COBRA SRX8 GP RTR



Instruction Manual

1/8 scale 4wd electric powered

SERPENT

INTRODUCTION

Thank you very much for buying this Serpent rc car. You are now member of a large following of Serpent fans worldwide. This Serpent car will bring you many hours and weekends of racing excitement.

Serpent started as rc racing company in 1980, and has developed many modelcars since. This wealth of experience and know how is used in our todays cars and that shows!

The Serpent Cobra offers state of the art specifications and leads the way in 1/8 scale chassis design, using all the knowledge our designers have gathered from racing cars for many years, into this design too. Continuously pushing the performance envelope.

The Serpent Cobra E-Truggy RTR is a very good entry in the world of rc racing. Affordable and a very good basis to start your racing carreer. The Serpent Cobra Truggy RTR, is based on the high-end competition version of the Cobra Truggy and shares geometry and many parts. Still its easy to use, maintain and set up. The RTR Cobra is fully upgradable to high end competition spec. The details can be found in our website.

Designed, tested and raced by Billy Easton, USA. World Champion.

This manual contains a number of steps you need to follow to operate the Serpent cars in the right way. It also contains a quick-start section, a partslist and exploded views, and a set-up section. A full assembly manual can be found online in the Serpent.com website.
So read this manual with great attention before racing this car. For your own safety as well as for others, and to ensure you can enjoy your Serpent car a long time.

Serpent is not only about the car itself. Serpent as company, and the worldwide network or distributors and dealers are here to help you out.

The Serpent website, social media and forum are available for assistance and additional information as well.

Enjoy your Serpent, the racing experience!

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READ THIS FIRST

- This is a highly technical hobby product, intended to be used in a safe racing environment. This car is capable of speeds in excess of 80 km/h or 50mph.
- Please follow these guidelines when building and operating this model.
- Parental guidance is required when the builder/user of this car is under 16.
- Follow the building instructions. If in doubt, contact your dealer or importer.
- Be sure to use the proper tools when assembling the car. Always exercise caution when using electric tools, knives and other sharp objects.
- Be careful when using liquids like lubrication oil or glue. Do not swallow.
- Follow the manufacturer's instruction in case you experience irritation after using the product.
- Be careful when operating the car. Stay away from any rotating parts such as wheels, gears and transmission.
- Stay away from speedo during and immediately after use, as these parts may be very hot. We advise to use protective handgloves.
- Only operate this car in a safe environment, like a special racing track or a closed parking lot.
- Avoid using this car on public roads, crowded places or near infants.
- Before operating this car, always check the mechanical status of the car. Check that the batteries of the transmitter and receiver are fully charged. After use, always check all the mechanics of the car. We advise to clean the car immediately after use, and inspect the parts for wear or fractures. Replace when necessary. Do not use water, methanol, thinner or other solvents to clean the car.
- Store the car in a dry and heated place to avoid corrosion of metal parts.
- Avoid using this car in wet conditions as the water will cause corrosion on the metal parts and bearings and these parts will cease to function properly. If driven in the wet, ensure that all the electric equipment is waterproofed and after use, that all moving parts are dried immediately

SAFETY MATTERS

All instructions in this manual must be followed to ensure safe use of the car. This model is not intended for use by children under 14 years .

Important pre-cautions

- Only run the car is designated areas or areas with very few people, so no-one can get hurt.
- The car has a lot of power and the turning parts on the car can cause damage, also some parts of the car like transmisison and motorparts can become very hot. So wear protective clothing both as driver and helper and be carefull when picking up the car.
- Do not operate the car under dark conditions, as both you and others may not see the car properly and can get hurt, due to lack of car control.
- Use good common sense while operating the car so you can fully enjoy your car.

Battery and battery-charging

- The battery and battery-charger are not included with this model. We advice to use good quality NimH or Lipo rechargebale battery-packs with 4000 mA or more. Check carefully to buy batteries with the correct connector for the speedcontroller, or also purchase and mount other fitting ones.
- Use proper battery-charger specifically designed for that type batteries and follow the instructions of the battery supplier and the charger correctly.
- Keep the battery and charger always in dry places only and never leave un-attended during charging.
- When the batteries are at their end of life, dispose them at a recycling-place, check www.call2recycle.org for more info.

QUICK-START

The quick-start section is not a replacement for the full instructions. To be able to use the model to its best take the time to read the full manual.

1. Read the manual and safety pre-cautions (page 3)
2. Buy and install the batteries in the transmitter (see Transmitter manual)
3. Install battery packs in the model, make sure the speedo is switched off, connect the cables (avoid reversed polarity) and securely fasten the battery-pack.
4. Turn on the transmitter (see Transmitter manual). Always turn on the transmitter first before to switch on the car and only turn off the transmitter after you switched off the car.
5. Check servo operation. Check that the servo works correctly and check that the car runs straight in neutral position, trim as neededPerform a range test with the radio system
6. Personalise the body of your car by applying more decals if required.
7. Drive your modelcar.
8. Maintain your modelcar (page 9)

EQUIPMENT

INCLUDED WITH YOUR MODEL

- Serpent modelcar, factory assembled and set-up

- Dragon-RC transmitter (as shown or similar)
- Dragon-RC ESC speedcontroller
- Dragon-RC brushless motor
- Dragon-RC digital servo WP
- Dragon-RC pre-mounted racing tyres
- Serpent prepainted and pre-cut bodyshell

