



**INSTRUCTION MANUAL**  
& REFERENCE GUIDE



The Serpent S811 Cobra is a complete new platform for the 1/8 scale gas offroad category of racing. The Serpent S811 Cobra is designed to be a world champion, while still being easy to use, assemble, and set up. 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 Cobra offers state of the art specifications and leads the way in 1/8 scale gas 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, Serpent's engineers have added many new and innovative features that help take your Serpent S811 Cobra into the winner's circle.

### **INSTRUCTIONS**

Serpent's long tradition of excellence extends to the instruction manuals, and this instruction manual is no exception. The easy-to-follow layout is richly illustrated with 3D-rendered full-color images to make your building experience quick and easy. Following the instructions will result in a well-built, high-performance race-car that will soon be able to unleash its full potential at the racetrack.

This instruction manual has been divided into sections that will logically lead you through the assembly process of your Serpent S811 Cobra. Follow the assembly steps in the order presented to ensure that no problems occur during assembly.

Each step indicates all the fasteners, bearings and small parts used. Bag numbers identify the kit bag(s) that contains the appropriate parts.

### **EXPLODED VIEWS AND PARTS LIST**

The exploded views and parts lists for the Serpent S811 Cobra are included in the back of this manual. The exploded views show all the parts of a particular assembly step along with the Serpent part number. The parts lists indicate the part number and name of each part for easy reference when ordering.

### **SAFETY**

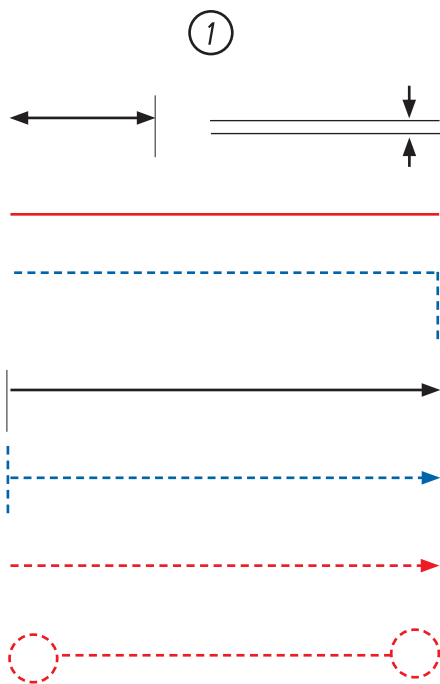
Included with your Serpent S811 kit is a document entitled 'Read This First' that covers safety precautions for the assembly and use of this product. We strongly recommend that you thoroughly read and understand that document, and follow all the precautions.

The printed instruction manual included with your Serpent S811 Cobra kit is very complete, though due to continuous product development, more up-to-date information may be provided at our **Serpent.com** website.

All information about the Serpent S811 Cobra is accessible from the Serpent S811 product page which can be found on Serpent.com and can be accessed by simply typing **serpent.com/600001** into your web browsers address bar.

From the Serpent S811 product page you will find the very latest information about your Serpent S811: reports by team drivers and other experts, tips and tricks, setups, image gallery and downloadable files including the latest version of the instruction manual will be made available as downloadable PDF-files.

# USING THE MANUAL



Step number;  
the order in which you should assemble the indicated parts

Length after assembly / Gap between two items

Assembly path of one item into another

Group of items (within lines) should be assembled first

Direction the item should be moved

Glue one item to another

Press/Insert one item into another

Connect one item to another



Apply transmission grease (Grey), threadlock\* (Blue),  
CA glue\* (Red) or differential grease (Orange).  
(\*Items not included.)

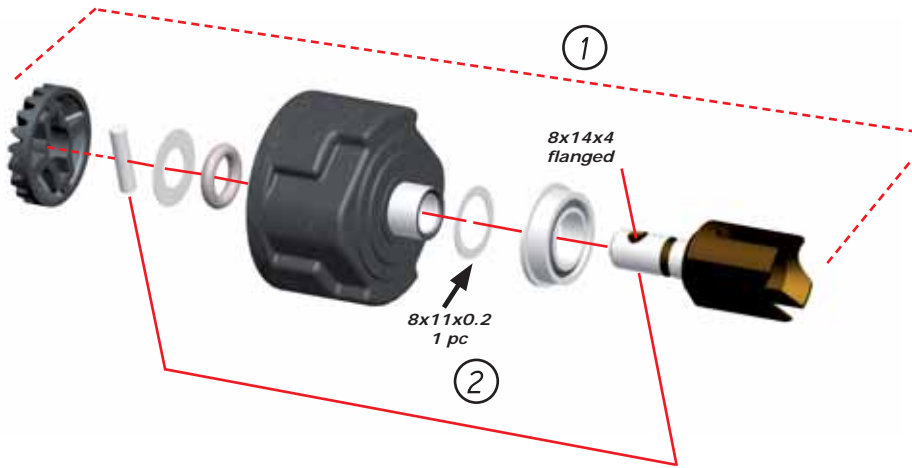
Apply silicon oil.

A

# DIFFERENTIAL CENTER

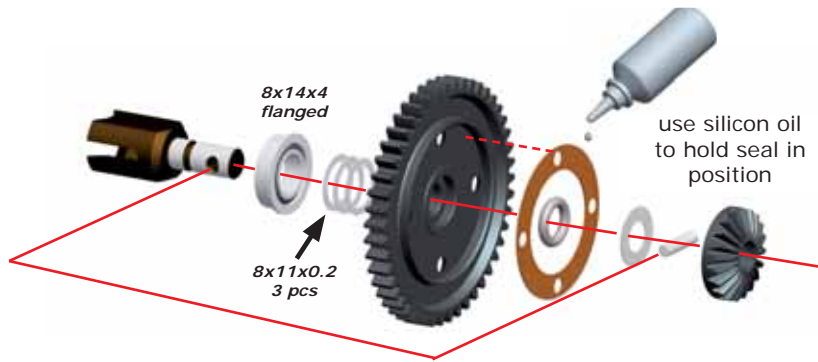
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CENTER  
DIFF  
BAG



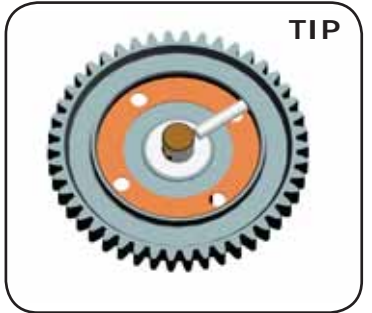
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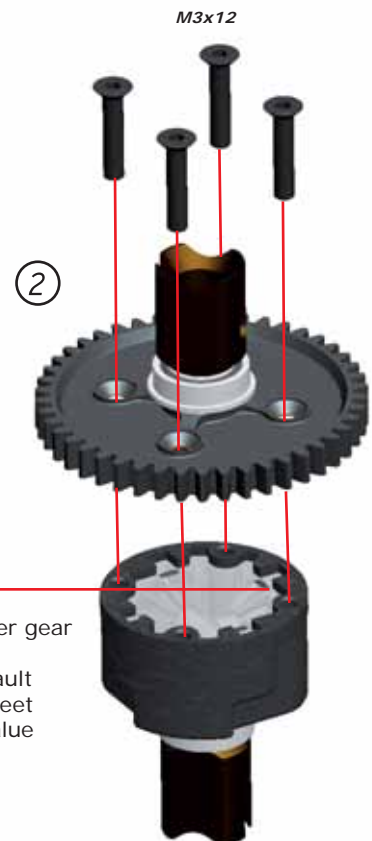


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3



4

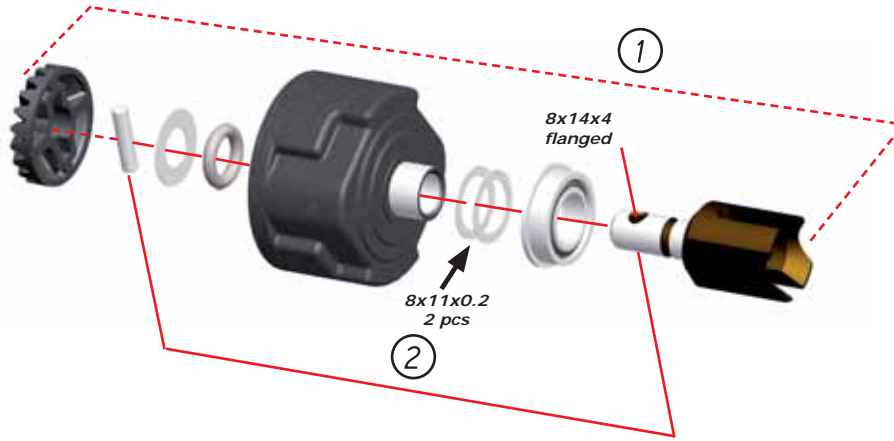


# DIFFERENTIAL FRONT/REAR

A

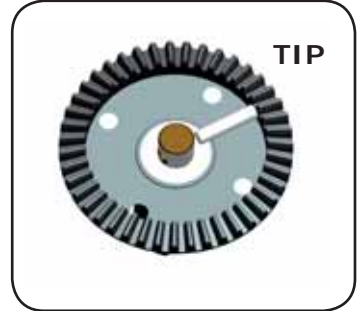
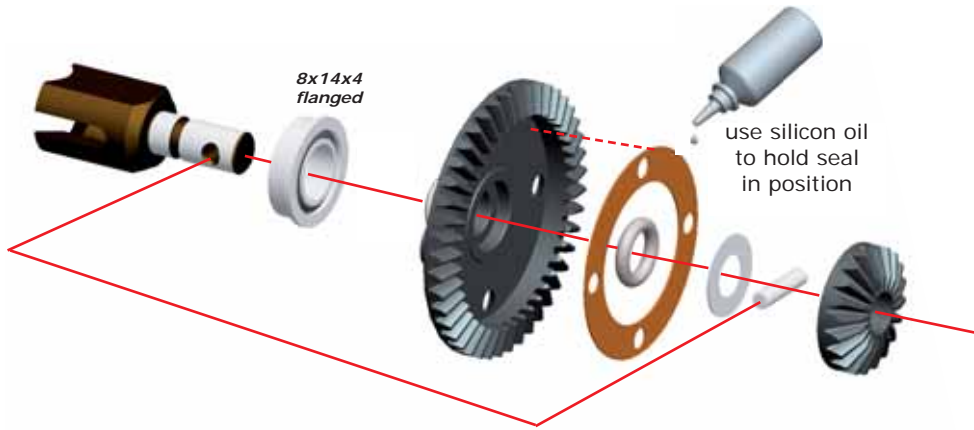
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FR/RR  
DIFF  
BAG



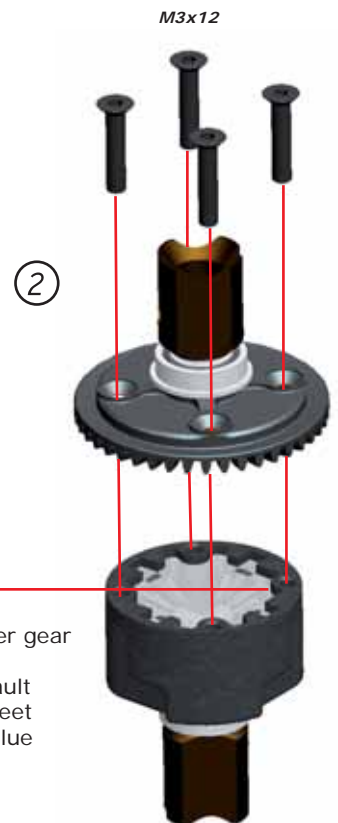
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5



A

6

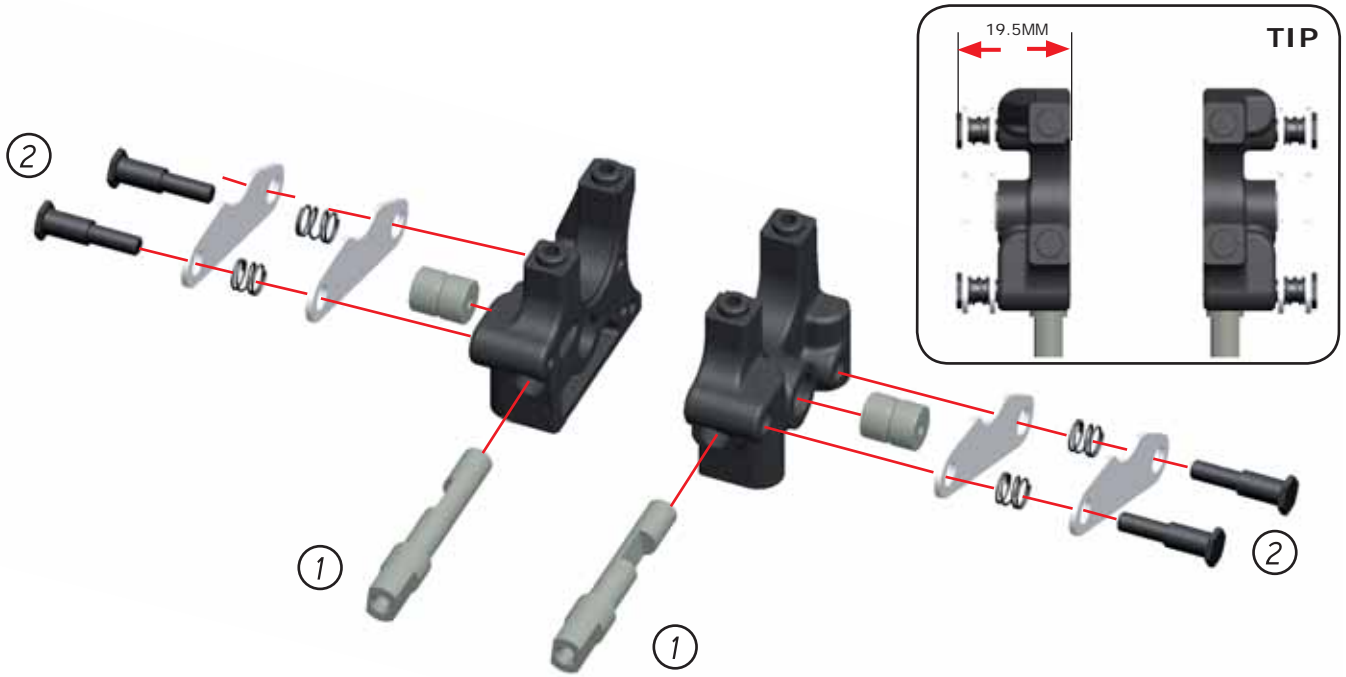


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# A CENTER BRAKE ASSEMBLY

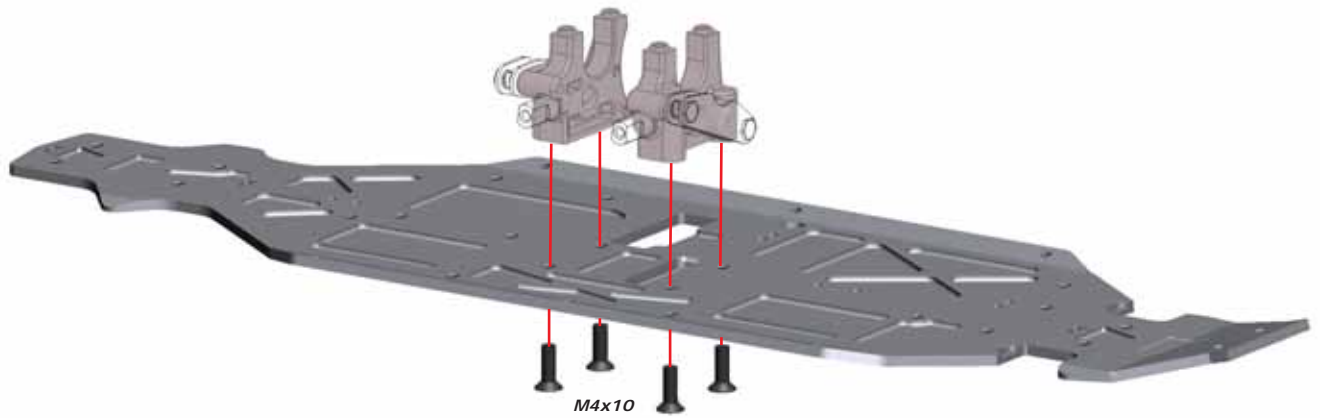
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BAG  
1



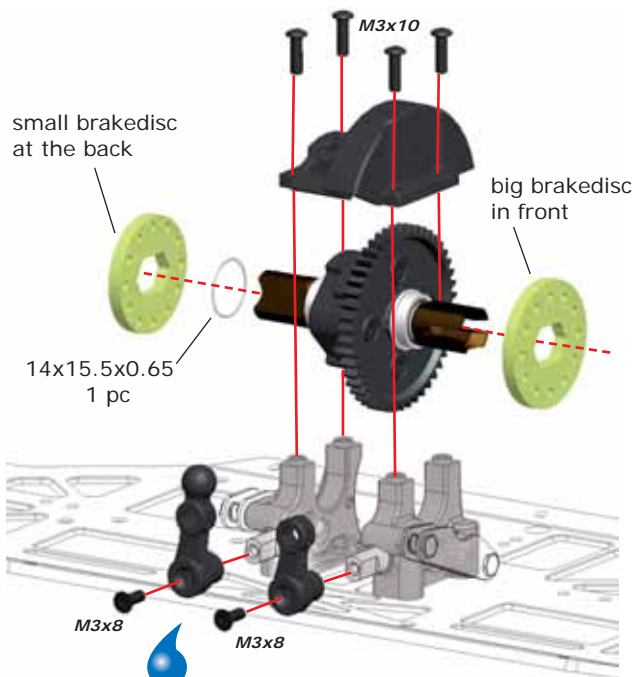
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A

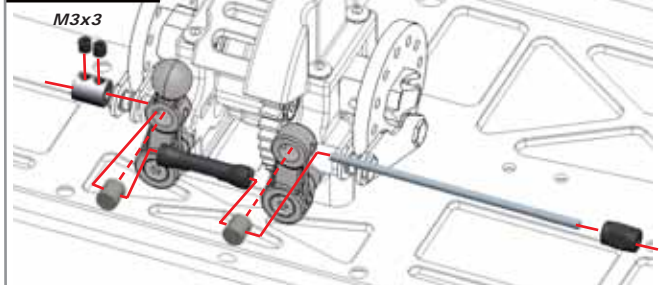
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use threadlock for these screws in the brakelever

