



*1/8 scale Ready To Race gaspowered Buggy*

USER MANUAL &  
REFERENCE GUIDE



## 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 S811-B Cobra RTR is the best entry in the world of rc offroad racing. Affordable and a very good basis to start your racing carreer. The Serpent S811 Cobra *RTR*, is based on the high-end competition version of the Cobra and shares geometry and many parts. Still its easy to use, assemble, and set up. The *RTR* Cobra is fully upgradable to high end competition spec. The details can be found in our website. You are now part of the worldwide network of Serpent drivers, which gives you superior technical support and access to many benefits that only Serpent drivers can enjoy.

The Serpent S811-B Cobra *RTR* offers state of the art specifications and leads the way in 1/8 scale electro offroad chassis design, using all the knowledge our designers have gathered from racing offroad cars for over 15 years, into this design too. Continuously pushing the performance envelope. 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. This manual also contains a quick-start section, a partslist and exploded views, and a FAQ 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, even if you are an experienced user. 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!*

## Contents

Introduction	
Read this first	3
Safety matters	3
Quickstart	3
Required equipment	4
Model specs / overview	5
Basic Tuning	6
Default Set Up	7
Maintenance	8
Partslist	9
Exploded views	13



# 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 in 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 transmission and motorparts can become very hot. So wear protective clothing both as driver and helper and be careful 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. For the transmitter you need 4 pcs AA size NIMH batteries and for the car you need a NIMH hump-back of 1600 mA or more.
- 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](http://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 the RX=receiver battery pack (not included) in the battery-box and connect as shown in the manual.
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. Put purpose made modelcar fuel in the fuel tank. Start and run in the engine, as described in the separate engine manual.
5. Check servo operation. Check that the servo works correctly and check that the car runs straight in neutral position, trim as needed.
6. Perform a range test with the radio system.
7. Personalise the body of your car by applying more decals if required.
8. Drive your modelcar.
9. Maintain your modelcar (page 9)

# Equipment



## Included with your model

- Serpent modelcar, factory assembled and set-up
- Dragon-RC DTS-1 transmitter (as shown or similar)
- Novarossi 3.5cc (.21) 3 port pullstart engine
- Dragon-RC polished Inline tuned pipe-system
- Dragon-RC racing tyres, pre-mounts
- Dragon-RC digital servo MG
- Dragon-RC prepainted and pre-cut bodyshell



Powered by:

NOVAROSS!



## Required for your model

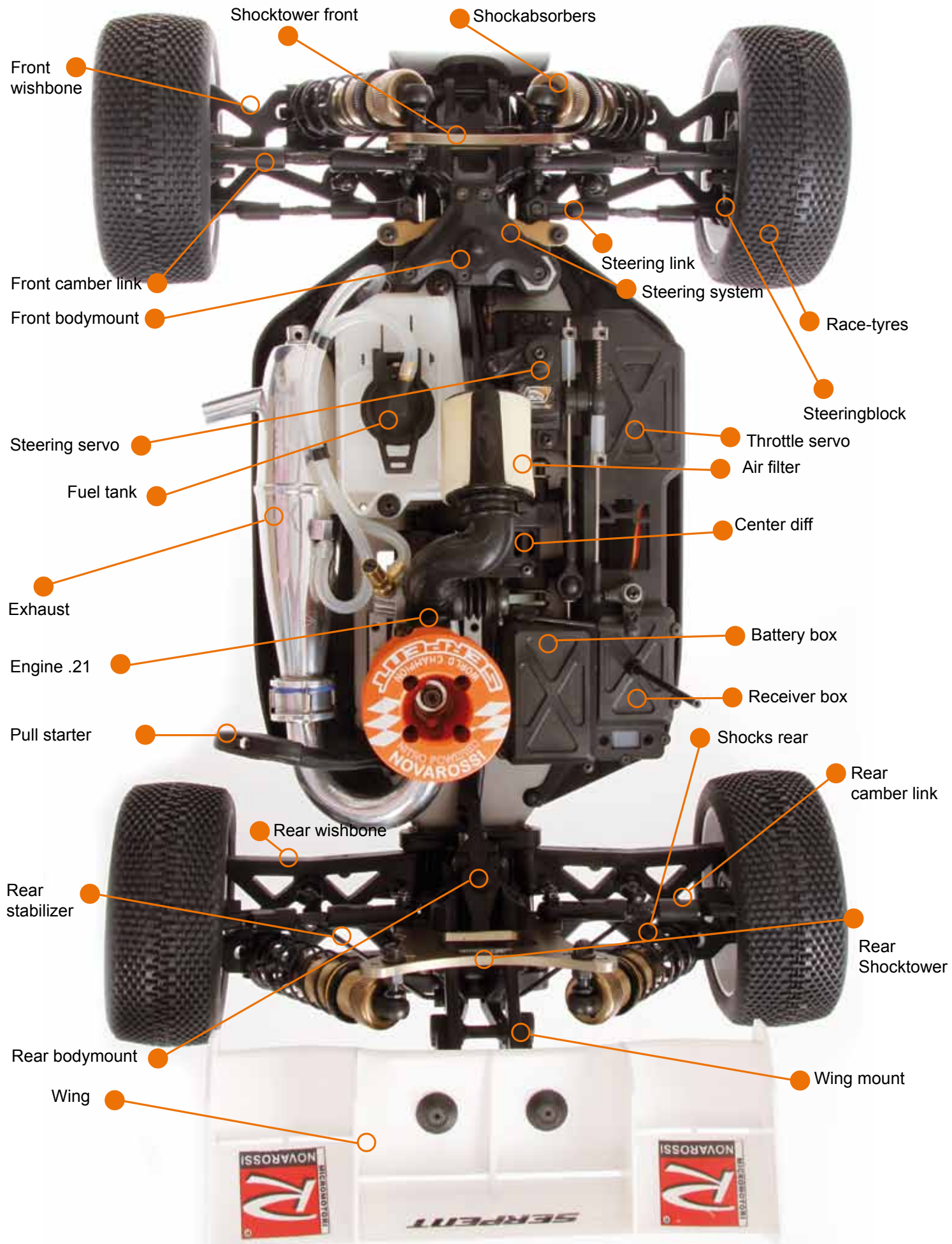
- Multi Charger; to charge transmitter battery and car battery
- Receiver pack RX hump-pack 1600 mA
- Glowdriver
- Fuel / fuel-bottle
- Safety glasses and gloves
- Battery AA x 4 to operate the transmitter
- Tools: selection of allen tools and screw- drivers
- Degreaser

## Recommended materials

- Hobby knife
- Side cutter and nose plier
- Cleaning brush and towel
- Camber gauge
- Cleaning gum
- Thin bearing oil
- Transmission grease
- CA glue



# Model specs/overview



# Basic Tuning

- **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.
- **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.
- **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 response. The dampening can also be fine-tuned by fitting other pistons with more or less holes, which is an optional.
- **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 decrease rear traction on acceleration, but also more on-throttle steering
- **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
- **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
- **Toe adjustment: Front:** 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 stable car, with less steering.
- **Toe adjustment: Rear:** adjusted with suspension blocks (optional). More toe-in will create more traction, more stability, but less speed. Less toe in will create a less stable car, with less traction but higher speed.
- **Front camber:** using more negative camber in the front will give you more steering but also increases possible traction roll.
- **Rear camber:** using more negative camber in the rear will create more grip in the rear meaning also creating more understeer.
- **Front caster:** use optional caster blocks to change caster, more caster will create more steering but also increases possible traction roll. And less caster will create less steering but also decreases possible traction roll.
- **Wheel-base length:** a longer car will be more stable and react slower, a shorter car will be more nervous and more direct.
- **Gear-ratio:** spur and pinion: for correct gearmesh keep a piece of notebook paper at hand, to put between the spur and pinion for correct mesh.
- **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.



Springs



Shock-angle



Front anti roll-bar



Rear anti roll-bar



Ackermann



Front camber



Rear camber



Ride-height



Front caster



Rear caster



Gear-ratio





# 2013 COBBLE

## SET UP DEFAULT

### DIFFERENTIAL OIL

FRONT	CENTER	REAR
12000 CST	12000 CST	7000 CST

### CLUTCH

TYPE: STANDARD ☒ OPTIONAL ☐

SHOE: ALU ☐ PCS ☐ SPRING ☐

CARBON ☐ 4 PCS ☐ SPRING ☐ MED ☐

### GEARING

CLUTCH BELL 16 T SPUR GEAR 46 T

### BRAKE BALANCERS

50/50	<input checked="" type="checkbox"/>	BALANCER CLIPS:	0.5 MM	pcs
OPTION	<input type="checkbox"/>		0.75MM	pcs
			1.0 MM	pcs
			1.25MM	pcs
			1.5MM	pcs

### SHOCKS

FRONT	SPRING	REAR
<input type="checkbox"/>	Orange	<input type="checkbox"/>
<input type="checkbox"/>	Red	<input type="checkbox"/>
<input checked="" type="checkbox"/>	Pink	<input checked="" type="checkbox"/>
<input type="checkbox"/>	Blue	<input type="checkbox"/>
<input type="checkbox"/>	Purple	<input type="checkbox"/>
<input type="checkbox"/>	Green	<input type="checkbox"/>
<input type="checkbox"/>	Other	<input type="checkbox"/>
300	OIL/CST	300
25	REBOUND %	25

