



INSTRUCTION MANUAL
& REFERENCE GUIDE



The Serpent 733 is a complete new platform for the 200mm category of racing. It's the next phase of evolution of Serpent's hugely-successful 200mm chassis lineage, combining ultimate performance into a single package.

The Serpent 733 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 733 offers state of the art specifications and leads the way in 200mm chassis design, using all the knowledge we have from 1/8 scale racing into this design too. Continuously pushing the performance envelope, Serpent's engineers have added many new and innovative features that can help take your Serpent 733 into the winner's circle: new geometry, roll-centers and weight balance, combined with new open and very accessible design. A complete new platform.

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.

This instruction manual has been divided into sections that will logically lead you through the assembly process of your Serpent 733. Follow the assembly steps in the order presented to ensure that no problems occur during assembly. Each step indicates all the fasteners 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 733 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 733 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.

CONTENTS

FRONT ASSEMBLY	4
DIFFERENTIAL ASSEMBLY	6
REAR ASSEMBLY	12
RADIO PLATE ASSEMBLY	19
GEARBOX ASSEMBLY	29
CENTAX ASSEMBLY	31
FINAL ASSEMBLY	35
REFERENCE GUIDE	37

USING THE MANUAL

Each step contains a variety of numbers, lines, and symbols. The numbers represent the order in which the parts should be assembled. The lines and symbols are described below.

	Step number; the order in which you should assemble the indicated parts
	Length after assembly
	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
	Gap between two items
	Apply graphite grease (GR), threadlock (TL), CA glue (CA) or One-way Lube (OW). (Items not included.)

SERPENT.COM

The printed instruction manual included with your Serpent 733 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 733 is accessible from the Serpent 733 product page which can be found on Serpent.com and can be accessed by simply typing **serpent.com/804000** into your web

browsers address bar.

From the Serpent 733 product page you will find the very latest information about your Serpent 733: 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.

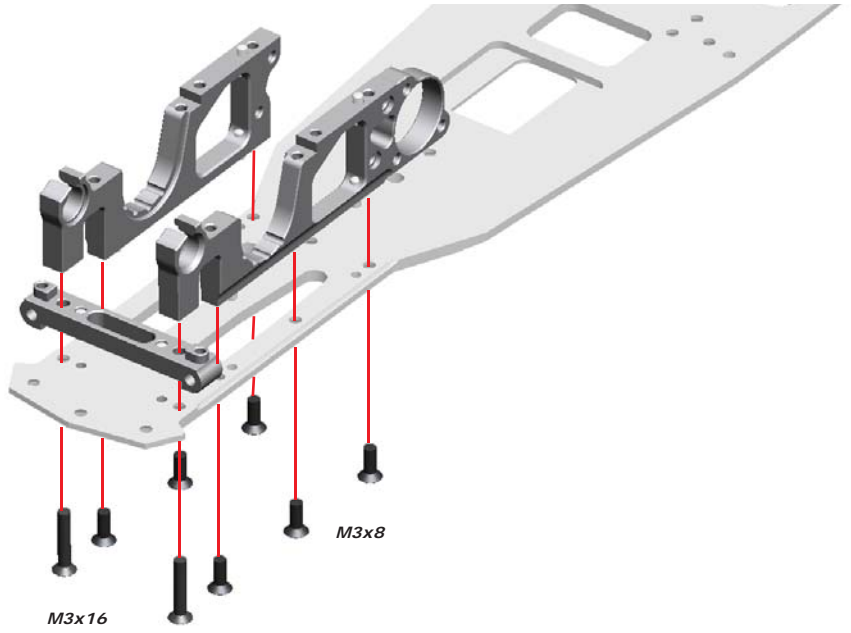
FRONT ASSEMBLY

A

1

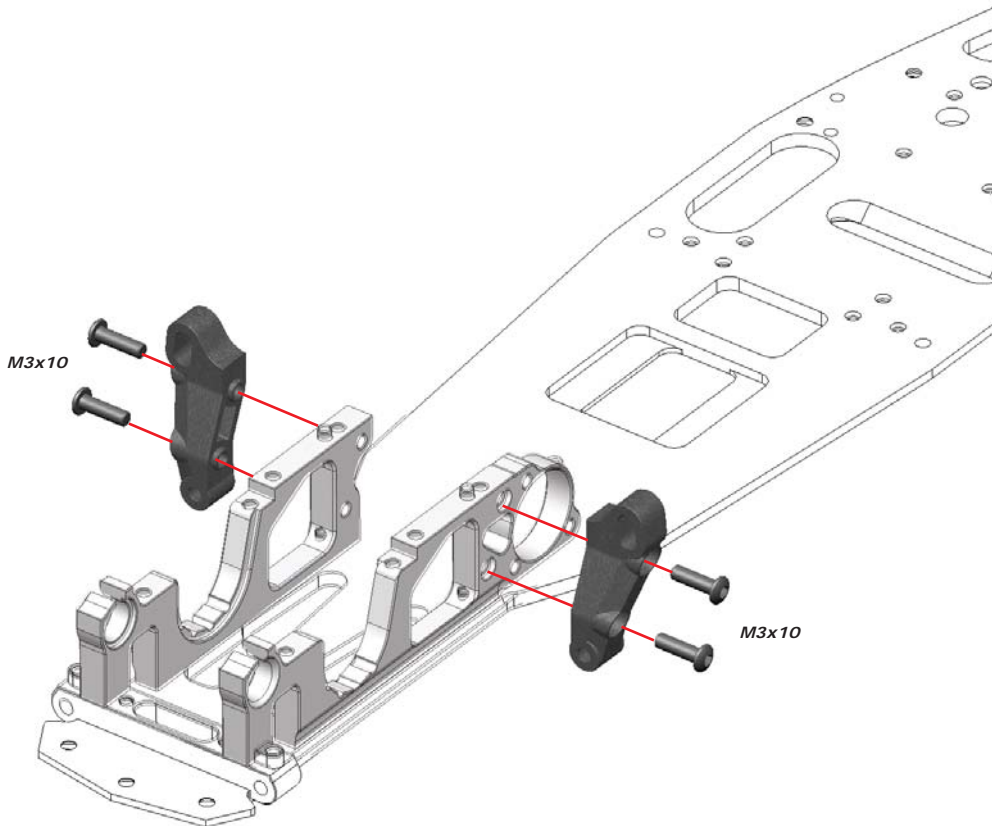
Bag

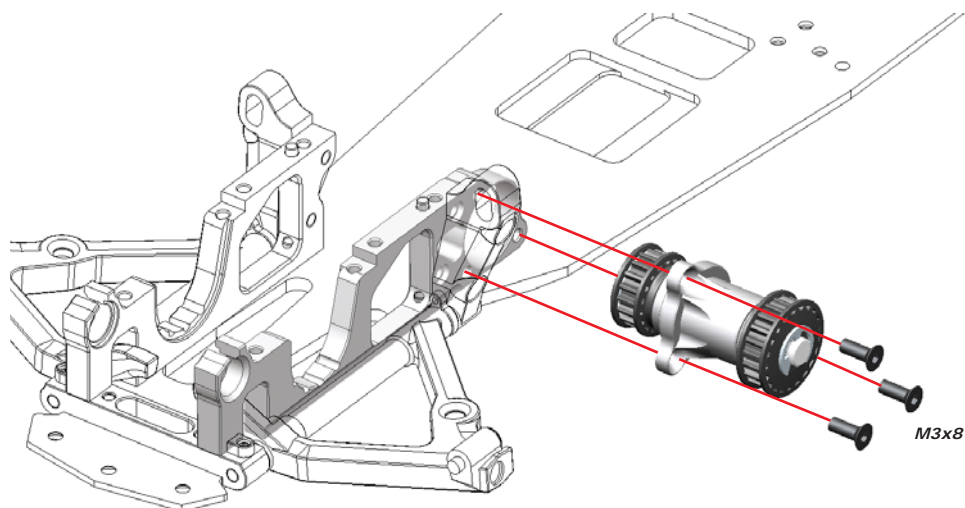
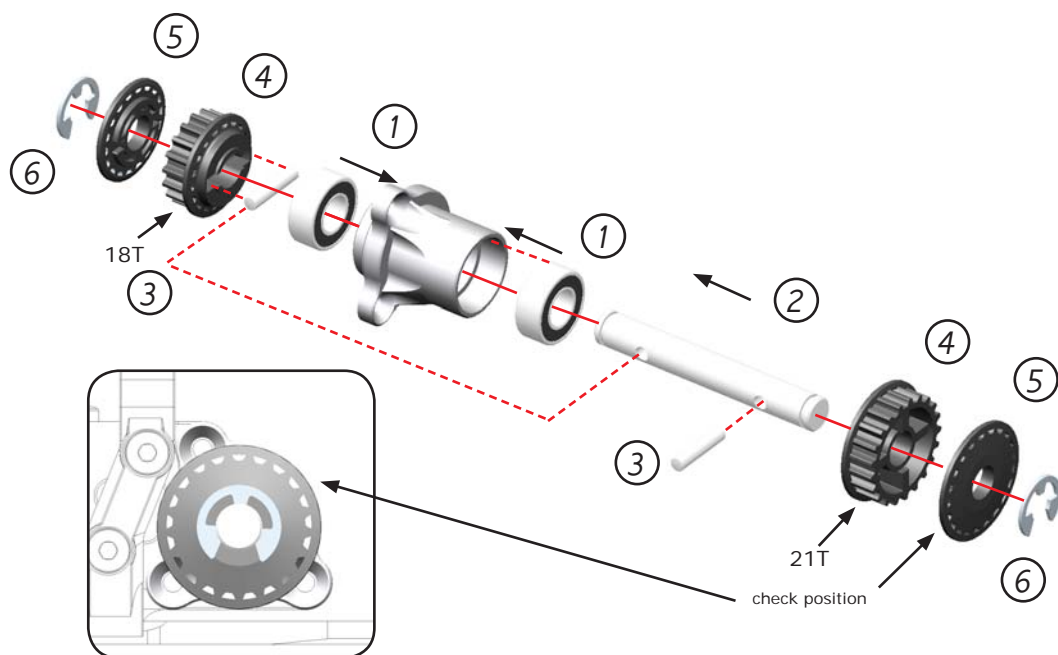
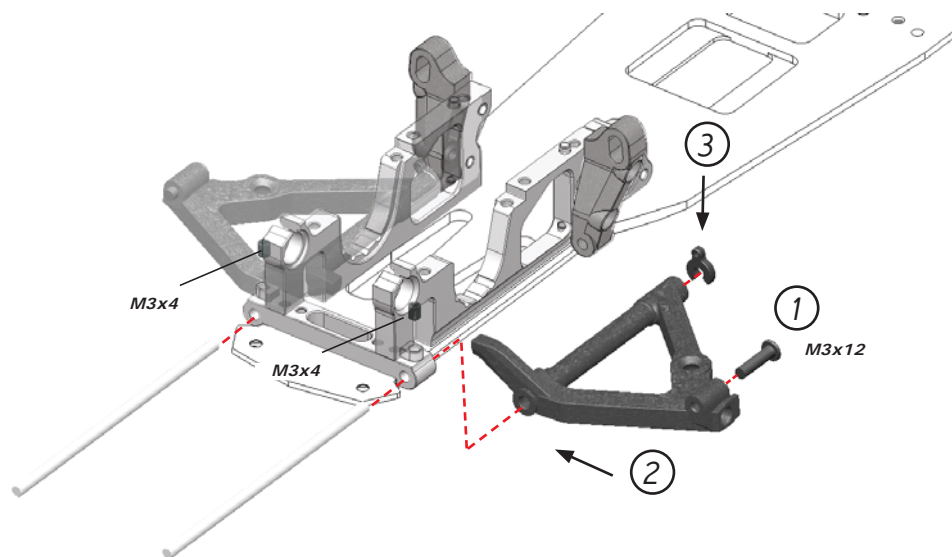
1



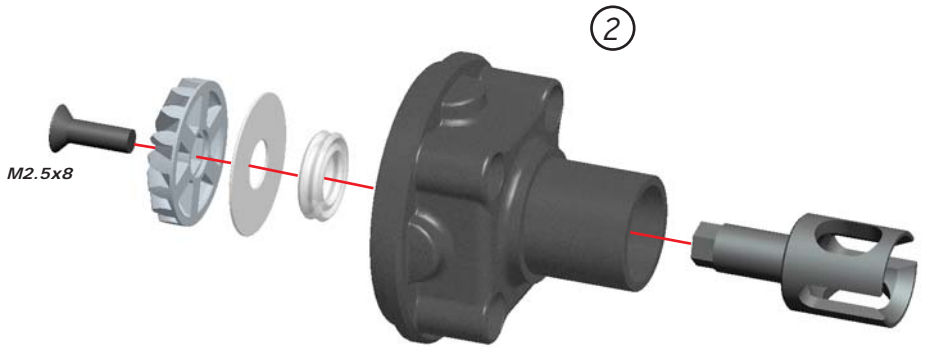
A

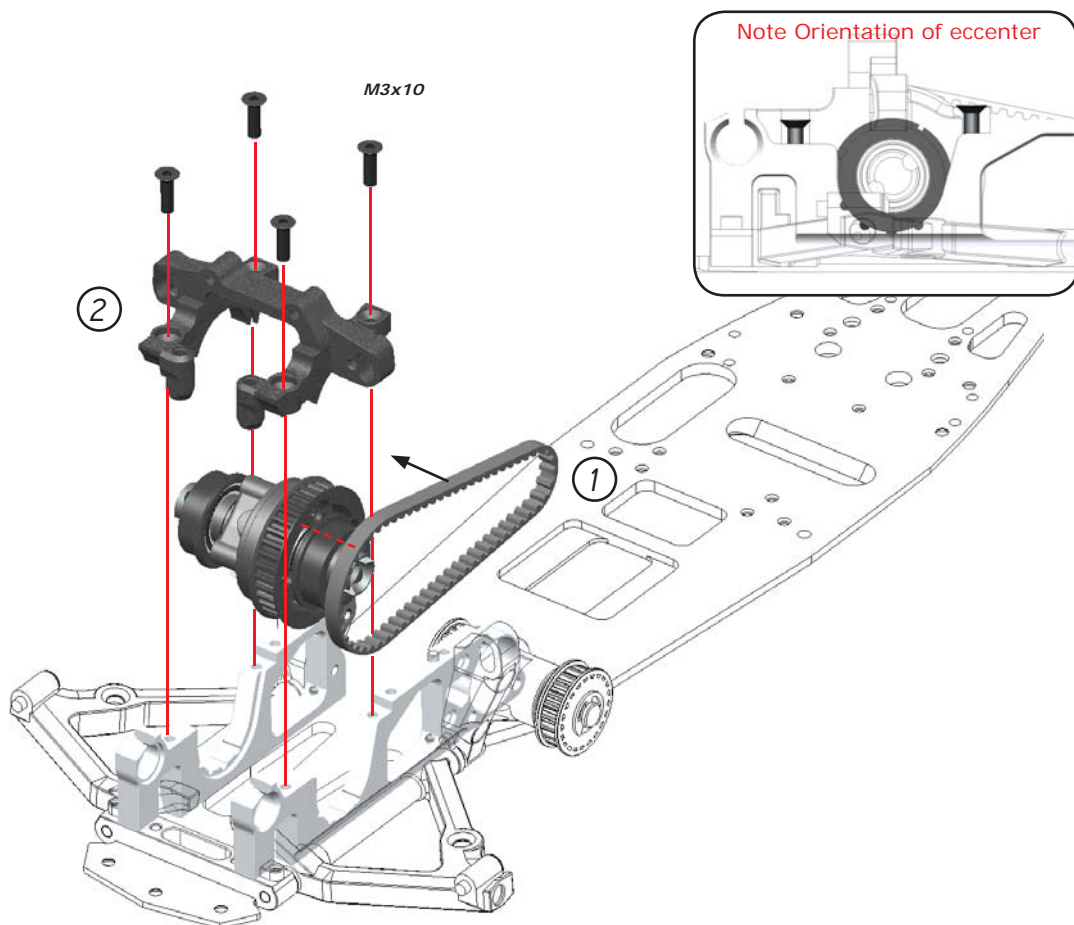
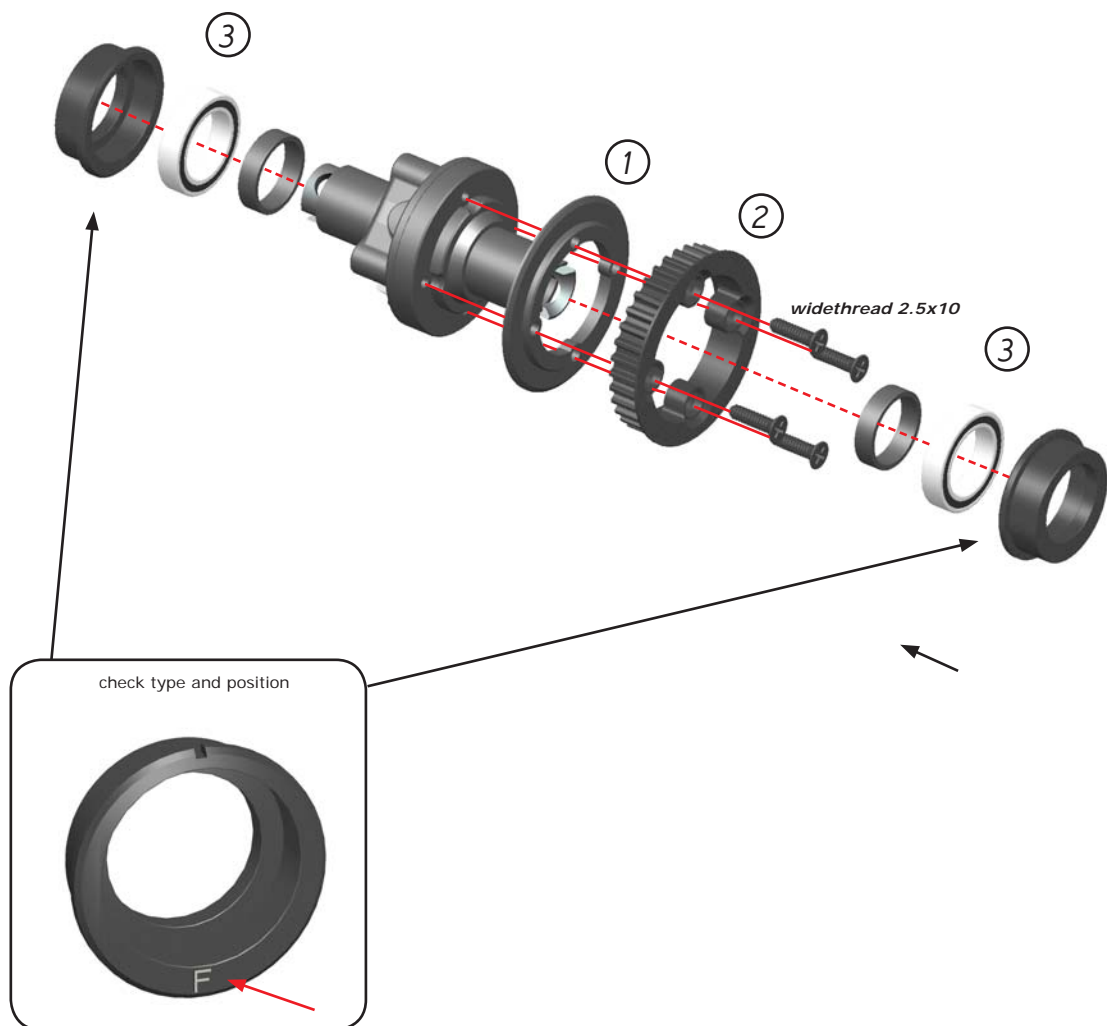
2

