### Adjusting Throttle High Exponential, Continued....

2) Press the +/INC or DEC/- keys to increase or decrease the Throttle High side Exponential percentage value. Decreasing the Throttle High Exponential percentage value will make the throttle less sensitive around neutral and increasing the Throttle High Exponential percentage value will make the throttle more sensitive around neutral.

EXP-TH H setting range is -100% (Mild) to 100% (Quick). The default setting is 0% (Linear).



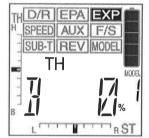
<u>/i\</u>

Throttle High Exponential affects throttle control only from the neutral position to the full throttle position (throttle trigger pulled back). It does not affect the Throttle Brake side. That is adjusted separately below.

### Adjusting Throttle Brake Exponential

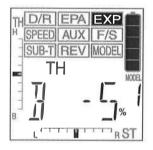
Throttle Brake Exponential can be adjusted from Mild, Linear and Quick. In general, reduce the Exponential percentage value on a slippery track or Increase the Exponential percentage value on a high-grip track. Decreasing the Exponential value can aid traction during braking, helping to prevent your model from skidding or sliding out from wheel lock.

 From within the EXP menu, press the Right MENU key to display TH B. TH B 0% will be displayed in the Programming Window.



2) Press the +/INC or DEC/- keys to increase or decrease the Throttle Brake side Exponential percentage value. Decreasing the Throttle Brake Exponential percentage value will make the brakes less sensitive around neutral and increasing the Throttle Brake Exponential percentage value will make the brakes more sensitive around neutral.

EXP-TH B setting range is -100% (Mild) to 100% (Quick). The default setting is 0% (Linear).





Throttle Brake Exponential affects brake control only from the neutral position to the full brake position (throttle trigger pushed forward). It does not affect the Throttle High side.

## SPEED - SERVO SPEED

The Servo Speed function allows you to slow down the transit speed of the steering and throttle servos. Servo transit speed can be slowed in both the Forward and the Return to Center directions independently. When driving your model, proper steering and throttle control are vital. For example, lowering the transmit speed of the steering servo can help to limit excessive steering, which will enable you to achieve smoother cornering. In addition, lowering the throttle servo speed can help to ensure smooth throttle control.



## Adjusting Steering Speed - Forward and Return to Center

The transit speed of the steering servo can be slowed in both the Forward and the Return to Center directions independently, giving you a broad range for improving steering control.

 Press the Right or Left MENU key to highlight the SPEED menu. ST F 0% will be displayed in the Programming Window.



### Adjusting Steering Speed - Forward and Return to Center, Continued ....

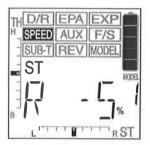
2) Press the +/INC or DEC/- keys to decrease the Steering Speed Forward percentage value. Decreasing the Steering Speed Forward percentage value will cause the steering servo transit time to slow down in the Forward direction.

SPEED-STF setting range is 0% to -100%. The default setting is 0%.



- From within the SPEED menu, press the Right MENU key to display ST R. ST R 0% will be displayed in the Programming Window.
- 4) Press the +/INC or DEC/- keys to decrease the Steering Speed Return to Center percentage value. Decreasing the Steering Speed Return to Center percentage value will cause the steering servo transit time to slow down in the Return to Center direction.

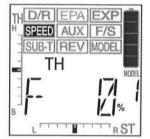
SPEED-STR setting range is between 0% to -100%. The default setting is 0%.



## Adjusting Throttle High - Forward and Return to Center

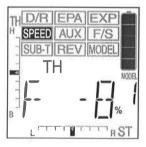
The Throttle Speed function only affects the Throttle High side. The Throttle Brake side is left unaffected, ensuring quick braking action at all times.

 From within the SPEED menu, press the Right MENU key to display TH. TH F 0% will be displayed in the Programming Window.

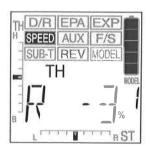


2) Press the +/INC or DEC/- keys to decrease the Throttle Speed Forward percentage value. Decreasing the Throttle Speed Forward percentage value will cause the throttle servo transit time to slow down in the Forward direction.

SPEED-TH F setting range is 0% to -100%. The default setting is 0%.