☐ OPEN ☒ PISTON ☐ CLOSED

HOLES SIZE

<input type="checkbox"/>	1.1MM	<input type="checkbox"/>
<input checked="" type="checkbox"/>	1.2MM	<input checked="" type="checkbox"/>
<input type="checkbox"/>	1.3MM	<input type="checkbox"/>
<input type="checkbox"/>	1.4 MM	<input type="checkbox"/>
OTHER		

### TYRES

### BODY

BRAND	BRAND	
TYPE	TYPE	
INSERT	WING	OPTIONAL
WHEELS	STOCK	BRAND
	TYPE	

### ENGINE

TYPE

MANIFOLD

MUFFLER

PLUG

FUEL

### COMMENTS

DRIVER	RACE	DATE
TRACK	CITY	COUNTRY
TRACK SIZE	<input type="checkbox"/> OPEN <input type="checkbox"/> MEDIUM <input type="checkbox"/> TIGHT	TEMP. F ° / ° C
TRACK TRACTION	<input type="checkbox"/> HIGH <input type="checkbox"/> MEDIUM <input type="checkbox"/> LOW	AIR TRACK
TRACK SURFACE	<input type="checkbox"/> SMOOTH <input type="checkbox"/> MEDIUM <input type="checkbox"/> BUMPY	LAPS
TRACK TYPE	<input type="checkbox"/> HARD PACKED <input type="checkbox"/> SOFT DIRT <input type="checkbox"/> CLAY	BEST LAP TIME
	<input type="checkbox"/> BLUE GROOVE <input type="checkbox"/> ASTRO TURF <input type="checkbox"/> GRASS	QUALI RESULT
TRACK CONDITION	<input type="checkbox"/> DRY <input type="checkbox"/> DUSTY <input type="checkbox"/> WETT	RACE RESULT

STEERING BLOCK ☒ PLASTIC ☐ ALU

CASTER BLOCK ☒ PLASTIC ☐ ALU

HEX ADAPTER ☐ -2MM ☐ -1MM ☒ 0MM

UPRIGHT ☒ PLASTIC ☐ ALU

HEX ADAPTER ☒ -2MM ☐ -1MM ☐ 0MM

CASTER ☒ 10° ☐ 12°

SPINDLE ☐ HIGH ☒ LOW

BRACE ☒ PLASTIC ☐ ALU

INSERT NR. 0 ☐ UP ☐ DOWN

INSERT NR. 0 ☐ UP ☐ DOWN

BRACE ☒ PLASTIC ☐ ALU

INSERT NR. 6 ☒ UP ☐ DOWN

INSERT NR. 6 ☐ IN ☐ OUT

☒ STANDARD BRACKET ☐ OPTIONAL TYPE

☒ STANDARD BRACKET ☐ OPTIONAL TYPE

ANTI ROLLBAR ☐ 1.8MM ☐ 2.0MM ☐ 2.3MM ☒ 2.5MM ☐ 2.7MM

OUT (-) ☐ 0° ☐ +°

IN (+)

SERVO SAVER SPRING ☒ STANDARD ☐ HARD

STEERING BAR ☐ OPT 1 ☐ OPT 2 ☒ OPT 3

WHEELBASE SHIMS ☐ 1.25 ☒ 2.5 ☐ 3.75 ☐ 5MM

WING LOCATION IN MM

ANTI ROLLBAR ☐ 1.8MM ☐ 2.0MM ☒ 2.3MM ☐ 2.5MM ☐ 2.7MM

FRONT CAMBER ☐ +° ☒ -2°

SHOCKLENGTH AT FULL DROOP 100 MM

ADJUST SHOCKLENGTH WITH THIS SCREW

ADJUST RIDE HEIGHT WITH SPRING COLLAR

RIDE HEIGHT 28 MM

REAR CAMBER ☐ -2° ☒ +°

SHOCKLENGTH AT FULL DROOP 123 MM

ADJUST SHOCKLENGTH WITH THIS SCREW

ADJUST RIDE HEIGHT WITH SPRING COLLAR

RIDE HEIGHT 29 MM

# 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-axes and driveshafts

- Remove the wheels, and check the wheel-axes, 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 functioning 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.



Shockabsorbers



Tyres



Wheel-axes and driveshaft front



Differential





# Partslist and Optionals list

## 600003 Serpent 811 Cobra Buggy-RTR

### Manual & Decals

- 600329 Decal sheet S811 black/white (2)
- 600332 Decal sheet S811 chrome (2)

### Ball Bearings

- 1311 Ballbearing 5x8x2 (2)
- 1312 Ballbearing 5x8 flanged SS (2)
- 1315 Ballbearing 5x10x4 SS (2)
- 1321 Ballbearing 6x10x3 SS (2)
- 1337 Ballbearing 15x21x4 SS (2)
- 1393 Ballbearing 13X19X4 SS (2)
- 1394 Ballbearing 8x14x4 flanged SS (2)
- 1395 Ballbearing 8x19x6 SS (2)
- 1396 Ballbearing 8x16x5 SS (2)
- 600322 Bearingset S811 (32)
- 600435 Bearingset small S811 (14)

### Radio Installation / Battery

- 1606 Antenna rod black (2)
- 1639 Collar alu + setscrew (4)
- 600121 Brake levers / adjusters
- 600127 Throttle / steering lever set
- 600131 Balljoint set (19)
- 600157 Collar double (2)
- 600207 Rod steering servo 26mm
- 600333 Brake / Throttle links (2)
- 600358 Radiobox V2 (3)
- 600359 Servo lever / mounts V2 (30)
- 600360 Throttle lever shaft (1)
- 600361 Throttle balls (2+1)
- 600362 Collar set V2 (3)
- 600363 Throttle rod V2 (1)
- 600500 Servo spacers (8)
- 804181 Throttle spring (2)

### Radio Installation / Battery option

- 600272 Steering servo rod titanium
- 600290 Servo lever steering 23T alu
- 600291 Servo lever steering 24T alu
- 600292 Servo lever steering 25T alu
- 600293 Servo lever throttle 23T alu
- 600294 Servo lever throttle 24T alu
- 600295 Servo lever throttle 25T alu

### Servo Saver & Steering

- 600105 Servosaver spring
- 600109 O-ring servosaver nut (4)
- 600128 Servo saver set nylon (3)
- 600131 Balljoint set (19)
- 600167 Steering rack mount
- 600169 Servosaver adjust nut
- 600170 Servosaver shaft outer
- 600207 Rod steering servo 26mm
- 600554 Pivot ball steering short 811-S (2)
- 600555 Pivot ball steering long 811-S (4)
- 600556 Servo saver post 811-S (2)
- 600557 Steering rack alu 811-S
- 600558 Topdeck front 811-S

### Servo Saver & Steering option

- 600153 Topdeck front carbon
- 600171 Steering rack option 1
- 600172 Steering rack option 2
- 600173 Steering rack option 3
- 600272 Steering servo rod titanium
- 600278 Servo saver post alu (2)
- 600296 Servosaver alu coated (3)
- 600330 Servo saver spring hard

### Fuel tank and parts

- 1493 Prussure nipple m3 (4)
- 1494 Silicone tubing 2x5x50 white
- 600115 Tank mounting rubber (4)
- 600116 O-ring tank (4)
- 600117 Tank cap seal silicone (2)

- 600123 Clip /plug set for fuel tube (6)
- 600142 Tank 125cc with filter
- 600335 Post fuel tank (2)

### Shock Absorbers

- 600111 Shock membrane (10)
- 600112 O-ring shock bottom (10)
- 600113 O-ring shock nut (10)
- 600118 Shock part frame nylon (10)
- 600145 Shock pistons (4x4)
- 600158 Adjust nut shock / oring (2)
- 600180 Washer shock shaft (4)
- 600184 Pivotball 6.75 double (4)
- 600194 Shockshaft FR (2)
- 600640 Shock shaft RR 811 2.0 (2)
- 600234 Shock cartridge stepped (4)
- 600235 Shock cartridge (4)
- 600319 Shock revision set (20)
- 600568 Shock mount 811-S (2)
- 600570 Shock set FR 811-S (2)
- 600571 Shock set RR 811-S (2)
- 600573 Shock top 811-S (2)
- 600574 Shock top nut 811-S (2)
- 600575 Shock body FR 811-S (2)
- 600576 Shock body RR 811-S (2)
- 600577 Shock shim 811-S (10)

### Shock Absorbers option

- 600357 Membrane webbed silicone (4)
- 600287 Shock spring support alu (4)
- 600306 Shock shaft FR TiN coating (2)
- 600645 Shockrod 811 2.0 rear Tin coated (2)

### Shock Springs

- 600648 Spring FR pink V2 (0.73N/4.15LB) (2)
- 600654 Spring RR pink V2 (0.58N/3.3LB) (2)
- 600646 Spring FR orange V2 (0.66N/3.8LB) (2)
- 600647 Spring FR red V2 (0.70N/4.0LB) (2)
- 600649 Spring FR blue V2 (0.75N/4.3LB) (2)
- 600650 Spring FR purple V2 (0.79N/4.5LB) (2)
- 600651 Spring FR green V2 (0.81N/4.65LB) (2)
- 600652 Spring RR orange V2 (0.53N/3.0LB) (2)
- 600653 Spring RR red V2 (0.56N/3.2LB) (2)
- 600655 Spring RR blue V2 (0.60N/3.4LB) (2)
- 600656 Spring RR purple V2 (0.61N/3.5LB) (2)
- 600657 Spring RR green V2 (0.63N/3.6LB) (2)
- 600658 Spring set FR V2 (6x2)
- 600659 Spring set RR V2 (6x2)

