CARSON MODEL SPORT

REFLEX STICK PRO

2.4 GHz FHSS
Digital Proportional Radio Control System

Instruction Manual

CARSON Reflex Stick PRO 500500046

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Dear Customer

We congratulate you for buying this CARSON radio control system, which is designed using state of the art technology.

According to our policy of steady development and improvement of our products, we reserve the right to make changes in specifications concerning equipment, materials and design of this product at any time without notice.

No liability can be accepted for any minor differences between your product and data or images contained in these instructions.

This manual forms part of this product. Should you ignore the operating and safety instructions, the warranty will be void. Keep this guide for future reference.

Limited warranty

This product is warranted by CARSON against manufacturing defects in materials and workmanship under normal use for 24 months from the date of purchase from authorised franchisees and dealers. In the event of a product defect during the warranty period, return the product along with your receipt as proof of purchase to any CARSON store.

CARSON will, at its option, unless otherwise provided by law:

(a) Correct the defect by repairing the product without charging for parts and labour

(b) Replace the product with one of the same or similar design; or

(c) Refund the purchase price.

All replaced parts and products, and products on which a refund is made, become the property of CARSON. New or reconditioned parts and products may be used in the performance of warranty services.

Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

The warranty does not cover:

• Damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current;

- Damage caused by losing control of your model;
- Any repairs other than those provided by a CARSON Authorised Service Facility;
- Consumables such as fuses or batteries;
- Cosmetic damage;
- Transportation, shipping or insurance costs; or
- Costs of product removal, installation, set-up service, adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which may vary according to the country of purchase.

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Declaration of conformity

Dickie-TAMIYA GmbH & Co. KG hereby declares that this model with radio, battery and charger is in accordance with the basic requirements of the following European directives:

98/37EG and 89/336/EWG and other relevant regulations of guideline 1999/5/EG (R&TTE).

The original declaration of conformity can be obtained from the following address in UK:

The Hobby Company Limited
Garforth Place, Knowlhill, Milton Keynes, MK5 8PG
Telephone 44 (0)1908 605 686
Facsimile 44 (0)1908 605 666
www.hobbyco.net

The meaning of the symbol on the product, packaging or instructions: Electronic devices are valuable products and should not be disposed of with the household waste when they reach the end of their running time! Help us to protect the environment and respect our resources by handing this appliance over at the relevant recycling points.

We wish you good luck and a lot of fun using your CARSON digital proportional radio control system.

Before using your radio control system carefully read this instructions!

Contents

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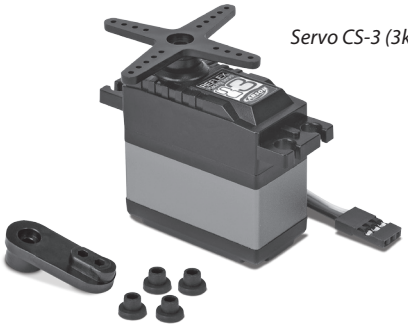
Included Items

REFLEX STICK PRO

N° 500500046

Transmitter



Servo CS-3 (3kg)

Receiver

Features of the 2.4 GHz Remote Control

The transmitter technology at 2.4 GHz is fundamentally different in some aspects from the technology in the 27,35 and 40 MHz frequency ranges, which up to now have been conventional with remote control models. The previous style of location using a channel determined by plug-in crystals is gone, and the transmitter and receiver work with encoding. The receiver accepts only signals with the coding from its own transmitter. Each signal from the transmitter lasts just milliseconds. Before the next signal, a pause is inserted, which lasts longer than the transmission signal.

Nonetheless, within each second countless signals are received and evaluated by the receiver. Signals that the receiver recognizes as defective (false encoding, strings that don't fit the signal schema, etc.) are suppressed and are not passed on as control commands.

And as the frequency gets higher, the antennas get shorter.

Remote controls using this transmitter technology or model construction are not subject to fees.

Advantages of the 2.4 GHz Technology

Although the frequency range used is also divided into channels, the user doesn't have to worry about their configuration and has no influence on it anyway.

Because the same encoding is used by the transmitter and receiver, interruption by another receiver or a different transmitter will not occur.

Plug-in crystals are not needed, because the transmitter creates the currently appropriate frequency using a synthesizer circuit, as does the receiver, which determines the right frequency for ist encoding.

