PROFILE SELECTION & PROPER GEARING

ATTENTION: ***Proper gearing is essential to get the best performance from your Super Sport Plus brushless motor system when operating in the Brushless-Mode.***

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PROPER GEAR SELECTION

When using with SS5800 Motor

With the SS5800 motor on 6 cells, start with **2 teeth lower pinion gear** than you would use with a 27 turn "stock" brush-type motor. **3 teeth lower pinion** when using 7-cell.

When using with SS4300 Motor

With the SS4300 motor on 6 cells, start with **3 teeth lower pinion gear** than you would use with a 27 turn "stock" brush-type motor. **4 teeth lower pinion** for 7-cell.

Because of the broad power band of brushless, you can go 1 to 3 teeth higher pinion than the above recommendations for more top speed, but remember that going 3 or more teeth higher will produce excessive ESC heating. Be sure to check the operating temperature of the ESC after making any gearing adjustments--the Super Sport Plus ESC is designed to operate comfortably from160ºF-180ºF *(warmer than typical brush-type ESC)*.

If you had a low turn modified brush-type motor in vehicle before switching to the Super Sport Plus system, and you do not change gearing, you will be under-geared and the vehicle will be slow at top speed!

You will want the final drive ratio in the vehicle to be:

7.30 : 1	for **Touring Cars**
9.00 : 1	for **Off-Road Buggies**
12.30 : 1	for **Off-Road Stadium Trucks**

Higher final drive ratios will give longer run time at the expense of top speed. Lower ratios will result in higher ESC temperatures--too low may result in overheating & thermal shut-down.

VEHICLE	*SPUR*	*SS5800 PINION*	*SS4300 PINION*
Losi XXX-BK2 Buggy	*78*	*22-23*	*21-22*
Losi XXX Buggy	*78*	*21-22*	*20-21*
Losi XXX-4 Buggy	*94*	*21-22*	*20-21*
Losi XXX-TMF2 Truck	*86*	*18-19*	*17-18*
Losi XXX-T Truck	*86*	*17-18*	*16-17*
Assoc. TC3 Sedan	*72*	*24-25*	*23-24*
Assoc. B4 Buggy	*81*	*22-23*	*21-22*
Assoc. B3 Buggy	*81*	*21-22*	*20-21*
Assoc. T4 Truck	*87*	*18-19*	*17-18*
Assoc. T3 Truck	*87*	*17-18*	*16-17*
Traxxas Rustler Truck	*84*	*18-19*	*17-18*
Traxxas Stampede Truck	*84*	*17-18*	*16-17*
Traxxas Bandit Buggy	*78*	*22-23*	*21-22*
Traxxas 4-Tec Sedan	*87*	*24-25*	*23-24*

Note: Above chart shows basic starting points for gearing on larger tracks with 6-cell battery packs & standard size tires--See our website for extended gearing chart.

THROTTLE PROFILE SELECTION

The ESC is equipped with ***6 user-selectable Throttle Profiles*** to choose from, as shown below. *For basic operation, there's no need to change from Profile #1.*

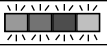
SUPER SPORT PLUS THROTTLE PROFILES

	BRUSHLESS (unlimited)		*BRUSHLESS Sportsman*		*BRUSHLESS Marine-Mode*	*BRUSH-MODE (unlimited)*
	1	*2*	*3*	*4*	*5*	*6*
RPM**	*unlim.*	*unlim.*	*24000*	*24000*	*unlim.*	*unlim.*
Acceleration*	*unlim.*	*unlim.*	*limited*	*limited*	*unlim.*	*unlim.*
Programmable	*yes*	*yes*	*yes*	*yes*	*no*	*yes*
w/Reverse	*yes*	*no*	*yes*	*no*	*yes*	*no*
Reverse%	*100*	*0*	*100*	*0*	*25*	*n/a*

***Unlimited RPM in Brushless Profiles is based upon the motor's Kv rating. For example, the SS5800 motor is a 5800Kv motor and produces 41760 RPM @ 7.2 VDC.*
**Unlimited acceleration refers to acceleration only being limited by quality of batteries used. Due to lower Kv rating, the Novak SS4300 motor will not reach RPM limit in programs 3 & 4.*

NOTE: **Super Sport Plus is factory set to Profile #1.**

SELECTING BRUSHLESS PROFILES:



