

## OPERATING INSTRUCTIONS

# SPEEDSTAR

## 17T Racing Sport ESC

The following instructions will help you get trouble-free operation from your ESC. These simple steps will allow your ESC to achieve maximum performance and minimize the chance of problems due to incorrect installation. Consult the specifications at the bottom of the box listed below for limitations for this ESC.



RS142

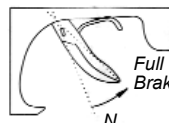
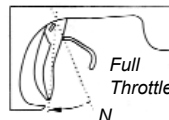
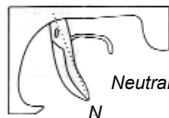
## INSTALLATION

- Keep the speed controller and all power wires at least 2cm from the radio receiver and receiver antenna.
- To securely mount the speedo to the chassis of your car using always double sided (servo) tape.
- Always install a motor noise killer capacitor.

## SPEED CONTROL SET-UP

You don't need any special Setup Procedure for this ESC. The ESC automatic detect the Neutral Point after turn on and calculates the Full Throttle and Maximim Brake. Therefore you need to turn on the Transmitter first and then the ESC. The Throttle of the radio should be in Neutral position.

- 1) Connect the battery pack to the ESC, turn on the Transmitter.
- 2) Make sure the throttle trigger is at the neutral position. Turn on ESC's switch.
- 3) The green LED will illuminate at this time to indicate neutral is set.
- 4) The ESC is now set for operation, confirmed by the green LED remaining on.
- 5) The red LED indicate Full Throttle.  
The red and green LED together indicate Full Brake.



If the ESC is not set properly and the green LED don't indicate the Neutral position, may be the signal of your Transmitter don't work in the required operating range.

In this case you need to adjust the Neutral, Throttle and Brake range on your Transmitter.

If the motor operates in reverse when applying forward throttle, the throttle reversing switch on the transmitter must be moved to the opposite position.

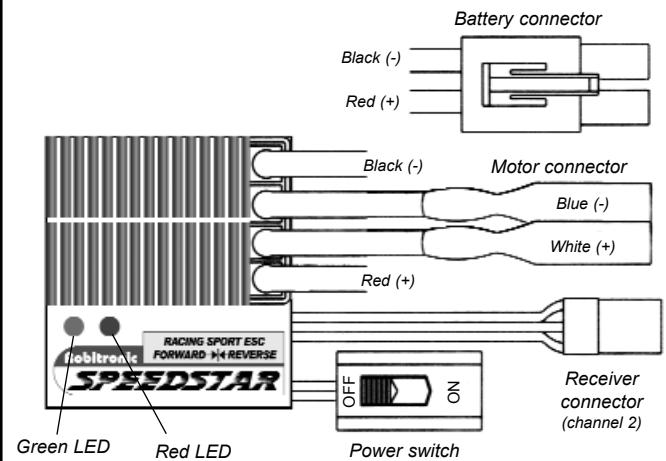
## ⚠ WARNING

- Never leave your RC model unsupervised with the battery connected. If a fault should occur, this could cause a fire in the model and threaten anything in the vicinity.
- Never use more than 7 cells (8.4 volts) in the battery pack.
- The speed controller and all electronic components must not be allowed to contact with water. Do not run your RC model in the rain.
- Never reverse the battery polarity. Reverse connection will immediately destroy the controller. Use only polarised connectors.
- All cables and connectors must be effectively insulated. Short circuits can damage your speed controller.
- When a motor is connected to the controller, you must not connect a separate battery and run the motor. This will damage the controller.
- Always turn your transmitter on first and off last. If you start your car first, you will lose control of the car and an extremely dangerous situation may occur.
- Be careful not to touch the heat sink during use as it can become very hot.
- Not suitable for children under 14 years. This unit is not a toy.

## THERMAL CUTOFF PROTECTION

This ESC has built-in circuitry to sense an excessive heating condition caused by current overload. If the operating temperature exceeds 100° Celsius, the unit will automatically shut down, as indicated by flashing red and green LEDs. The ESC can again be used once the internal temperature returns to an acceptable level, as indicated by change in the setup LEDs.

## CONNECTION



## FEATURES & SPECIFICATIONS

- Fully proportional forward and reverse control, with ABS brake.
- Automatic setup from the radio. No adjustment dials or buttons, with high-visibility red and green set-up LEDs.
- For stock motors down to 17 turns. Great for entry-level racing.
- Anti-Lock Brake System (ABS) enables greater control while cornering.
- High frequency operation for smooth control, low operating temperatures and longer run-times.
- Pre-installed on/off switch, motor, battery, and radio connectors.
- Thermal protection, to prevent damage from current overload.

