Set up enhancements – throttle cut

Below are three different throttle cut options.

1 – Basic

2- Basic - an alternate approach

3 – Advanced - offers extended protection, important for powerful outdoor models.

1 ~ Throttle Cut Basic

On the MIXES page add another line immediately below the Thr mix.

```
CH3:ThO          I3:Thr Weight(+100%)
             := MAX Weight(-100%) Switch(SE↑) [Cut]
```

The individual lines set up is shown in the two pictures below.

On the left is the "Thr" definition. On the right is the "Thr Cut" definition.

This shows 'Switch E', but you need to choose a two throw switch that is on *your* radio.

Make sure to set all 4 items marked below with red arrows. The blue one is optional.
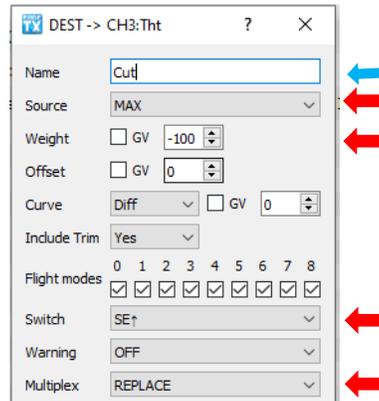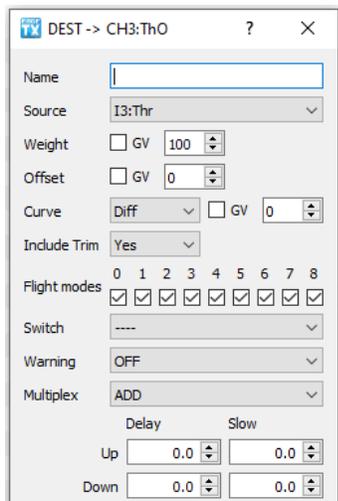
This "replaces" the signal from the Thr stick with -100% i.e. Thr off. #1

You can enhance this by using verbal warnings to indicate the switch position.
That is shown in the next option below.

#1 For *some* DSM receivers, where you had to use "extended limits", you may need to set the Weight to -120%, otherwise the motor will not start.

Cont'd over

2 ~ Throttle Cut Basic, option 2, also shows verbal warnings for switch positions

On the SPECIAL FUNCTIONS page.

SF11	SE↑	∨	Override CH3:Tht	∨	-100	⬍	☑ ON
SF12	SE↑	∨	Play Track	∨	thrcut	∨ ▶	No repeat ∨
SF13	SE↓	∨	Play Track	∨	thract|	∨ ▶	No repeat ∨

Note switch E is a 2-position switch on my radio. You might choose to use a different 2-position switch to suit your radio.

The lines above ….

1. SF11 says if switch E is away from you, then override the throttle stick output and set the Thr value to -100% i.e., motor off. See also note re *some* DSM bricks in previous option.

2. SF12 Plays a soundtrack that says "Throttle Cut" when switch E is away from you.

3. AS13 Plays a soundtrack that says "Throttle Active" when switch E is towards you.

Notes:

These can be any lines on the special function page.

The switch you choose to use can be any 2-position switch.

Thank you to Ian J for this option.

3 ~ Throttle Cut Advanced - higher safety option.

The problem with option 1 and option 2 is that…

1. if the Thr Cut is turned on (i.e. motor disabled), and

2. then you have accidently bumped the Thr to say 50% or more!!, and

3. *then* turn off the Thr Cut (i.e. motor active)

the motor immediately starts spinning the prop and potentially at high revs!

The following "Logical Switches" set up overcomes this potential issue.

Aim: the motor will not start until

1. Thr Cut switch is turned off (i.e. motor active), *and*

2. the Thr is below -99%

Logical Switches

#	Function	V1	V2	AND Switch	Duration	Delay
L01	a<x ▾	I3:THR ▾	-99 ⬍	SF↓ ▾	0.0 ⬍	0.0 ⬍
L02	Sticky ▾	L01 ▾	SF↑ ▾	---- ▾	0.0 ⬍	0.0 ⬍

The first line (L01) defines when it is OK to start up the motor.

   I.e. Thr is below -99% and switch F is towards me.

The second line (L02) is like a 2-position switch.

It goes on, when the first line is on, and STAYS on, until condition V2 is met.

   I.e. V2 is when switch F is away from me.

We then use logical switch L02, to kill the Thr using Special Functions. See below.

Notes:

On your radio you can choose *any* 2-position switch for this function.

You might find that -99% Thr is hard to achieve on your radio as a condition to be able to start the motor. If so, increase this a little e.g. maybe to -97%? and try that.

Now to actually disable the motor.

Special Functions

#	Switch	Action	Parameters	
SF1	!L02	Override CH3:ThO	-100	☑ ON

This says, if Logical condition LO2 is NOT on, then overwrite the value of the Thr Output with -100% i.e. motor off.

This set up can be enhanced with the verbal warnings for the switch positions as shown in option 2 above.

Thanks to Peter W and https://www.youtube.com/watch?v=Y0eKFAFNeX8

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