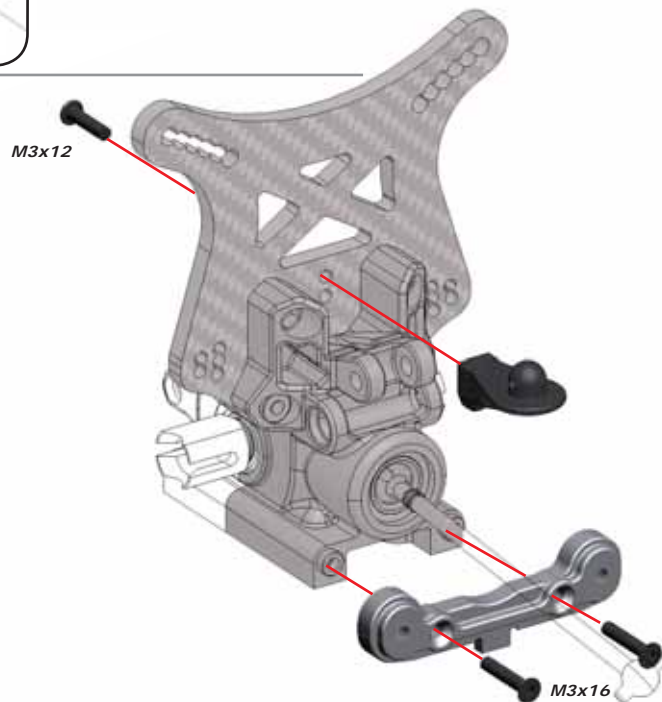
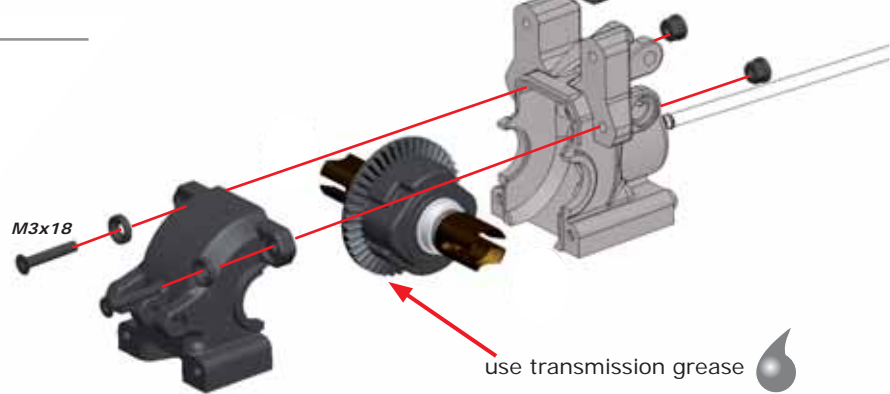
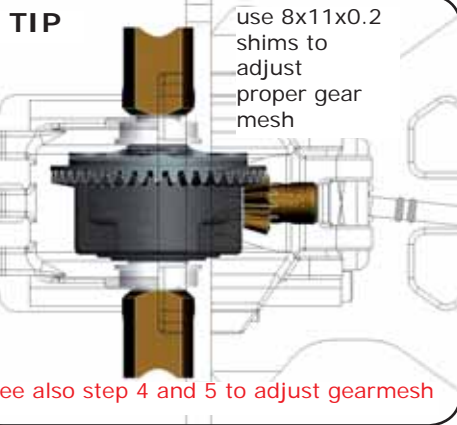
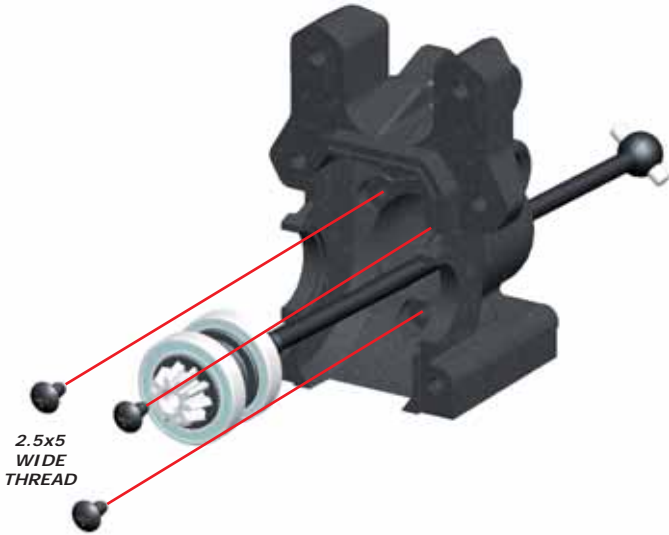
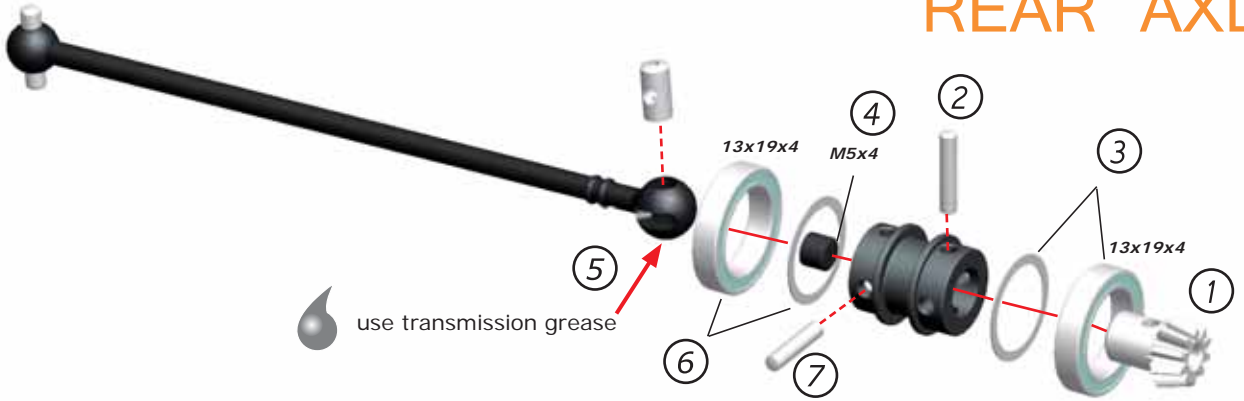
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10



6

# REAR AXLE



A

11

BAG

2

A

12

A

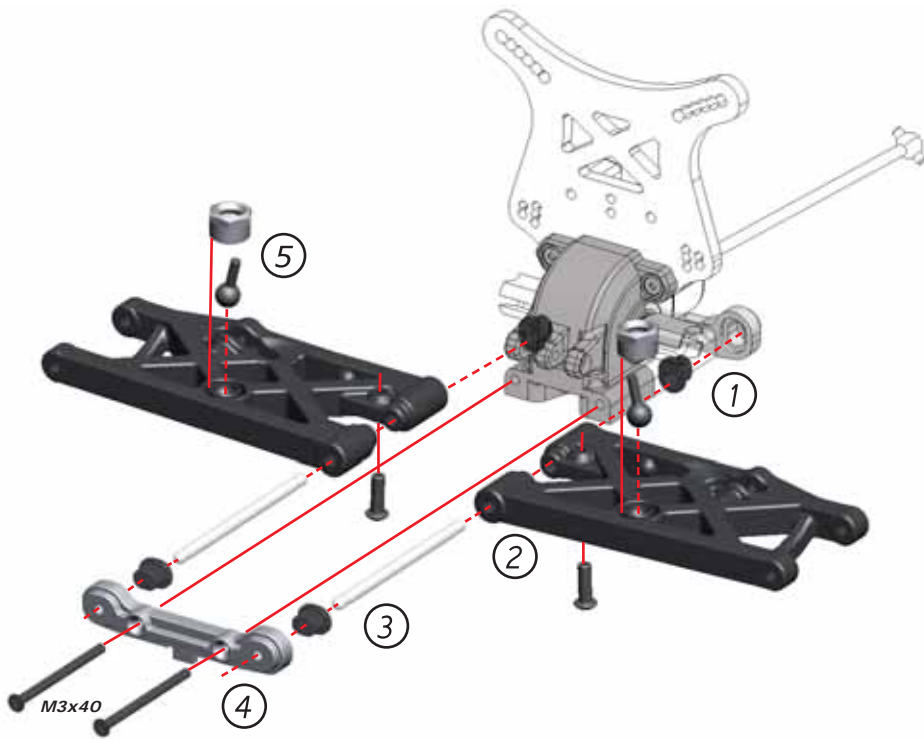
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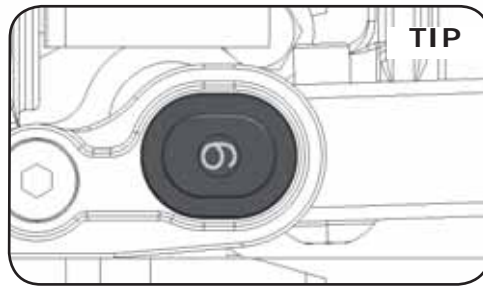
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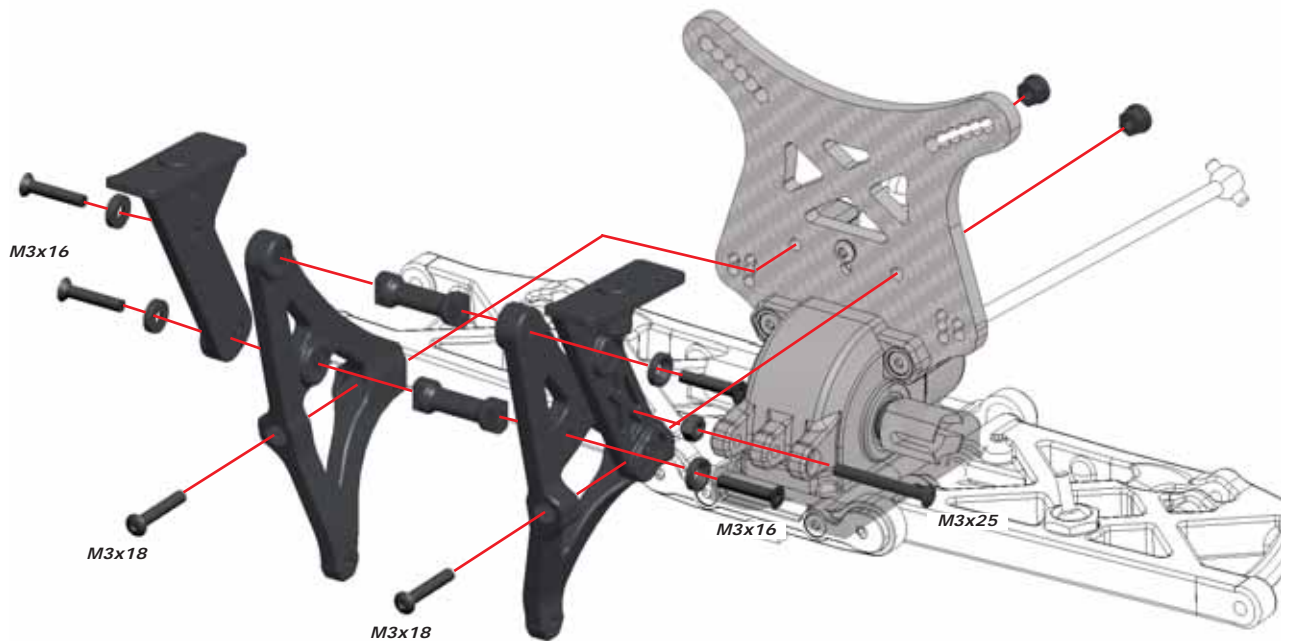
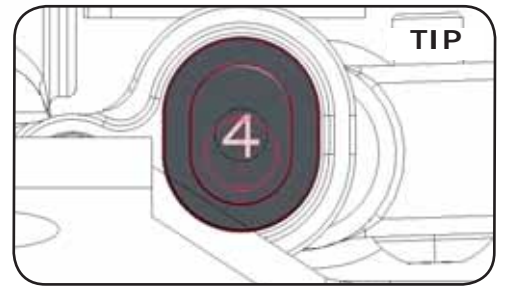
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proper insert orientation  
in the rear bracket

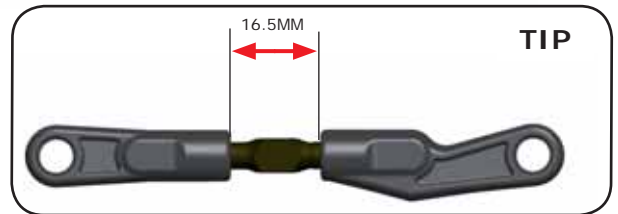
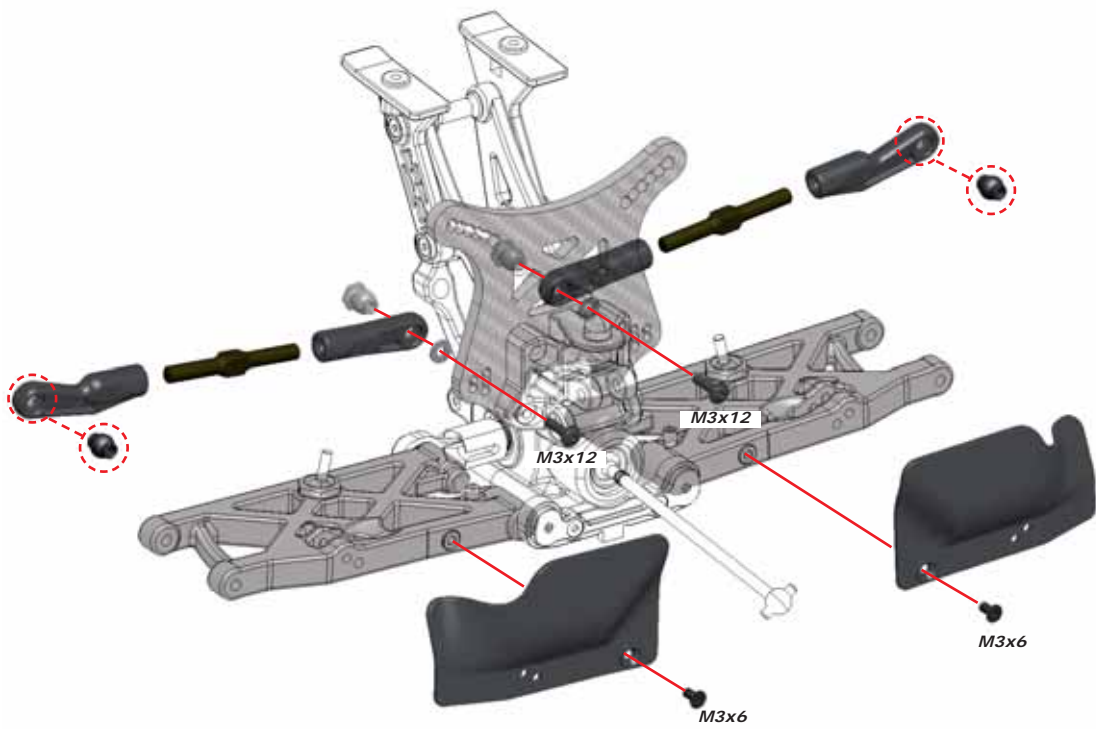