REQUIRED FOR YOUR MODEL

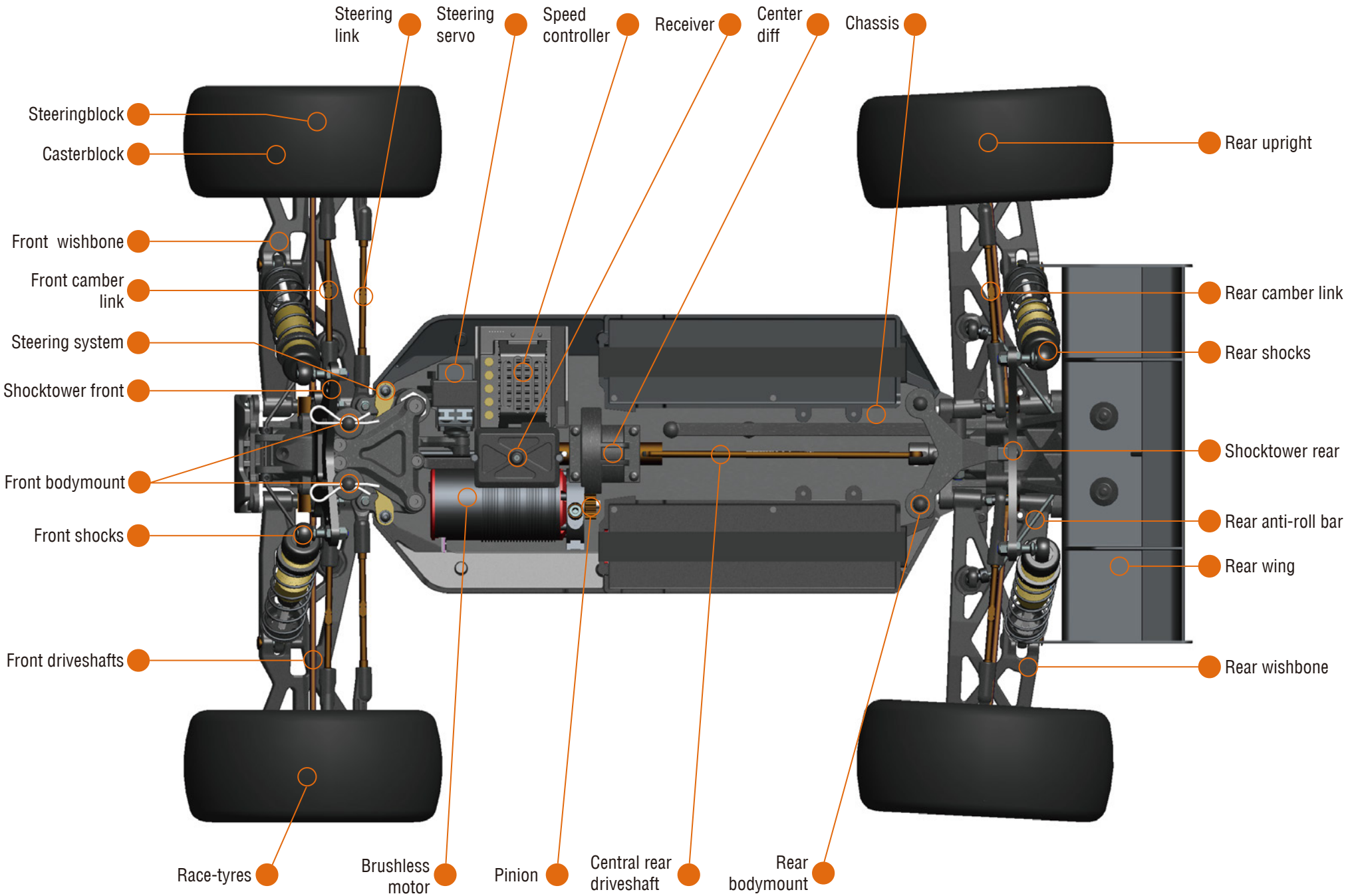
- Multi Charger; to charge transmitter battery and car battery
- Battery pack 2-S Lipo x 2
- Battery AA x 4 to operate the transmitter
- Tools: selection of allen tools and screw- drivers
- Hobby knife
- Camber gauge

RECOMMENDED MATERIALS

- Side cutter and nose plier
- Cleaning brush and towel
- Safety glasses and gloves
- Cleaning gum
- Thin bearing oil
- Transmission grease
- CA glue
- Degreaser



MODEL SPECS / OVERVIEW



BASIC TUNNING

Springs:
By using a softer spring you will have more sag, more chassis roll/lean, more dive and a less responsive car this might be better on low-grip surfaces; by using a harder spring you have less sag, less body lean, less dive and a more responsive car. What to apply depends on driving style and grip-level surface. This is more suitable on high-grip surfaces.



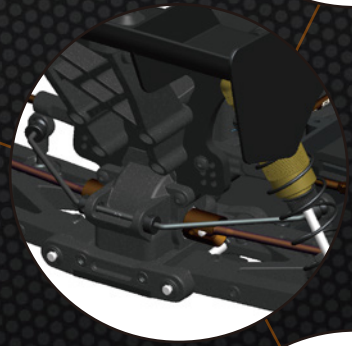
Front anti-roll bar:
By using a softer anti-roll bar you will have more sag, more chassis roll/lean, more dive and a less responsive car. But you will have more steering once you have entered the corner.



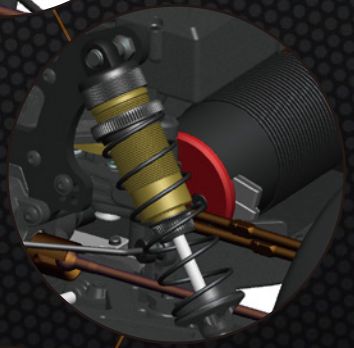
Shock-angle:
The angle at which the shocks are mounted create a different suspension feel; the more vertical, the harder it feels, the more horizontal, the softer it feels.



Rear anti-roll bar:
By using a softer anti-roll bar you will have more sag, more chassis roll/lean, more dive and a less responsive car. But you will have more rear traction and a more stable car.



Oil:
The viscosity of the shock-oil defines the dampening of the shockabsorber. Thinner oil will be softer, with slower response, thicker oil will be harder dampening with faster reponse. The dampening can also be fine-tuned by fitting other pistons with more or less holes, which is an optional.



Rear toe adjustment:
Adjusted with suspension blocks (optional).
More toe-in will create more traction, more stability, but less speed.
Less toe in will create a less stabile car, with less traction but higher speed.



Differential:
You can make the gear differential harder or softer by using a different oil viscosity. Lighter oil will create a looser diff which increases rear traction on acceleration, but also more understeer , and a harder differential will decreases rear traction on acceleration, but also more on-throttle steering.



Front toe adjustment:
Adjusted with the track-rods, make longer or shorter. More toe-in will create more steering, but less stability; toe-out will create a more stabile car, with less steering.



Front camber:

Using more negative camber in the front will give you more steering but also increases possible traction roll.



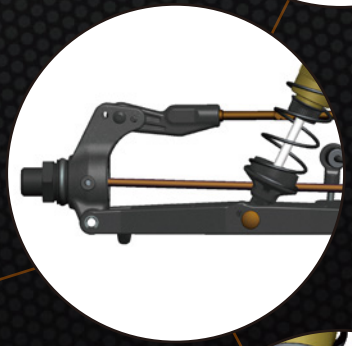
Wheel-base length:

A longer car will be more stabile and react slower, a shorter car will be more nervous and more direct.



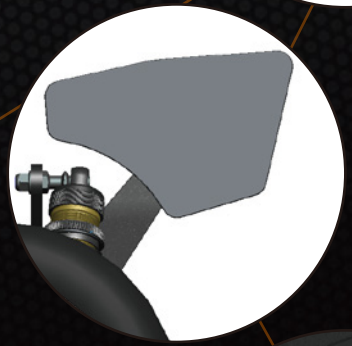
Rear camber:

Using more negative camber in the rear will create more grip in the rear meaning also creating more understeer.