Case Size	42x38x16 mm
Weight with wires	.60g
Input power	4-7 cells (4.8-8.4 V)
Operating frequency	1.0 kHz
B.E.C. Output Voltage	5.0 V
B.E.C. Constant current	1.0 A
On-Resistance	0.007 ohms
Max. Constant Current	128 A
Max. Peak Current	440 A
Motor Turns Limit	17 turns

## TROUBLESHOOTING

### Problem: Motor and/or Steering Servo are dead.

- 1) Recharge dead batteries.
- 2) Check for faulty power connections.
- 3) Check for a damaged connection between ESC and receiver.
- 4) Reverse polarity at battery. Allow ESC to rest at least 1 minute to reset the circuit protection system.
- 5) Internal damage. Unit may require service.

### Problem: No reverse.

- 1) Transmitter adjusted incorrectly. Repeat Set-up.
- 2) Reverse transistors might be damaged, and unit may require service.

### Problem: ESC runs with switch off.

Drive transistor may be blown and unit may require service.

### Problem: Receiver glitches or stutters during acceleration.

- 1) The three required motor capacitors are not installed or have broken.
- 2) The receiver signal is intermittent due to a large voltage drop during acceleration. Use either an external battery.
- 3) Receiver mounted too close to ESC causing interference.
- 4) Check for faulty power connections.
- 5) Use of an AM radio system might be resulting in erratic signals. Use of an FM radio system might be necessary.

### Problem: Model runs slowly or has no acceleration.

- 1) The ESC is not set up properly. Repeat Set-up.
- 2) Check for faulty battery and motor connections.
- 3) Transmitter is improperly adjusted.

### Problem: Motor runs backwards while forward LEDs are on.

- 1) Motor is wired backwards. Re-check it.
- 2) A reverse rotation motor is being used.

### Problem: Motor runs backwards when forward command is given, even though LEDs match the motor direction.

Move the transmitter throttle reversing switch to the opposite position.

### Problem: Motor runs properly, then motor goes dead.

The built-in thermal protection may be automatically shutting down power to the ESC due to overheating conditions. Check for binding drivetrain, bad motor or incorrect gear ratio for track conditions.

## OPERATING INSTRUCTIONS

# SPEEDSTAR

## 12T TOURING ESC

The following instructions will help you get trouble-free operation from your ESC. These simple steps will allow your ESC to achieve maximum performance and minimize the chance of problems due to incorrect installation. Consult the specifications at the bottom of the box listed below for limitations for this ESC.

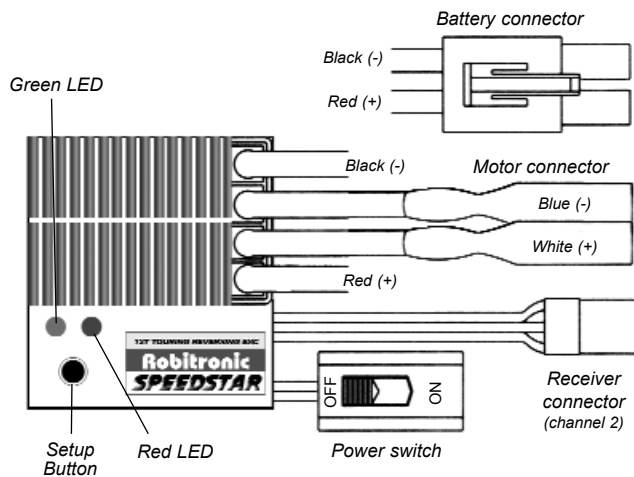


RS143

## INSTALLATION

- Keep the speed controller and all power wires at least 2cm from the radio receiver and receiver antenna.
- To securely mount the speedo to the chassis of your car using always double sided (servo) tape.
- Always install a motor noise killer capacitor.

## CONNECTION

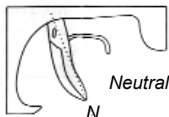


## SPEED CONTROL SET-UP

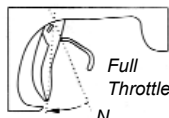
Before you begin this step, the ESC should be connected to the throttle channel on the receiver, the transmitter should already be adjusted, and the ESC switch should be in the off position.

1) Connect the battery pack to the ESC, turn on the Transmitter, then the ESC.

