

# SPEKTRUM DIGITAL SERVO

Spektrum Digital Servos give you the flexibility to tailor servo performance and function to specific applications using the Spektrum Digital Servo Programmer. Each servo can be programmed for one of three different modes: Airplane, Helicopter and Tail Rotor.

## SERVO MODES

### **Airplane Mode (Mode 1)**

Airplane Mode optimizes the servo's gain, preventing oscillation when used with airplanes with large 3D surfaces. The servo can be programmed with a user-defined center, plus left and right throws can be adjusted. It can also be reversed.

### **Helicopter Mode (Mode 2)**

Helicopter Mode optimizes the servo for use with helicopter swashplate control. Gain is increased for faster response around neutral and increased accuracy. The servo can be programmed with user-defined center, plus left and right throws can be adjusted. It can also be reversed.

### **Tail Rotor Mode (Mode 3)**

Tail Rotor Mode optimizes the servo for use with helicopter tail rotor controls. Gain is increased for maximum accuracy and response. The center (neutral point) is adjustable allowing you to adjust for perfect tail rotor linkage geometry. Do-not-exceed the "clipping (end)points". They are independently programmable and prevent the servo from overdriving the tail rotor linkage. The center can also be adjusted without altering the clipping points.

## SERVO PROGRAMMING INSTRUCTIONS

**IMPORTANT:** Never connect the Digital Servo Programmer (DSP) to a receiver. The DSP is only designed to be connected to a battery and one Spektrum DSP servo.

### **To set up Airplane Mode:**

1. Connect the DSP to the servo. Use the 3-pin connector slot marked 'Servo.'
2. Connect a 4- or 5-cell receiver pack to the DSP.
3. The servo should "shake" one time if it is in Airplane Mode (Mode 1). If the servo is in a different mode, press the 'Mode' button until the servo shakes one time. NOTE: All Airplane Mode programming the user has entered is erased whenever the 'Mode' or 'Rev' buttons are pressed.
4. To reverse the servo, press the 'REV' button.

5. To adjust the center point, slightly turn the servo arm, being careful not to over-twist and strip the servo gears. The tension on the servo arm will increase as the servo reaches its limit.
6. Press the 'PWM' button again to adjust the first endpoint by slightly twisting the servo arm. Press again to adjust the second endpoint.
7. Disconnect the DSP and check the controls with the transmitter.

### **To set up Helicopter Mode:**

1. Connect the DSP to the servo. Use the 3-pin connector slot marked 'Servo.'
2. Connect a 4- or 5-cell receiver pack to the DSP.
3. The servo should "shake" two times if it is in Helicopter Mode (Mode 2). If the servo is in a different mode, press the 'Mode' button until the servo shakes two times. NOTE: All Helicopter Mode programming the user has entered is erased whenever the 'Mode' or 'Rev' buttons are pressed.
4. To reverse the servo, press the 'REV' button.
5. To adjust the center point, slightly turn the servo arm, being careful not to over-twist and strip the servo gears. The tension on the servo arm will increase as the servo reaches its limit.
6. Press the 'PWM' button again to adjust the first endpoint by slightly twisting the servo arm. Press again to adjust the second endpoint.
7. Disconnect the DSP and check the controls with the transmitter.

### **To set up Tail Rotor Mode:**

1. Connect the Digital Servo Programmer (DSP) to the servo. Use the 3-pin connector slot marked 'Servo.'
2. Connect a 4- or 5-cell receiver pack to the DSP.
3. The servo should "shake" three times if it is in Tail Rotor Mode (Mode-3). If the servo is in a different mode, press the 'MODE' button until the servo shakes three times. NOTE: All Tail Rotor Mode programming the user has entered is erased whenever the 'Mode' or 'Rev' buttons are pressed.
4. To reverse the servo, press the 'REV' button.
5. To adjust the center point, slightly turn the servo arm, being careful not to over-twist and strip the servo gears. The tension on the servo arm will increase as the servo reaches its limit.
6. Press the 'PWM' button again to adjust the first endpoint by slightly twisting the servo arm. Press again to adjust the second endpoint.
7. Disconnect the DSP and check the controls with the transmitter.