

## How to Center an Analog Servo Potentiometer by Steve

You may need to do this if you have replaced the gear set in a servo.

To physically center an analog servo potentiometer (pot), remove the servo arm and then the 4 case screws. Remove one of the gears between the pot (output side with servo arm spline) and the motor side of the gear train. This will allow the motor to spin. Next with the Tx and Rx on, turn the pot shaft until the motor stops spinning. Now carefully remove and replace the output gear with rotation stop in the physical center of travel. This is usually aligned with the servo longitudinal centerline.

You will not get it perfect, but servo physical travel is usually far greater than electronic travel of the output gear. Most servos only travel about 90 to 120 degrees max. This procedure is usually only required if you have replaced gears with broken teeth.

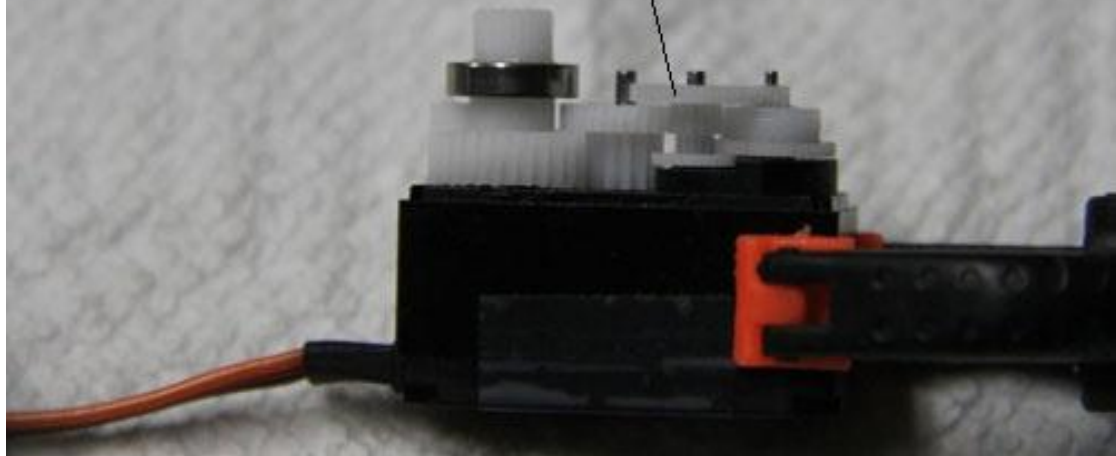
If you have replaced all the gears due to gear teeth damage, you may or may not have to do this procedure. Now is also a good time to remove the bottom of the case and coat the circuit board with CorrosionX if you fly off water and if it is likely the servo may be immersed if the plane flips over.

For digital servos, you may be able to use a servo programmer to center travel.

**See Photos Below:**



This intermediate gear connects gears on the two shafts on the left with gears on the two shafts on the right.