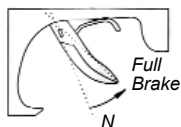
2) **NEUTRAL POINT:** Leave the throttle trigger in the neutral position. Press and hold the ESC's push button until the green LED begins to flash, then release the button.



3) **FULL THROTTLE:** Move the throttle trigger during the green LED flashes to full throttle and hold until the red LED illuminates (motor will not operate in set up mode). If the red LED flashes you must restart at Step 1) and move quicker from Step 2) to Step 3).



4) **FULL REVERSE:** Move the throttle trigger to full brake/reverse and hold until both the red and green LEDs illuminate.



5) **ABS BRAKES:** Return the throttle trigger to neutral. The green LED will flash briefly, followed by both the red and green LEDs oscillating after about 3 seconds, during this time you are able to setup the ABS brake..

- To activate ABS brakes: Move the throttle trigger to either full throttle or full reverse (while the LEDs are oscillating), then return to neutral. The red LED will flash to confirm ABS brakes are active.
- To de-activate ABS brakes: DO NOT move the throttle trigger (leave in neutral position) when the LEDs oscillate in this step.

6) The ESC is now set for operation, confirmed by the green LED remaining on.

7) If the motor operates in reverse when applying forward throttle, the throttle reversing switch on the transmitter must be moved to the opposite position.

## REVERSE DELAY & REVERSE LOCKOUT

A time delay can be set for changing the direction of motor travel from forward to reverse. This delay helps to prevent damage to gear assemblies that can result from slamming the motor from high speed forward movement directly to reverse. The reverse direction control for this ESC can also be completely disabled or "locked-out". Many races require ESCs to be used which do not have reverse function.

Follow these steps to set reverse delay or reverse lockout:

1) With the transmitter throttle in the neutral position, press and hold the ESC's setupbutton for 5 seconds. The green and red LEDs will flash.

2) Release the setupbutton, and choose from one of two reverse time delays or reverse lockout as follows:

- After one second the green and red LED will blink ONCE. Press and release the setupbutton at this time to set a delay of **0.3 seconds**. This is often the desirable delay for normal race tracks.
- After two seconds, the green and red LED will blink TWICE. Press and release the setupbutton at this time to set a delay of **0.8 seconds**.
- After three seconds the green and red LED will blink THREE times. Press and release the setupbutton at this time to **completely lockout or shut off reverse**.

## ! WARNING

- Never leave your RC model unsupervised with the battery connected. If a fault should occur, this could cause a fire in the model and threaten anything in the vicinity.
- Never use more than 7 cells (8.4 volts) in the battery pack.
- The speed controller and all electronic components must not be allowed to contact with water. Do not run your RC model in the rain.
- Never reverse the battery polarity. Reverse connection will immediately destroy the controller. Use only polarised connectors.
- All cables and connectors must be effectively insulated. Short circuits can damage your speed controller.
- When a motor is connected to the controller, you must not connect a separate battery and run the motor. This will damage the controller.
- Always turn your transmitter on first and off last. If you start your car first, you will lose control of the car and an extremely dangerous situation may occur.
- Be careful not to touch the heat sink during use as it can become very hot.
- Not suitable for children under 14 years. This unit is not a toy.

## TRACTION CONTROL

The Acceleration, or traction control function provides 3 optional time delays which control how quickly full forward speed is delivered to the motor after full deflection is given to throttle trigger. This allows the ESC to be customized to personal preferences or certain track and model conditions.

To set the acceleration / traction control:

1) With the transmitter in the neutral position, press and hold the ESC's setupbutton for 3 seconds. The green LED will flash, followed by a flashing red LED.

2) Release the setupbutton, and choose from one of three acceleration time delays as follows:

- After one second the red LED will blink ONCE. Press and release the setupbutton at this time to set a delay of **0.09 seconds**. This is often the desirable delay for normal race tracks.
- After two seconds the red LED will blink TWICE. Press and release the setupbutton at this time to set a delay of **0.16 seconds**.
- After three seconds the red LED will blink THREE times. Press and release the setup button at this time to set a time delay of **0.27 seconds**. This is often the desirable delay for slick tracks.

## THERMAL CUTOFF PROTECTION

This ESC has built-in circuitry to sense an excessive heating condition caused by current overload. If the operating temperature exceeds 100° Celsius, the unit will automatically shut down, as indicated by flashing red and green LEDs. This is to protect all on-board components and prevent permanent damage from occurring. The ESC can again be used once the internal temperature returns to an acceptable level, as indicated by change in the setup LEDs.

