

TRIM TAB SELECTION GUIDE:

**FLUTTER WARNING:** BALANCE YOUR MOVING  
SURFACES AFTER INSTALLING TRIM TABS  
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**CONTROL WARNING:** This autopilot needs very little authority to fly your airplane. DO NOT INSTALL VERY LARGE TRIM TABS THAT WILL **UNABLE** THE PILOT TO EASILY CONTROL THE AIRPLANE IN CASE OF A SERVO RUNAWAY.

**Size:**

Trim tab size will mainly depend on the speed of the airplane. The higher the average cruise speed the smaller the trim tabs need to be. The perfect size is one that will allow the autopilot control the airplane in turbulence but will permit the pilot to easily override the trim even a full-scale servo deflection.

The aileron, rudder and elevator will usually have different sizes of trim tabs. As we progress we will have recommendations for specific airplanes. The sizes that available are:

Small: 11.8" x 1.4"

Medium: 11.8" x 2"

Large: 12.8" x 3"

Extra Large: 15.5" x 3.5"

**Recommendation:**

For experimental airplanes 2000 lbs gross weight or less, choose your trim tab depending on the average cruise speed:

**Aileron:**

30-70 KIAS: Extra Large trim tab

40-100 KIAS: Large trim tab

90-160 KIAS: Medium trim tab

160 KIAS or more: Small trim tab

**Elevator:**

30-70 KIAS: Large trim tab

40-100 KIAS: Medium trim tab

90-160 KIAS: Small trim tab

160 KIAS or more: Small trim tab cut to 8" length.

**Rudder:**

30-70 KIAS: Large trim tab

40-100 KIAS: Medium trim tab

90-160 KIAS: Small trim tab

160 KIAS or more: Small trim tab cut to 8" length.

**THE DESIGN CALLS FOR THE TRIM TABS TO HAVE ENOUGH AUTHORITY TO FLY THE AIRCRAFT SO LONG AS THE PILOT CAN EASILY OVERRIDE THEM, EVEN AT FULL SCALE DEFLECTION**

**Servo type:**

There are three servo systems available. Two of the servo systems can be adhered, riveted or screwed onto the trim tab itself or anywhere on the flying surfaces. The third system goes flush with the flying surface it is installed on:

**Standard Servo:**

The standard servo is very light, it is incased in a very slim shell. They are splash proof and very suitable for fast airplanes.

Dimensions: 2 3/8" W x 3 1/2" L x 15/32" H ( 60mm W x 89mm L x 11.9mm H)

Weight: 1.8oz (51 grams.)

**Waterproof Servo (\$45 extra per servo):**

Our waterproof servos (IP-67) are not as slim and are also a little heavier than the standard servos. These are generally used in slower amphibians where servo weight is not an issue when balancing flying surfaces.

Dimensions: 2 3/8" W x 3 1/2" L x 15/32" H ( 60mm W x 89mm L x 11.9mm H)

Weight: 3.0 oz (85 grams.)

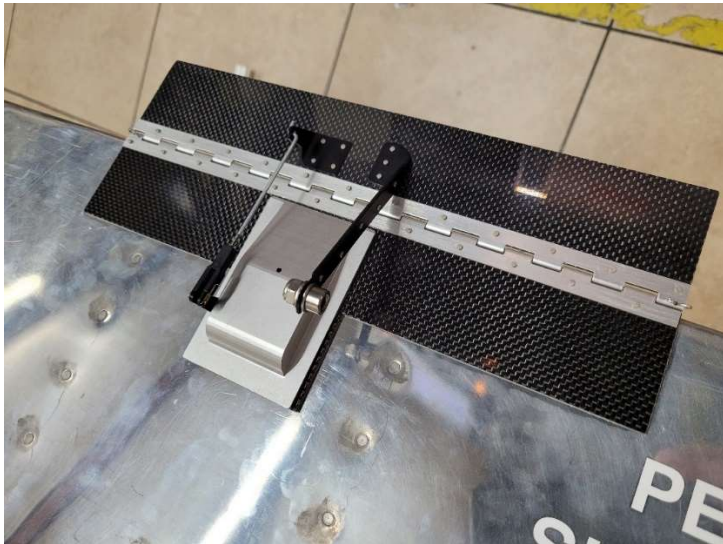
Flush Servo:

**Trim tab installation type:**

There are basically three ways that you can install the trim tab onto your flying surface. It can be adhered, riveted on a flat aluminum aileron or elevator or rivet to a fabric airplane:

**Adhering your trim tab:**

A carbon fiber with a riveted plate as well as the double-sided tape will be supplied for this purpose. Just clean the surface, peel the backing, and adhere the trim tab to the trailing edge of the aileron/elevator:



#### **Riveting to an aluminum aileron/elevator:**

A predrilled hinge and 3/32" rivets are provided for this purpose. Pop rivets are used to install the hinge onto the elevator or aileron:



#### **Riveting to a tube for fabric airplanes:**

A fabric airplane will not usually have a flat surface to adhere or rivet the hinge. A predrilled **curved** hinge PN 3900108 and 3/32" rivets can be provided for this purpose. Pop rivets are used to install the hinge to the tube:

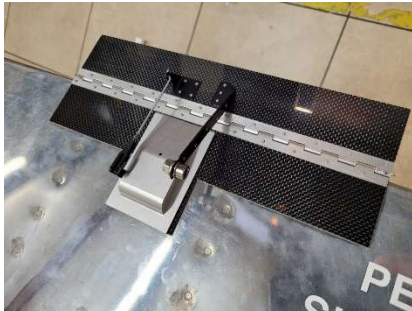


**Servo installation:**

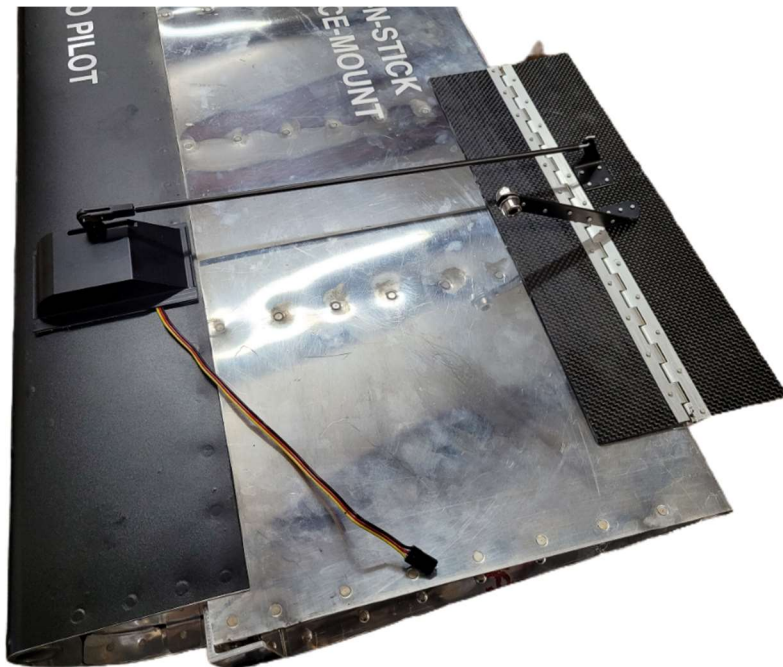
The servo case with servo can be adhered, riveted or screwed on any surface. We must know, however, if the servo is going to be installed on the trim tab itself or at a remote location on the aileron or elevator:

**Standard installation:**

A standard pushrod is shipped.

**Remote installation:**

A 12" long with a carbon fiber reinforcement is shipped. You will have to cut the pushrod to the correct size and do the Z bend.



**Servo ABOVE/BELOW aileron or elevator:**

The standard servo installation is below the aileron or elevator. This will protect it from rain and on low wing airplanes will be hidden. Amphibians or tail draggers may benefit from installing the servo on top. For this we will have to supply a special trim tab.

**NOTE: in all servo installations make sure that drain holes and/or servo arm openings face down to facilitate water drainage.**

The standard trim tab will have the control horn under the tab.

A special on-top-installation will have the control horn on top.

Both have their counterweights facing down.

**Extension cables:**

20' length extensions are standard.

Longer cables are available.