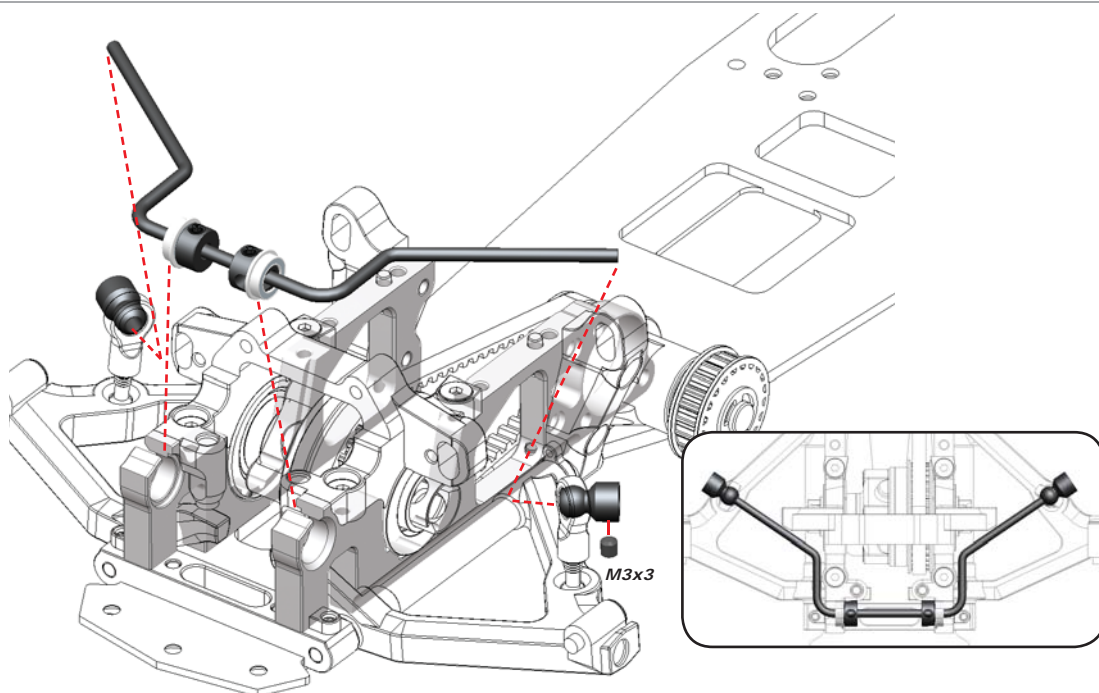
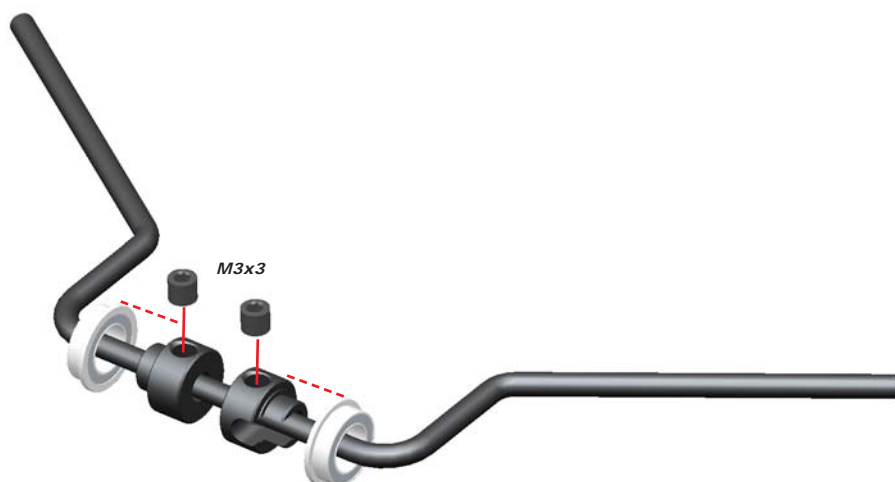
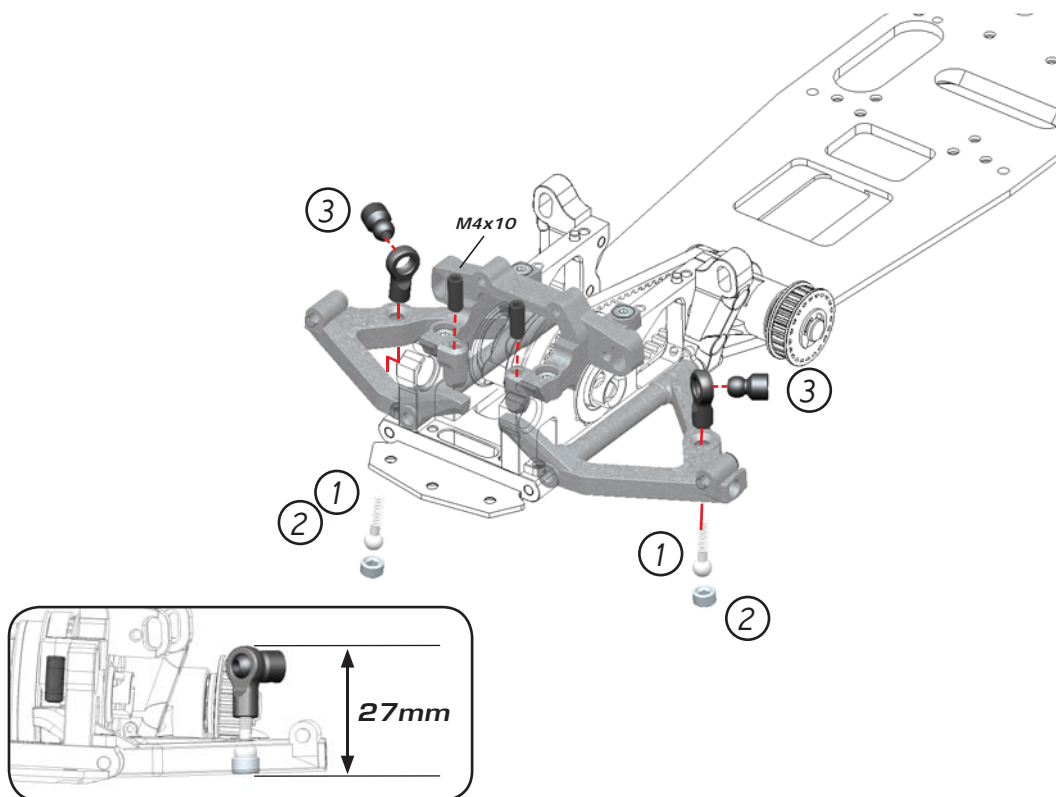


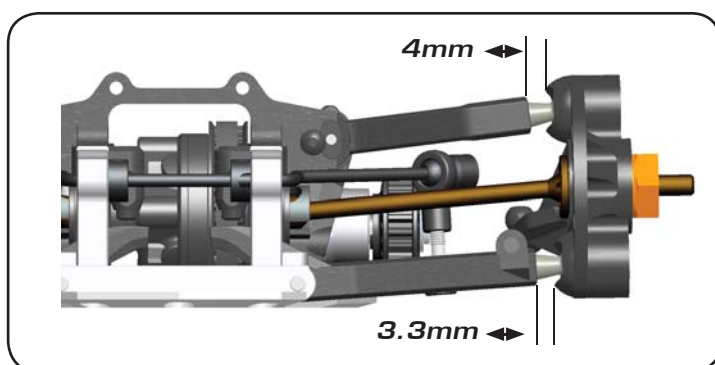
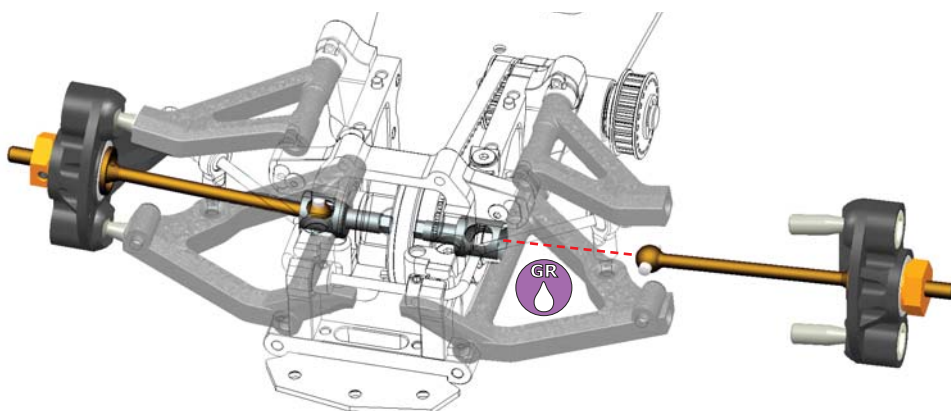
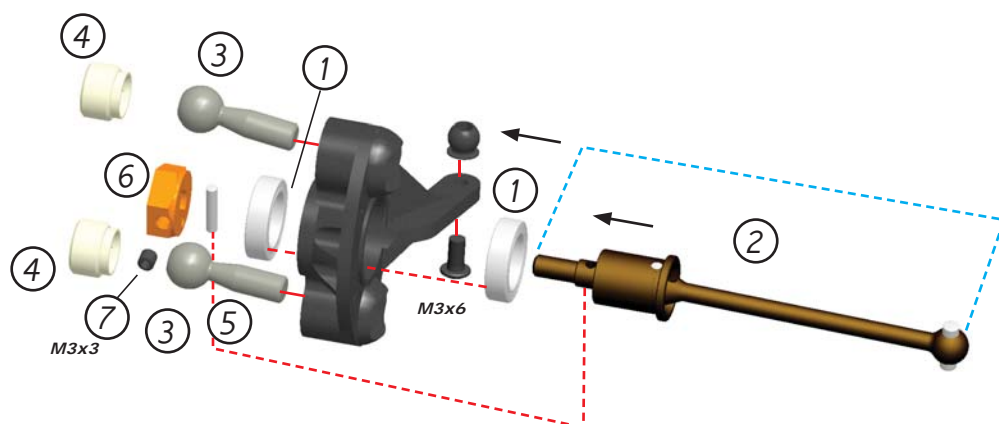
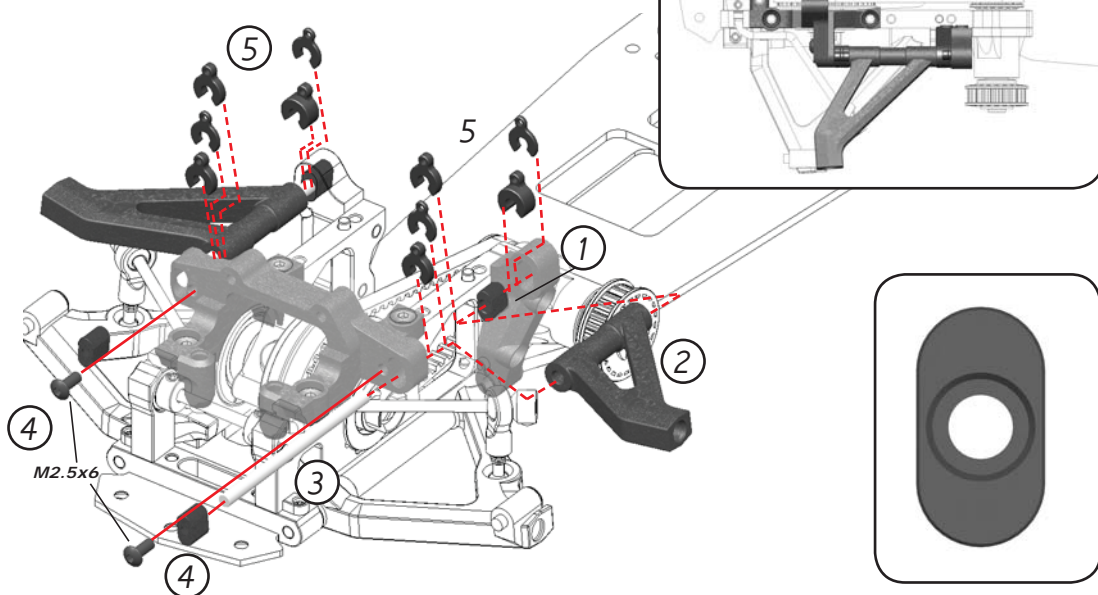


Diff.
Bag



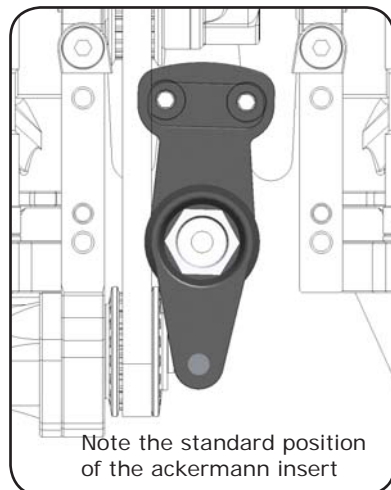
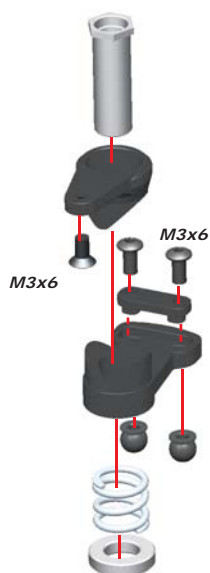






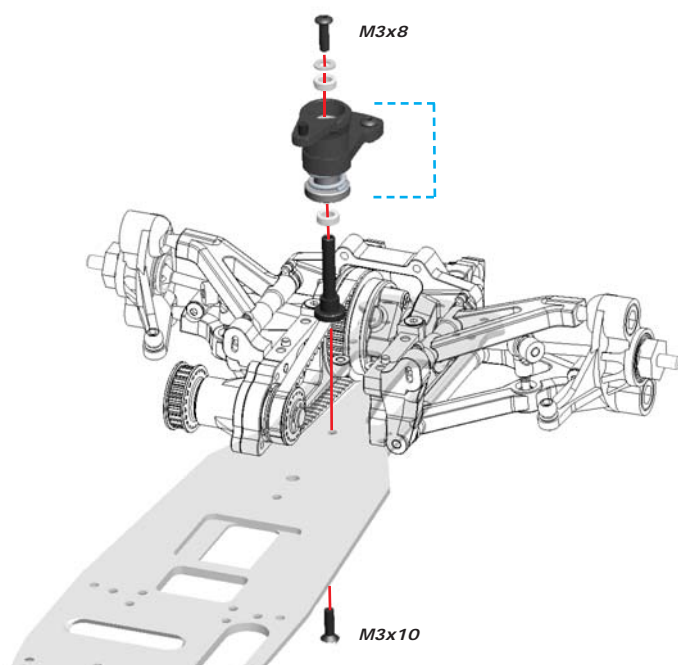
A

18



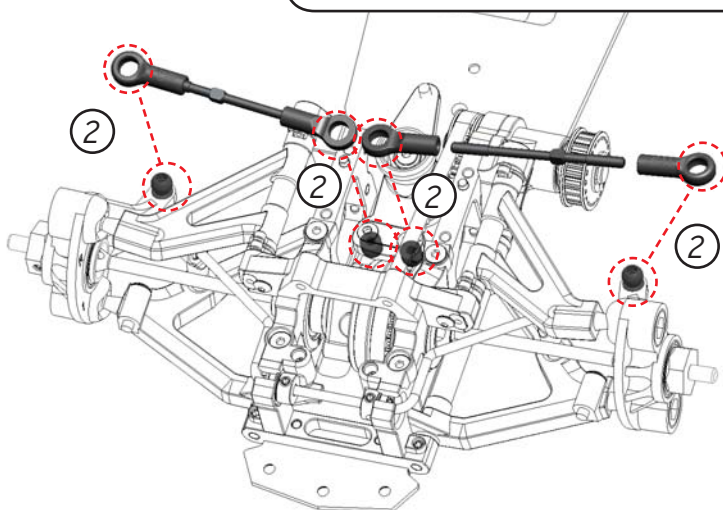
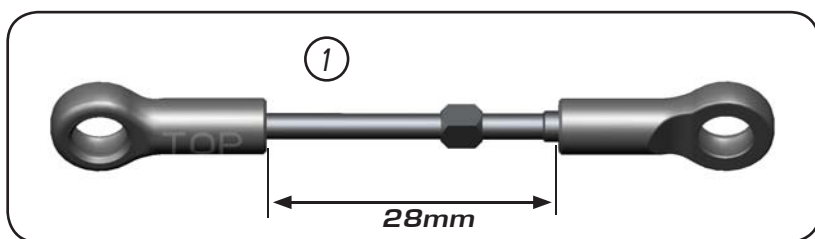
A

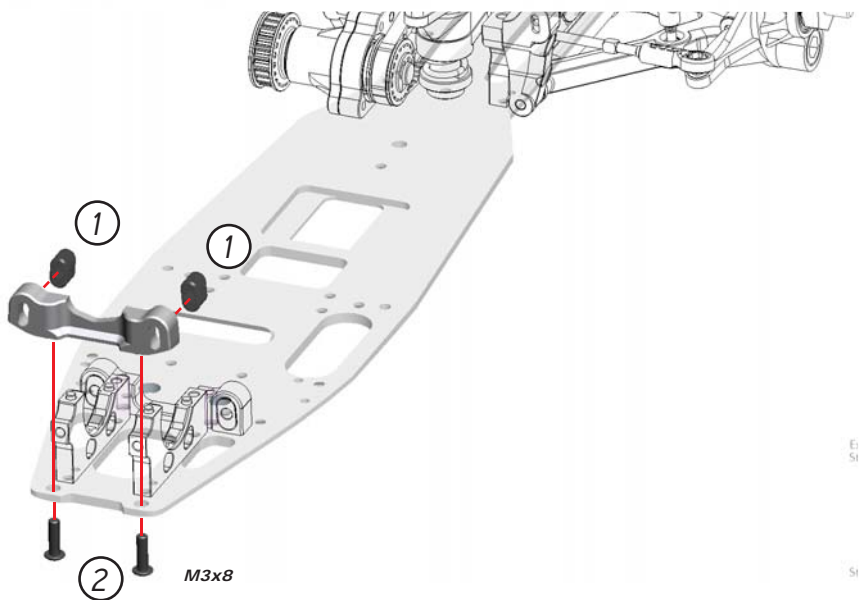
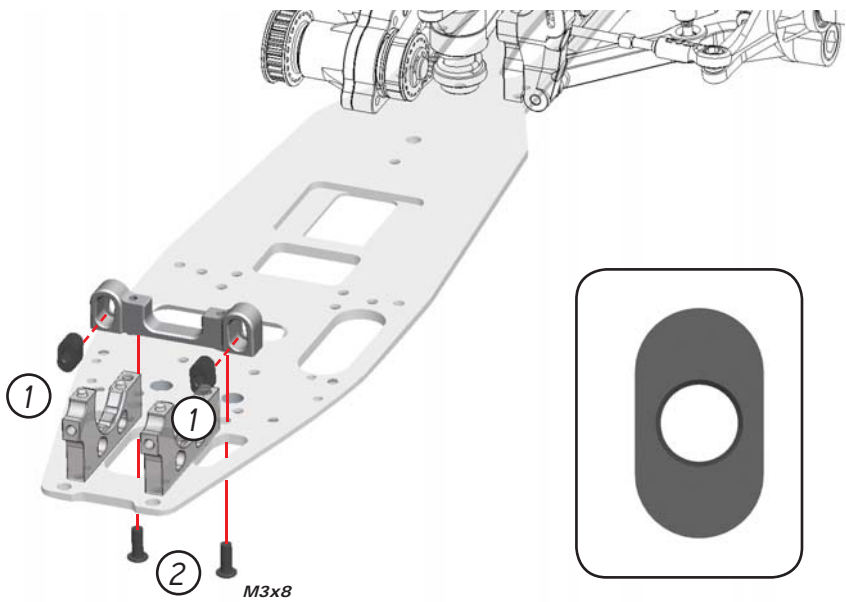
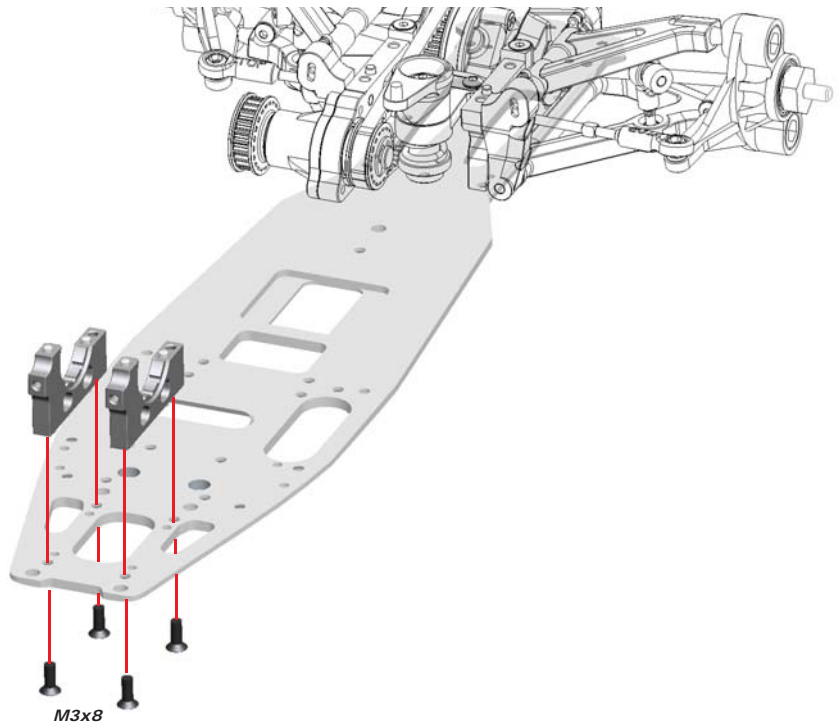
19