proper insert orientation  
in the front bracket



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17

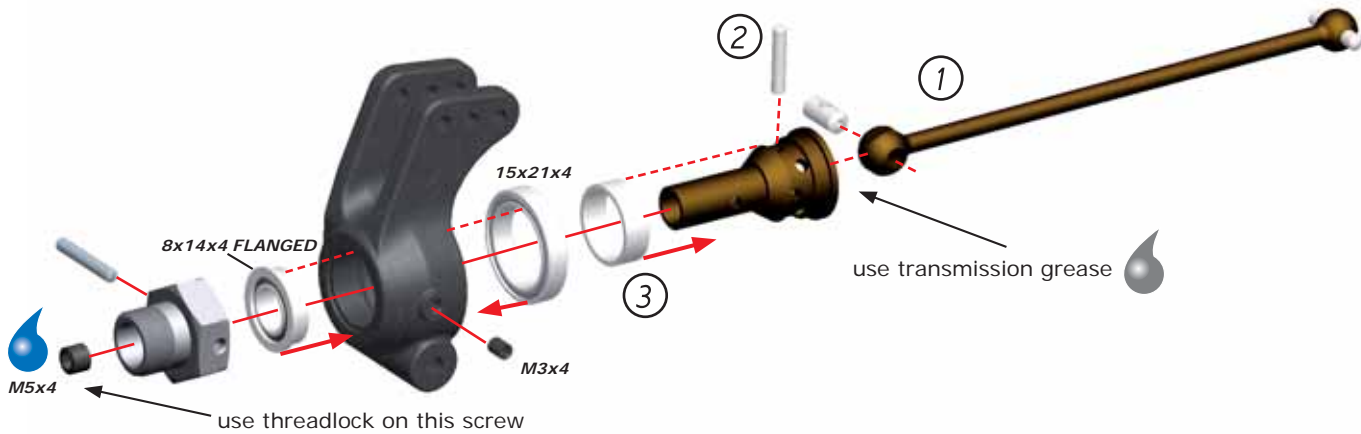


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18A

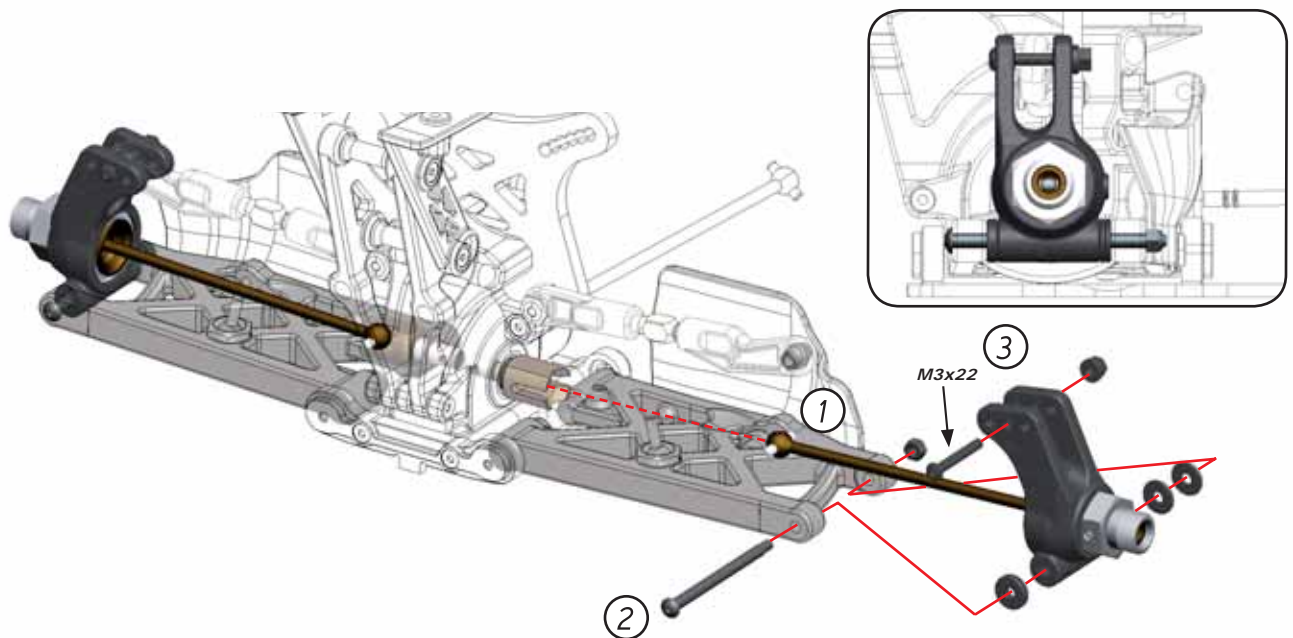
BAG

4



A

18B

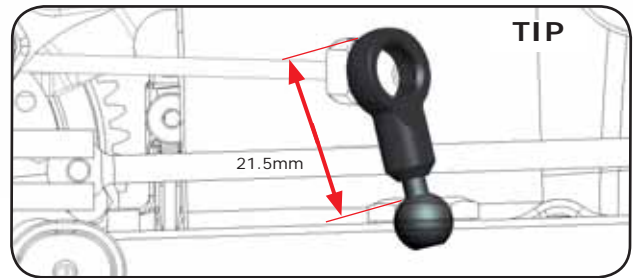
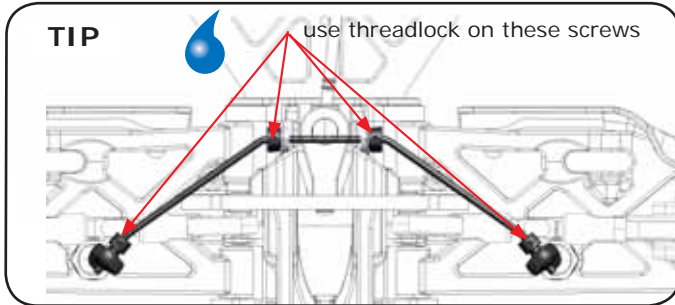
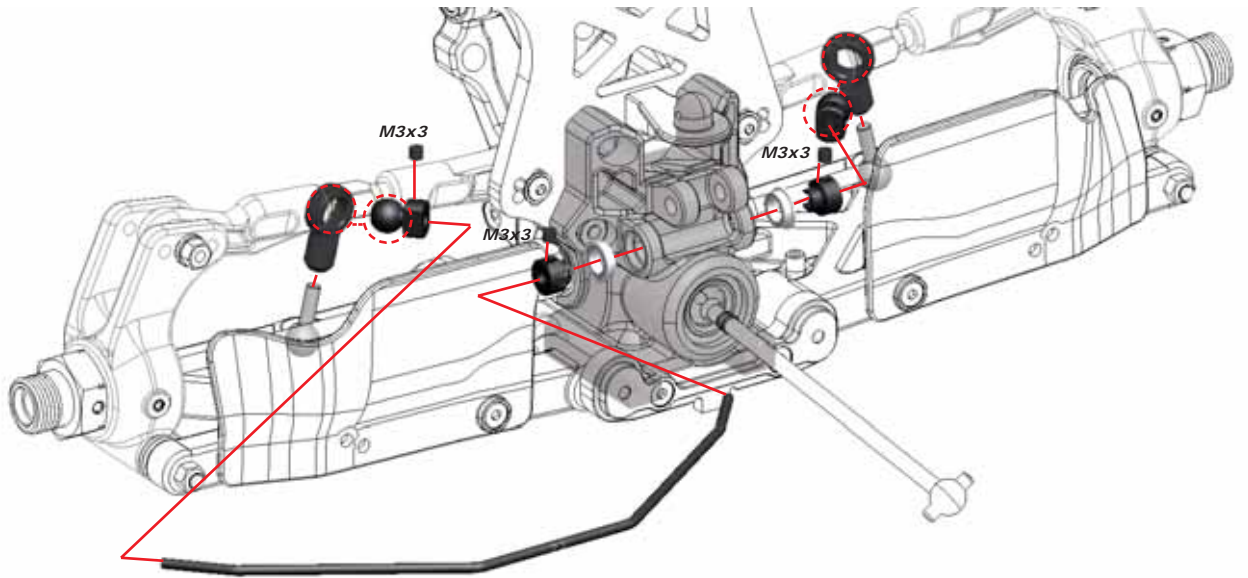


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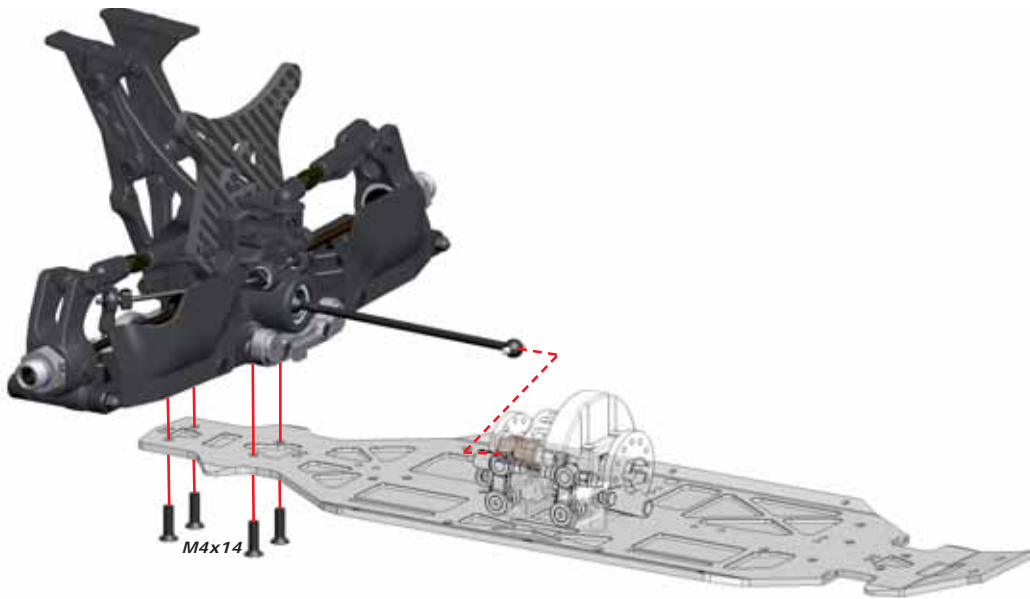
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19A



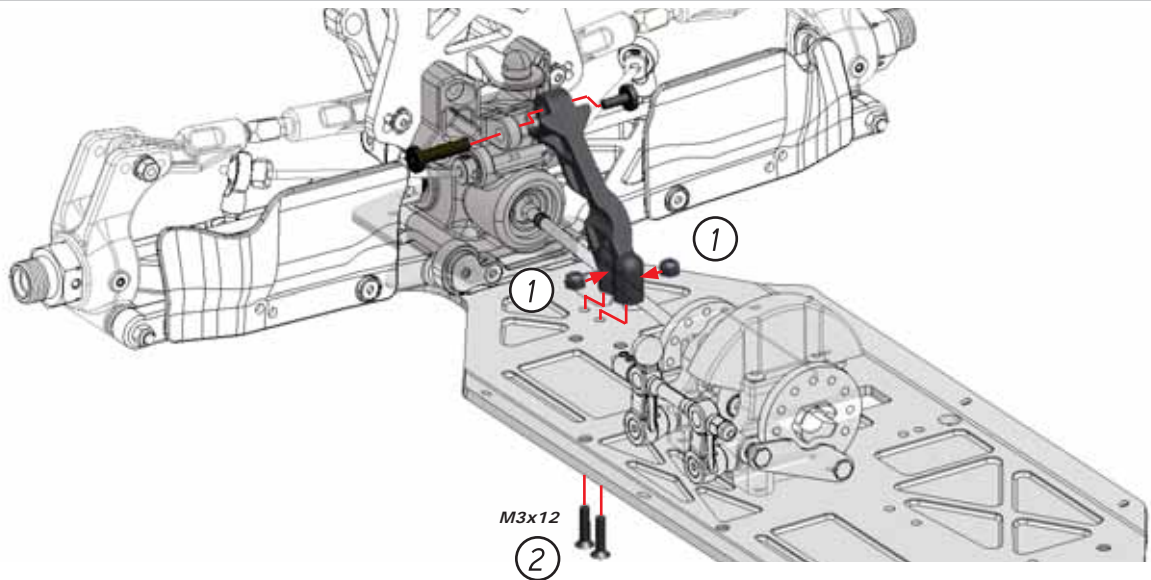
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A

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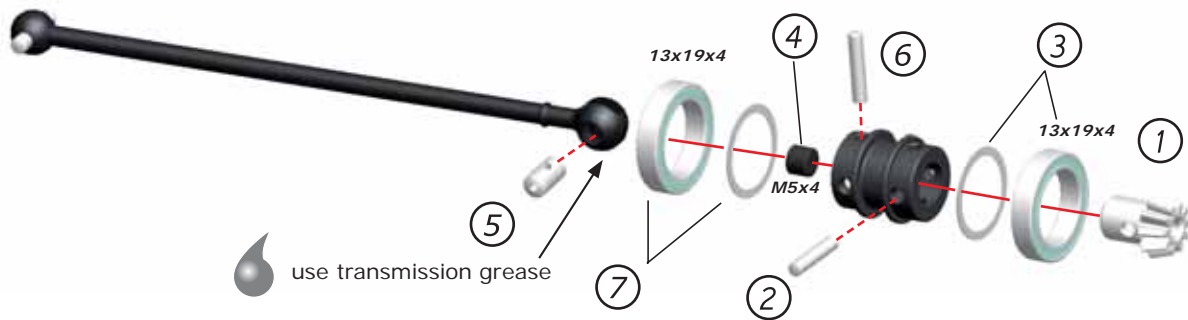
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A

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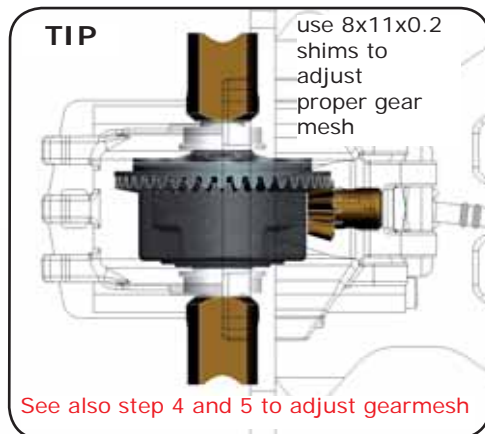
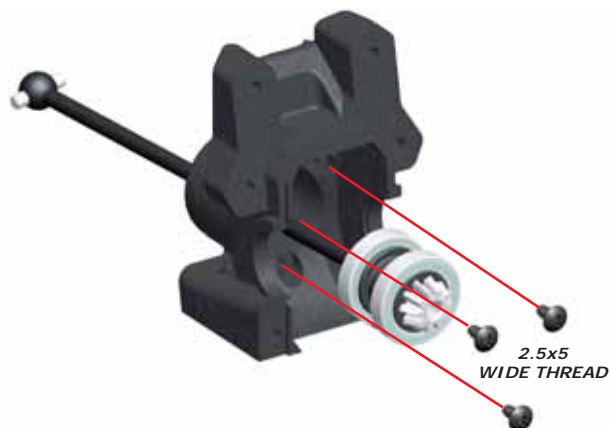
BAG

5



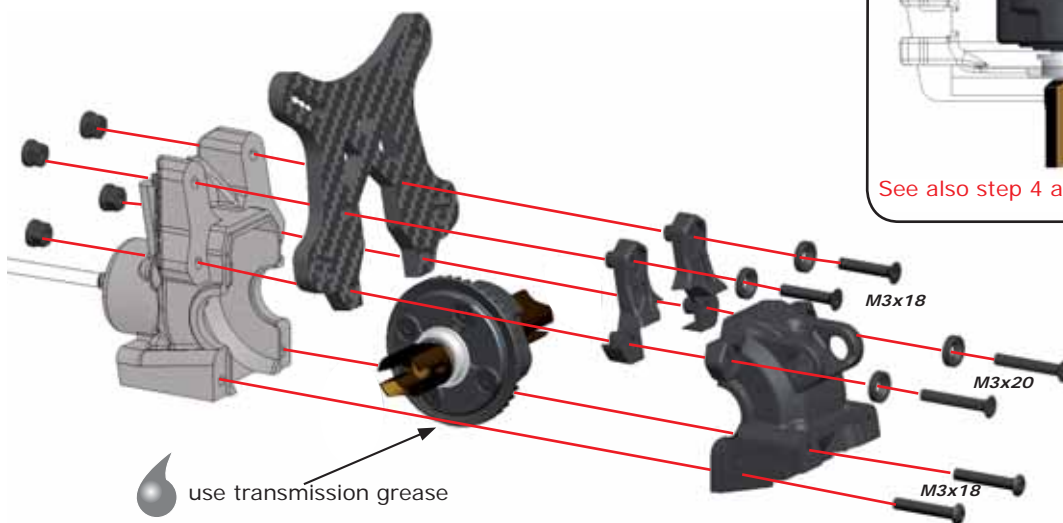
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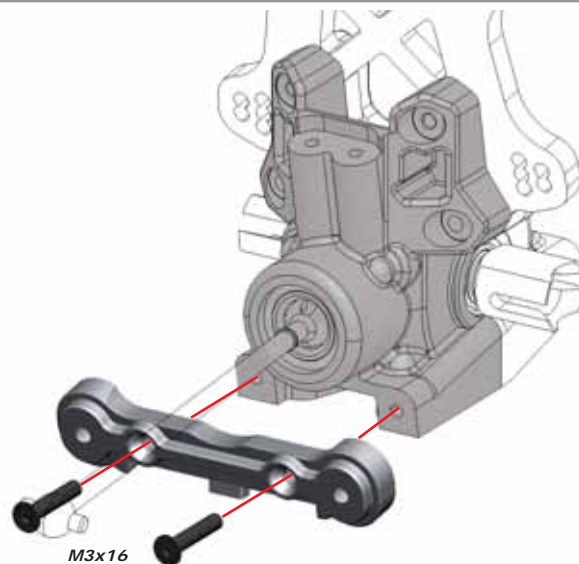
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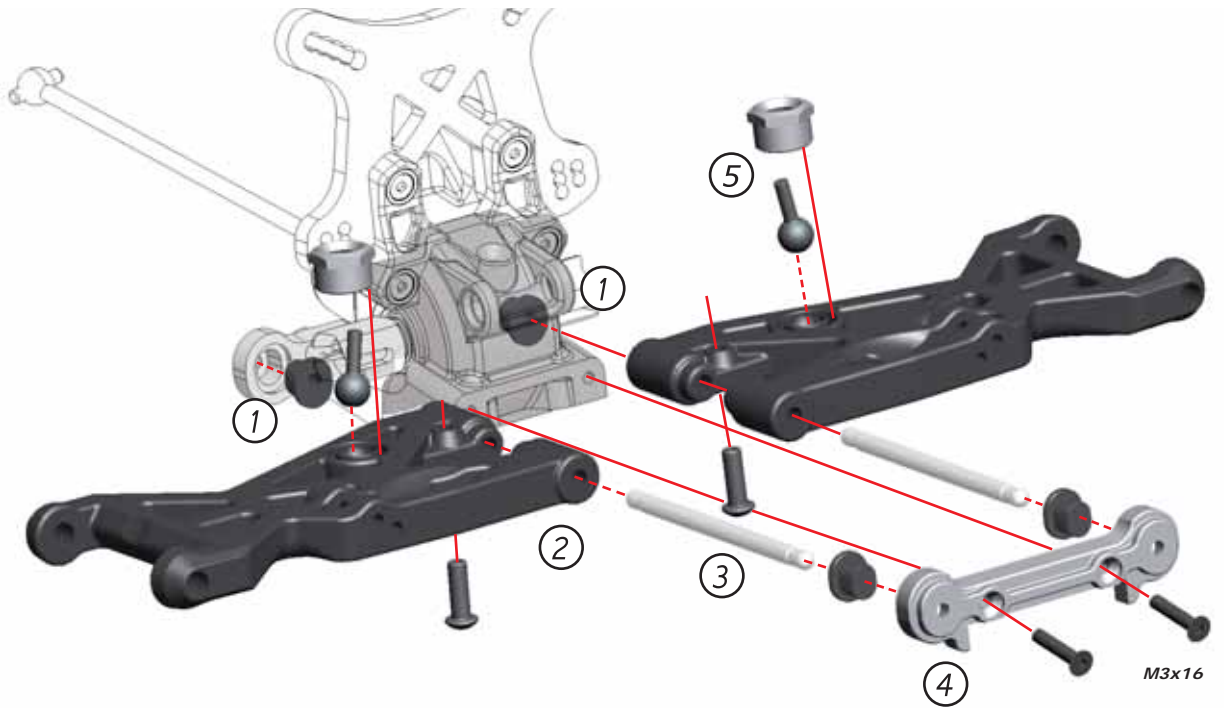


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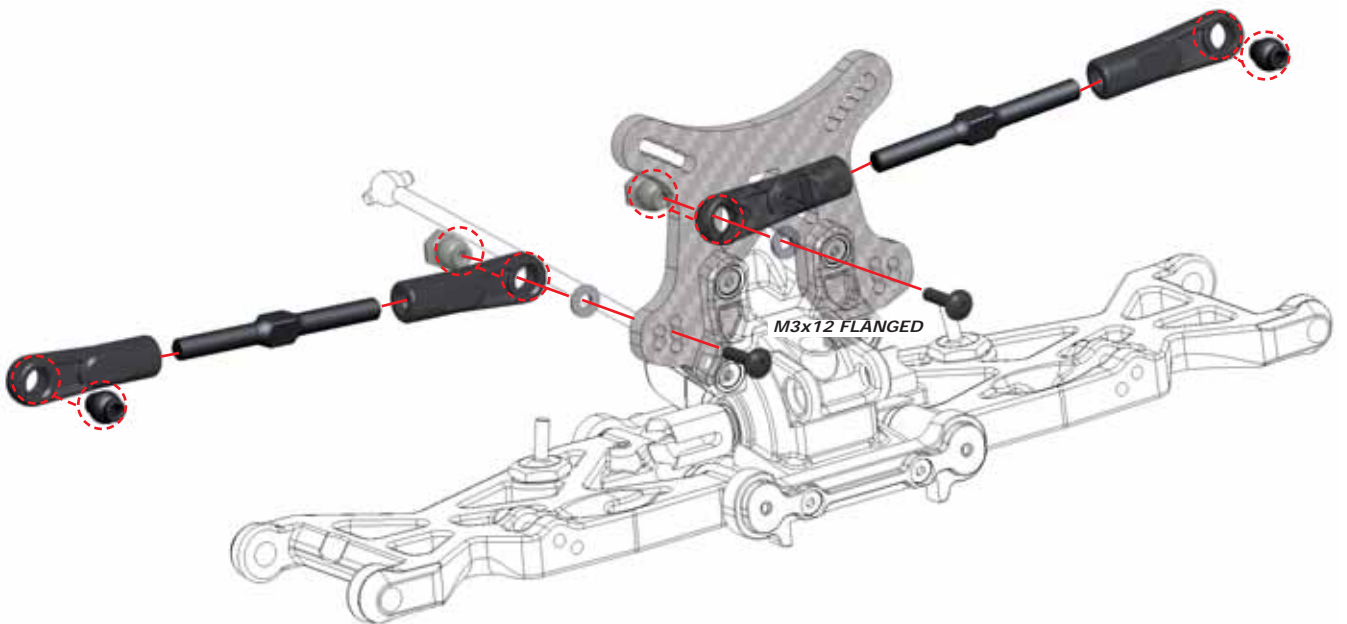
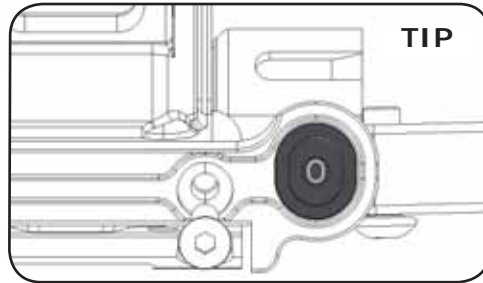
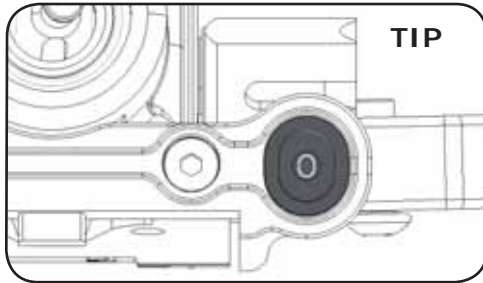


