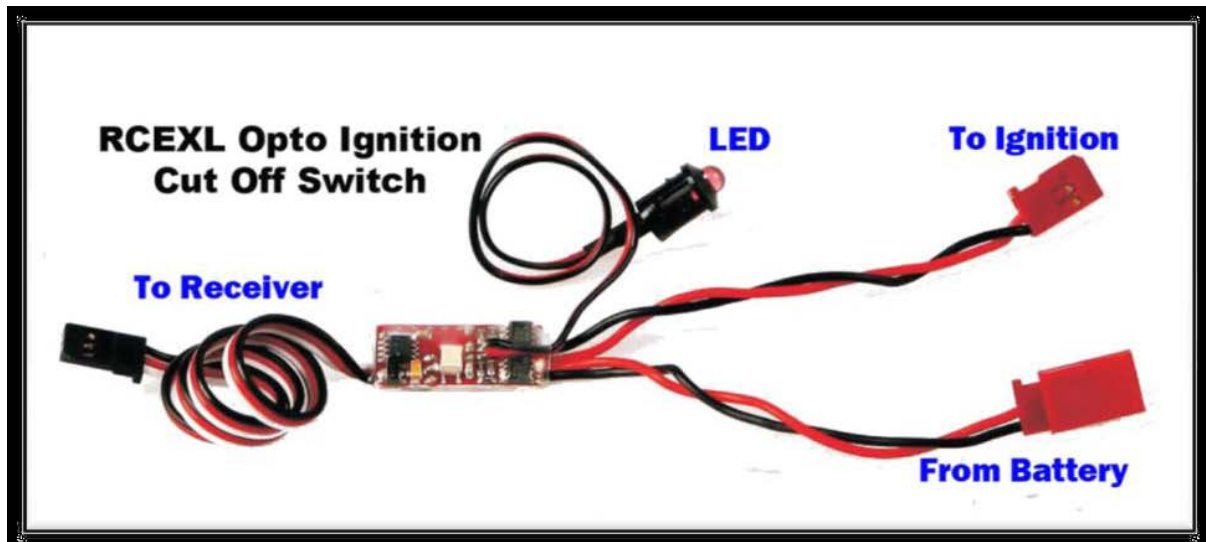


RCEXL - Opto Ignition Cut Off Switch

How To Configure and Use

by Henry Zwolak

First off, it has to be said that I am big believer in Ignition cut off switches. This is a must have device that every RC airplane that uses a gas engine should be equipped with one. This device will give you the ability to safely and remotely kill your engine from your transmitter with the simple flip of a switch.



It is another safety device that hopefully will never be needed by its user. But in that one in a million chance that you need to stop an engine quickly - outside of crashing the plane - having this switch in place will make it all worthwhile.

It is one of the best insurance items you can use on your plane to guarantee that your engine can be shut down when YOU want to do it.

The RCEXL Opto Petrol Engine Kill Switch is one of the most popular switches around. When you look at the picture of the switch, you will notice there are only 3 cable connectors running out of the unit - receiver cable, ignition cable and battery cable connectors.

Here are the details on the ignition cut off switch:

1. This device plugs into a spare receiver channel.
2. Includes a remote mountable bright red LED to indicate when the ignition is armed
3. Fibre optic coupled input/output
4. Li-Po/Li-Ion/A123/Ni-n/Ni-Cad input
5. Low voltage drop - less than 150mv

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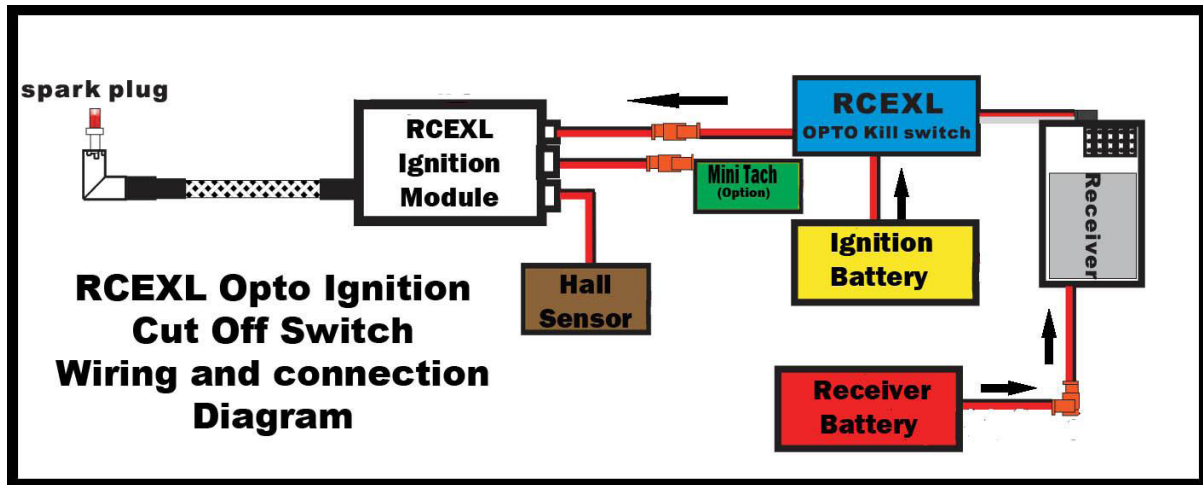
6. 100% surface mount technology
7. Heavy gauge wires
8. Universal connectors
9. Small and light weight - 0.3 oz (8 grams)
10. Reverse battery input protection
11. Turning off transmitter or received power will automatically kill the engine
12. This device allows you to safely kill the engine at anytime - ground or air borne

