

DURATRAX® ESC-15K

**ROCK CRAWLING
ELECTRONIC SPEED CONTROL W/REVERSE
OPERATING INSTRUCTIONS**



INTRODUCTION

To enjoy trouble-free operation from your electronic speed control (ESC), follow these simple steps. You'll maximize performance and minimize any chance of problems caused by incorrect installation. This ESC's specifications are listed below. If you plan to use it for any application other than those listed in these instructions, first consult your hobby dealer or call our service department. PLEASE FOLLOW ALL INSTRUCTIONS CAREFULLY!

FEATURES

- Two motor/two battery operation for rock crawling.
- The ESC-15K is designed to be used with 380-size motors.
- Motor, battery, and radio connectors are pre-installed.
- High frequency operation provides very smooth control, maximizes battery run time, and reduces operating temperatures.
- LED indicators are red and green. Red is for forward throttle and green is for reverse.

SPECIFICATIONS

Functions: Auto set-up, with forward and reverse
Features: High temperature and low voltage cutoff protection
Input Voltage: Dual 7.2-8.4V (6-7 cells)
Motor Limit: Dual 380
Current: 20A max, 60A surge
On Resistance: Forward .005ohm, Reverse .005 ohm
Operating Frequency: 0-900Hz auto
BEC: DC 5V/1A
Case Size: 1.75 x 1.25 x 1.18 in (44.5mm x 31.7 mm x 30mm)

IMPORTANT PRECAUTIONS

- **Do not** use lithium polymer batteries with the ESC-15K unless a low voltage cut-off unit is used.
- Do not run the kit near water! Never allow water, moisture, or any foreign material inside the case of the ESC.
- Never use more than 7 cells (8.4 volts total) in each battery pack.
- Do not attempt to connect the battery packs to the ESC in reverse, as permanent damage to the ESC could result.
- Do not mix instructions. If you are building a vehicle that has a mechanical speed control, do not use the wiring diagram included with the vehicle.
- Never cut or splice the ESC input wires. Do not connect a battery to the receiver's (Rx) "battery" slot. The Rx receives power through the ESC itself, which plugs into the Rx's throttle channel slot.
- Always disconnect the battery packs from the ESC when not in use.
- Never turn on the ESC before plugging it into the Rx and switching on the transmitter (Tx).

MOUNTING THE SPEED CONTROL

The following information can help the ESC perform at maximum efficiency and minimize the chance of overheating and radio interference problems.

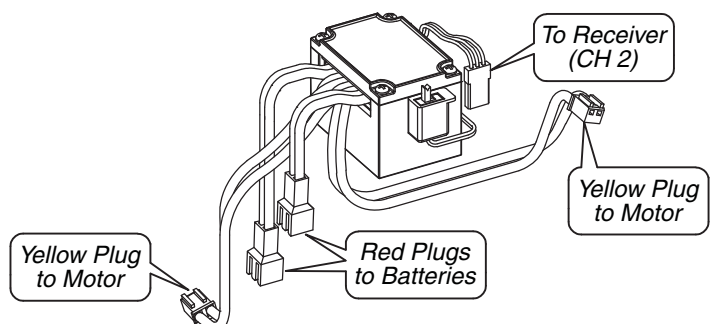
1. Locate the ESC in a position to allow for good airflow, with as little obstruction from the model's outer body or exterior dirt and debris as possible. Maintaining a clean ESC and achieving good airflow across the unit is very important for keeping the ESC cool and maximizing performance.
2. Mount the ESC using double-sided mounting tape.
3. Mount the ON/OFF switch in a convenient place. Ensure that it is securely mounted using mounting tape in a location where it cannot be easily turned off by rocks or obstacles.
4. The Receiver (Rx) and its antenna should be mounted as far away from the ESC as possible. Also, try to keep the Rx away from the motor, battery, power wires, servos, or any large piece of metal – such as a metal chassis.

TRANSMITTER ADJUSTMENTS

Adjusting your transmitter (Tx) is critical for proper speed control operation. The Tx throttle adjustments are described below:

- ATV, EPA, or ATL: Set all to maximum or 100%.
- Throttle Trims and Sub Trims: Set all at neutral or zero.

ESC INSTALLATION



1. Plug the ESC three wire connector into the receiver's channel 2. The orange wire is signal, the red positive and the black negative. Refer to the receiver's instruction manual for correct polarity identification.
2. Connect the ESC's yellow plugs to the front and rear motors.
3. Connect the ESC's red plugs to the two 7.2-8.4V batteries being used.

SET UP

Before you begin this step, the ESC should be connected to the Rx and batteries, the Tx should already be adjusted, and the ESC switch should be in the off position. The ESC-15K is an auto-set ESC.