### Chassis / Guards

- 600122 Brace front / rear nylon
- 600139 Sideguard L+R
- 600141 Bumper
- 600529 Chassis alu 811-S

### Chassis / Guards Optional

- 600140 Mudguard L+R
- 600288 Chassis brace front alu
- 600289 Chassis brace rear alu
- 600469 Chassis S811 hard anodized

### Front Section

- 600124 Bodymount FR+RR
- 600126 Washer/nut nylon M3 (12+15)
- 600129 Diff case front set
- 600131 Balljoint set (19)
- 600135 Wishbone front L+R
- 600136 C-Hub 10 L+R
- 600167 Steering rack mount
- 600183 Bushing suspension arm (4)
- 600193 Pivotball threaded antirollbar (2)
- 600197 Driveshaft insert (2)
- 600222 Wheelnut 17mm (4)
- 600223 Wheelhexagon (4)
- 600365 Spacers 1.25mm + 2.5mm wheelbase (4+2)
- 600481 Steeringblock L+R V2
- 600503 Steeringblock-wheelaxle set 811 V2

600530 Shocktower front alu 811-S  
 600532 Gear coupler 811-S  
 600533 Driveshaft center FR 811-S  
 600535 Driveshaft FR 811-S (2)  
 600537 Wheelaxle FR 811-S (2)  
 600539 Pin steeringblock 811-S (4)  
 600540 Track rod FR 811-S (2)  
 600542 Track rod steering 811-S (2)  
 600543 Hinge pin 811-S (2)  
 600544 Antirollbar nut 811-S (4)  
 600545 Antirollbar bushing 811-S (4)  
 600546 Pivot ball antiroll bar 811-S (2)  
 600548 Suspension bracket FR-FR 811-S  
 600549 Suspension bracket FR-RR 811-S  
 600553 Pivot ball 7.5 double 811-S (4)  
 600554 Pivot ball steering short 811-S (2)  
 600558 Topdeck front 811-S  
 903343 Antirollbar Spacer 3mm (2)

#### **Front Section Optional**

600151 Shocktower front carbon  
 600153 Topdeck front carbon  
 600176 Suspension bracket alu FR RR std  
 600177 Suspension bracket alu FR FR std  
 600240 Antiroll bar front 2.3mm  
 600241 Antiroll bar front 2.5mm  
 600242 Antiroll bar front 2.7mm  
 600263 Washer M3 alu (12)  
 600284 Shocktower FR alu light  
 600297 Lightweight wheel nut 17mm (4)  
 600303 C-hub 10 L+R alu  
 600304 C-hub 12 L+R alu  
 600336 Antiroll bar front 1.8mm  
 600337 Antiroll bar front 2.0mm  
 600497 Steeringblock L+R V2 alu

#### **Middle Section**

600100 Exhaust mounting wire (2)  
 600119 Center diff holder parts (3)  
 600131 Balljoint set (19)  
 600166 Exhaust mount alu  
 600197 Driveshaft insert (2)  
 600203 Brake plate (4)  
 600236 Airfilter boot  
 600243 Airfilter + foam  
 600340 Airfilter foam set inner-outer (6)  
 600341 Airfilter foam set inner-outer (10)  
 600369 Brake plate thick (2)  
 600524 Brake disk 811-S (2)  
 600525 Brake lever insert 811-S (2)  
 600526 Brake piston 811-S (2)  
 600527 Brake excenter 811-S (2)  
 600528 Brake plate mount set 811-S (2)  
 600532 Gear coupler 811-S  
 600569 Engine mount 811-S (2)  
 600683 Spur gear 48T 811-S

#### **Middle Section Option**

600148 Diskbrake front fibreglass  
 600149 Diskbrake rear fibreglass  
 600198 Spurgear 46T  
 600279 Spurgear 44T  
 600280 Spurgear 48T  
 600281 Brake piston /spring ( 2/2/2)  
 600286 Center diff holder alu (2)  
 600299 Engine monomount-set alu  
 600342 Mono enginemount top (2)  
 600345 Brake set pro

#### **Rear Section**

600124 Bodymount FR+RR  
 600126 Washer/nut nylon M3 (12+15)  
 600130 Diff case rear set  
 600131 Balljoint set (19)  
 600133 Wing mount set  
 600143 Wing white nylon  
 600193 Pivotball threaded antirollbar (2)  
 600222 Wheelnut 17mm (4)  
 600365 Spacers 1,25mm + 2,5mm for wheelbase (4+2)

600365 Spacers 1.25mm + 2.5mm wheelbase (4+2)  
 600499 Pivotball double straight (3)  
 600531 Shocktower rear alu 811-S  
 600534 Driveshaft center RR 811-S  
 600541 Track rod RR 811-S (2)  
 600543 Hinge pin 811-S (2)  
 600544 Antirollbar nut 811-S (4)  
 600545 Antirollbar bushing 811-S (4)  
 600546 Pivot ball antiroll bar 811-S (2)  
 600547 Hinge pin RR outer 811-S (2)  
 600550 Suspension bracket RR-FR 811-S  
 600551 Suspension bracket RR-RR 811-S  
 600552 Transmission brace mount RR 811-S  
 600553 Pivot ball 7.5 double 811-S (4)  
 600633 Wishbone rear L+R 811 2.0  
 600634 Upright L+R 811 2.0  
 600641 Hex adaptor -2mm (2)  
 600679 Driveshaft RR 811 2.0 S (2)  
 600680 Wheelaxle RR 811 2.0 S (2)  
 903343 Antirollbar Spacer 3mm (2)

#### **Rear Section option**

600155 Suspension bracket RR RR 3  
 600156 Suspension bracket RR FR 2  
 600237 Antiroll bar rear 2.3mm  
 600238 Antiroll bar rear 2.5mm  
 600239 Antiroll bar rear 2.7mm  
 600263 Washer M3 alu (12)  
 600265 Suspension bracket RR FR 2.5 - 4.5  
 600266 Suspension bracket RR RR HR 3  
 600267 Suspension bracket RR RR LR 3  
 600277 Wing black nylon  
 600285 Shocktower RR alu light  
 600297 Lightweight wheel nut 17mm (4)  
 600300 Post wingmount alu (2)  
 600301 Wing washer alu (2)  
 600338 Antiroll bar rear 1.8mm  
 600339 Antiroll bar rear 2.0mm  
 600434 Antiroll bar rear 2.4mm  
 600439 Wing white low 811  
 600637 Shocktower carbon RR 811 2.0  
 600661 Upright L+R 811 2.0 alu

#### **Differential**

600147 Diff gasket (3)  
 600205 Shim 13x16x0.2 (10)  
 600209 Diff pin 10T (2)  
 600210 Diff pin outdrive (2)  
 600354 Shim 14x15.5x 0.65 (4)  
 600356 Shim 14x15.5x0.2 (10)  
 600421 Oring centerdiff V2 (10)  
 600425 Diff housing V2  
 600695 Diff pinion 10T Spiral  
 600559 Spur gear 46T 811-S  
 600696 Dif gear 43T Spiral  
 600561 Diff outdrive center 811-S (2)  
 600562 Diff outdrive FR-RR 811-S (2)  
 600627 Diff gear 10T + 20T (4+2) V2

#### **Clutch**

600206 Clutch nut (2)  
 600261 Socket screw M3x8 (6) 600563  
 Flywheel 3 pin 811-S  
 600564 Clutch shoe carbon 811-S (3)  
 600565 Clutch spring 0.9mm 811-S (3)  
 600566 Clutch nut 3 pin 811-S 600567  
 Clutch set 811-S  
 909519 shim centax 5x08x0.1(2)x0.3(1)  
 909519 shim centax 5x8x0.1(2)x0.3(1)

#### **Clutch Optional**

600163 Flywheel alu  
 600175 Clutchshoe alu (4)  
 600216 Clutch bell 13T  
 600217 Clutch bell 14T  
 600218 Clutch bell 15T  
 600219 Clutch bell 16T

600220 Clutch bell 17T  
 600229 Clutch spring soft (4)  
 600231 Clutch spring hard (4)  
 600232 Clutch spring X hard (4)  
 600233 Clutch spring set (4x4)  
 600244 Clutch-set alu / carbon  
 600298 Flywheel steel  
 600355 Clutch shoe set Alu / Carbon (2+2)

#### Body

1667 Body-clip medium (10)  
 170313 Body 1/8 buggy Avenger orange  
 600439 Wing white low 811

#### Body Optional

170312 Body 1/8 buggy Avenger semipainted  
 170314 Body 1/8 buggy Avenger red  
 170315 Body 1/8 buggy Avenger blue  
 170316 Body 1/8 buggy Avenger green  
 600146 Body S811 Cobra + nose-cone  
 600277 Wing black nylon  
 600439 Wing white low 811  
 600440 Wing black low 811  
 600523 Body Avenger 1/8 Cobra GP

