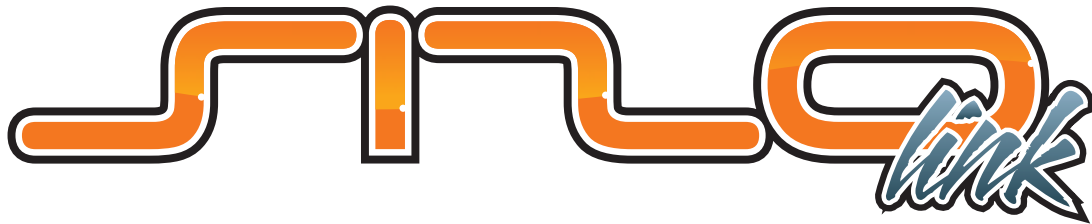




INSTRUCTION MANUAL  
& REFERENCE GUIDE



## INTRODUCTION

Serpent created this racing car for the competitive electric 1/12th scale pan car class as the S120-L, which like all our previous cars, has been designed to win straight from the box. Featuring a number of truly innovative features such as a nicely shaped aluminium rear pod, floating horizontal damper, shaped side-links, easy adjustment and top quality materials throughout, the S120-L should see you in the winners circle in no time. In fact everything associated with this car is of the highest quality, from the packaging and supplied manuals, right through to the product and race support.

## INSTRUCTIONS

Serpent's long tradition of excellence extends to their 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 racecar that will soon be able to unleash its full potential at the racetrack.

## SETUP

In certain assembly steps you need to make basic adjustments, which will give you a good initial setup for your Serpent S120-L. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your S120-L.

## EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent S120-L are presented in the Reference Guide section 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 S120-L 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.

# SERPENT.COM

The printed instruction manual included with your Serpent S120-L 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 S120-L is accessible from the Serpent S120-L product page found on Serpent.com and can be accessed by simply typing

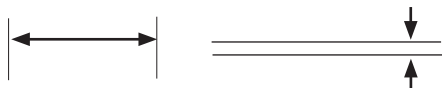
**serpent.com/410003** into your web browsers address bar. From the Serpent S120-L product page you will find the very latest information about your Serpent S120-L: reports by team drivers and other experts, tips and tricks, setups, image gallery and downloadable files including the latest version of the instruction manual will be made available as downloadable PDF files.

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REFERENCE GUIDE	30
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# USING THE MANUAL

①



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

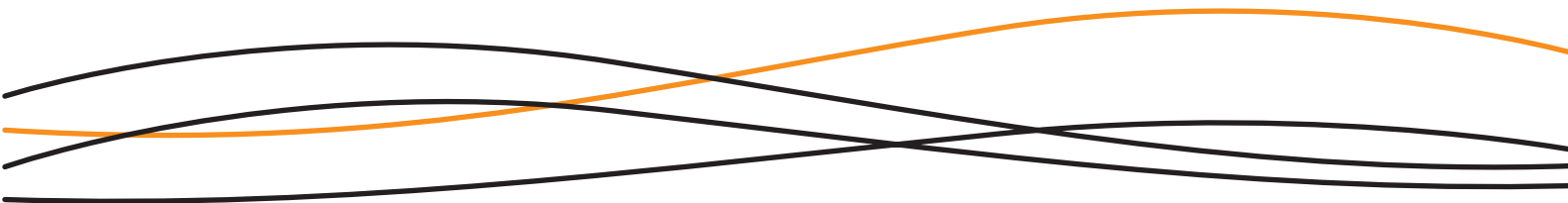
Press/Insert one item into another

Connect one item to another



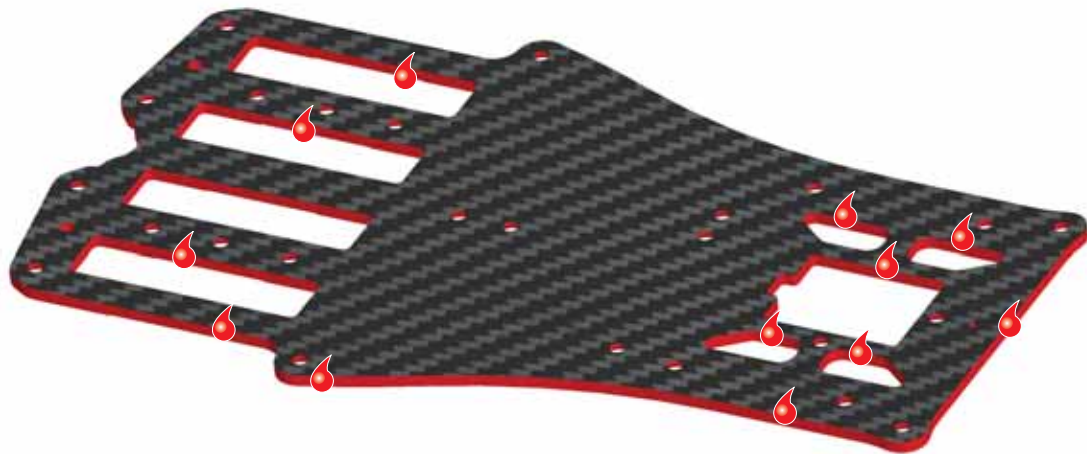
Apply transmission grease (Grey), threadlock\* (Blue), CA glue\* (Red) or differential grease (Orange). (\*Items not included.)

# ASSEMBLY INSTRUCTIONS

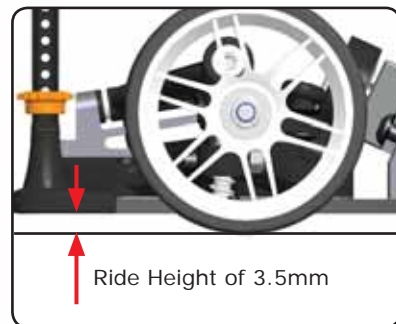
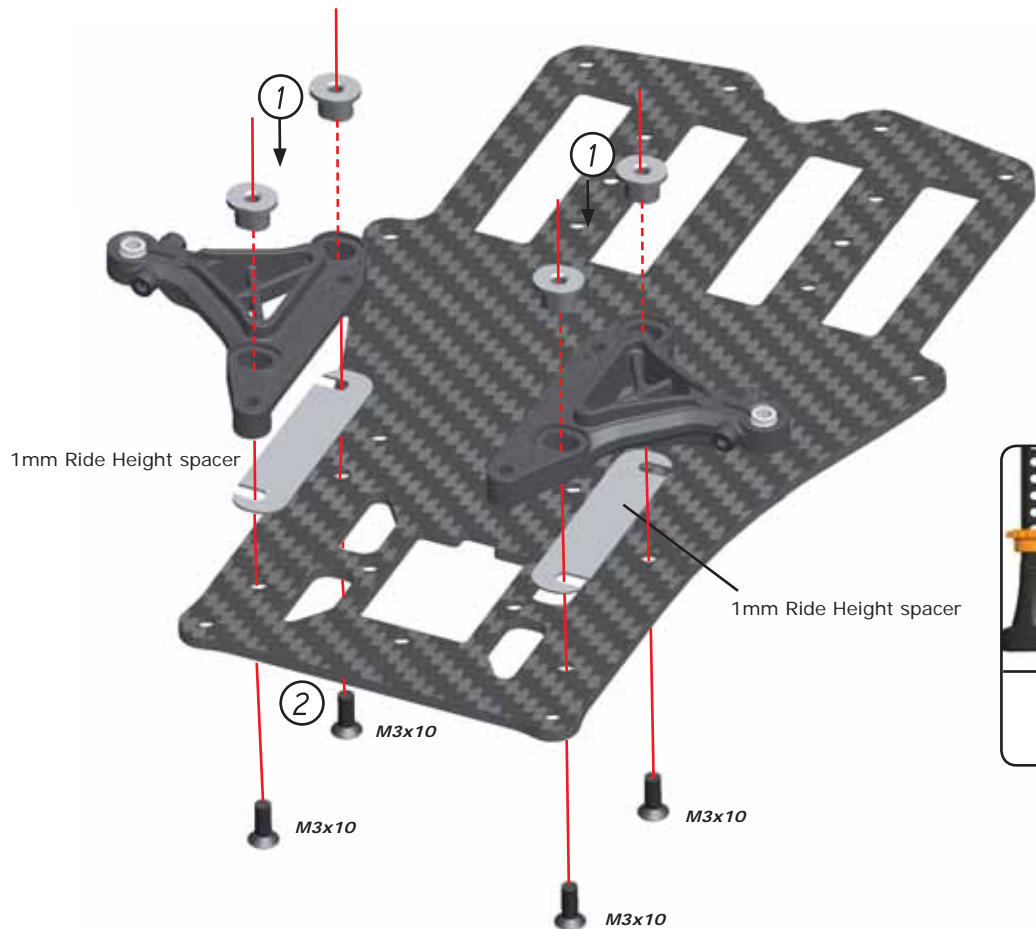




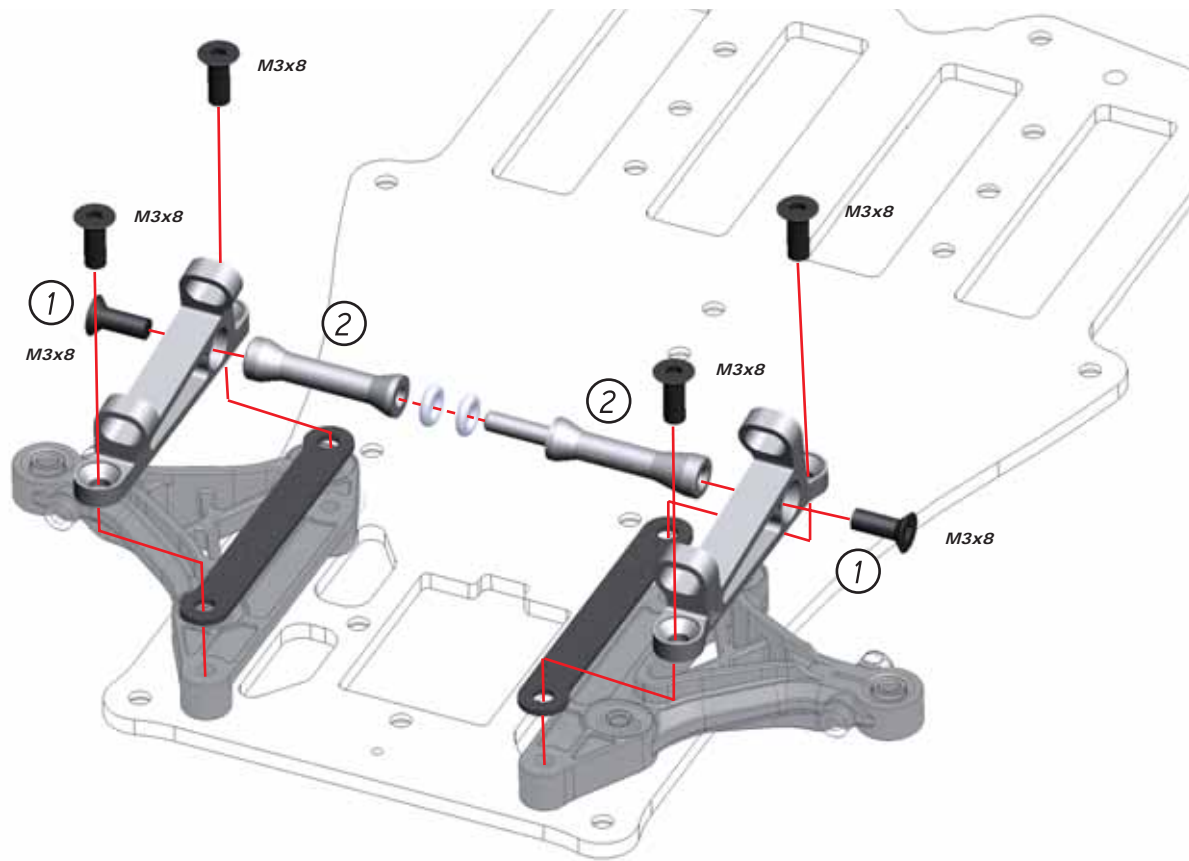
To prevent the risk of the carbon fibre splitting in the event of a crash you should apply CA Glue around the chassis' edge and battery slots as shown in red below.