1. Turn on the transmitter and center the throttle trim (minor trim adjustment may be required once the ESC is set up).
2. Turn on the ESC.
3. Wait 2 seconds (giving no throttle input on the TX) while the ESC sets itself up, until both the red and green LEDs are lit. **You must do this every time you turn the ESC on.**
4. At neutral both the red and green LEDs will be on constantly.
5. Pull the TX's trigger; the red LED should flash and the truck move forward. (If the green LED flashes and truck moves in reverse, adjust the transmitter's throttle reversing switch.)
6. Push the transmitter trigger. The green LED will flash and the truck will go in reverse.

TROUBLESHOOTING GUIDE

ESC DOES NOT WORK

Problem: *Motors and/or steering servos do not move.*

- 1) Recharge dead battery.
- 2) Check for faulty power connections.
- 3) Check for a damaged connection between ESC and Rx.
- 4) Internal damage. Unit may require service.
See "**Service Procedures.**"

Problem: *No reverse.*

- 1) Tx adjusted incorrectly. Repeat "**Transmitter Adjustments.**"
- 2) Improper set-up. Repeat "**Speed Control Set-Up.**"
- 3) Reverse transistors might be damaged, and unit may require service. See "**Service Procedures.**"

Problem: *Case is melted.*

Internal damage and unit requires service. See "**Service Procedures.**"

Problem: *ESC runs with switch off.*

Unit will require service. See "**Service Procedures.**"

ESC WORKS BUT OTHER PROBLEMS EXIST

Problem: *Rx glitches or stutters during acceleration.*

- 1) Rx mounted too close to ESC, causing interference. Relocate Rx away from ESC.
- 2) Check for faulty power connections.

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

- 1) The ESC is not set up properly. Repeat "**Speed Control Set-Up.**"
- 2) Check for faulty battery and/or motor connections.
- 3) Tx is improperly adjusted. Repeat "**Transmitter Adjustments.**"
- 4) Check that the batteries are fully charged.

Problem: *Steering servos work but motors don't.*

- 1) Motor brushes are hanging up, worn out, or motors are bad.
Replace motors.
- 2) Check for faulty motor connections.

Problem: *Overheated motors or hot power plugs.*

- 1) Motors are geared too high. Change to a lower gear set-up.
- 2) Binding in the vehicle's drive train. Check to make sure nothing is interfering with the models' drive train.
- 3) A motor is shorted electrically. Check the motors for shorts and replace if necessary.
- 4) Check for faulty motor connections.

Problem: *Motors run backwards when forward command is given.*
Move the Tx throttle servo reversing switch to the opposite position.

Problem: *Model runs properly, then slows or stops.*

- 1) Check for binding drive train, bad motor or incorrect gear ratio for track conditions. Adjust gear mesh, replace motor or change gear ratio.
- 2) Check that both batteries are fully charged.

SERVICE PROCEDURES

Note: ESCs that operate normally when received will be charged a minimum service fee and return shipping charges. Before sending your ESC in for service, it is important that you review the "**Troubleshooting Guide**" in this instruction sheet. The ESC may appear to have failed when other problems exist in the system, such as a defective Tx, Rx or servo, or incorrect adjustments/installation.

- Hobby dealers are not authorized to replace ESCs thought to be defective.
- Do not cut the input harness, switch harness, or power wires of the ESC before sending it for service. A fee will be charged for cut wires which must be replaced for testing.

120-DAY LIMITED WARRANTY

U.S. AND CANADA ONLY

DuraTrax warrants this product to be free from defects in materials and workmanship for a period of 120 days from the date of purchase. During that period, we will repair or replace, at our option, any product that does not meet these standards. You will be required to provide proof of purchase date (receipt or invoice).

If, during the 120-day period, your DuraTrax product shows defects caused by abuse, misuse, or accident, it will be repaired or replaced at our option, at a service charge not greater than 50% of the current retail list price. Be sure to include your daytime telephone number in case we need to contact you about your repair.

This warranty does not cover components worn by use, application of reverse voltage, cross connections, poor installation, subsection of components to foreign materials, any alterations to wires, or tampering. In no case shall our liability exceed the original cost of the product.

Your warranty is voided if:

- A. Reverse voltage is applied to the ESC by connecting the battery pack backwards, or plugging the motor connectors into the battery pack.
- B. Any wires are allowed to become frayed which could cause a short.
- C. The ESC is subjected to improper voltage on the inputs.
- D. Tampering of any electronic components or circuitry is attempted.
- E. Water, moisture, or any other foreign material is allowed inside the ESC.

Under no circumstances will the purchaser be entitled to consequential or incidental damages. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. If you attempt to disassemble or repair this unit yourself it may void the warranty.

For service to your DuraTrax product, either in or out of warranty, include a detailed description of the problem, return address and daytime phone number. Please include a copy of the receipt or invoice and send it post paid and insured to:

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