Wing angle:

The wing has to possible positions. In the position where the wing is more angled it generates more rear downforce, creating more traction, more stability, but less speed and viceversa.



Front caster:

Use optional caster blocks to change cas raction roll. And less caster will create less steering but also decreases possible traction roll.



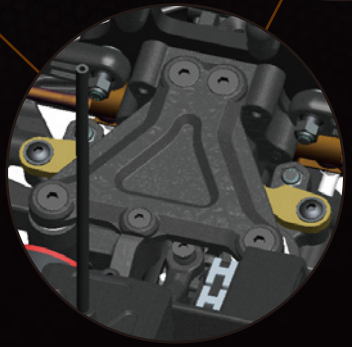
Gear-ratio:

Spur and pinion: for correct gearmesh keep a pieces of notebook paper at hand, to put between the spur and pinion for correct mesh.



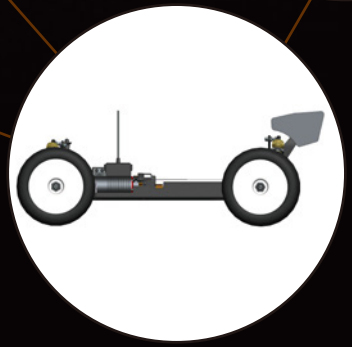
Ackerman:

Ackermann setting is used to change steering chararateristic. Less Ackermann for bigger open tracks, more Ackermann for smaller, tighter tracks. Steeringplate 1 = less Ackermann, plate 2 is midrange, plate 3 is for more Ackermann.



Ride-height:

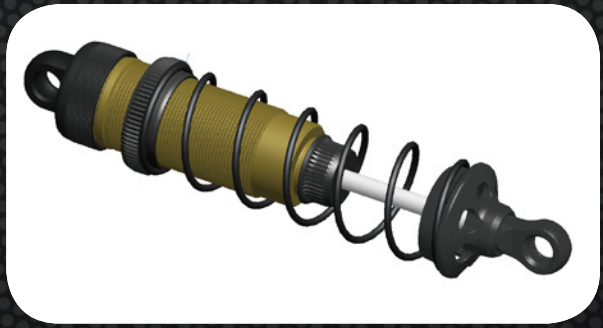
You can change the ride-height of the car, by applying more or less pre-load on the springs, turn the pre-load adjusters to set the desired height and keep left and right the same.

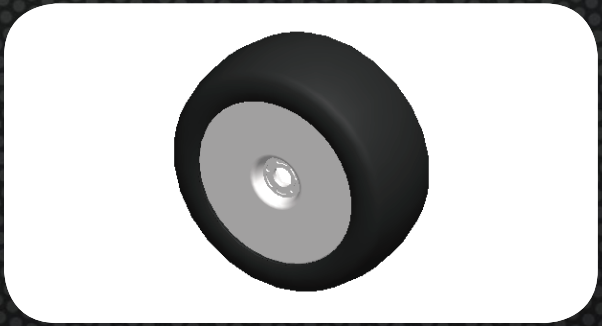


MAINTENANCE

Shockabsorbers

- Check for smooth operation of the shockabsorbers, and check for airbubbles by pushing the shock up and down fast after removal of the spring. Clean the shockabsorbers as needed and refill with fresh 100% pure silicone oil as needed.



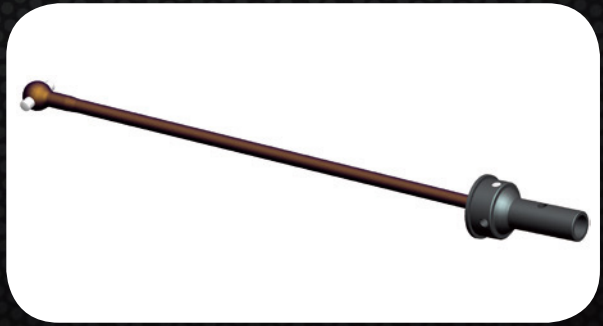


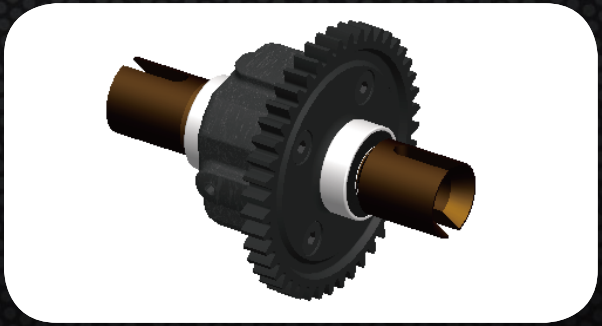
Tyres

- Replace tyres if case worn or damaged, and clean the surface in case dirty to obtain better grip.

Wheel-axles and driveshafts

- Remove the wheels, and check the wheel-axles, driveshafts and adaptors for dirt, play and pins. Clean thoroughly as needed and lubricate the touching parts with a small amount of grease or oil.





Differentials

- Check the differentials and gears for wear and dirt and clean as needed. Check the functionning of the diff by turning the wheels in opposite direction and feel if still smooth or ‘gritty’. In case of gritty feel, the silicone oil may need replacement.