- 3) From within the SPEED menu, press the Right MENU key to display TH R. TH R 0% will be displayed in the Programming Window.
- 4) Press the +/INC or DEC/- keys to decrease the Throttle Speed Return to Center percentage value. Decreasing the Throttle Speed Return to Center percentage value will cause the throttle servo transit time to slow down in the Return to Center direction.



SPEED-TH R setting range is 0% to -100%. The default setting is 0%.

### AUX - AUXILIARY PROGRAMMING

The Auxiliary Programming function allows you to select, program, then use several different Mixes and other options specific to Auxiliary Channel 3. These include Point Auxiliary, Dig, Burn, Brake Mixing, and more. The Auxiliary Lever is an integral part of the Auxiliary Programming function. It is used not only during programming, but it is also used to turn Mixes ON and OFF, and to operate Auxiliary Channel 3.





To use the Auxiliary Programming functions, you must have a servo plugged into the AUX1 channel slot in the receiver.

Use the table below to determine the different functions within the Auxiliary Programming menu:

FUNCTION	FUNCTION NAME	FUNCTION DESCRIPTION
AUX	AUXILIARY HIGH AND LOW	CONTROLS AUXILIARY CHANNEL 3 HIGH AND LOW SERVO TRAVEL
P_AUX	POINT AUXILIARY	CONTROLS SPECIFIC POINTS THAT THE AUXILIARY SERVO TRAVELS
S_AUX	STEP AUXILIARY	CONTROLS STEP VALUES THAT THE AUXILIARY SERVO TRAVELS
4WS	FOUR WHEEL STEERING MIXING	CONTROLS FOUR WHEEL STEERING OPTIONS
MOA	MOTOR ON AXLE DUAL THROTTLE MIXING	CONTROLS DUAL THROTTLE OPTIONS
BRK	BRAKE MIXING	CONTROLS AUXILIARY CHANNEL 3 BRAKE MIXING
A_MIX	AUXILIARY MIXING	CONTROLS USER-DEFINED AUXILIARY CHANNEL 3 MIXING OPTIONS

When any menu function other than AUX is chosen, the Auxiliary Lever has two functions based on its position:

## Auxiliary Lever OFF (Pushed DOWN)

To choose an option within a specific menu function, the Auxiliary Lever must be in the OFF position (LOW).

### Auxiliary Lever ON (Pushed UP)

When the Auxiliary Lever is in the ON position (HIGH), the specific menu function or Mix is turned ON (Activated) and programming values for that specific menu function can be changed. In addition, functions specific to that Mix (if available) can be controlled with the Programming Keys.

As an example, to program the Point Auxiliary function, first move the Auxiliary Lever to the OFF position to choose the number of Points you would like to program, then move the Auxiliary Lever to the ON position to Activate the Point Auxiliary function, then change the programming values of each Point.

As a safety feature, if you turn the transmitter OFF with the Auxiliary Lever in the ON position, the function will not operate when you turn the transmitter back ON until you cycle the Auxiliary Lever OFF, then back ON. This prevents you from turning the transmitter ON when a Mix is Activated, which could result in your model losing control.

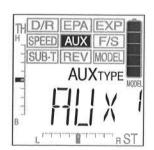
## AUX - AUXILIARY HIGH AND LOW

The Auxiliary High and Low function allows you to use Auxiliary Channel 3 as a dedicated ON or OFF third channel. For example, if your monster truck features a transmission with reverse, you can use the Auxiliary Lever to control the reverse mechanism by simply moving the Auxiliary Lever UP and DOWN to control the servo's travel in each direction. In addition, End Point Adjustments can be made Auxiliary Channel 3 to limit the amount of servo travel in both directions.

### **Auxiliary Channel 3 ON-OFF**

 Press the Right or Left MENU key to highlight the AUX menu. AUX will be displayed in the Programming Window.

If AUX is not displayed in the Programming Window, press the +/INC or DEC/- keys until AUX is displayed and flashing, then to select the AUX menu, press and HOLD the +/INC and DEC/- keys at the same time. When selected, AUX will stop flashing.



### Auxiliary Channel 3 ON-OFF, Continued....

2) To control Auxiliary Channel 3, move the Auxiliary Lever UP (HIGH) and DOWN (LOW). When you move the Auxiliary Lever UP, HIGH will momentarily displayed in the Programming Window and the Auxiliary Channel 3 servo will travel to its High position. When you move the Auxiliary Lever DOWN, LOW will momentarily be displayed in the Programming Window and the Auxiliary Channel 3 servo will travel to its Low position.