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Setting up the unit in your airplane could not be easier. The diagram below lays out all the necessary connections that need to be made.



On the newer RCEXL ignition modules, you will see 4 cables running from the unit. The older units have only 3. Attaching the ignition cutoff switch to the ignition module needs only connection - the battery (Power in) connector. This cable is the conduit that supplies the necessary power to the ignition unit.

Without the Opto ignition cut off unit, the ignition battery would simply connect directly to the ignition module.

The ignition battery now connects into the cut off switch.

The final connector from the cut off switch connects into the receiver. For the unit to operate properly, you will need to choose an unused receiver port - aux 1, aux2, gear, etc.

That is it. The physical work is done. The one part that is not shown in the diagram above is the LED. The LED light is mounted anywhere on the plane that it is noticeable to the user.

When the unit is working and connected up properly, the LED will glow red. This tells you that the unit is live and armed, providing power to the ignition module. If the LED is not glowing red, there is no power being delivered to the ignition module. Your engine will NOT start.

Okay back to the switch unit. Now that you have correctly installed all the cables and the LED light is mounted where you can see it, what else has to be done?

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On the transmitter, you will need to check that the switch that controls the cut off switch is working properly.

Most - if not all - of the problems with non operational switches will be found here.

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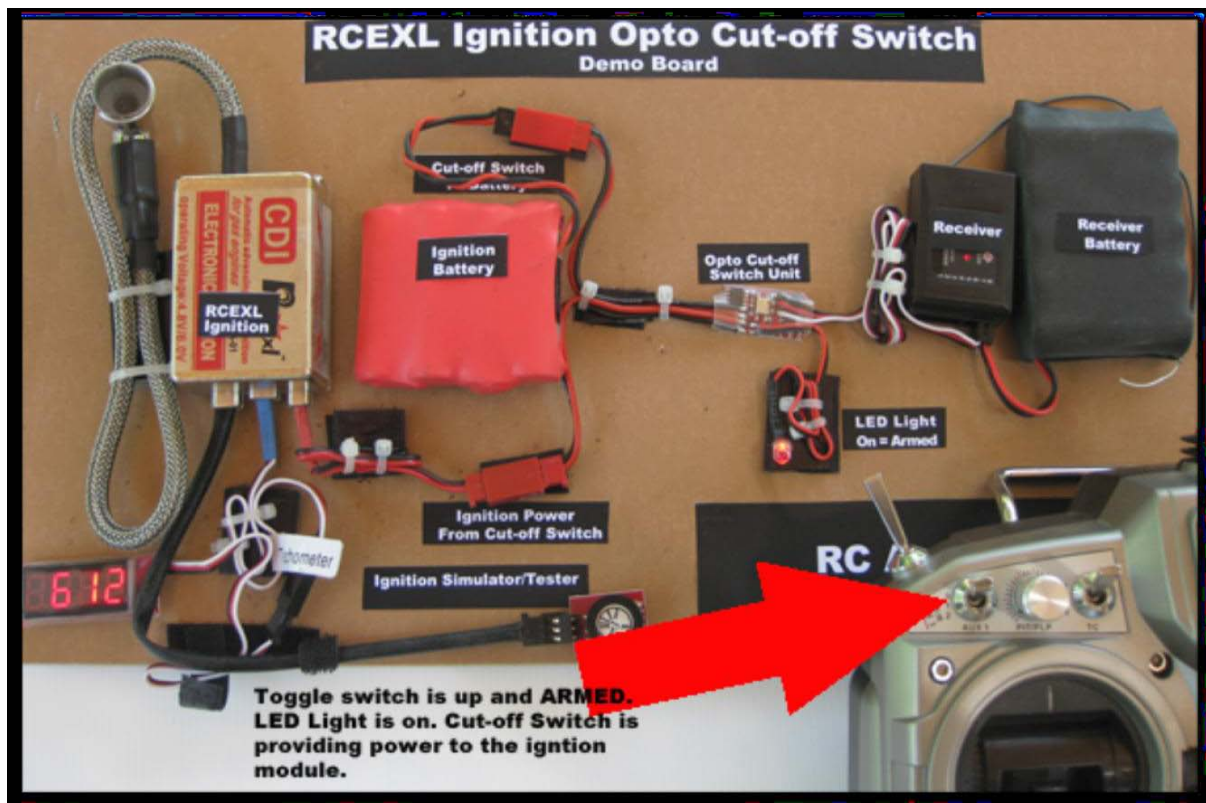
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Things to consider -