#### Hardware

110100 Screw allen countersunk m3x10 (10)  
 110101 Screw allen countersunk m4x8 (10)  
 110102 Screw allen countersunk m4x10 (10)  
 110103 Screw allen countersunk m4x16 (10)  
 110104 Screw allen countersunk M3x8 (10)  
 110105 Screw allen countersunk m4x12 (10)  
 110106 Screw allen flanged roundhead m5x12 (10)  
 110107 Screw allen cilinderhead m3x16 (10)  
 110108 Screw allen roundhead m3x6 (10)  
 110109 Screw allen roundhead m3x10 (10)  
 110110 Screw allen roundhead m3x16 (10)  
 110111 Screw allen roundhead m3x14 (10)  
 110112 Screw allen roundhead m3x12 (10)  
 110113 Screw allen roundhead m4x8 (10)  
 110114 Setscrew allen m3x8 (10)  
 110115 Setscrew allen m3x4 (10)  
 110116 Setscrew allen m3x3 (10)  
 110117 Setscrew allen m3x12 (10)  
 110118 Setscrew allen m4x4 (10)  
 110119 Setscrew allen m4x6 (10)  
 110120 Setscrew allen m4x10 (10)  
 110121 Setscrew allen m5x6 (10)  
 110122 Screw allen countersunk m3x6 (10)  
 110123 Screw philips roundhead 3.5x13 (10)  
 110124 Screw allen countersunk m3x8 (10)  
 110125 Screw allen countersunk m3x20 (10)  
 110126 Screw allen countersunk m2.5x12 (10)  
 110127 Screw allen countersunk m3x12 (10)  
 110128 Screw allen roundhead m3x5 (10)  
 110129 Screw allen cilinderhead m3x10 (10)  
 110130 Screw allen roundhead m2.5x6 (10)  
 110131 Screw allen roundhead m2.5x10 (10)  
 110132 Screw allen countersunk m3x16 (10)  
 110133 Screw philipshead countersunk 2.5x8 wide (10)  
 110134 Screw philipshead countersunk 2.5x10 wide (10)  
 110135 Screw allen countersunk M2.5x10 (10)  
 110136 Screw allen countersunk M2.5x8 (10)  
 110137 Setscrew allen M3x6 (10)  
 110138 Screw allen countersunk M4x14 (10)  
 110139 Screw allen countersunk M3x40 (10)  
 110140 Screw allen roundhead M3x20 (10)  
 110141 Screw allen roundhead M3x22 (10)  
 110142 Screw allen roundhead M3x25 (10)  
 110143 Screw allen roundhead M4x18 (10)  
 110144 Screw allen roundhead M3x18 (10)  
 110145 Screw allen roundhead flanged M3x12 (10)  
 110146 Screw allen roundhead flanged M3x16 (10)  
 110147 Screw ph roundhead widethread 2.5x5 (10)  
 110148 Setscrew allen M5x4 (10)  
 110149 Screw allen countersink M2x10 (10)  
 110150 Screw M6x12 nylon black (2)  
 110151 Screw allen cilinderhead M4x10 (10)

110152 Screw allen cilinderhead M3x8 (10)  
 110153 Screw allen roundhead M2.3x6 (10)  
 110154 Setscrew allen M3x10 (10)  
 110155 Setscrew allen M3x5 (10)  
 110156 Screw allen countersunk M2.2x6 (10)  
 110157 Screw allen countersunk M3x5 (10)  
 110158 Screw allen countersunk M3x15 (10)  
 110159 Screw allen countersunk M3x18 (10)  
 110160 Screw allen cilinderhead M2.2x12 (10)  
 110161 Screw allen cilinderhead M2x6 (10)  
 110162 Setscrew allen M3x2.5 (10)  
 110163 Setscrew allen M3x2 (10)  
 110164 Screw allen roundhead M3x4 (10)  
 110165 Screw allen cilinderhead M2x5 (10)  
 110166 Screw allen countersunk M2.5x5 (10)  
 110167 Screw allen roundhead flanged M3x18 (10)  
 110168 Screw allen roundhead flanged M3.5x10 (10)  
 110169 Screw allen roundhead flanged M4x10 (10)  
 110170 Screw allen roundhead flanged M3x28 (10)  
 110171 Screw ph countersunk widethread 2.5x15 (10)  
 110172 Screw allen roundhead flanged M3x6 (10)  
 110173 Screw ph countersunk widethread 2.5x12 (10)  
 110174 Screw allen countersunk M4x6 (10)  
 110175 Screw allen cilinderhead M3x40 (10)  
 110176 Screw allen cilinderhead M3x18 (10)  
 110200 Pin 2.5x8 (10)  
 110201 Pin 3x12 (10)  
 110202 Pin 5x5 (10)  
 110203 Pin 3x14 (10)  
 110204 Pin 3x20 (10)  
 110205 Pin 3x22 (10)  
 110206 Pin 2.5x22 (10)  
 110207 Pin 2.5x12 (10)  
 110208 Pin nra 2x9.8 (4)  
 110209 Pin nra 2x18 (4)  
 110210 Pin 3x13 (10)  
 110211 Pin 2.5x13 (10)  
 110212 Pin 2.5x17 (10)  
 110213 Pin 2.5x10 (10)  
 110214 Pin 3x15 (10)  
 110215 Pin 2x12 (10)  
 110216 Pin 2.5x15 (10)  
 110217 Pin 2x9 (10)  
 110218 Pin 3x10 (10)  
 110219 Pin 2x14 (10)  
 110300 E-clip 2.3 (10)  
 110301 E-clip 3.2 (10)  
 110302 E-clip 4.0 (10)  
 110303 E-clip 5.0 (10)  
 110304 E-clip 7.0 (10)  
 110305 Seger clip 12x1.0 (10)  
 110306 E-clip 6.0 (10)  
 110400 Shim 6.0x10x0.2 (10)  
 110401 Shim 3.2x7x0.5 (10)  
 110402 Nut nylock M3 (10)  
 110403 Nut nylock M4 (10)  
 110404 Shim 6x8x0.3 (10)  
 110405 Nut nylock M4 flanged (10)  
 110406 Nut nylock M2.2 (10)  
 110407 Nut M3 (10)  
 110408 Shim 3x5x0.3 (10)  
 110409 Shim 3x5x1 (10)  
 110410 Shim 3x5x2 (10)  
 110411 Shim 3x5x4 (10)  
 110412 Shim 3.5x8x1 (10)  
 110413 Shim 3.5x12x0.2 (10)  
 110414 Shim 3x6x0.1 (10)  
 110415 Shim 3x6x0.5 (10)  
 110416 Shim 3x6x0.8 (10)  
 110417 Shim 3x6x3 (10)  
 110418 Shim 4x8x0.1 (10)  
 110419 Shim 4x9.5x1 (10)  
 110420 Shim 4x9.5x2(10)  
 110421 Shim 4x9.5x4(10)  
 110422 Shim 4x10x0.3 (10)  
 110423 Shim 5x8x0.1 (10)



110424 Shim 5x8x0.3 (10)  
 110425 Shim 5x10x0.3 (10)  
 110426 Shim 5x10x0.5 (10)  
 110427 Shim 5x15x0.3 (10)  
 110428 Shim 6.5x8x0.25 (10)  
 110429 Shim 6x11.75x0.2 (10)  
 110430 Shim 6x12x0.5 (10)  
 110431 Shim 8x11x0.1 (10)  
 110432 Shim 8x11x0.2 (10)  
 110433 Shim 12x15x0.25 (10)  
 110434 Shim 12x18x0.3 (10)  
 110435 Shim 13x16x0.2 (10)  
 110436 Shim 3x5x3 (10)  
 110437 Nut M2.5 (10)  
 110438 Shim 2.5x6x0.5 (10)  
 110439 Shim 3x7.5x1 (10)  
 110440 Shim 2.5x5x0.4 (10)  
 110441 Nut nylock M3 flanged (10)  
 110442 Shim 4x8x0.6 (10)  
 110443 Shim 5x15x0.2 (10)  
 110444 Nut M4 nylon (10)

### Merchandising

1891 Serpent medium promo decal 20x12.5 (2)  
 1892 Serpent windowshop decal 20x12.5 (2 sided)  
 1893 Serpent decal XL (30x60cm)  
 1895 Shopping-bag Serpent orange  
 1897 Towel Serpent large  
 1898 Lanyard Serpent orange  
 1900 Cap flat-brim Serpent black  
 1998 Cap serpent black-orange  
 190110 Sweater hooded serpent black (s)  
 190111 Sweater hooded serpent black (m)  
 190112 Sweater hooded serpent black (l)  
 190113 Sweater hooded serpent black (xl)  
 190114 Sweater hooded serpent black (xxl)  
 190121 T-shirt Serpent LTS white (S)  
 190122 T-shirt Serpent LTS white (M)  
 190123 T-shirt Serpent LTS white (L)  
 190124 T-shirt Serpent LTS white (XL)  
 190125 T-shirt Serpent LTS white (XXL)  
 190127 T-shirt Serpent DTR orange (S)  
 190128 T-shirt Serpent DTR orange (M)  
 190129 T-shirt Serpent DTR orange (L)  
 190130 T-shirt Serpent DTR orange (XL)  
 190131 T-shirt Serpent DTR orange (XXL)  
 190132 T-shirt Serpent DTR black (S)  
 190133 T-shirt Serpent DTR black (M)  
 190134 T-shirt Serpent DTR black (L)  
 190135 T-shirt Serpent DTR black (XL)  
 190136 T-shirt Serpent DTR black (XXL)  
 190137 T-shirt Serpent offroad orange (S)  
 190138 T-shirt Serpent offroad orange (M)  
 190139 T-shirt Serpent offroad orange (L)  
 190140 T-shirt Serpent offroad orange (XL)  
 190141 T-shirt Serpent offroad orange (XXL)  
 190142 T-shirt Serpent offroad black (S)  
 190143 T-shirt Serpent offroad black (M)  
 190144 T-shirt Serpent offroad black (L)  
 190145 T-shirt Serpent offroad black (XL)  
 190146 T-shirt Serpent offroad black (XXL)  
 190156 Polo shirt Serpent black-orange (S)  
 190157 Polo shirt Serpent black-orange (M)  
 190158 Polo shirt Serpent black-orange (L)  
 190159 Polo shirt Serpent black-orange (XL)  
 190160 Polo shirt Serpent black-orange (XXL)  
 190161 Polo shirt Serpent black-orange (XXXL)  
 190162 T-shirt Serpent offroad white (S)  
 190163 T-shirt Serpent offroad white (M)  
 190164 T-shirt Serpent offroad white (L)  
 190165 T-shirt Serpent offroad white (XL)  
 190166 T-shirt Serpent offroad white (XXL)  
 190167 T-shirt Serpent LTS black (S)  
 190168 T-shirt Serpent LTS black (M)  
 190169 T-shirt Serpent LTS black (L)  
 190170 T-shirt Serpent LTS black (XL)  
 190171 T-shirt Serpent LTS black (XXL)