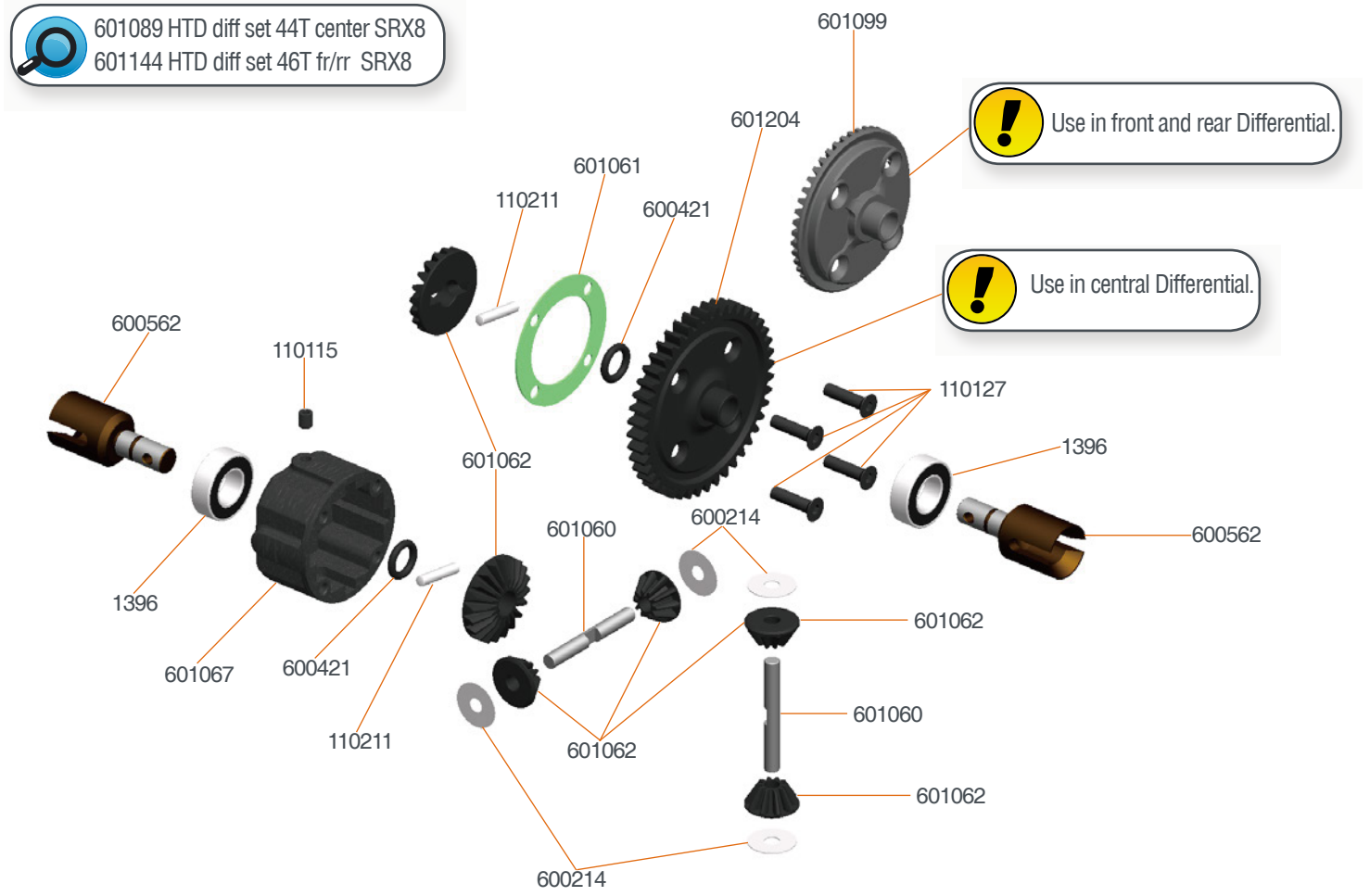
The full assembly manual of this model is available online; check on www.serpent.com and type your modelnumber, partnumber, or select your car from the car-page; go to the download section in the menu and download the full manual.

