THROTTLE LIMITER

User Instructions for electric motor onboard "Volume Control"
For E-power models using Phil G.'s Button-pushing Tx Emulator

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Module description

This module is intended for use when trimming a 'Guided-Free-Flight' E-power model using Retro Single Channel Transmitter emulation where RC control of throttle is behaving like a Quick-Blip Escapement. Independent of any transmitter or coder settings, the module limits the output of an ESC (Electronic Speed Controller) to emulate backing off the compression screw of a Diesel engine to 'detune' a too-powerful engine.

Connection

The unit is plugged into the throttle channel of your Rx and the output connector accepts the 'servo' lead from the ESC (**Fig 1**). If the ESC is providing Rx power, this will be passed to the Rx through the Limiter module without change.

The throttle servo signal from the receiver to ESC is intercepted and a top-limited demand is passed to the ESC.

CAUTION: In its current form, this module cannot be used with HV receivers where the applied voltage is above 6v. Rx supply must be either a 4.8v (4-cell NiMH) battery or a 5v BEC.

Power adjustment

An onboard potentiometer (See **Fig 1**) allows the user to adjust this maximum motor speed anywhere between 50% and 100% either as a pre-flight adjustment or 'live' while the motor is running. Turning the trimpot in a clockwise direction will increase motor power. Any small screwdriver is suitable.

There are no other user adjustments.

Other features of this Limiter module

The ESC responds to normal transmitter demands up to the trimpot limit.

Continuous signal integrity checking is performed and any out of range input will cause a zero demand (1.0msec) pulsetrain to be sent to the ESC.

When the signal reverts into range, ten further 'good' pulses must be received before resuming normal operation.

NOTE 1: Failsafe function activates when input pulses fall out of limits. Correct operation has been confirmed with FUTABA, and Spectrum (DSM2) receivers. Nevertheless, you should always confirm correct Failsafe function of your own installation before flying.

NOTE 2: If transmitter input is lost, some 2.4GHz or 35MHz DSM receivers may store and continue to output the last good signal received . If your Rx has a preset Failsafe setting, then that will be passed through to the ESC.

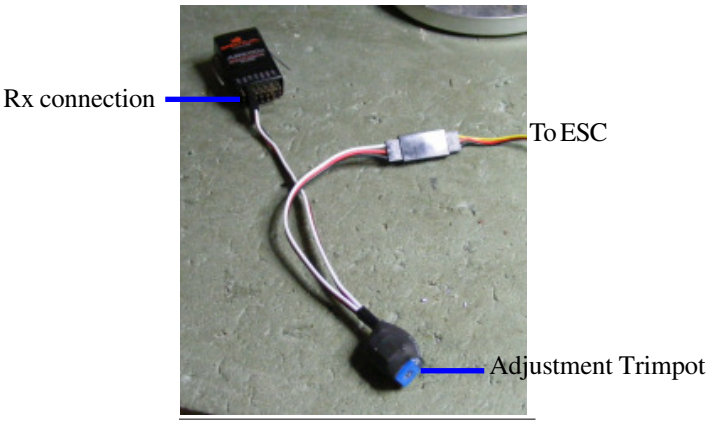

Fig 1