High and Low servo travel positions are determined by the EPA-AUX H and the EPA-AUX L End Point Adjustments you program. For more information, see page 19.



When using the Auxiliary High and Low function, Auxiliary Channel 3 is NOT a proportional channel. The servo will travel in one direction or the other to the End Points defined as described in the note above.

## P AUX - POINT AUXILIARY



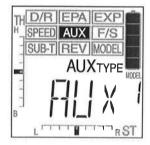
The Point Auxiliary function allows you to program Auxiliary Channel 3 to move the servo to up to 6 different points along its travel, then cycle through those Points using either the TRM switch or by pressing the Left and Right MENU keys. For example, if your model requires a separate 3-position or more switch to operate a feature, the Point Auxiliary function can be customized to control this.



Prior to programming the Point Auxiliary function, the Auxiliary Lever should be in the OFF position (pushed DOWN). Once programming is complete move the Auxiliary Lever UP to turn the function ON or down to turn the function OFF.

Point Auxiliary servo travel is -100 to 100 and overrides End Point Adjustments programmed through the EPA menu.

1) Press the Right or Left MENU key to highlight the AUX menu. AUX will be displayed in the Programming Window.

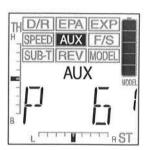


- Press the +/INC or DEC/- keys until P\_AUX is displayed in the Programming Window and flashing.
- To select the P\_AUX menu, press and HOLD the +/INC and DEC/- keys at the same time.
   When selected, P\_AUX will stop flashing.



### **Choosing the Number of Points**

 From within the P\_AUX menu, press the Right MENU key. AUX P 6 will be displayed in the Programming Window.



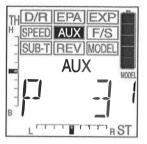
## Choosing the Number of Points, Continued....

2) Press the +/INC or DEC/- keys to choose the number of Points you would like to program.

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You cannot choose fewer than 2 Points.

AUX-P setting range is 2 to 6. The default setting is 6.



## **Choosing Point Values**

 Move the Auxiliary Lever to the ON position (pushed UP). The last defined Point, along with it's current Point value will be displayed, and AUX will flash in the Programming Window. In addition, the Power Indicator Light will flash rapidly.



 Press the Right or Left MENU keys to scroll to the specific Point you would like to change the Point value for. The default Point values will be displayed.



3) Press the +/INC or DEC/- keys to choose the Point value for the currently displayed Point.

AUX-Point setting range is -100 to 100. The default setting for Point 1 is -100, for Point 2 is -60, for Point 3 is -20, for Point 4 is 20, for Point 5 is 60, and for Point 6 is 100.

4) Repeat steps 2 and 3 to choose the Point value for each of the desired Points.

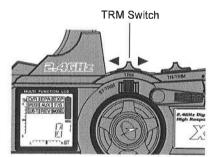


## **Activating and Using the Point Auxiliary Function**

- 1) To Activate and use the Point Auxiliary function, move the Auxiliary Lever to the ON position (pushed UP.)
- 2) Press the Right MENU key to cycle Forward through the programmed Point Auxiliary positions and press the Left MENU key to cycle Backward through the programmed Point Auxiliary positions. The Auxiliary Channel 3 servo will move the specified Point positions as you cycle through the different Points.

## **Assigning Point Auxiliary to the TRM Switch**

1) The TRM switch can be programmed to control the Point Auxiliary function. This allows you to cycle through the Point positions easily during use. Press the TRM switch forward to cycle Backward through the programmed Point positions and press the TRM switch backward to cycle Forward through the programmed Point positions. For more information, see page 41.



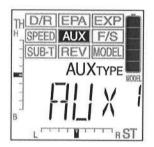
The Auxiliary Lever can be left in the OFF position (pushed DOWN), if you use the TRM switch to control the Point Auxiliary function.

## S AUX - STEP AUXILIARY

The Step Auxiliary function allows you to program Auxiliary Channel 3 to move in defined Step amounts throughout its entire range of travel. Step values can be defined, then you can move the Auxiliary Channel 3 servo in those Step amounts, using either the TRM switch or by pressing the +/INC and DEC/- keys. For example, if you are running a boat that features a remotely adjustable trim plate, you can use the Step Auxiliary function to operate the trim plate up or down. Step values are adjustable for very fine servo travel or for large amounts of servo travel at one time.

