



INSTRUCTION MANUAL
& REFERENCE GUIDE



Welcome to Serpent

The Serpent Viper 977 EVO is the latest generation of the successful 977 Viper gaspowered car, combining ultimate performance into a single package. The 265mm wide gas powered racing car offers superb handling, incredible acceleration and top-speed. Breath taking !

The Serpent Viper 977 EVO is designed to be a world champion, while still being easy to use, assemble, and set up. The Serpent Viper 977 offers state of the art specifications and leads the way in 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 new and innovative features that help take your Serpent Viper 977 into the winner's circle.

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 model. Follow the assembly steps in the order presented to ensure that no problems occur

SAFETY

Read and take note of the 'Read this First section' before proceeding to assemble the car-kit. This car-kit is intended for persons aged 16 or older.

CUSTOMER SERVICE

Serpent has made a strong effort to make this manual as complete and clear as possible. Additional info may be published in our website: www.serpent.com or you may ask your dealer or the Serpent distributor for advice, or email Serpent direct: info@serpent.com

The Serpent Facebook, Twitter and Youtube pages give additional means of support and communications.

INSTRUCTIONS, HOW TO USE

The kit includes bags, with bagnumbers, which refer to the same step in the manual. Open only the indicated bag(s) per step and finish that part of the assembly.

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 Viper 977 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.

The instruction manual included with your Serpent Viper 977 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 Viper 977 is accessible from the Serpent 977 product page which can be found on Serpent.com and can be accessed by simply typing www.serpent.com/903015 into your web browsers address bar.

From the Serpent Viper 977 product page you will find the very latest information about your Serpent Viper 977: 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.

Enjoy racing!

Team Serpent
9 x World Champions
Established in 1980

Remaining parts will be needed lateron in the assembly process.

SETUP

In many assembly steps you mount specific parts that suit the default set-up. We advice to keep the separate default set-up sheet alongside the manual, during all assembly.

Other finetuning of the set-up, must be done at the track.

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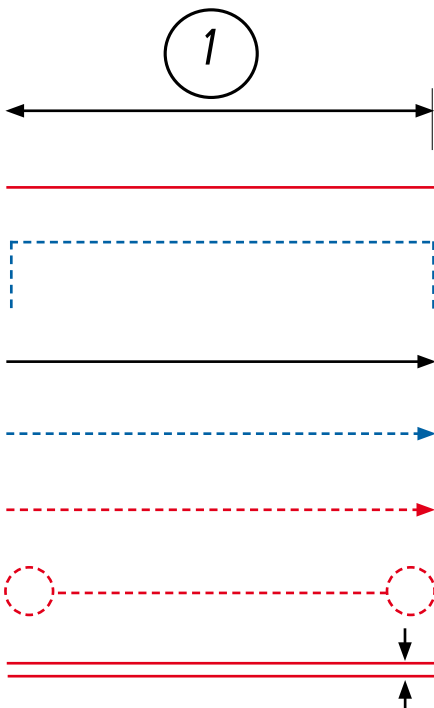
Read this first!

- This is a highly technical hobby product, intended to be used in a safe racing environment. This car is capable of speeds in excess of 80 km/h or 50mph. Please follow these guidelines when building and operating this model.
- Parental guidance is required when the builder/user of this car is under 16.
- Follow the building instructions. If in doubt, contact your dealer or importer.
- Be sure to use the proper tools when assembling the car. Always exercise caution when using electric tools, knives and other sharp objects.
- Be careful when using liquids like lubrication oil, fuel 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 motor, engine and exhaust pipe system or speedo during and immediately after use, as these parts may be very hot. We advise to use protective hand gloves.
- 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. Also check that the transmitter and receiver frequencies correspond and are not used by any other racer at the same time. 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.
- Empty the fuel tank (depending on model) if needed and disconnect the receiver battery.
- 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.

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 (Grey),



Apply threadlock (Blue),



Apply silicone grease (Orange),

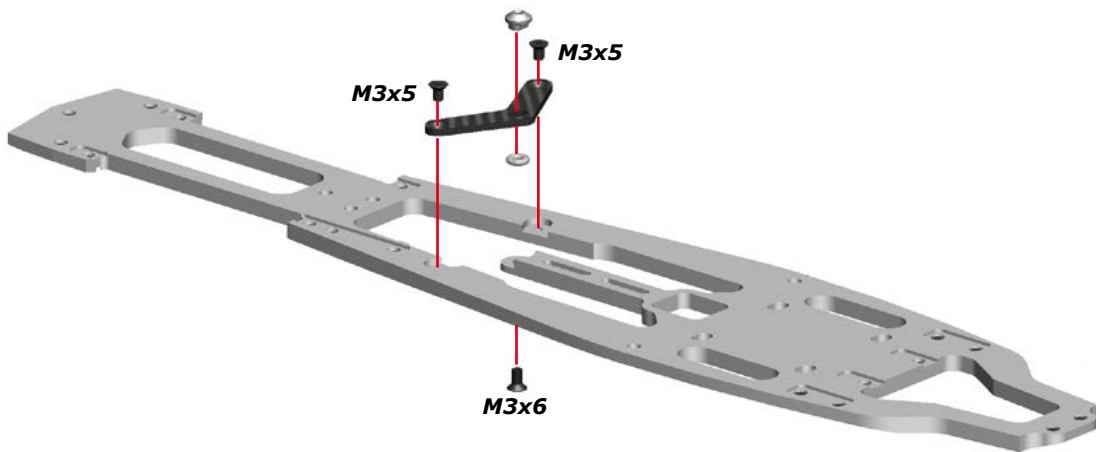


Apply silicone oil,

REAR ASSEMBLY

STEP
1

Bag
1



STEP
2

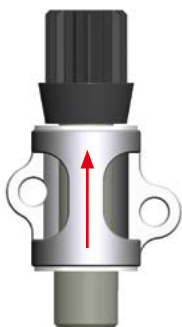
2.1

6x10 Flanged

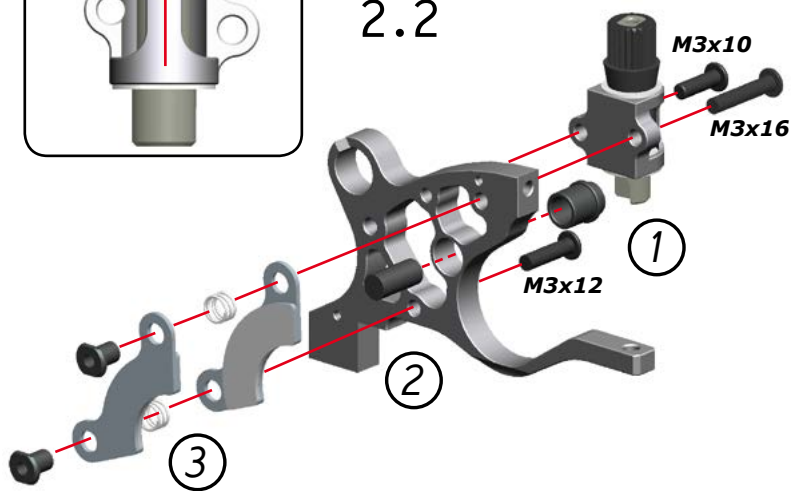
6x10 Flanged



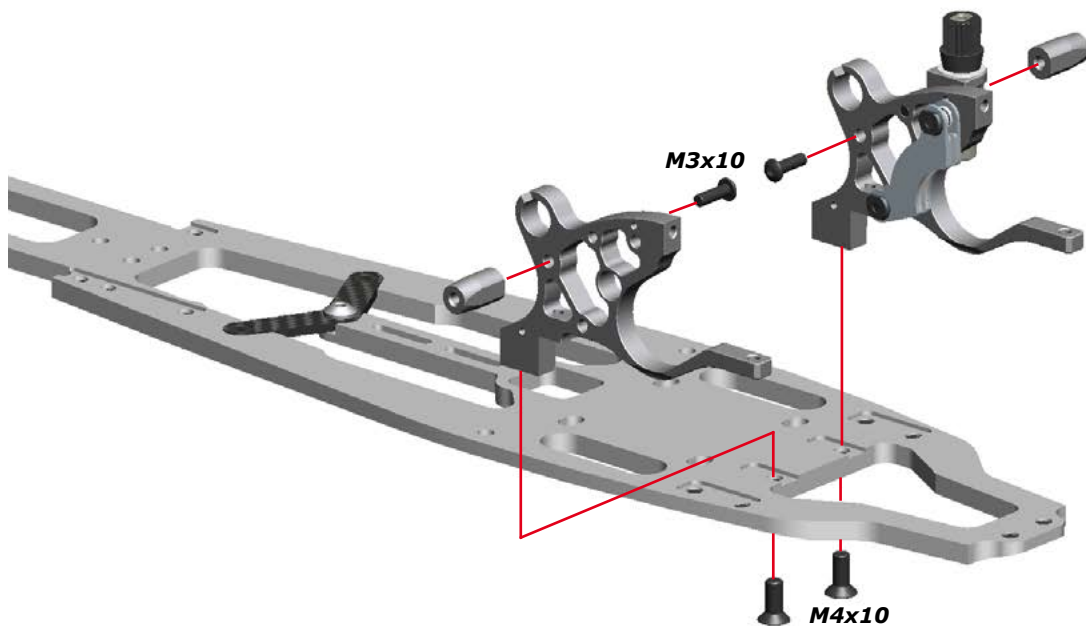
Note orientation the
brake holder

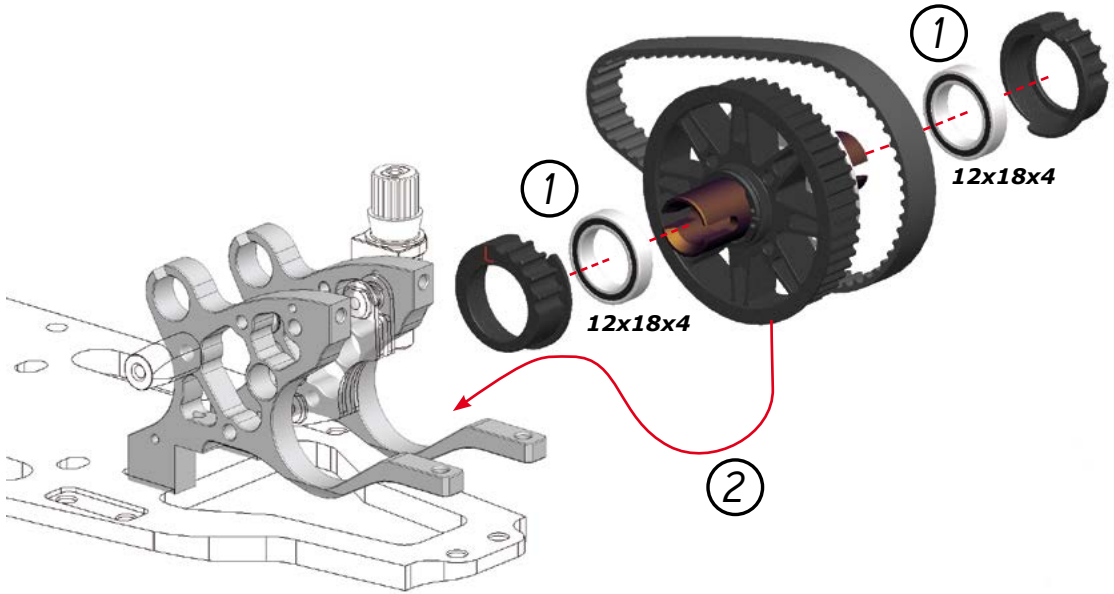
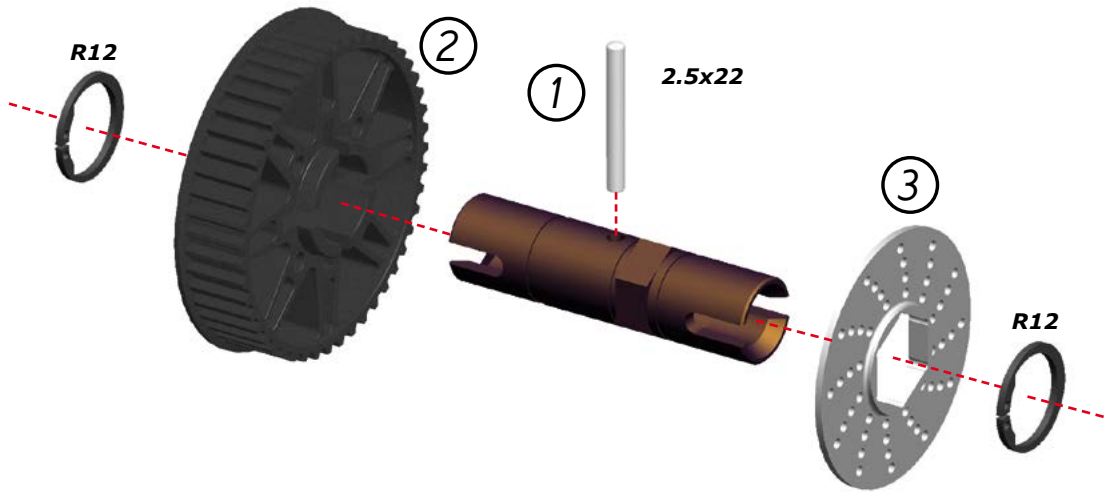


2.2

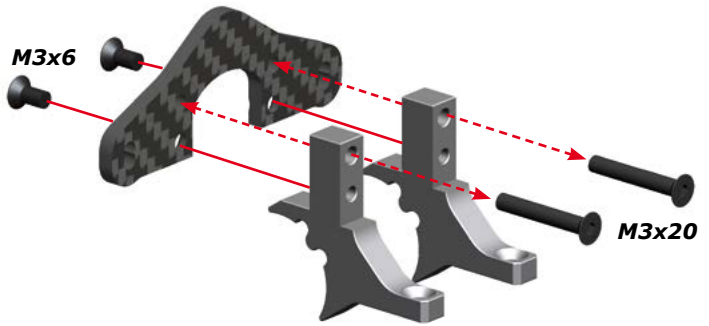


STEP
3

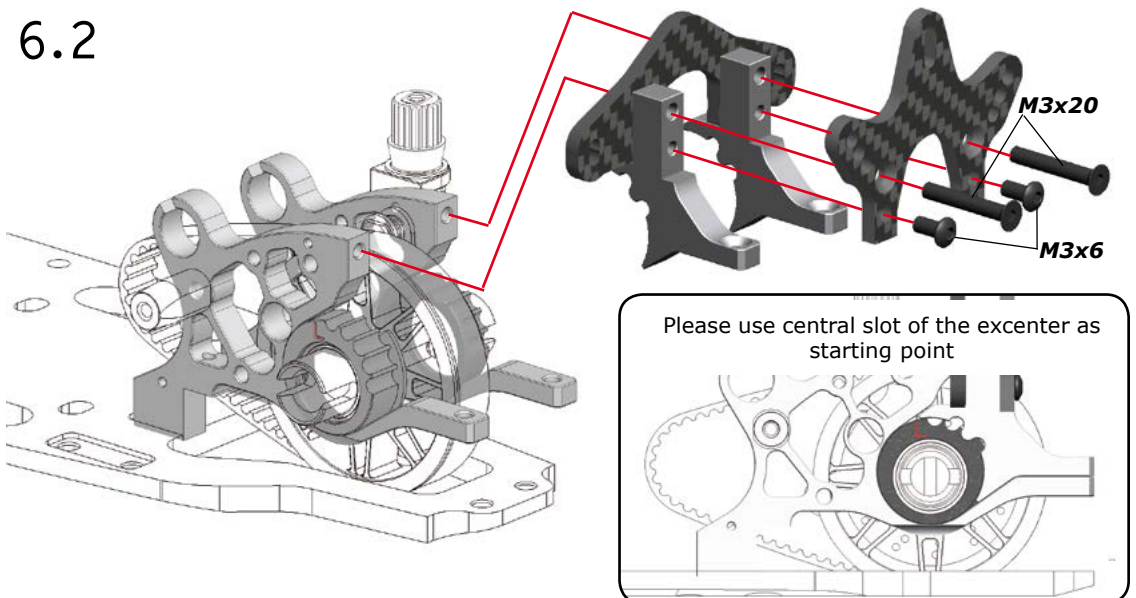


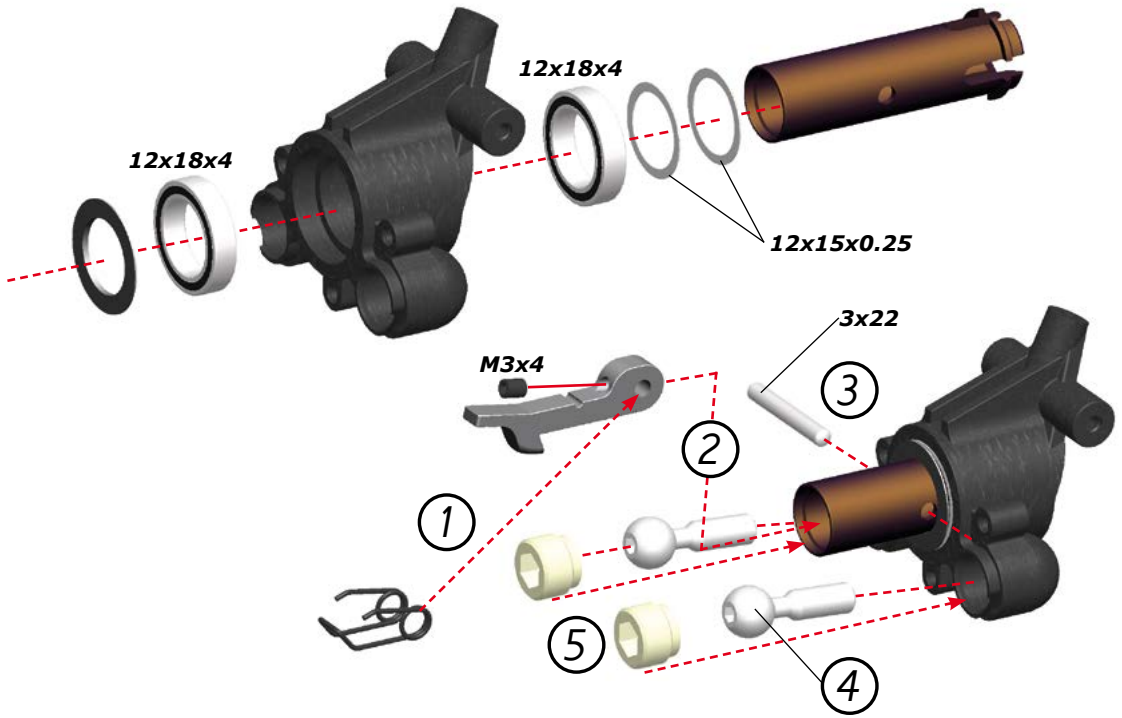


6.1 Note:
Assemble M3x20 screws to align the cam bracket. Remove them again after M3x6 are mounted so you can proceed with step 6



