Getting The Most Throw Out Of A Flap Servo—Servo Biasing

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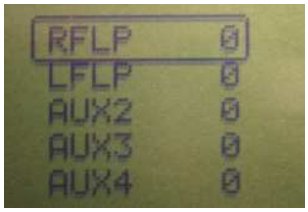
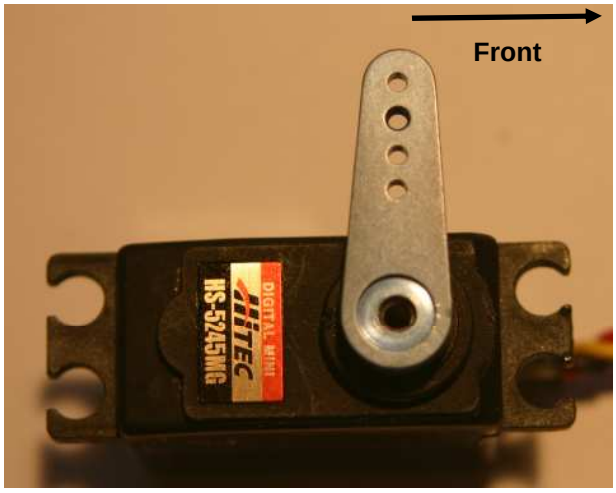
Sometimes, due to the short linkages available, 90° of flap is not normally possible if you set up your flap servo in the same way as you set up an aileron servo (balanced—equal throws in both directions with servo arm centered). Flap servo's don't usually have to provide much in the way of "up" movement, but the "down" requirements can be significant (especially if you are looking for at or near 90° of down travel. The following setup will show you how to **bias** a servo to give much more travel where needed at the expense of travel in the opposite direction, which in the case of the flap is OK. That which is listed below is shown for top drive flaps (like the Pike Perfect). For bottom driven flaps (those with the control arm on the bottom), just bias the throw in the opposite direction.

Initial Setup:

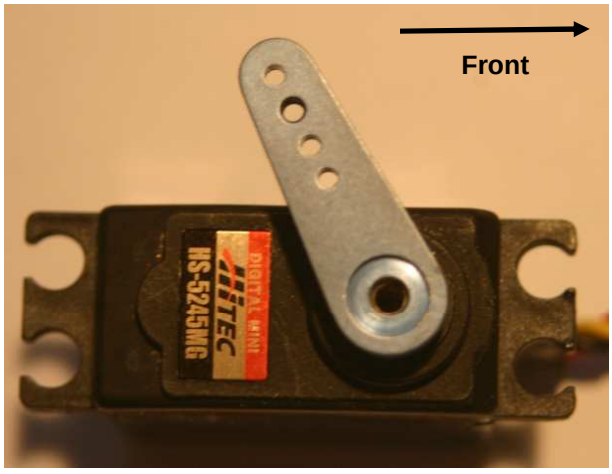
1. Set the servo to the correct direction (use the servo reversing switch if needed).
2. Set the appropriate flap servo trim to 0 as shown below.



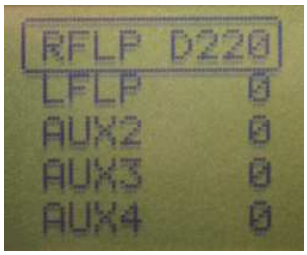
3. Set the servo arm to the 90° position as shown below.

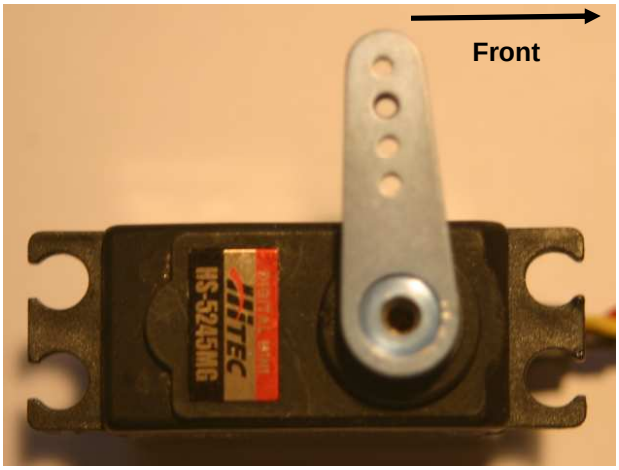


4. Remove the servo arm and rotate it 20 or 30 degrees toward the rear of the wing.

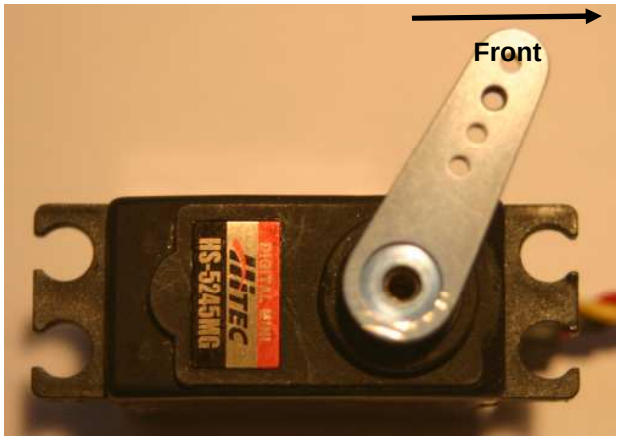


5. Adjust the sub trim on the transmitter to move the servo arm back up to the 90° position.

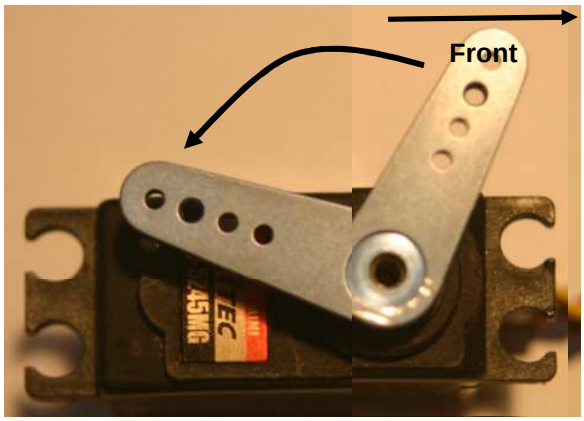




6. Move the servo arm arm 20 or 30 degrees toward the front to put the movement of the arm into a more linear throw area.



7. You will now have the original amount of movement plus 20 or 30 degrees more from the biasing. You will also have 20 or 30 degrees less of up flap throw, but that is not needed.



8. You can also add more throw by increasing the transmitter travel setting for the flap servo.