Prior to programming the Step Auxiliary function, the Auxiliary Lever should be in the OFF position (pushed DOWN). Once programming is complete move the Auxiliary Lever UP to turn the function ON or down to turn the function OFF.

 Press the Right or Left MENU key to highlight the AUX menu. AUX will be displayed in the Programming Window.



- 2) Press the +/INC or DEC/- keys until S\_AUX is displayed in the Programming Window and flashing.
- To select the S\_AUX menu, press and HOLD the +/INC and DEC/- keys at the same time. When selected, S\_AUX will stop flashing.

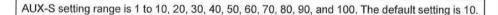


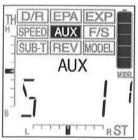
### Choosing the Step Value

 From within the S\_AUX menu, press the Right MENU key. AUX S 10 will be displayed in the Programming Window.



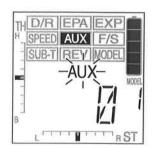
2) Press the +/INC or DEC/- keys to choose the Step value you would like to program. The higher the number, the more the Auxiliary Channel 3 servo travels with each press of the +/INC or DEC/- keys and the lower the number the less the Auxiliary Channel 3 servo travels with each press of the +/INC or DEC/- keys.





# **Activating and Using the Step Auxiliary Function**

 To Activate and use the Step Auxiliary function, move the Auxiliary Lever to the ON position (pushed UP). AUX will flash in the Programming Window and 0 will be displayed. In addition, the Power Indicator Light will flash rapidly.



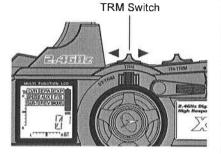
## Activating and Using the Step Auxiliary Function, Continued....

2) Press the +/INC or DEC/- keys to move the Auxiliary Channel 3 servo Right or Left by the defined Step value. In addition, Auxiliary Channel 3 servo travel in one direction can also be changed by pressing the Right MENU key.

Step Auxiliary servo travel is -100 to 100 and overrides End Point Adjustments programmed through the EPA menu.

### Assigning Step Auxiliary to the TRM Switch

The TRM switch can be programmed to control the Step Auxiliary function. This
allows you to cycle through the Step values easily during use. Press the TRM
switch forward to move the Auxiliary Channel 3 servo in one direction and press the
TRM switch forward to move the Auxiliary Channel 3 servo in the opposite direction.
For more information, see page 41.



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The Auxiliary Lever can be left in the OFF position (pushed DOWN), if you use the TRM switch to control the Step Auxiliary function.

The TRM switch features its own specific Step Resolution function which is adjusted in the SETUP menu. This value overrides the Step Auxiliary Step value. When using the TRM switch to control the Step Auxiliary function, the TRM Step Resolution value should match the Step Auxiliary Step value. For example, if you choose a Step Auxiliary Step value of 10, you should also choose a Step Resolution value of 10 in the TRM switch Step Resolution SETUP menu. For more information, see page 42.

## 4WS - FOUR WHEEL STEERING MIXING



The Four Wheel Steering Mixing function allows you to use Auxiliary Channel 3 as a second steering channel, allowing you to use two separate steering servos for Front and Rear steering. The Four Wheel Steering Mixing function allows you to control either the Front or Rear steering independently, or Mix the Front and Rear steering so that they can be used together. For example, if your Rock Crawler uses Four Wheel Steering, you can use the Programming Keys to switch between Front or Rear Independent Steering, Parallel Four Wheel Steering, and Tandem Four Wheel Steering. In addition, you also have the option of mirroring the Channel 1 Steering Dual Rate, Exponential, and Servo Speed settings onto the Auxiliary Channel 3 Steering servo. This allows for an optimum setup since Steering Dual Rate, Exponential, and Servo Speed settings will be the same for both servos.

Prior to programming the Four Wheel Steering Mixing function, the Auxiliary Lever should be in the OFF position (pushed DOWN). Once programming is complete move the Auxiliary Lever UP to turn the function ON or down to turn the function OFF. When OFF, the last Four Wheel Steering Mixing option chosen using the Programming Keys will still be Active.

 Press the Right or Left MENU key to highlight the AUX menu. AUX will be displayed in the Programming Window.