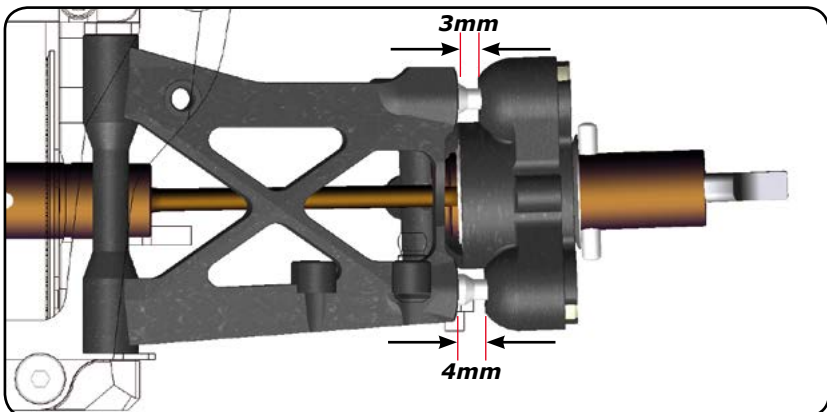
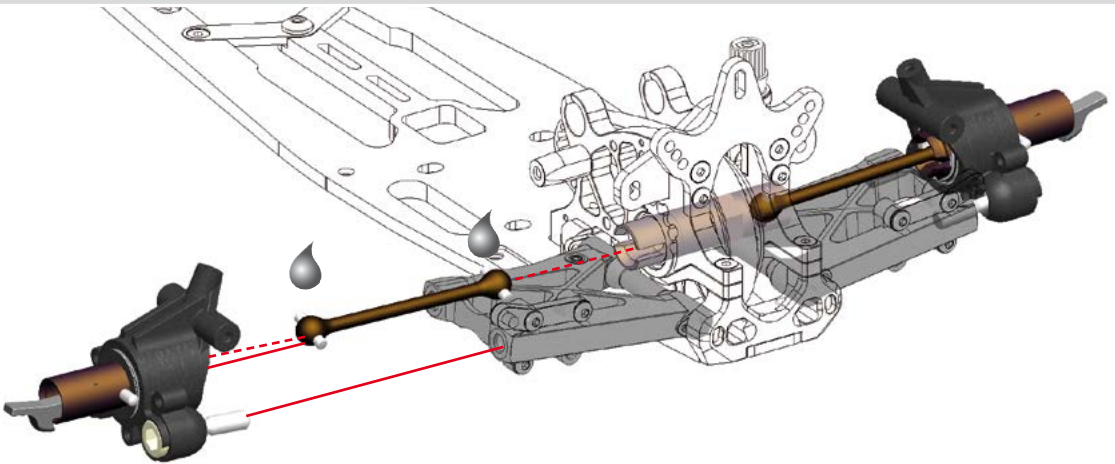
6.2





Detail view:

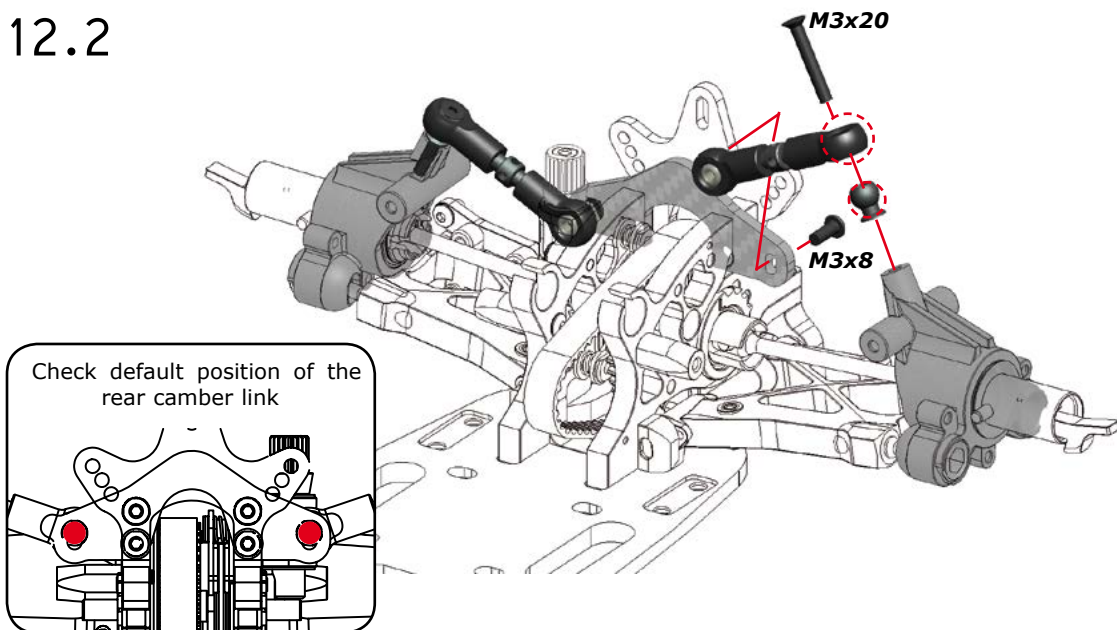
- 1) Note orientation of the outside wheel axle shim.
- 2) Note position of the lever spring.



12.1



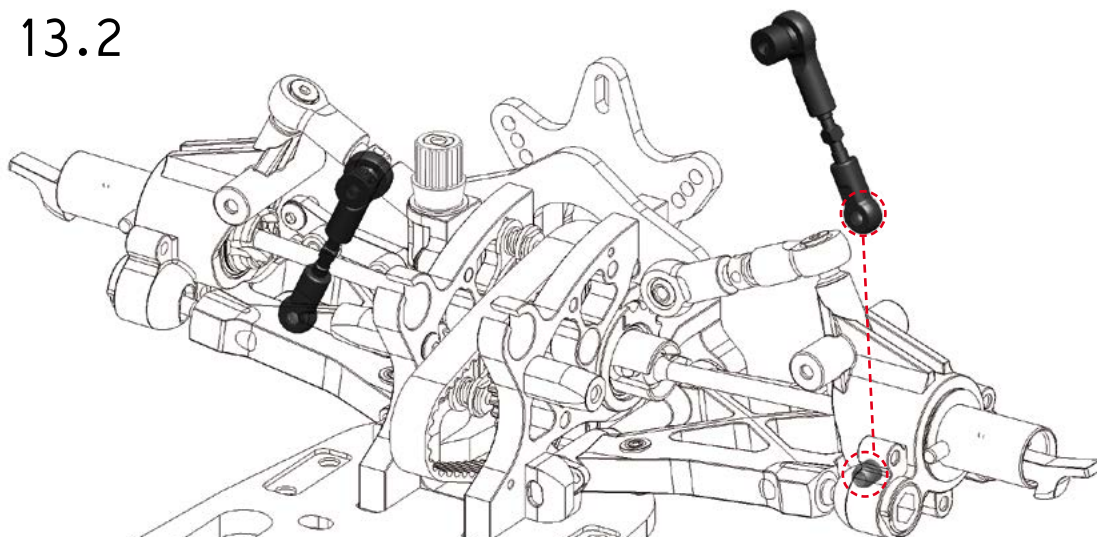
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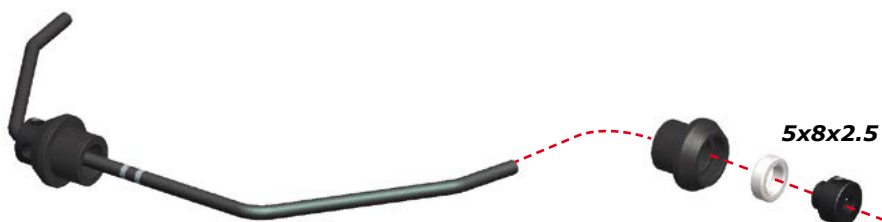
13.1



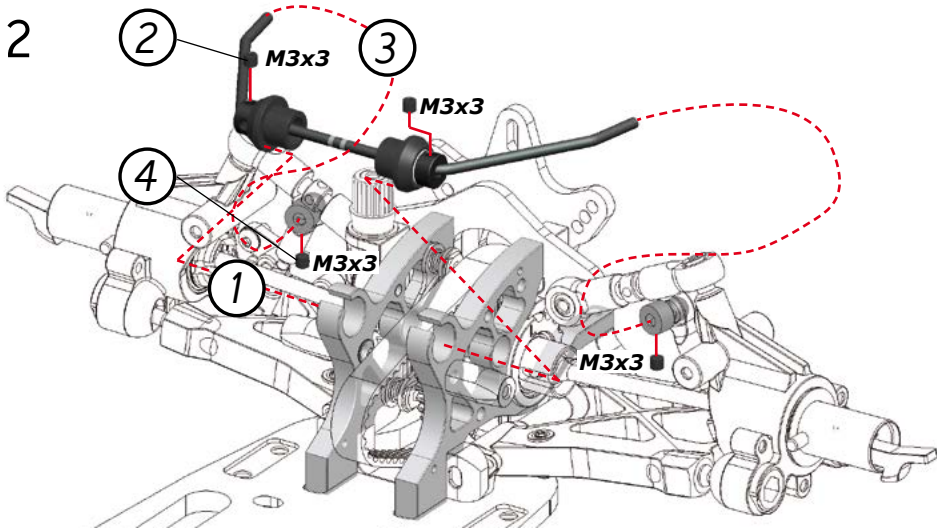
13.2



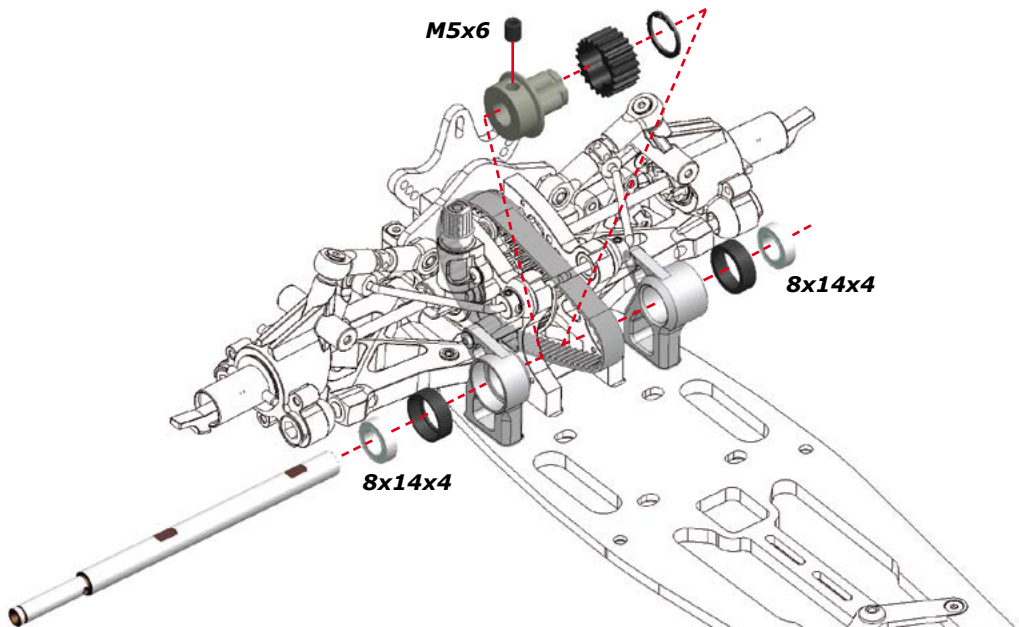
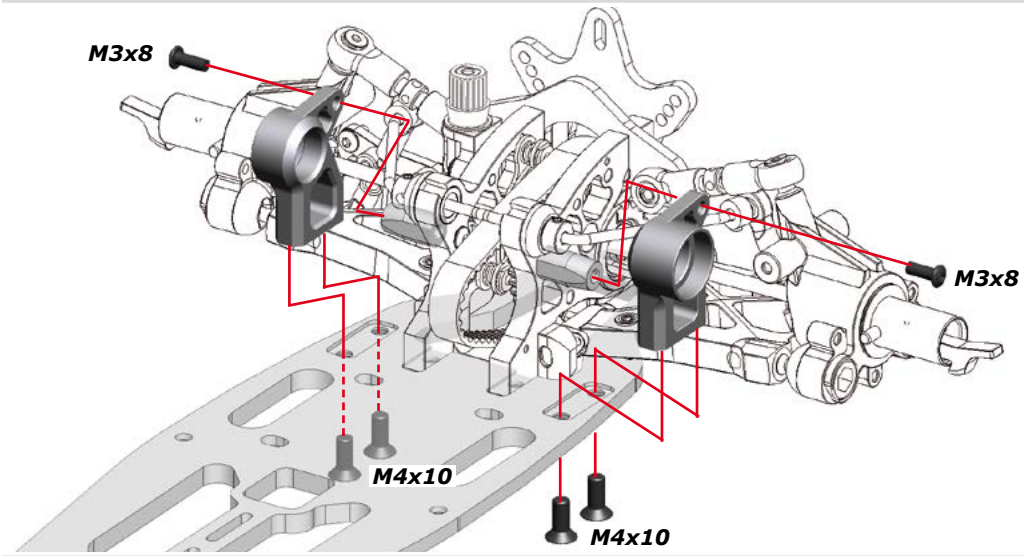
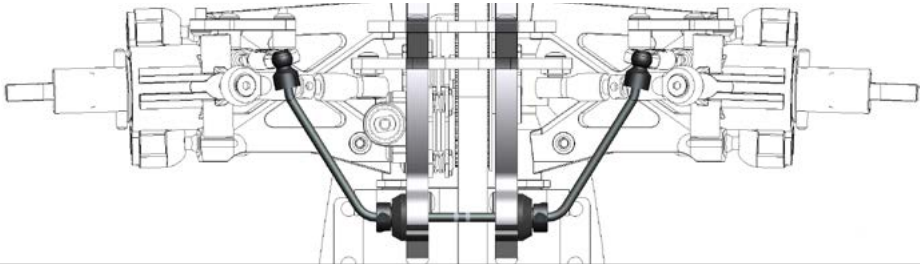
14.1



14.2



Detail view: Rear anti-roll bar assembly



STEP
15

STEP
16



GEARBOX ASSEMBLY

STEP
17

17.1

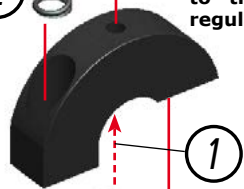
SHIFT POINT
SCREW

NOTE:
Screw in all the way,
then unscrew 3 turns

M3x10 M3x3

2

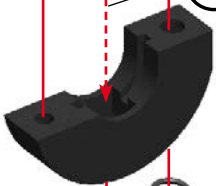
NOTE:
Adjust the M3x3
screw to minimize
the gap of the shoes
to the bell. Check
regularly



5x5

5x5

1



M3x3

2

M3x10

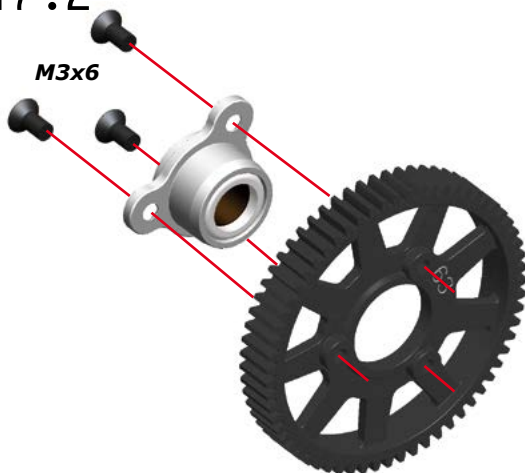
SHIFT POINT
SCREW

NOTE:
Screw in all the way,
then unscrew 3 turns

NOTE:
Adjust the M3x3
screw to minimize
the gap of the shoes
to the bell. Check
regularly