The old fear of double occupancy of a channel (as when a second transmitter overreaches and interrupts a receiver) is a thing of the past. An operator can go ahead and switch on a transmitter and receiver, without negotiating with other model users.

The data transfer capacity is considerably larger than that of previous remote controls, which has a positive effect on control of the digital servo, for example.

Best of all, at events with a lot of participants, you can always use your own equipment for settings, tests and conversions, because the number of active transmitters is almost unlimited.

Worth Noting

At very low wavelengths, obstacles can weaken or interrupt the spread of radio waves. That means there should be as few obstacles as possible in the line between the transmission and reception antennas.

The model's receiver antenna must be as far away as possible from electrically conductive parts and very visibly arranged (protruding from the model) to prevent loss of range.

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Safety Instructions

R/C models can be dangerous and could cause personal injury or damage to property. The appeal of driving an RC model depends on assembling the model accurately and operating it with due care and attention.

1. Follow all the warnings, and instructions in this manual.
2. Be „Safety Conscious" and use your common sense at all times.
3. Remember that operating any R/C model demands skills developed through proper instruction and training – they are not acquired immediately.
4. Don't run risks, such as operating your model in adverse weather or when there is a malfunction of which you are aware.
5. The remote control's special technology makes the 2.4 GHz transmitter and receiver a single unit and coordinates them together. Therefore, the receiver is not influenced by any other transmitter or radio signal.

   It is no longer necessary to check whether other models nearby are running on the same frequency channel, as was the case with previous frequencies (27/35/40 MHz).
6. Respect the rules of the R/C track on which you operate your model.
7. Running your model in the street is very dangerous to both automobile drivers and your model. Avoid running your model in the street.
8. Never aim or direct your model car at any person or animal. These model cars accelerate very quickly and can cause serious physical injury.
9. At any time during the operation of your model, should you sense, feel, or observe any erratic operation or abnormality, end your operation.

   Do not operate it again until you are certain that the problems have been fixed.

   RC models are not "toys" – safety precautions and forward thinking are essential when operating a remote controlled model!
10. Take advantage of the failsafe setting. During a breakdown in signal transmission (such was when transmission voltage is too weak), this setting shifts the model into a control mode that prevents it from taking off uncontrolled.

Take your time to read all the way through the pages of this booklet before starting the installation.

Caution

Control of models is impossible with insufficient or no voltage in the transmitter or receiver. A receiver battery, that is too weak will move the servo(s) very slowly, and that may cause erratic operation of your model. When using a car that operates both the electric motor and receiver on the same battery, such as a BEC system, you should discontinue operating the car, when the top speed becomes sharply reduced, otherwise loss of control will result soon afterwards.

Operating Procedure

Many publications say that the setup sequence for the transmitter and receiver don't play a role anymore with 2.4 GHz sets. However, we recommend sticking to the sequence typical for previous sets.

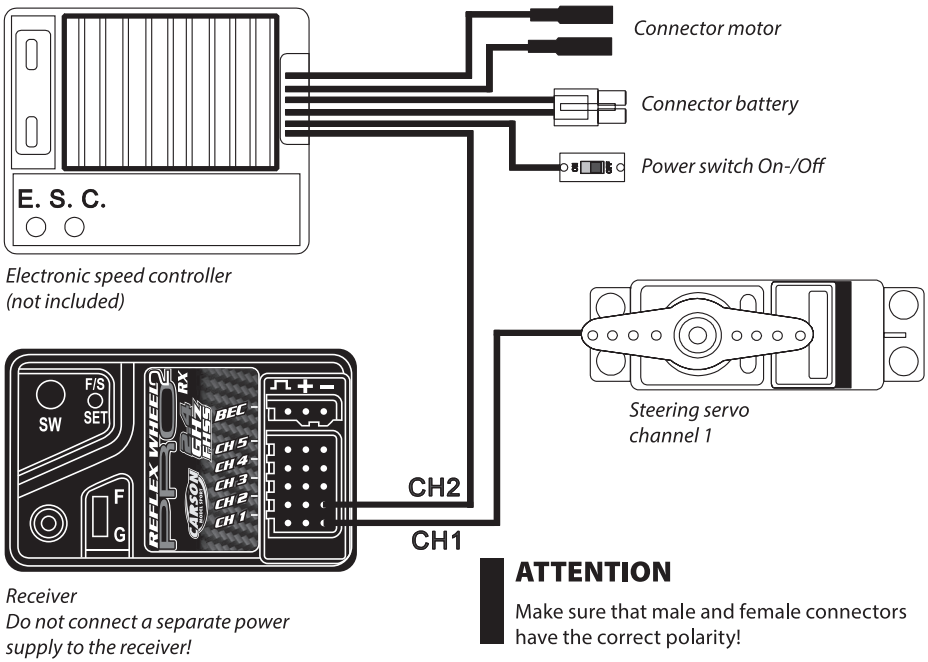
- Before operation: Connect the drive battery to the control unit. First turn on the transmitter, then the receiver.
- After operation: Disconnect the battery from the control unit. Turn the receiver off, and then the transmitter.
- Before and after operating the transmitter, make sure that trim is in the desired place and that all checks have been made.