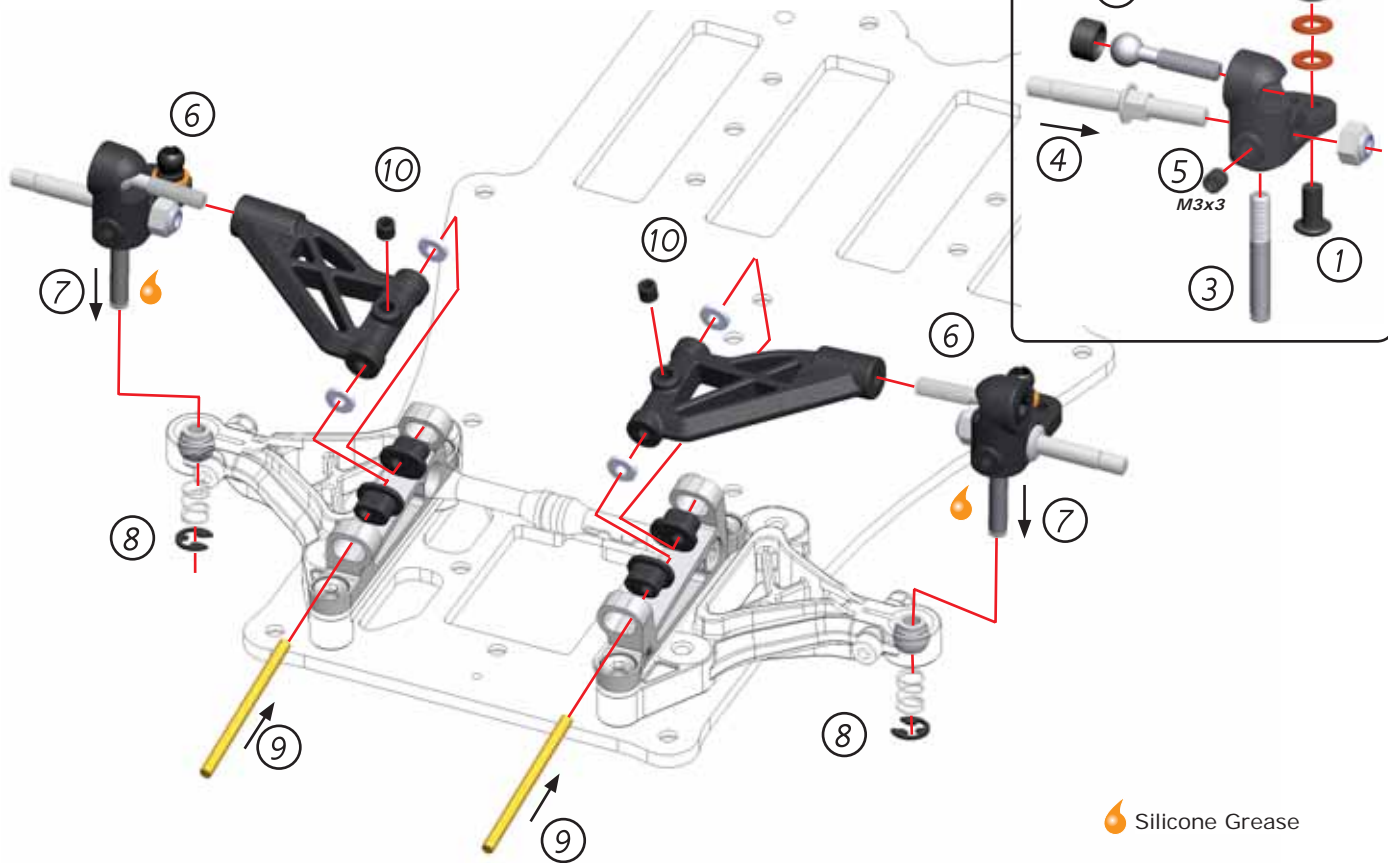


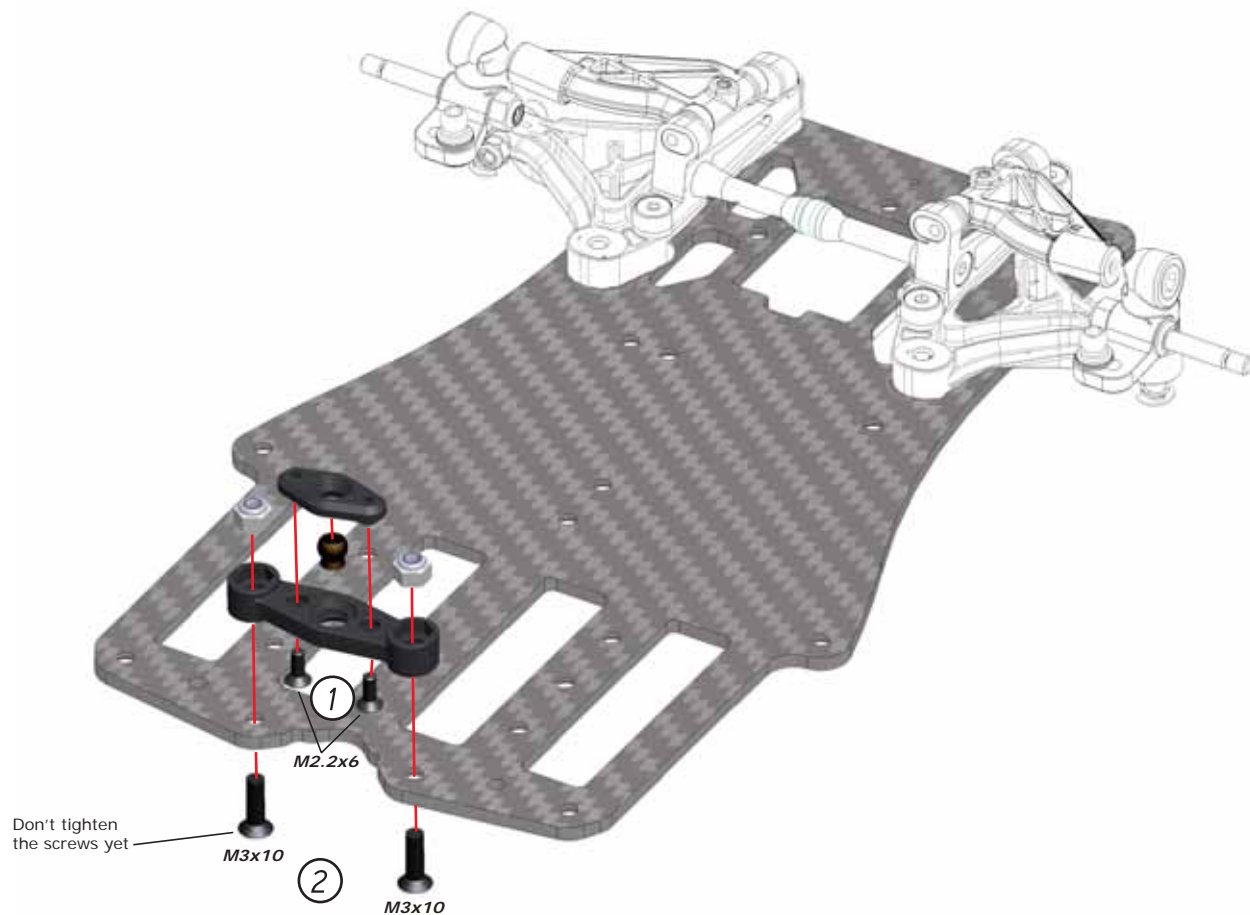


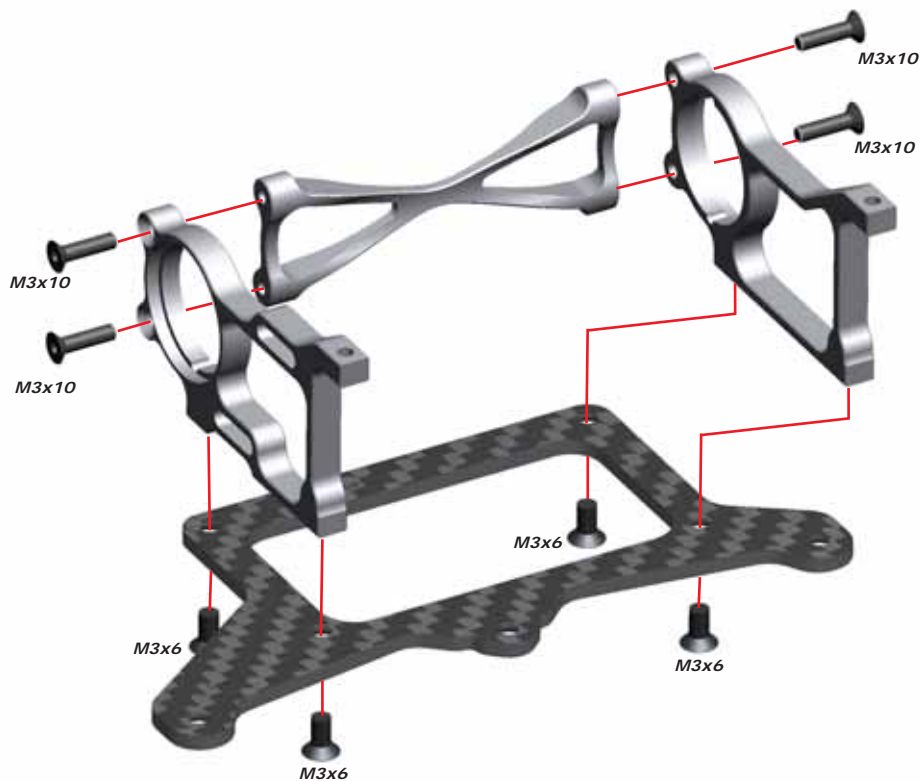


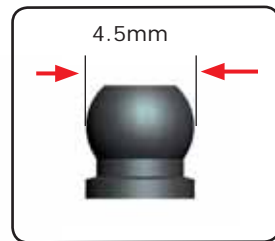
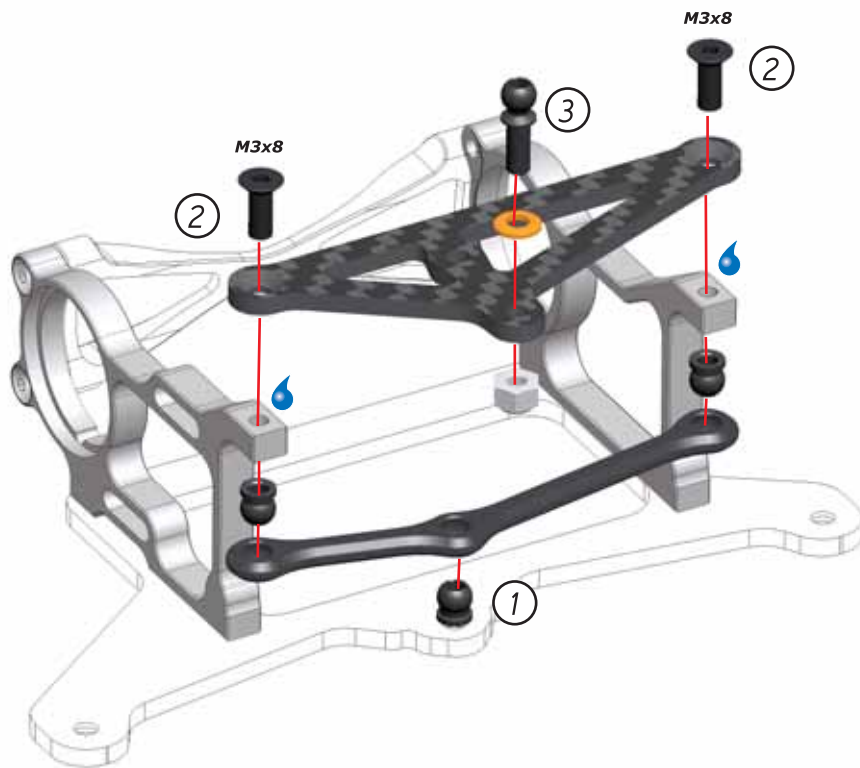


