

10.1 – Elevators

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10.1.1 – Introduction

To install and rig the rest of the control systems in the Velocity, your aircraft must be assembled to the point that the wings, winglets, etc. are attached. First we will rig the canard.

In the previous chapters you installed the elevators to the canard, installed the torque arms to the elevators, and installed the canard to the airframe. All that remains to be done now is to link the torque arms to the stick, and install the pitch trim system.

10.1.2 – Installing Control Stick Push-Tube Assembly

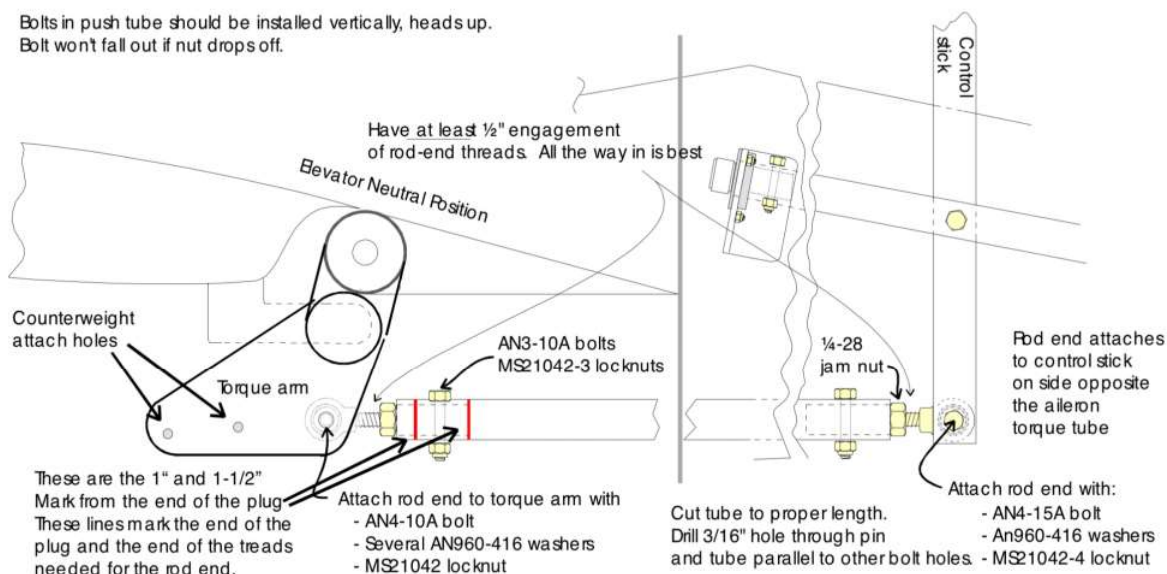


Figure 10-1. Control Stick, Push Tube Assembly

___ Locate the push tube assembly, VET-02, and install an MM-4 rod end in the end that has the bolted on plug. This will attach to the control stick.

___ The rod ends should be engaged as far as possible into the torque tube. **The jam nut should not be tightened so much that it stretches the rod end.**

___ Bolt the rod end to the bottom hole in the control stick (p/n VCSA-01). It goes on the side opposite the aileron torque tube. Use an AN4-15A bolt, (2) AN960-416L washers, and a MS21042-4 locknut.

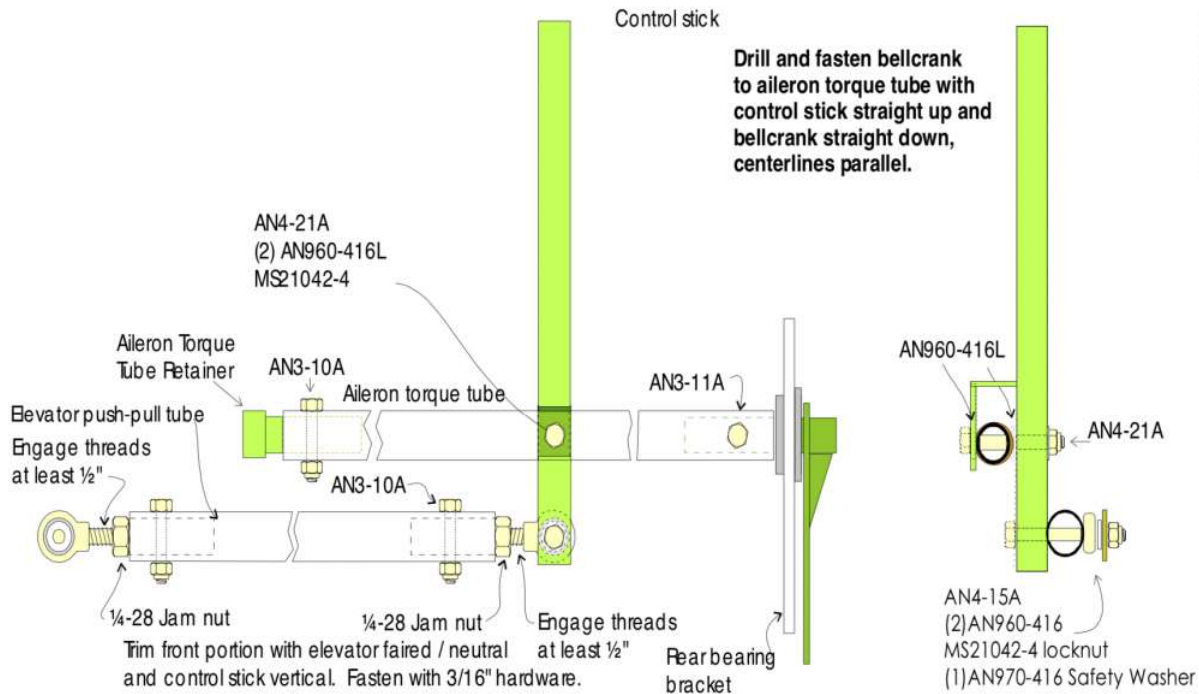


Figure 6-19. Control Stick Assembly

6.3.6 – Keel Installation

Before permanently installing the keel make sure you have done the following:

- Make sure the nose gear has been prepared as described in Chapter 7.
- Complete installation of gear hydraulic system as much as possible in Chapter 7.
- Control system components have been installed in the keel.
- Canard bulkhead and keel have been checked for fit.

On the bottom front of your keel there are two 1/4" holes for your nose gear. You need to space this apart so that the nose gear will fit properly. Cut a piece of 1/2" PVC tubing (or aluminum) 4-3/4" long. Using two 1/4-20 nuts and a length of 1/4" all- thread bolt the PVC tubing in place between the two holes.

It has come to our attention from one of our builders that the hydraulic fluid from the gear system can seep into the foam through the skin if allowed to sit for a period of time. Before the keel is installed, the floor inside the keel area should be coated and sealed with epoxy to prevent this from happening. You can also coat the inside surface of the bottom cowling, floor of the nose section around the brake system, battery, hydraulic pump and plumbing, and any area that could be exposed to oil or hydraulic fluid.

Bond the keel in place using **Structural Adhesive** as shown in Chapter 4. Glass the inside of the keel from the front back about 24" with 2 layers of Bid 3" wide. Remove the piece of 1/2" PVC after the keel has cured.