With ESC on & connected to a charged battery (transmitter ON or OFF):

1. **IF TRANSMITTER IS OFF, DISCONNECT ESC FROM RECEIVER**
   To avoid possible radio interference from other transmitters, remove the ESC's input signal harness from the receiver.
2. **PRESS & HOLD THE ESC'S ONE-TOUCH SET BUTTON**
   Continue to hold SET button on ESC ***until all 4 LEDs turns on***.
   Note: you will continue holding past the Blue, Blue & Amber, Blue & Green, and then the Amber LED programming indicators in the ESC's software.
3. **RELEASE SET BUTTON AS SOON AS ALL 4 LEDs COMES ON**
   Once released, the 4 status LEDs will flash to indicate what Throttle Profile is currently selected. The number of times the LEDs flash indicates the Brushless Throttle Profile selection *(1 of 5)*.
4. **QUICK PRESS** *(& release)* **SET BUTTON TO CHANGE SELECTION**
   Each press will change to the next consecutive Throttle Profile. *(After Profile 5 in Brushless-Mode, the sequence begins again at Profile 1)*
   Note: there is a time constraint during this selection process.
5. **ESC STORES SELECTION & BEGINS TO EXIT PROGRAMMING**
   If SET button is not pressed for 3 seconds, ***ESC stores selected Profile*** in memory, exits to neutral & is ready to go. *(LEDs turn off in a rolling motion left to right, until just Red LED is on--Red & Green if no transmitter signal present)*.

REMEMBER: Whenever One-Touch set-up is performed, ESC automatically reverts to factory default settings & the Throttle Profile reverts to #1 when in Brushless-Mode.

SWITCHING BETWEEN BRUSHLESS-MODE & BRUSH-MODE

SWITCHING FROM BRUSHLESS TO BRUSH-MODE:

With ESC off & connected to a charged battery (transmitter ON or OFF):

1. **REMOVE BRUSHLESS 6-WIRE SENSOR HARNESS FROM ESC**
2. **DISCONNECT BRUSHLESS MOTOR FROM ESC**
3. **PRESS & HOLD ESC'S ONE-TOUCH/SET BUTTON**
4. **TURN ON THE SPEED CONTROL'S POWER**
   While still **pressing SET button**, slide ESC's **ON/OFF switch** ***to ON position.***
5. **CONTINUE PRESSING UNTIL BLUE & RED LEDs COMES ON**
   Note: you will continue holding past the Red LED One-Touch indicator.
6. **RELEASE BUTTON AS SOON AS BLUE & RED LEDs COMES ON**
   Blue & Red LEDs flash 9 times, then turn on solid after a few seconds.
7. **QUICK PRESS** *(& release)* **SET BUTTON WHILE LEDs ON SOLID**
   ESC changes modes, and the Green LED will flash for a few seconds *(with Blue & Red LEDs still on solid)* to let you know you have changed modes.
   Note: there is a time constraint during this selection process.
8. **ESC EXITS MODE SELECTION & RETURNS TO NEUTRAL**
9. **REPLACE BRUSHLESS MOTOR WITH BRUSH-TYPE MOTOR**

Refer to BRUSH-TYPE MOTOR portion of STEP 3 on main instructions (pg.3) for wiring.

SWITCHING FROM BRUSH TO BRUSHLESS-MODE:

With ESC off & connected to a charged battery (transmitter ON or OFF):

1. **KEEP BRUSHLESS SENSOR HARNESS REMOVED FROM ESC**
2. **DISCONNECT BRUSH-TYPE MOTOR FROM ESC** ***(*IMPORTANT*)***
3. **PRESS & HOLD ESC'S ONE-TOUCH/SET BUTTON**
4. **TURN ON THE SPEED CONTROL'S POWER**
   While still **pressing SET button**, slide ESC's **ON/OFF switch** ***to ON position.***
5. **CONTINUE PRESSING UNTIL BLUE & RED LEDs COMES ON**
   Note: you will continue holding past the Red LED One-Touch indicator.
6. **RELEASE BUTTON AS SOON AS BLUE & RED LEDs COMES ON**
   Blue & Red LEDs flash 9 times, then turn on solid after a few seconds.
7. **QUICK PRESS** *(& release)* **SET BUTTON WHILE LEDs ON SOLID**
   ESC changes modes, and the Green LED will flash for a few seconds.
8. **ESC EXITS MODE SELECTION & RETURNS TO NEUTRAL**
   Green LED will flash continuously at neutral *(w/Red on solid)* indicating that sensor harness for the brushless motor is disconnected from ESC.
9. **RE-CONNECT BRUSHLESS 6-WIRE SENSOR HARNESS TO ESC**

Refer to BRUSHLESS MOTOR portion of STEP 3 on main instructions (pg.2) for wiring.