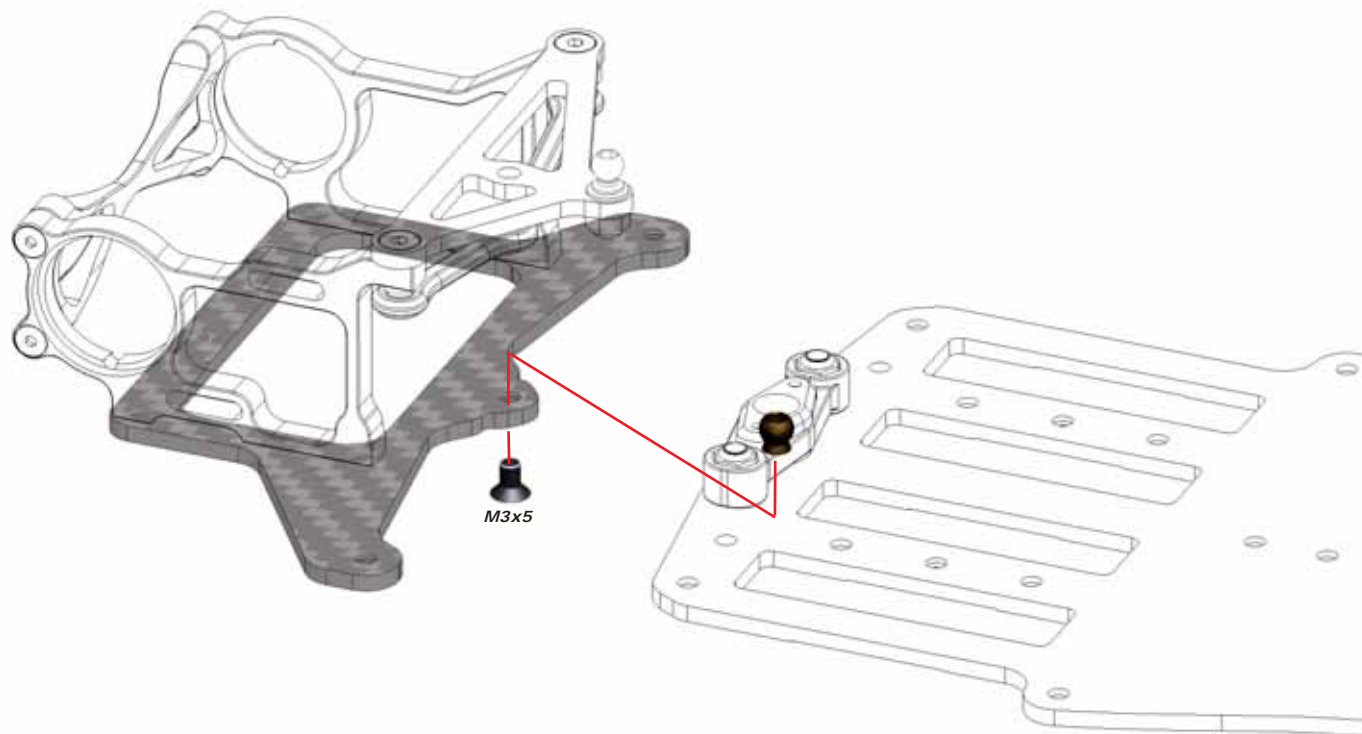


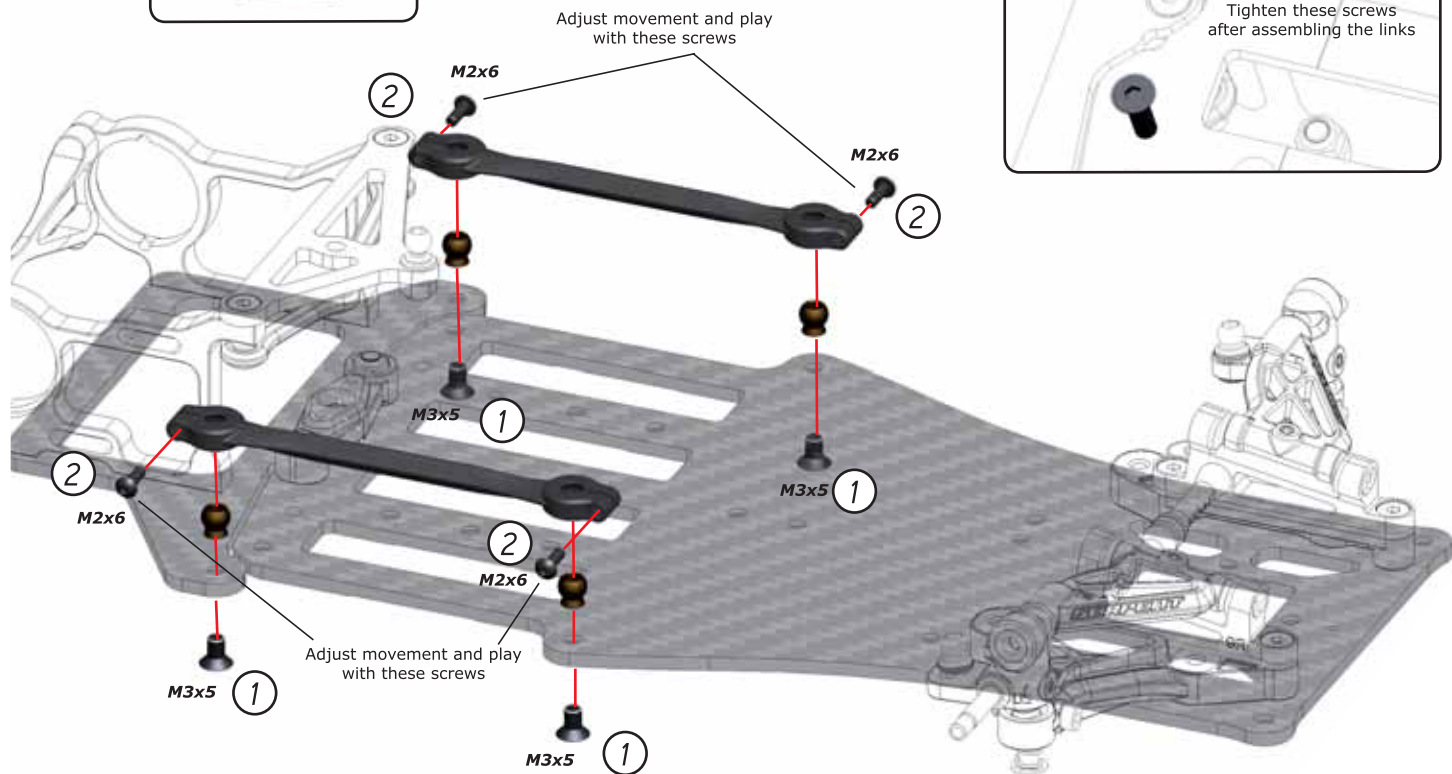
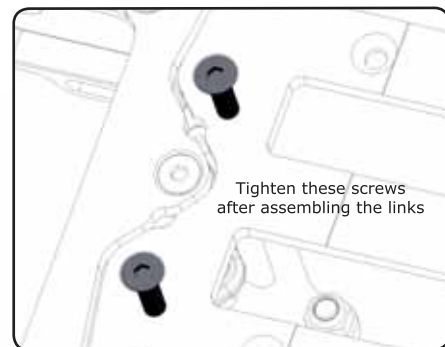
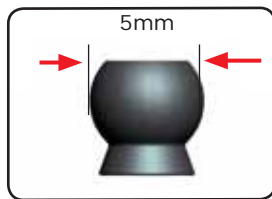