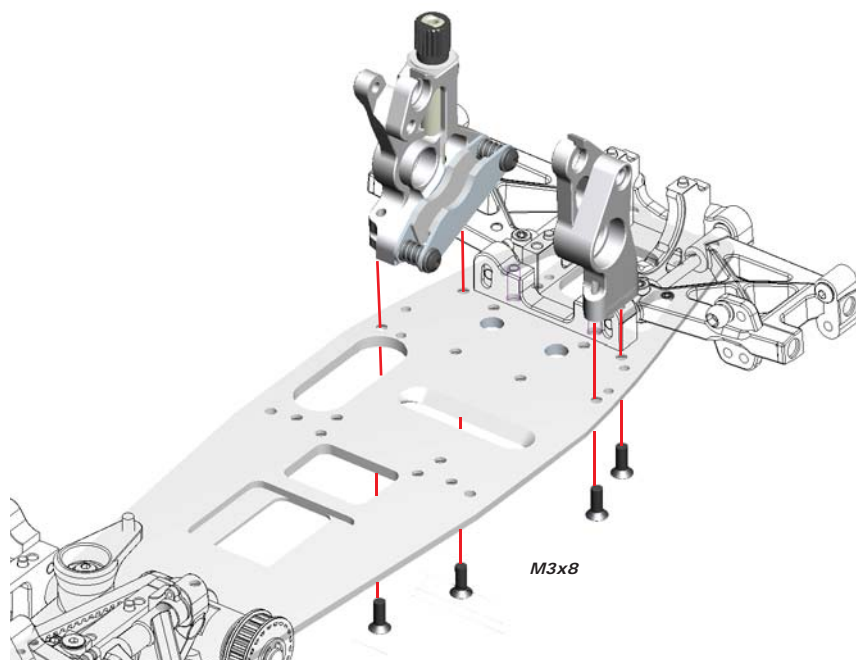
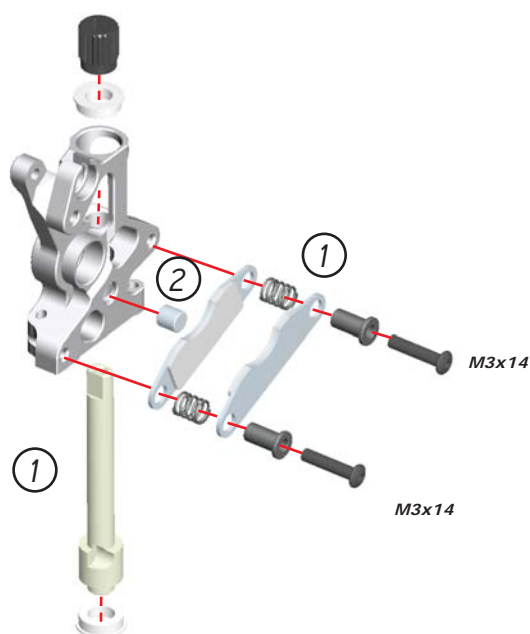
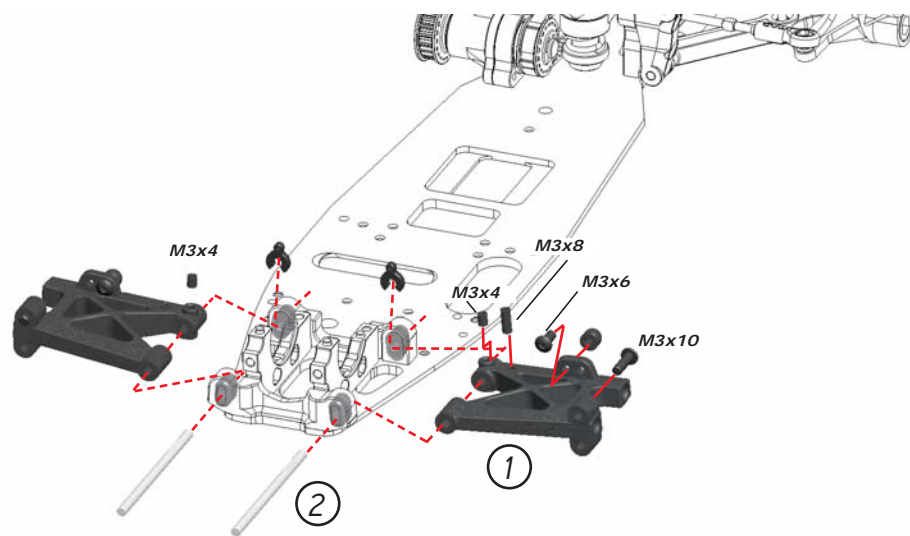


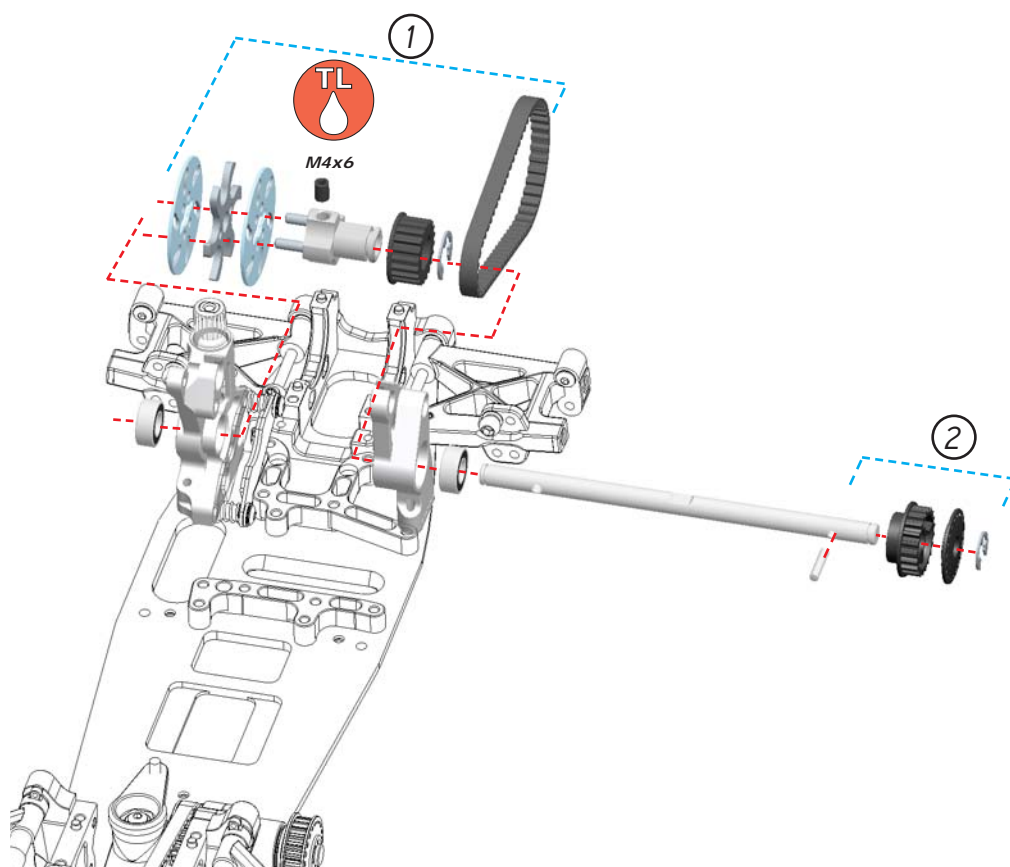
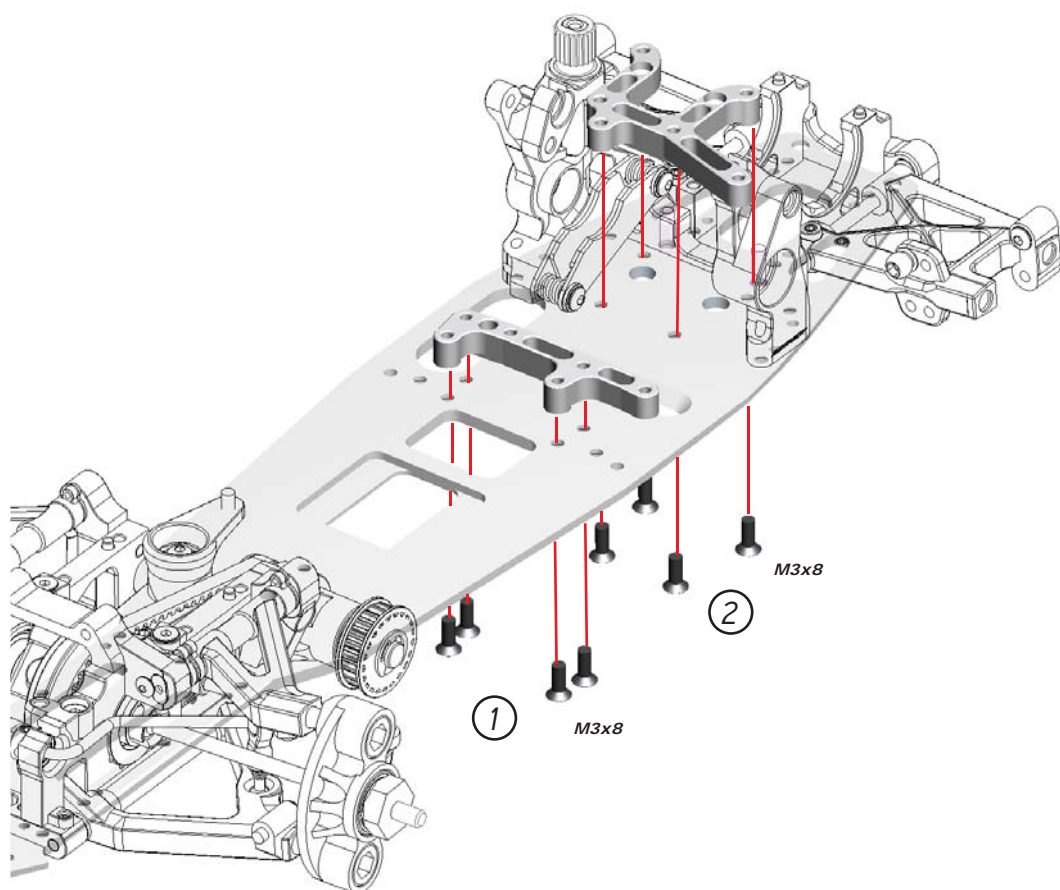
A

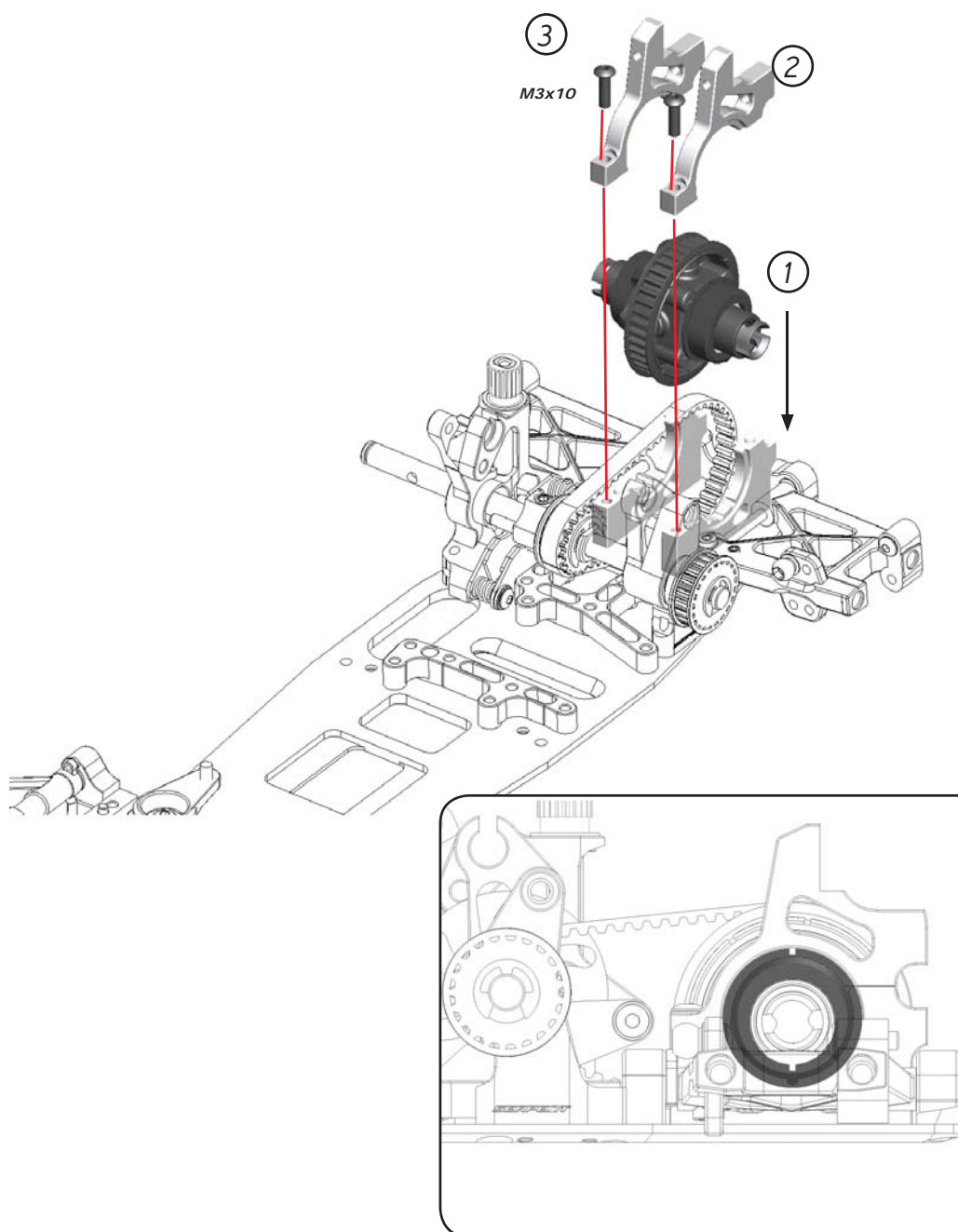
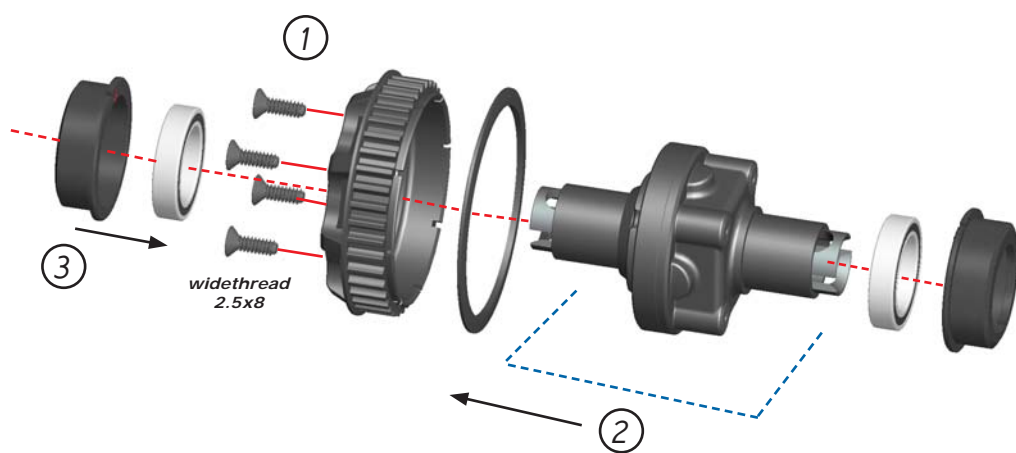
20

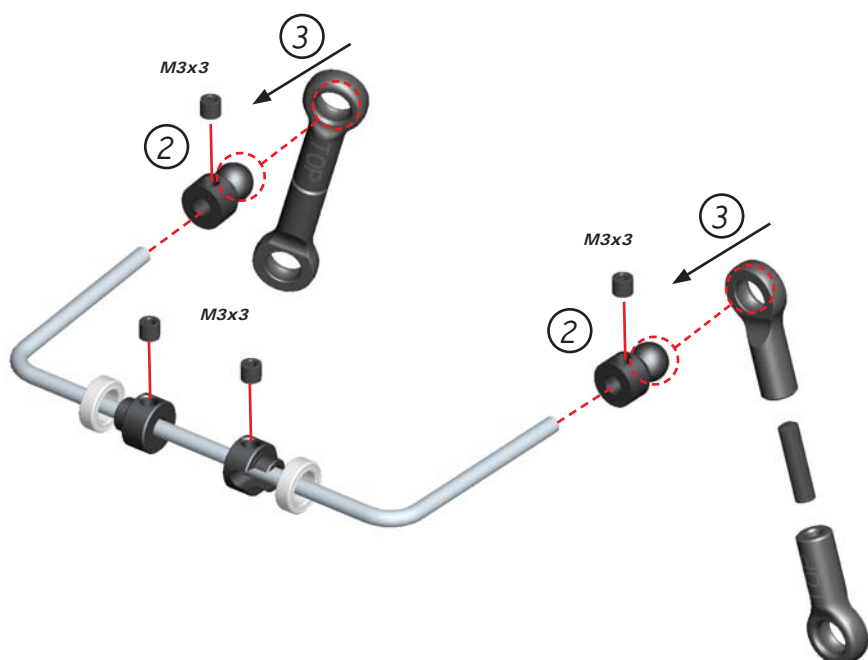






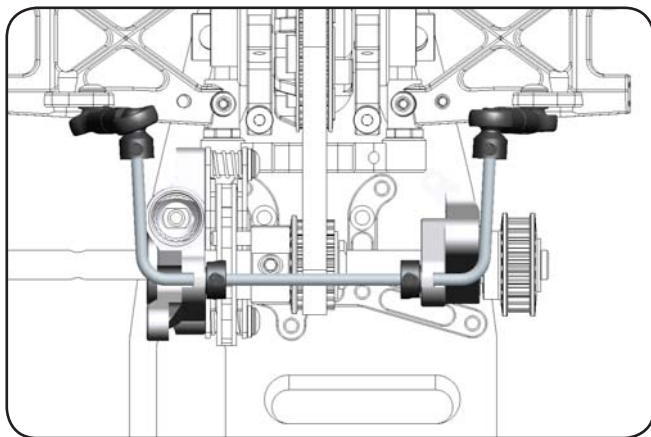
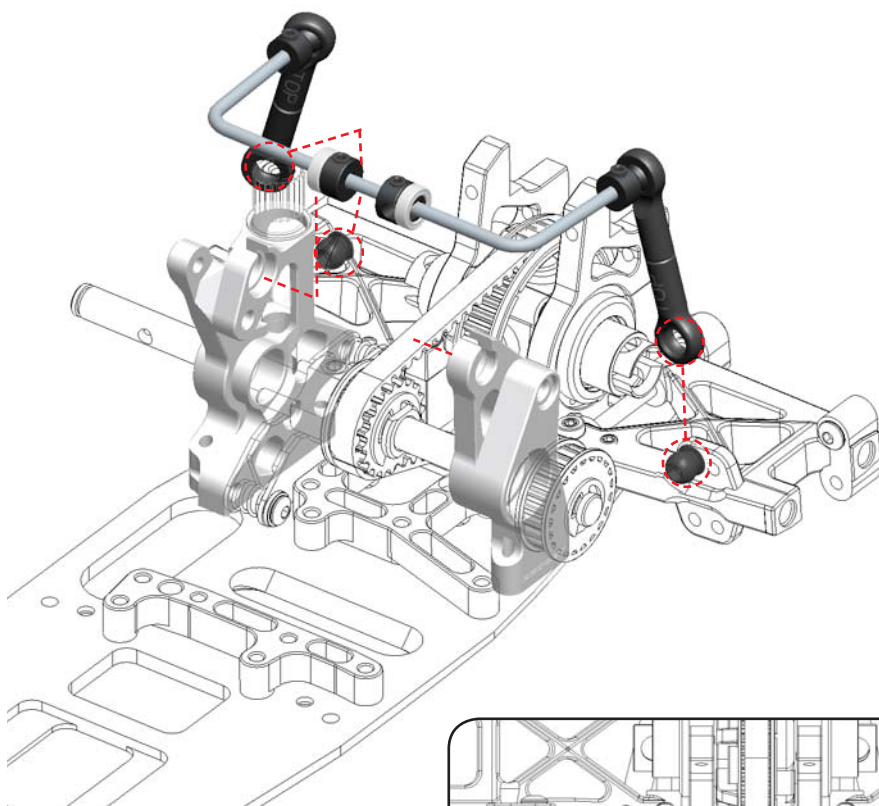


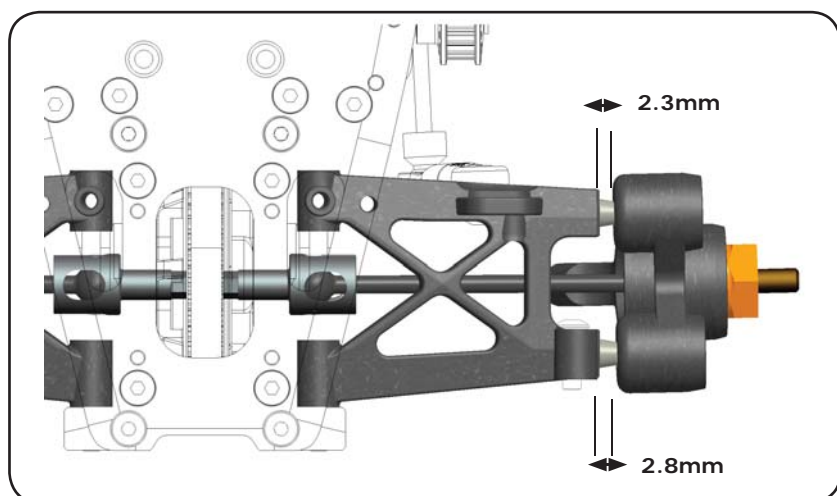
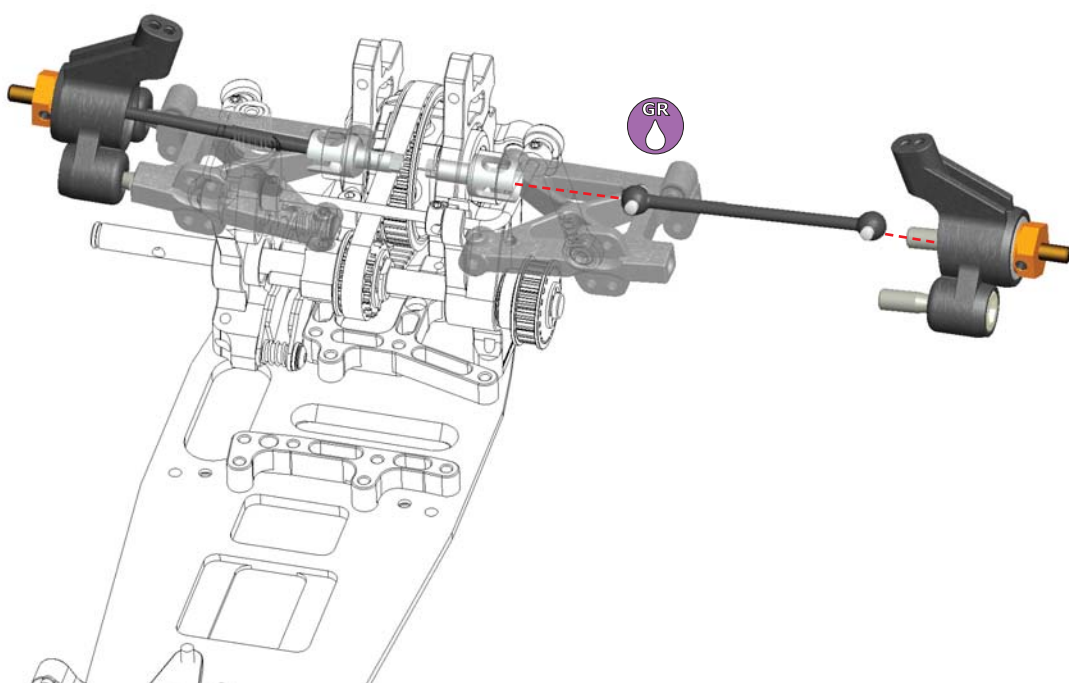
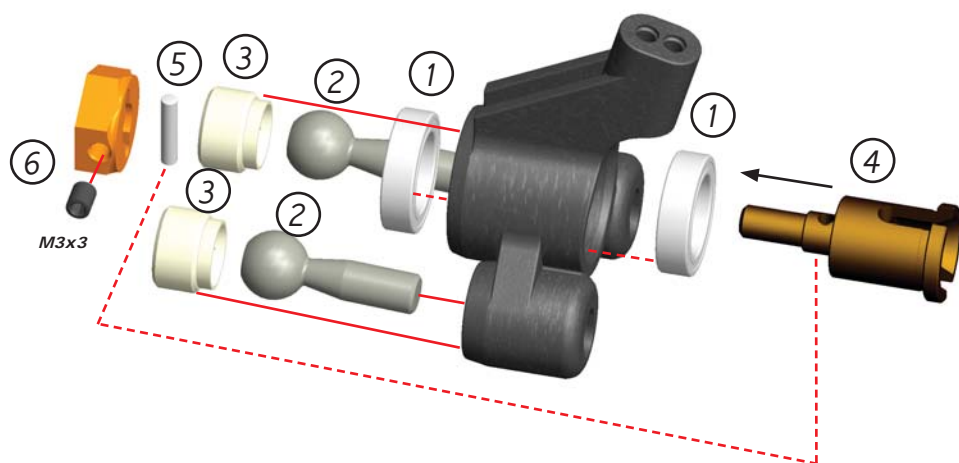


