

I have been asked on a few occasions either about or to try and help with rudder setting issues, especially in relation to some of the more modern transmitters.

As far as older trannies are concerned 27MHz or 40MHz, most of them had rather unadjustable settings apart from being able to tweak the trim slightly, so unless you bought a plug in module that enabled more adjustment, you were stuck with whatever you had. The most common adaptation of a tranny was then to put a restricting plate/knob on the tranny to lessen the amount of stick movement – possible but difficult to get absolutely right.

The more modern ones have changed all that and whilst the flexibility they give can be very helpful, some of the terminology and implications of not getting it quite right can be frustrating.

The 3 most likely terms you may come across that impact upon rudder settings adjustment are – Exponential (Exp), Dual Rate (D/R) and End Point Adjustment (EPA)

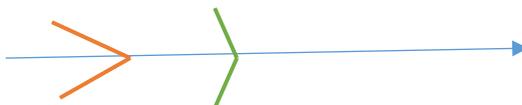
If you use Exponential settings other than as per factory set up, it provides the opportunity to vary the rate at which the take up of any stick movement acts upon the rudder servo. In other words you can set the sensitivity of stick movement to rudder reaction. Personally I find the drawback of contemplating using this is that you obviously don't get consistent proportional movement across the whole stick movement range. It is therefore a matter of personal taste but I NEVER use it.

End Point Adjustment (EPA) allows you {IF YOU REALLY WANT TO!!} to vary the amount of throw right and left to be different. If we were always sailing round an oval or a totally circular course, there might be a case for it, but more often than not of course we have to turn in both directions and having consistency is, in my view, more important. The normal factory settings are for 100% on each side (100% being in relation to the standard amount of throw). The ONLY change I would personally ever make to that would be to increase if I felt I needed more, or decrease if I felt I needed less. The important thing about EPA as far as rudders are concerned is to keep the same value in either direction.

Imagine the blue line line is a straight ahead setting but your rudder is set with say EPA 50% left and 100% right. The orange lines are then illustrations of the maximum rudder movement left and right, so no matter how much you try and press your stick further left, you wouldn't get any more rudder movement.



Finally, Dual Rate (D/R) is the one setting that I do use and consider the most important. Here the percentage that you have set will determine the proportion of the maximum servo throw that will occur. The important bit to understand is that the percentage acts equally upon each side.



Here are illustrations of the extremes of throw if the settings were say 70% for Orange and 110% for Green.

The only other thing to consider is the trim setting, the purpose of which is to give you fine adjustment of the centre (straight ahead) position if the spline on the servo horn won't let you line up the rudder dead straight easily. Once set, the Trim ought not to need resetting but can be easily done normally without having to put your tranny in programming mode.

So I think the answer is the KISS principle.

Don't use Exp.

Set EPA to the same either side and usually the factory setting 100% is fine.

Adjust D/R to your preferred amount of throw.

Some trannies will permit you to programme in differing D/R setting dependent upon some other switch positions in case you want, say 80% D/R throw when you are sailing downwind (less rudder throw at full extent of stick) and say 100% sailing upwind (more throw at full extent of stick) especially so that tacking becomes a bit more positive.

When I'm setting a rudder up then, I set D/R to 100%, remove the rudder linkage from the servo horn, set my Trim to 0% then put the servo linkage back on the horn in the straightest position. If I can't get it quite straight, I use the closest and then make fine adjustments on the Trim.

Don't be afraid to ask if anything is not clear or you are having difficulties.