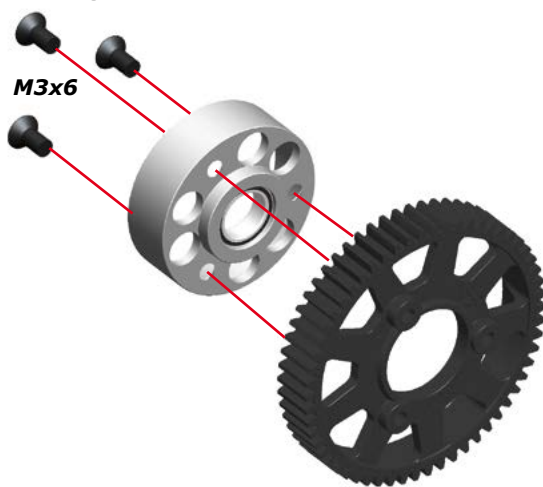
17.2

M3x6

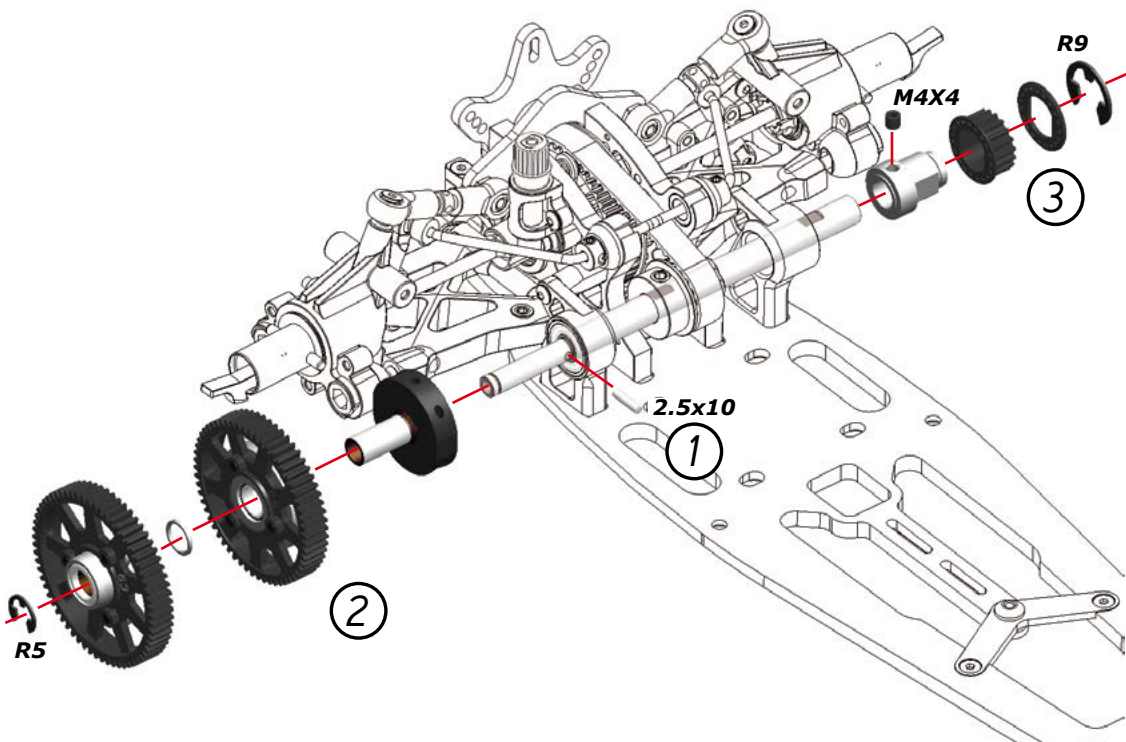


17.3

M3x6



STEP
18



R9

M4X4

3

2.5x10

1

2

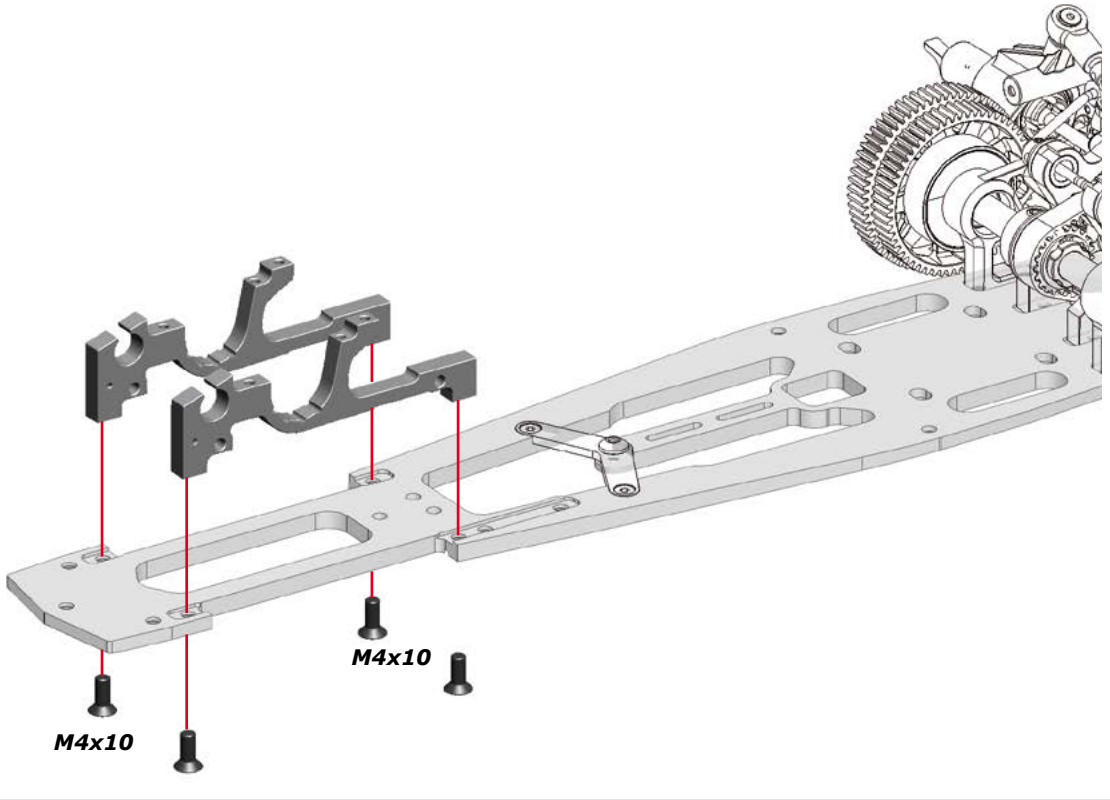
R5



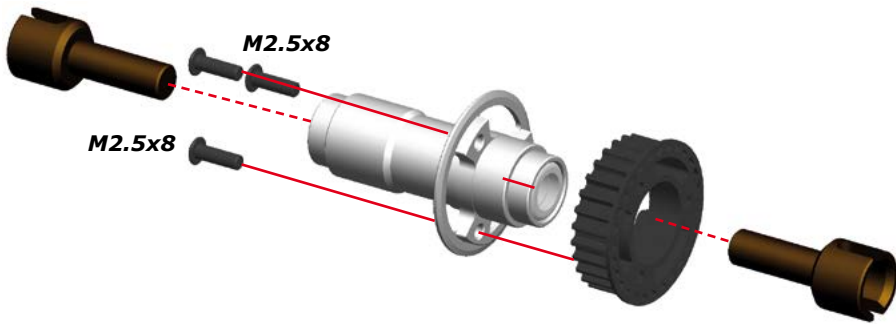
FRONT ASSEMBLY

STEP
19

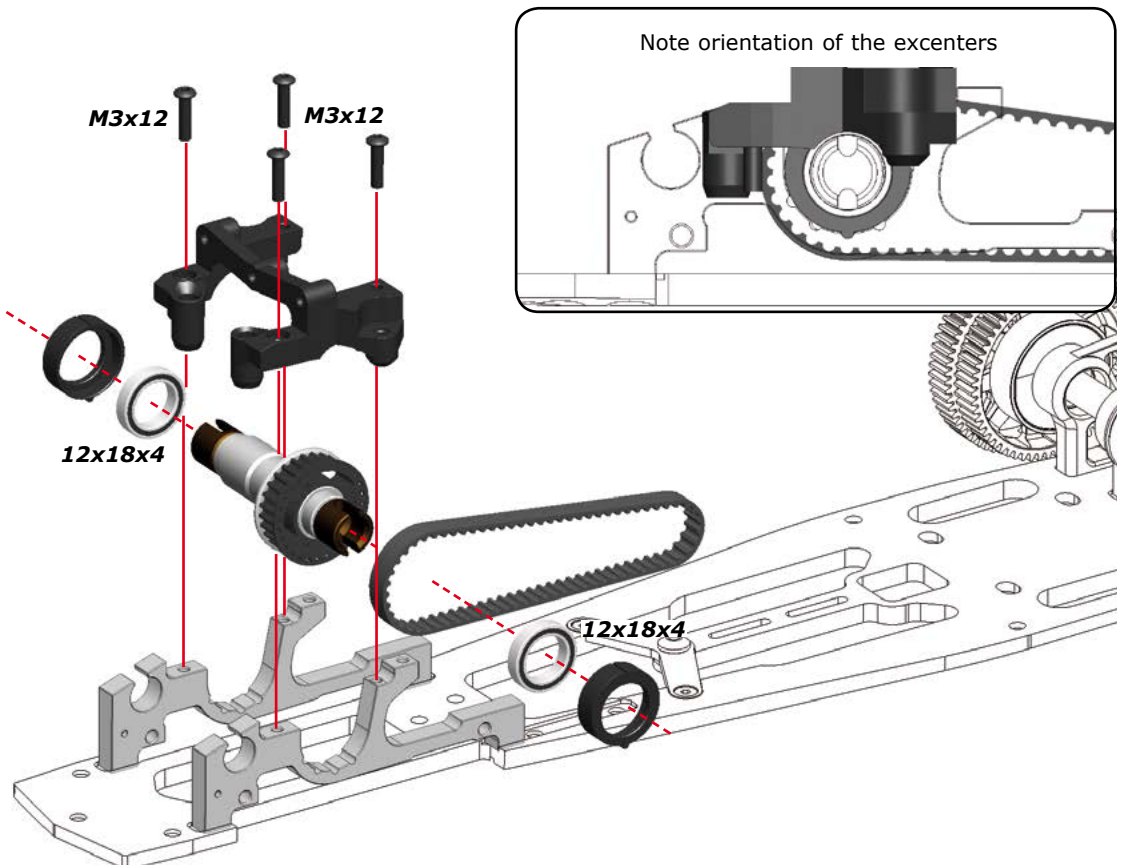
Bag
4



STEP
20

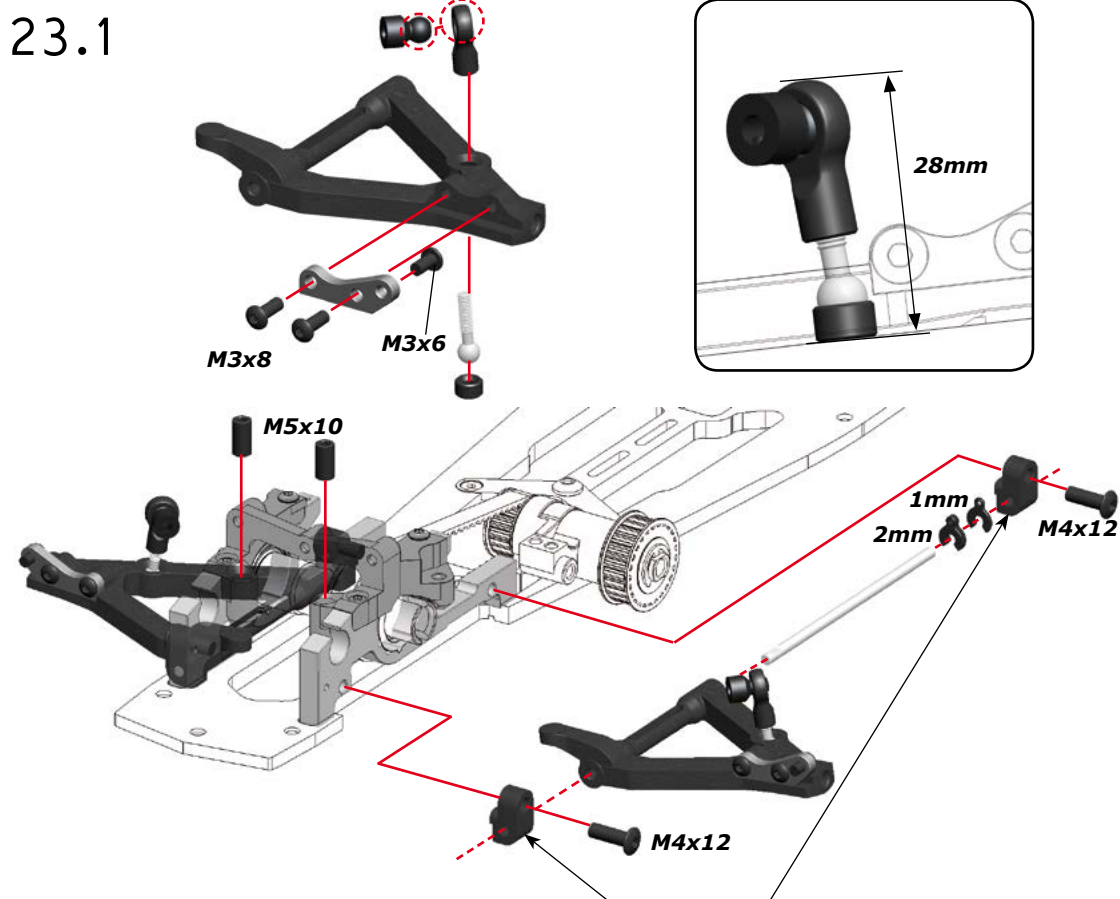
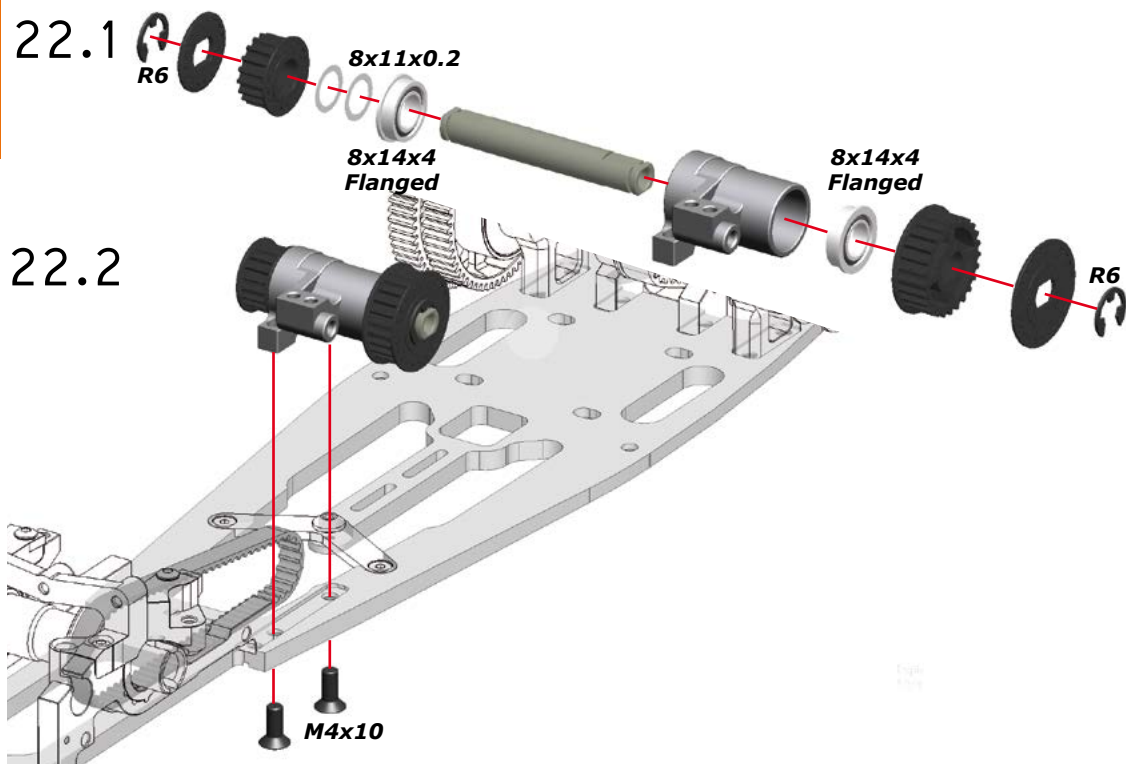


STEP
21



Serpent

Page
11



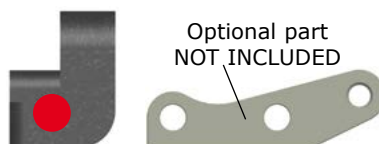
Front lower suspension and shocks brackets

Serpent 977evo allows to move front bottom arms 3 mm in (NARROW) and out (WIDE). For mantaing same shock angle use suspension and shock brackets as is shown below:

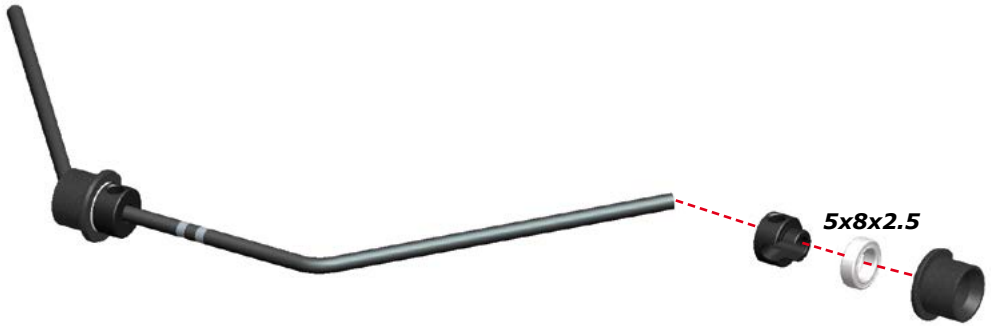
WIDE (DEFAULT)



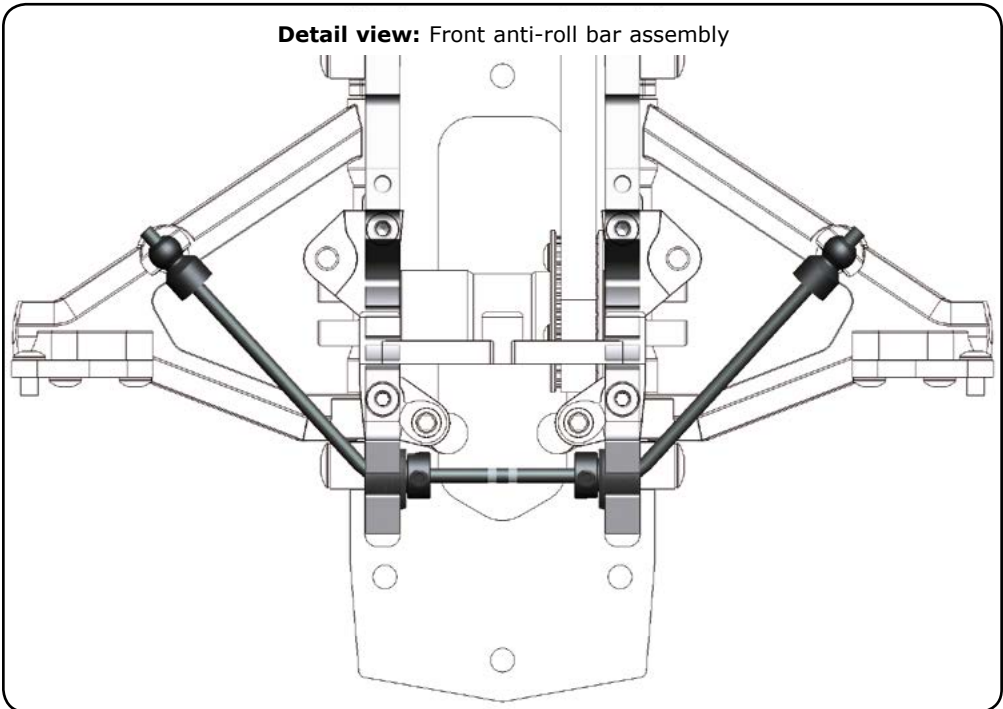
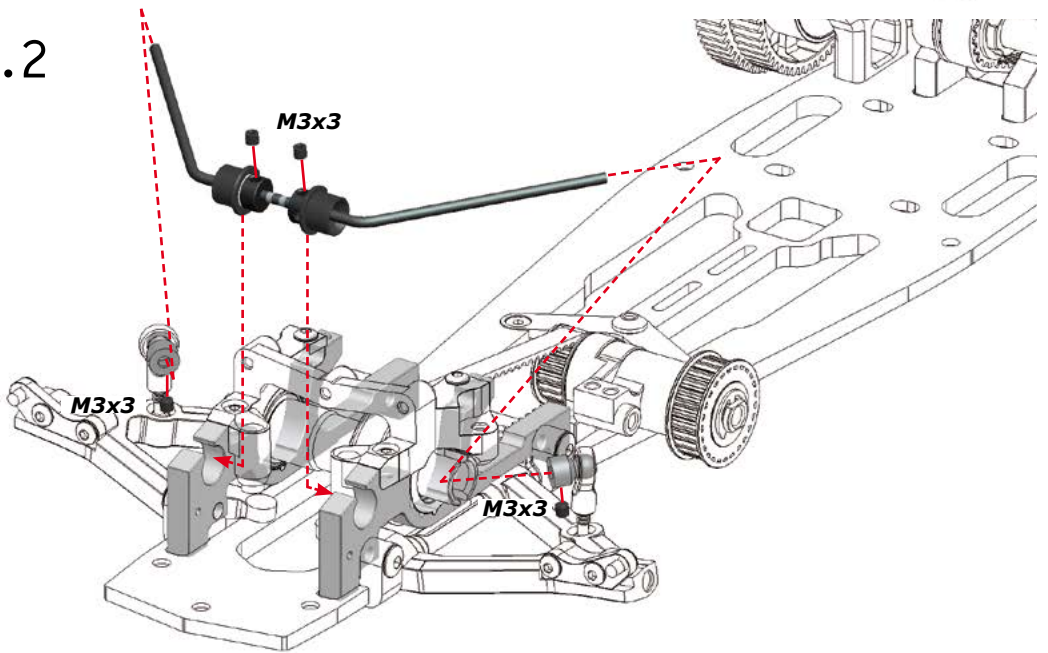
NARROW