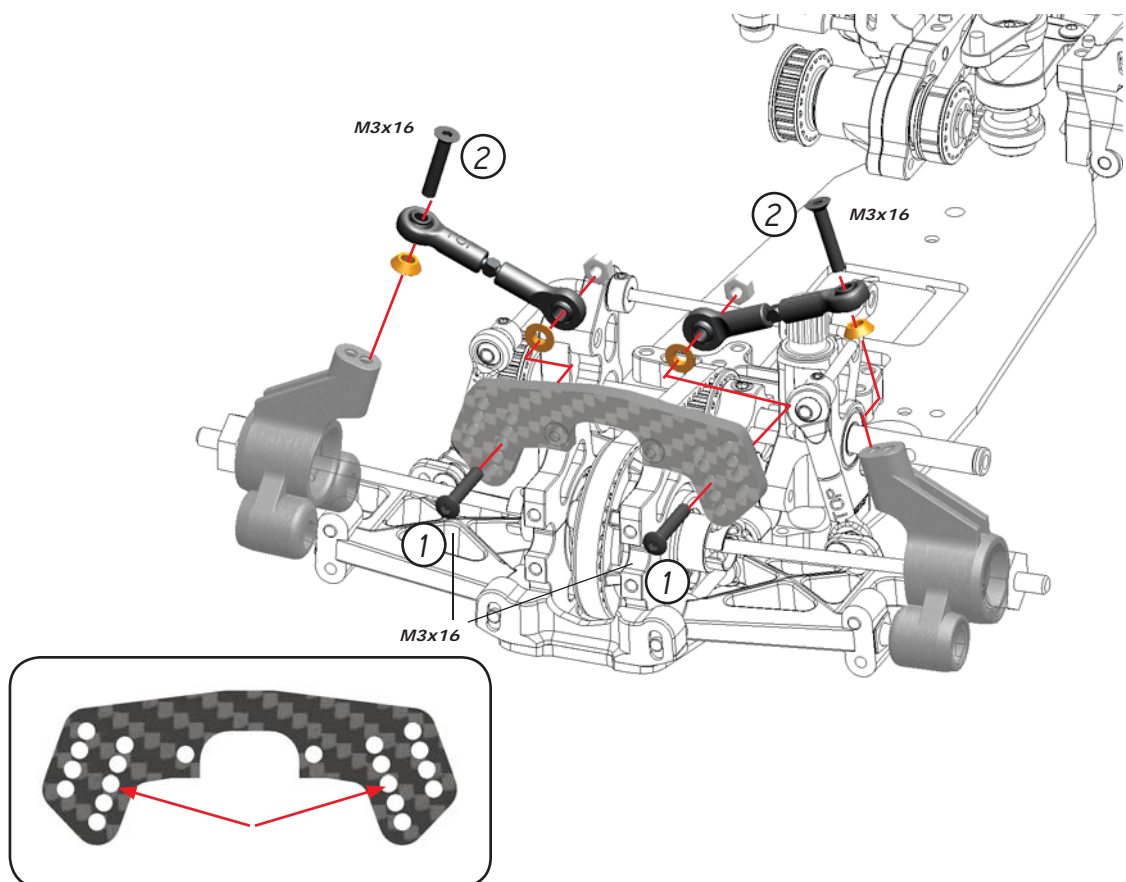
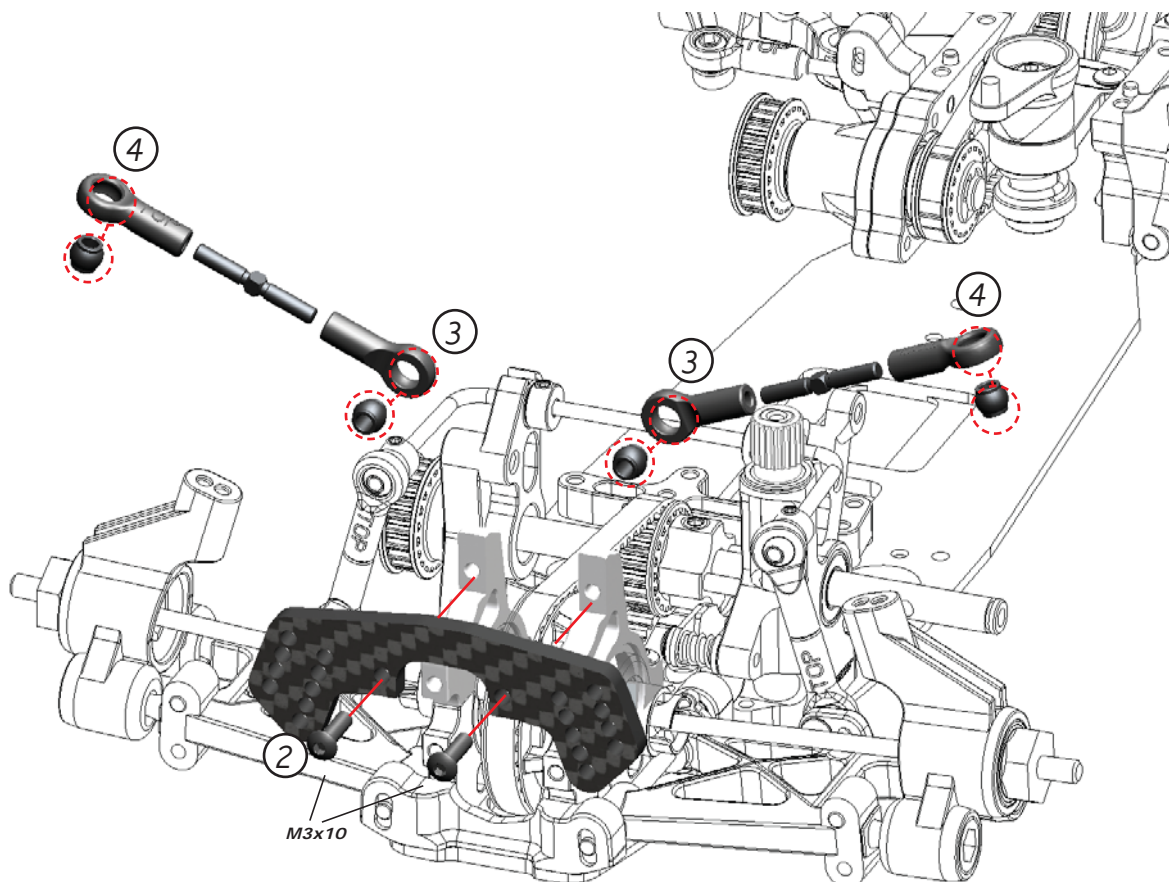


Assemble L & R linkages

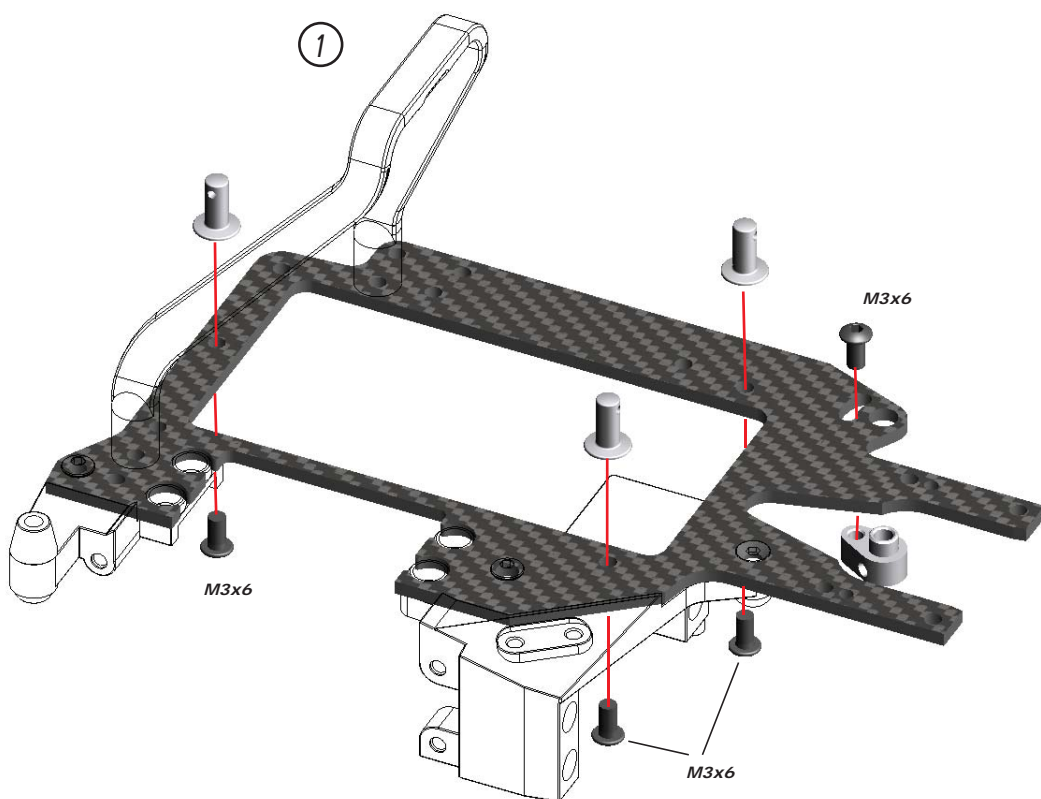
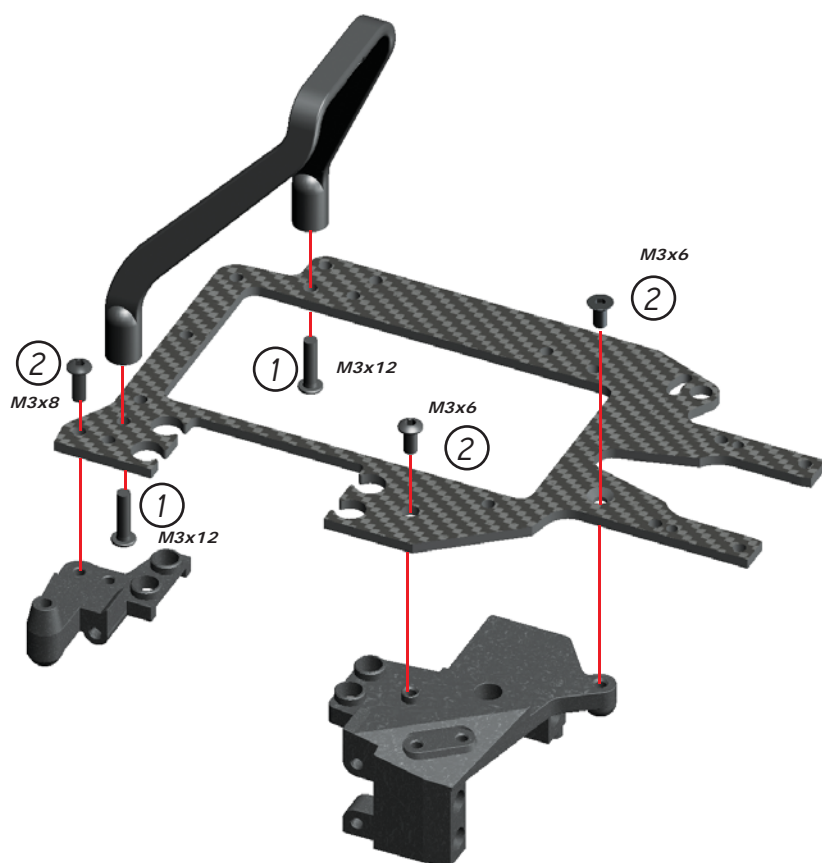
①

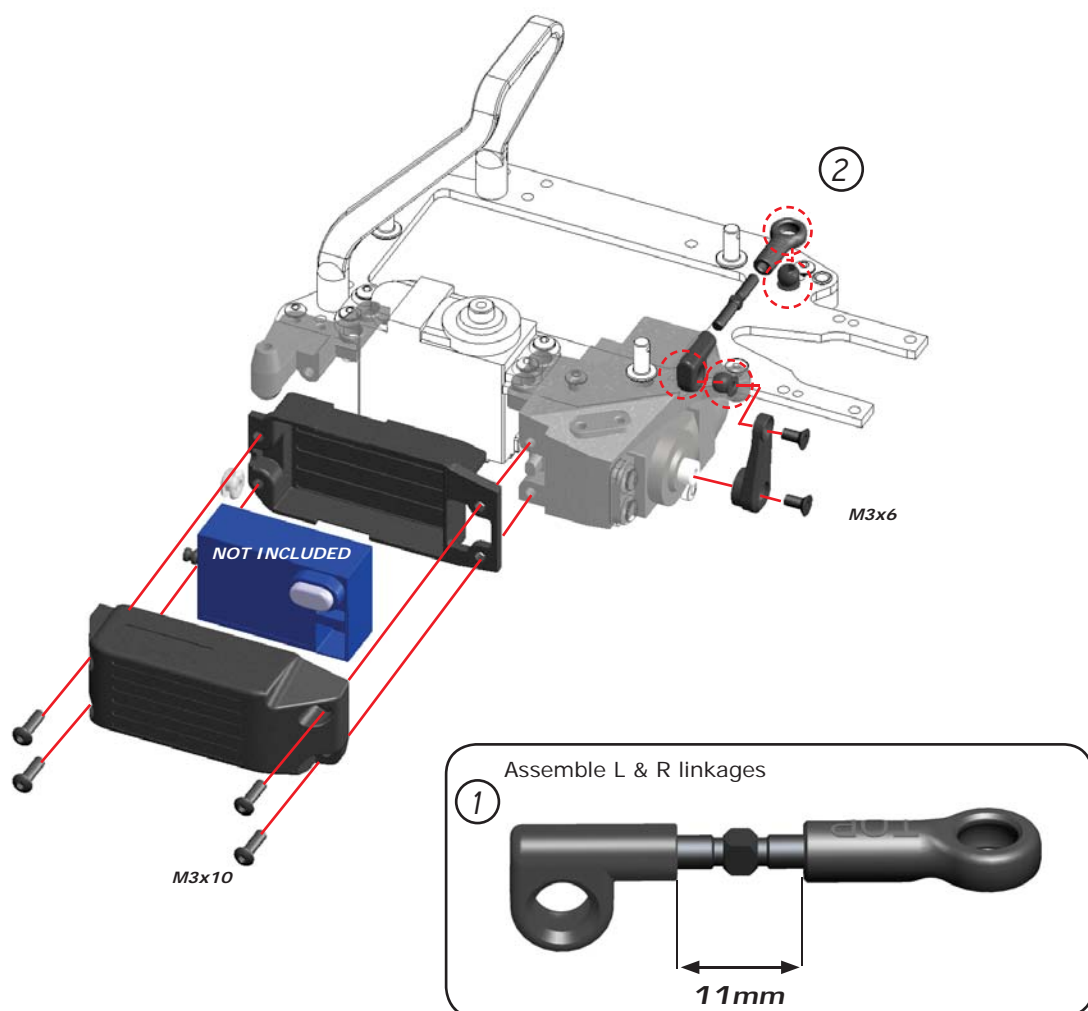
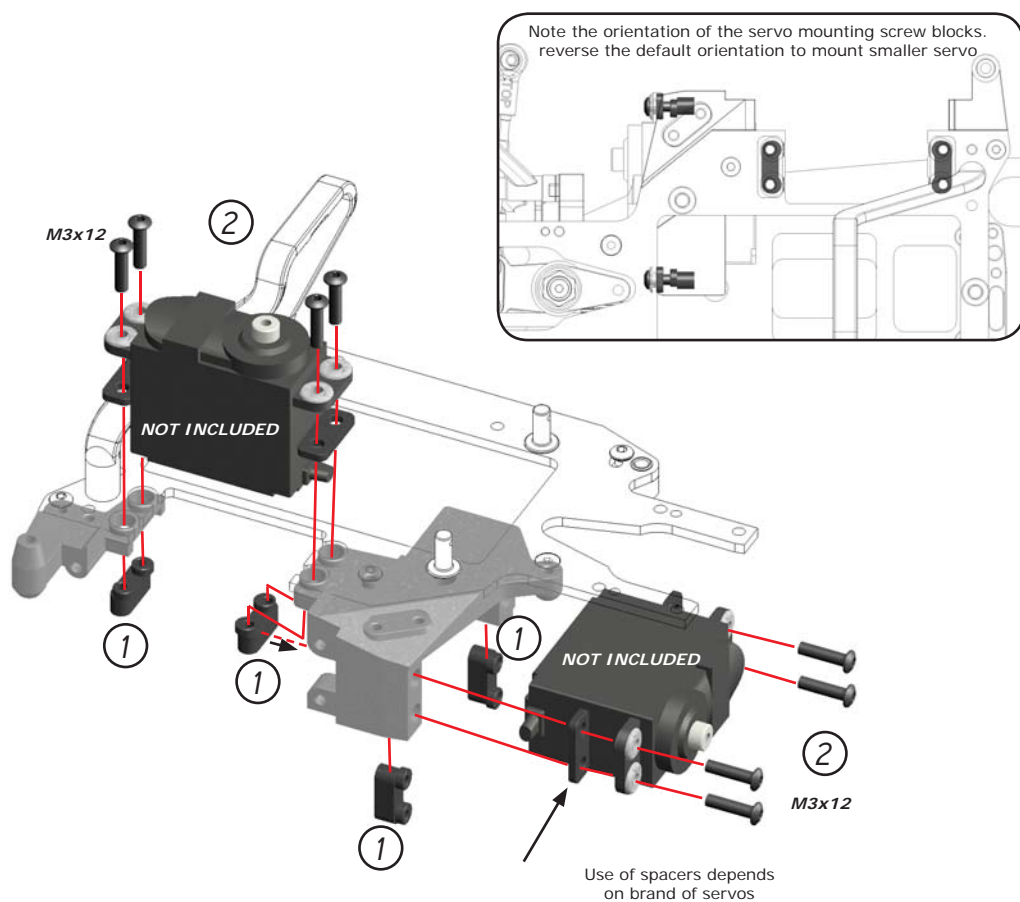


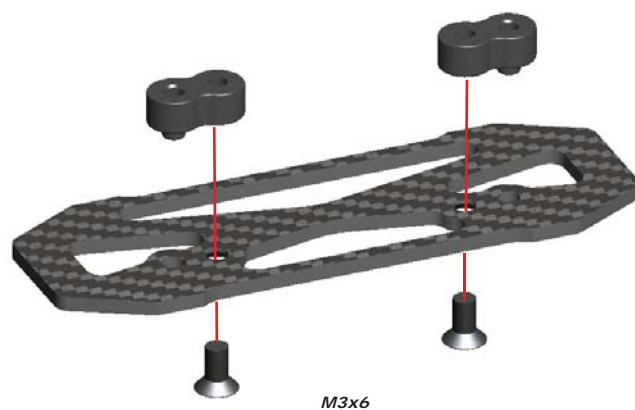
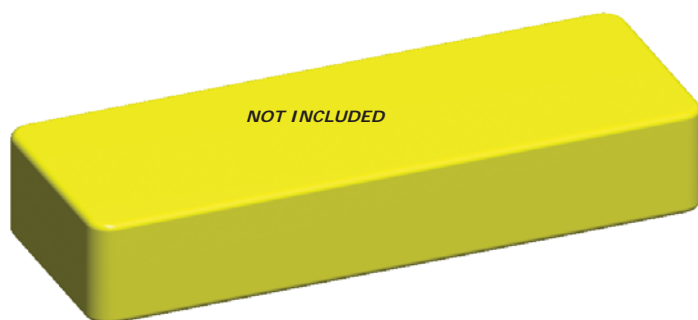
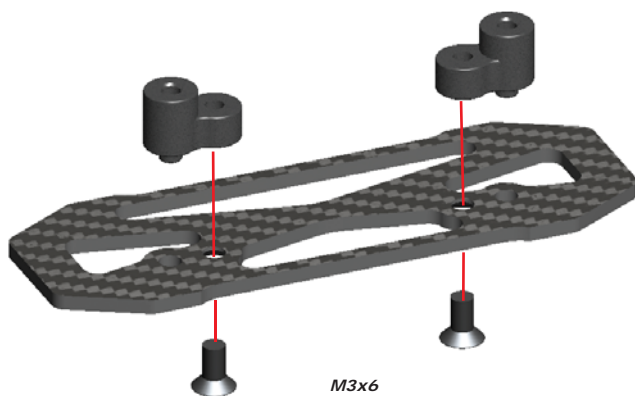


