

Fitting a revlock to a Trex 500 model helicopter.

I recently received a Revlock 30 from CSM to fit to my Trex 500 electric model helicopter. Below is a short write up of how I installed it and my thoughts on its performance. First of all the question has to be asked why install a governor into an electric model? Well inherently the esc governors tend not to work very well. Some of the higher cost units work ok but I've not had much luck with the lower cost ones.

But why put one on in the first place? Well a lipo cell starts its flight at say 20.5 volts and by the end of the flight it can be down to 18.5 volts. Seeing that voltage is directly related to the head speed of an ungoverned model, the flight performance will change throughout the flight. Kind of like flying two different models within a five minute period. This really annoyed me; therefore I tried the use of governors on the electric models. First on my Trex 600e which had great results and now on my trex 500 with equally great results. Rather than going through the complete setup of a revlock I will only detail how I fitted it to the trex 500. The revlock manual has a very good step by step procedure on how to set them up.

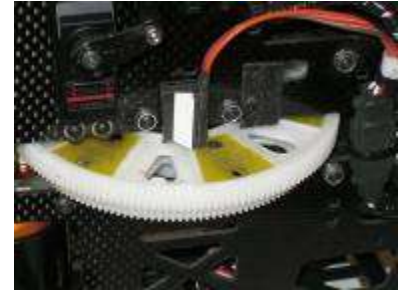
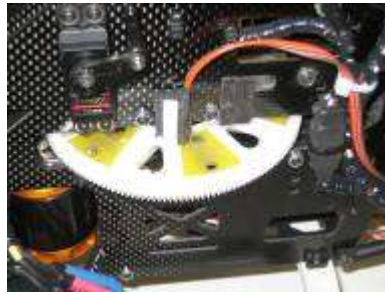
Fitment of the magnets:-

CSM produce 6 PCB like magnet holders which are to be glued into the main gear with equal spacing. I glued the magnets into these holders with 5 minute epoxy and laid them on some cling film to dry. NOTE it is very important that all the magnets are the same way up. It doesn't matter if they are all north up or all south poles up but they HAVE to be the same. The magnet holders have two holes in them of which I used the inner hole. Next I glued the magnets into the main gear using RTV adhesive. You have to use a flexible based glue here as there is a fair amount of movement when the main gear is spinning and will not stick correctly if epoxy or a brittle glue is used.



Fitment of the sensor:-

The sensor has to be mounted so that the magnet will pass over it at 90 degrees see photo to the right for correct orientation of the magnet to sensor. I have mounted mine with the double sided pad that comes with the CSM gyros then used the right angled wedge to position it correctly.



Location and Settings for the Revlock:-

I invert mounted the unit underneath the receiver tray with some CSM gyro mounting tape. This keeps it out of the way and makes for a neat installation. To obtain the setting for the revlock in this application you have to multiply the head speed you require by six then enter these settings in the revlock. My head speed is set at 2700 rpm which works out to 16250 for the revlock settings. You can set a higher or lower head speed for your motor choice. I'm running a scorpion 1900 kv.



Flight test report:-

I can't recommend fitting one of these to a trex 500 enough. In my opinion it smoothes out the power delivery throughout the complete flight, giving you a more consistent and controllable model. I still use the soft start facility on the speed controller then once up to speed the revlock takes over control and locks the head speed in. Select idle up and go and have some fun.

My setup:-

Trex 500

Scorpion 1900kv

Align esc

SAB red devil blades

CSM 720 with 9254

Futaba 9650 servos

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