IMPORTANT PRECAUTION: Never connect a brushless motor's 6-wire sensor harness to ESC when wired to a brush-type motor!
If ESC is powered on while in Brushless-Mode, and is connected to Brush-type motor {phase wires shorted together} & a battery pack, a 6-wire brushless motor's sensor harness is connected to ESC, and ESC receives a transmitter's throttle signal, severe ESC damage will occur.

ADVANCED -- CUSTOM PROGRAMMING

PLEASE NOTE: ***This page contains optional Advanced Programming items!***

• These programming items are STRICTLY OPTIONAL--No further adjustments are required •

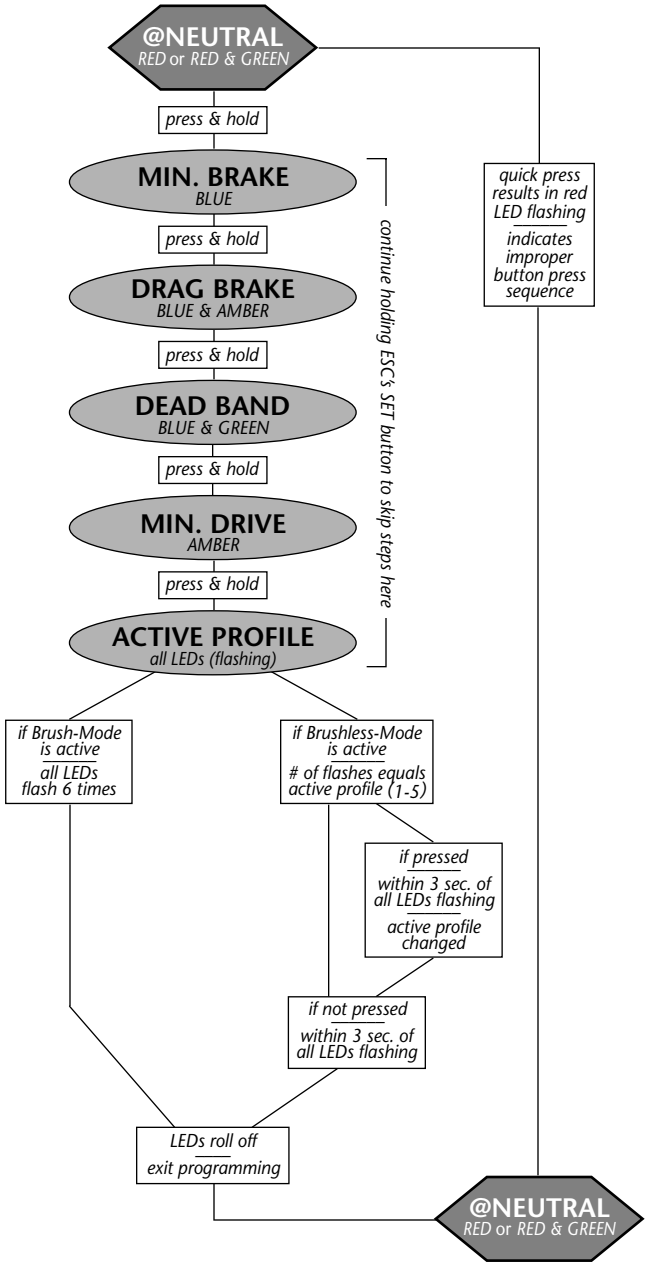
(but don't worry, you can always reset factory defaults by performing the One-Touch programming again, so go ahead & experiment--that's why the programming is in there, right?)

Throttle Profiles 1, 2, 3, 4, & 6 can be independently customized to fine tune the speed control to feel just the way you like it.