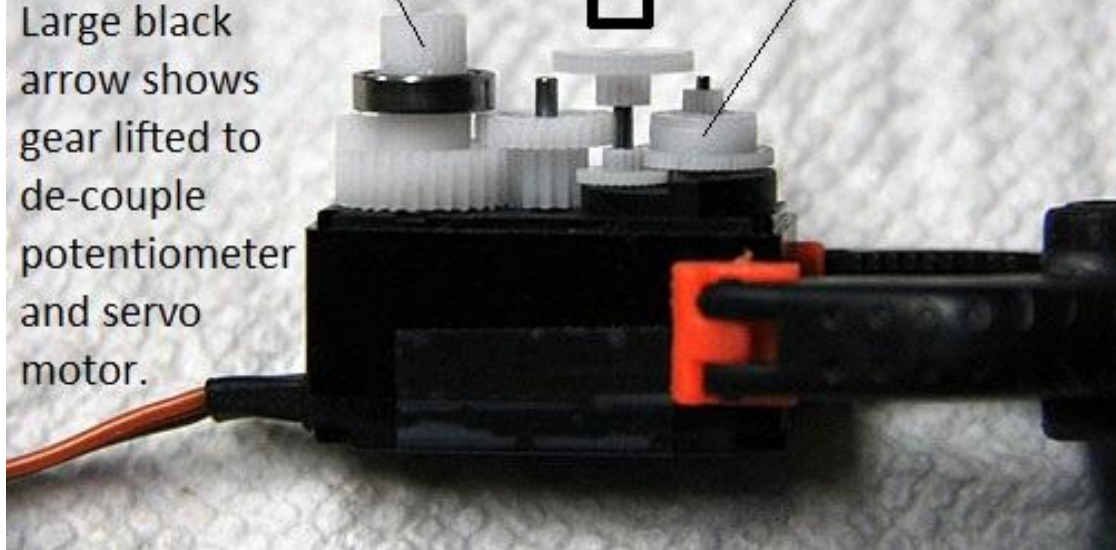


Potentiometer connected to output shaft

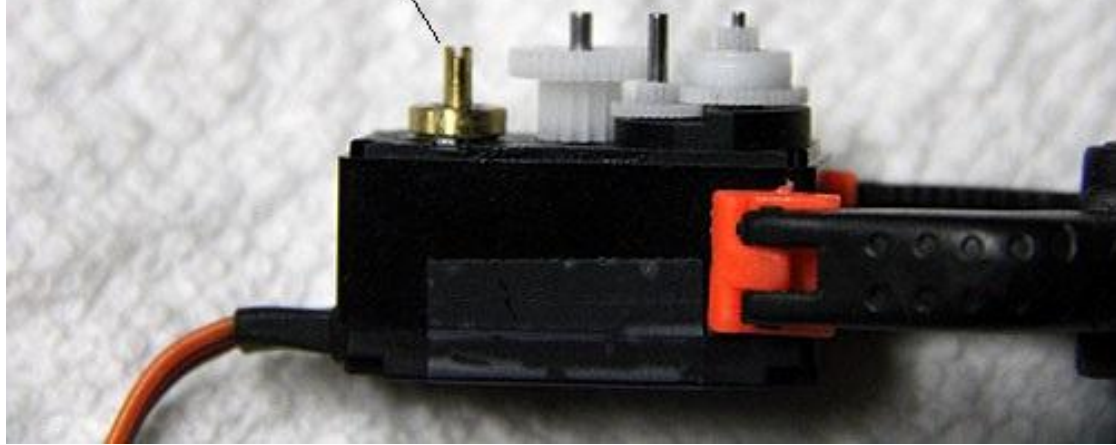
Large black arrow shows gear lifted to de-couple potentiometer and servo motor.