190172 Winter jacket Serpent (S)  
 190173 Winter jacket Serpent (M)  
 190174 Winter jacket Serpent (L)  
 190175 Winter jacket Serpent (XL)  
 190176 Winter jacket Serpent (XXL)

### Pit equipment

190500 Pit-caddy  
 190501 Tool-bag  
 190502 Pit-bag medium. 3 drawers  
 190503 Fuel bottle 500ml  
 190504 Ballcup tool  
 190508 Toolset for OFFROAD (20pcs) with Tools bag  
 190509 Allen wrench 1.5 X 120MM  
 190510 Allen wrench 2.0 X 120MM  
 190511 Allen wrench 2.5 X 120MM  
 190512 Allen wrench 3.0 X 120MM  
 190513 Ball driver hex wrench 2.0 X 120MM  
 190514 Ball driver hex wrench 2.5 X 120MM  
 190515 Ball driver hex wrench 3.0 X 120MM  
 190516 Tool tip Allen wrench 1.5 X 120MM  
 190517 Tool tip Allen wrench 2.0 X 120MM  
 190518 Tool tip Allen wrench 2.5 X 120MM  
 190519 Tool tip Allen wrench 3.0 X 120MM  
 190520 Tool tip Ball driver hex wrench 2.0 X 120MM  
 190521 Tool tip Ball driver hex wrench 2.5 X 120MM  
 190522 Tool tip Ball driver hex wrench 3.0 X 120MM  
 190523 Turnbuckle wrench 3MM  
 190524 Turnbuckle wrench 4MM  
 190525 Turnbuckle wrench 5MM  
 190526 Flat head screwdriver 3.0 X 150MM  
 190527 Flat head screwdriver 4.0 X 150MM  
 190528 Phillips screwdriver 2.0 X 45MM  
 190529 Phillips screwdriver 3.5 X 120MM  
 190530 Phillips screwdriver 5.8 X 120MM  
 190531 Nut driver 5.0 X 100MM  
 190532 Nut driver 5.5 X 100MM  
 190533 Nut driver 7.0 X 100MM  
 190534 Reamer with end cap for lexan body  
 190535 Exhaust spring / caster clip remover  
 190536 Wrench-glowplug / clutchnut - 10MM LONG  
 190537 Flywheel wrench tool wheel nut for 1/8 OFF ROAD Buggy  
 190538 Flywheel wrench

### Dragon RC

210000 Transmitter set DTS-1 with display 2.4 Ghz  
 210001 Transmitter DTS-1 with display 2.4Ghz  
 210002 Receiver DRS-1 on 2.4Ghz  
 210003 Servo digital 0.19s/10.5kg MG  
 210005 Servo case for #210003  
 210007 Servo gear set for #210003

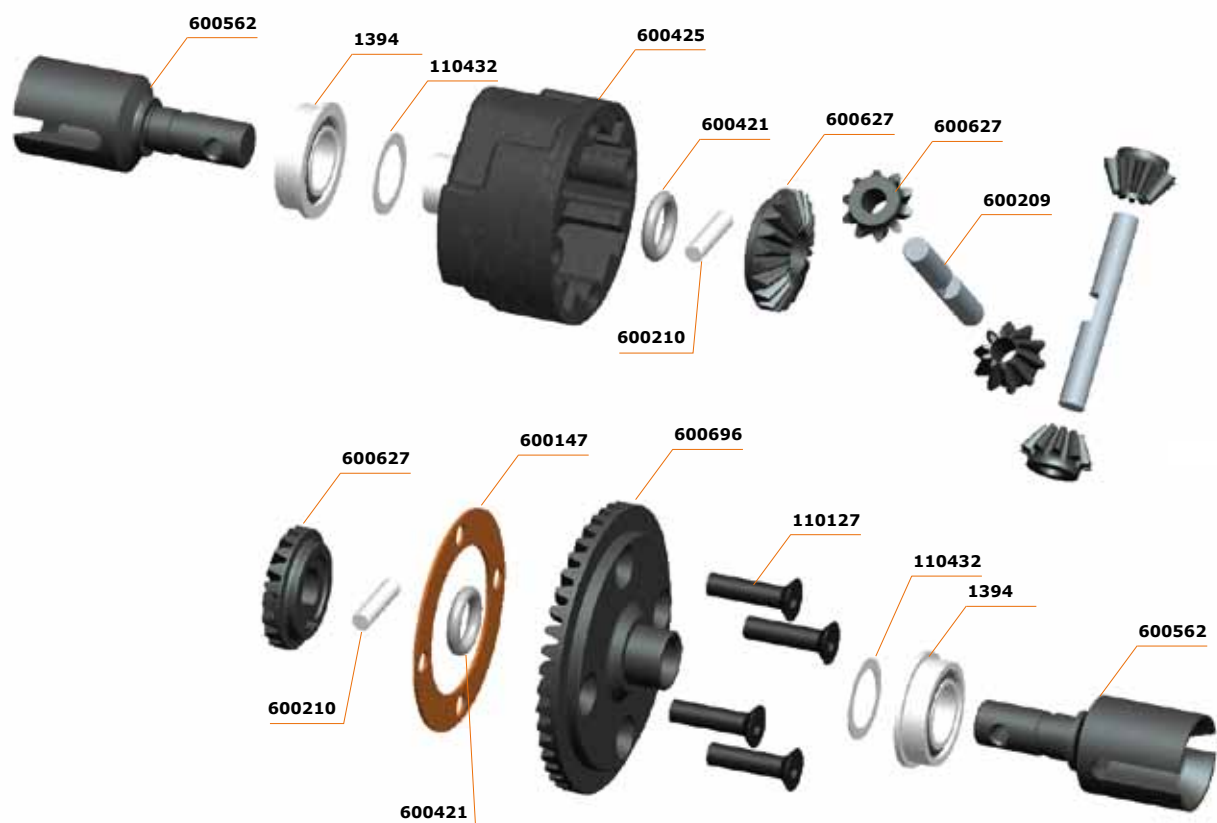
### Engine, pipe

130001 Serpent .21 pullstart engine  
 130002 Serpent .21 pullstart system  
 130003 Serpent .21 pullstart oneway  
 130004 .21 Pipeset polished Inline  
 130005 .21 Pipe polished  
 130006 .21 Manifold polished OFR