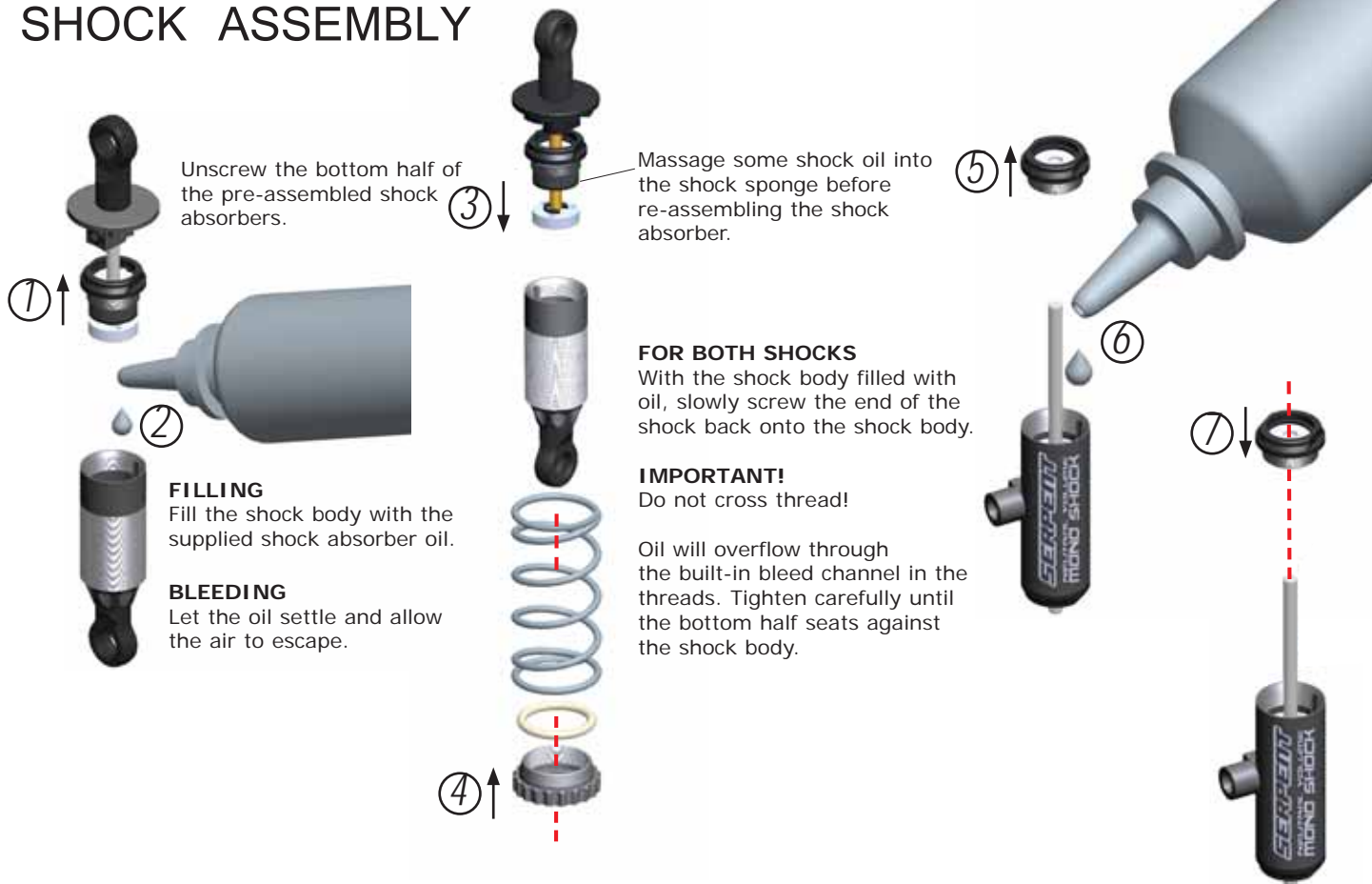




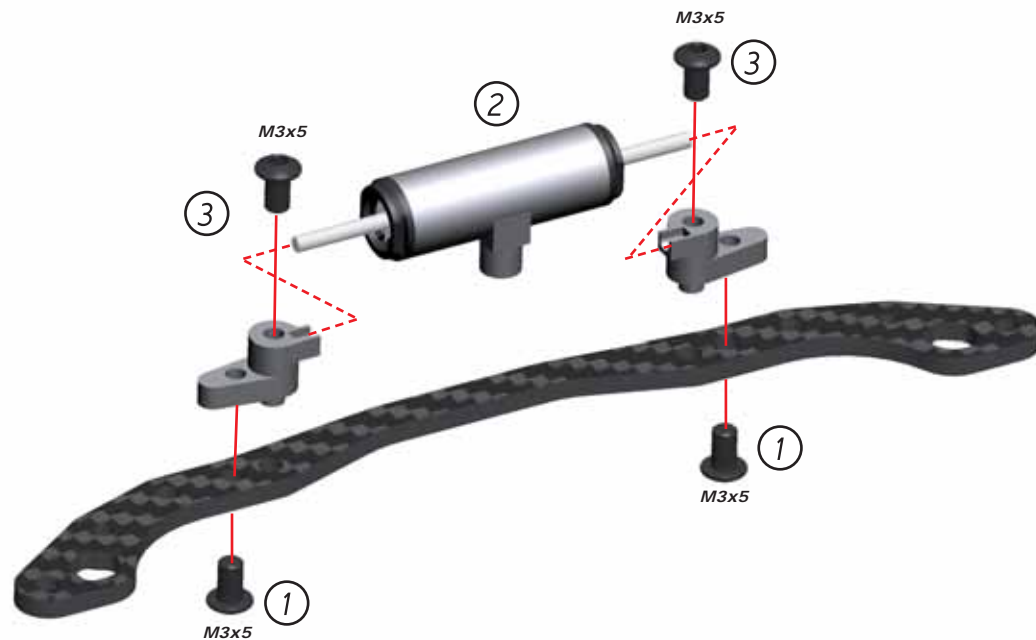


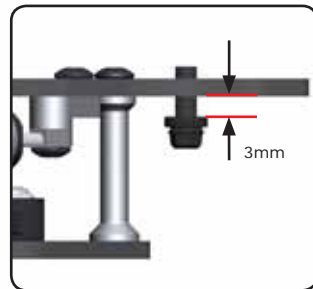
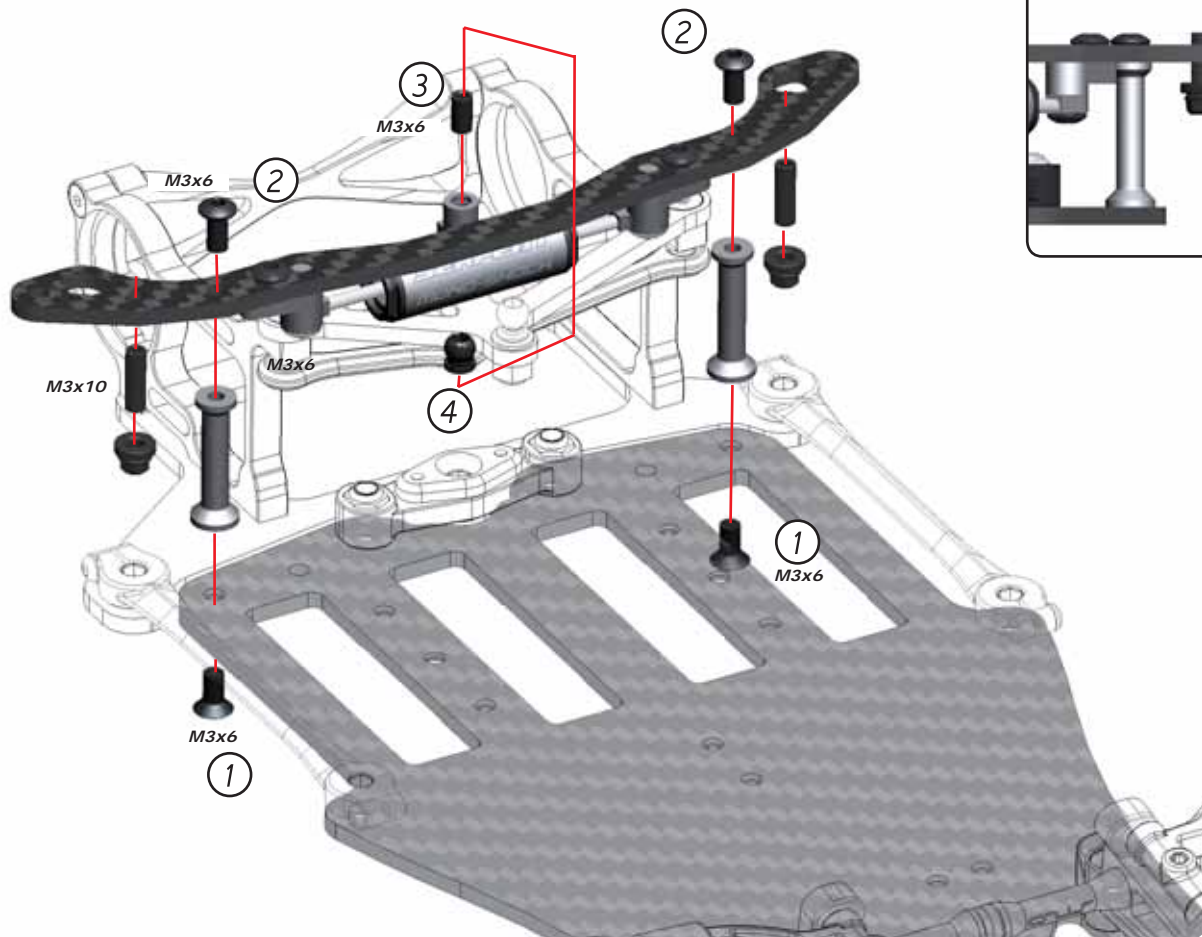