Motor spins these gears



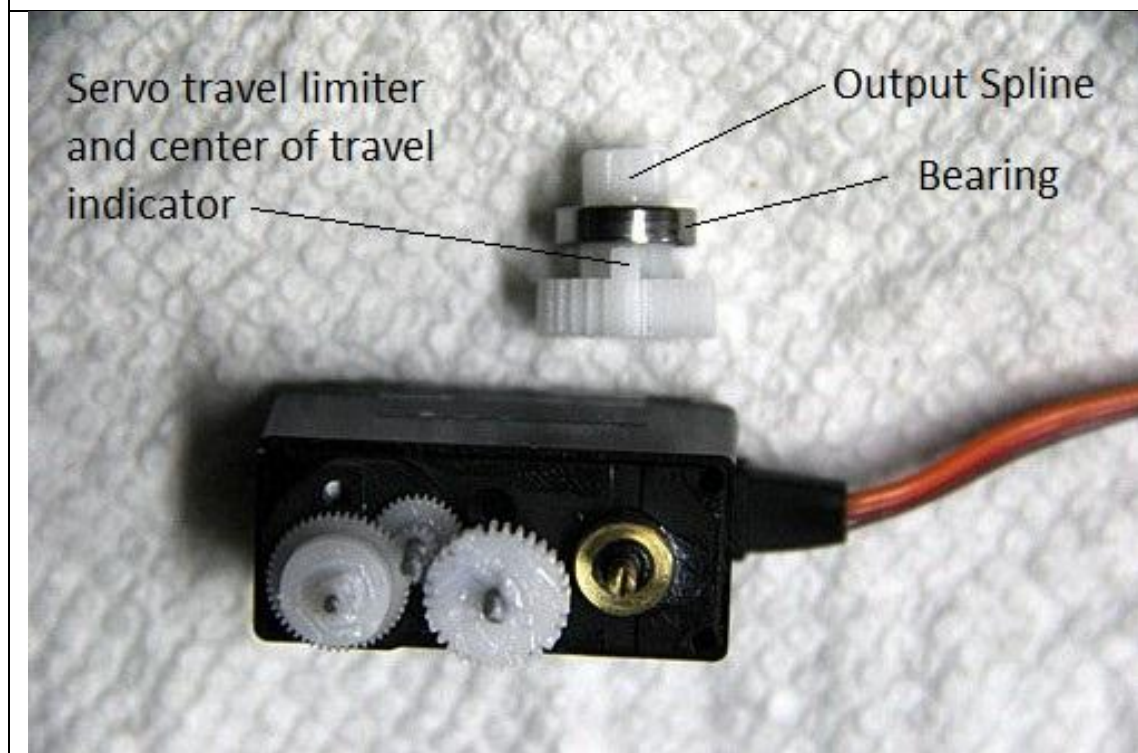
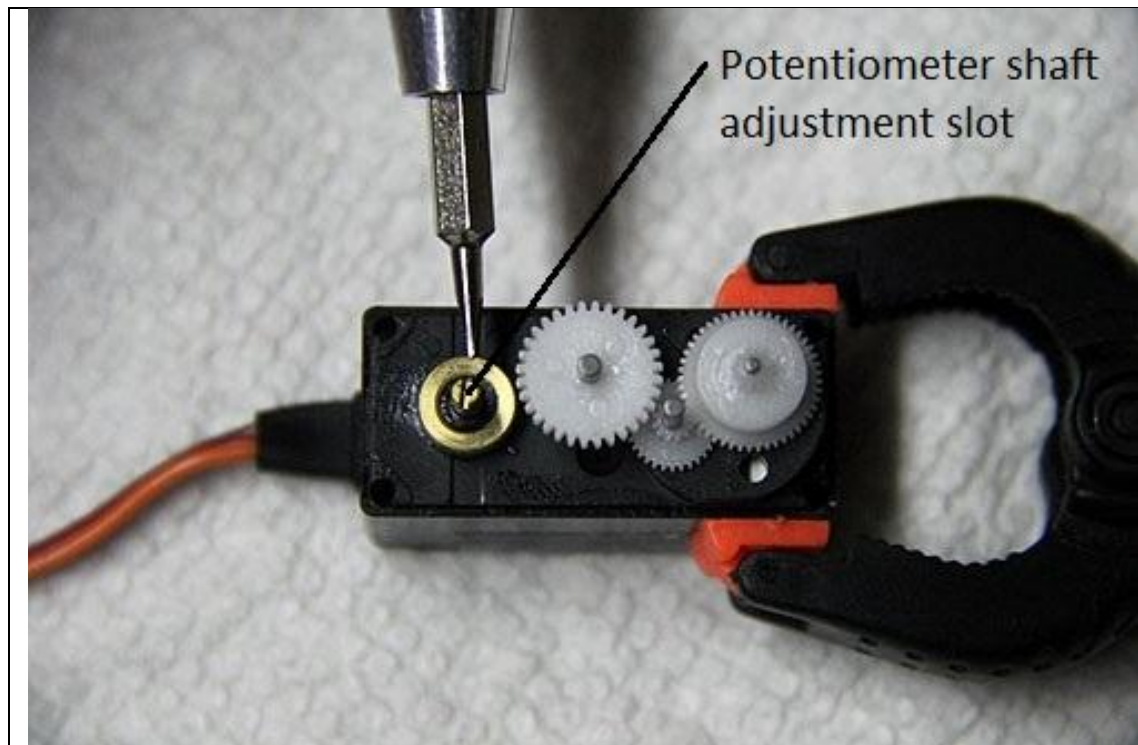
Output gear and spline  
removed to show  
Potentiometer shaft with  
screwdriver slot



If the potentiometer shaft is not at the  
potentiometer center then the output gears on the  
right rotate.







Output shaft alignment indicator  
aligned with longitudinal case  
centerline