- 2) Press the +/INC or DEC/- keys until 4WS is displayed in the Programming Window and flashing.
- To select the 4WS menu, press and HOLD the +/INC and DEC/- keys at the same time.
   When selected, 4WS will stop flashing.



When using Four Wheel Steering, it's important that prior to programming to adjust the Sub-Trim values to center both servos and to adjust the End Point Adjustment percentage values so that both servos travel the same amount. Auxiliary Channel 3 Sub-Trim and End Point Adjustments can be made once the 4WS menu is selected. Simply ensure that the Auxiliary Lever is in the OFF position (pushed DOWN), then press the Right or Left MENU keys to scroll to the SUB-T AUX and EPA menus. For more information, see pages 36 and 19, respectively.

## **Choosing the Steering Channel Option**

- 1) From within the 4WS menu, press the Right MENU key. ST1 will be displayed in the Programming Window.
- 2) Press the +/INC or DEC/- keys to choose the desired Steering Channel option, either ST1 or ST2.



AUX-ST setting range is ST1 and ST2. The default setting is ST1.

Two Steering Channel options are available as described below:

- ST1 Steering Dual Rate, Exponential, and Servo Speed settings affect Channel 1 Steering Servo only.
- ST2 Steering Dual Rate, Exponential, and Servo Speed settings affect both Channel 1 and Auxiliary Channel 3 Steering servos equally.

Regardless of choice, Auxiliary Channel 3 Steering servo Steering Dual Rate, Exponential, and Servo Speed are not adjustable separately.

## Activating and Using the Four Wheel Steering Mixing Function

To Activate and use the Four Wheel Steering Mixing function, move the Auxiliary Lever to the ON position (pushed UP). AUX will flash in the Programming Window and the Power Indicator Light will flash rapidly.

When the Four Wheel Steering Mixing function is Activated, the following Four Wheel Steering Mixing options are available during use:

Front Wheel Steering - To Activate Front Wheel Steering only, press the Left MENU key. AUX F\_ST will be displayed in the Programming Window and only the Front Wheel Steering (Steering Channel 1) will operate.







Rear Wheel Steering - To Activate Rear Wheel Steering only, press the Right MENU key, AUX R\_ST will be displayed in the Programming Window and only the Rear Wheel Steering (Auxiliary Channel 3) will operate.







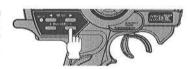
Parallel (Normal) Steering - To Activate Parallel Four Wheel Steering, press the +/INC key. AUX NOR will be displayed in the Programming Window and both the Front and Rear Steering will operate in Parallel.







Tandem (Reverse) Steering - To Activate Tandem Four Wheel Steering, press the DEC/- key. AUX REV will be displayed in the Programming Window and both the Front and Rear Steering will operate in Tandem.



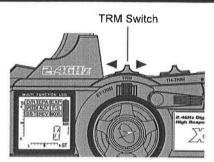




If the steering servos do not operate as described above, you can use the Servo Reversing function to change the direction that each servo operates. Do do this, first turn the Four Wheel Steering Mixing function OFF [move the Auxiliary Lever to the OFF position (pushed DOWN)], then navigate to the REV menu and change the direction of the ST and/or AUX channels, Re-enable the Four Wheel Steering mixing and test the controls once more to ensure the desired operation.

### Assigning Auxiliary Channel 3 Steering Servo Trim to the TRM Switch

1) The ST-TRIM switch affects only the Right and Left trimming of the Channel 1 Steering servo. If desired, you can independently control the Right and Left trimming of the Auxiliary Channel 3 Steering servo. To do this, assign the Auxiliary Channel 3 Sub-Trim function to the TRM switch. With this setup, the ST-TRIM switch will control the Channel 1 Steering servo Trim and the TRM switch will control the Auxiliary Channel 3 Steering servo Trim.



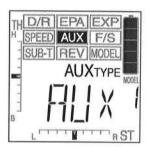
## MOA - MOTOR ON AXLE MIXING



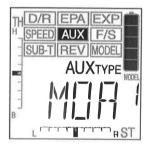
The Motor on Axle Mixing function allows you to use Auxiliary Channel 3 as a second throttle channel, allowing you to use two separate throttle servos or ESCs. The Motor on Axle Mixing function allows you to control either the Front and Rear throttles together or independently, giving you Dig and Burn features, in addition to Front or Rear Throttle Hold features. These features are mostly used in Rock Crawling and allow the utmost in functionality. In addition, you also have the option of mirroring the Channel 2 Throttle Exponential and Servo Speed settings onto the Auxiliary Channel 3 Throttle channel. This allows for an optimum setup since Exponential and Servo Speed settings will be the same for both throttles.