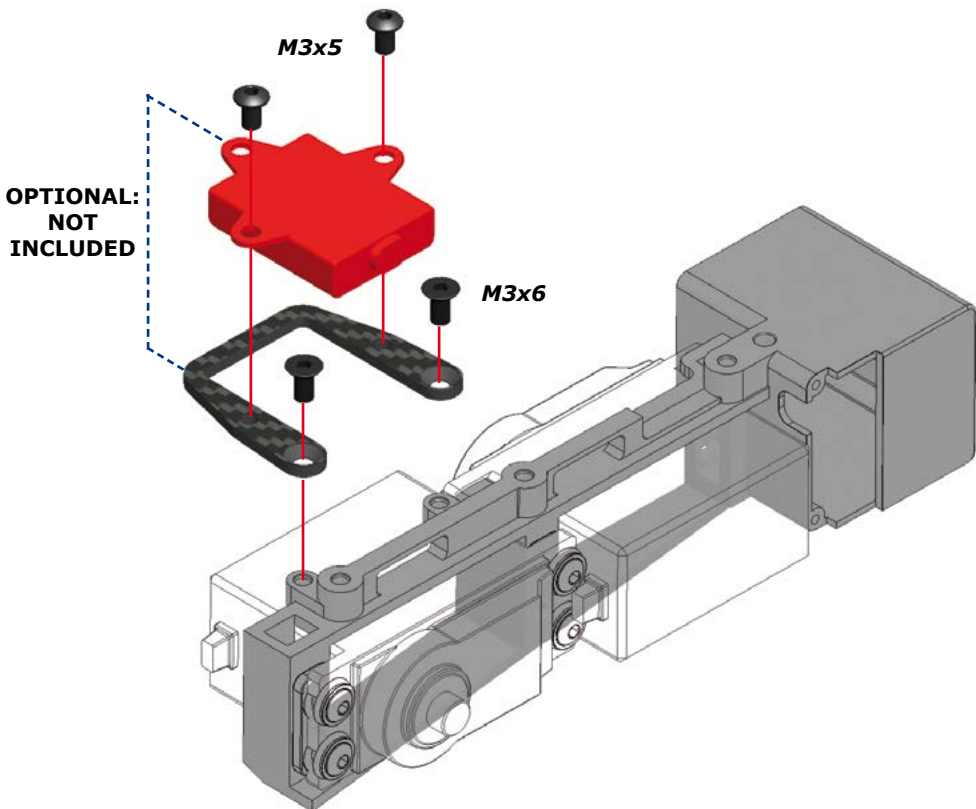
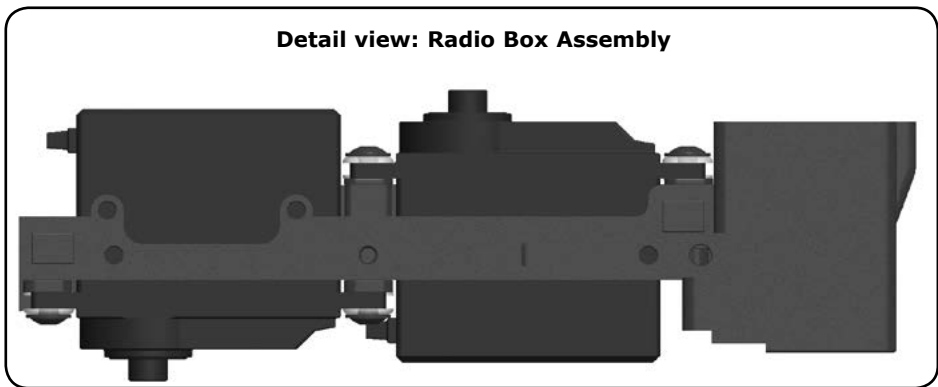
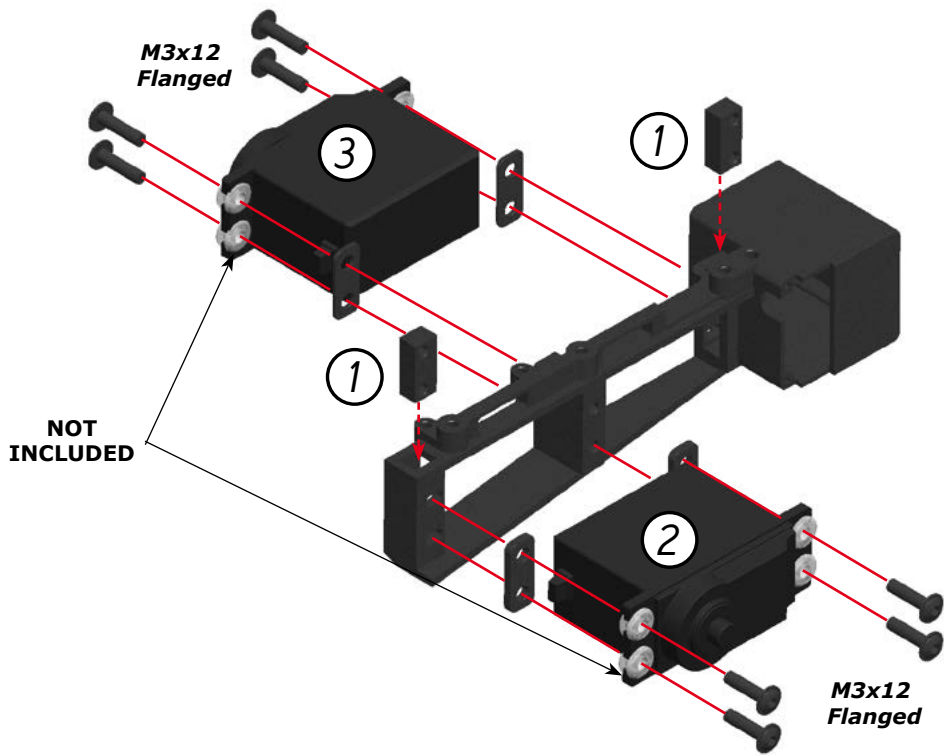


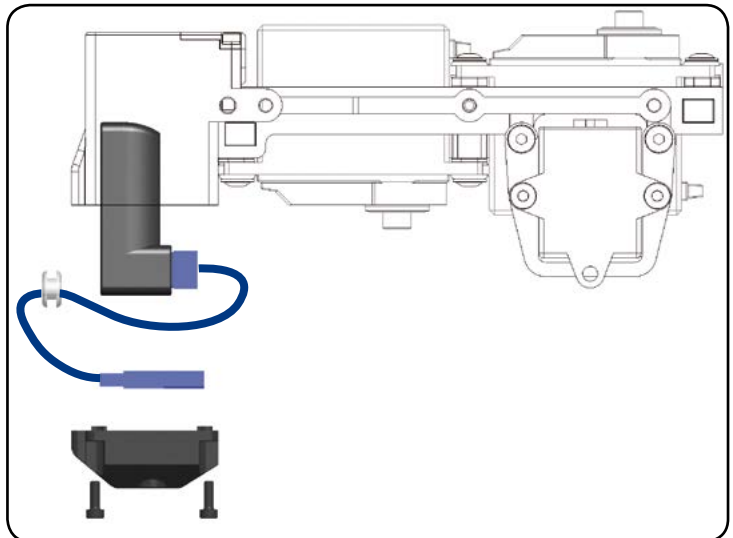
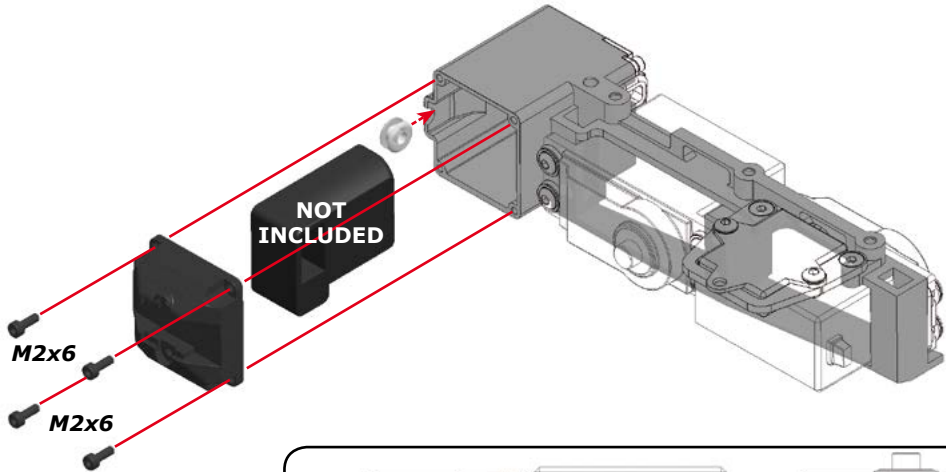
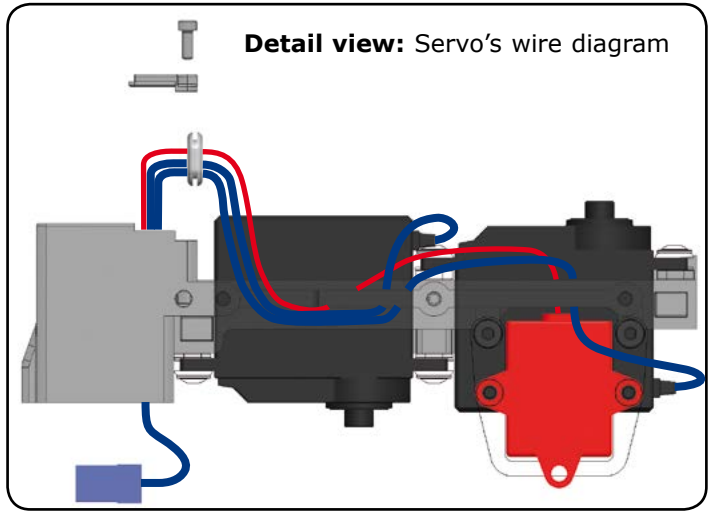
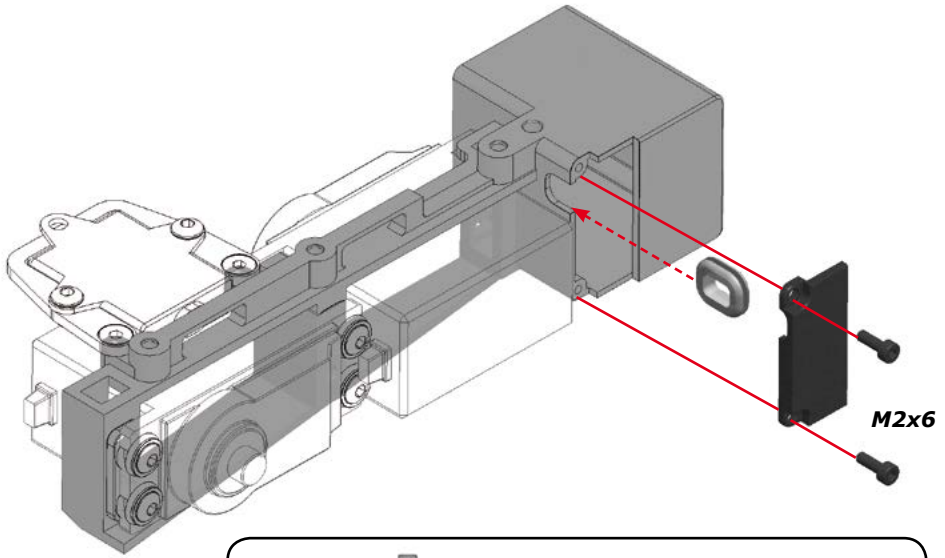
24.1

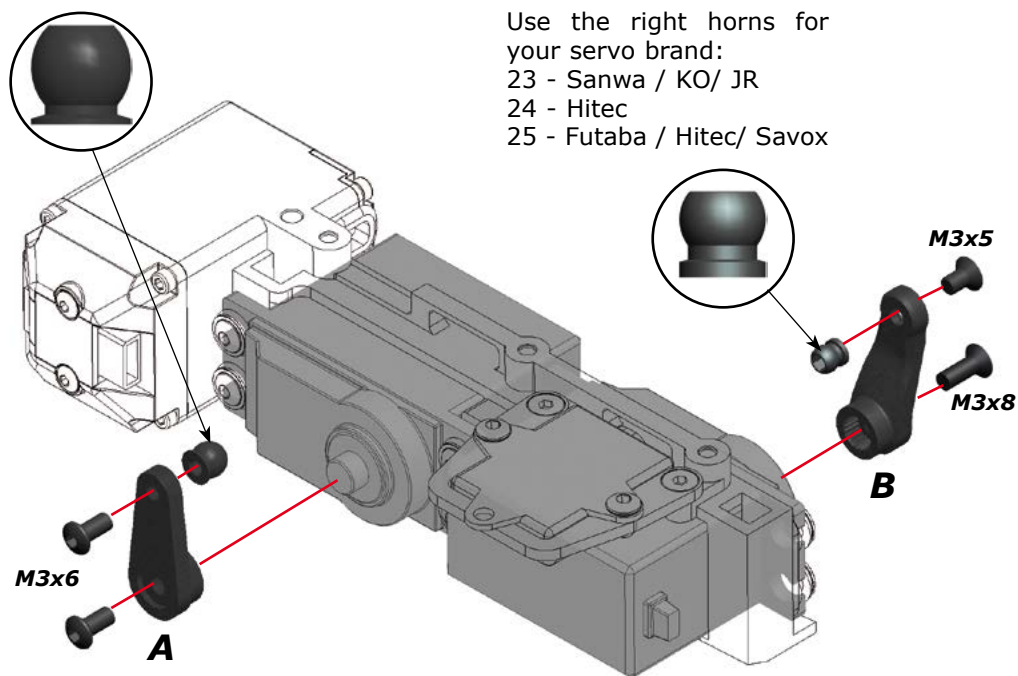
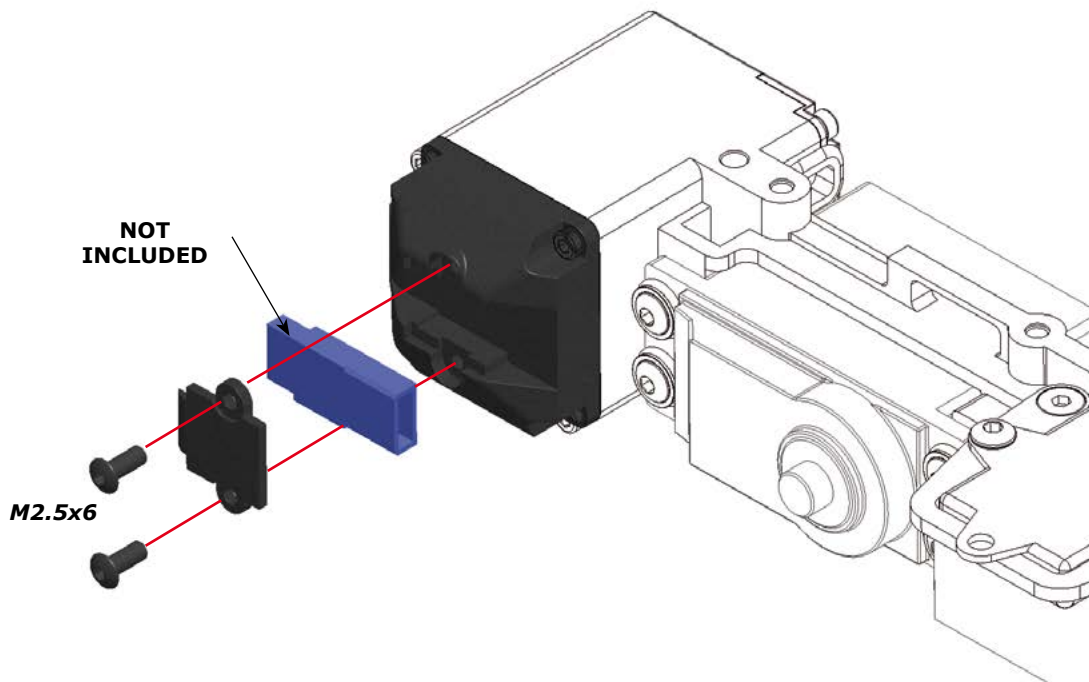


24.2

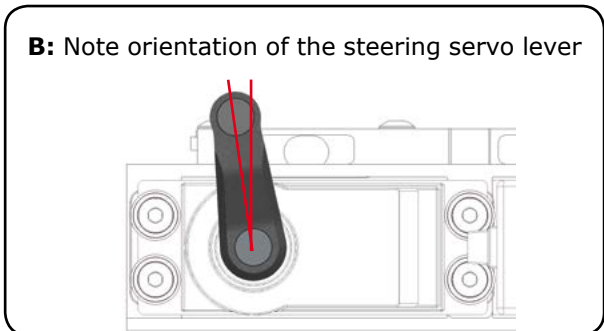
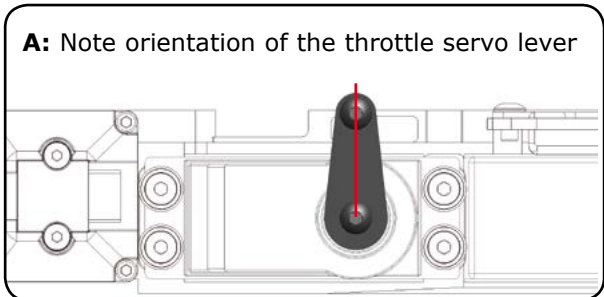