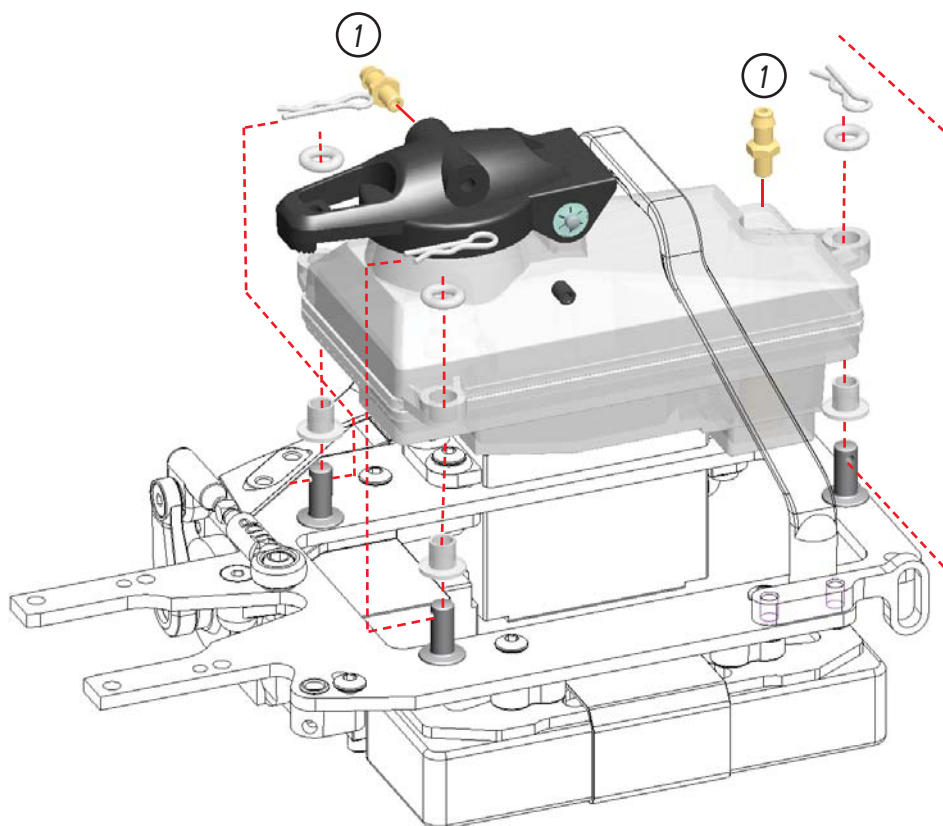
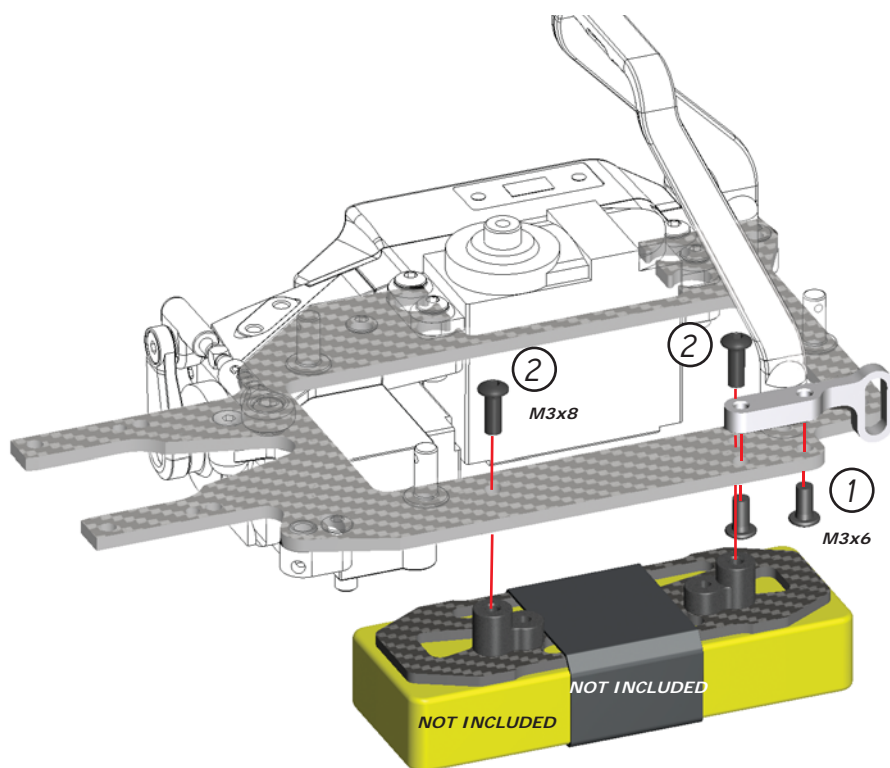


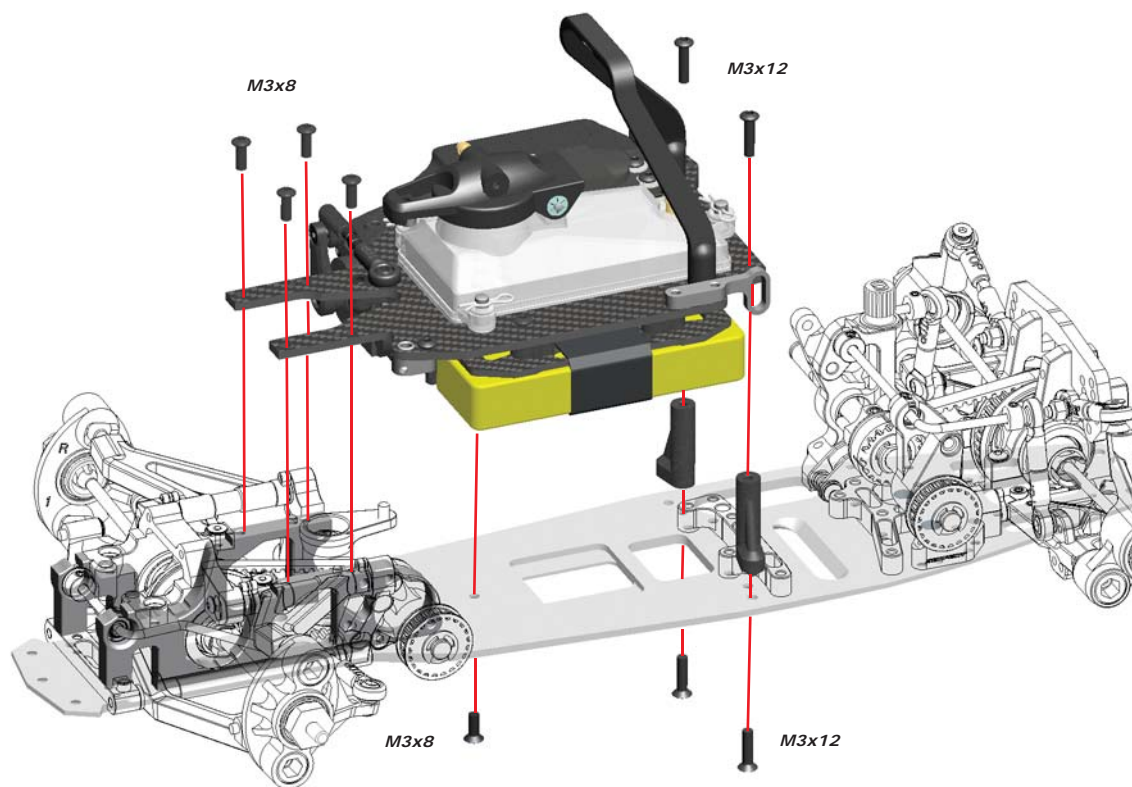
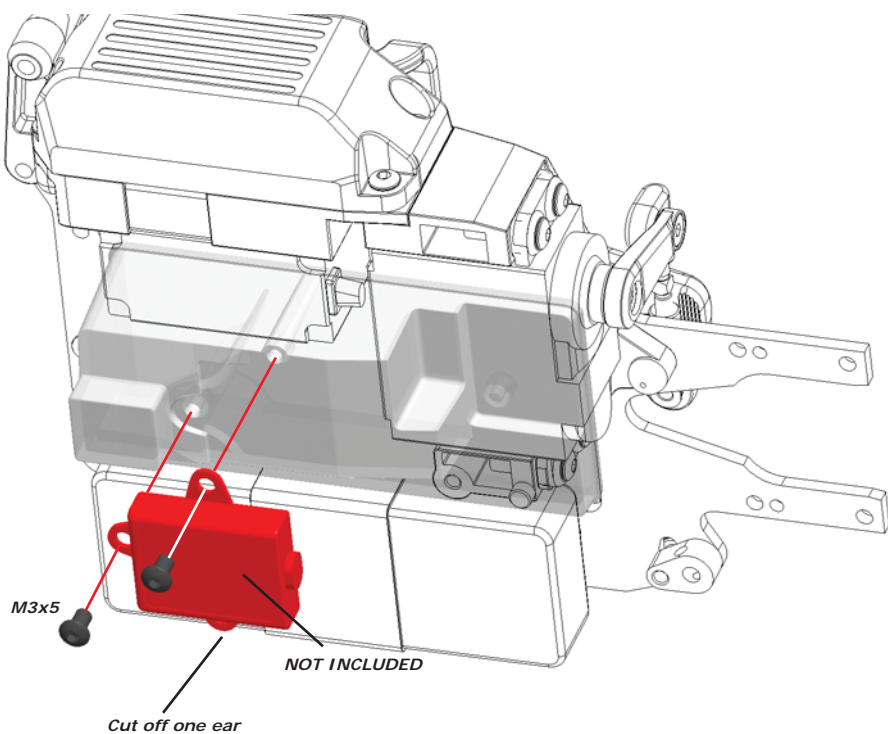
RADIO PLATE ASSEMBLY

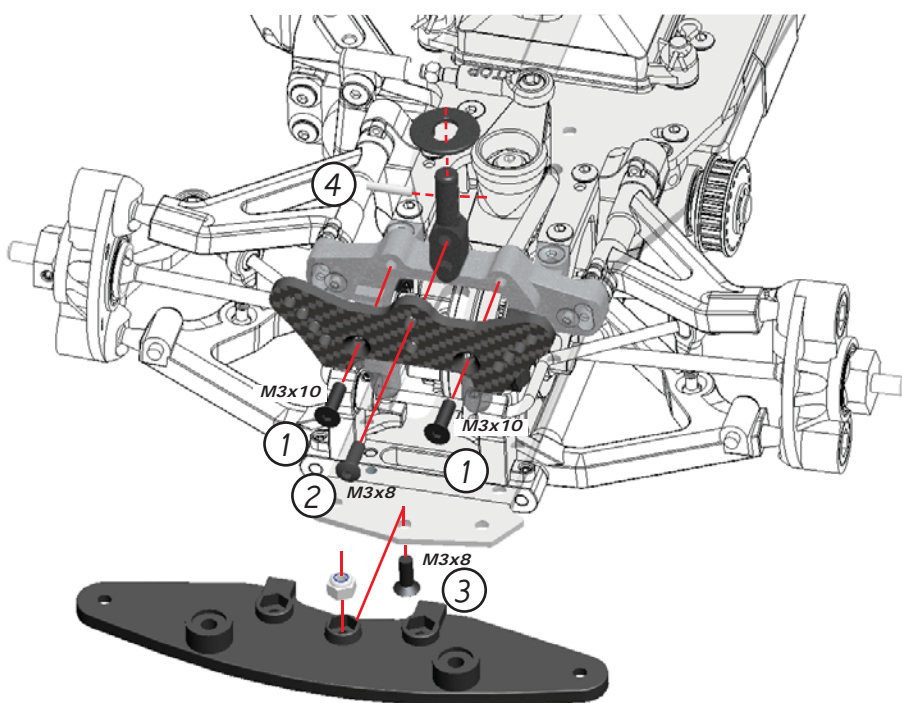
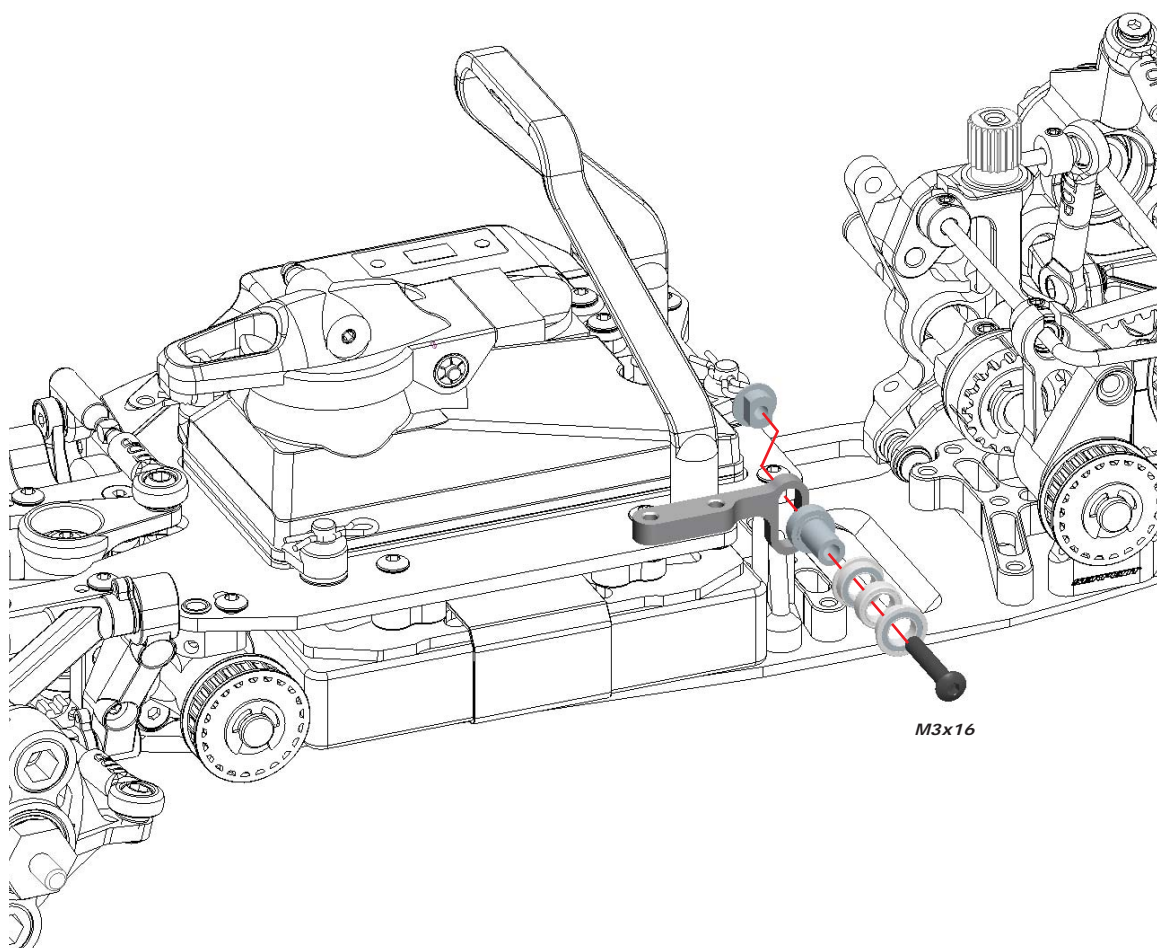


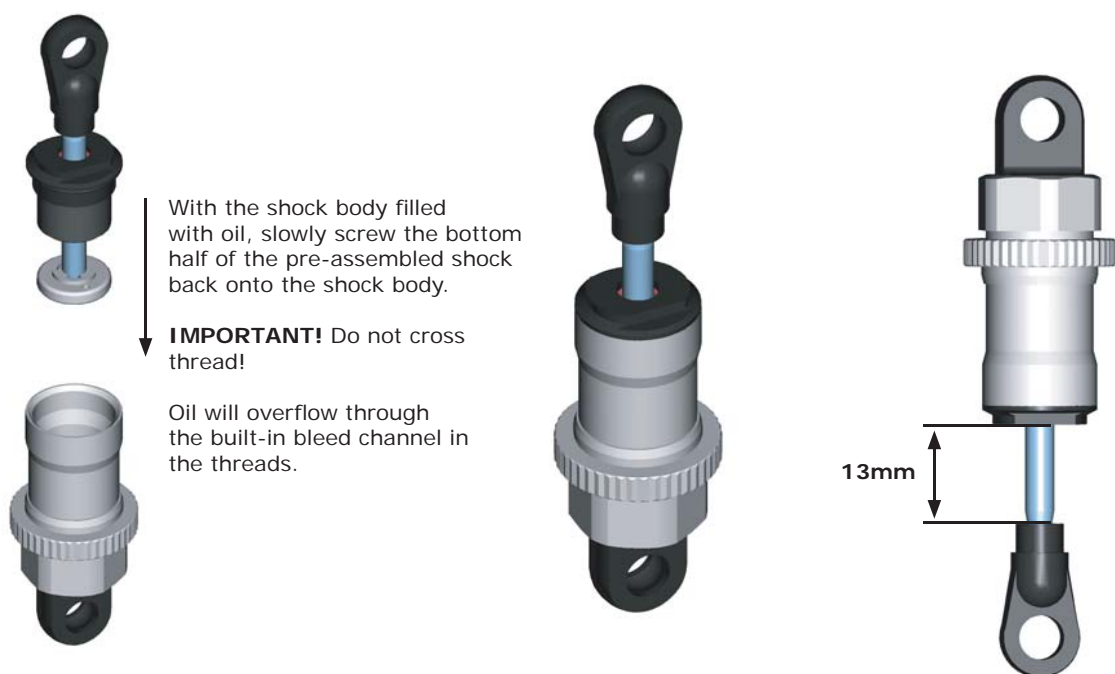
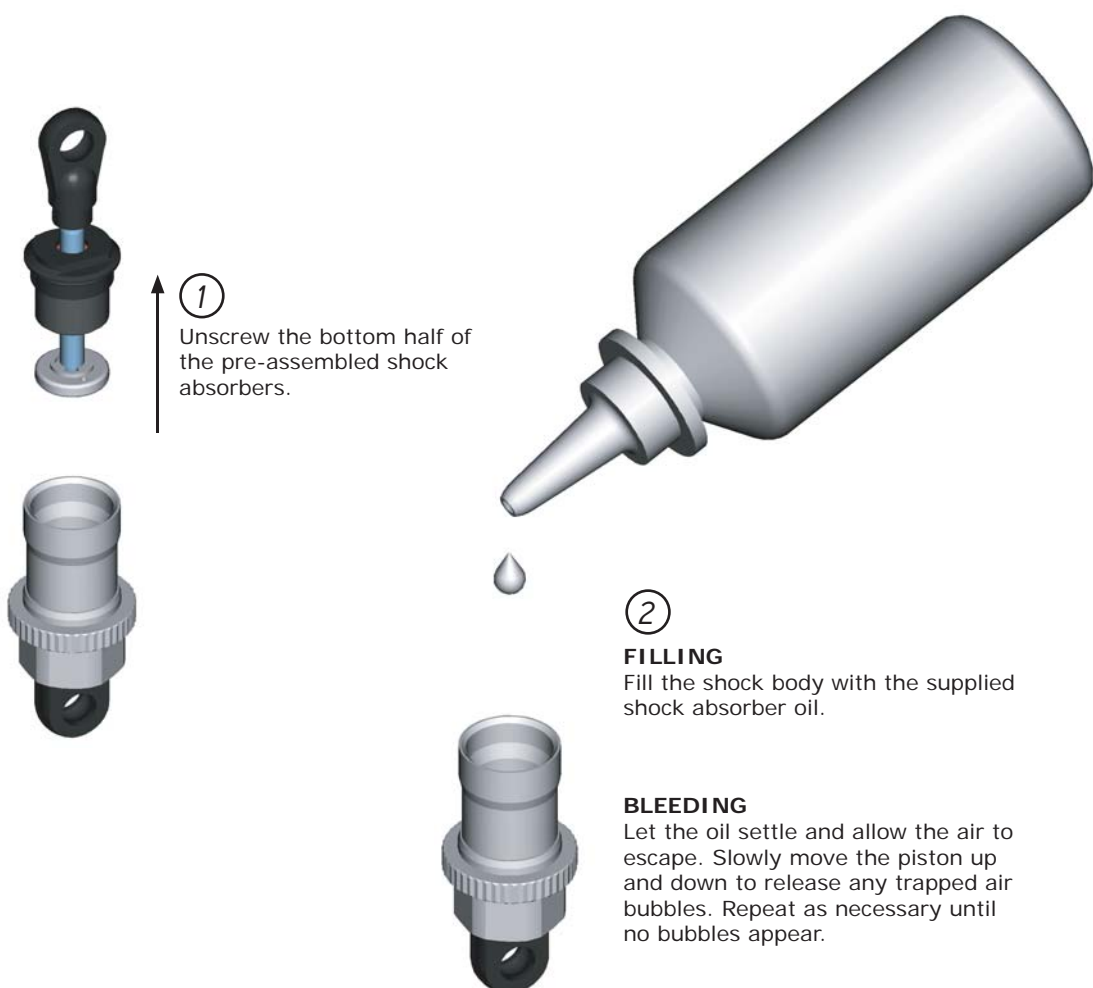