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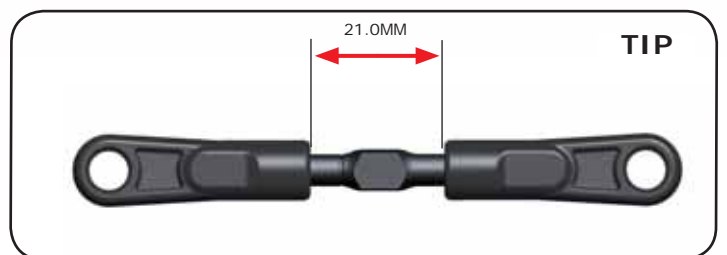


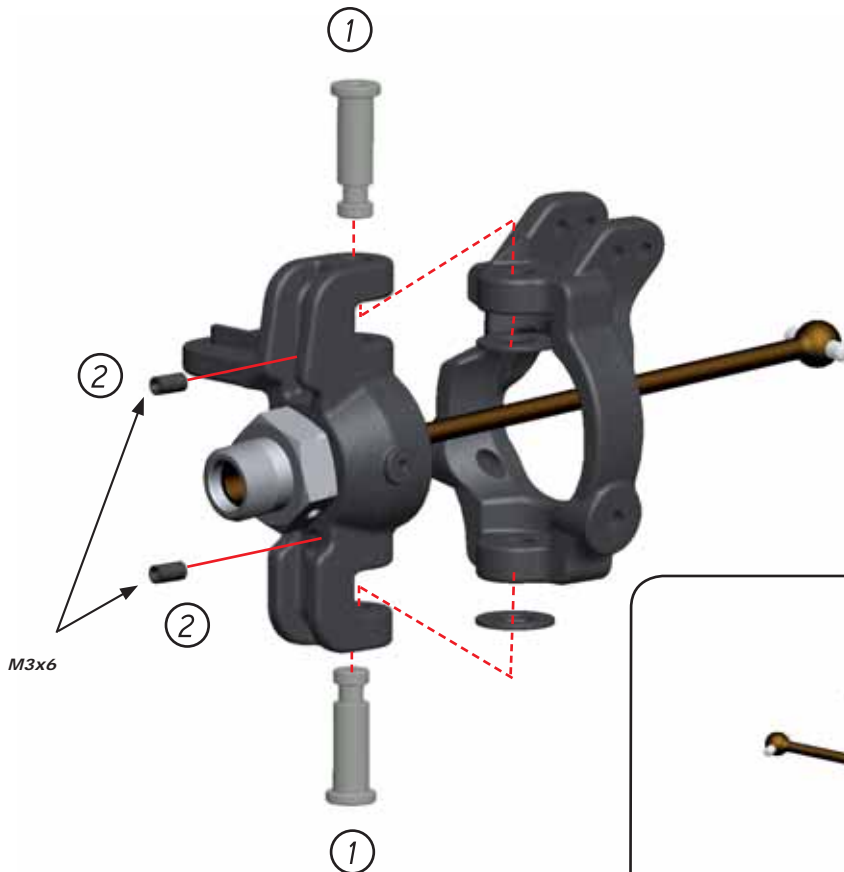
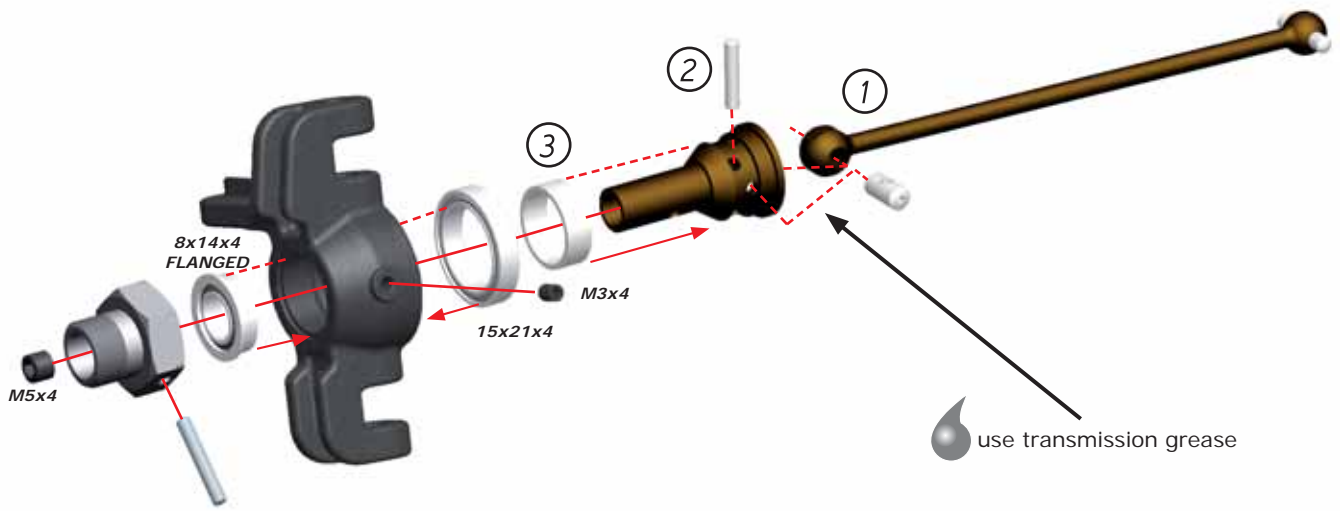
proper insert orientation  
in the rear bracket

proper insert orientation  
in the front bracket

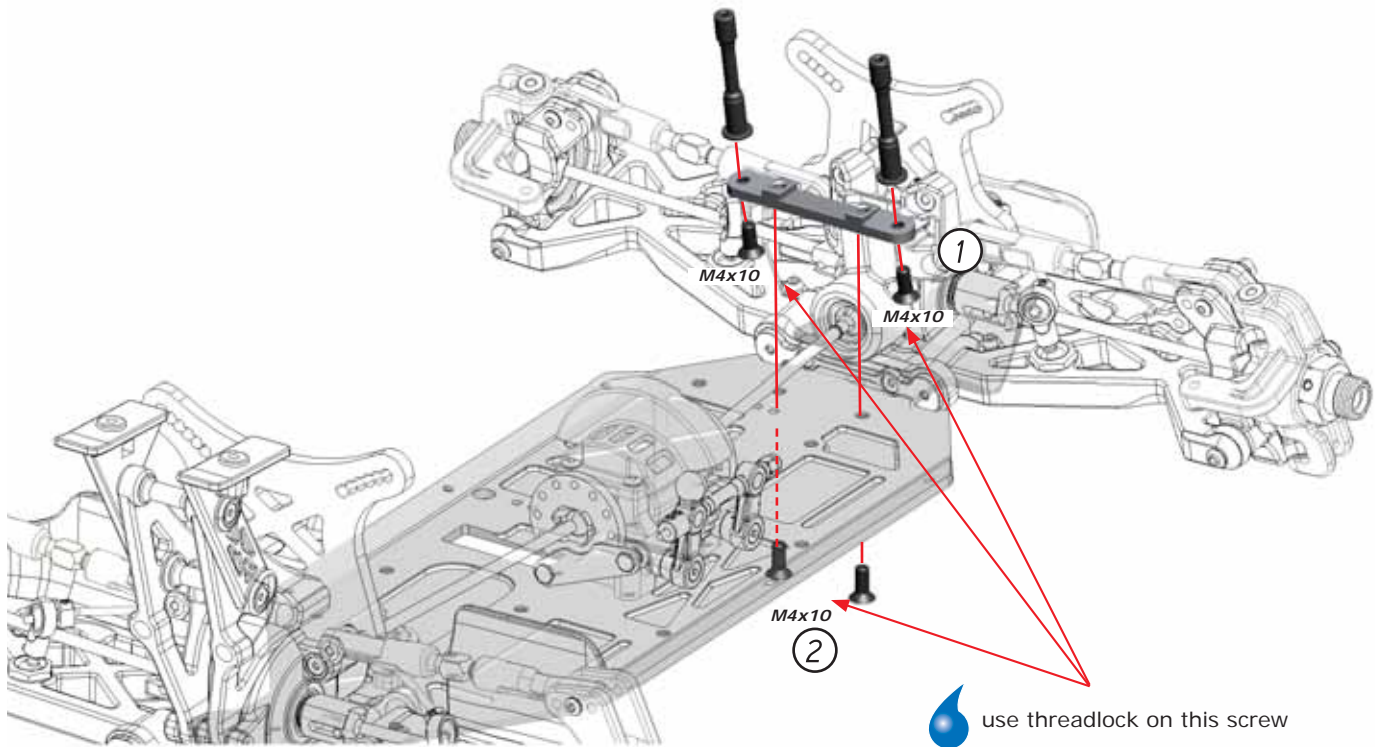
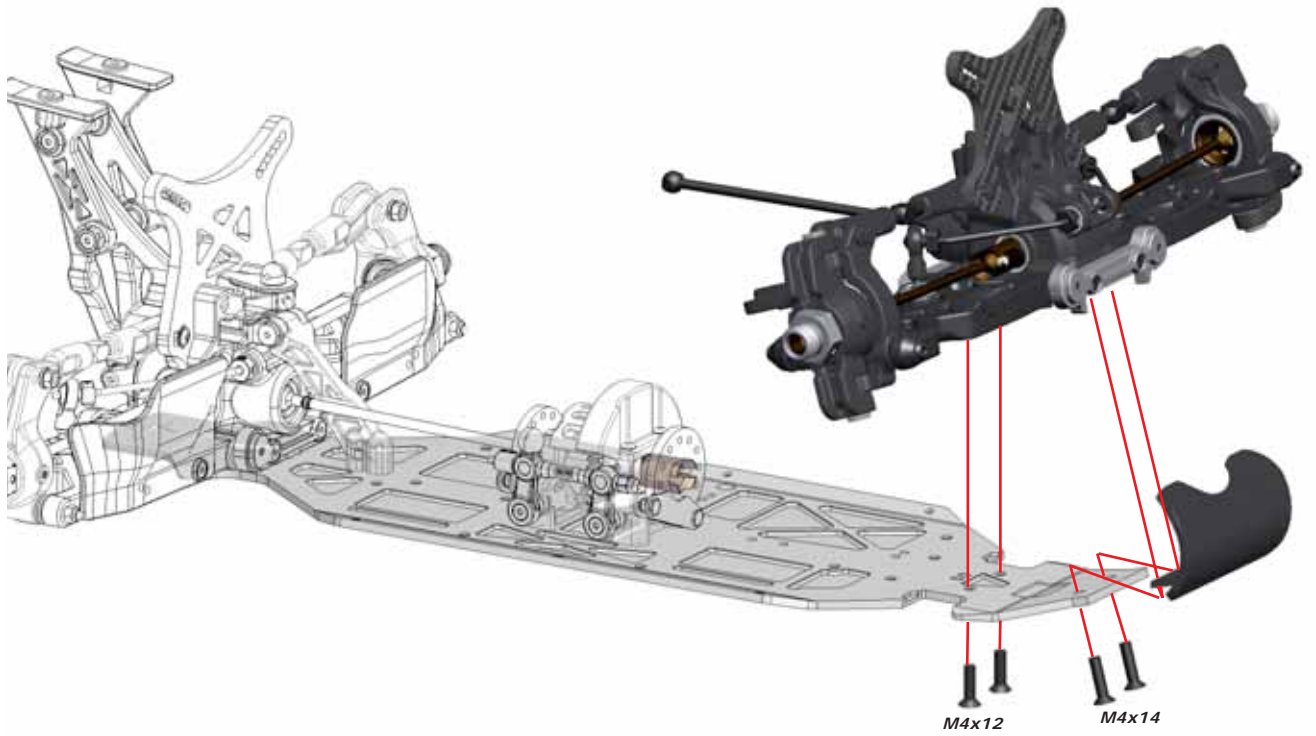


M3x12 FLANGED



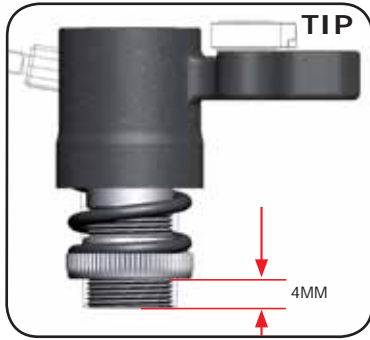






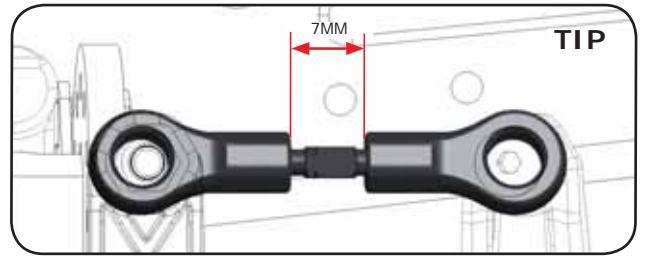
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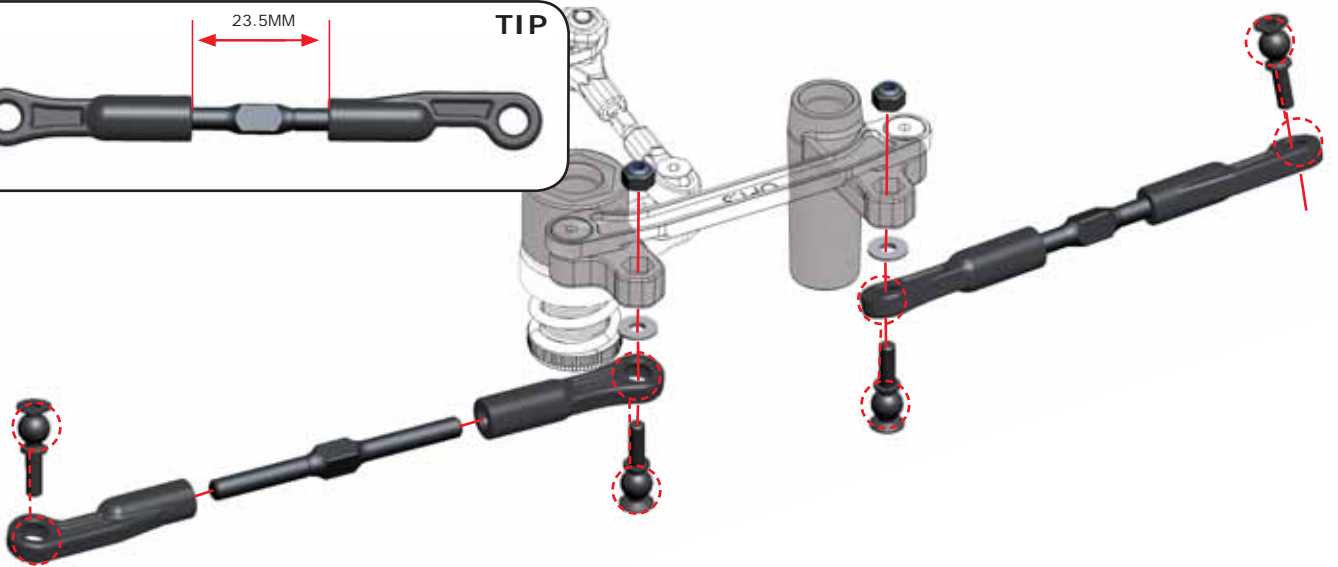
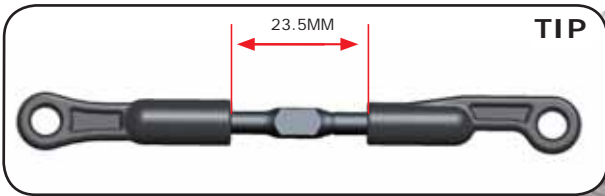
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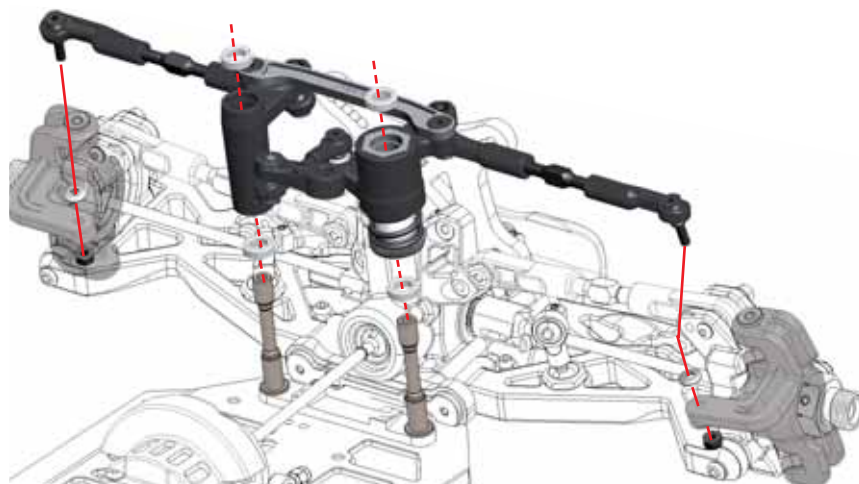
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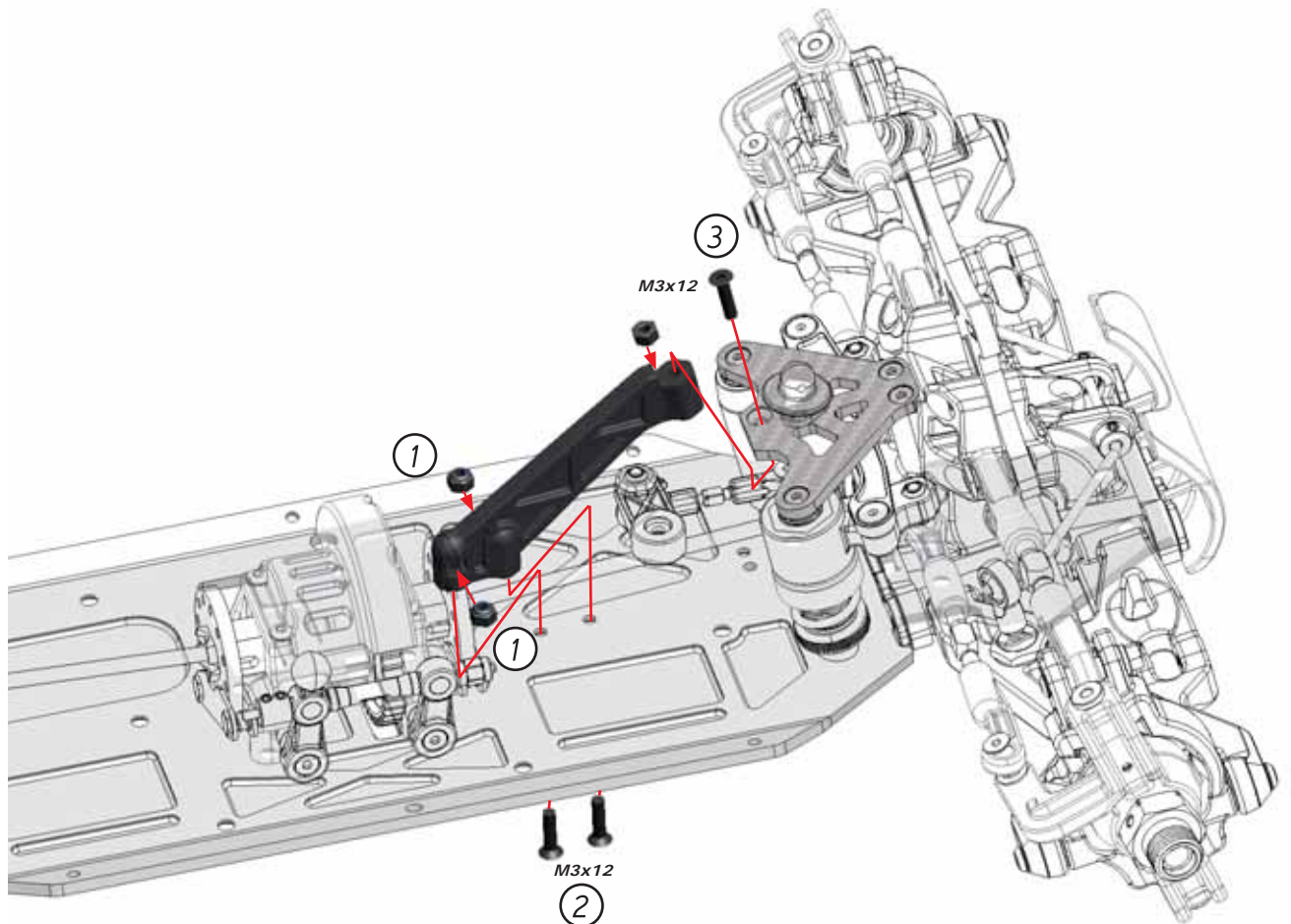
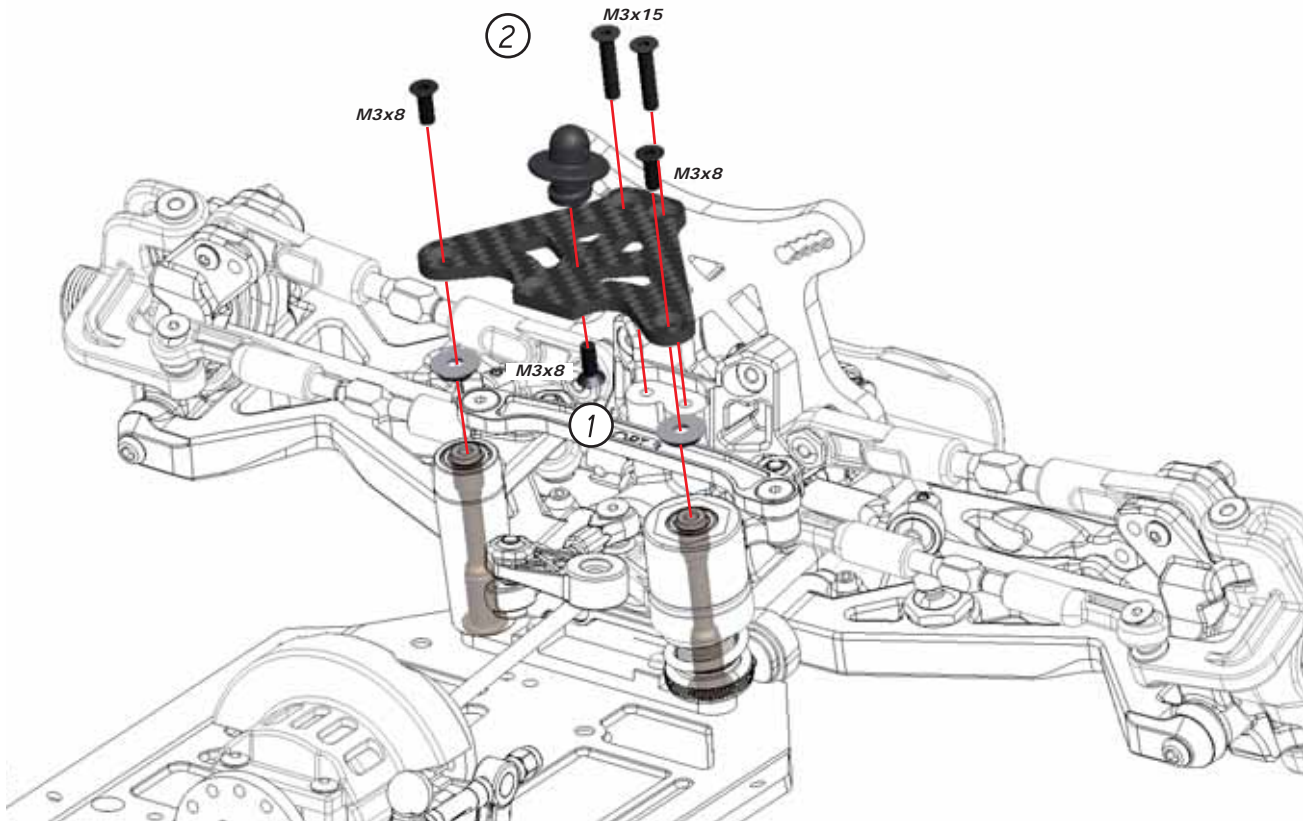