EXPLODED VIEWS

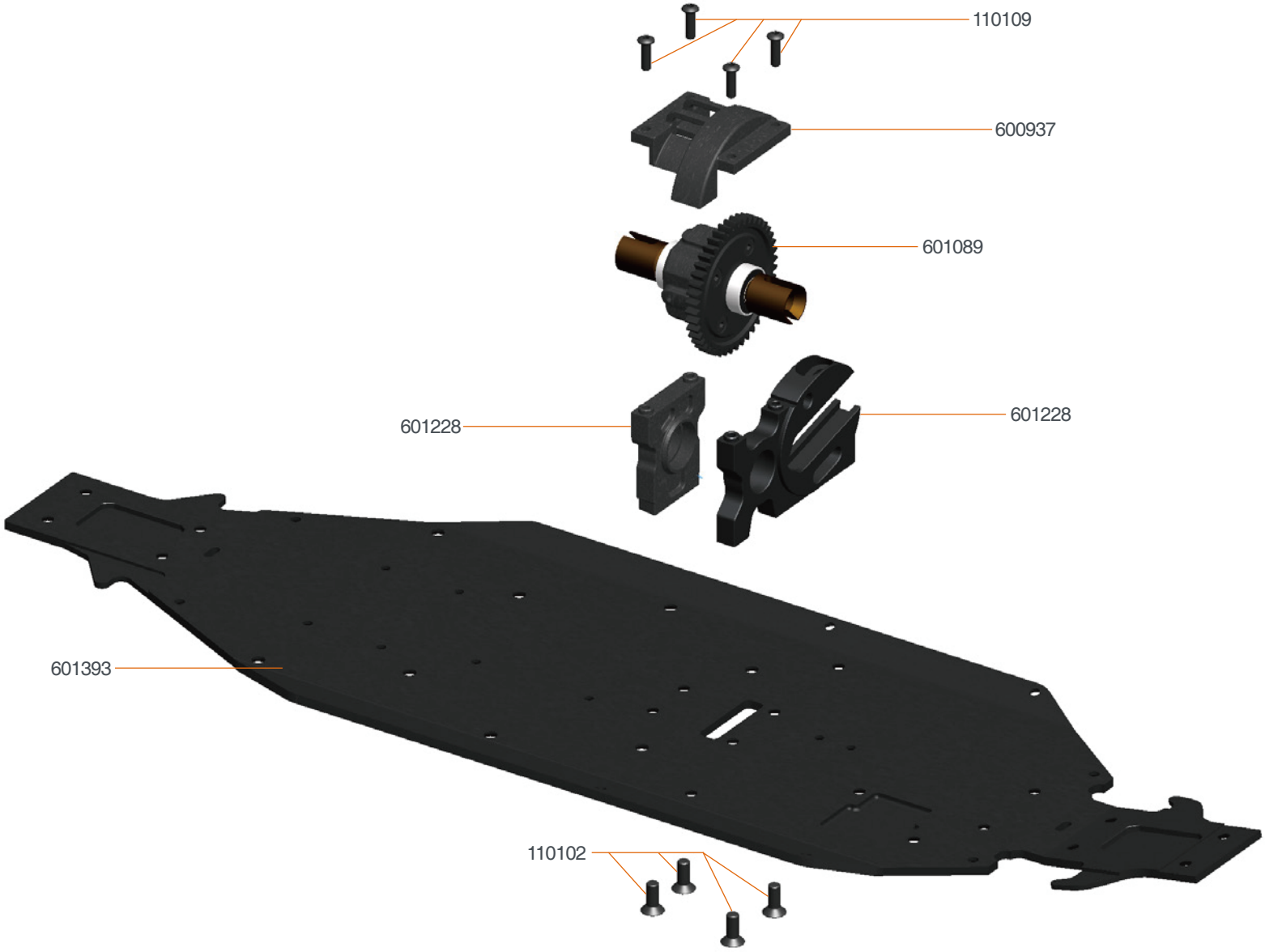
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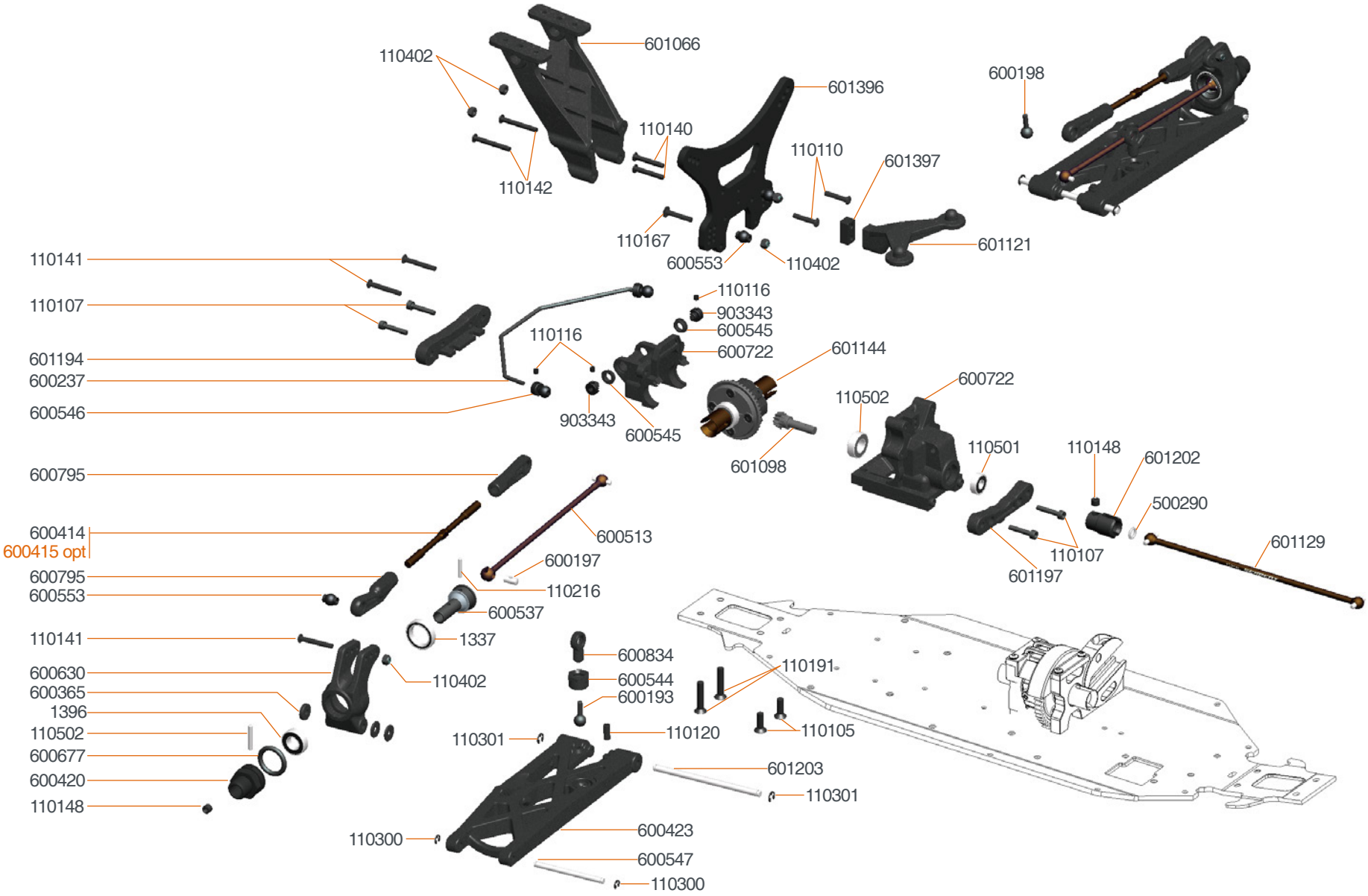
DIFFERENTIAL EXPLODED VIEW