## OPERATING INSTRUCTIONS

# SPEEDSTAR

## 8T MODIFIED ESC

The following instructions will help you get trouble-free operation from your ESC. These simple steps will allow your ESC to achieve maximum performance and minimize the chance of problems due to incorrect installation. Consult the specifications at the bottom of the box listed below for limitations for this ESC.



RS144

## INSTALLATION

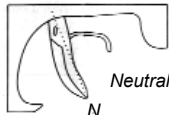
- Keep the speed controller and all power wires at least 2cm from the radio receiver and receiver antenna.
- To securely mount the speedo to the chassis of your car using always double sided (servo) tape.
- Always install a motor noise killer capacitor.

## RADIO SETUP

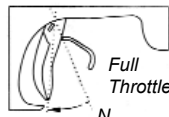
Before you begin this step, the ESC should be connected to the throttle channel on the receiver, the transmitter should already be adjusted, and the ESC switch should be in the off position.

1) Connect the battery pack to the ESC, turn on the Transmitter, then the ESC.

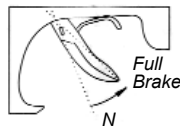
2) **NEUTRAL POINT:** Leave the throttle trigger in the neutral position. Press and hold the ESC's push button until the green LED begins to flash, then release the button.



3) **FULL THROTTLE:** Move the throttle trigger during the green LED flashes to full throttle and hold until the red LED illuminates (motor will not operate in set up mode). If the red LED flashes you must restart at Step 1) and move quicker from Step 2) to Step 3).



4) **FULL REVERSE:** Move the throttle trigger to full brake/reverse and hold until both the red and green LEDs illuminate.



5) **ABS BRAKES:** Return the throttle trigger to neutral. The green LED will flash briefly, followed by both the red and green LEDs oscillating after about 3 seconds, during this time you are able to setup the ABS brake..

- To activate ABS brakes: Move the throttle trigger to either full throttle or full reverse (while the LEDs are oscillating), then return to neutral. The red LED will flash to confirm ABS brakes are active.
- To de-activate ABS brakes: DO NOT move the throttle trigger (leave in neutral position) when the LEDs oscillate in this step.

6) The ESC is now set for operation, confirmed by the green LED remaining on.

7) If the motor operates in reverse when applying forward throttle, the throttle reversing switch on the transmitter must be moved to the opposite position.

## TRACTION CONTROL

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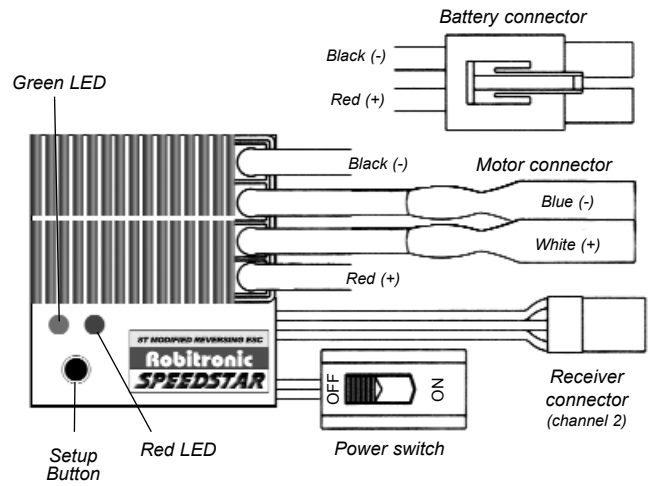
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## CONNECTION



## REVERSE DELAY & REVERSE LOCKOUT

A time delay can be set for changing the direction of motor travel from forward to reverse. This delay helps to prevent damage to gear assemblies that can result from slamming the motor from high speed forward movement directly to reverse. The reverse direction control for this ESC can also be completely disabled or "locked-out". Many races require ESCs to be used which do not have reverse function.

Follow these steps to set reverse delay or reverse lockout:

1) With the transmitter throttle in the neutral position, press and hold the ESC's setupbutton for 5 seconds. The green and red LEDs will flash.

2) Release the setupbutton, and choose from one of two reverse time delays or reverse lockout as follows:

- After one second the green and red LED will blink ONCE. Press and release the setupbutton at this time to set a delay of **0.3 seconds**. This is often the desirable delay for normal race tracks.
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- Always turn your transmitter on first and off last. If you start your car first, you will lose control of the car and an extremely dangerous situation may occur.
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## THERMAL CUTOFF PROTECTION

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