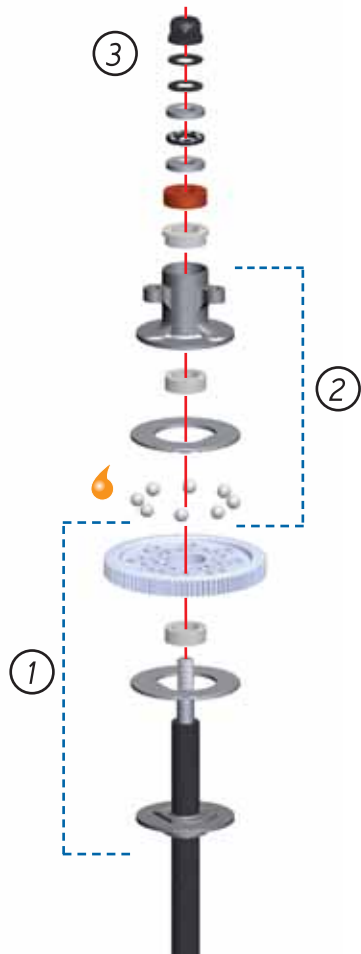
## SHOCK ASSEMBLY



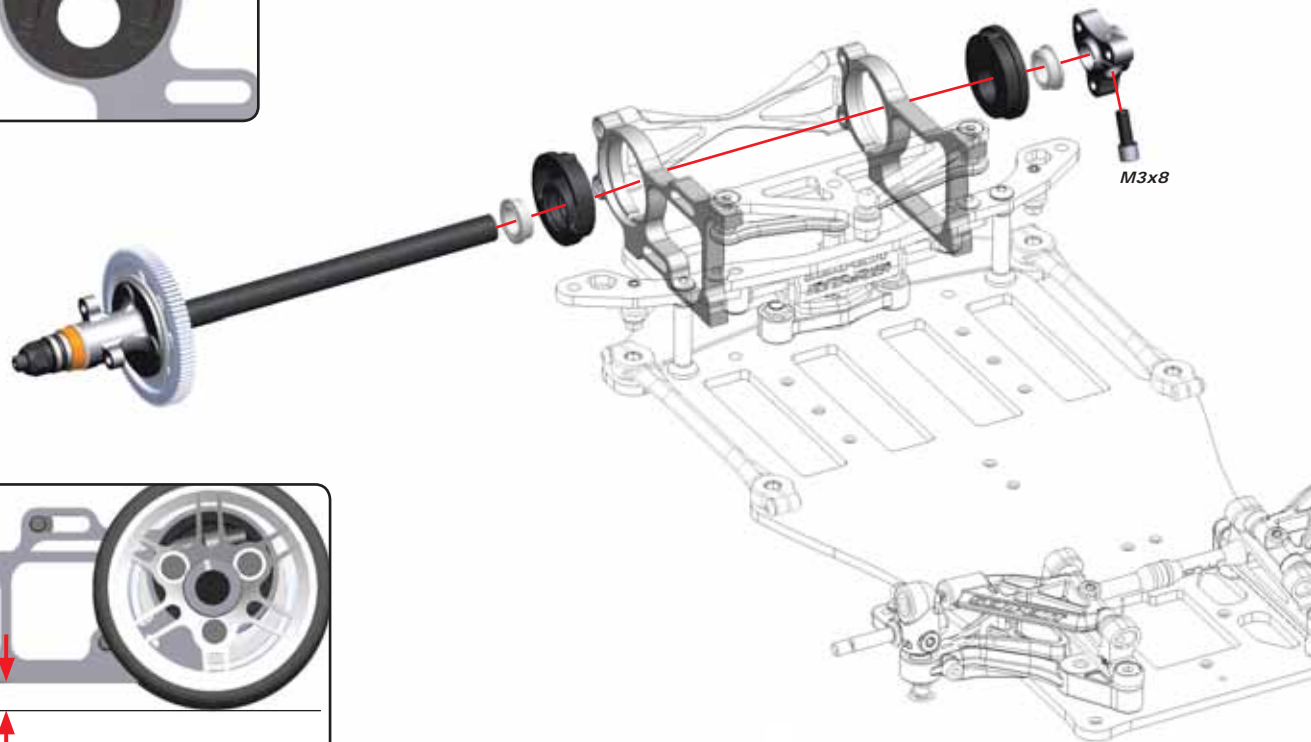








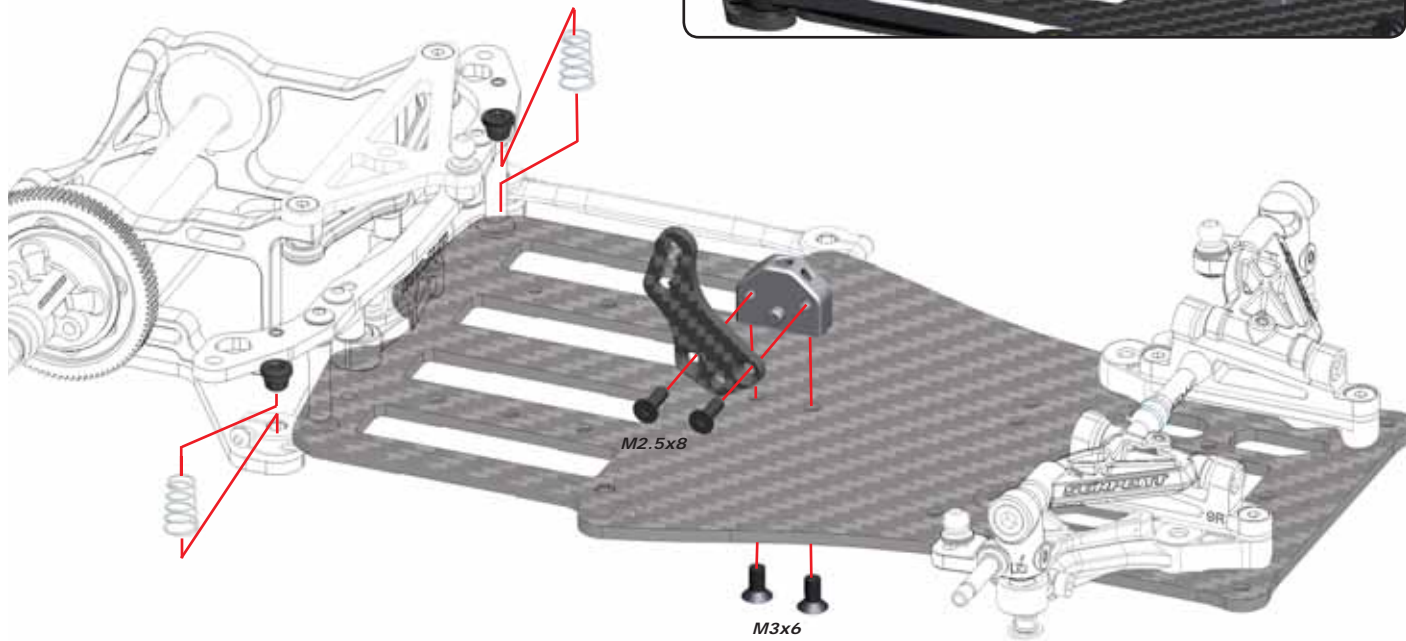
Note Insert orientation

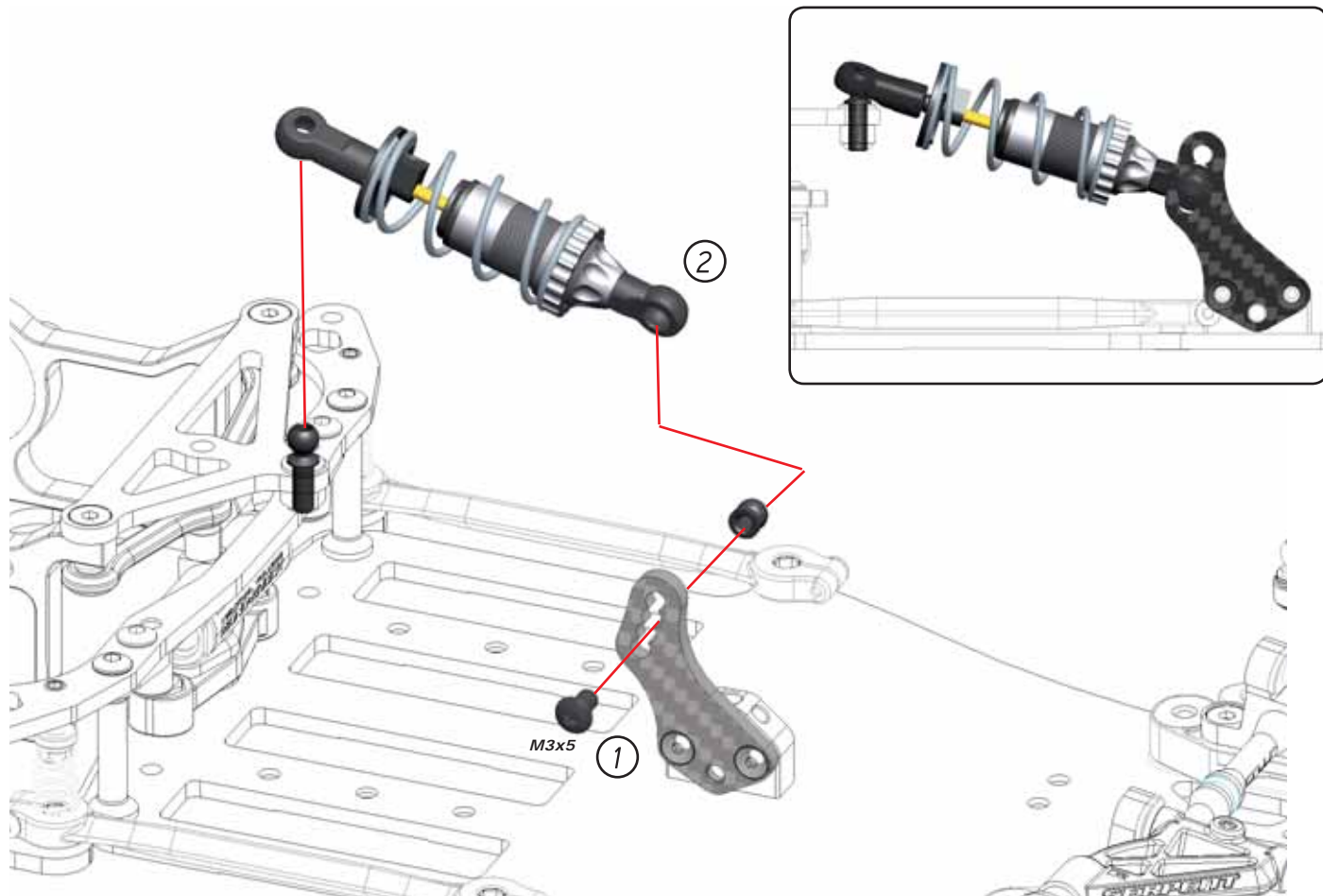


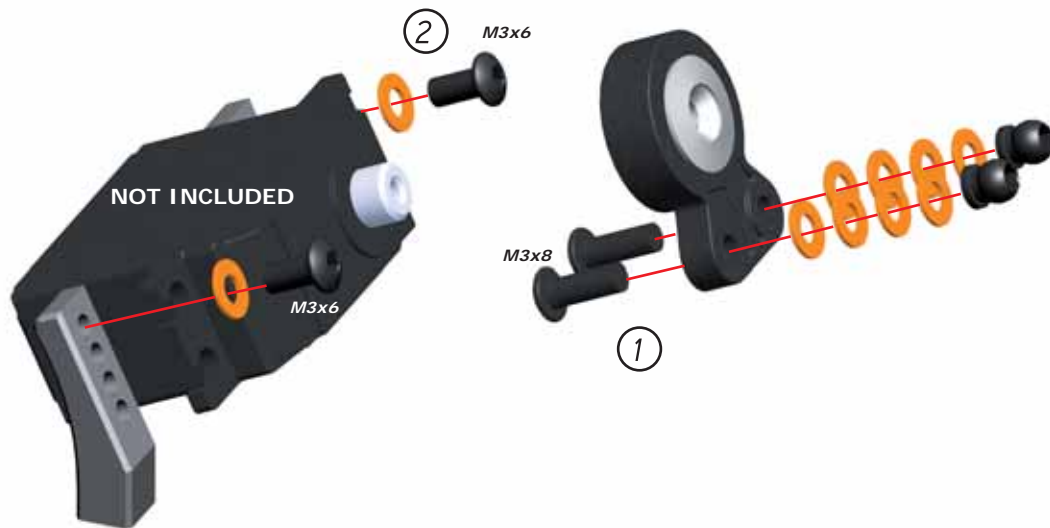
M3x8



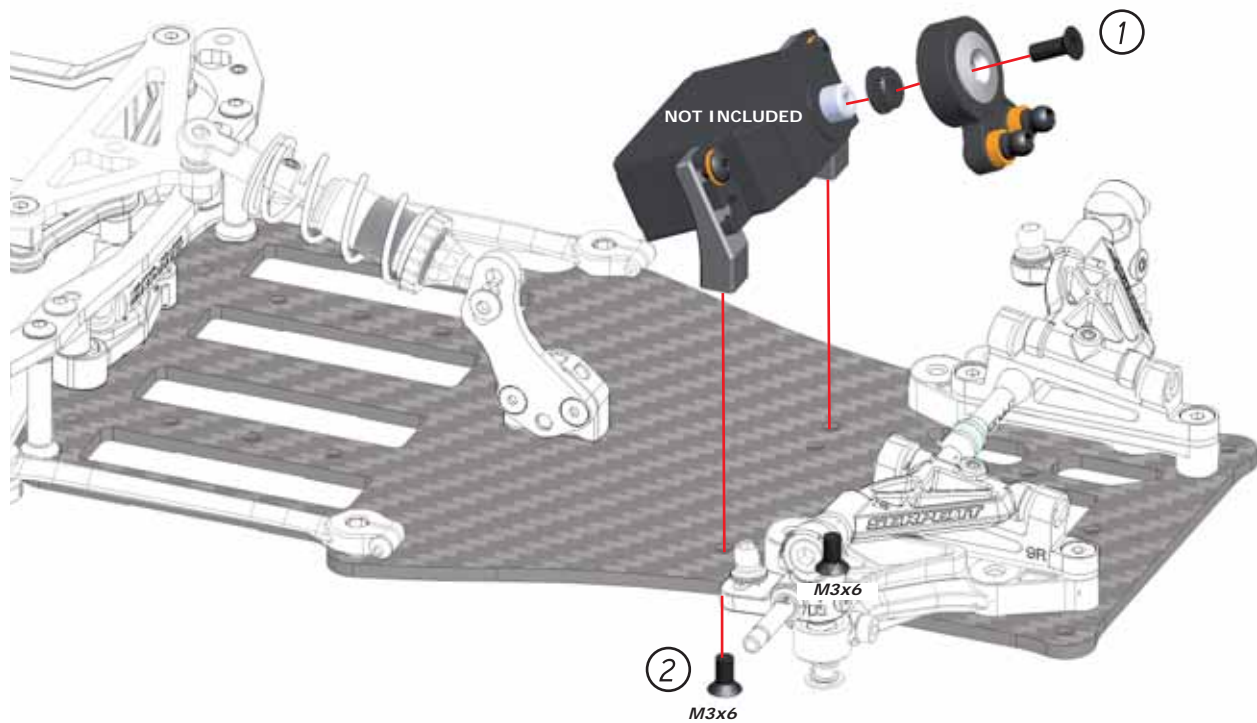
Ride Height of 3.5-4mm



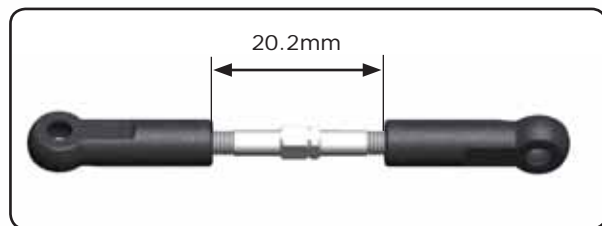
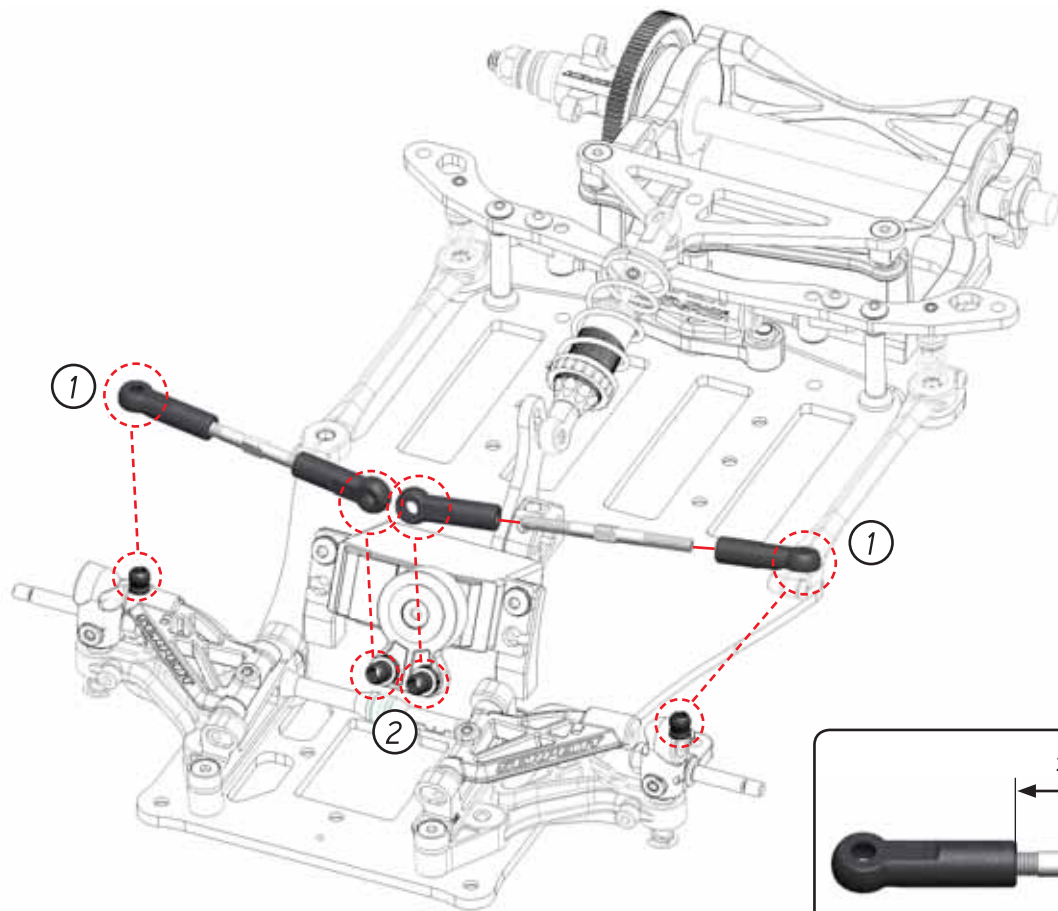