1. Which toggle switch on your transmitter is assigned to work with the cut off switch?
2. In the programming function of the transmitter, the user needs to ensure that the switch is assigned maximum throws. The cut off unit will not work properly if the throws are too narrow. Throws are usually assigned a percentage function in the transmitters. Ensure that they are at maximum. The cut off switch needs to have maximum throws to work properly.
3. Is the cut off switch connector installed correctly in the receiver - black to black, red to red?
4. Are the pins in the receiver port that the cut off switch using straight and not bent or broken off?

If all the installation has been done properly, and the transmitter has the toggle switch that is controlling the cut off unit using maximum throws, you will be good to go.

Here are some more pictures to illustrate the installation and the transmitter.



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In this picture, the toggle switch on the transmitter is in the UP position,(red arrow) which in this case means it is ON or ARMED. The LED light is on. The ignition module is connected to an ignition tester in this picture, so it is running in real time. The mini tach on the far left indicates that the ignition system and “engine” are running at 6,120 RPM.

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The picture below is showing that the toggle switch throw is at 100%. (when the ignition cut off switch is armed and running as in the above picture.) Your particular transmitter may have a different level showing maximum throw.



The picture below is demonstrating when the cut off switch has been activated and all power going to the ignition unit is OFF.

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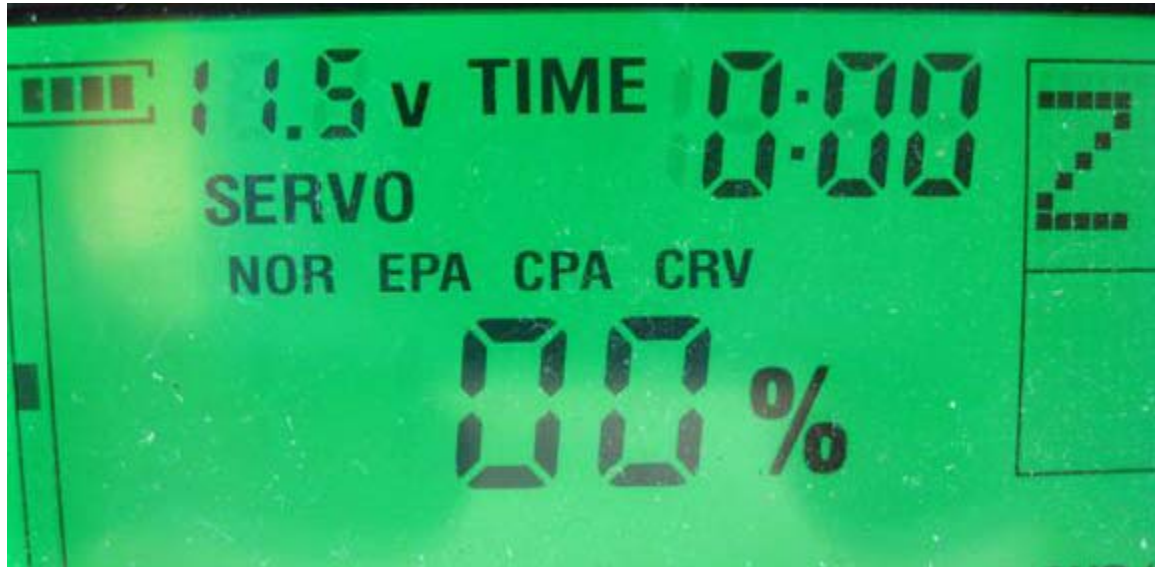
In this picture, the toggle switch on the transmitter is in the DOWN position,(red arrow) which in this case means the power is OFF. The LED light is OFF. The ignition module

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is connected to an ignition tested in this picture, so it is running in real time. The mini tach on the far left indicates that the ignition system and “engine” are OFF. The picture below is showing that the toggle switch throw is at 0%. (when the ignition cut off switch is OFF and running as in the above picture.) Your particular transmitter may have a different level showing maximum throw.



The RCEXL Opto Ignition Cut off switch is an important piece of the engine system. The unit is easy to use. It is one of the safety devices that you should have in your airplane, no matter what the size of your gas engine.

That's it you are finished

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