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16



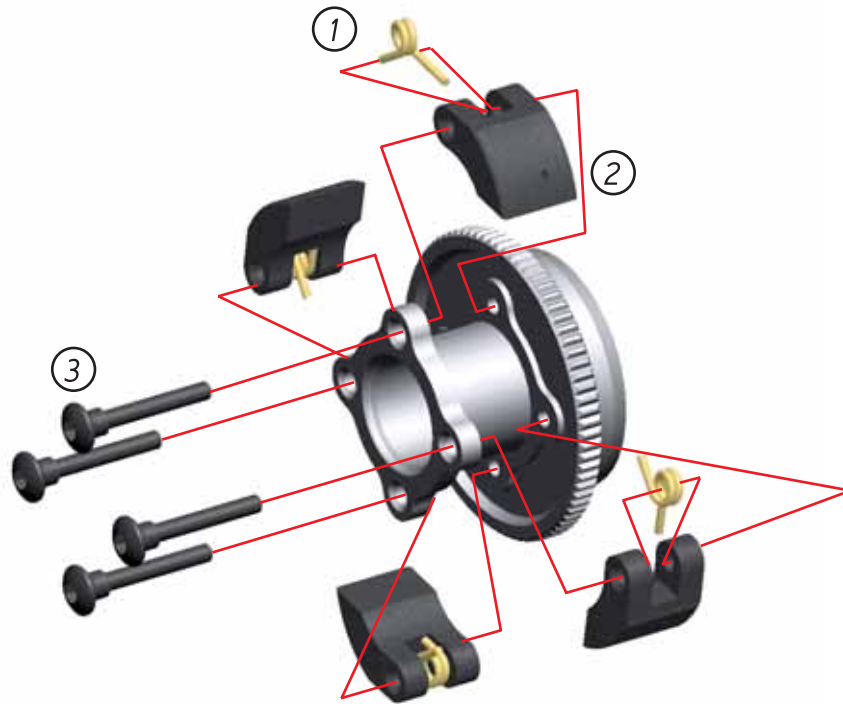
# CLUTCH / ENGINE

B

1

BAG

8



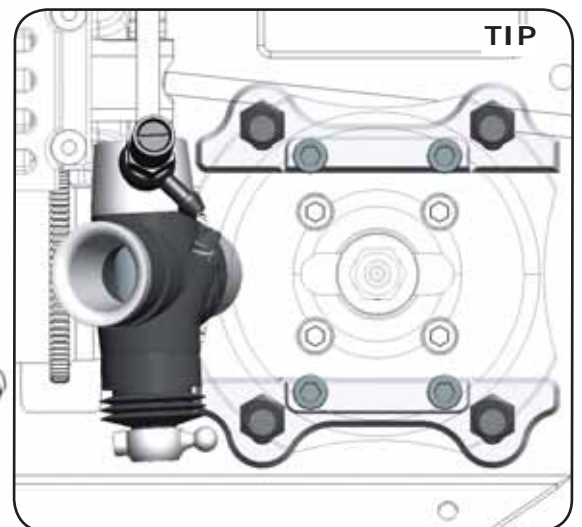
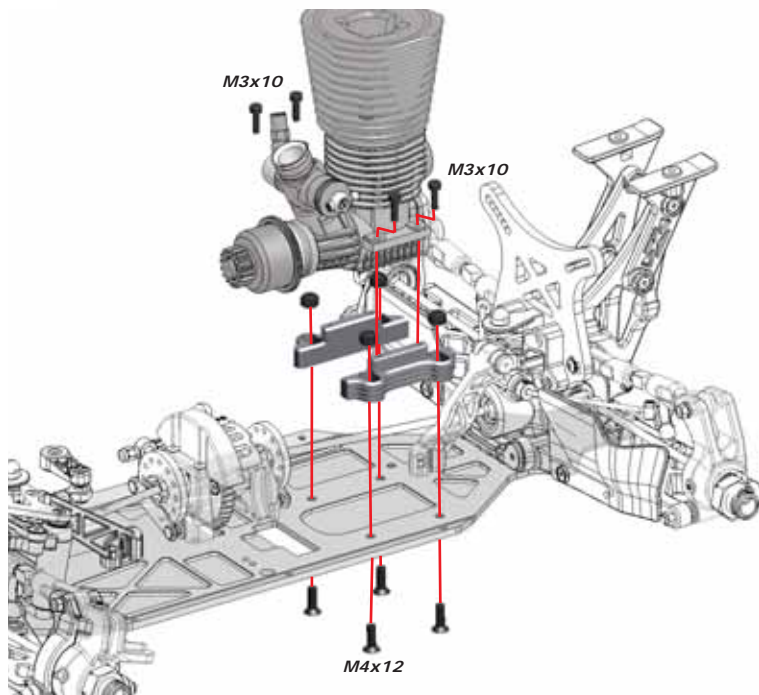
B

2



B

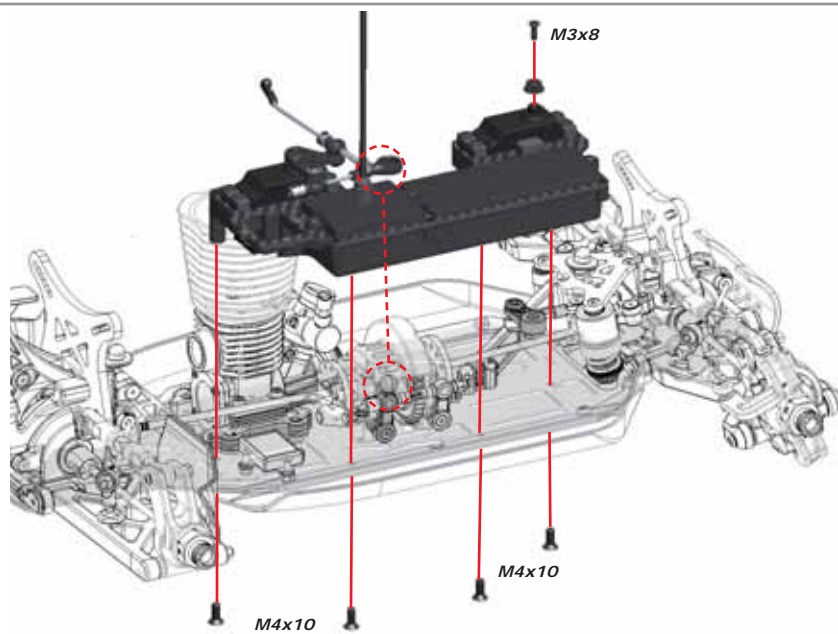
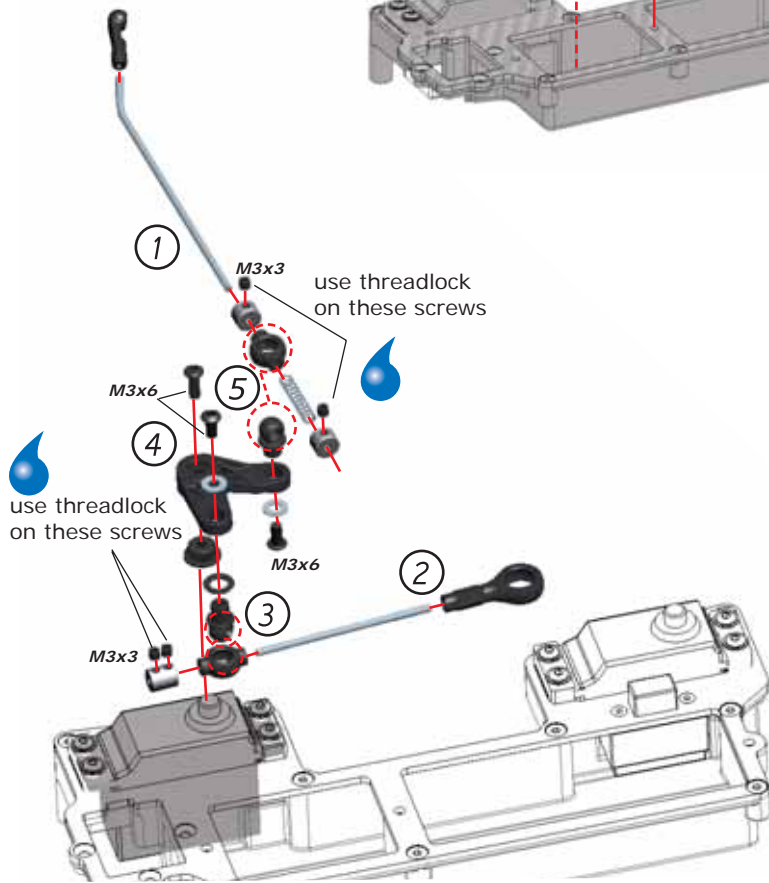
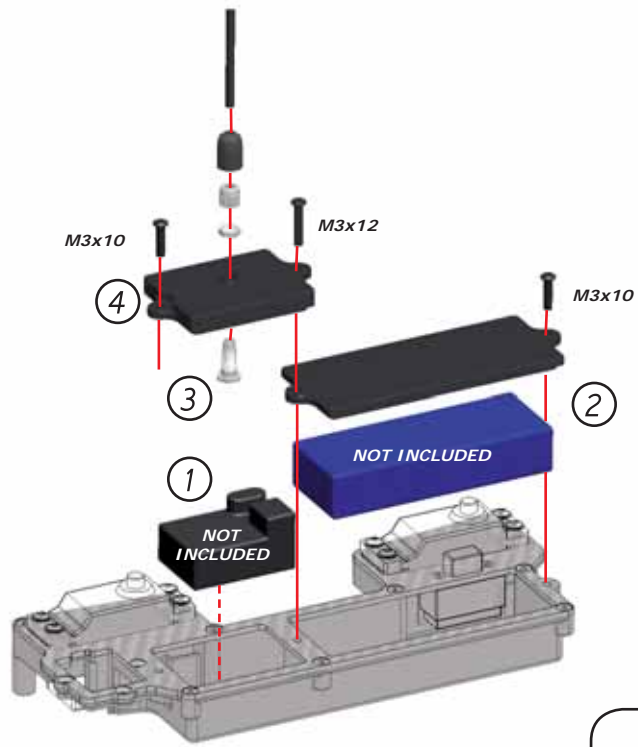
3



BT

18





# FRONT/REAR SHOCK ASSEMBLY

D

1

BAG  
10/11

D

2

D

3

D

4

D

5

D

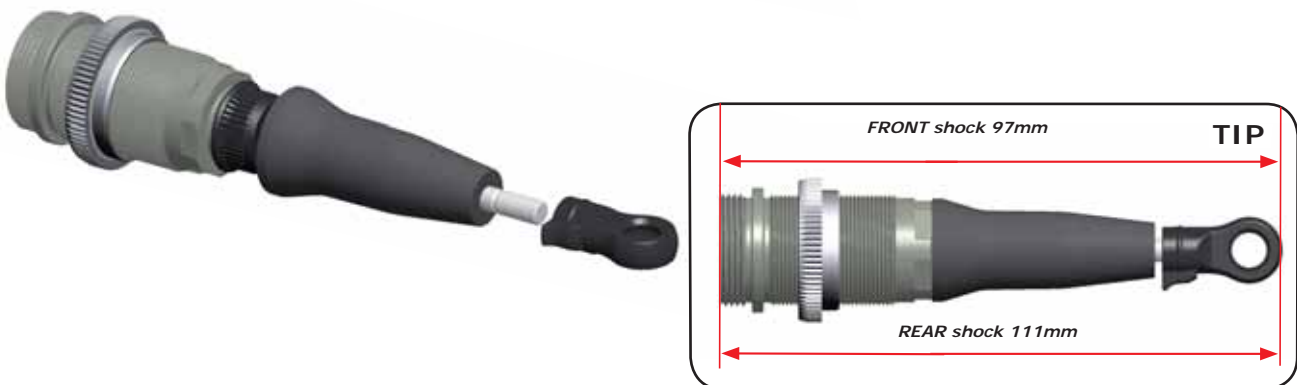
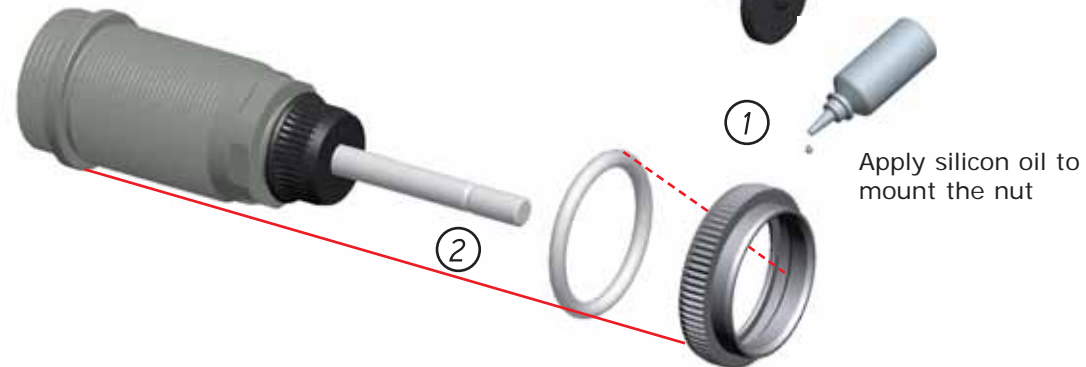
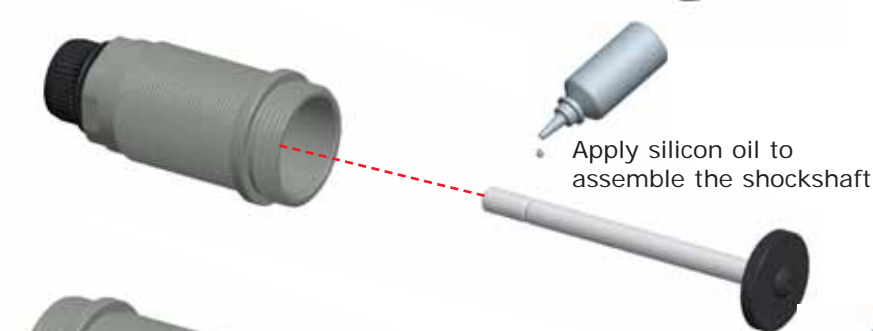
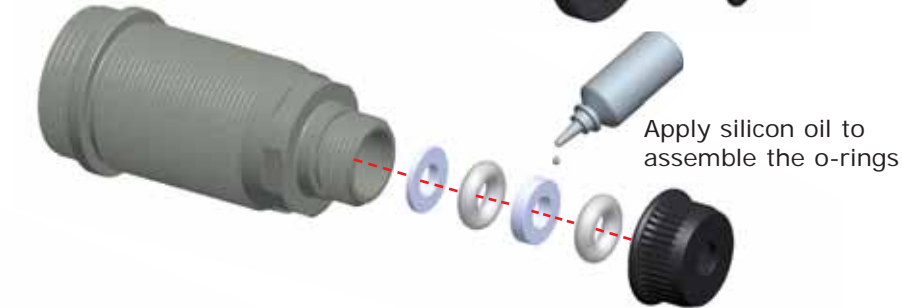
6