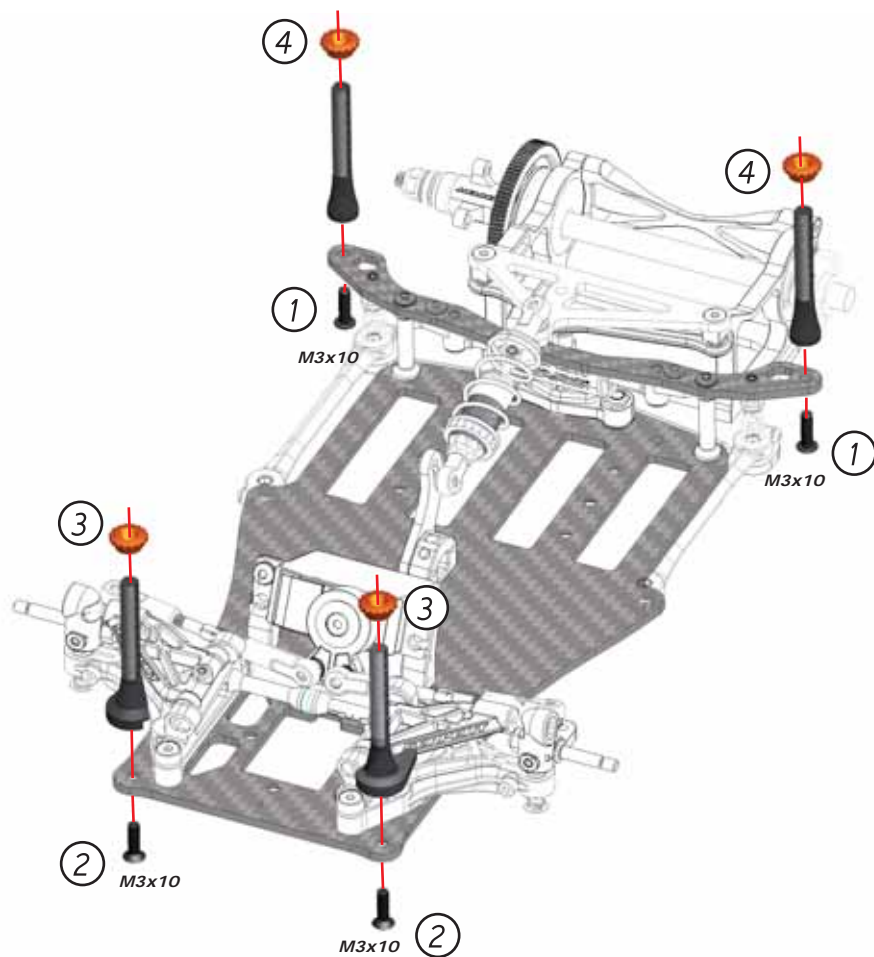


Use the following servo saver  
insert with these brands of servos.  
23 - Sanwa / KO / JR  
24 - Hitec  
25 - Futaba







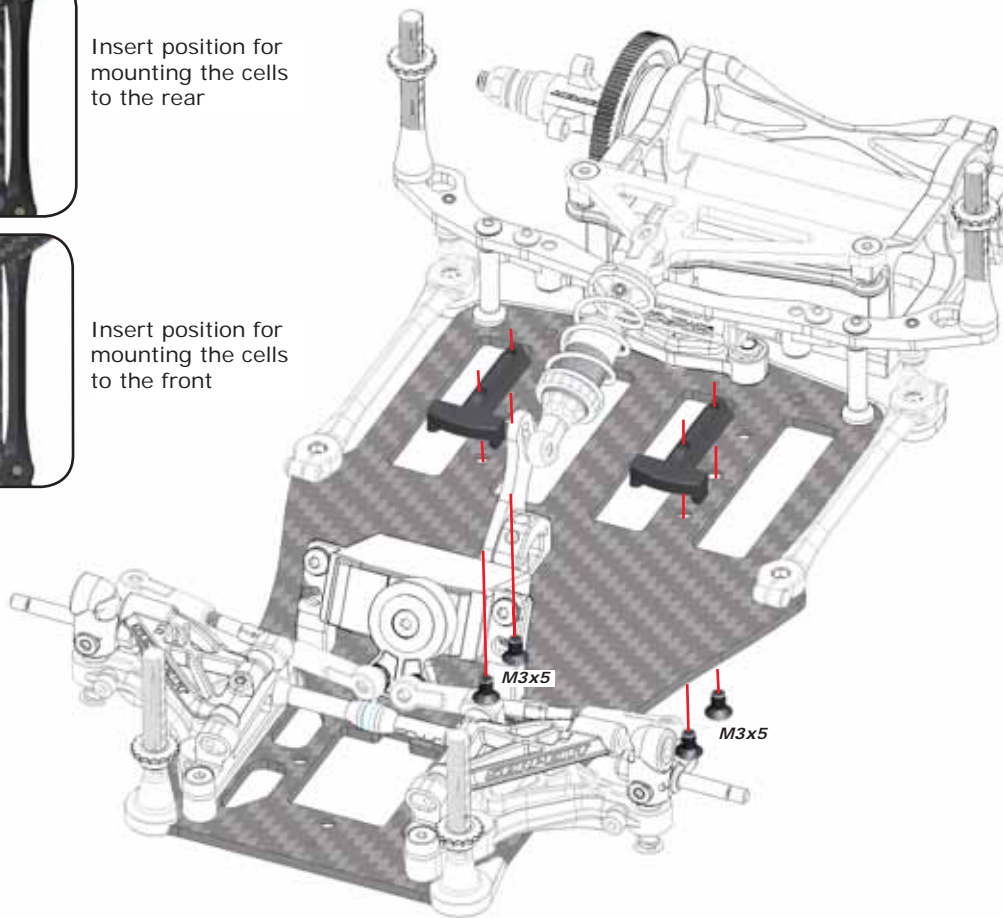


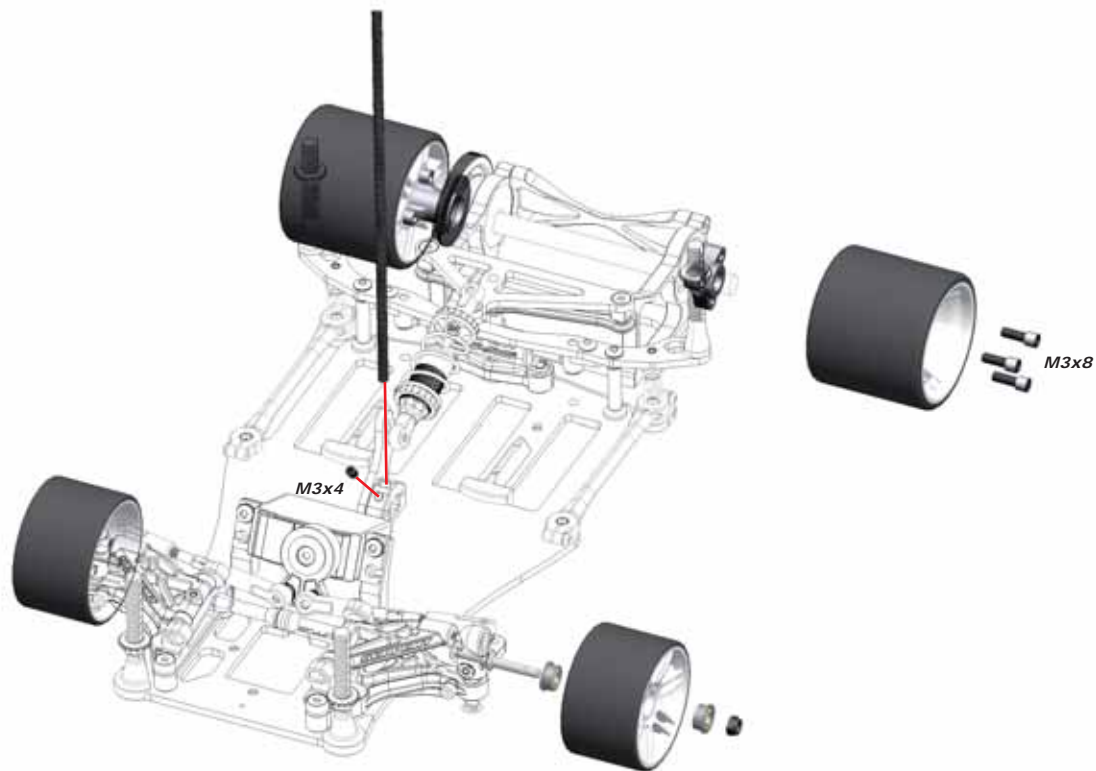


Insert position for  
mounting the cells  
to the rear



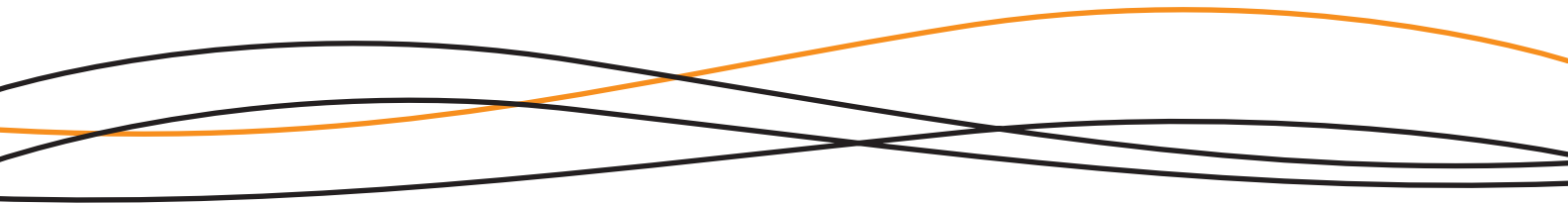
Insert position for  
mounting the cells  
to the front