Prior to programming the Motor on Axle Mixing function, the Auxiliary Lever should be in the OFF position (pushed DOWN). Once programming is complete move the Auxiliary Lever UP to turn the function ON or down to turn the function OFF. When OFF, both throttles will work together.

 Press the Right or Left MENU key to highlight the AUX menu. AUX will be displayed in the Programming Window.



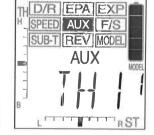
- Press the +/INC or DEC/- keys until MOA is displayed in the Programming Window and flashing.
- To select the MOA menu, press and HOLD the +/INC and DEC/- keys at the same time.
   When selected, MOA will stop flashing.



When using the Motor on Axle Mixing function, it's important that prior to programming to adjust the Sub-Trim values and the End Point Adjustment percentage values the same for both channels. Auxiliary Channel 3 Sub-Trim and End Point Adjustments can be made once the MOA menu is selected. Simply ensure that the Auxiliary Lever is in the OFF position (pushed DOWN), then press the Right or Left MENU keys to scroll to the SUB-T AUX and EPA menus. For more information, see pages 36 and 18, respectively.

### **Choosing the Throttle Channel Option**

- From within the MOA menu, press the Right MENU key. AUX TH1 will be displayed in the Programming Window.
- Press the +/INC or DEC/- keys to choose the desired Throttle Channel option, either TH1 or TH2.



AUX-TH setting range is TH1 and TH2. The default setting is TH1.

### Choosing the Throttle Channel Option, Continued....

Two Throttle Channel options are available as described below:

TH1 - Exponential and Servo Speed settings affect Channel 1 Throttle servo only.

TH2 - Exponential and Servo Speed settings affect both Channel 1 and Auxiliary Channel 3 Throttle servos equally.



Regardless of choice, Auxiliary Channel 3 Throttle servo Exponential and Servo Speed are not adjustable separately.

### Activating and Using the Motor on Axle Mixing Function

1) To Activate and use the Motor on Axle Mixing function, move the Auxiliary Lever to the ON position (pushed UP). AUX will flash in the Programming Window and the Power Indicator Light will flash rapidly.

When the Motor on Axle Mixing function is Activated, the following Motor on Axle Mixing options are available during use:

Front Throttle Hold - To Activate Front Throttle Hold, press and HOLD the Left MENU key. AUX F\_HLD will be displayed in the Programming Window. Only the Rear Throttle (Auxiliary Channel 3) will operate, while the Front Throttle (Throttle Channel 2) will Hold it's last position.







Front Throttle BURN - To Activate Front Throttle Burn, press and HOLD the Right MENU key. AUX BURN will be displayed in the Programming Window. The Front Throttle (Throttle Channel 2) will return to Neutral and the Rear Throttle (Auxiliary Channel 3) will work normally.







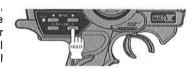
Rear Throttle Hold - To Activate Rear Throttle Hold, press and HOLD the +/INC key. AUX R\_HLD will be displayed in the Programming Window. Only the Front Throttle (Throttle Channel 2) will operate, while the Rear Throttle (Auxiliary Channel 3) will Hold it's last position.







Rear Throttle DIG - To Activate Rear Throttle Dig, press and HOLD the DEC/- key. AUX DIG will be displayed in the Programming Window. The Rear Throttle (Auxiliary Channel 3) will return to Neutral and the Front Throttle (Throttle Channel 2) will work normally.







## Assigning Auxiliary Channel 3 Throttle Servo Trim to the TRM Switch

1) The TH-TRIM switch affects only the Throttle High and Brake trimming of the Channel 2 Throttle servo. If desired, you can independently control the Throttle High and Brake trimming of the Auxiliary Channel 3 Throttle servo. To do this, assign the Auxiliary Channel 3 Sub-Trim function to the TRM switch. With this setup, the TH-TRIM switch will control the Channel 2 Throttle servo Trim and the TRM switch will control the Auxiliary Channel 3 Throttle servo Trim.