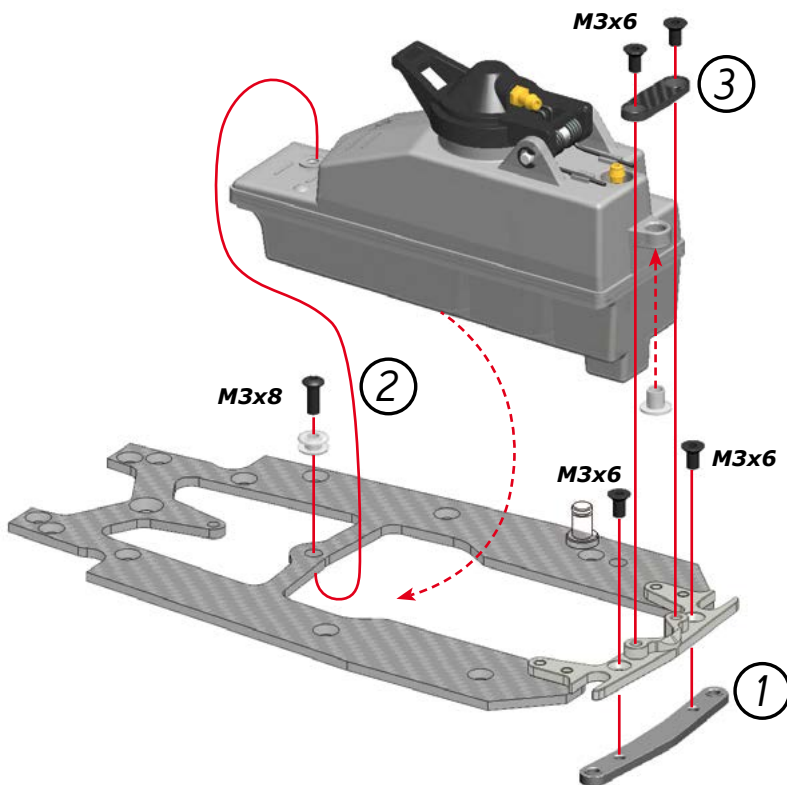
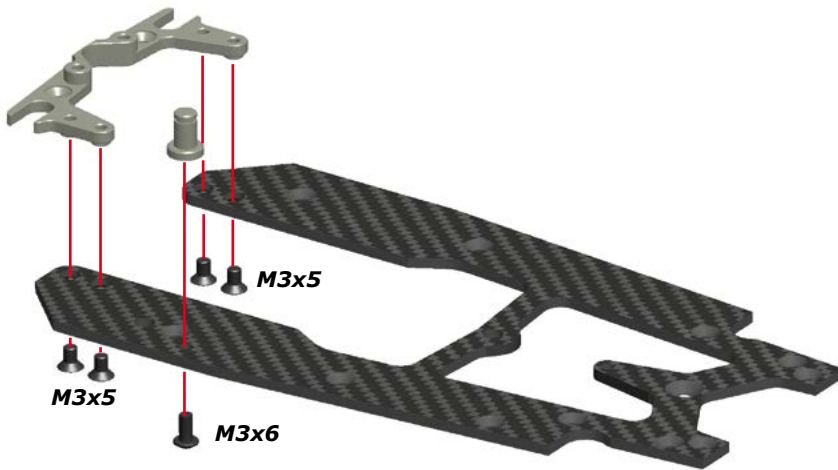
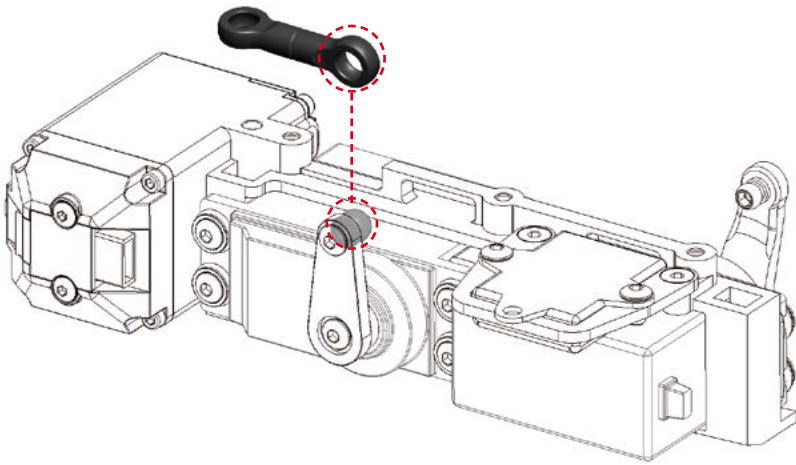
Use the right horns for
your servo brand:
23 - Sanwa / KO/ JR
24 - Hitec
25 - Futaba / Hitec/ Savox



31.1



31.2



STEP
31

STEP
32

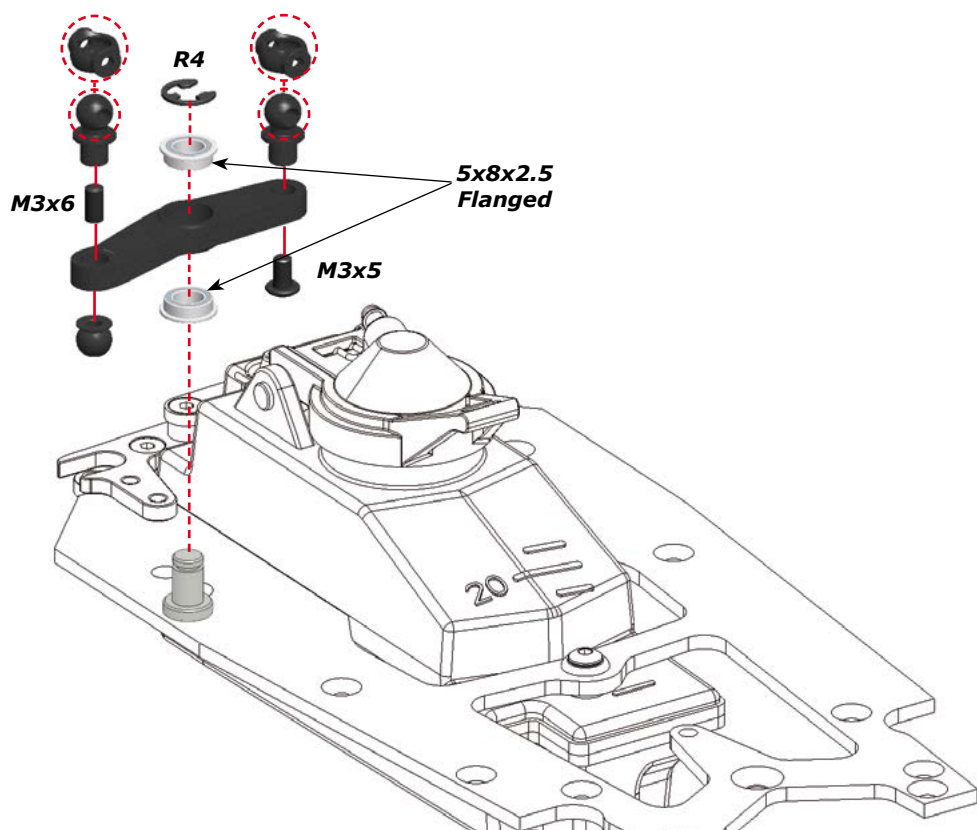
Bag
6

STEP
33

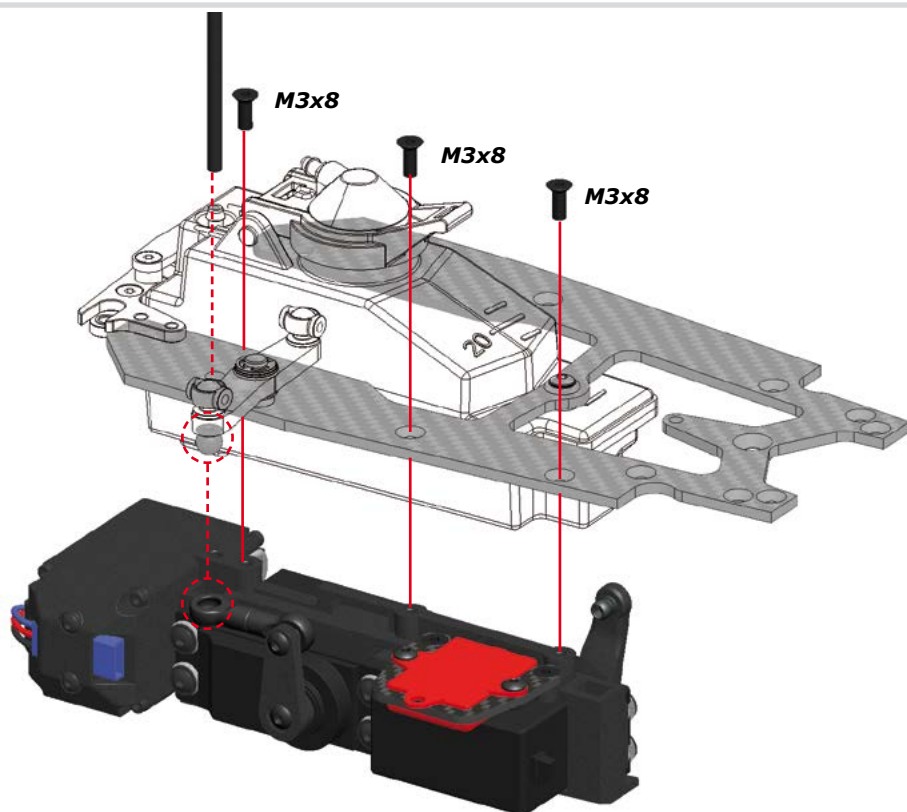


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17

STEP
34



STEP
35

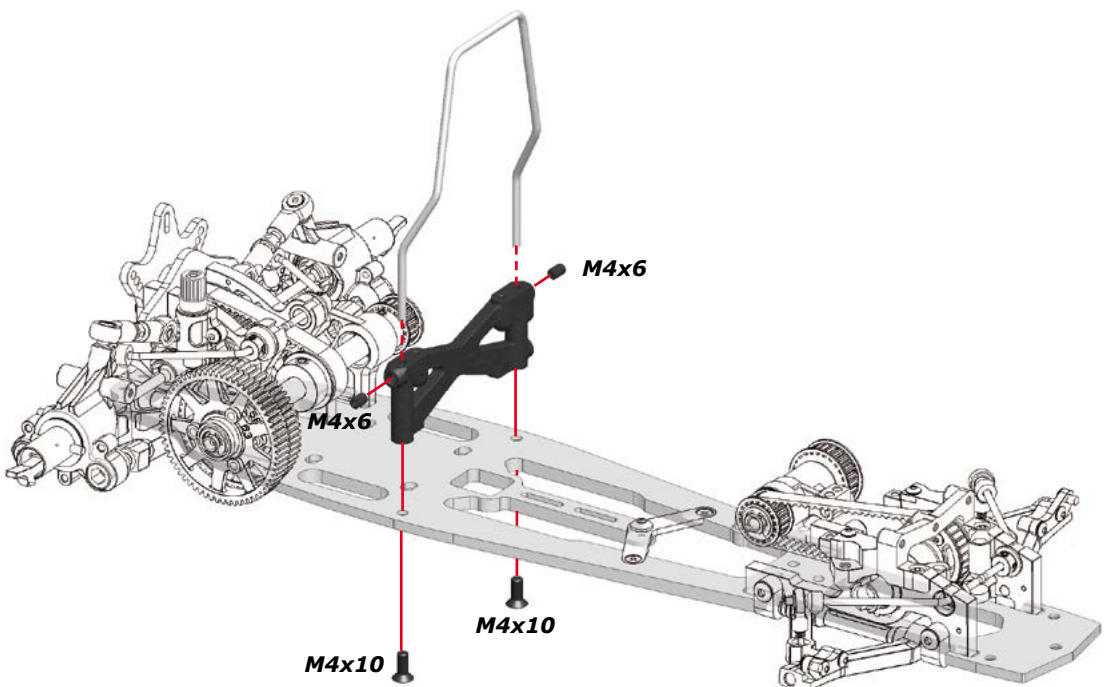
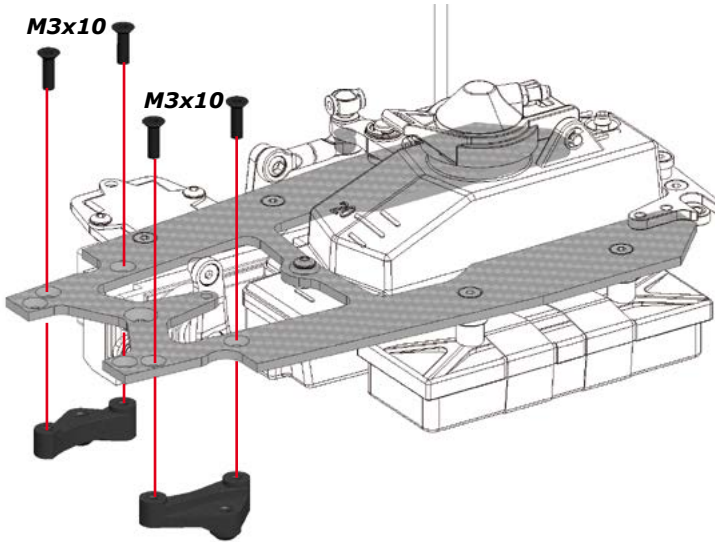
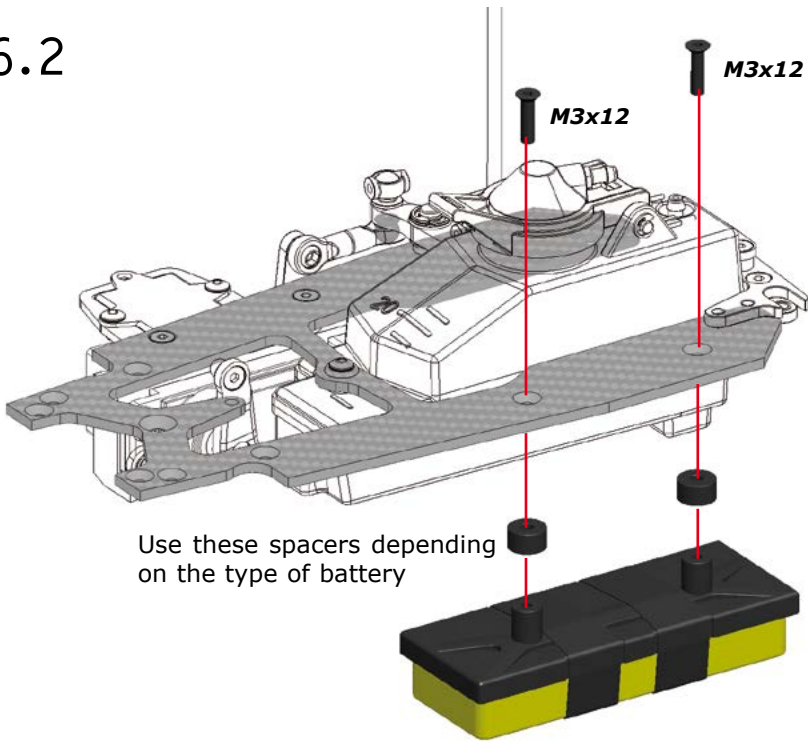


STEP
36

36.1

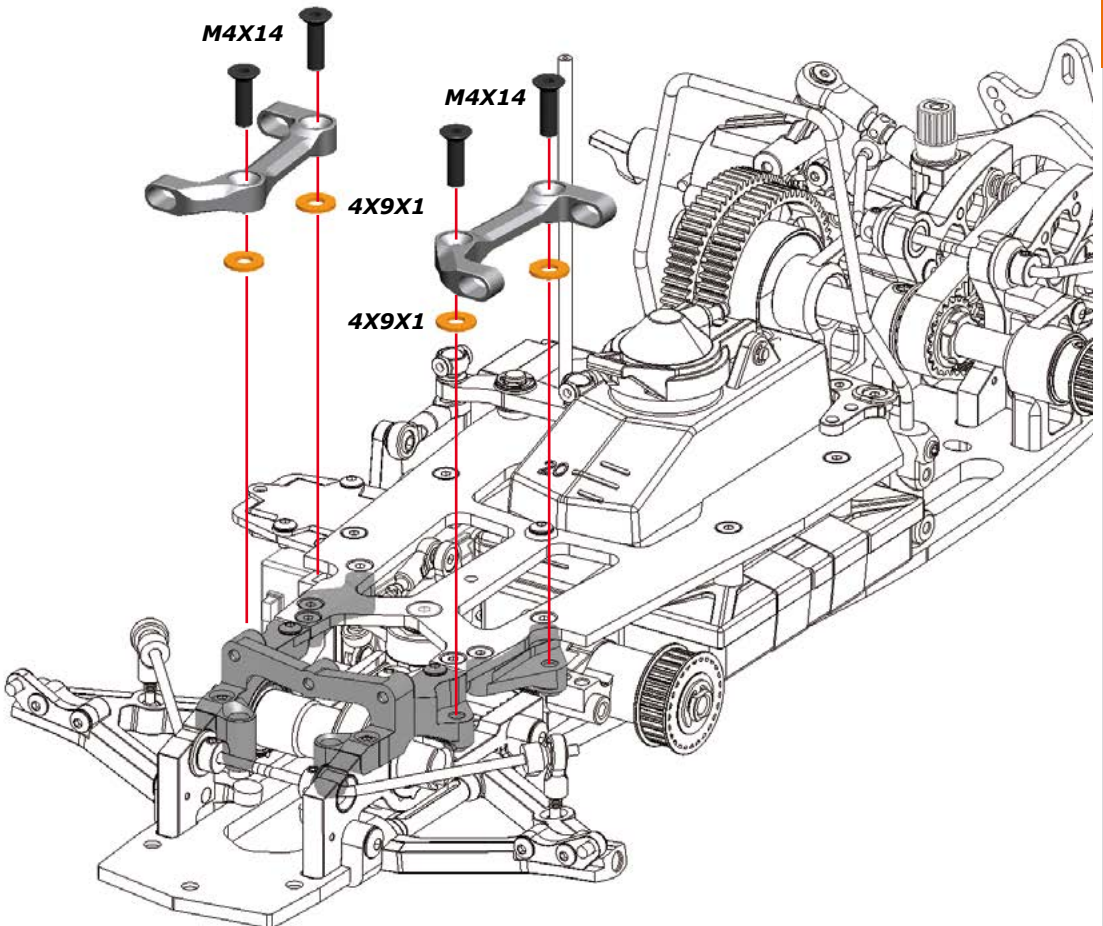
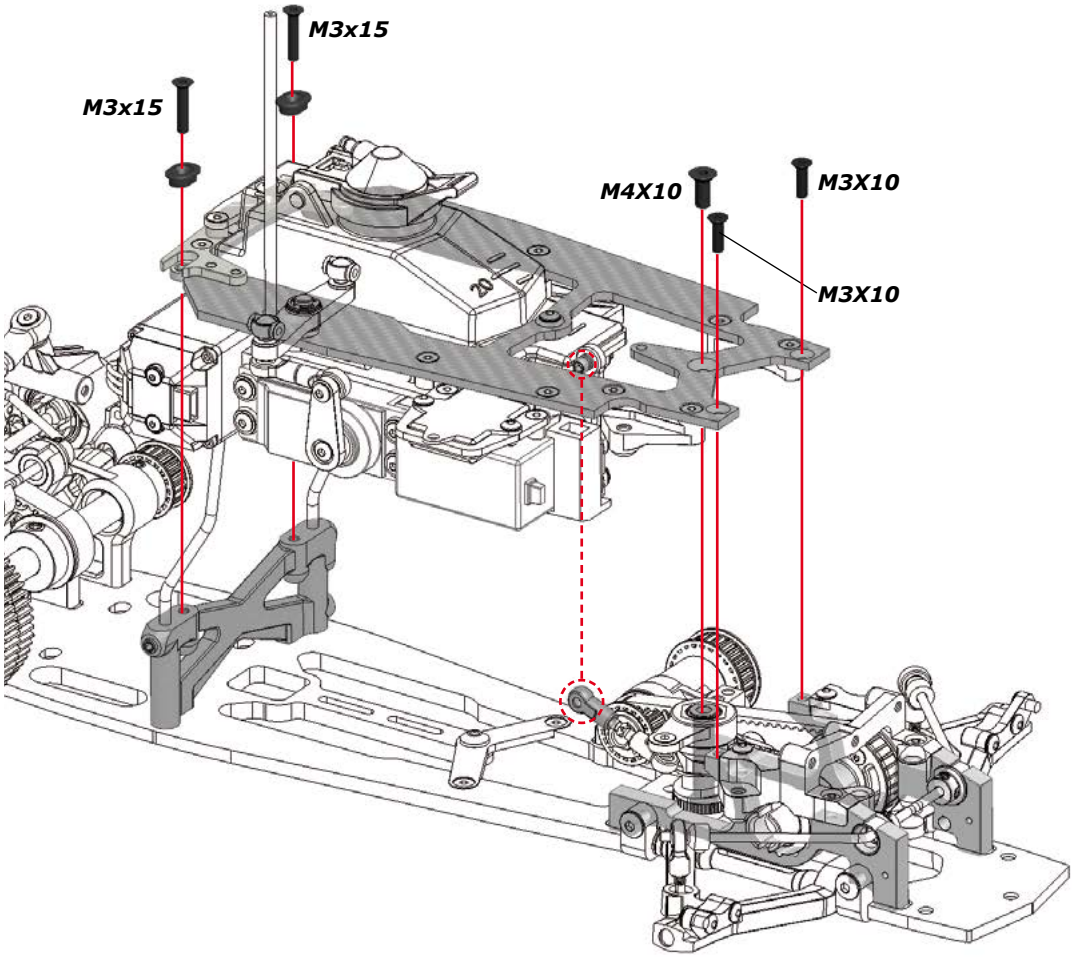