BEC-System/Connections to Receiver

BEC receiver:

Battery eliminator is installed in the receiver circuitry. The receiver gets supplied with current through the drive battery that runs the motor. NiMH battery from 6 V to 8.4 V can be used for the receiver. Batteries of higher voltage may damage the receiver and servos.

Use only a speed controller which has the exclusive connector for the BEC system.



ATTENTION

Make sure that male and female connectors have the correct polarity!

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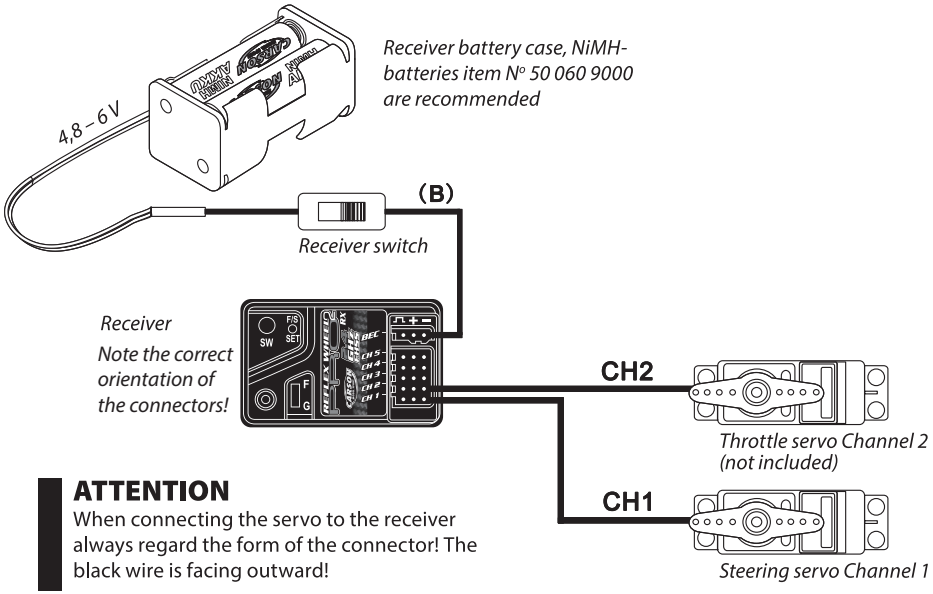
Equipment for Combustion Engine

Receiver batteries and second servo are not included in the kit.



ATTENTION

When connecting the servo to the receiver always regard the form of the connector! The black wire is facing outward!

Installing the transmitter batteries

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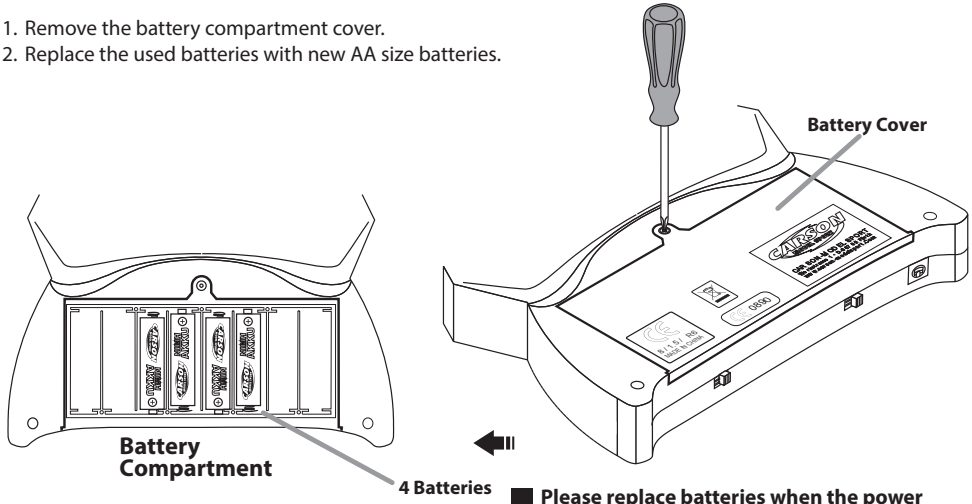
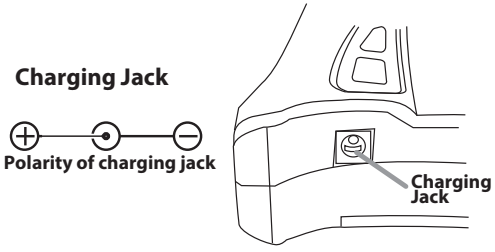
1. Remove the battery compartment cover.
2. Replace the used batteries with new AA size batteries.