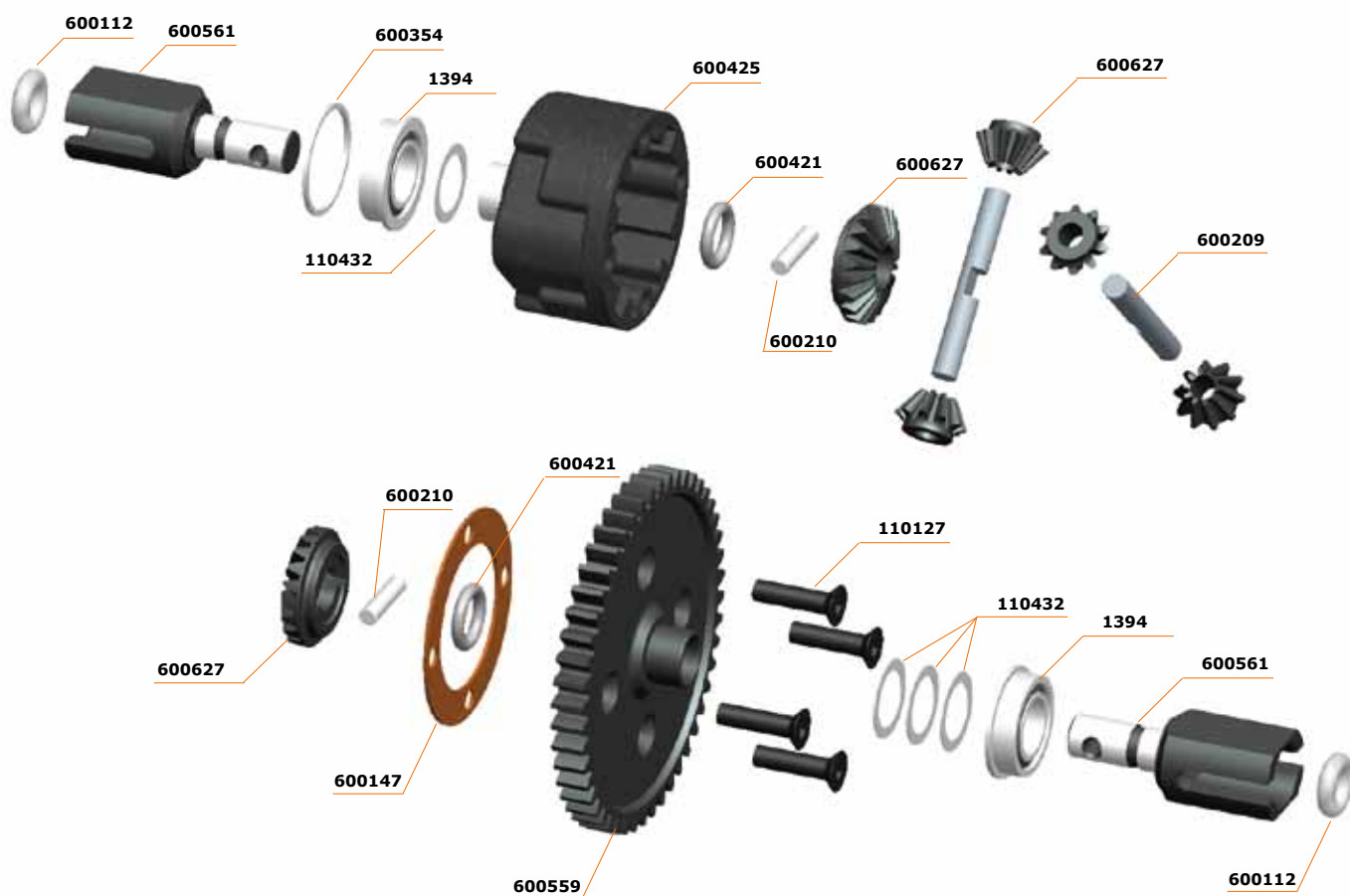
### Tyres rubber offroad and wheels

214001 1/8 buggy tyre hard mounted on white rim (2)  
 214002 1/8 buggy tyre med mounted on white rim (2)  
 214003 1/8 buggy tyre soft mounted on white rim (2)  
 214004 1/8 buggy tyre s-soft mounted on white rim (2)  
 214005 1/8 buggy tyre hard (2)  
 214006 1/8 buggy tyre med (2)  
 214007 1/8 buggy tyre soft (2)  
 214008 1/8 buggy tyre s-soft (2)  
 214009 1/8 moulded insert hard (4)  
 214010 1/8 moulded insert med (4)  
 214011 1/8 moulded insert soft (4)  
 214012 1/8 moulded insert s-soft (4)