21



**NOTE:**  
Bag 10 are  
FRONT shocks.  
Bag 11 are  
REAR shocks



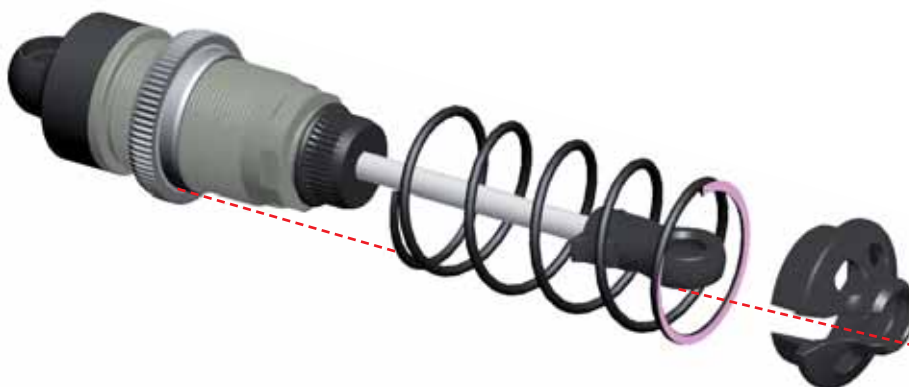


Push membrane into the shock top

check default SET-UP sheet for CST value



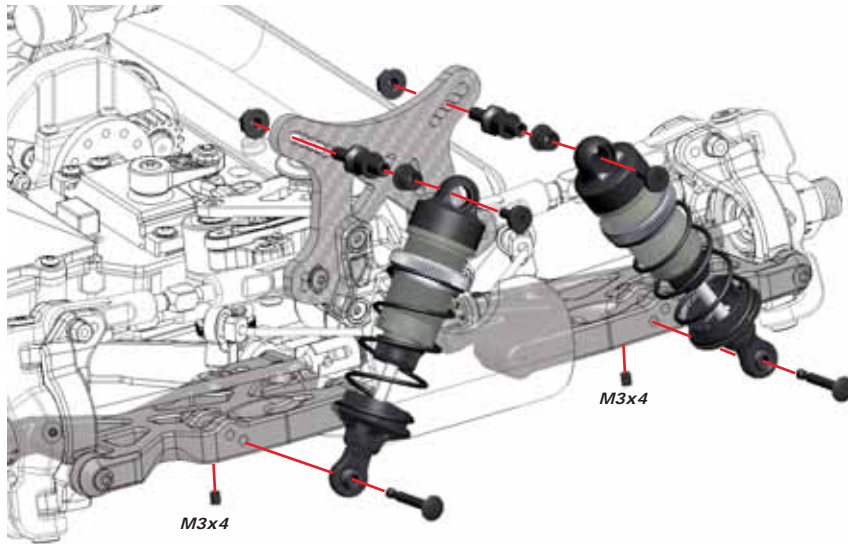
- Fill up with silicone oil
- Wait for air bubbles to escape
- Close top only 3/4



# SCHOCK MOUNTING

D

10



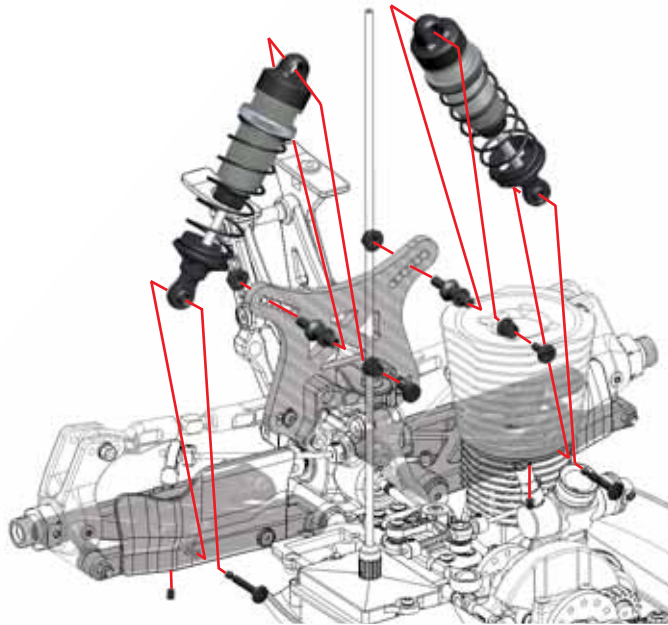
*NOTE: SHOCKS SHOWN WITHOUT SHOCK BOOTS*

D

11

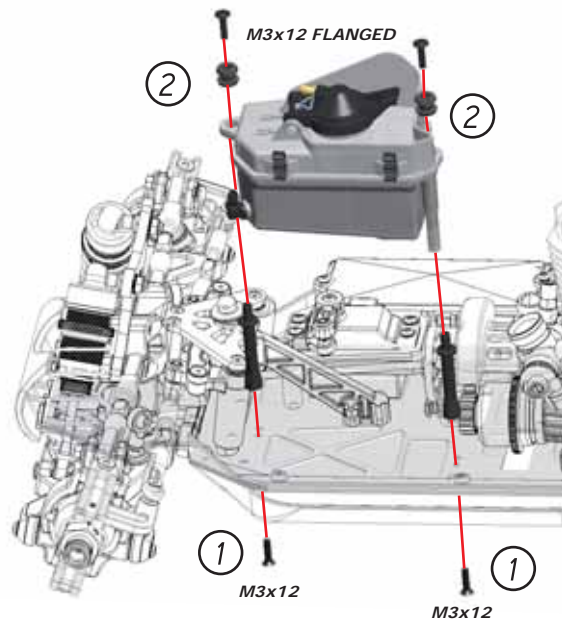
BAG

12



D

12



*NOTE: POSITION OF TANK POSTS*

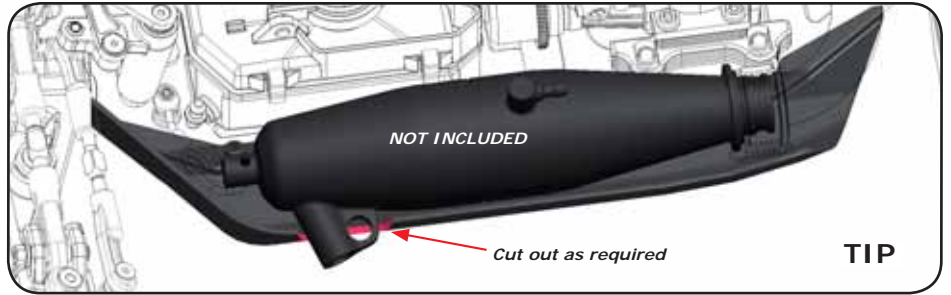
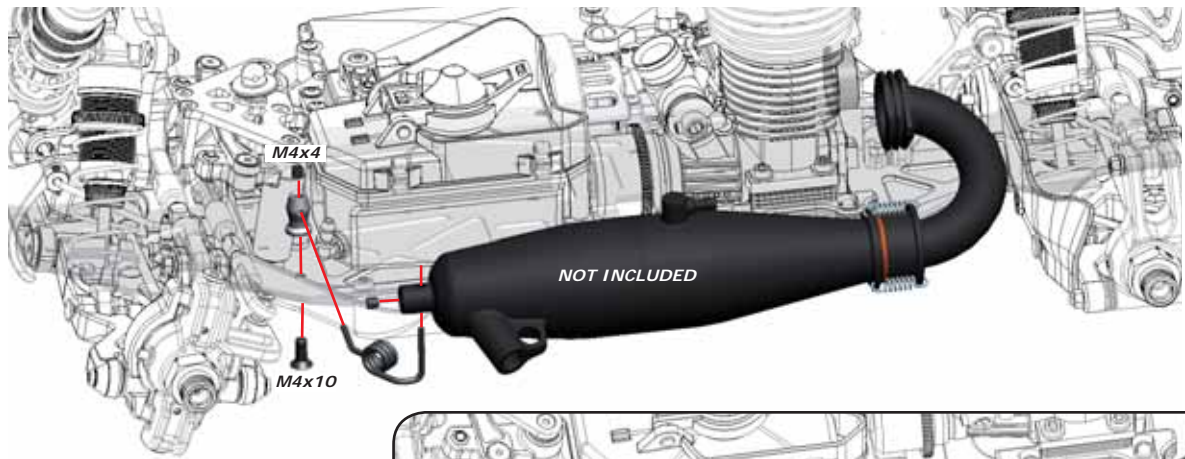
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23

# FINAL ASSEMBLY

E

1



E

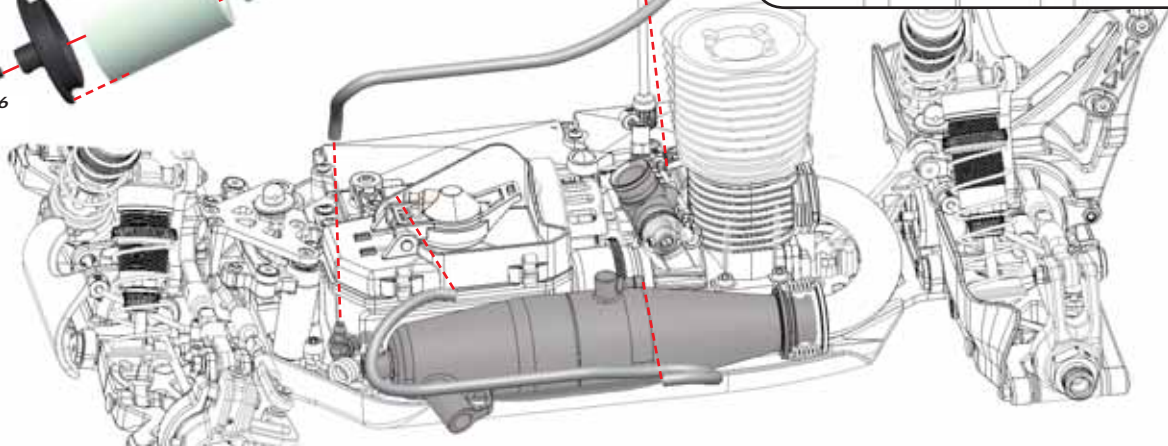
2

**NOTE:** Put sufficient oil on the airfilter before use



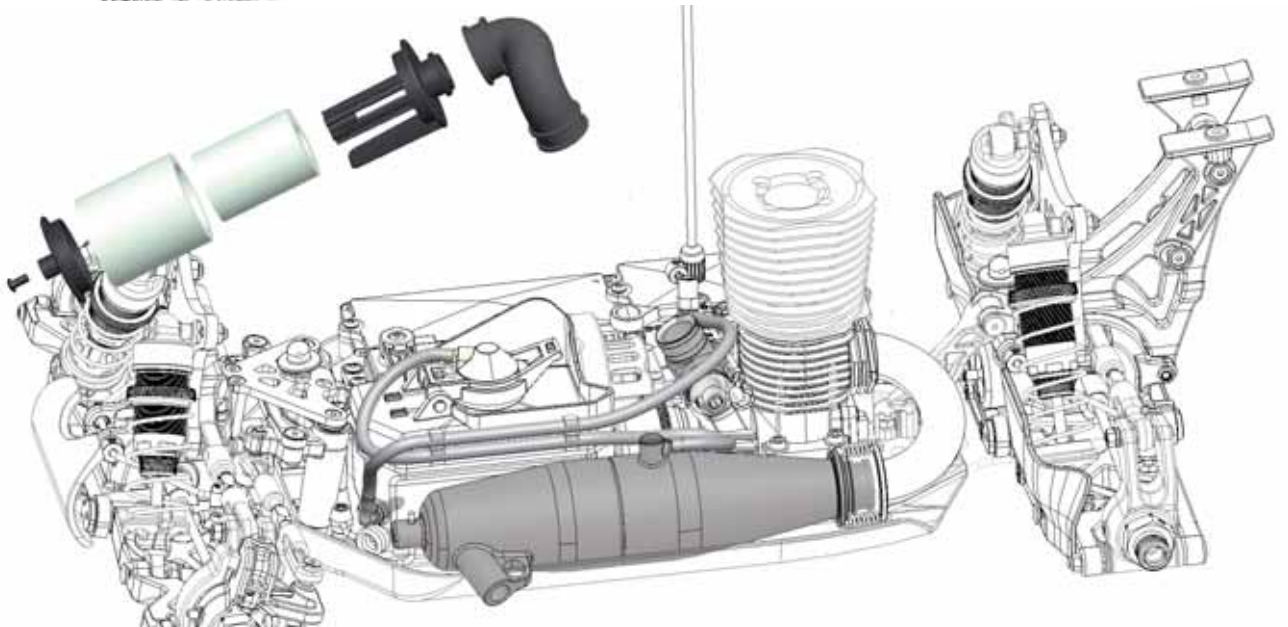
E

3



E

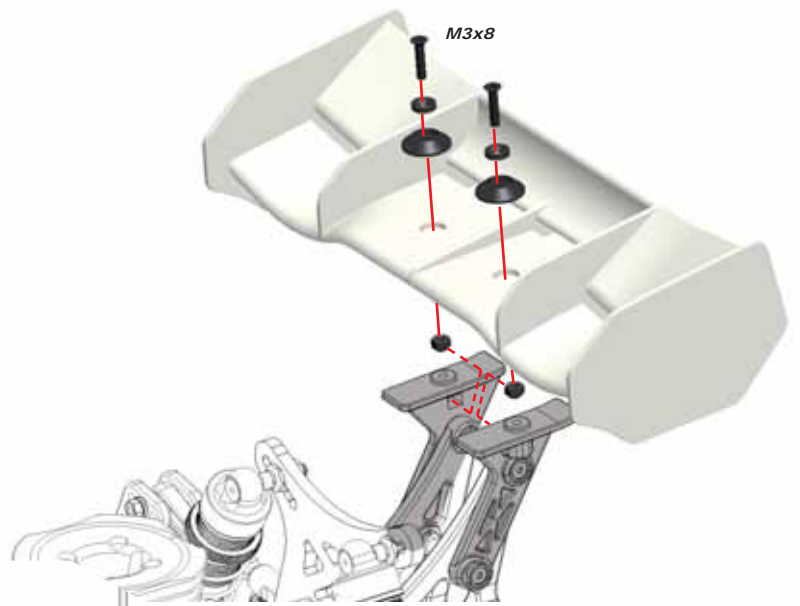
3A



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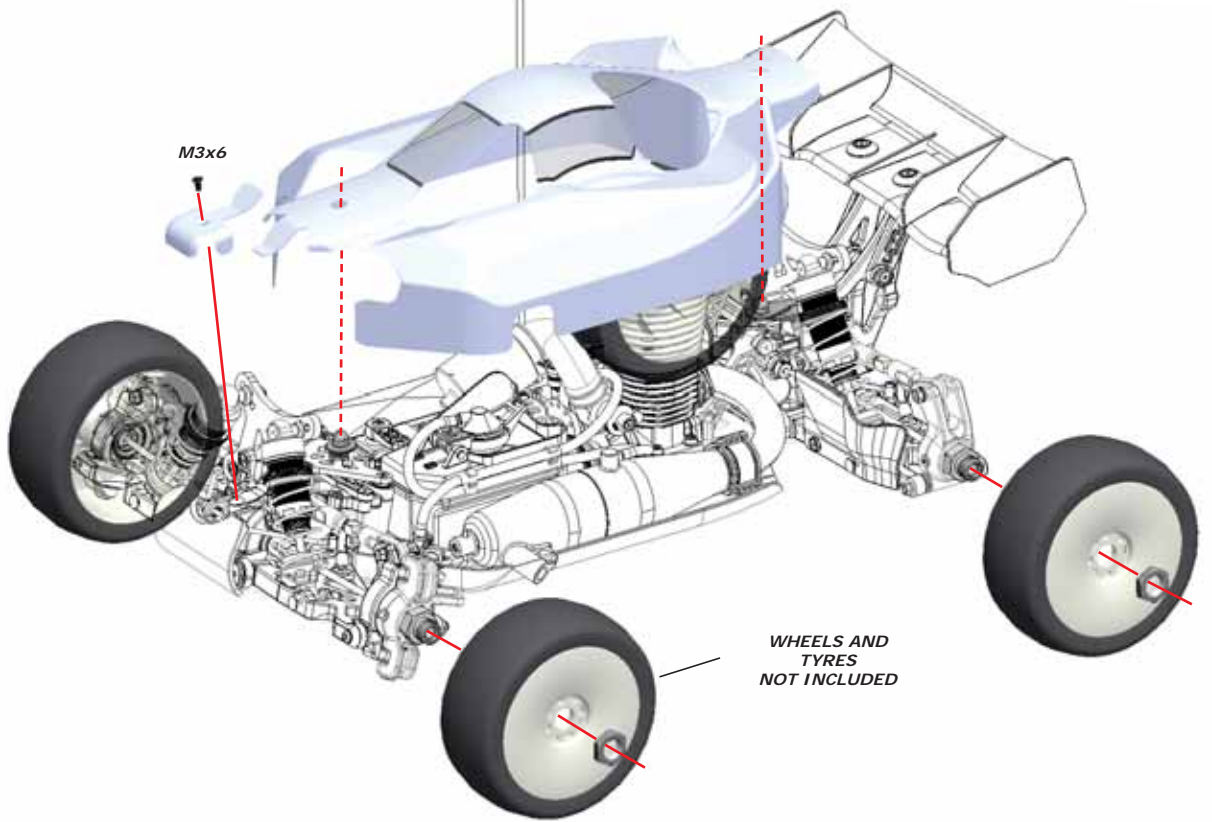
E

4



E

5



118

25



## REFERENCE GUIDE

### Description

600001 Serpent 811 Cobra 1/8 4wd buggy

### Manual & Decals

600327 Manual S811 Cobra  
 600329 Decal sheet S811 black/white (2)  
 600332 Decal sheet S811 chrome (2)

### Ball Bearings

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)  
 600322 Bearingset SS S811 (28)

### Fastening materials

110100 Screw allen countersunk M3x10 (10)  
 110103 Screw allen countersunk M4x16 (10)  
 110104 Screw allen countersunk M3x8 (10)  
 110105 Screw allen countersunk M4x12 (10)  
 110108 Screw allen roundhead M3x6 (10)  
 110109 Screw allen roundhead M3x10 (10)  
 110110 Screw allen roundhead M3x16 (10)  
 110112 Screw allen roundhead M3x12 (10)  
 110115 Setscrew allen M3x4 (10)  
 110116 Setscrew allen M3x3 (10)  
 110118 Setscrew allen M4x4 (10)  
 110122 Screw allen countersunk M3x6 (10)  
 110124 Screw allen roundhead M3x8 (10)  
 110125 Screw allen countersunk M3x20 (10)  
 110127 Screw allen countersunk M3x12 (10)  
 110129 Screw allen cilinderhead M3x10 (10)  
 110130 Screw allen roundhead M2.5x6 (10)  
 110132 Screw allen countersunk M3x16 (10)  
 110137 Setscrew allen M3x6 (10)  
 110138 Screw allen countersunk M4x14 (10)  
 110139 Screw allen countersunk M3x40 (10)  
 110140 Screw allen countersunk M4x10 (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 phillips roundhead widththread 2.5x5 (10)  
 110148 Setscrew allen M5x4 (10)  
 110149 Screw allen countersunk M2x10 (10)