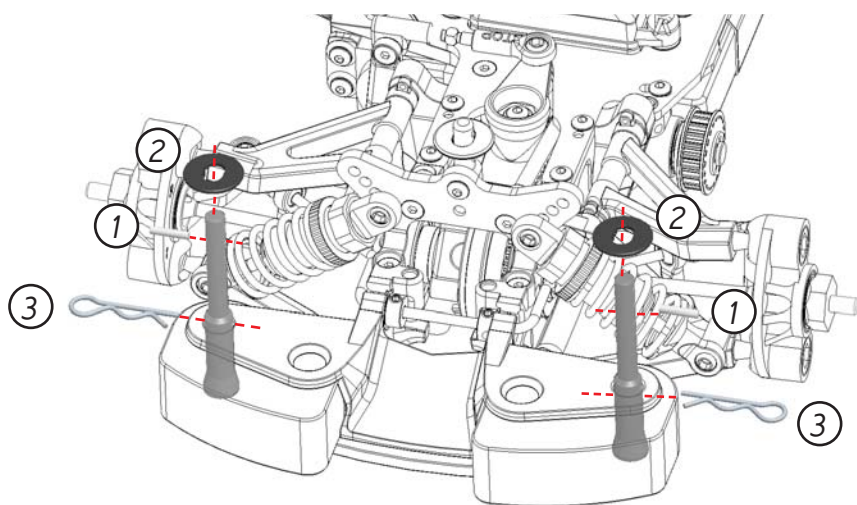
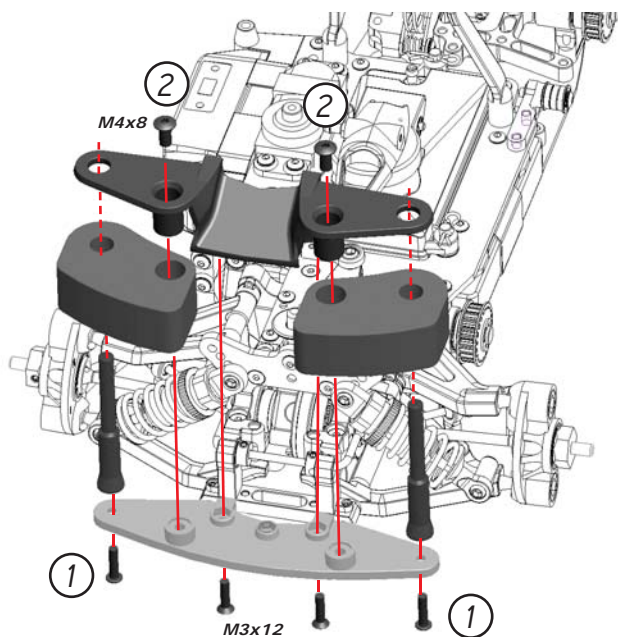
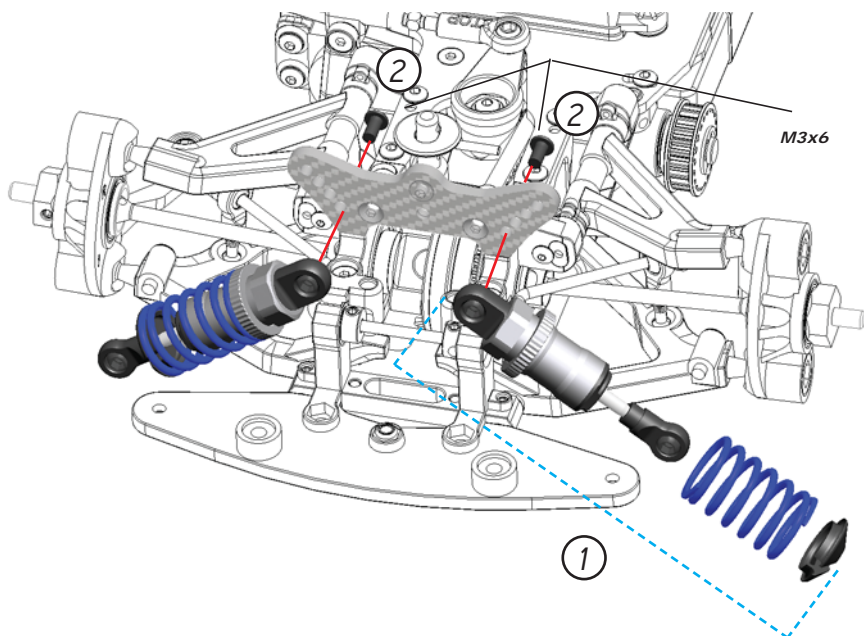


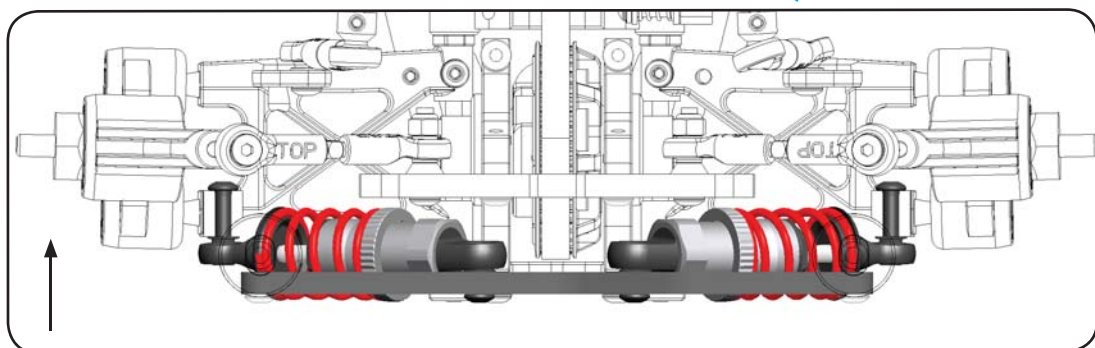
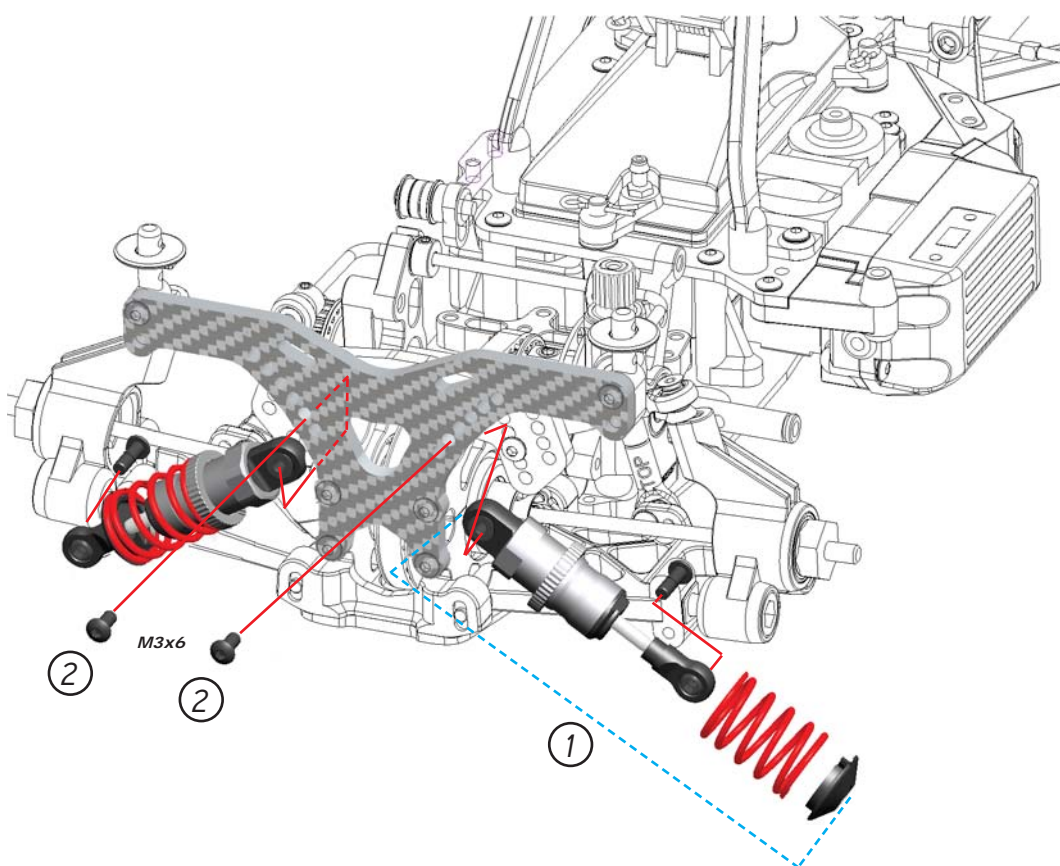
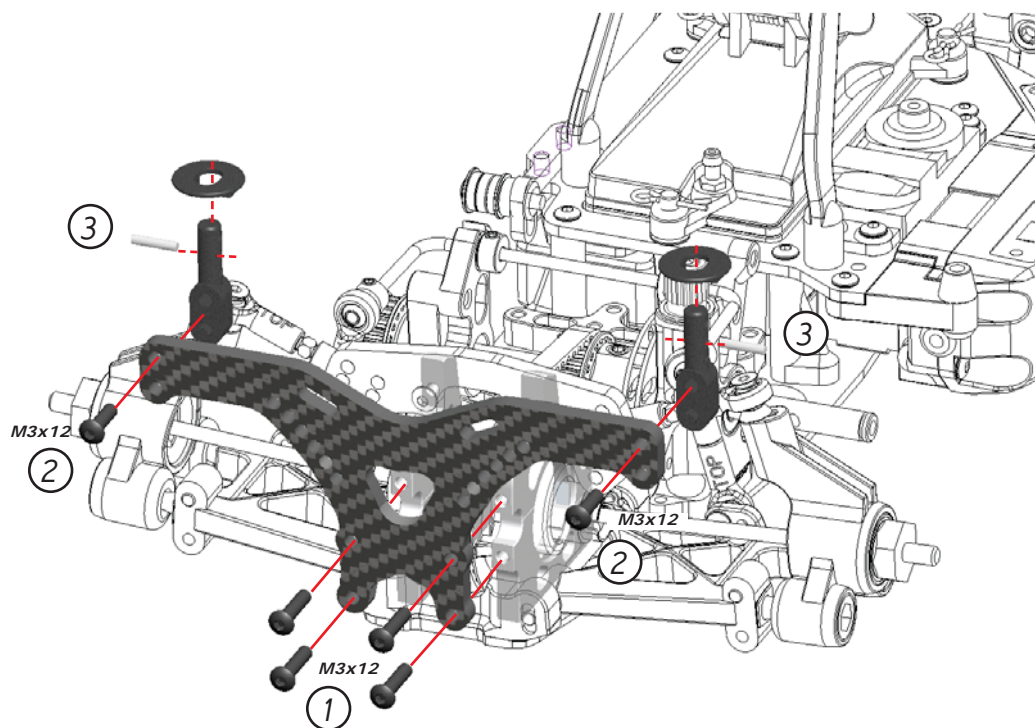


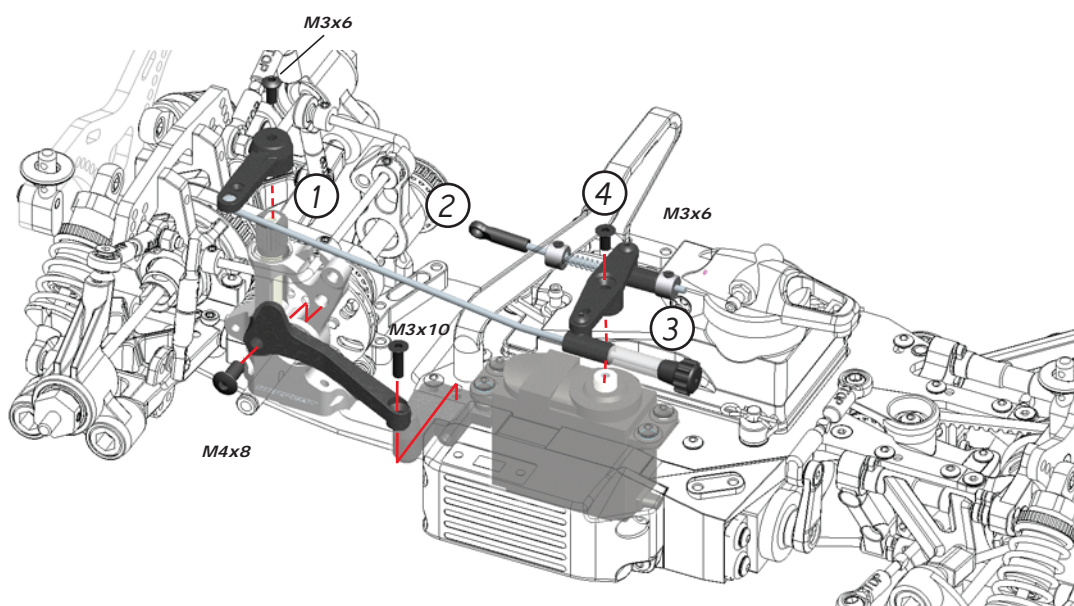
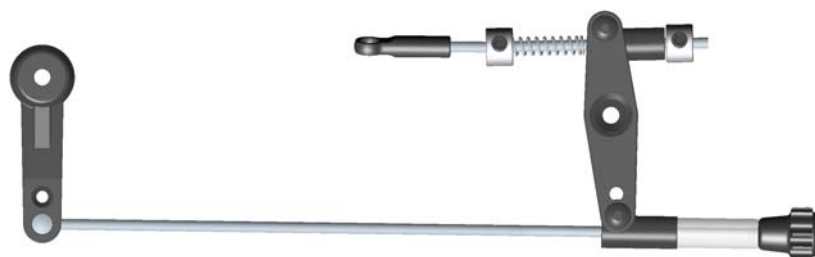
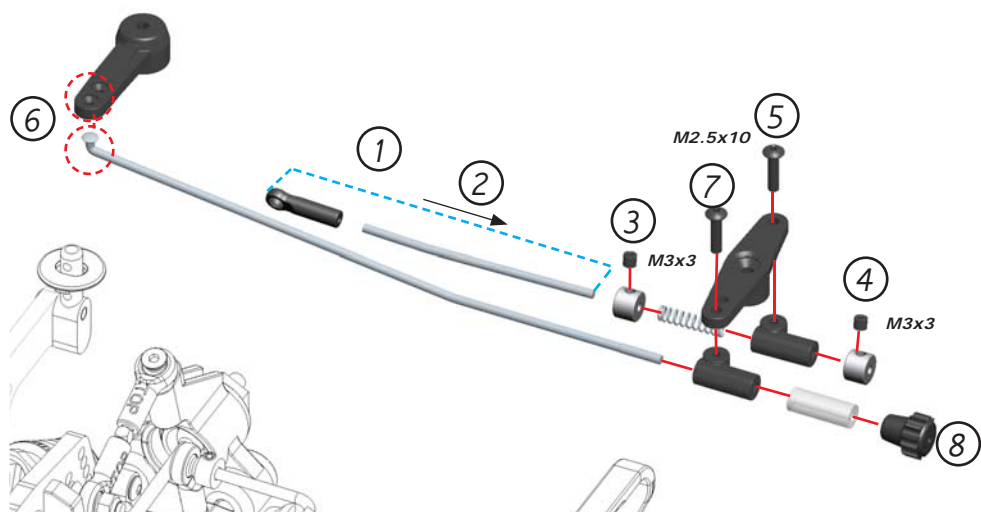


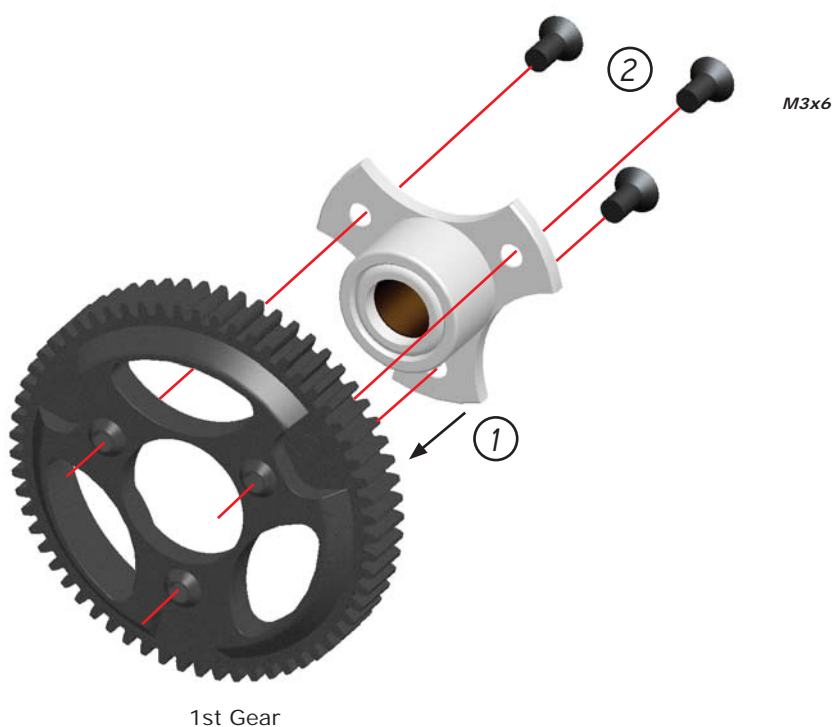
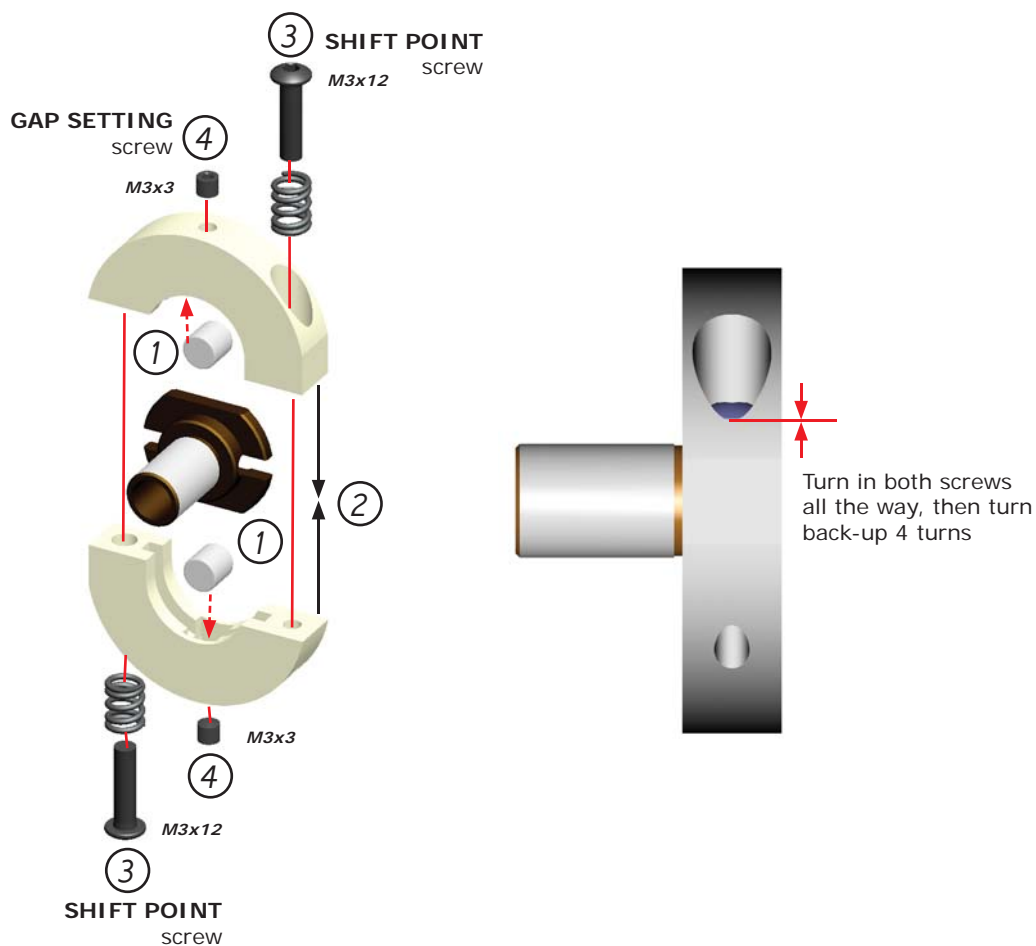