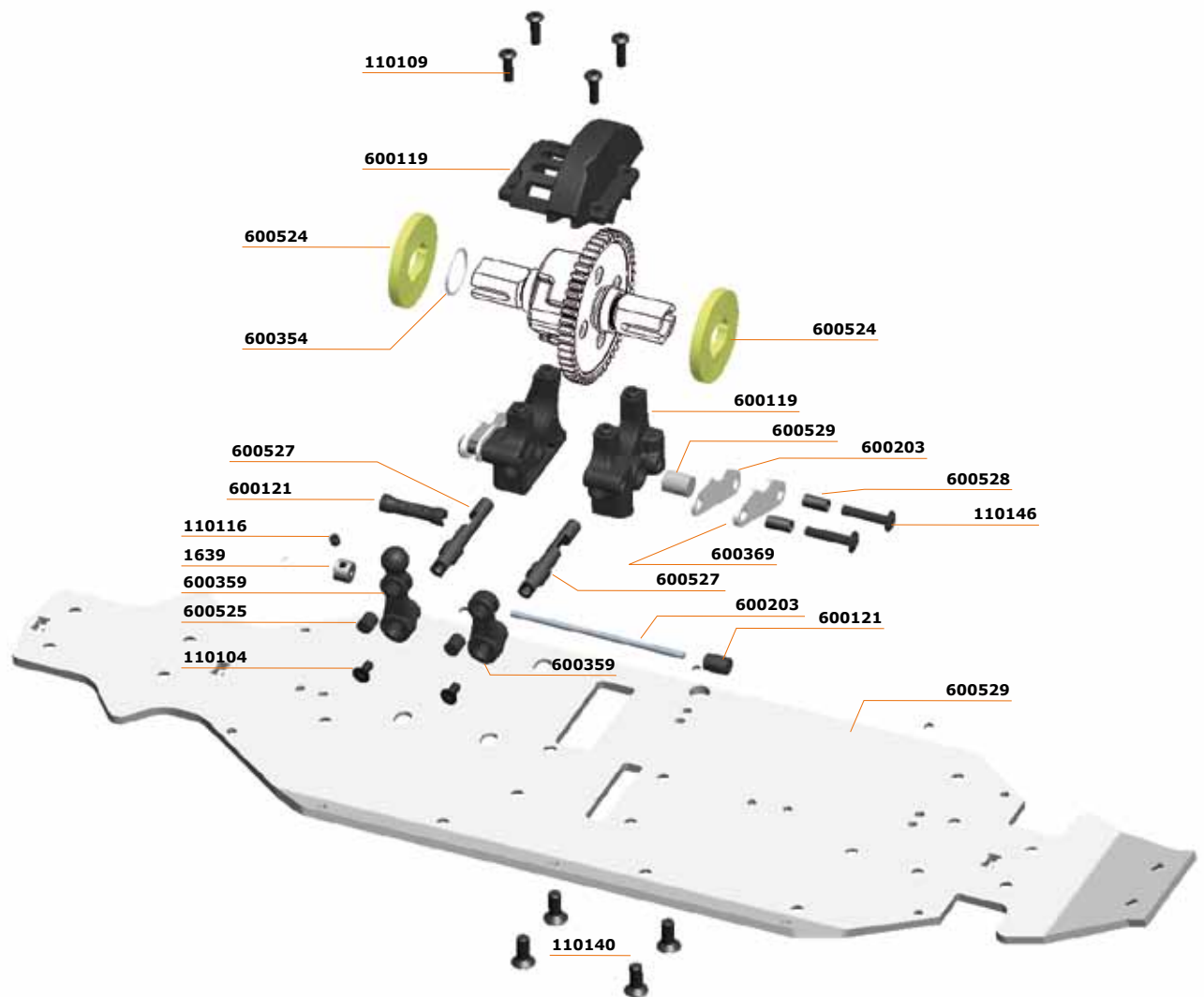
# DIFFERENTIAL ASSEMBLY FRONT/REAR



# TRANSMISSION CENTER



# DIFFERENTIAL ASSEMBLY CENTER

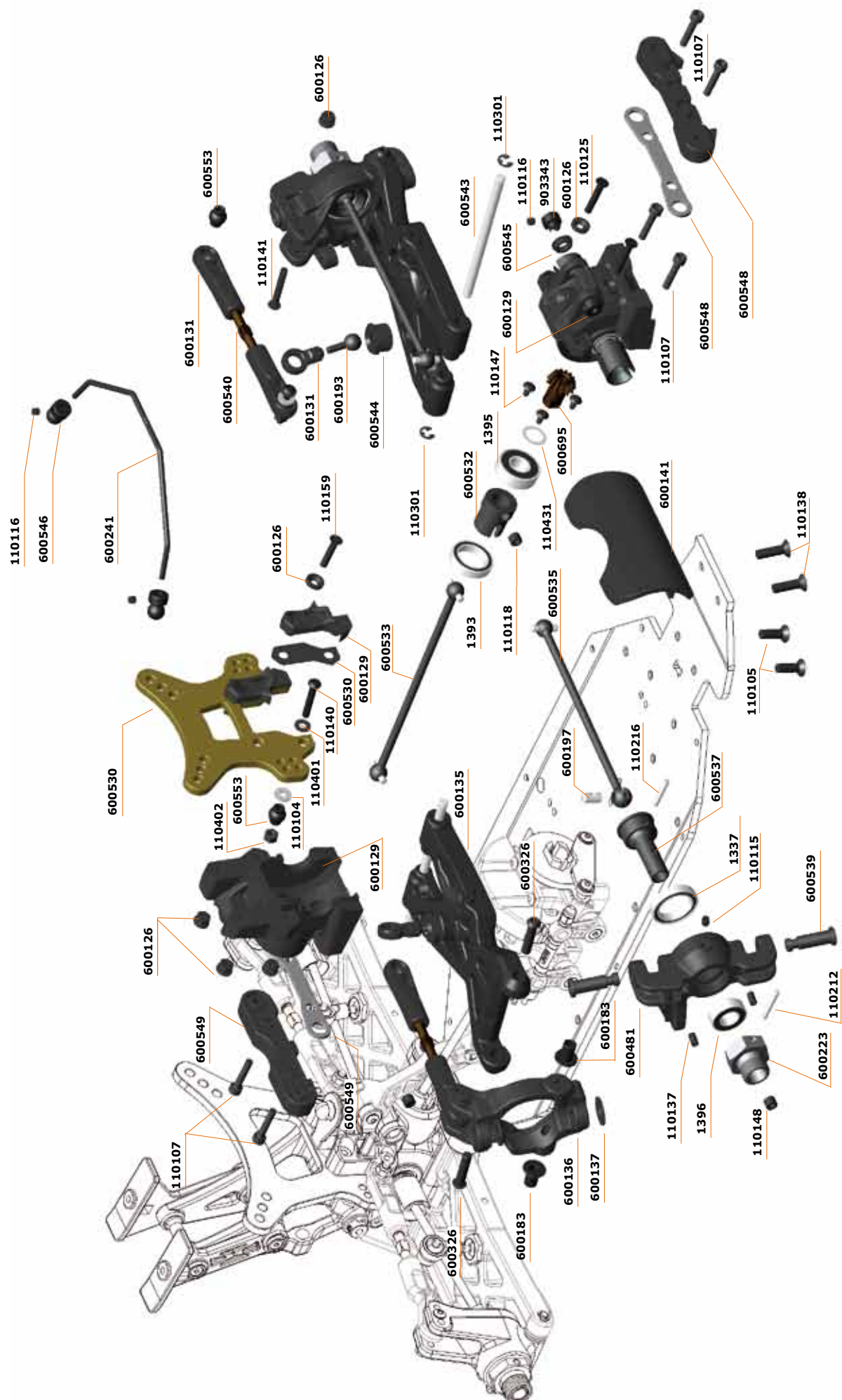




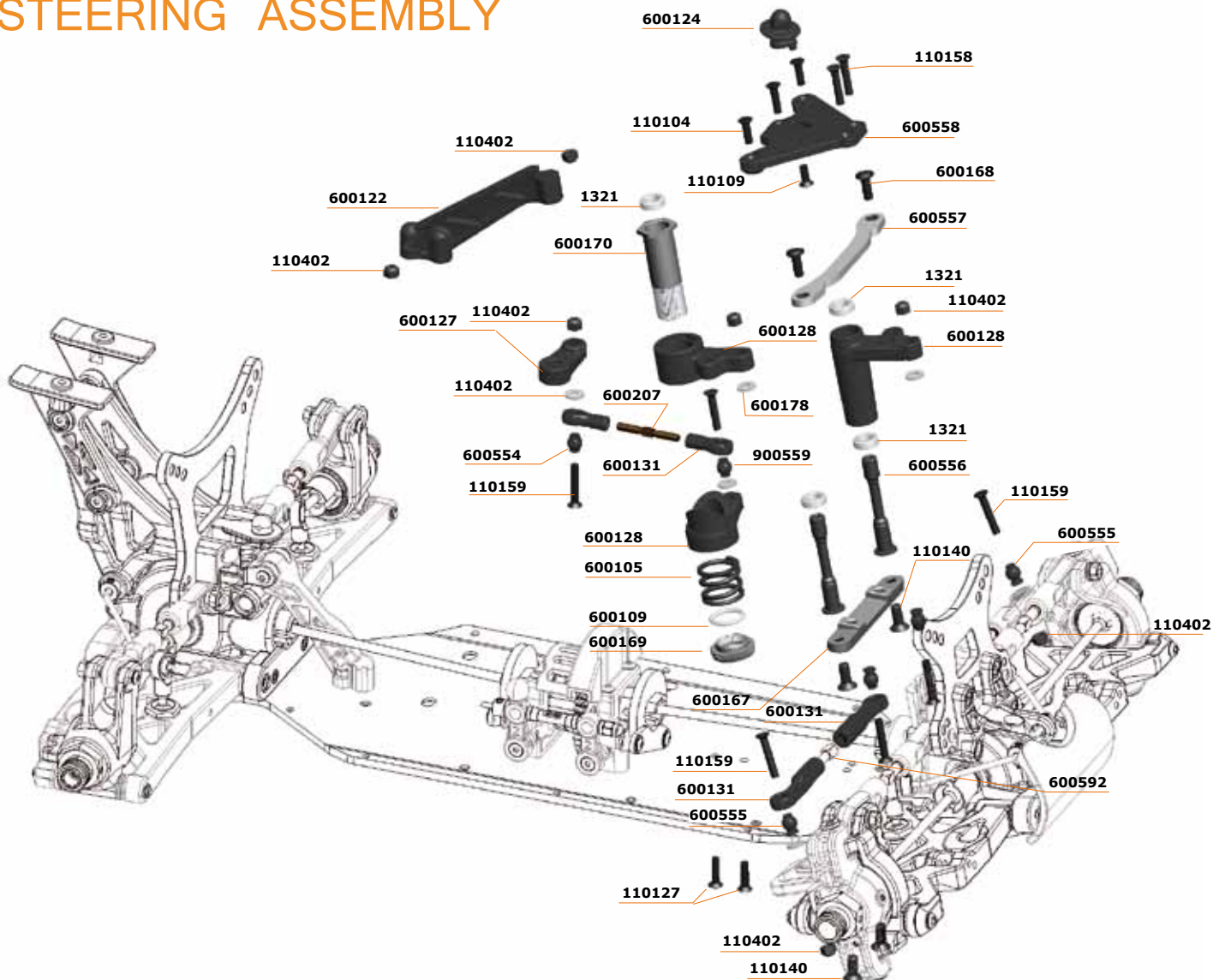
# REAR ASSEMBLY



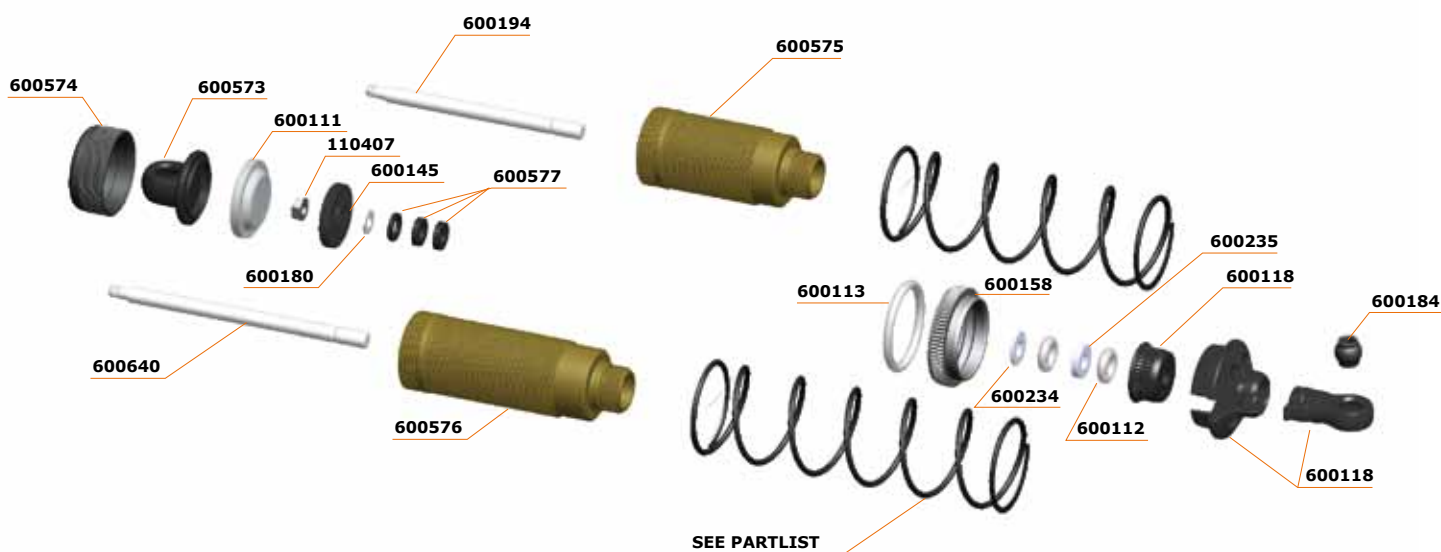
## FRONT ASSEMBLY



# STEERING ASSEMBLY

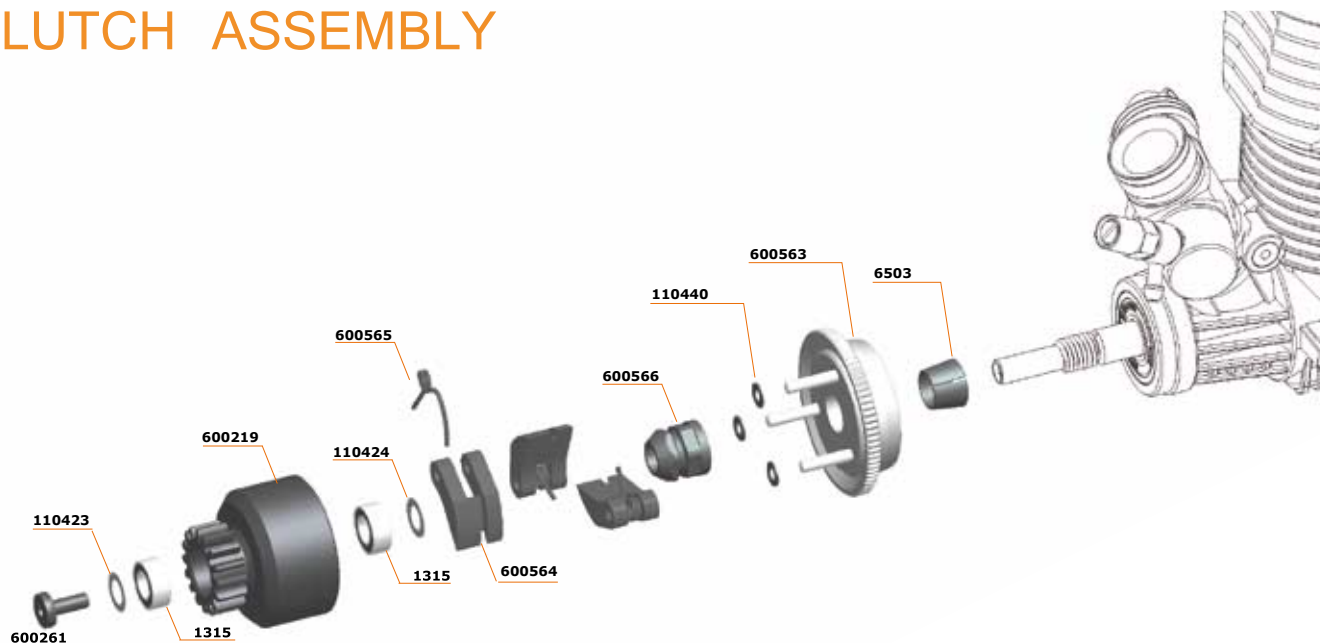


# SHOCK ASSEMBLY

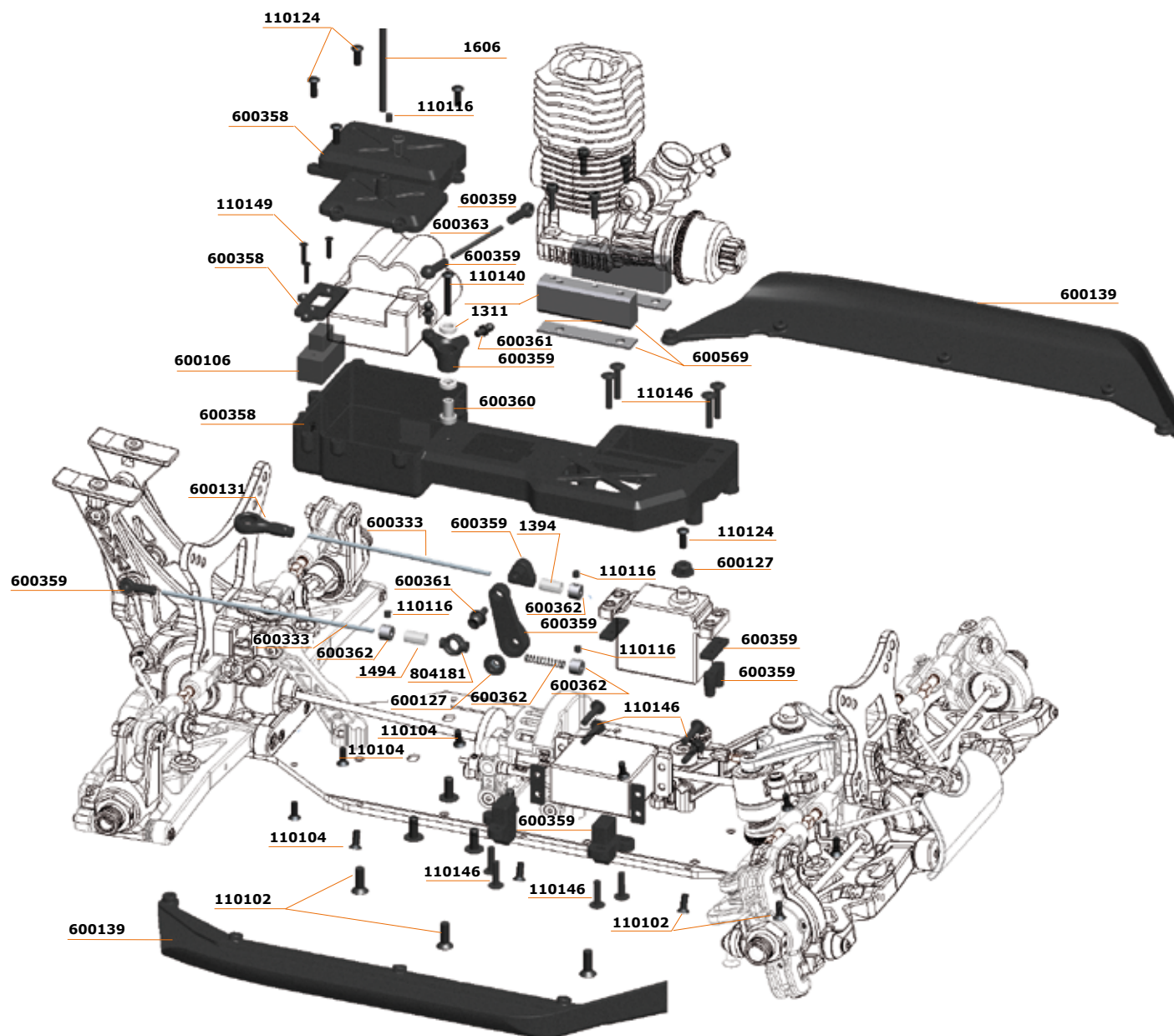




