

TruTrak Autopilot Servo Installation

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Back in 2008, after 11 years of hand flying, I finally added an autopilot. The brains of the TruTrak autopilot in the panel are very light. The servos on the other hand are relatively heavy, about 2 lbs each. While it is common to place the rolls servo up front under the seats, the pitch servo is typically installed in the tail cone somewhere to gain easy access to the elevator push rod. I did not like the negative effect this would have on CG. It turns out there is actually enough volume underneath the control linkage that connect pilot and passenger control sticks. The servo needed to be suspended above some existing plumbing, but there was enough room for the servo. Instead of connecting to one of the long elevator pushrods in the tail of the aircraft, I chose to provide torque to the center cross-over between both control sticks. This required a custom bracket to grip the cross over tube. The installation is very clean and compact, utilizing a large servo swing to gain resolution in the output. Going over center on the servo is prevented by limits of the control stick itself. Figures 1 through 3 show the full range of motion of the pitch control



Figure 1, Control Stick Full Forward



Figure 2, Control Stick Neutral



Figure 3, Control Stick Full-Aft