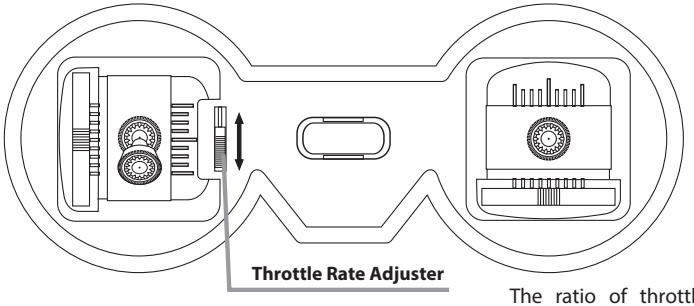
Please replace batteries when the power indicator blinks or the buzzer beeps.



Note: ON/OFF Switch should be at „OFF" position before charging the batteries for the transmitter. Only Nickel-Cadmium or Nickel-Metalhydride batteries (Ni-Cd / NiMH), such as CARSON 609000 or its equivalents, are to be recharged. If you attempt to recharge other types of batteries, they may explode and cause injury or damage to you and others.

DO NOT RECHARGE OTHER TYPES OF BATTERIES, SUCH AS ALKALINE!

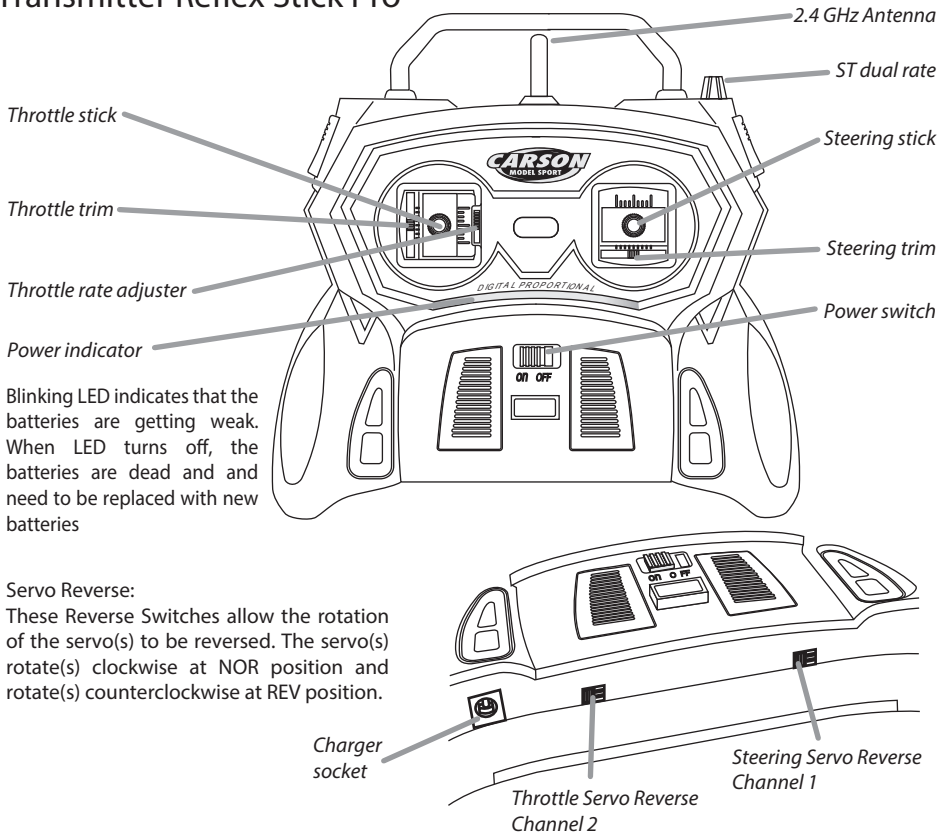
Throttle Rate Adjuster



The ratio of throttle operation to brake/reverse operation can be switched in two steps, either 50:50 or 70:30. The last is to be used preferably for gas powered cars or races.