CENTRAL EXPLODED VIEW



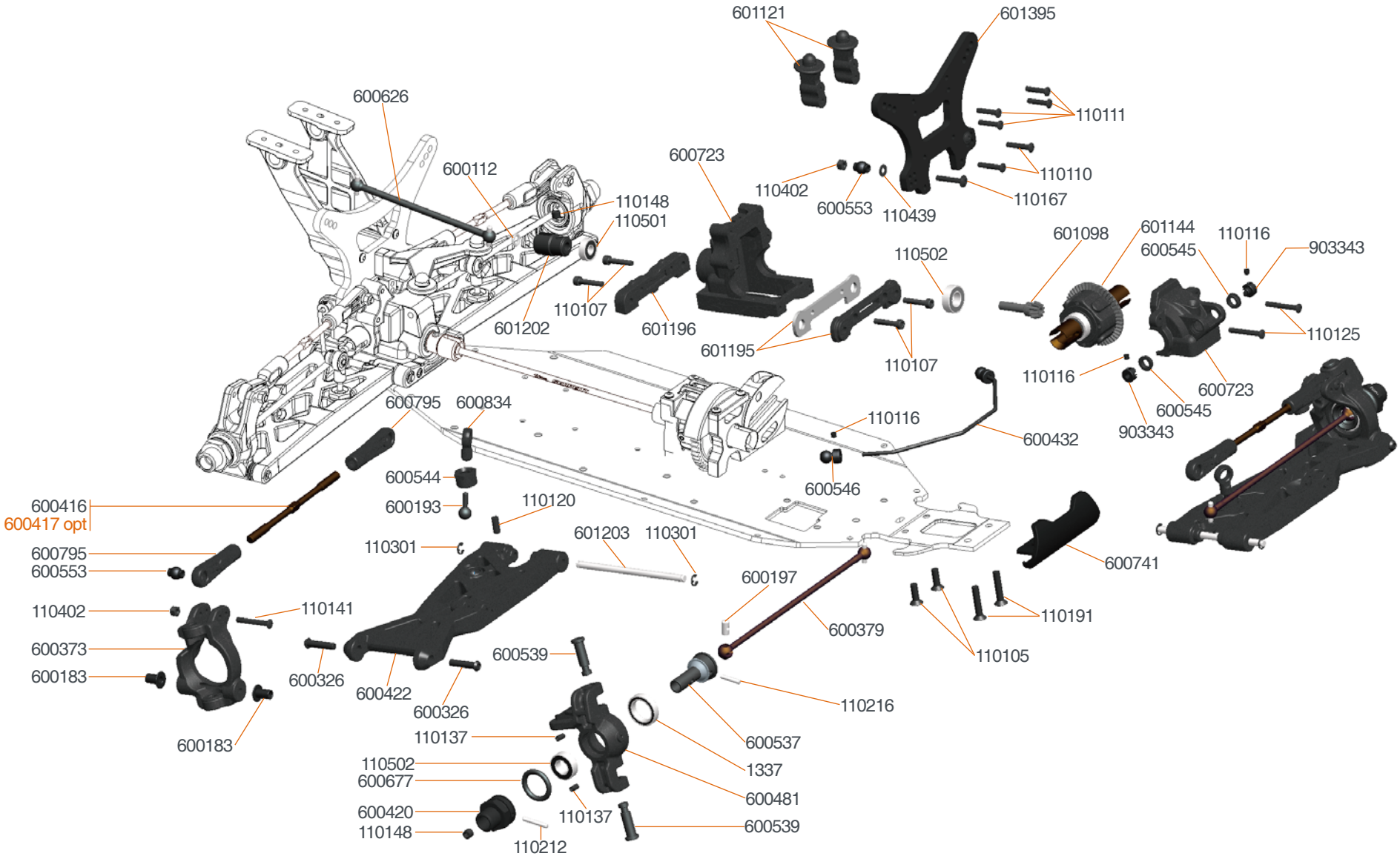
REAR EXPLODED VIEW



OPT

600238 Antiroll bar rear 2.5mm
600239 Antiroll bar rear 2.7mm
600338 Antiroll bar rear 1.8mm
600339 Antiroll bar rear 2.0mm
600415 Track rod M5x86 titanium (2)
600684 Antiroll bar rear 3.0mm

