick down to the bottom. Most likely it will then give you a number of beeps to identify which choice is currently selected, then it will begin cycling through the rest of the choices for that option, with a number of beeps being assigned to each choice. When you hear the one you want, you move the stick up to 100% throttle. The ESC will then make some tones to confirm that that choice is selected, and you turn off the power to your ESC and receiver. It's then ready to go, if that's all you needed to change.

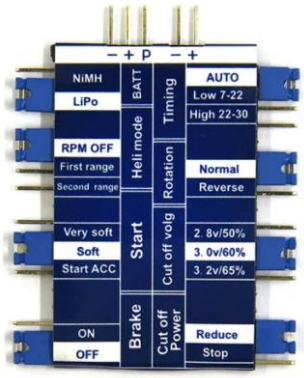
If you want to change more than one thing, you need to then go through the whole procedure all over again, selecting the next option that you want to change.

Naturally, you want to confirm this process with the instructions that go with your ESC, but as some of those have been written by a foreigner with minimal knowledge of the English language, the above should be helpful in trying to understand what they are saying.

Spektrum does have another way of using the programming in some of their transmitters to select the options within their ESC's that's a lot easier. We will leave that for another time.

Programming card method

All ESCs that I'm aware of will have a programming card available. You need to use the one from the manufacturer of your ESC, as most of them will have different options and choices. The good news is that they are not expensive.



There are a variety of types of programming cards. Some use a small plug in connector that you use to connect two pins together along the side to select a choice – one for each option.

Others will use buttons. One button to cycle through the options, another button to move across the choices for the option, and then another one to make the selection.

And then, there are still others that can be connected to a computer to use a program to set the options. In separate videos we will be going through several different manufacturers' ESCs to show you the specifics on each one.