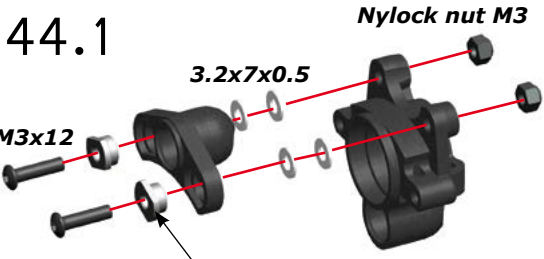
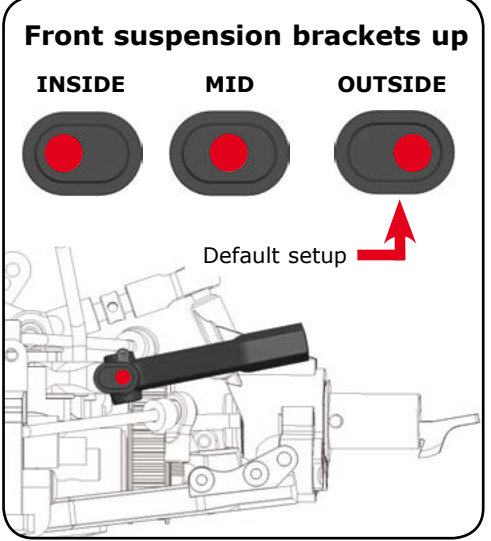
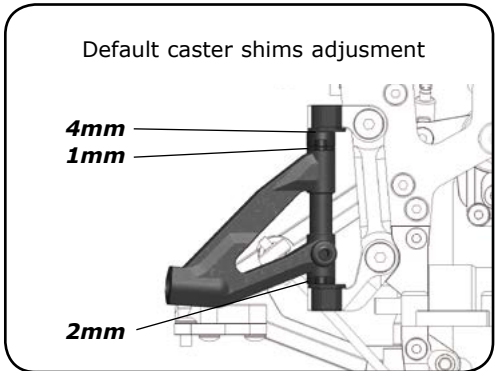
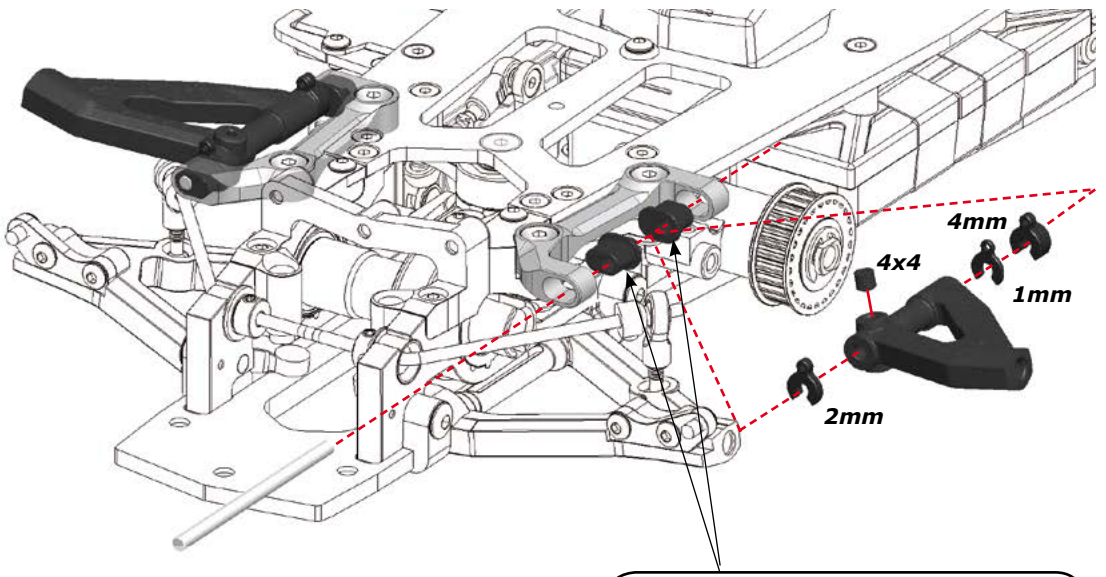
36.2



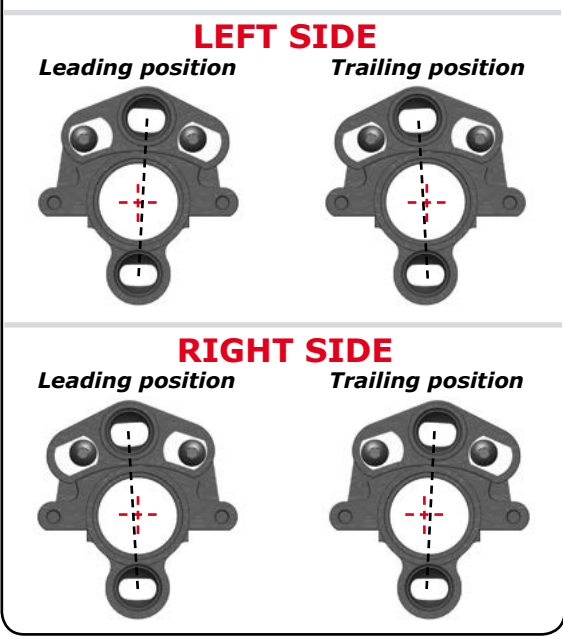
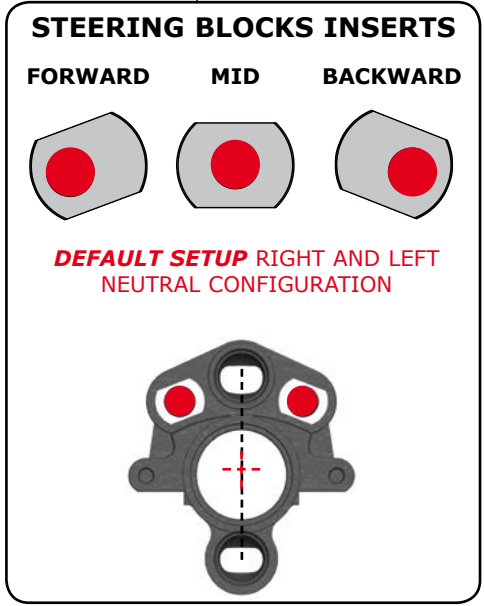
STEP
37

STEP
38

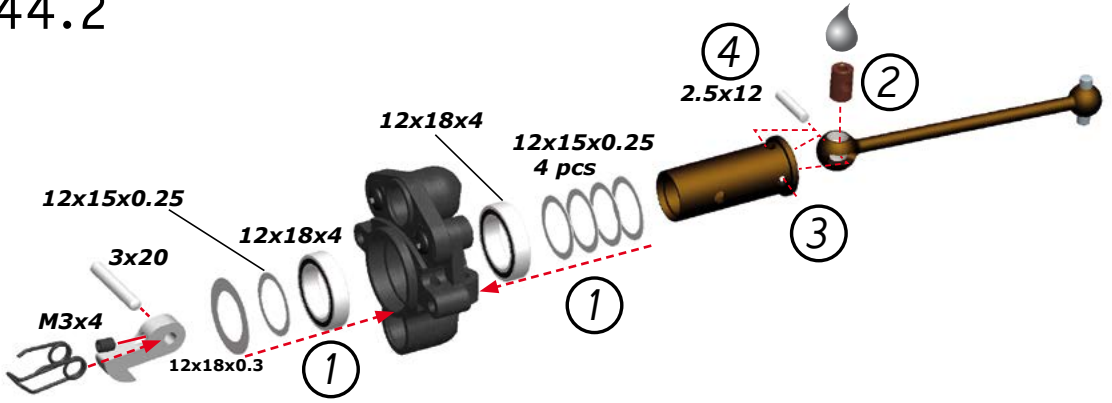




The 977 steering blocks introduce a new setting possibility, running neutral, trailing or leading position.

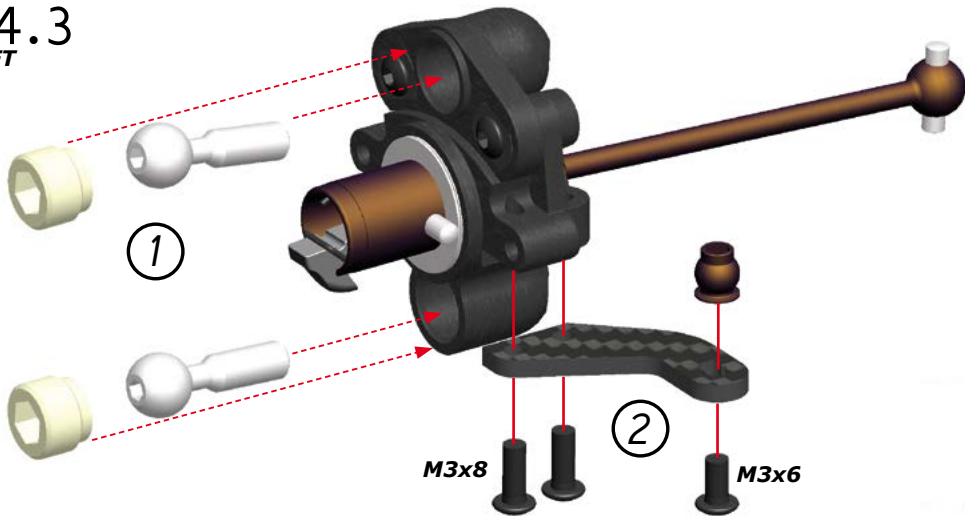


44.2



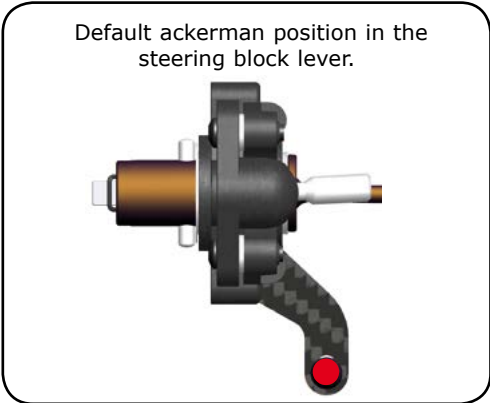
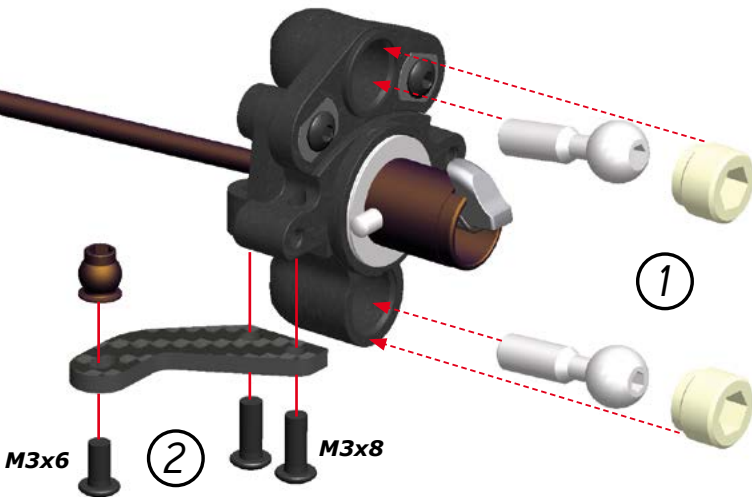
44.3

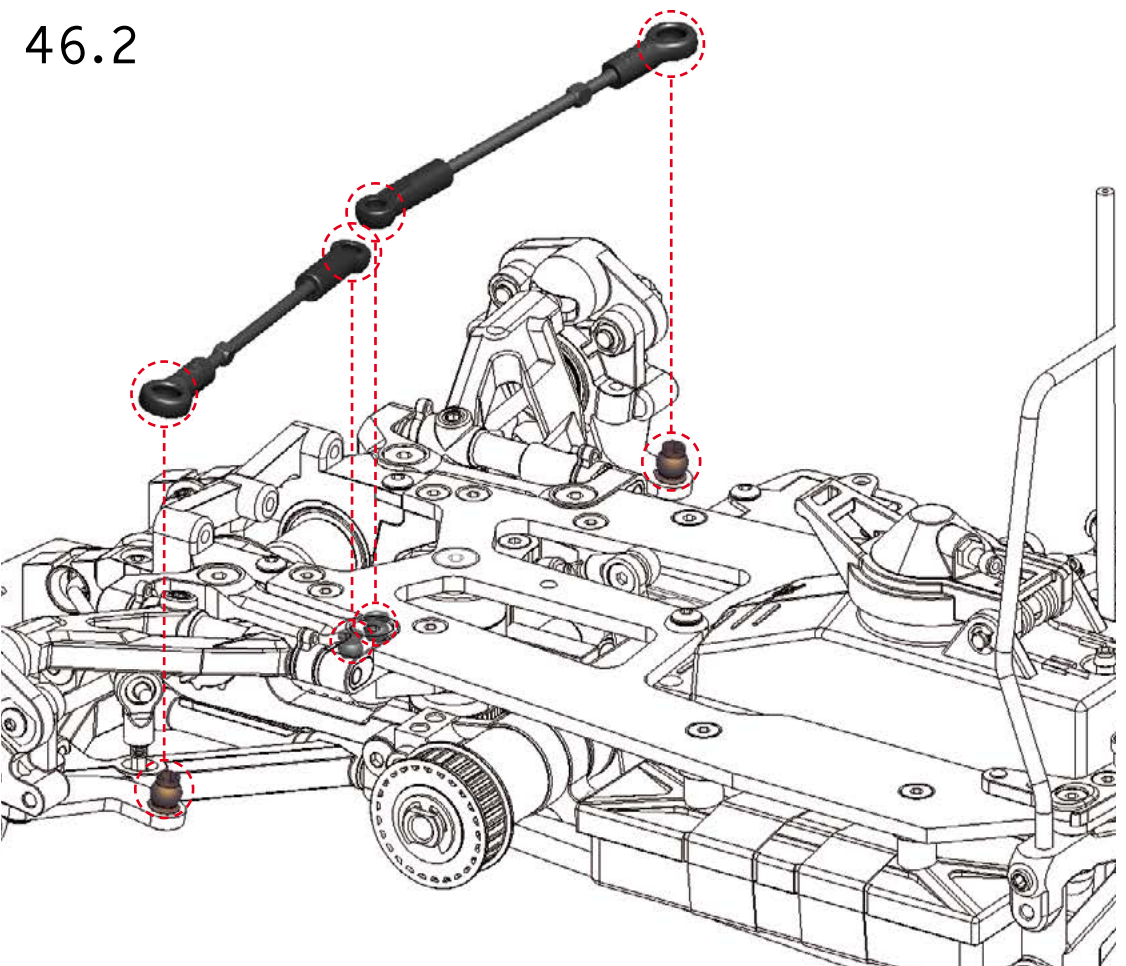
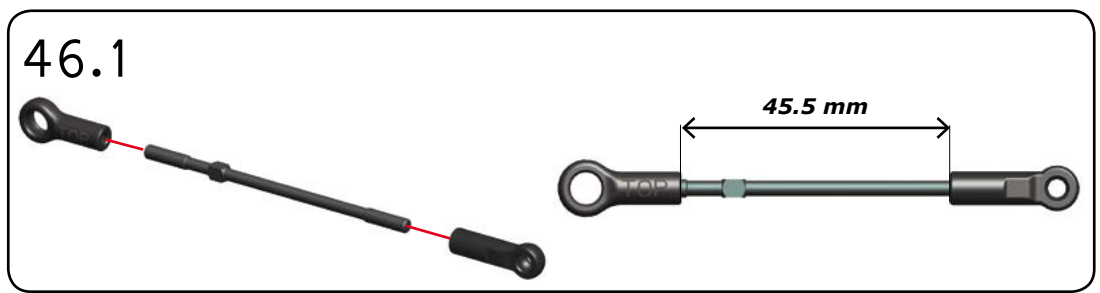
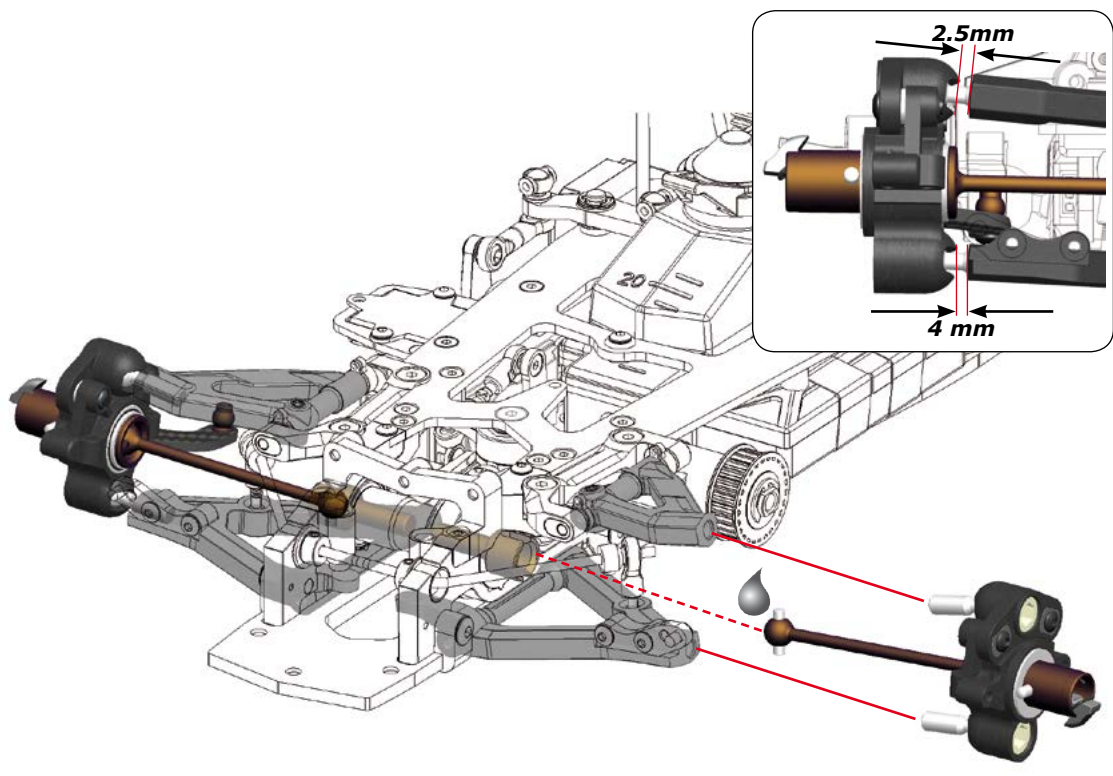
LEFT