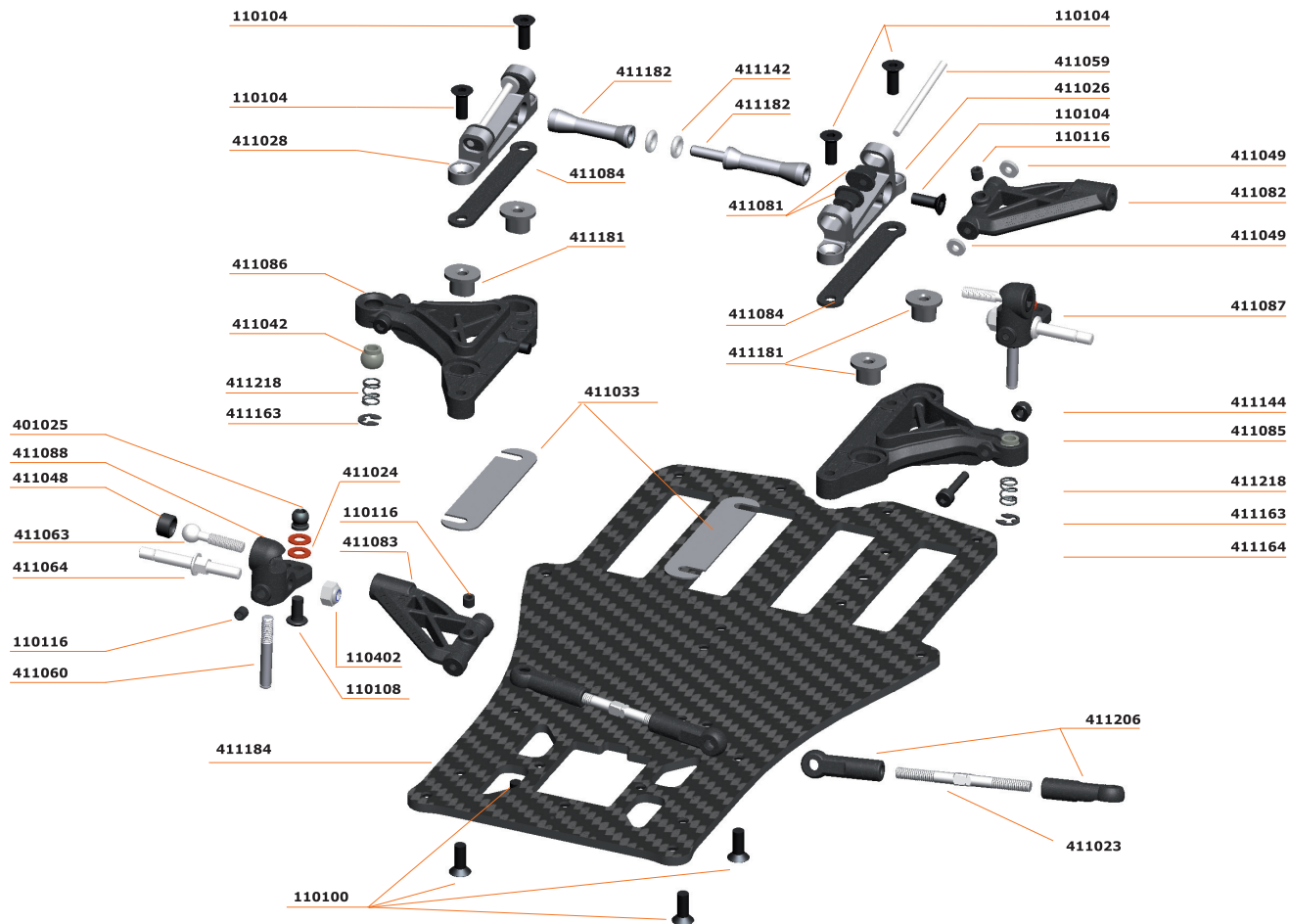


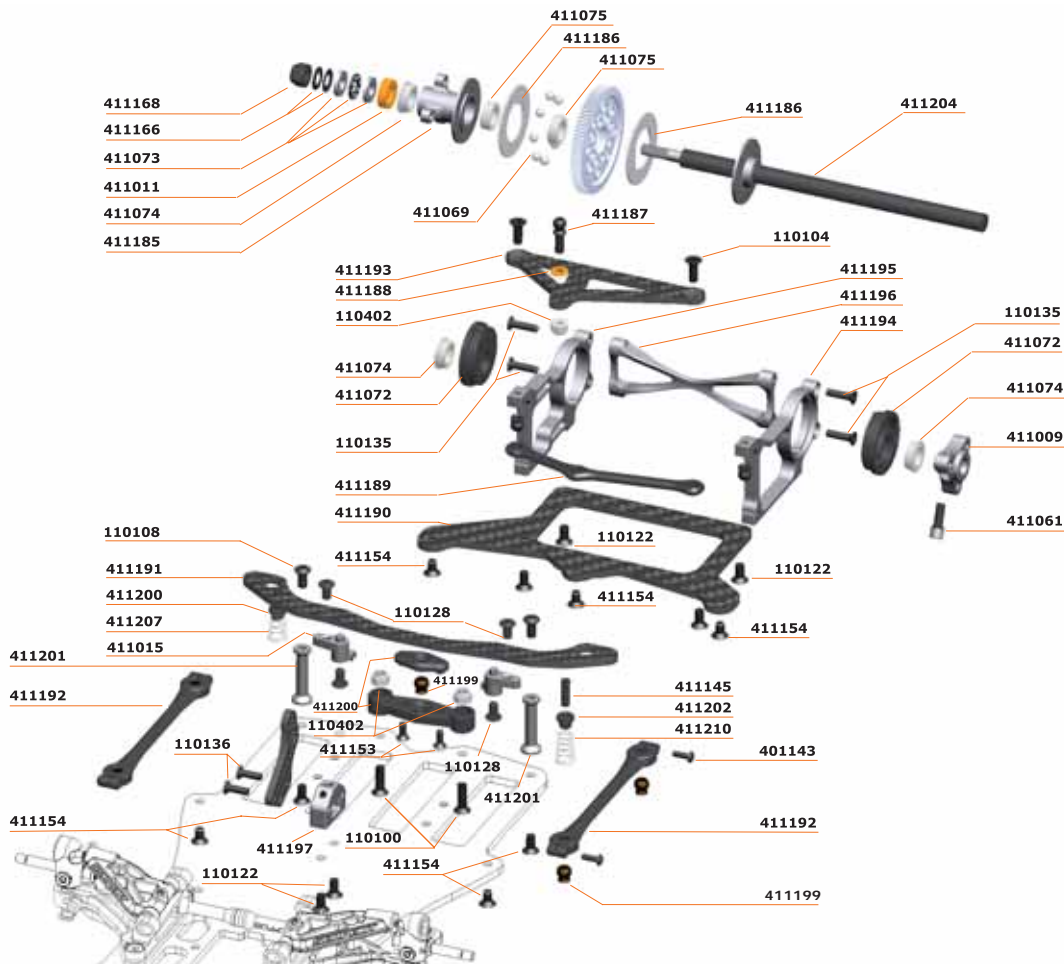




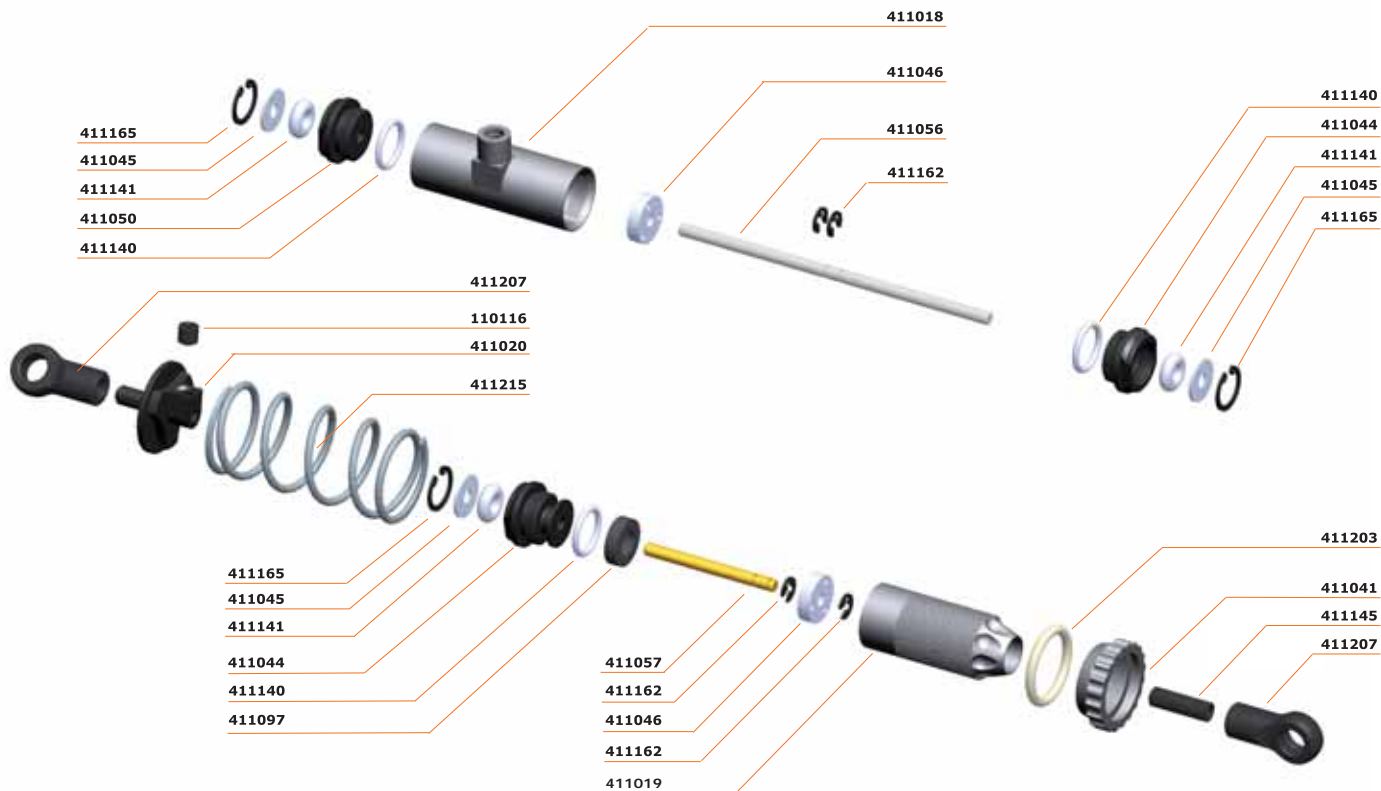
# REFERENCE GUIDE

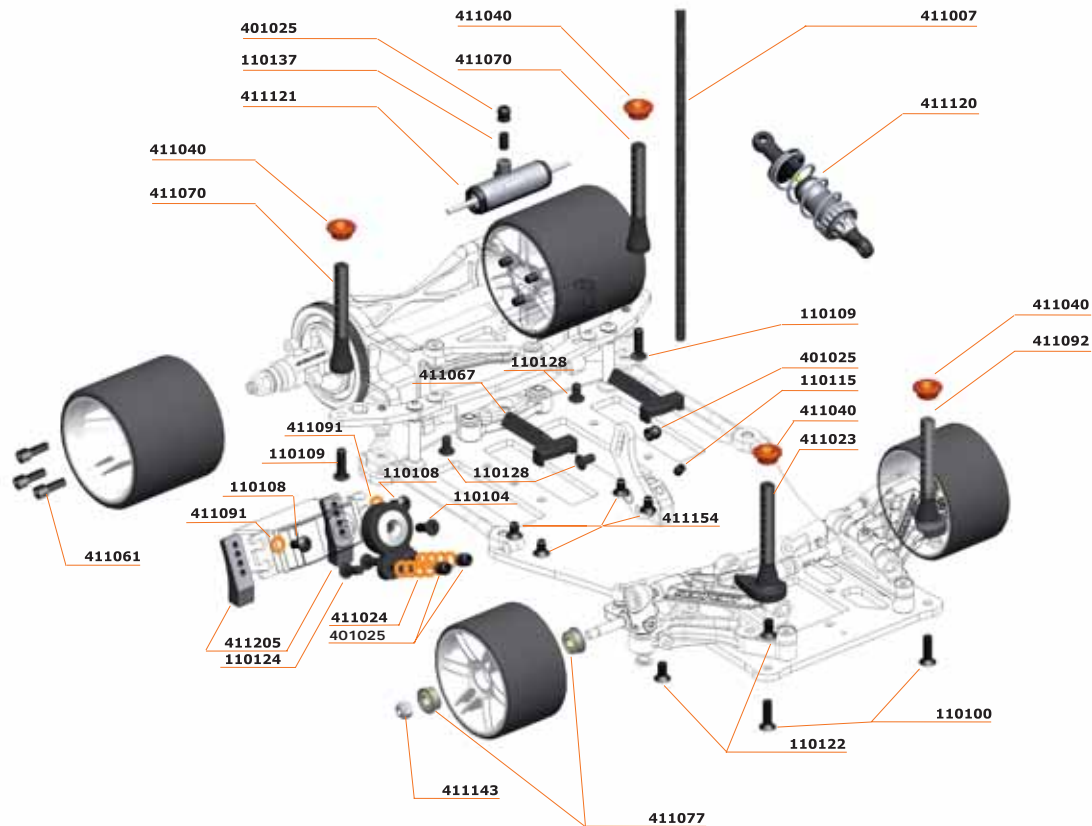












- 411179 **S120L Manual**  
 411180 **Decal sheets S120L (2)**

### FRONT SUSPENSION

- 401025 Pivot ball-uni-4-5mm  
 411024 Bumpsteershim 3x6x0,5 (10)  
 411026 Upper Arm Mount 9L  
 411028 Upper Arm Mount 9R  
 411033 Distance Plate for Lower Arm 0.5mm  
 411042 Pivot Ball for Front Suspension  
 411048 Adjust Nut for Front Suspension  
 411049 Distance Shim for Upper Arms  
 411059 Hinge Pin  
 411060 Kingpin  
 411063 Pivot Ball for Upper Suspension Arm  
 411064 Stub Axle  
 411081 Upper Arm Adapter  
 411082 Upper Suspension Arm left  
 411083 Upper Suspension Arm right  
 411084 Distance Plate for Upper Arms  
 411085 Lower Suspension Arm left  
 411086 Lower Suspension Arm right  
 411087 Offset Steering Block left  
 411088 Offset Steering Block right  
 411122 Front nylon set  
 411142 O-ring 2.3 x 1.5mm (10)  
 411143 Wheel Nut low M3  
 411181 Insert for lower A arm (4)  
 411182 Cross brace tube L+R S120L (3)  
 411206 Balljoint 4,5 (4)  
 411218 Front spring 22lbs S120L (2)  
 411219 Front spring 18lbs S120L (2)  
 411220 Front spring 26lbs S120L (2)

### CENTRAL ASSEMBLY

- 401025 Pivot ball-uni-4-5mm  
 411007 Antenna  
 411015 Shock Mount L+R  
 411023 Steering Rod  
 411024 Bumpsteershim 3x6x0,5 (10)  
 411067 Battery Insert

- 411091 Servo Saver  
 411093 Servo Saver insert 25T  
 411095 Servo Saver insert 23T  
 411096 Servo Saver insert 24T  
 411184 Chassis carbon 2.5mm S120L  
 411191 Cross brace S120L  
 411192 Side-link S120L (2)  
 411197 Center shock mount alu  
 411198 Shock bracket carbon S120L  
 411199 Pivot ball S120L (5)  
 411200 Pod pivot support S120L  
 411201 Standoff alu S120L (2)  
 411202 Spring retainer S120L (4)  
 411205 Servo mount alu S120L (3)  
 411206 Balljoint 4,5 (4)  
 411210 Side spring 5,5lbs S120L (2)

### REAR ASSEMBLY

- 401025 Pivot ball-uni-4-5mm  
 411009 Left side Clamp Hub  
 411061 M3x8mm Socket Screw "special-head"  
 411072 Bearing Adapter set (9x2)  
 411187 Pivotball with shaft (2)  
 411188 Pivotball shim (2)  
 411189 Shock rocker S120L  
 411190 Lower pod plate carbon S120L  
 411193 Top plate carbon S120L  
 411194 Motor pod left alu S120L  
 411195 Motor pod right alu S120L  
 411196 Motor pod backplate alu S120L  
 411204 Rear axle carbon S120L

### DIFFERENTIAL

- 411011 Trust Bearing Adapter  
 411069 Diff Balls, 1/8"  
 411166 Diff spring washer (4)  
 411168 Diff lock nut M4 (10)  
 411183 Differential-set S120L  
 411185 Diff hub S120L  
 411186 Diff washer S120L (2)

### SHOCK ABSORBERS

- 411018 Monoshock Body  
 411019 Shock Body  
 411020 Shock Spring Holder  
 411028 Revision set (o-ring, washers, clips)  
 411041 Shock Spring Adjust Nut  
 411044 Shock Cap  
 411045 Shock Seal Washer  
 411046 Shock Piston 3-hole  
 411047 Shock Piston 2-hole  
 411050 Monoshock Cap  
 411056 Monoshock Shock shaft  
 411057 Shock shaft  
 411097 Foam Insert for Shock  
 411120 Shock-absorber-set  
 411121 Mono-shock-absorber-set  
 411140 O-ring 6.0 x 1.0mm (10)  