110203 Pin 3x14 (10)  
 110210 Pin 3x13 (10)  
 110211 Pin 2.5x13 (10)  
 110212 Pin 2.5x17 (10)  
 110213 Pin 2.5x10 (10)  
 110300 E-clip 2.3 (10)  
 110302 E-clip 4.0 (10)  
 110401 Washer 3.2x7 (10)  
 110402 Nut nylock M3 (10)  
 110403 Nut nylock M4 (10)  
 110405 Nut nylock M4 flanged (10)  
 411159 Screw allen countersink M3x15mm (10)  
 411160 Screw allen countersink M3x18mm (10)  
 600321 Screw set S811 (184)

### Radio Installation / Battery

1639 Collar alu + setscrew (4)  
 600106 Switch cover (2)  
 600114 Rubber cap antenna  
 600120 Throttle / brake slider set  
 600121 Brake levers / adjusters  
 600127 Throttle / steering lever set  
 600131 Balljoint set (19)  
 600138 Receiver/battery box / cover  
 600150 Radioplate carbon  
 600157 Collar double (2)  
 600162 Antenna mount set  
 600207 Rod steering servo 26mm  
 600333 Brake / Throttle links (2)  
 804181 Throttle spring (2)

### Optionals

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)  
 600153 Topdeck front carbon  
 600167 Steering rack mount  
 600169 Servosaver adjust nut  
 600170 Servosaver shaft outer  
 600173 Steering rack option 3  
 600182 Bolt steering rack (2)  
 600191 Pivotball 6mm steering (4)  
 600199 Servosaver post (2)

- 600207 Rod steering servo 26mm
- 600227 Pivot ball steering rod (2)

**Optionals**

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

**Fuel tank and parts**

- 1493 Pressure nipple M3 (4)
- 600115 Tank mounting rubber (4)
- 600116 O-ring tank (4)
- 600117 Tank cap rubber (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)
- 600159 Shock top alu (2)
- 600160 Shock body coated rear (2)
- 600161 Shock body coated front (2)
- 600179 Shock mount (2)
- 600180 Washer shock shaft (4)
- 600184 Pivotball 6.75 double (4)
- 600194 Shockshaft FR (2)
- 600195 Shockshaft RR (2)
- 600234 Shock cartridge stepped (4)
- 600235 Shock cartridge (4)
- 600317 Shockset FR/RR (2)
- 600318 Shockset FR/RR (2)
- 600319 Shock revision set (20)
- 600331 Shock boot FR/RR (4)

**Optionals**

- 600282 Shock bushing delrin (4)
- 600287 Shock spring support alu (4)
- 600306 Shock shaft FR TiNi coating (2)
- 600307 Shock shaft RR TiNi coating (2)

**Shock Springs**

- 600245 Spring set FR pink 4.8lbs (2)
- 600246 Spring set FR blue 5.0lbs (2)
- 600247 Spring set FR purple 5.2lbs (2)
- 600248 Spring set FR green 5.4lbs (2)
- 600249 Spring set FR grey 5.6lbs (2)
- 600250 Spring set FR yellow 5.8lbs (2)
- 600251 Spring set FR white 6.0lbs (2)
- 600252 Spring set RR pink 2.8lbs (2)
- 600253 Spring set RR blue 3.0lbs (2)
- 600254 Spring set RR purple 3.2lbs (2)
- 600255 Spring set RR green 3.4lbs (2)
- 600256 Spring set RR grey 3.6lbs (2)
- 600257 Spring set RR yellow 3.8lbs (2)
- 600258 Spring set RR white 4.0lbs (2)
- 600259 Spring set FR (7x2)
- 600260 Spring set RR (7x2)

**Chassis / Guards**

- 600122 Brace front/rear nylon
- 600139 Sideguard L+R
- 600140 Mudguard L+R
- 600141 Bumper
- 600154 Chassis alu 7075 T6 anodised

**Optionals**

- 600288 Chassis brace front alu
- 600289 Chassis brace rear alu

**Front Section**

- 600101 Wheelaxle clip (4)
- 600102 Driveshaft 98mm (2)
- 600107 Wheelaxle (2)
- 600108 Hingepin (2)
- 600124 Bodymount FR+RR
- 600129 Diff case front set
- 600131 Balljoint set (19)
- 600132 Suspension bracket inserts (30)
- 600135 Wishbone front L+R
- 600136 C-Hub 10 L+R
- 600137 Steeringblock L+R
- 600151 Shocktower front carbon
- 600153 Topdeck front carbon
- 600167 Steering rack mount
- 600168 Camberlink pivotball (4)
- 600174 Antirollbar nut (2)
- 600176 Suspension bracket alu FR RR std
- 600177 Suspension bracket alu FR FR std
- 600178 Shim conical M3x7.5x1 (10)
- 600182 Bolt steering rack (2)
- 600183 Bushing suspension arm (4)
- 600185 Pivotball 7.5 double (4)
- 600186 Track rod M4x51 (2)
- 600187 Track rod M5x46 (2)
- 600190 Pin steeringblock (4)
- 600192 Pivotball antirollbar (2)
- 600193 Pivotball threaded antirollbar (2)
- 600197 Driveshaft insert (2)
- 600222 Wheelnut 17mm (4)
- 600223 Wheelhexagon (4)
- 600224 Bolt shock (4)
- 600225 Droop screw (4)
- 600241 Antiroll bar front 2.5mm
- 600261 Socket screw M3x8 (6)
- 600326 Special screw fr wishbone (4)
- 903343 Antirollbar Spacer 3mm (2)

**Optionals**

- 600240 Antiroll bar front 2.3mm
- 600242 Antiroll bar front 2.7mm
- 600263 Washer M3 alu (12)
- 600264 Wheelaxle alu (2)
- 600268 C-Hub 12 L+R
- 600269 Track rod M5x46 titanium (2)
- 600271 Track rod M4x51 titanium (2)
- 600273 Shock mount titanium (2)
- 600274 Wheelhexagon light -2mm (2)
- 600275 Wheelhexagon light -1mm (2)
- 600276 Wheelhexagon light -0mm (2)
- 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



- 600305 Steering block L+R alu
- 600309 Antiroll bar shaft FR
- 600311 Antiroll bar wire 1.8mm (2)
- 600312 Antiroll bar wire 2mm (2)
- 600313 Antiroll bar wire 2.1mm (2)
- 600314 Antiroll bar wire 2.3mm (2)
- 600315 Antiroll bar wire 2.5mm (2)
- 600316 Antiroll bar wire 2.7mm (2)

#### **Middle Section**

- 600100 Exhaust mounting wire (2)
- 600103 Driveshaft center front
- 600104 Driveshaft center rear
- 600119 Center diff holder parts (3)
- 600131 Balljoint set (19)
- 600148 Diskbrake front fibreglass
- 600149 Diskbrake rear fibreglass
- 600164 Brake excenter (2)
- 600165 Brake lever insert (2)
- 600166 Exhaust mount alu
- 600181 Bolt brake plate (4)
- 600196 Gear coupler steel
- 600197 Driveshaft insert (2)
- 600198 Spurgear 46T
- 600203 Brake plate (4)
- 600205 Shim 13x16x0.2 (10)
- 600208 Brake spring (4)
- 600221 Engine mount (2)
- 600226 Brake piston solid (2)
- 600236 Airfilter boot
- 600243 Airfilter + foam

#### **Optionals**

- 600226 Brake piston solid (2)
- 600279 Spur gear 44T
- 600280 Spur gear 48T
- 600281 Brake piston /spring ( 2/2/2)
- 600286 Center diff holder alu (2)
- 600299 Engine monomount-set alu

#### **Rear Section**

- 600101 Wheelaxle clip (4)
- 600102 Driveshaft 98mm (2)
- 600107 Wheelaxle (2)
- 600108 Hingepin (2)
- 600124 Bodymount FR+RR
- 600125 Upright L+R
- 600126 Washer/nut nylon M3 (12+15)
- 600130 Diff case rear set
- 600131 Balljoint set (19)
- 600132 Suspension bracket inserts (30)
- 600133 Wing mount set
- 600134 Wishbone rear L+R
- 600143 Wing white nylon
- 600152 Shocktower rear carbon
- 600155 Suspension bracket RR RR 3
- 600156 Suspension bracket RR FR 2
- 600168 Camberlink pivotball (4)
- 600174 Antirollbar nut (2)
- 600178 Shim conical M3x7.5x1 (10)
- 600185 Pivotball 7.5 double (4)
- 600188 Track rod M5x53 (2)
- 600189 Hingepin RR outer (2)
- 600192 Pivotball antirollbar (2)
- 600193 Pivotball threaded antirollbar (2)

- 600197 Driveshaft insert (2)
- 600204 Bolt transmission brace rear (2)
- 600222 Wheelnut 17mm (4)
- 600223 Wheelhexagon (4)
- 600224 Bolt shock (4)
- 600225 Droop screw (4)
- 600237 Antiroll bar rear 2.3mm
- 600261 Socket screw M3x8 (6)
- 903343 Antirollbar spacer 3mm (2)

#### **Optionals**

- 600238 Antiroll bar rear 2.5mm
- 600239 Antiroll bar rear 2.7mm
- 600264 Wheelaxle alu (2)
- 600265 Suspension bracket RR FR 2.5 - 4.5
- 600266 Suspension bracket RR RR HR 3
- 600267 Suspension bracket RR RR LR 3
- 600270 Track rod M5x53 titanium (2)
- 600273 Shock mount titanium (2)
- 600274 Wheelhexagon light -2mm (2)
- 600275 Wheelhexagon light -1mm (2)
- 600276 Wheelhexagon light -0mm (2)
- 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)
- 600302 Upright L+R alu
- 600308 Suspension bracket RR FR 2.5 - 4.5
- 600310 Antiroll bar shaft RR
- 600311 Antiroll bar wire 1.8mm (2)
- 600312 Antiroll bar wire 2mm (2)
- 600313 Antiroll bar wire 2.1mm (2)
- 600314 Antiroll bar wire 2.3mm (2)
- 600315 Antiroll bar wire 2.5mm (2)
- 600316 Antiroll bar wire 2.7mm (2)
- 600263 Washer M3 alu (12)

#### **Differential**

- 600110 O-ring diff outdrive (10)
- 600144 Diff housing
- 600147 Diff gasket (3)
- 600198 Spurgear 46T
- 600200 Diff outdrive (2)
- 600201 Diff gear 43T
- 600202 Diff gear 10T + 20T (4+2)
- 600209 Diff pin 10T (2)
- 600210 Diff pin outdrive (2)
- 600211 Diff pinion 10T
- 600323 Diff FR / RR
- 600324 Diff Center 46T
- 600325 Diff uni
- 600213 Shim 6x11.75x0.2 (10)
- 600214 Shim 3.5x12x0.2 (10)
- 600215 Shim 8x11x0.2 (10)
- 600212 Shim 14x15.5x0.65 (10)

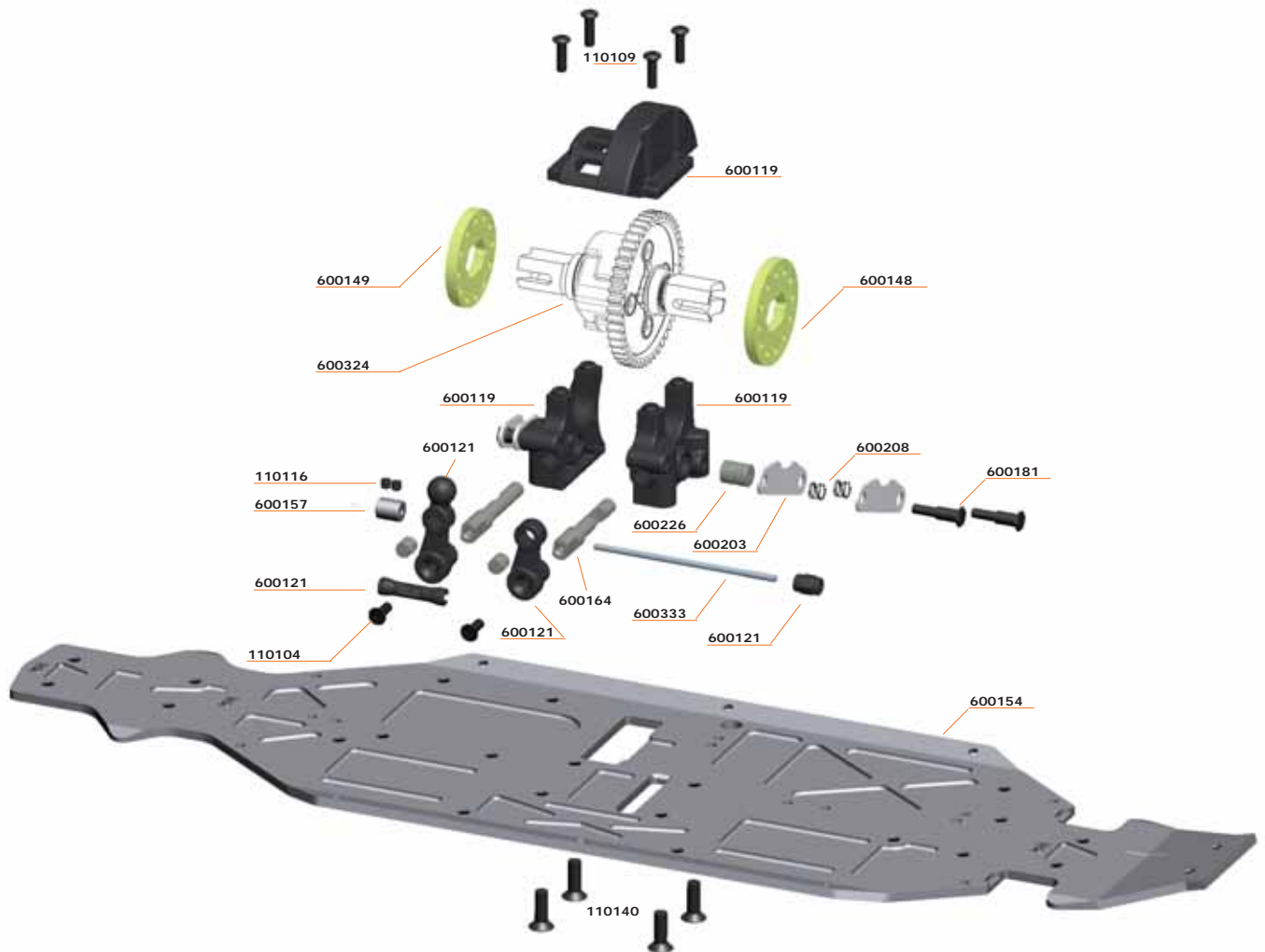
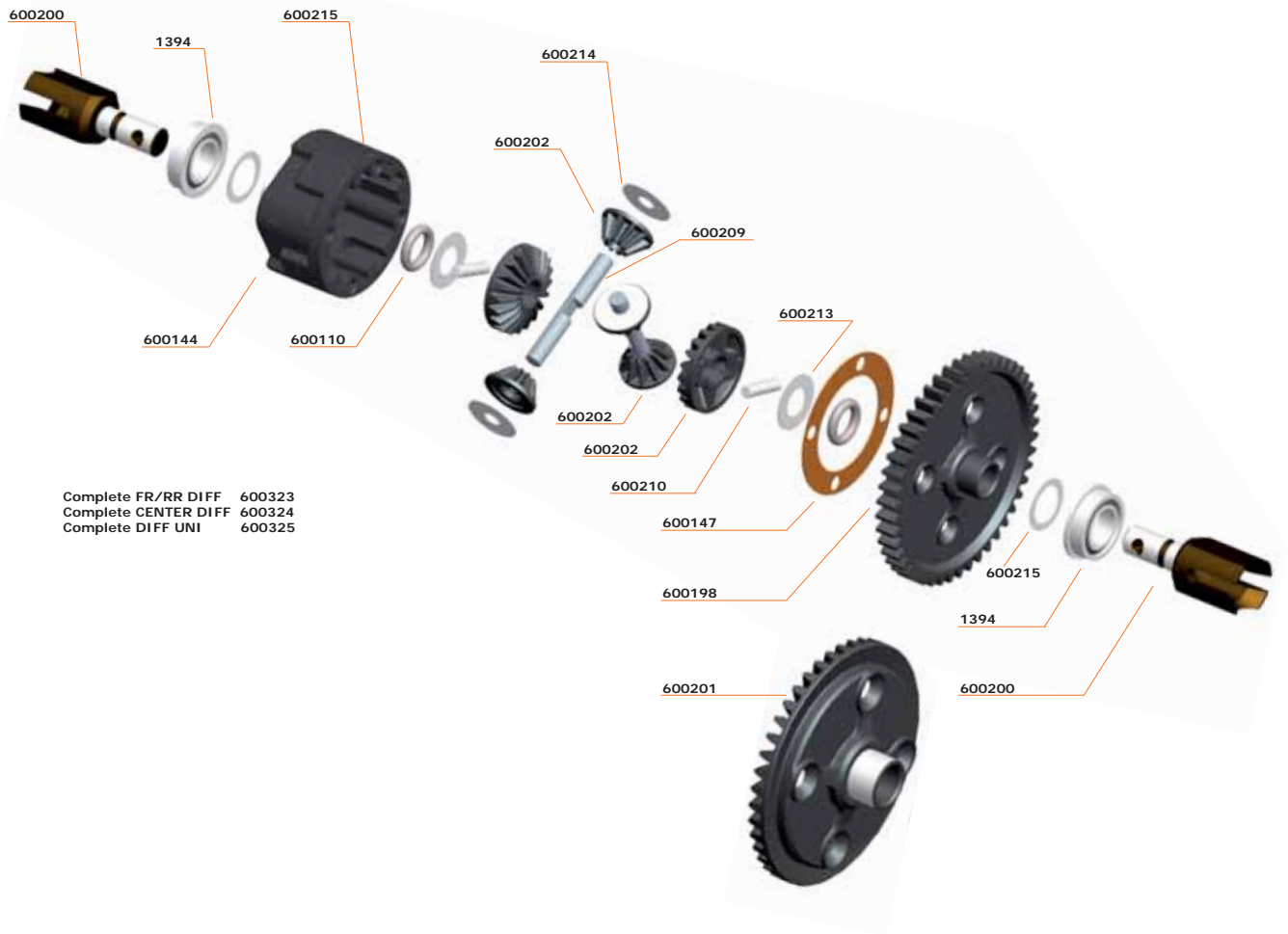
#### **Optionals**

- 600283 Diff pin 10T alu (2)