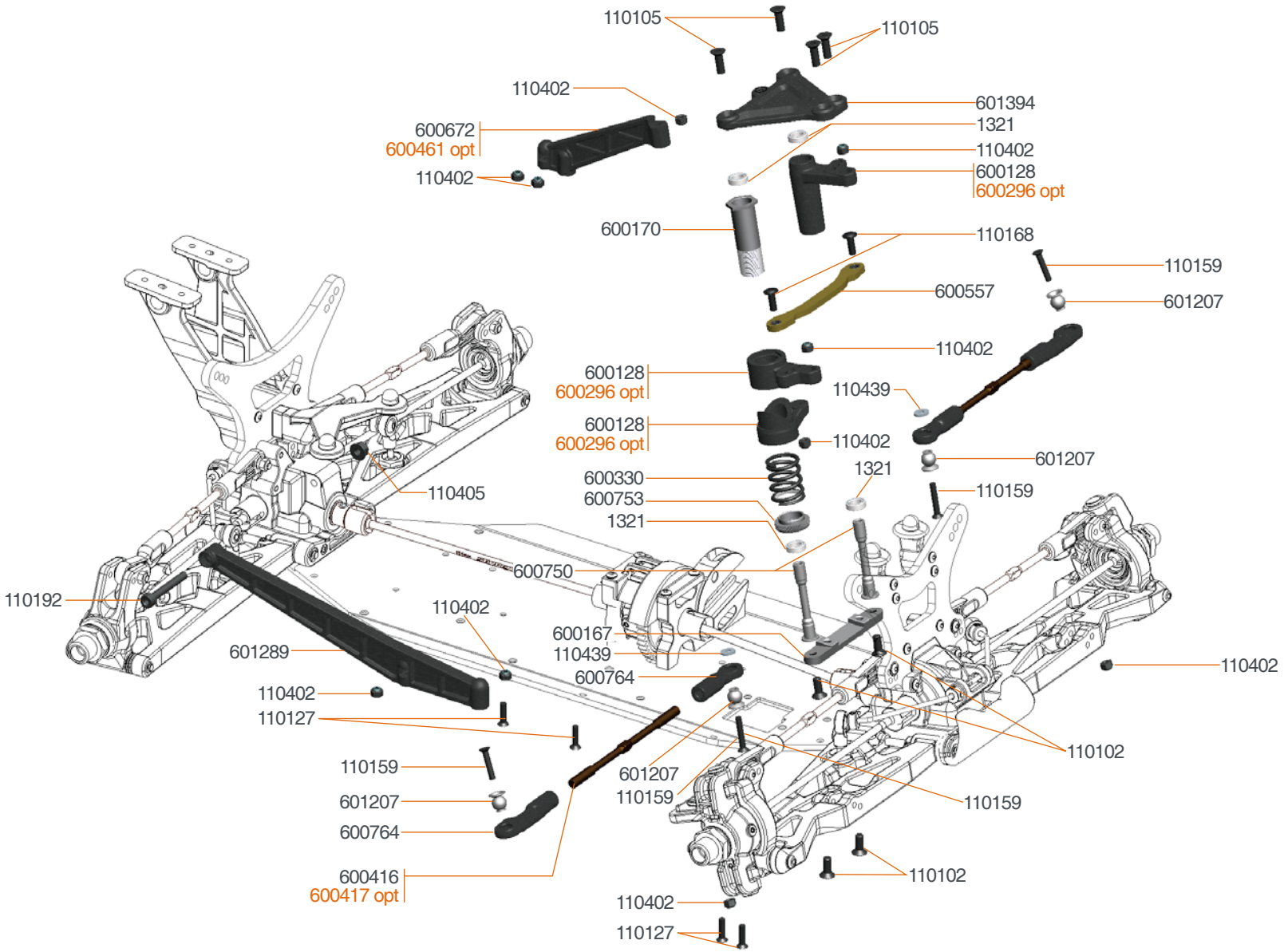
FRONT EXPLODED VIEW



OPT

600417 Track rod M5x91 titanium (2)
600430 Antiroll bar front truggy 2.1mm
600431 Antiroll bar front truggy 2.3mm

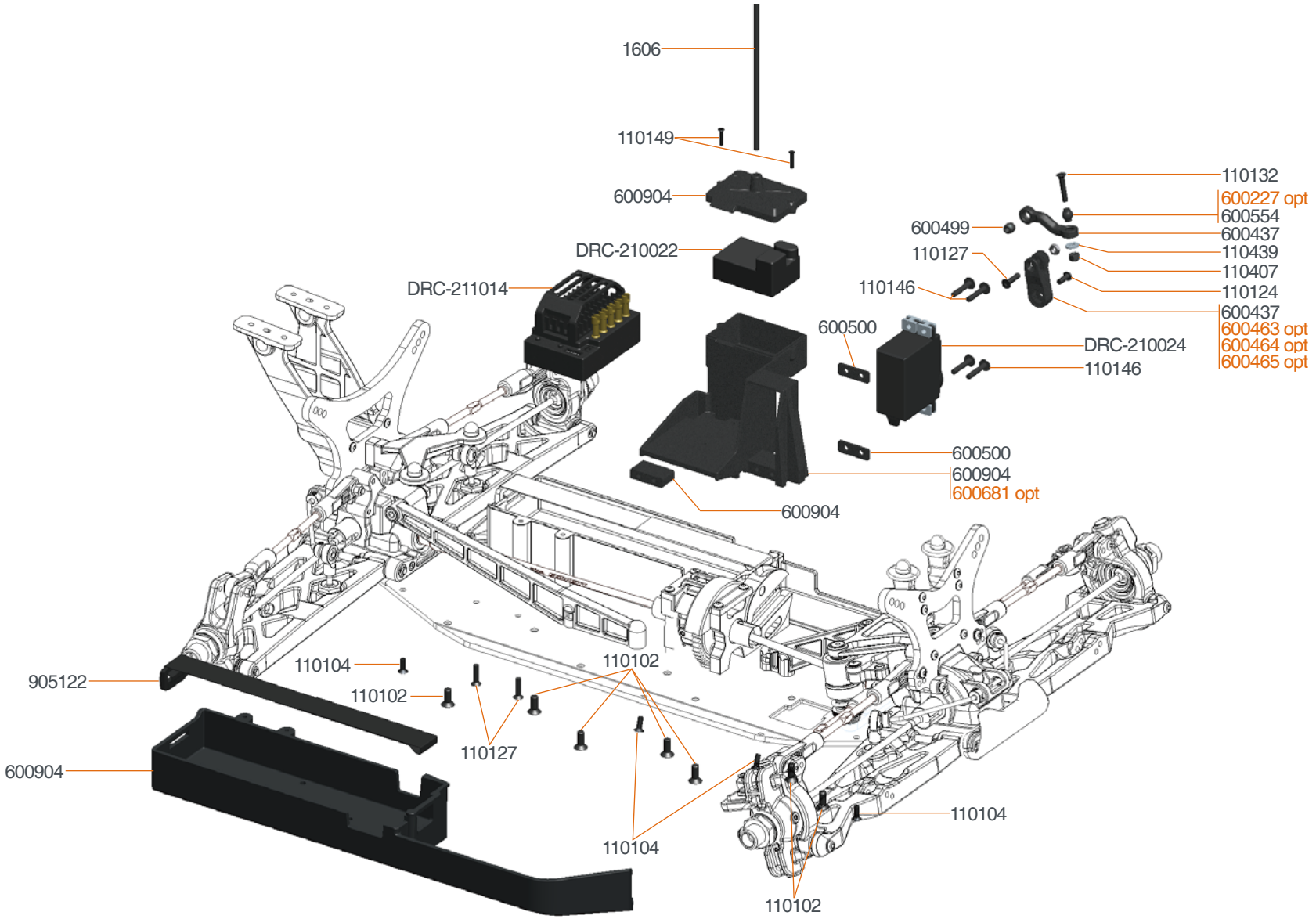
STEERING EXPLODED VIEW



OPT

600296 Servo saver alu coated (3)
600417 Track rod M5x91 titanium (2)
600461 Chassis brace front alu 811-E

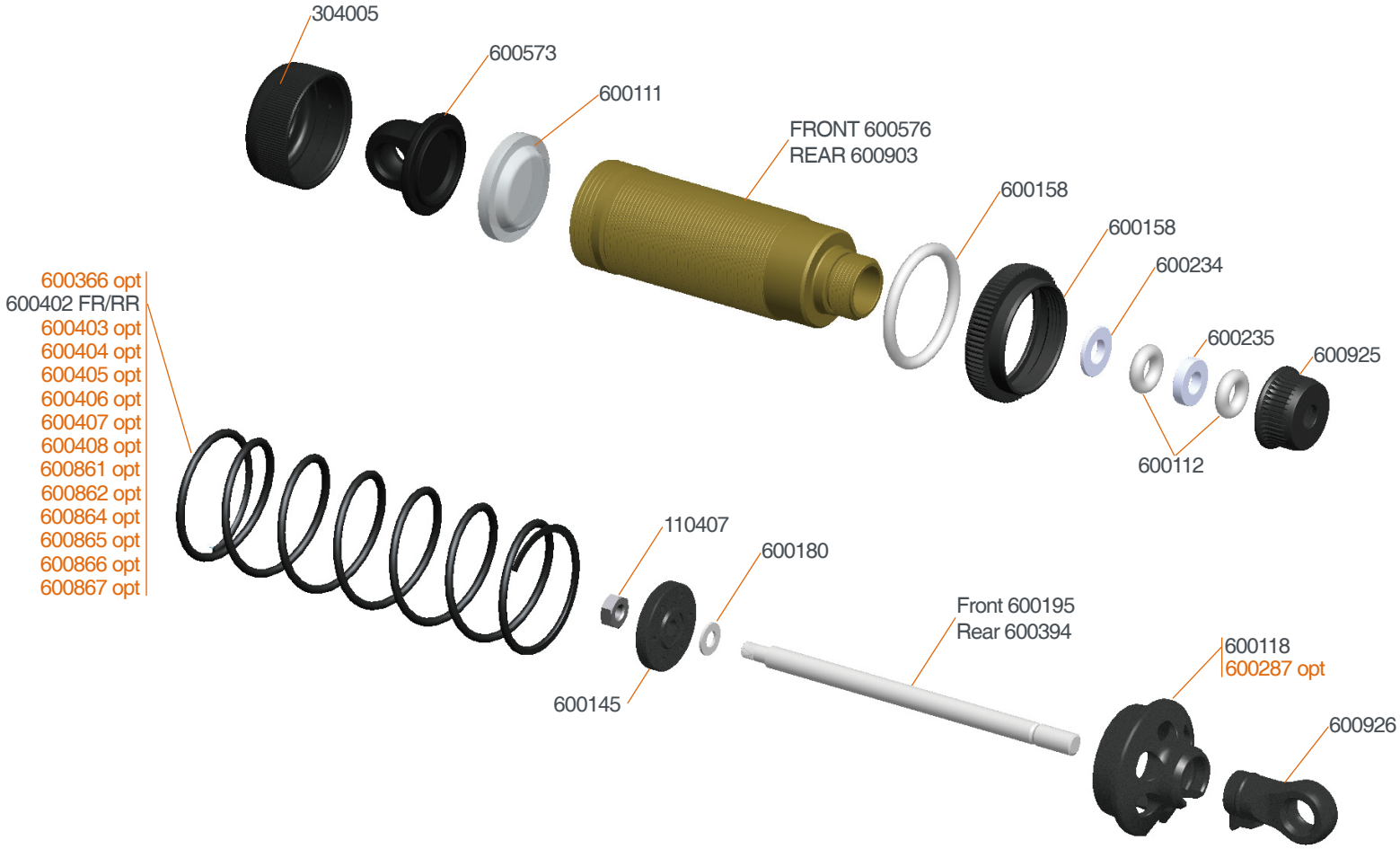
RADIO EXPLODED VIEW



OPT

600227 Pivot ball steering rod (2)
600463 Servo lever 23T 811-E alu
600464 Servo lever 24T 811-E alu
600465 Servo lever 25T 811-E alu
600681 S811E Radiotray set light alu/carbon