 411141 O-ring 2.0 x 2.0mm (10)  
 411203 O-ring for spring adjuster (5)  
 411207 Balljoint 4,5 short (2)  
 411215 Center spring 14lbs S120L

### BODYMOUNT

- 411040 Body Adjust Nut  
 411070 Body Mount  
 411092 Body Mount front

### BEARINGS

- 411073 Axial Ball Bearing 4.2x9x4  
 411074 Ball Bearing flanged 1/4x3/8x1/8 (2)  
 411075 Ball Bearing 1/4x3/8x1/8 (2)  
 411077 Ball bearing, flanged 1/8x5/16x9/64 (2)  
 411124 Bearing-set standard

### FASTENERS

- 110100 screw allen countersunk m3x10 (10)  
 110104 screw allen countersunk M3x8 (10)  
 110108 screw allen roundhead m3x6 (10)  
 110109 screw allen roundhead m3x10 (10)  
 110114 setscrew allen m3x8 (10)  
 110116 setscrew allen m3x3 (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)  
 110128 screw allen roundhead m3x5 (10)  
 110135 Screw allen countersunk M2,5x10 (10)  
 110136 Screw allen countersunk M2,5x8 (10)  
 110137 Setscrew allen M3x6 (10)  
 110402 Nut nylock M3 (10)  
 401143 Screw allen cilinderhead M2x6 (10)  
 411123 Screw-set  
 411144 Nut nylock M2.2 (10)  
 411145 setscrew allen M3x10mm (10)  
 411147 setscrew allen M3x5mm (10)  
 411153 Screw allen countersunk M2.2x6mm (10)  
 411154 Screw allen countersunk M3x5mm (10)  
 411159 Screw allen countersunk M3x15mm (10)  
 411161 Roll Pin 1.5x10mm (10)  
 411162 C-clip 2mm (10)  
 411163 C-clip 3mm (10)  
 411164 Screw allen cilinderhead M2.2x12mm (10)  
 411165 Snapring 7mm (10)

#### OPTIONALS

411034 Distance Plate for Lower Arm 1.0mm  
 411035 Distance Plate for Lower Arm 2.0mm  
 411036 Upper Arm Mount 6 L+R  
 411037 Upper Arm Mount 3 L+R  
 411102 Monoshock Shock shaft, Titanium-nitride  
 411103 Shock shaft, Titanium-nitride  
 411105 Hinge Pin Titanium  
 411106 Kingpin Titanium  
 411208 Side spring 4,5lbs S120L (2)  
 411209 Side spring 5,0lbs S120L (2)  
 411211 Side spring 6,0lbs S120L (2)  
 411212 Side spring 6,5lbs S120L (2)  
 411213 Side spring 7,0lbs S120L (2)  
 411214 Center spring 12lbs S120L  
 411216 Center spring 16lbs S120L  
 411217 Center spring 18lbs S120L  
 411219 Front spring 18lbs S120L (2)  
 411220 Front spring 24lbs S120L (2)

411223 Transponder riser S120L (3)  
 411224 Rear axle shim 6,5x8x0,25 (10)  
 411225 Support Lipo pack

#### TOOLS

1468 Car-stand alu Serpent orange  
 150001 Tool bag Serpent

#### MERCHANDISING

1865 Lanyard serpent grey-silver  
 1868 Pit-towel serpent orange 50x70cm  
 1869 Pit-towel serpent orange 140x60cm  
 1872 Rucksack serpent (35x45cm) black  
 1873 Rucksack serpent (48x61cm) black  
 1884 Decalsheet chrome 1/10  
 1980 Kit-bag serpent large black-orange  
 1982 Pit-bag Serpent medium (3 drawers)  
 1983 Pit-bag Serpent large (4 drawers)  
 1998 Cap serpent black-orange  
 190100 T-shirt serpent black (s)  
 190101 T-shirt serpent black (m)  
 190102 T-shirt serpent black (l)  
 190103 T-shirt serpent black (xl)  
 190104 T-shirt serpent black (xxl)  
 190110 Sweater serpent black (s)  
 190111 Sweater serpent black (m)  
 190112 Sweater serpent black (l)  
 190113 Sweater serpent black (xl)  
 190114 Sweater serpent black (xxl)

SRLO *link*



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info@serpent.com