Functions

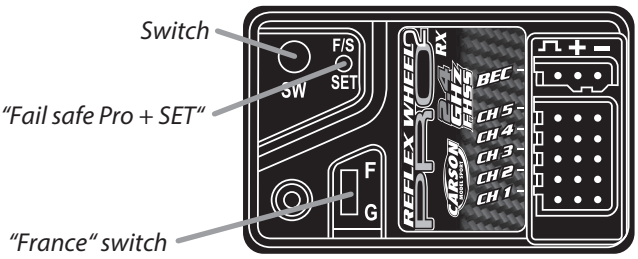
Transmitter Reflex Stick Pro



Blinking LED indicates that the batteries are getting weak. When LED turns off, the batteries are dead and and need to be replaced with new batteries

Servo Reverse:
These Reverse Switches allow the rotation of the servo(s) to be reversed. The servo(s) rotate(s) clockwise at NOR position and rotate(s) counterclockwise at REV position.

Receiver Reflex Pro



For use in France the switch must be set to "F"/"Fra".

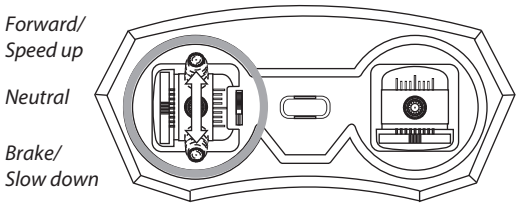
Connectors:
1. Steering servo (CH1)
2. Throttle servo (CH2)
3. Channel 3 servo (CH3)*
4. Channel 4 servo (CH4)*
5. Channel 5 servo (CH 5)*

BEC: Power connector for BEC use

* Channel 3-5 without function.

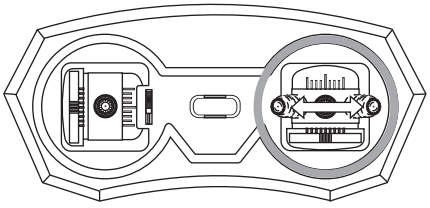
Transmitter Handling

A. Throttle stick

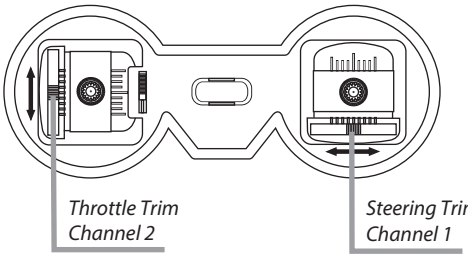


Push the throttle stick for running forward and pull it for breaking and running backward.

B. Steering stick



Move the steering stick to the left or to the right according to the intended direction.



Steering Trim (ST. TRIM)
Move the trim tab to adjust the Steering Servo to the neutral position.

Throttle Trim (TH. TRIM)
Move the trim tab to adjust the Throttle Servo (or the Speed Controller) to the neutral position.

Attention

Keep the transmitter and receiver not over 40 cm apart when setting and binding.
Use the REV switch (TH REV + ST REV) to change the direction of rotation.

Low battery alarm

When the battery power is too low, cease operation immediately.

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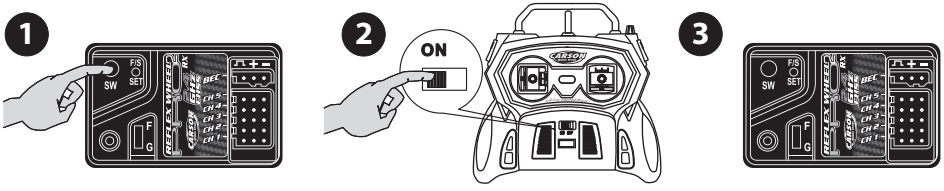
Fail Safe Adjustment

1. Set the throttle and the steering stick to the neutral position.
2. Turn on the transmitter and receiver.
3. Press the F/S SET button, the LED on the receiver will start to flash.
4. Put the throttle trigger at the brake position, press the "F/S SET" button, the LED should become solid.
5. For electric models, put the throttle trigger at the neutral position when you are making the failsafe setting.