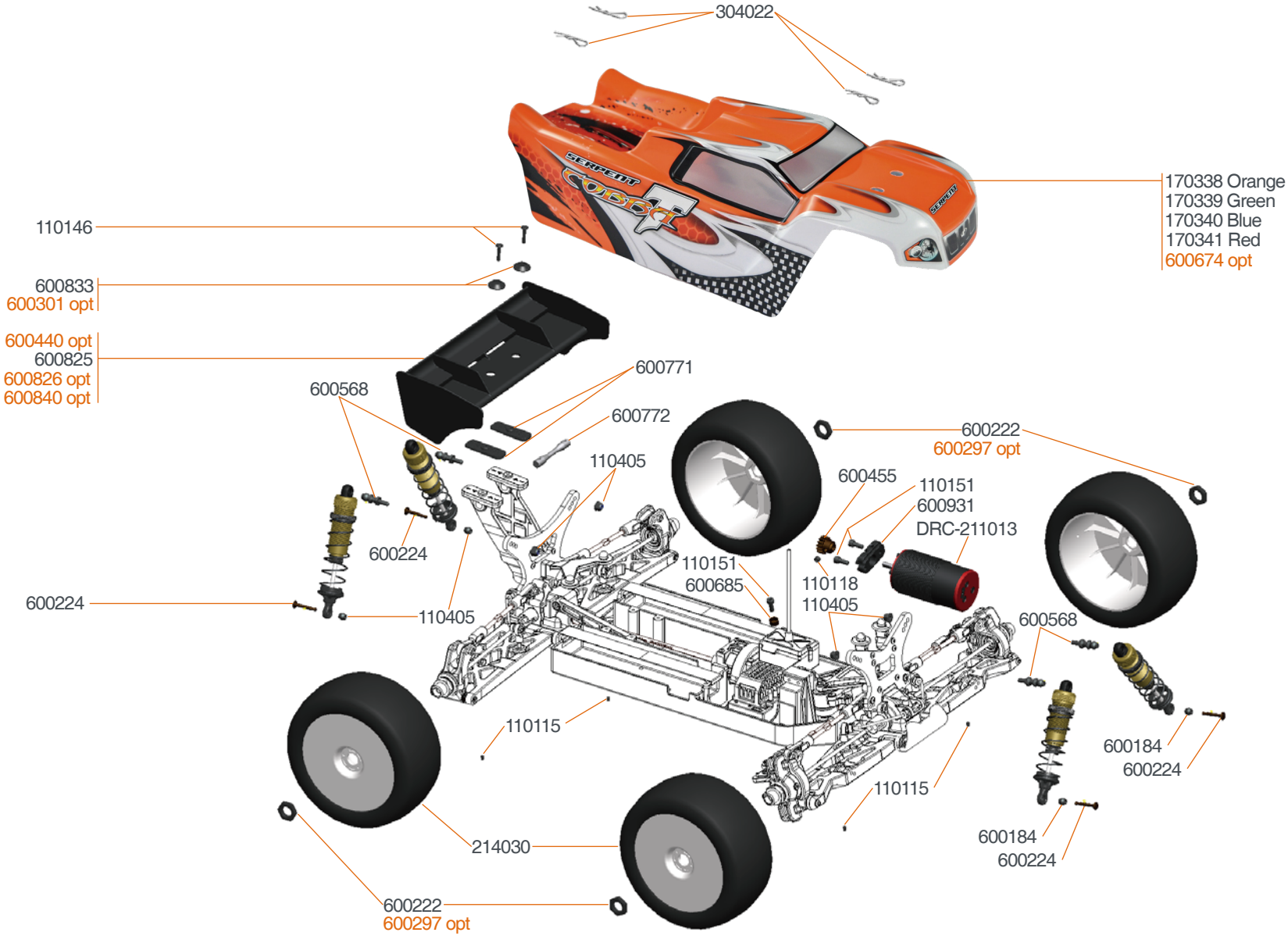
SHOCKS EXPLODED VIEW



OPT

600287 Shock spring support alu (4)
600366 Spring set FR S811T (7x2)
600403 Spring set FR Blue 5.0 lbs (2)
600404 Spring set FR Purple 5.2 lbs (2)
600405 Spring set FR Green 5.4 lbs (2)
600406 Spring set FR Gray 5.6 lbs (2)
600407 Spring set FR Yellow 5.8 lbs (2)
600408 Spring set FR White 6.0 lbs (2)
600861 Shockspring RR orange 3.0lbs (2)
600862 Shockspring RR red 3.2lbs (2)
600864 Shockspring RR blue 3.6lbs (2)
600865 Shockspring RR purple 3.8lbs (2)
600866 Shockspring RR green 4.0lbs (2)
600867 Shockspring set RR (6x2)

FINAL EXPLODED VIEW



OPT

600297 Wheel-nut 17mm flanged/light (4)
600301 Wing washer alu (2)
600440 Wing black low 811
600454 Pinion 14T
600456 Pinion 16T
600826 Wing straight MD white 1/8
600840 Wing lexan HD with gurney 1/8

TEAM SERPENT NETWORK

Cobra E-Truggy RTR SPARE PARTS https://serpent.com/collections/SER600070-sp



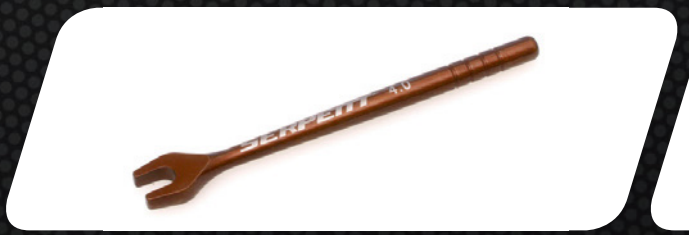



Cobra E-Truggy RTR OPTIONALS PARTS https://serpent.com/collections/SER600070-opt





SERPENT TOOLS https://serpent.com/collections/tools







SERPENT MERCHANDISING https://serpent.com/collections/merchandising



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Manual SRX8Te RTR #83822-1