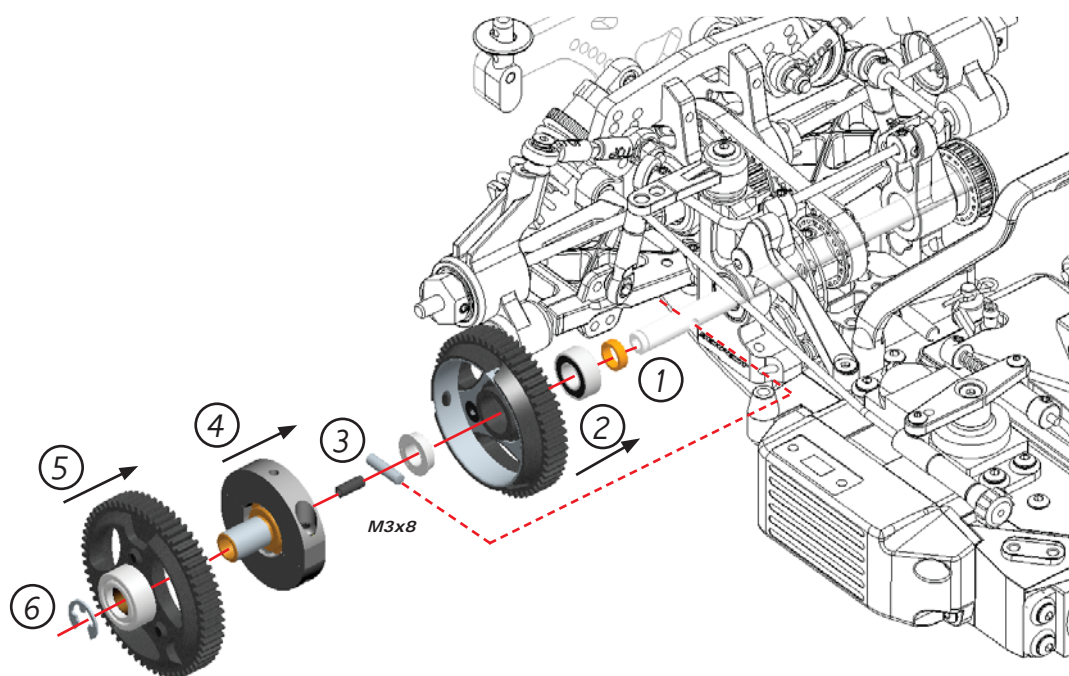
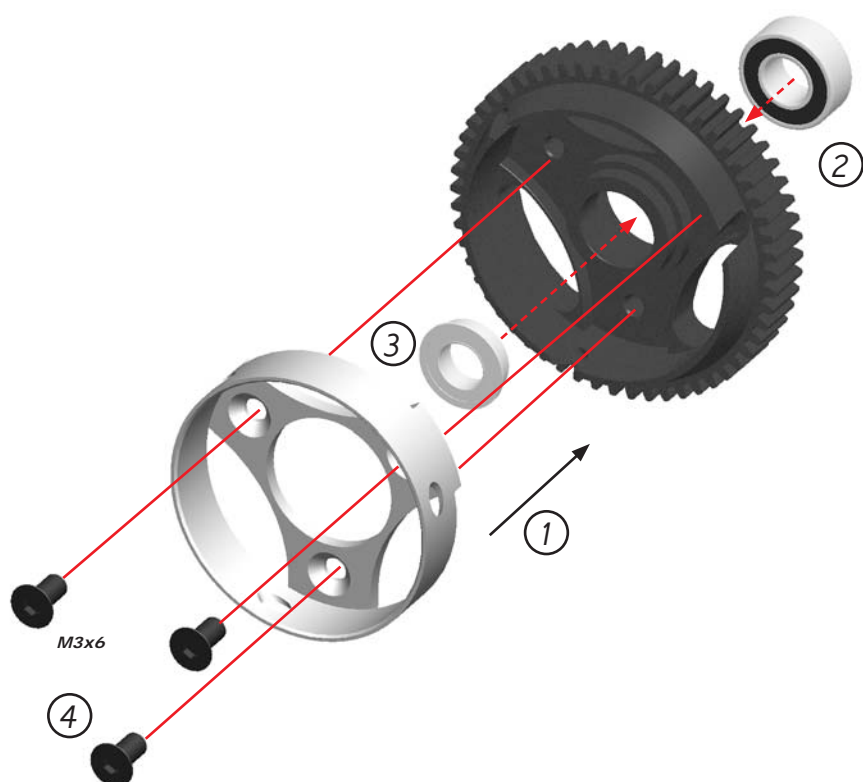




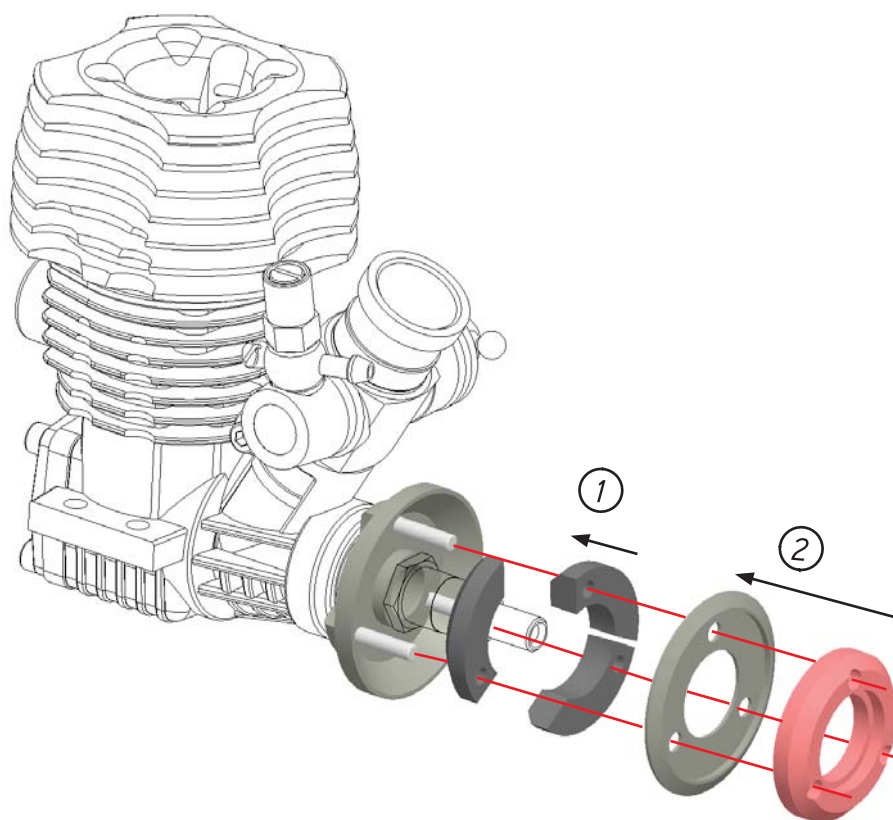
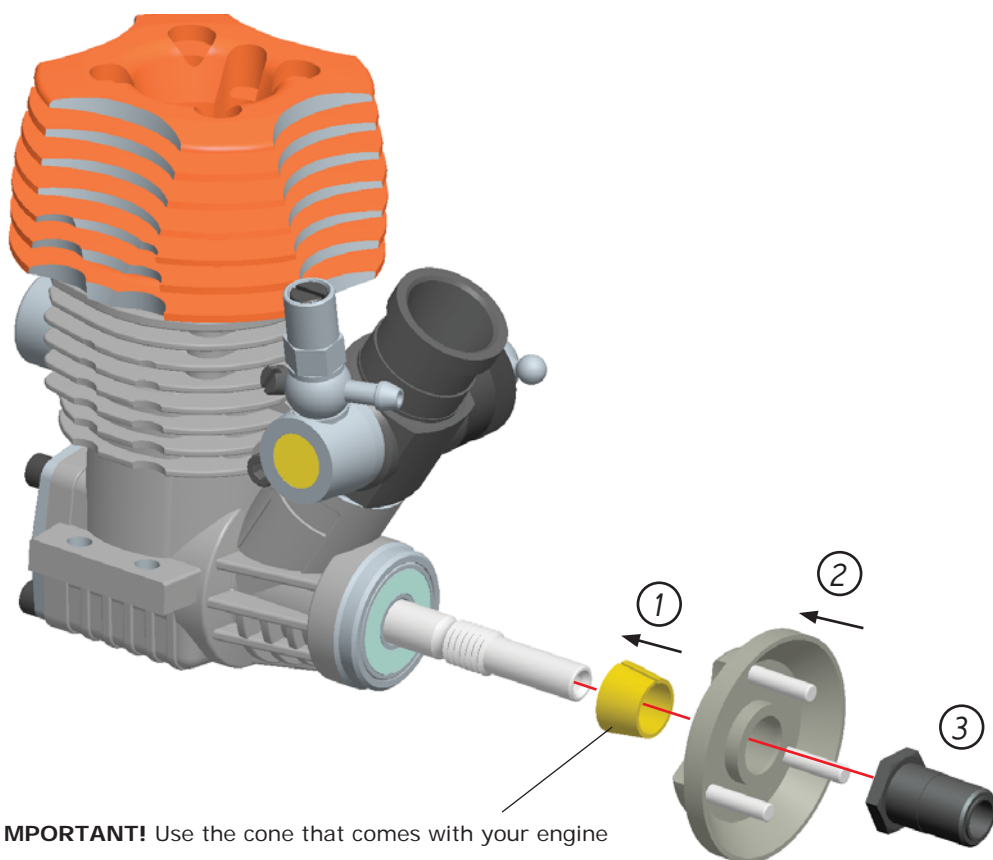


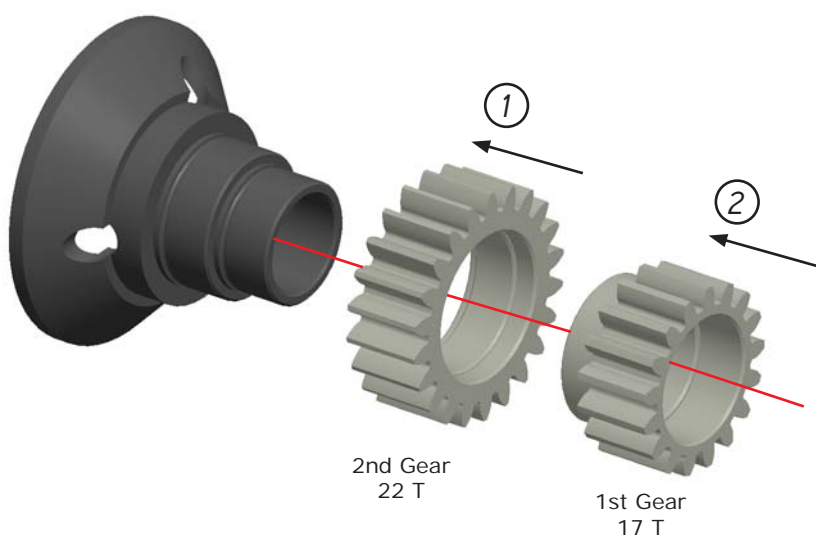
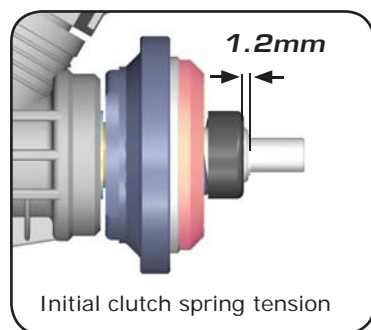
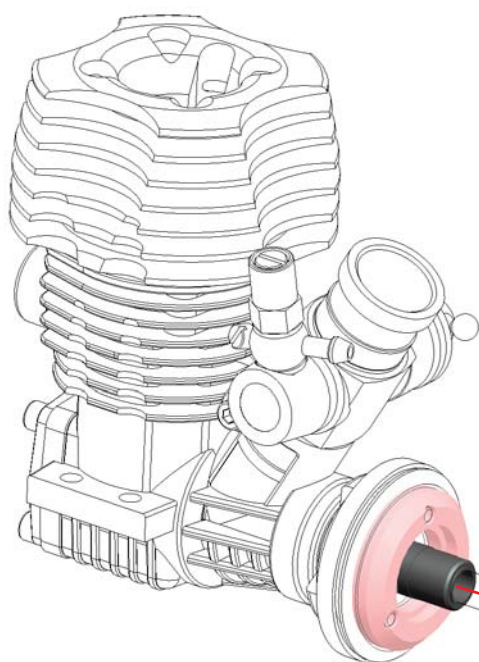


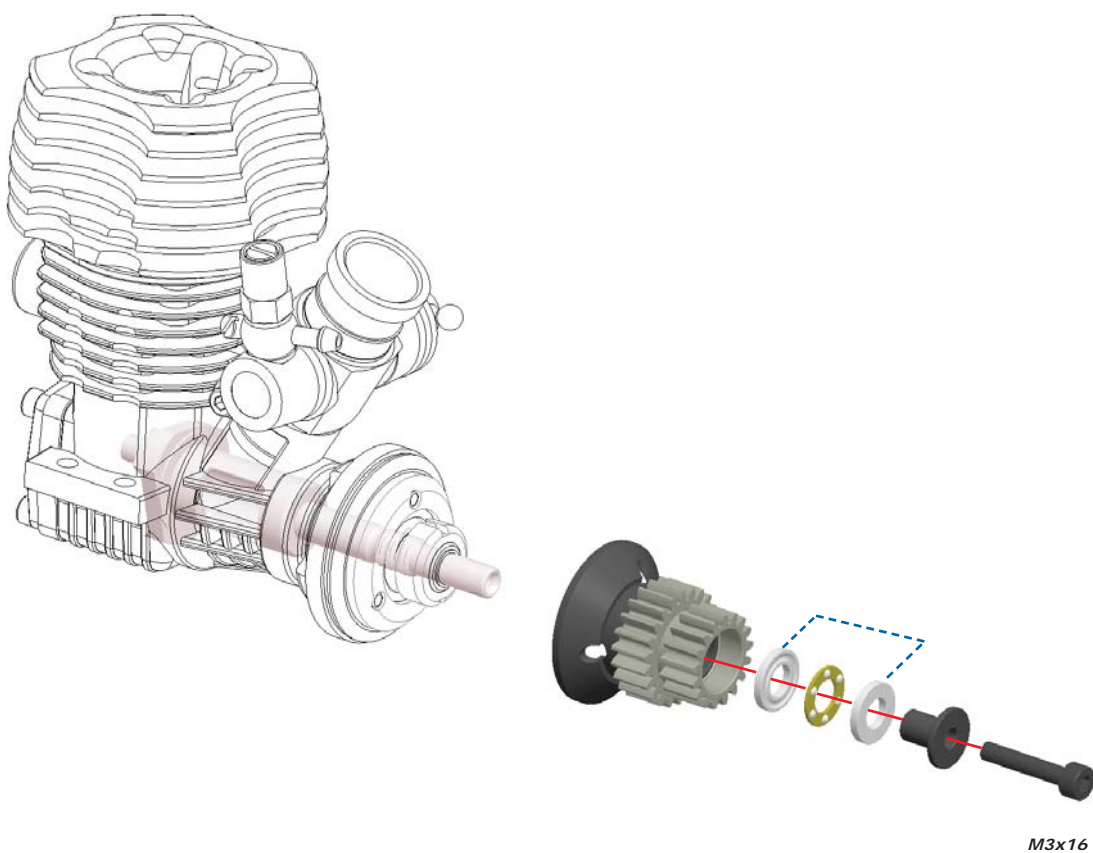
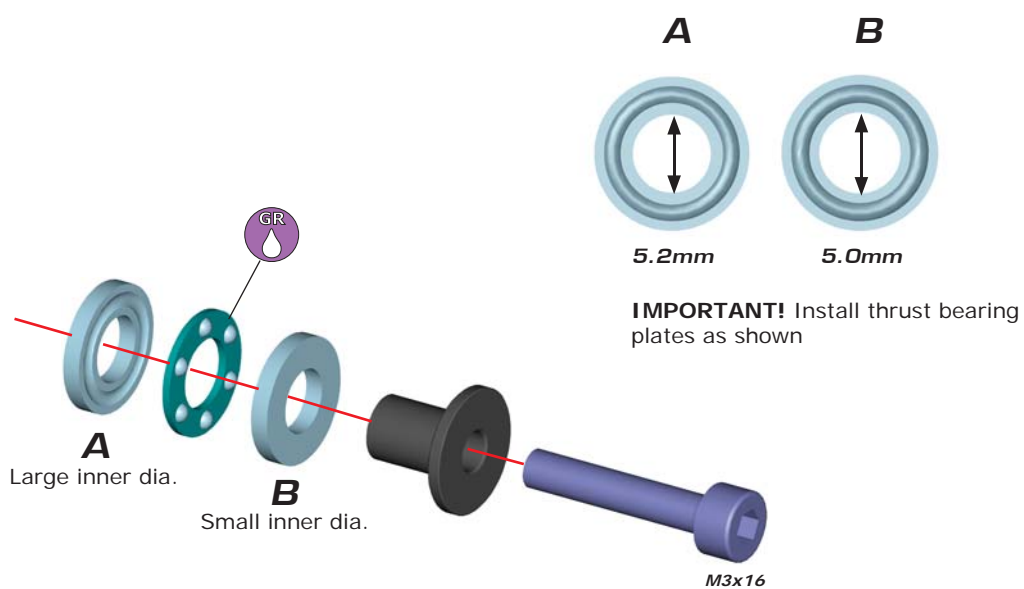




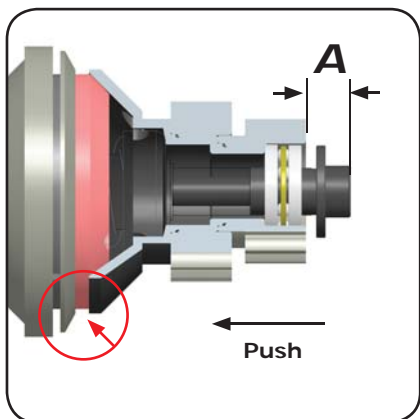
CENTAX ASSEMBLY



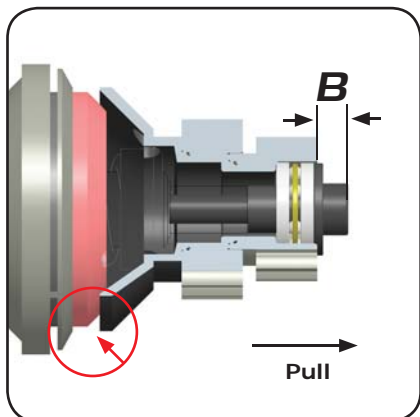




ADJUSTING THE CLUTCH GAP



- 1** Install only the clutchbell and the thrustbearing assembly on the engine crankshaft. Push the clutchbell onto the clutch shoe, and then measure the distance A as indicated.