44.4

RIGHT

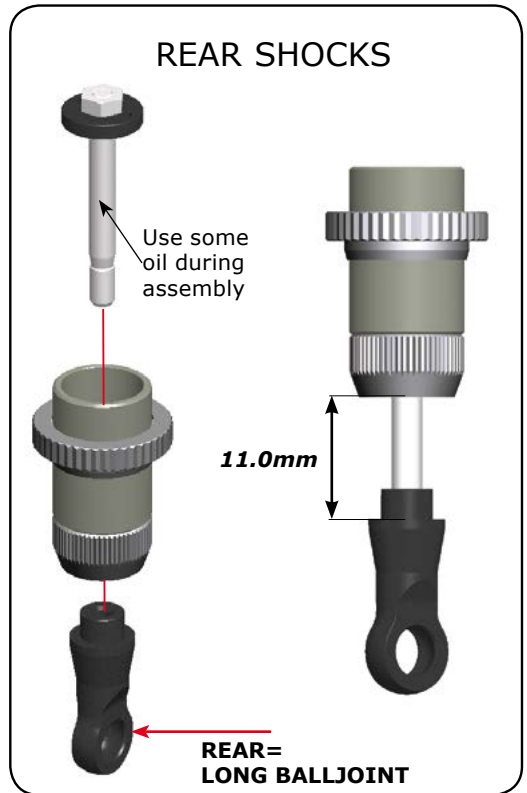
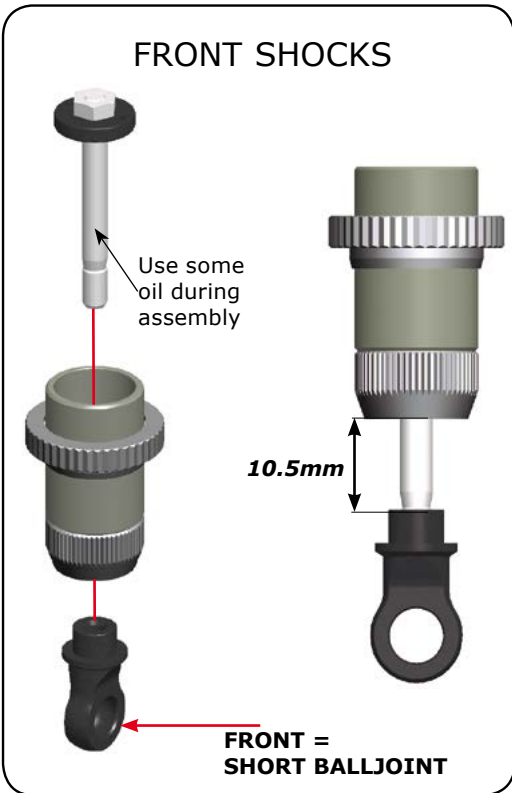
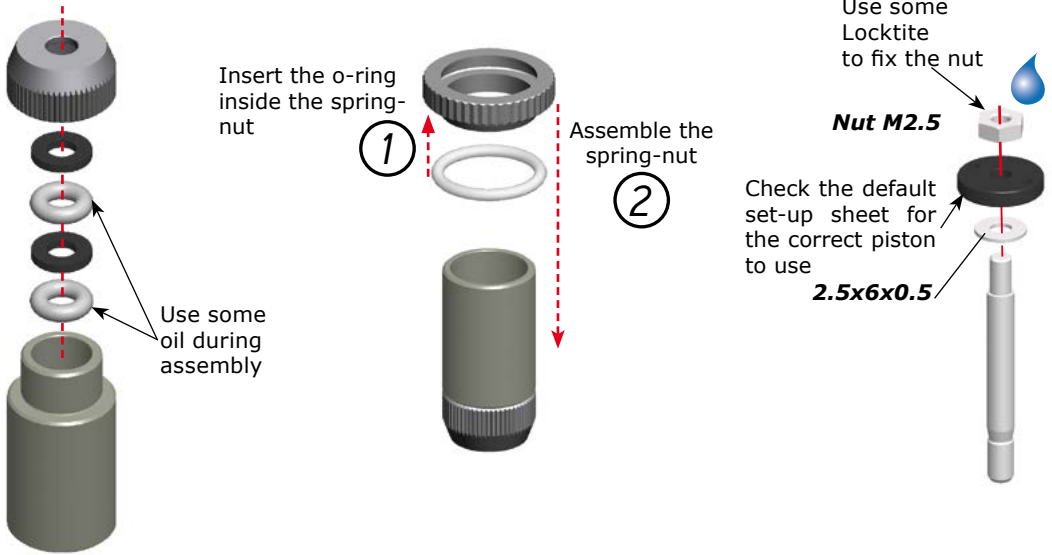




SHOCKS ASSEMBLY

STEP
47

SHOCKS
Bag



FILLING
Fill the shock body with the supplied shock absorber oil.



BLEEDING
Let the oil settle and allow the air to escape. Slowly move the piston up and down to release any air bubbles. Repeat as necessary until no bubbles appear.



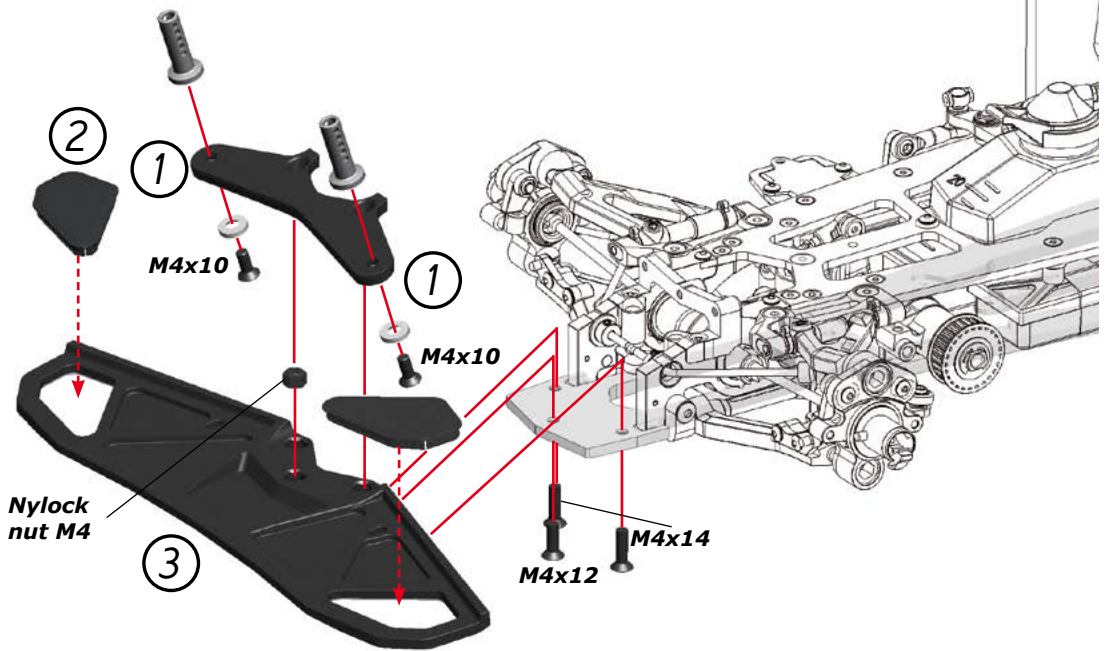
Assemble the spring and springcup to complete the shock.
Check the default set-up sheet for spring details.



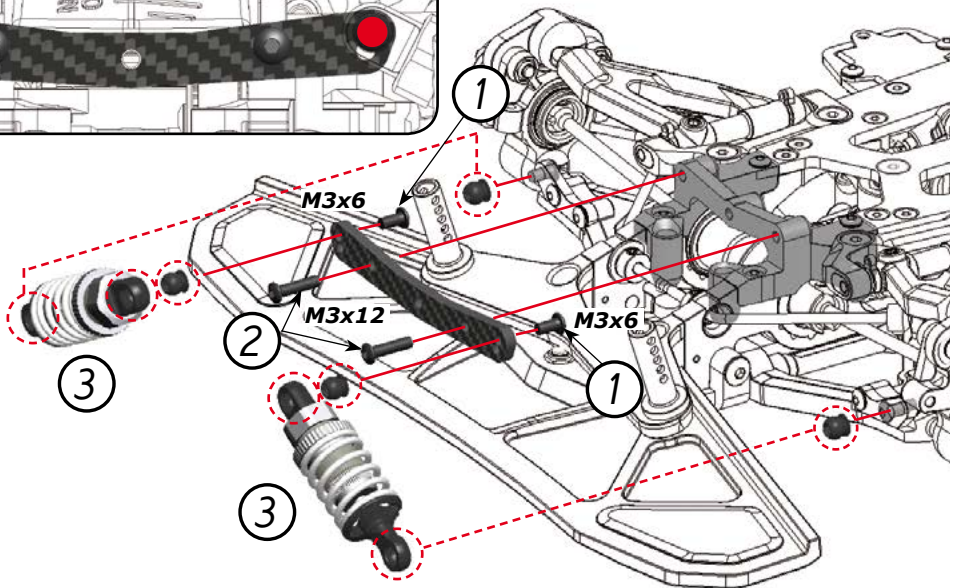
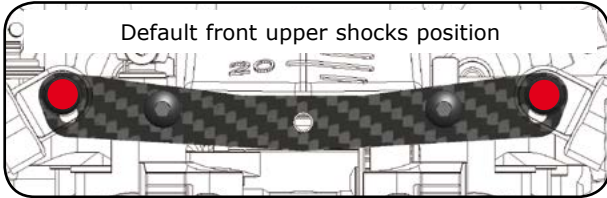
FINAL ASSEMBLY

STEP
48

Bag
9

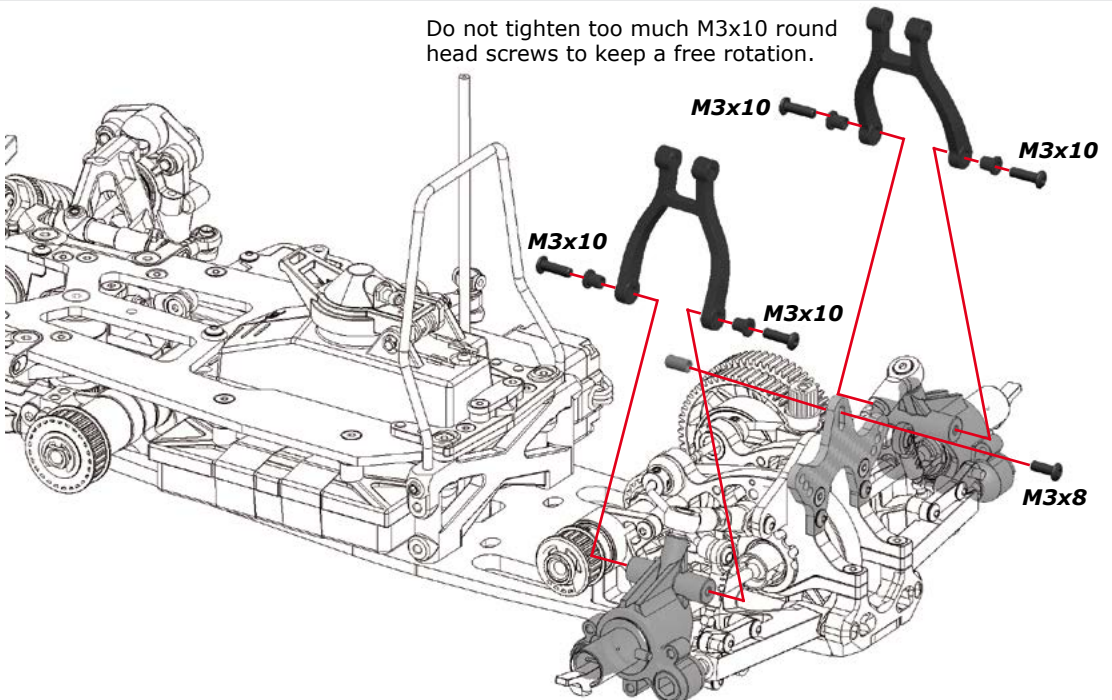


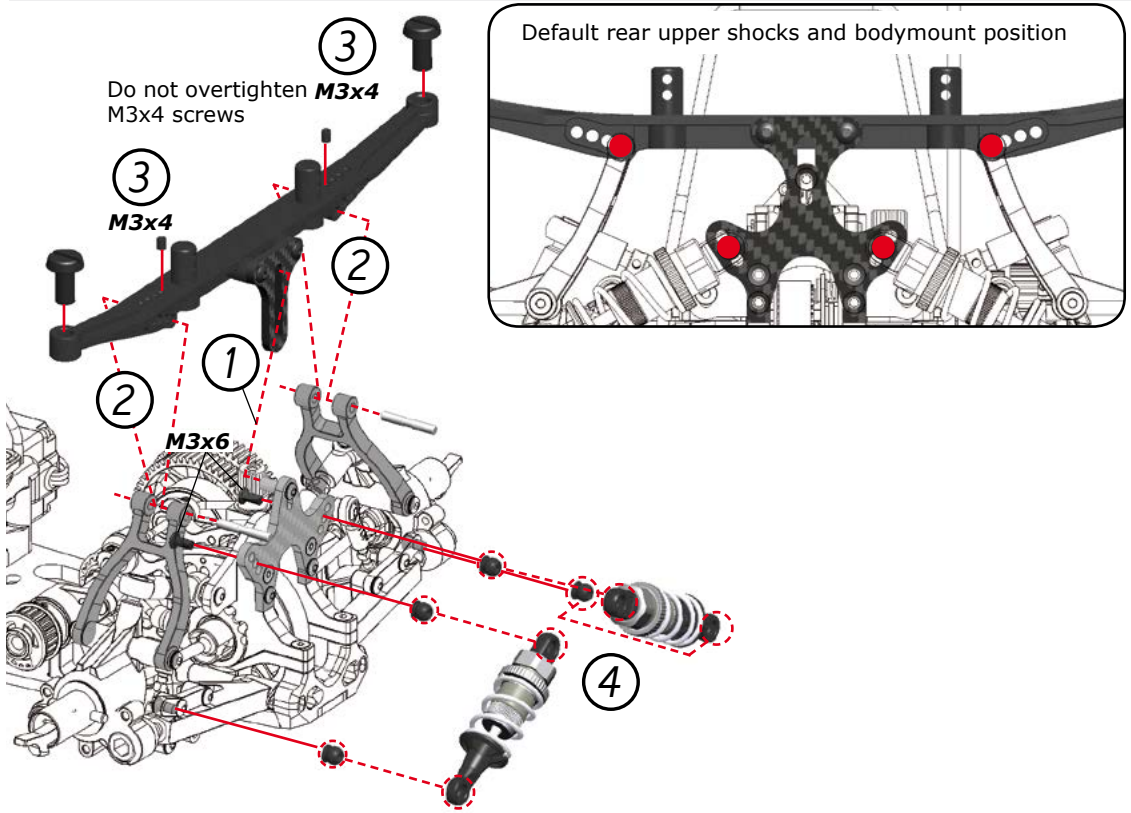
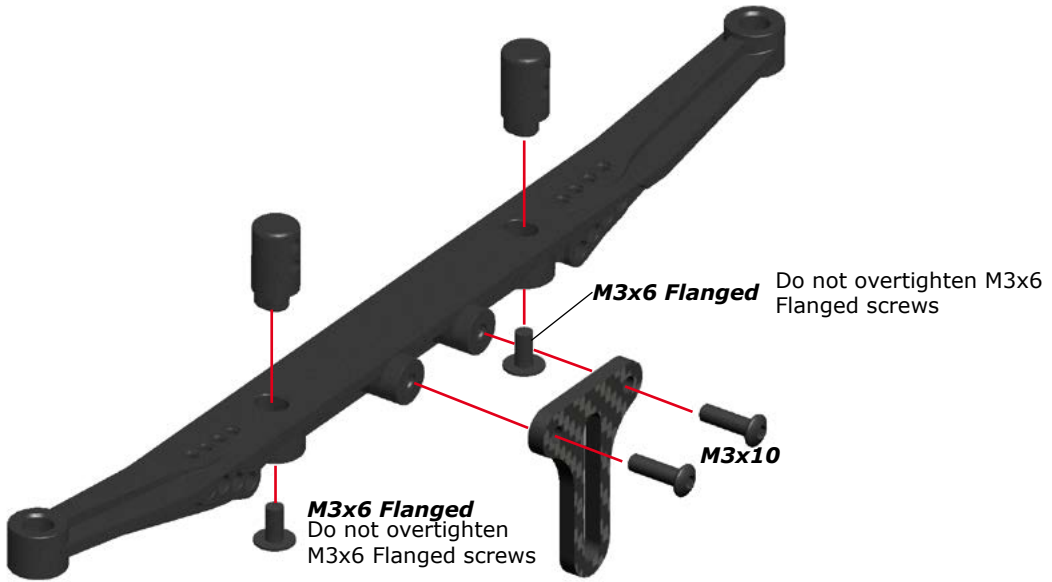
STEP
49



STEP
50

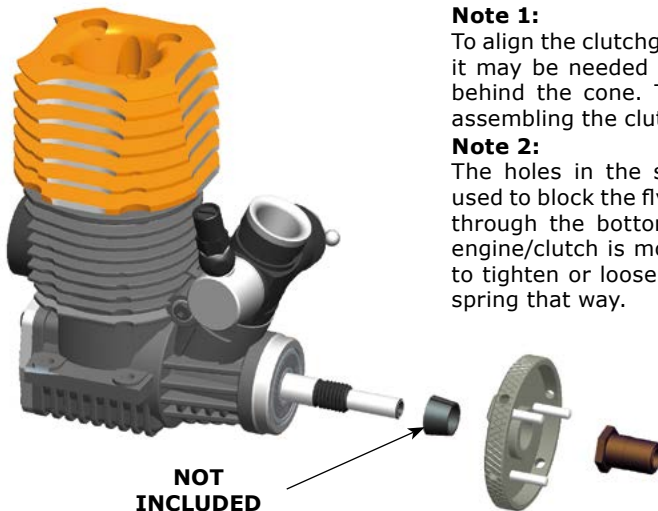
Do not tighten too much M3x10 round head screws to keep a free rotation.