The Super Sport Plus lets you tune the following items:

- **Minimum Brake/Drag Brake Percentage**--*1 of 10 settings.*
- **Braking Type**--*1 of 2 types of braking styles (standard Constant Force braking or DRAG BRAKING where braking is applied during neutral).*
- **Dead Band**--*1 of 5 Dead Band settings from 2 to 6%.*
- **Minimum Drive Percentage**--*1 of 5 settings from 2 to 12%.*

SUPER SPORT PLUS SOFTWARE FLOW CHART:



RESTORING FACTORY DEFAULTS:

Every time you perform the One-Touch Set-Up, the factory default settings are restored for each of the throttle profiles.

TO CUSTOMIZING PROFILES 1-4 OR 6:

With ESC on & connected to a charged battery (transmitter ON or OFF):

1. **IF TRANSMITTER IS OFF, DISCONNECT ESC FROM RECEIVER**
   Remove input signal harness from receiver to avoid radio interference.
2. **MAKE SURE THROTTLE PROFILE 1-4 OR 6 IS ACTIVE**
   If you are not sure what profile is selected, follow the procedures in 'Throttle Profile Selection' to check or select desired profile.
   Remember that you can not access the Brush-Mode (Profile #6) without disconnecting the brushless sensor harness from the ESC.
   Note: there is no time constraint during selection process of custom parameters.

TO ADJUST MINIMUM BRAKE: *(or re-activate std-style brakes)*

A. PRESS & HOLD SPEED CONTROL'S SET BUTTON
With ESC at neutral, **press & hold SET button *until the Blue status LED turns on solid---Release ESC's SET button once LED is on solid.***

B. SELECT MINIMUM BRAKE PERCENTAGE *blue*

Blue status LED *(1st LED on left)* ***flashes to indicate active Minimum Brake setting***. Quick press & release to select desired setting.

Setting *(# of flashes)**:***	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***
Minimum Brake (%):	20	25	30	35	40	45	50	55	60	65

C. PRESS & HOLD SET BUTTON TO STORE SELECTION
When SET button is pressed & held for about 1 second, the ***new selection is stored*** in ESC's memory--*The 4 status LEDs will scroll back & forth to indicate you are exiting programming & the Red LED will turn on solid (Red & Green if no transmitter signal present)--ESC is at neutral & ready to go.*

TO ACTIVATE & ADJUST DRAG BRAKE:

A. PRESS & HOLD SPEED CONTROL'S SET BUTTON
With ESC at neutral, **press & hold SET button *until Blue & Amber status LEDs turn on solid---Release SET button once LEDs are solid.***

B. SELECT DRAG BRAKE PERCENTAGE *blue & amber*

Blue & Amber status LEDs *(1st & 2nd LEDs on left)* ***flash to indicate active Drag Brake setting*** *(Drag brake setting will be same as Minimum Brake setting)*. Quick press & release to change Drag Brake/Minimum Brake setting, then press & hold SET button for about 1 second to activate drag braking, store selection into ESC's memory, and return to neutral.

Setting *(# of flashes)**:***	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***	***9***	***10***
Drag Brake (%):	*off*	25	30	35	40	45	50	55	60	65

Note: To re-activate the standard style of braking *(no drag brakes during neutral)***, repeat Minimum Brake adjustment as described above.**

TO ADJUST DEAD BAND:

A. PRESS & HOLD SPEED CONTROL'S SET BUTTON
With ESC at neutral, **press & hold SET button *until Blue & Green status LEDs turn on solid---Release SET button once LEDs are solid.***

B. SELECT DEAD BAND PERCENTAGE *blue & green*

Blue & Green status LEDs flash to indicate active Dead Band setting. Quick press & release to change setting, then press & hold SET button for about 1 second to store selection and return to neutral.

Setting *(# of flashes)**:***	***1***	***2***	***3***	***4***	***5***
Dead Band (%):	2	3	4	5	6

TO ADJUST MINIMUM DRIVE:

A. PRESS & HOLD SPEED CONTROL'S SET BUTTON
With ESC at neutral, **press & hold SET button *until Amber status LED turns on solid---Release SET button once LED is on solid.***

B. SELECT MINIMUM DRIVE PERCENTAGE *amber*

Amber status LED flashes to indicate active Minimum Drive setting. Quick press & release to change setting, then press & hold SET button for about 1 second to store selection and return to neutral.

Setting *(# of flashes)**:***	***1***	***2***	***3***	***4***	***5***
Minimum Drive (%):	2	3	5	8	12