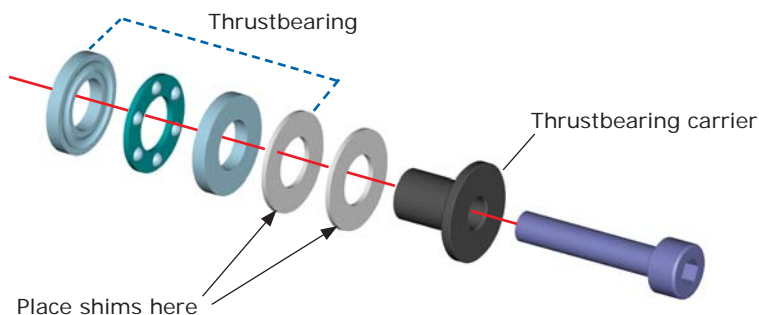


- 2** Pull the clutchbell away from the clutch shoe, and then measure the distance B as indicated.
- 3** The clutch gap is $A - B$; the correct gap is 0.7mm. If the clutch gap is greater than 0.7mm, you can easily calculate the thickness of shims required to set the correct gap:

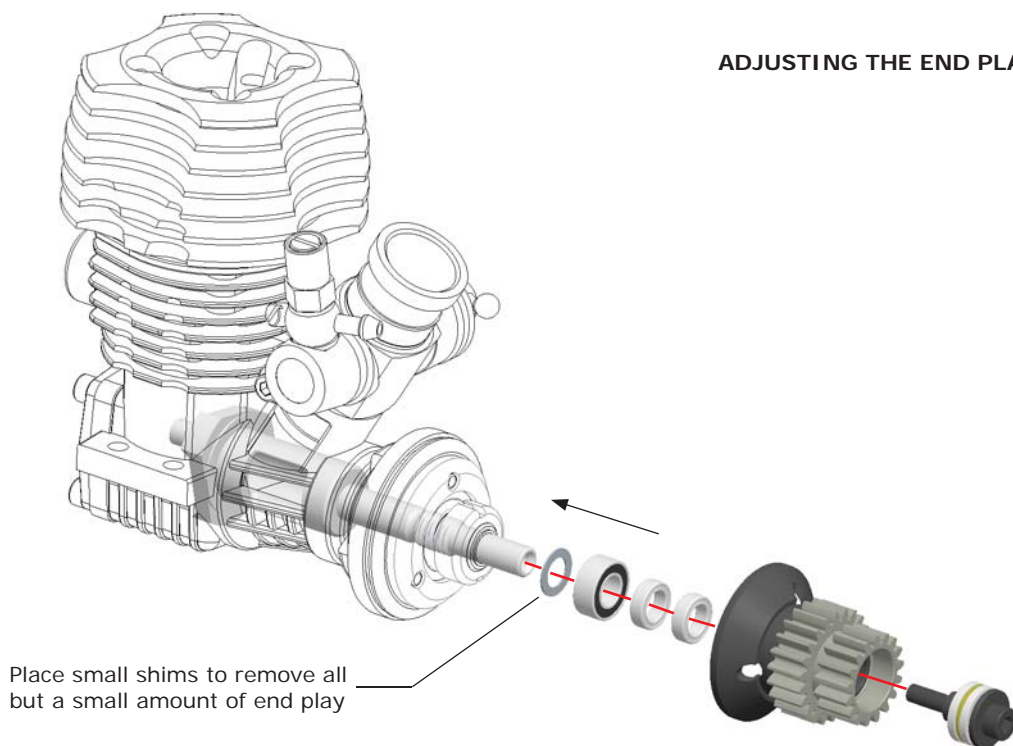
Thickness of shims required (in mm) = $A - B - 0.7$

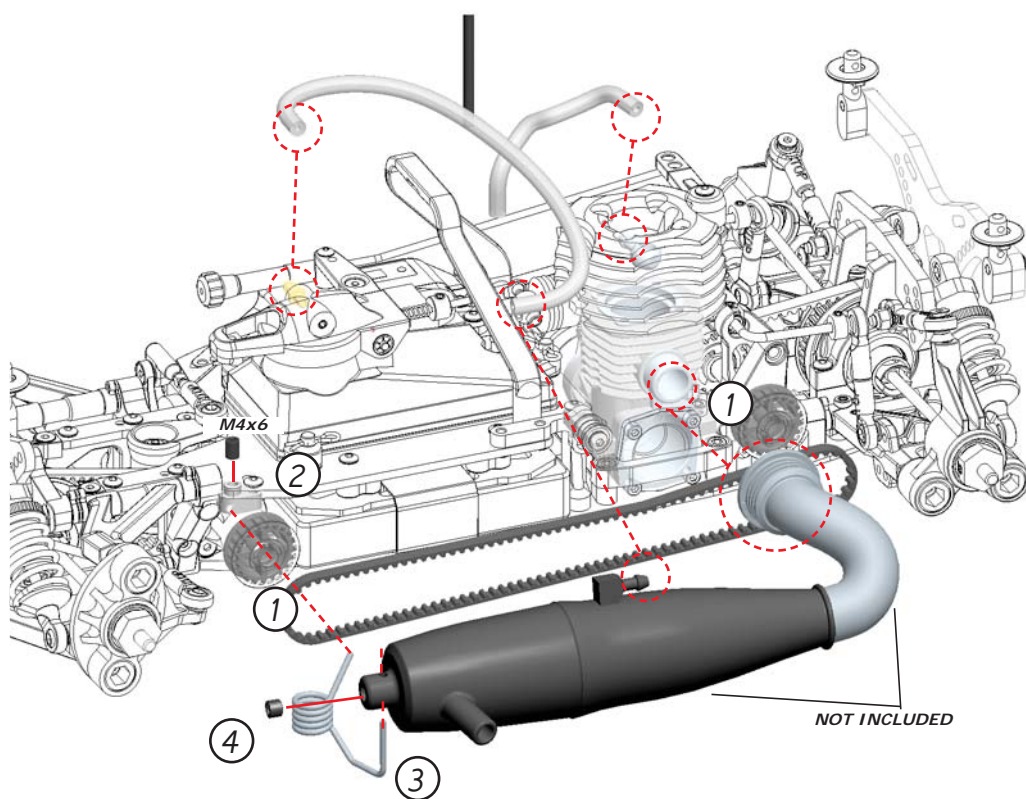
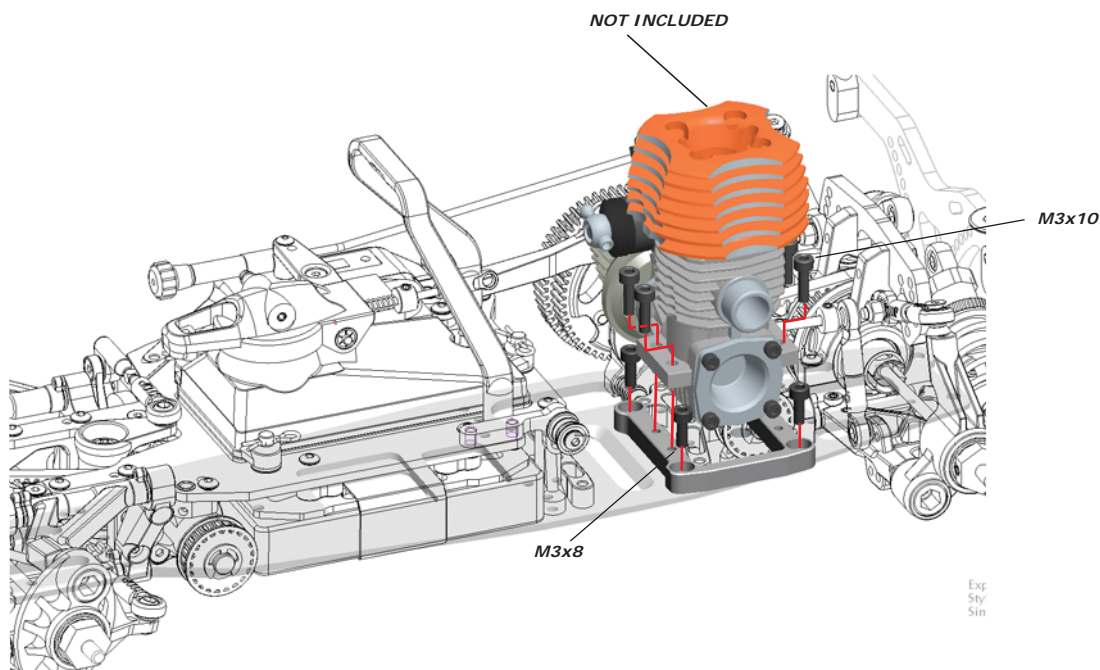
For example, using the values $A=1.3\text{mm}$, $B=0.3\text{mm}$
 Shim thickness = $1.3 - 0.3 - 0.7 = 0.3\text{mm}$

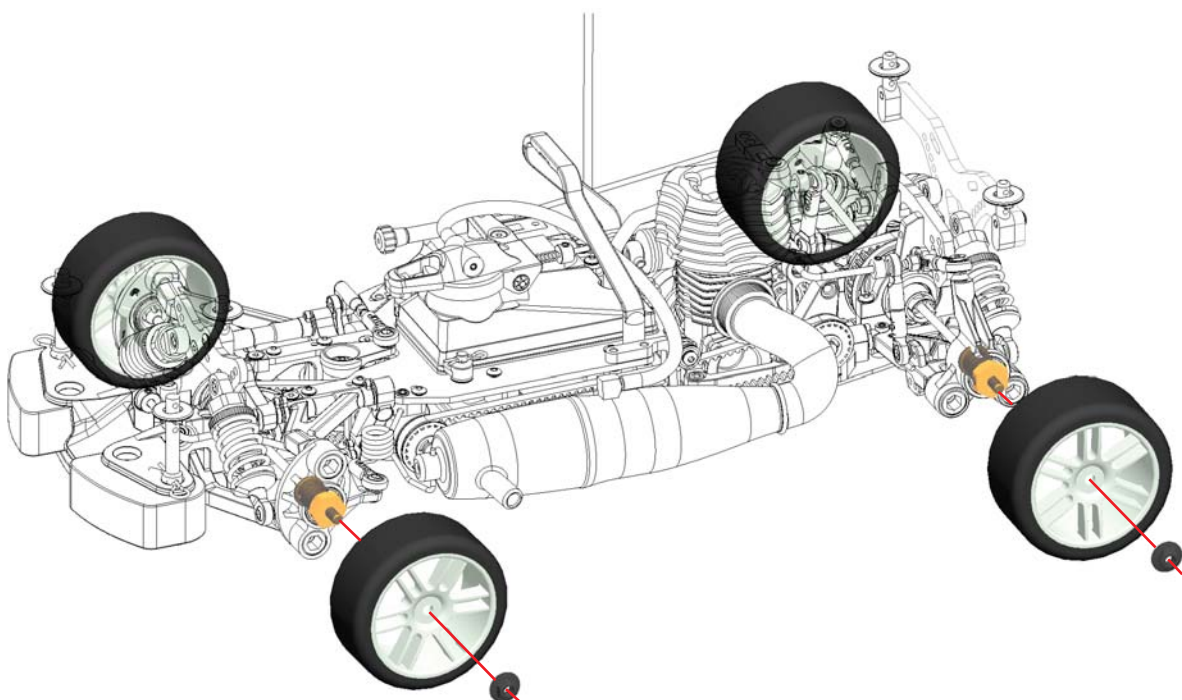
- 4** Place shims between the outer thrustbearing plate and the rim of the thrustbearing carrier as shown.



ADJUSTING THE END PLAY







Serpent 733 Parts List

ART. DESCRIPTION

804000 Serpent 733 1/10 4WD KIT

MANUAL & DECALS804000 SERPENT 733 1/10

MANUAL, DECALS

- 804183 Manual / ref guide 733
- 804182 Decal sheet 733 (2)
- 1886 Decal serpent black/white 1/10 (2)
- 1888 Decal serpent chrome 1/10 (2)

RADIO INSTALLATION / BATTERY

- 1070 Grommet rubber soft (4)
- 1639 Collar alu 2.1+setscrew (4)
- 804136 Battery holder
- 804137 Radioplate 733
- 804151 Receiver box
- 804154 Servo levers steering (3)
- 804155 Servo levers throttle (3)
- 804156 Brake lever / battery spacers
- 804158 Servo mount spacers
- 804159 Steering servo mount
- 804162 Radioplate support (2)
- 804181 Throttle spring (2)

SERVO SAVER AND STEERING

- 1650 Balls 6mm / imbus (4)
- 802260 Track-rod 47mm l+r (2)
- 802261 Track-rod 47mm L+R Titan (2) Optional
- 804120 Servo saver axle
- 804124 Servo saver Spring
- 804130 Servo saver nut
- 804131 Servo saver shaft
- 804154 Servo levers steering (3)
- 804157 Servo saver set nylon
- 902138 Rod 23mm set (2)
- 903231 Balljoint set 14+6+2

FUEL TANK AND PARTS

- 1434 Pressure nipple angled
- 1437 Seal shaped for fuelcap (2)
- 1438 Fuelcap AFL white shaped seal
- 1493 Nipple brass m3 (4)
- 1602 Body clips small (10)
- 804149 Tank inserts frame
- 804172 Tank 733 75cc
- 804178 Tank-support alu+rubber cover (3)
- 804179 Covers rubber tankmount (2)

SHOCK ABSORBERS

- 804187 Oil set 733 diff-shock (3)
- 903166 Rod shockabsorber short (2)
- 903168 Frame shockabsorber nylon
- 903226 Rod shockabsorber short Ti-Ni (2) Optional
- 903232 Springwasher alu light (4) Optional
- 903175 Foam insert (4)
- 903177 Shocknut alu (2)
- 903178 Housing shock alu short (2)
- 903186 C+g-clip/washer RCC shock (12)
- 903332 Shock RCCX revision set
- 903333 X-ring RCCX shock (10)
- 903334 Shock-set RCCX short (2)
- 903336 Insert RCCX 2009 shock (2)
- 903347 Balljoint short shock (4)

SHOCK SPRINGS

- 160300 Spring white L23 (2.3/13) (2)
- 160301 Spring yellow L23 (2.8/16) (2)
- 160302 Spring oranje L23 (3.4/19.5) (2)
- 160303 Spring red L23 (4.1/23.5) (2)
- 160304 Spring pink L23 (4.0/28) (2)
- 160305 Spring blauw L23 (5.8/33) (2)
- 160306 Spring paars L23 (6.8/39) (2)
- 160307 Spring groen L23 (8/45.5) (2)
- 160308 Spring grijs L23 (9/51.5) (2)
- 160309 Spring black L23 (10/57) (2)
- 160310 Spring-set L23 (5x2)

CHASSIS / RADIO PLATE

- 804135 Chassis 733 3mm
- 804137 Radioplate 733 carbon
- 804162 Radioplate support (2)

BODYMOUNTS FR and RR

- 1667 Body clip medium (10)
- 802211 Bodymount adjustable front (3)
- 802212 Body-mount alu (2 long+1short) Optional
- 802361 Bodymount adjustable rear (2)
- 802362 Body-mount alu short rear (2) Optional
- 804164 Bodyplate front
- 804165 Bumperplate

FRONT SECTION

- 1650 Balls 5.8mm /setscrews hex (4)
- 411048 Adjust Nut for Front Suspension
- 411063 Pivot Ball Upper Suspension Arm
- 801218 Wheeladaptor FR alu (2)
- 801219 Ball 8.5mm alu short (4)
- 802260 Track-rod 47mm l+r (2)
- 802261 Track-rod 47mm L+R Titan (2) Optional
- 802335 Arb ball 3mm (2)
- 803240 Cvd shaft-set complete pro (2)
- 803241 Cvd driveshaft pro (2)
- 802352 Cvd insert (2)
- 802354 Pin 3x9.8mm (4)
- 803134 Spacer arb RR 720 (2)
- 803198 Adj nut nylon (10)
- 803212 Steeringblock 1 degr. L+R
- 803211 Steeringblock 0 degr. L+R Optional
- 804100 Belt Front 40S3M195 Orange Optional
- 804104 Belt Front 40S3M195 Low Friction
- 804110 Wishbone front lw L+R
- 804111 Wishbone front up L+R
- 804115 Exhaust mount spring
- 804117 Pivot pin fr lw (2)
- 804118 Pivot pin fr up (2)
- 804119 Bumper 733 foam (2)
- 804120 Servo saver axle
- 804121 Shaft middle
- 804134 Bracket middle axle
- 804138 Shocktower front
- 804141 Antiroll bar fr 1.8mm
- 804142 Antiroll bar fr 2.2mm Optional
- 804143 Antiroll bar fr 2.5mm Optional
- 804144 Antiroll bar fr 2.8mm Optional
- 804177 Antirollbar set front (4) Optional
- 804145 Exhaust spring mount
- 804147 Diff pully front

804153 Eccenters front
804154 Servo levers steering (3)
804160 Bearing bracket upper fr
804161 Suspension bracket fr L+R
804164 Bodyplate front
804165 Bumperplate
804166 Bearingblock fr L
804167 Bearingblock fr R
804170 Suspension bracket fr
808214 Spacer-set caster
902138 Rod 23mm set (2)
903231 Balljoint set 14+6+2

MIDDLE SECTION

804101 Belt Side 40S3M378 Orange
804104 Belt Front 40S3M195 Low Friction Optional
804113 Pulley middle (2)
804123 Belt tensioner
804149 Tank inserts frame
804150 Rollbar 733
804162 Radioplate support (2)
804163 Chassis stiffener
804172 Tank 733 75cc
901255 Belt tensioner set
903316 Bearingblock-2sp-r 966
903317 Bearingblock-2sp-l 966

REAR SECTION

1647 Balls 6mm (4)
1650 Balls 6mm / imbus (4)
801218 Wheeladaptor FR ipu alu (2)
802332 Driveshaft (2)
802335 Arb ball 3mm (2)
803134 Spacer arb RR 720 (2)
803135 Arb RR 2.5mm
803168 Arb RR 2.3mm Optional
804102 Belt Rear 40S3M186 Orange
804106 Belt Rear 40S3M186 Low Friction Optional
804108 Upright 733
804109 Wishbone rear lw L+R
804112 Pulley 2sp shaft (2)
804114 2-speed shaft
804116 Pivot pin rr lw (2)
804122 Bearingblock rr up
804128 Rearplate wide
804129 Rearplate narrow Optional
804132 Suspension bracket rr fr wide
804133 Suspension bracket rr fr narrow Optional
804139 Shocktower rear
804140 Camberlink bracket rear
804146 Shim conical 3x2mm (4)
804148 Diff pulley rear
804152 Eccenters rear
804168 Bearingblock rr
902138 Rod 23mm set (2)
903231 Balljoint set 14+6+2

TRANSMISSION

801215 Wheelaxle
801218 Wheeladaptor FR alu (2)
802332 Driveshaft (2)
803240 Cvd shaft-set complete pro (2)
803241 Cvd driveshaft pro (2)
802352 Cvd insert (2)
802354 Pin 3x9.8mm (4)
804100 Belt Front 40S3M195 Orange
804101 Belt Side 40S3M378 Orange
804102 Belt Rear 40S3M186 Orange
804104 Belt Front 40S3M195 Low Friction Optional
804105 Belt Front 40S3M378 Low Friction Optional

804106 Belt Rear 40S3M186 Low Friction Optional
804112 Pulley 2sp shaft (2)
804113 Pulley middle (2)
804114 2-speed shaft
804121 Shaft middle
804147 Diff pulley front
804184 Front one-way axle set Optional
804185 Front solid axle Optional
804148 Diff pulley rear
804171 Geardiff uni 733
804173 Geardiff revisionset
804174 Geardiff housing
804176 Geardiff x-ring (4)
804187 Oil set 733 diff-shock (3)
804188 Gear diff outdrive (2)
901255 Belt tensioner set

BRAKE SYSTEM

9612 Special ventilated brake-disk
804156 Brake lever / battery spacers
804169 Brakepulley adaptor
804180 Brake / throttle wires (2)
903304 Brake plate (2)
903316 Bearingblock-2sp-r 966
903317 Bearingblock-2sp-l 966
903318 Brake cam 966
903319 Brake bushing (2)
903324 Brake spring (2)
903330 Brakeplate / pad set

2-SPEED GEARBOX

1320 Ballbearings 6x10 flanged (2)
1342 Ballbearing 6x13 hs (2)
9638 Spacer 2-speed alu
802400 2-speed LC (light compact) set
802403 Spring 2-speed soft (2)
802404 2-speed clutch shoes set LC
803222 Gear 2-speed wc (2e) 54T
803223 Gear 2-speed wc (2e) 55T
803224 Gear 2-speed wc (2e) 56T
803225 Gear 2-speed wc (1e) 59T
803226 Gear 2-speed wc (1e) 60T
803227 Gear 2-speed wc (1e) 61T
902411 Driveflange with onway
902412 Adaptor 2-speed LC
902413 Flange 2-speed LC
902420 Rol-pin 5x5mm 2-speed LC (2)

CLUTCH SYSTEM

1311 Ballbearings 5x8x4 (2)
1315 Ballbearings 5x10x4 (2)
1377 Axial bearing 5x10
1388 Thrust-bearing 5x10 ceramic Optional
6503 Conus flywheel 7mm long (3)
6582 Centax clutchnut
6583 Centax adj nut
6586 Centax coil spring
802505 Centax-3 spring cup
802507 Centax-3 flyweights (3)
802509 Centax-3 clutch-shoe yellow
803205 Centax-3 clutch-shoe red Optional
803201 Centax supportwasher alu
803208 Centax-3 flywheel 31mm
803230 Centax-3wc clutch-set
803231 Centax-3wc clutchhousing
803233 Centax-3wc gear alu 16T
803234 Centax-3wc gear alu 17T
803235 Centax-3wc gear alu 18T
803236 Centax-3wc gear alu 21T

803237 Centax-3wc gear alu 22T
803238 Centax-3wc gear alu 23T
909516 Centax II spacer axialbearing
909519 Shim centax 5x08x0.1(2)x0.3(1)

ENGINE MOUNTS

804125 Engine mount top (uni)
804125 Engine mount top
804126 Engine mount lw rr
804127 Engine mount lw fr
804189 Engine mount top (sirio)

BALL-BEARINGS

1311 Ballbearings 5x8x4 (2)
1312 Ballbearing 5x8 mm flange
1315 Ballbearings 5x10x4 (2)
1320 Ballbearings 6x10 met flange (2)
1342 Ballbearing 6x13 hs (2)
1344 Ballbearing 10x15 hs (2)
1346 Ballbearing 12x18 hs (2)
1377 Axial bearing 5x10
401134 Ballbearing 4x7 (2)

FASTENING MATERIALS

1646 Steel balls 6mm M3 (4)
1647 Steel balls 6mm (4)
1650 Balls 6mm/setscrew hex (4)
110303 E-clip 5.0 (10)
110304 E-clip 7.0 (10)
110402 Nut nylock M3 (10)
110129 Screw allen cilinderhead m3x10 (10)
110107 Screw allen cilinderhead m3x16 (10)
110100 Screw allen countersunk m3x10 (10)
110127 Screw allen countersunk m3x12 (10)
110131 Screw allen countersunk m3x16 (10)
110122 Screw allen countersunk m3x6 (10)
110104 Screw allen countersunk M3x8 (10)
110131 Screw allen roundhead m2,5x10 (10)
110130 Screw allen roundhead m2,5x6 (10)
110109 Screw allen roundhead m3x10 (10)
110112 Screw allen roundhead m3x12 (10)
110111 Screw allen roundhead m3x14 (10)
110110 Screw allen roundhead m3x16 (10)
110128 Screw allen roundhead m3x5 (10)
110108 Screw allen roundhead m3x6 (10)
110124 Screw allen roundhead m3x8 (10)
110113 Screw allen roundhead m4x8 (10)
110126 Screw philips roundhead 2.5x10 (10)
110125 Screw philips roundhead 2.5x8 (10)
110117 Setscrew allen m3x12 (10)
110116 Setscrew allen m3x3 (10)
110115 Setscrew allen m3x4 (10)
110114 Setscrew allen m3x8 (10)
110120 Setscrew allen m4x10 (10)
110119 Setscrew allen m4x6 (10)
110401 Washer 3.2x7 (10)
110404 Washer 6x8x0,3 (10)
801217 Wheelnut m4 flanged
804186 Screw set 733 (196)

MERCHANDISING

1872 Rucksack Serpent (35x45cm) black
1873 Rucksack Serpent (48x61cm) black
1883 Banner Serpent S-logo 2x1m nylon
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 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)
1980 Large bag Serpent
1998 Serpent Cap black/orange

733

SERPENT

Serpent Model Racing Cars BV
Herenweg 29 IIA, 2105 MB - Heemstede
The Netherlands, Europe