#### **Clutch**

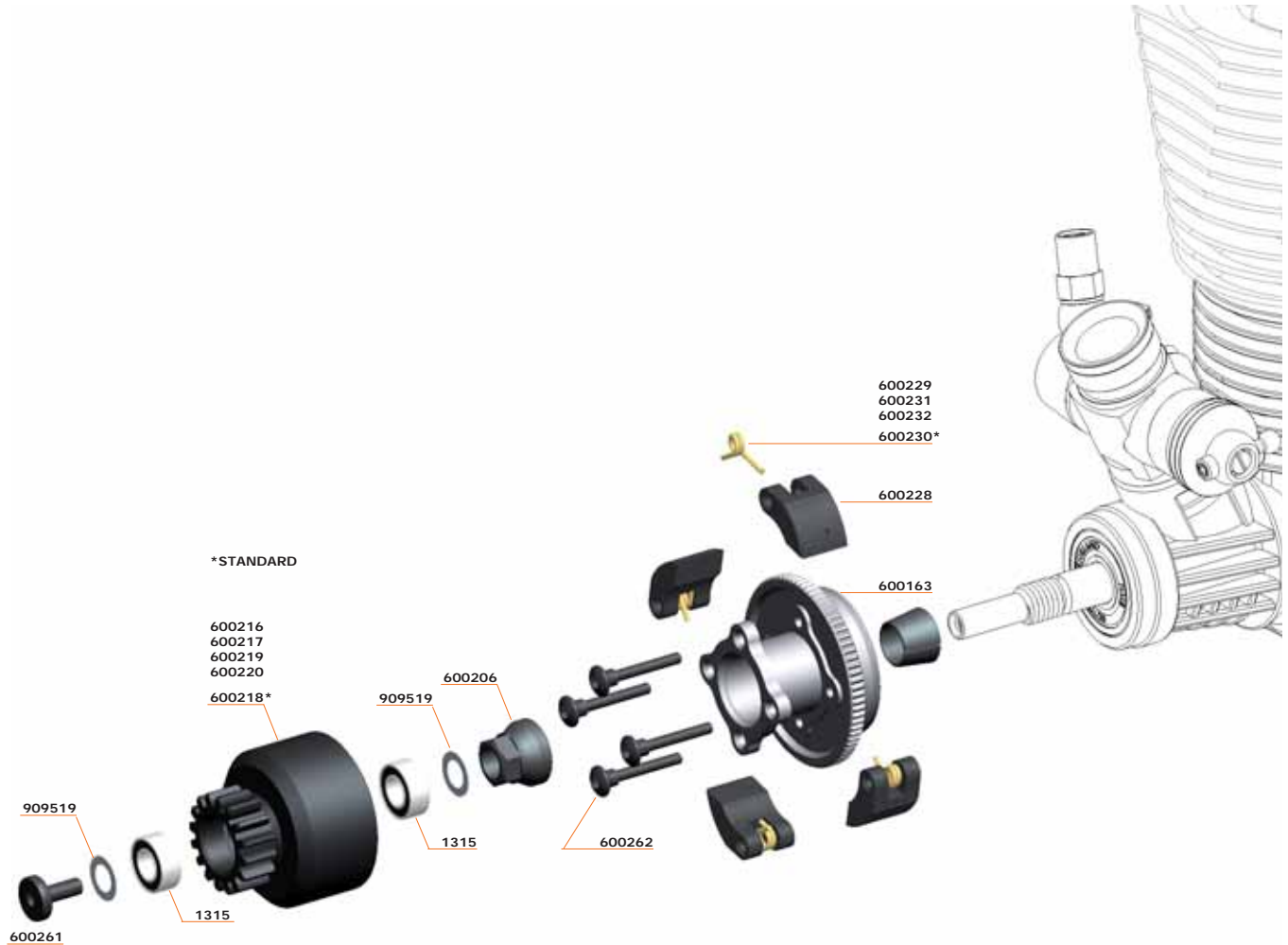
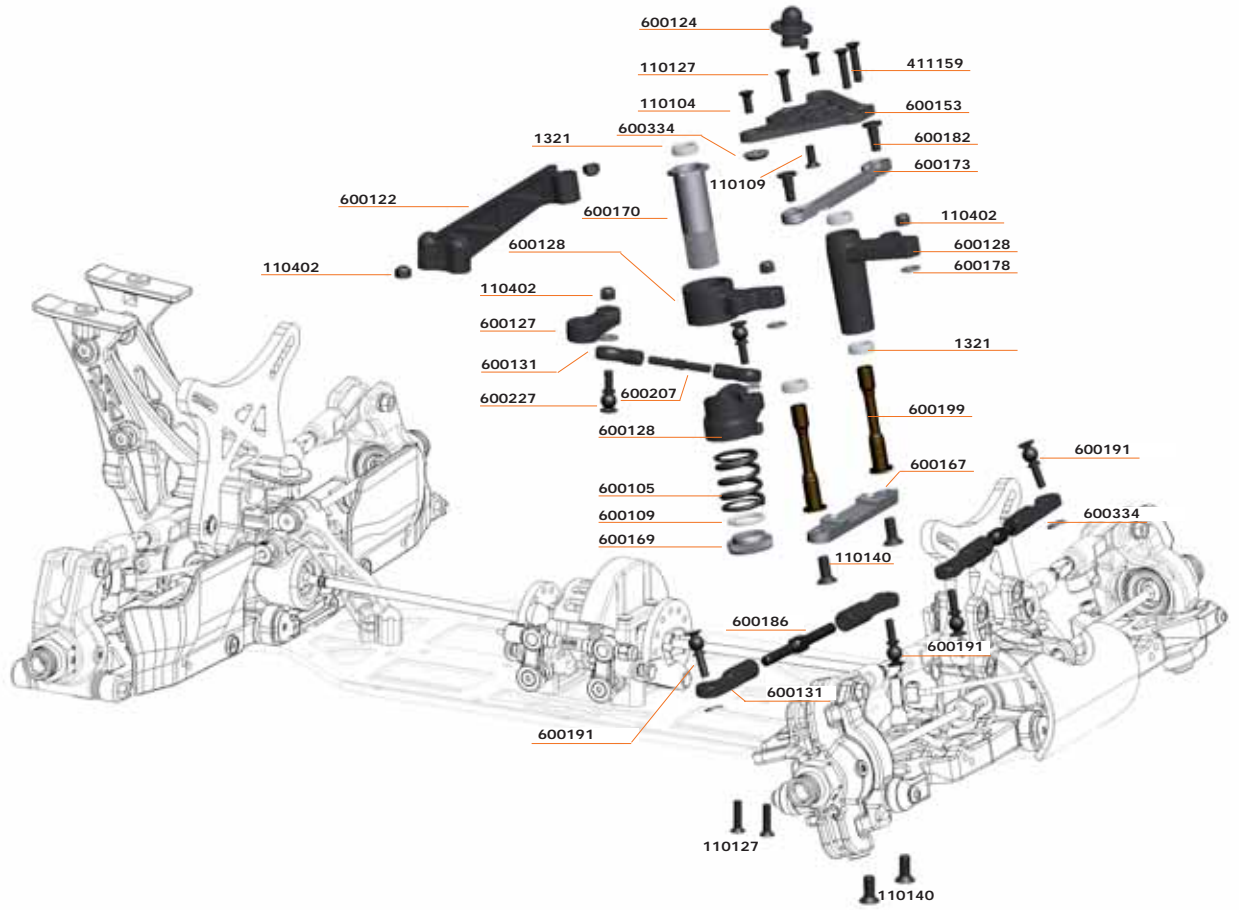
- 600163 Flywheel alu
- 600206 Clutch nut (2)
- 600218 Clutch bell 15T
- 600228 Clutch shoe carbon (4)
- 600230 Clutch spring medium (4)

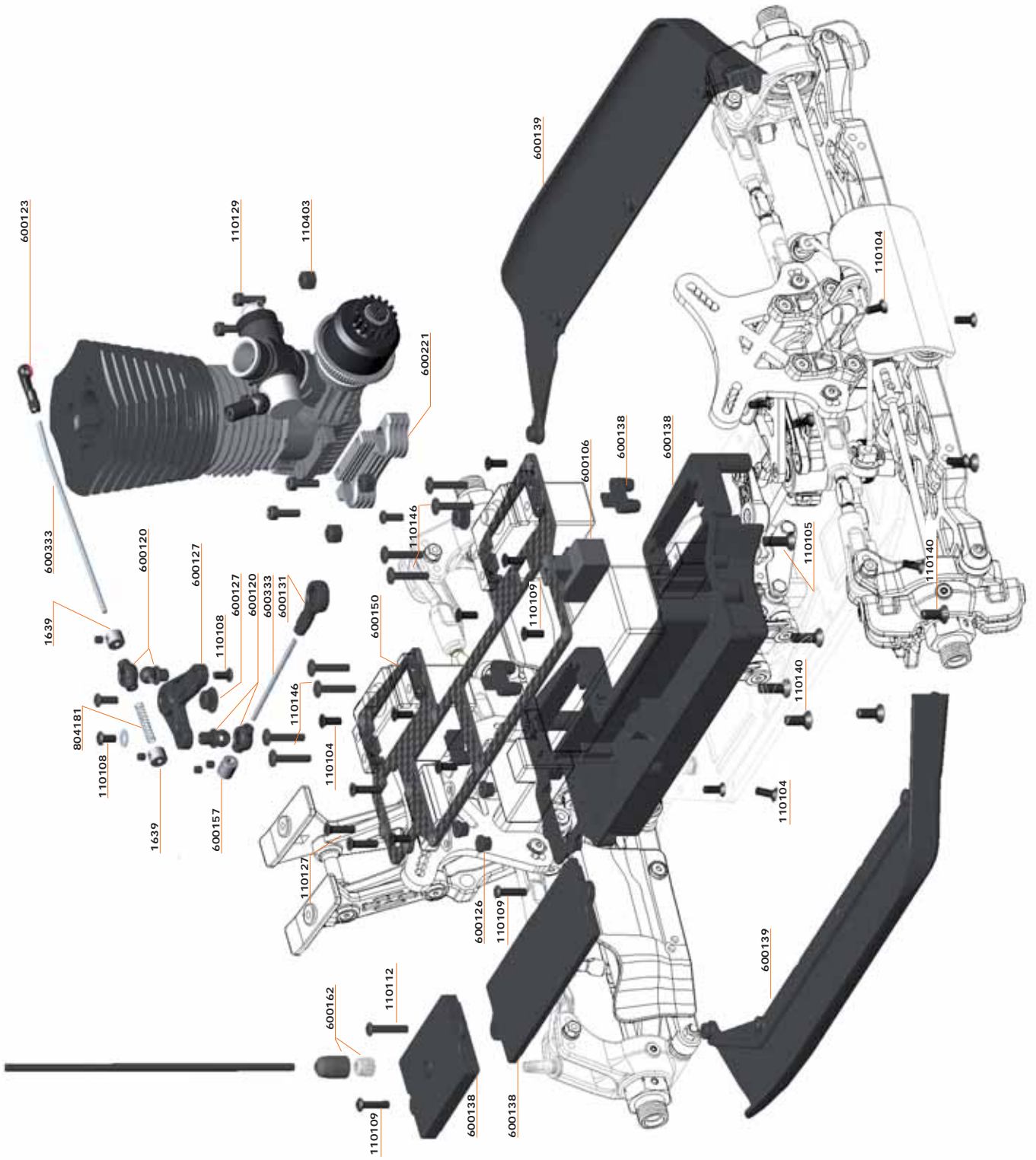


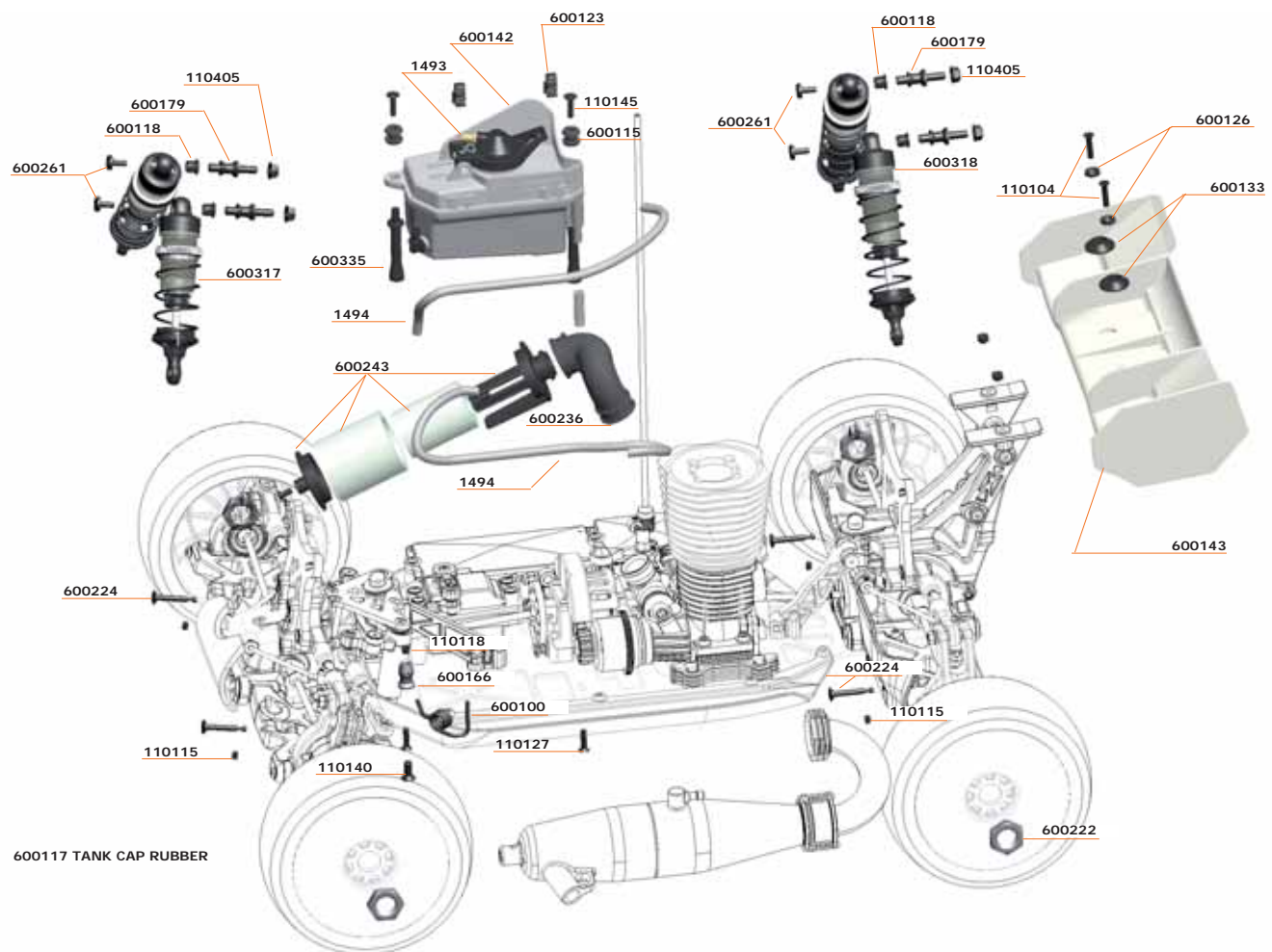
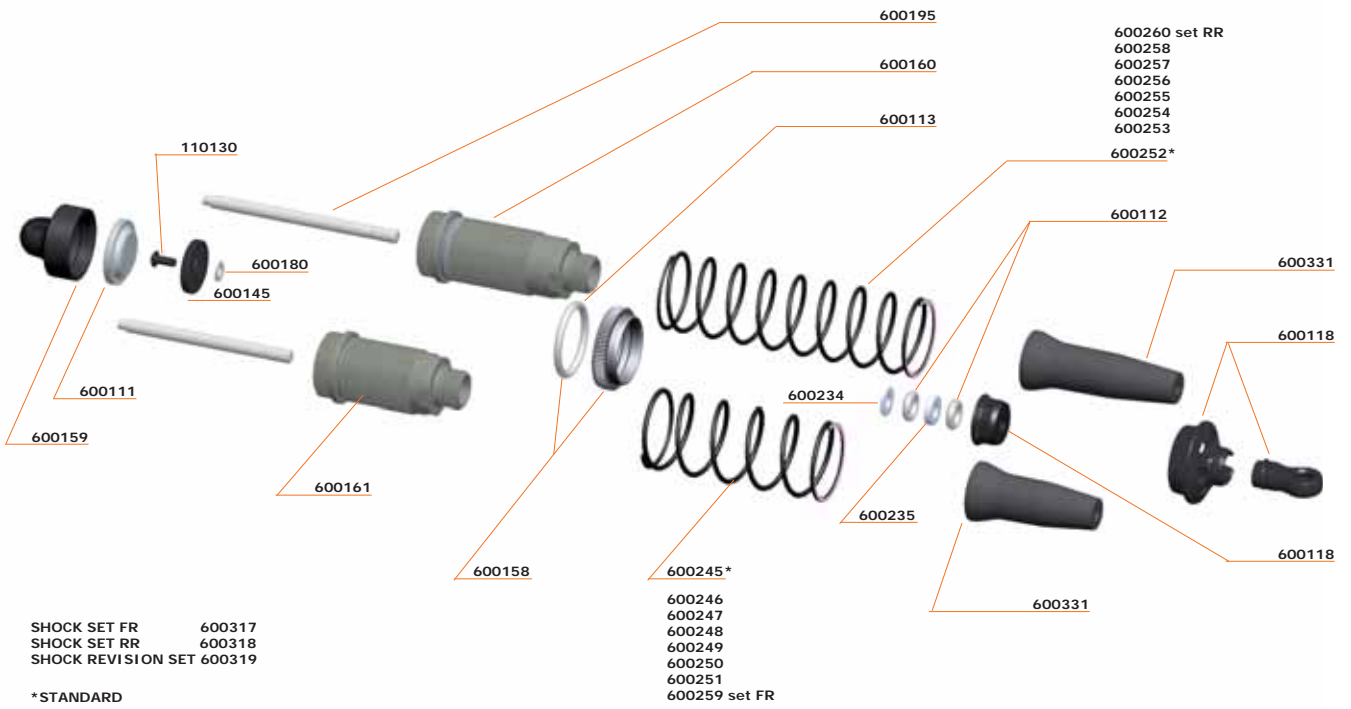


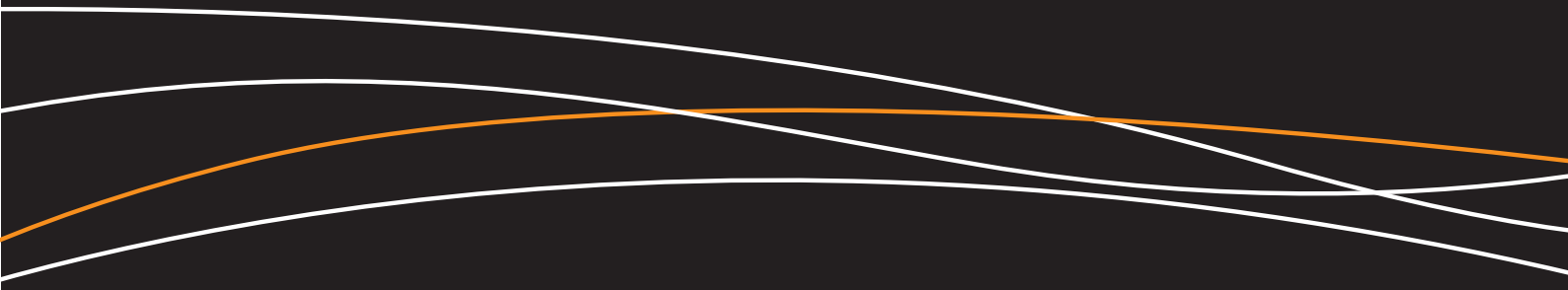












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