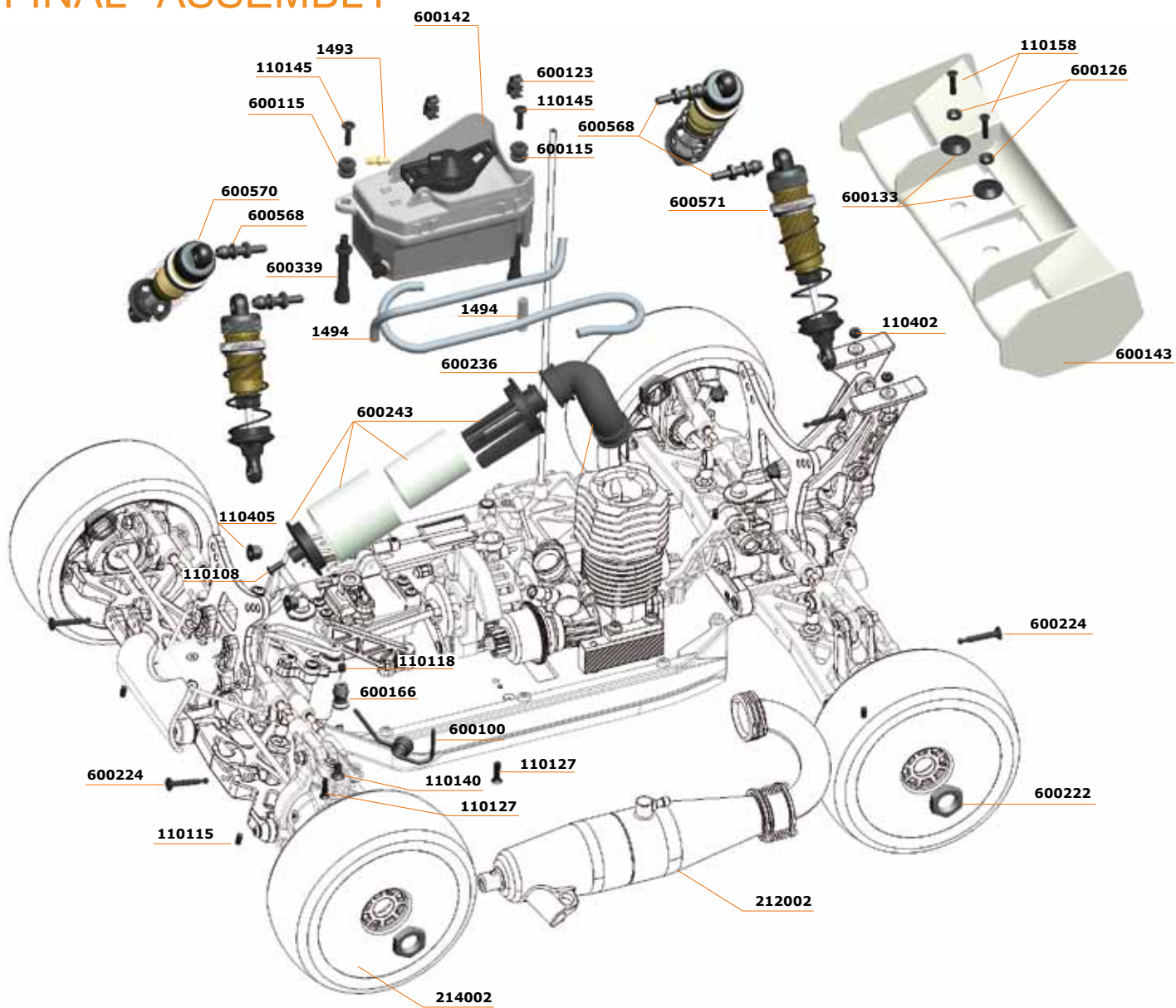
# CLUTCH ASSEMBLY



# RADIO ASSEMBLY



# FINAL ASSEMBLY



## NOTES:

# COBBLE 811 RTR



[www.serpent.com](http://www.serpent.com)  
[info@serpent.com](mailto:info@serpent.com)



[www.dragon-rc.com](http://www.dragon-rc.com)



#82354-1 Manual / ref guide 811B RTR

Serpent, Dragon-RC and Novarossi  
are registered brandnames.

[www.serpent.com/600](http://www.serpent.com/600) 003