Reflex Stick Pro:

The Reflex Stick Pro is fitted with the „Failsafe pro +" system. This system also has integrated low voltage protection. As soon as the voltage is too low for safe operation, the receiver also switches to the default throttle failsafe setting.

Connection from transmitter to receiver



1. Turn on the receiver power. Press the SW switch. The receiver's LED should start flashing.
2. Turn on the transmitter.
3. When the LED on the receiver becomes solid, the binding process is complete. The RC system is ready.

Attention ⚠

Keep the transmitter and receiver not over 40 cm apart when setting and binding.

During the binding process no other transmitter should be operated in the vicinity at the same time!

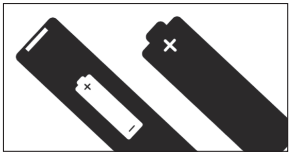
Specifications

Transmitter	Frequency Power supply Weight	2.4 GHz DC 4.8 - 6 V 371 g
Receiver	Power supply Dimension Weight	DC 4.8~6 V (Battery box or BEC system from battery for car running with version Pro2) 35 x 26 x 14 mm 10 g

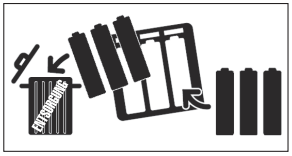
It is CARSON's policy that we strive to improve the quality of our products. Therefore CARSON may alter specifications of our products at any time without any notice.

Battery Safety Guidelines

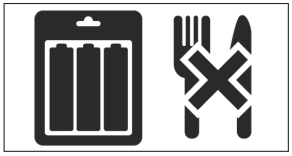
Used correctly, domestic batteries are a safe and dependable source of portable power. Problems can occur If they are misused or abused – resulting in leakage or, in extreme cases, fire or explosion. Here are some simple guidelines to safe battery use designed to eliminate any such problems.



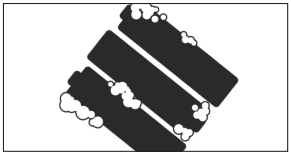
Take care to fit your batteries correctly, observing the plus and minus marks on the battery and appliance. Incorrect fitting can cause leakage or, in extreme cases, fire or even an explosion.



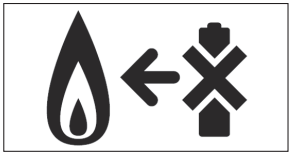
Replace the whole set of batteries at one time, taking care not to mix old and new batteries or batteries of different types, since this can result in leakage or, in extreme cases, fire or even an explosion.



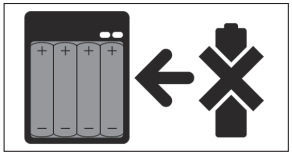
Store unused batteries in their packaging and away from metal objects which may cause a short-circuit resulting in leakage or, in extreme cases, fire or even an explosion.



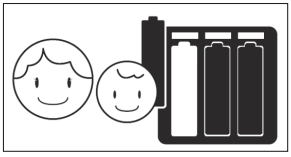
Remove dead batteries from equipment and all batteries from equipment you know you are not going to use for a long time. Otherwise the batteries may leak and cause damage.



Never throw batteries in a fire, this can cause an explosion.
Do not put dead batteries with the normal household waste. Deliver them at special collecting institutions.



Never attempt to recharge ordinary batteries, either in a charger or by applying heat to them. They may leak, cause fire or even explode. There are special rechargeable batteries which are clearly marked as such.



Supervise children if they are replacing batteries themselves in order to ensure these guidelines are followed.

Make sure battery compartments are secure.

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Optional accessories

AS17 (500502015) Replacement Servo CS-3 (3kg)

500501514 Replacement receiver 2.4 GHz with BEC

Notes

Service:

The Hobby Company Limited
Garforth Place, Knowlhill, Milton Keynes, MK5 8PG
Telephone 44 (0)1908 605 686
Facsimile 44 (0)1908 605 666
www.hobbyco.net

CARSON-MODEL SPORT

Werkstraße 1 • D-90765 Fürth • Germany