CLUTCH ASSEMBLY

53.1



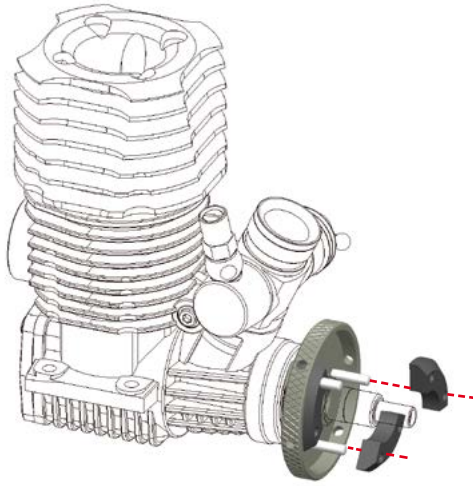
Note 1:

To align the clutchgears with the 2-speed gears, it may be needed to use shim(s) 7x13x0.5mm behind the cone. This you can see only after assembling the clutch.

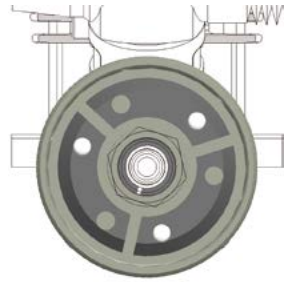
Note 2:

The holes in the side of the flywheel can be used to block the flywheel (with short allen tool) through the bottom of the chassis, when the engine/clutch is mounted in the car. It's easier to tighten or loosen the pre-load on the clutch spring that way.

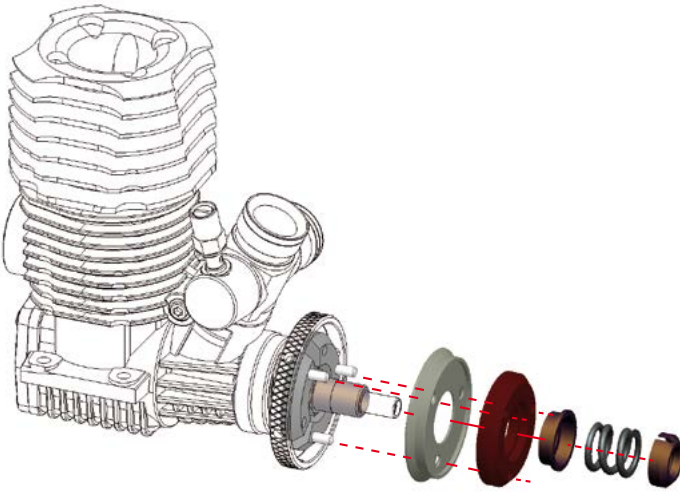
53.2



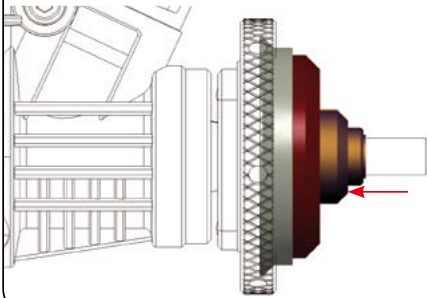
Note the orientation of the flyweights. Use the right hole for having a more aggressive clutch



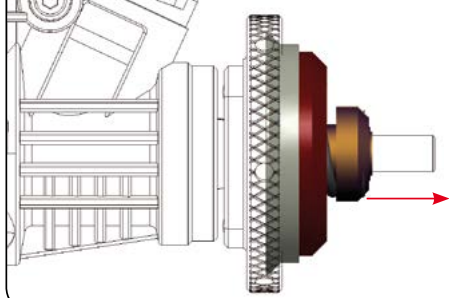
53.3



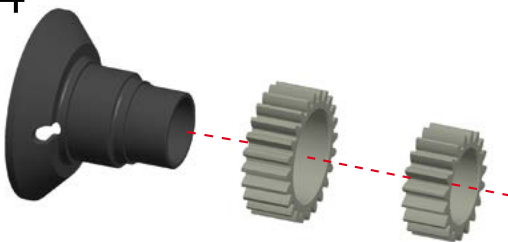
Screw in the adjusting nut all the way



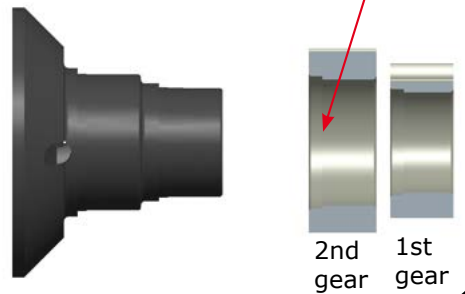
Unscrew 1.5 turns



53.4

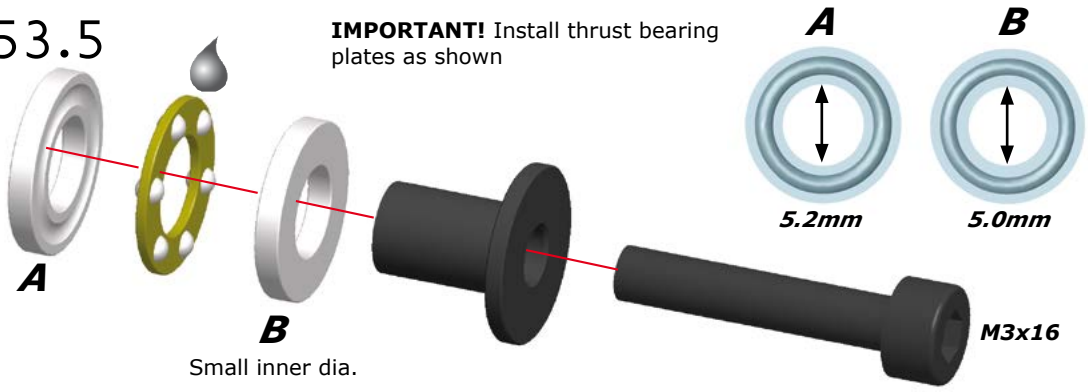


Note orientation of the gears



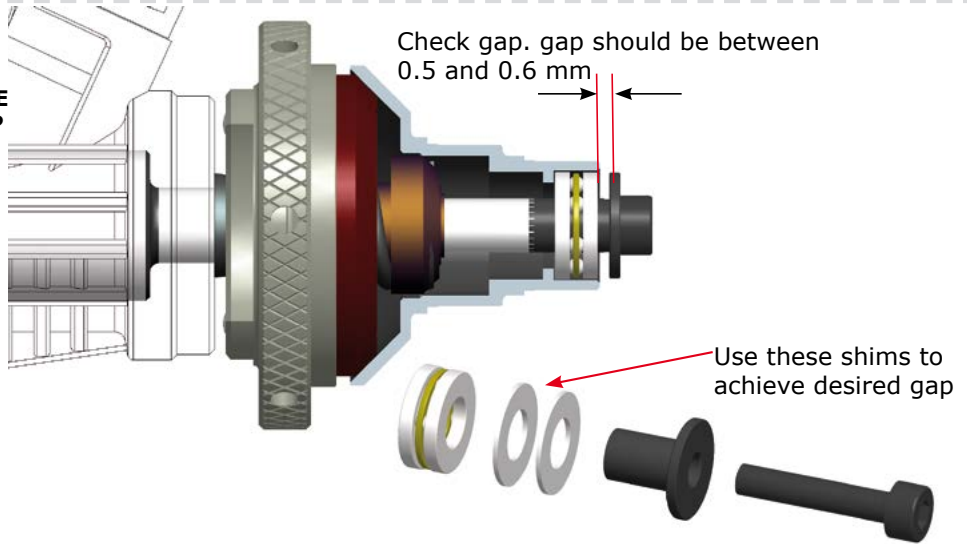
53.5

IMPORTANT! Install thrust bearing plates as shown



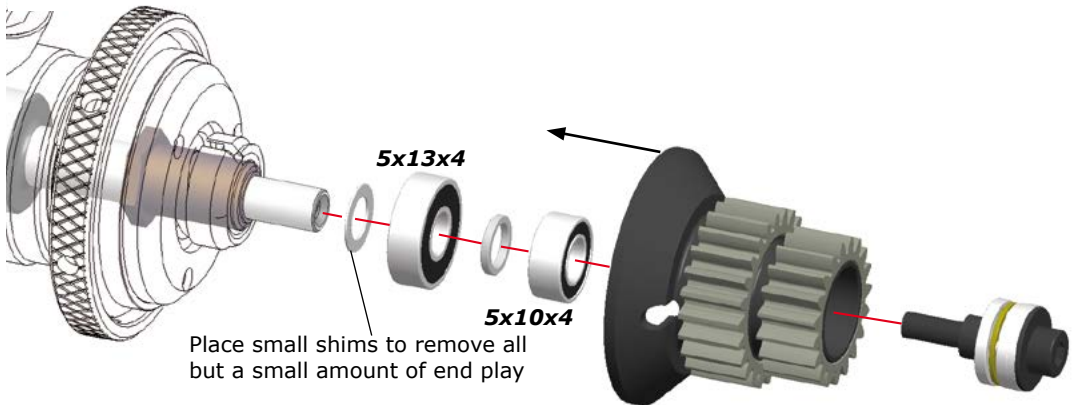
53.6

SETTING THE CLUTCH GAP

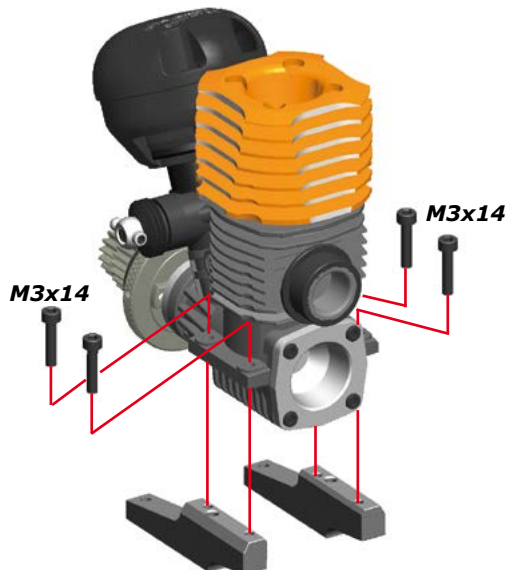


53.7

ADJUSTING THE END PLAY



55.1



977 EVO
VIPER

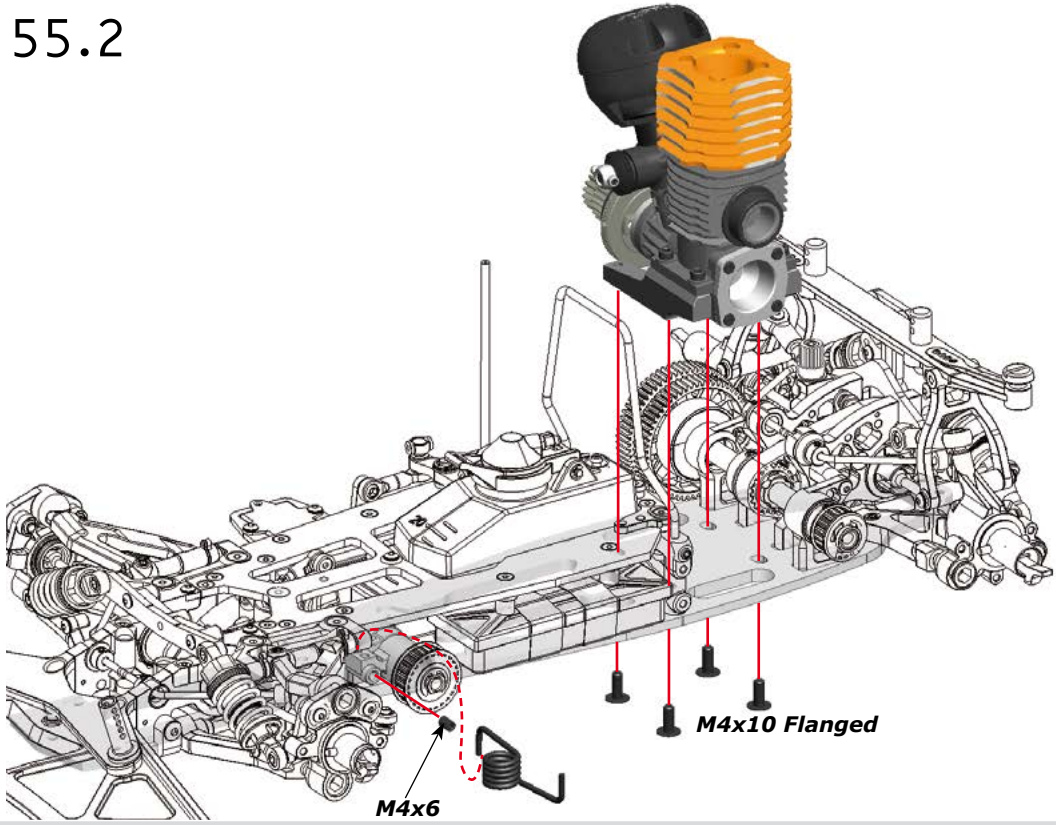
STEP
55

Bag
10

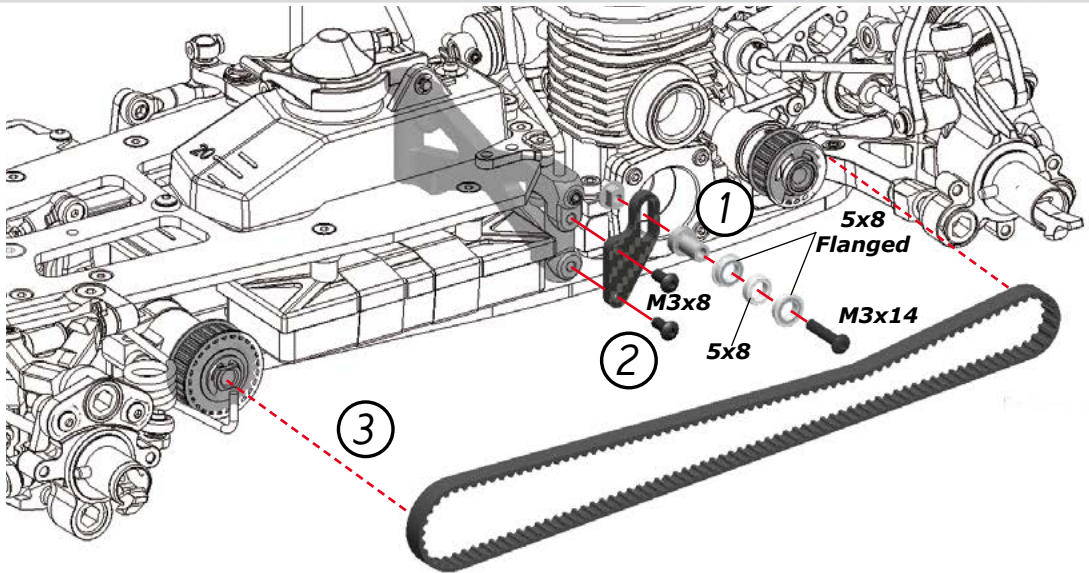
Serpent

Page
29

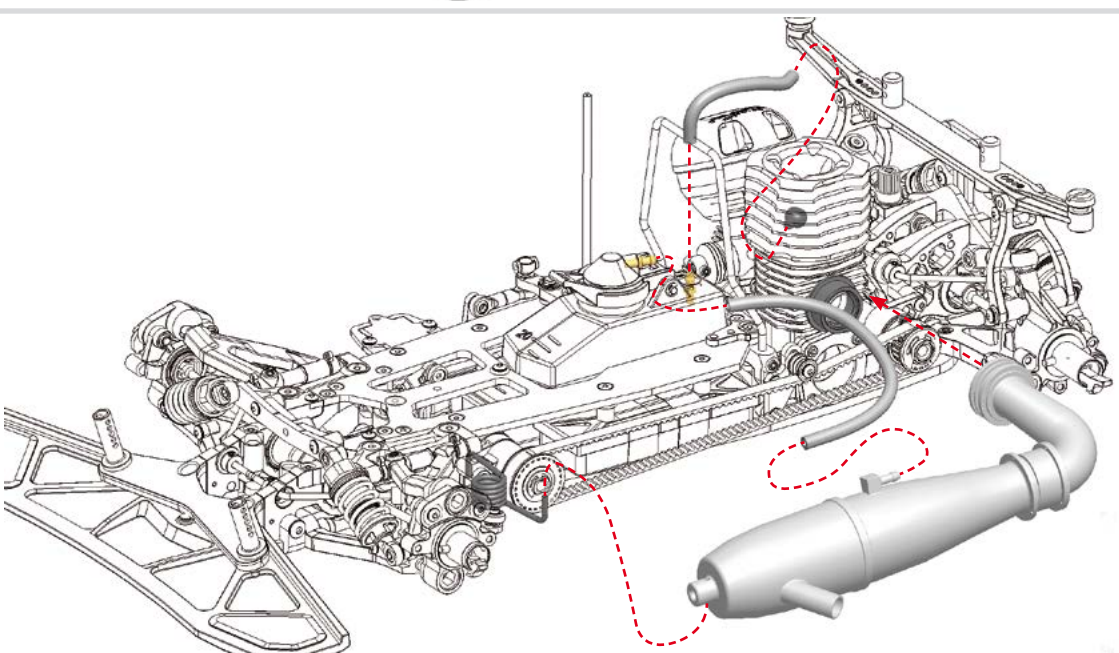
55.2



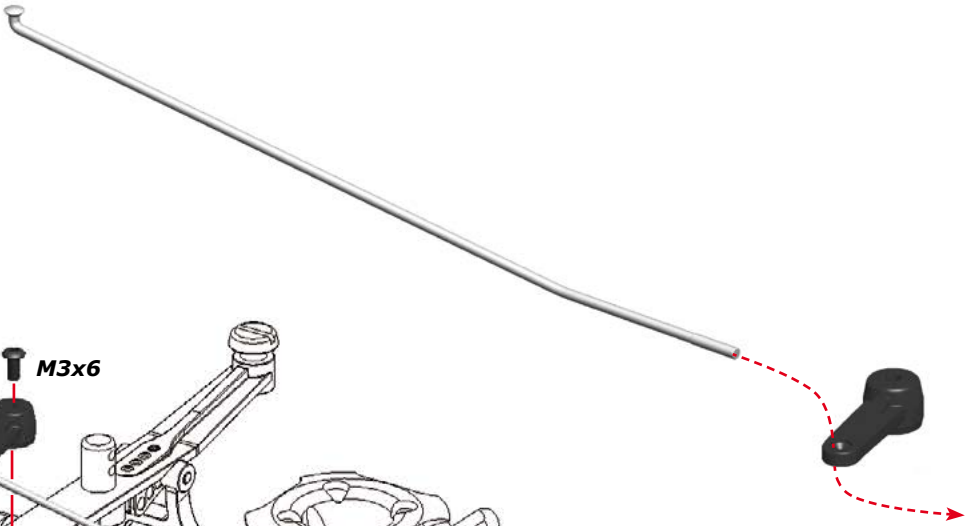
STEP
56



STEP
57

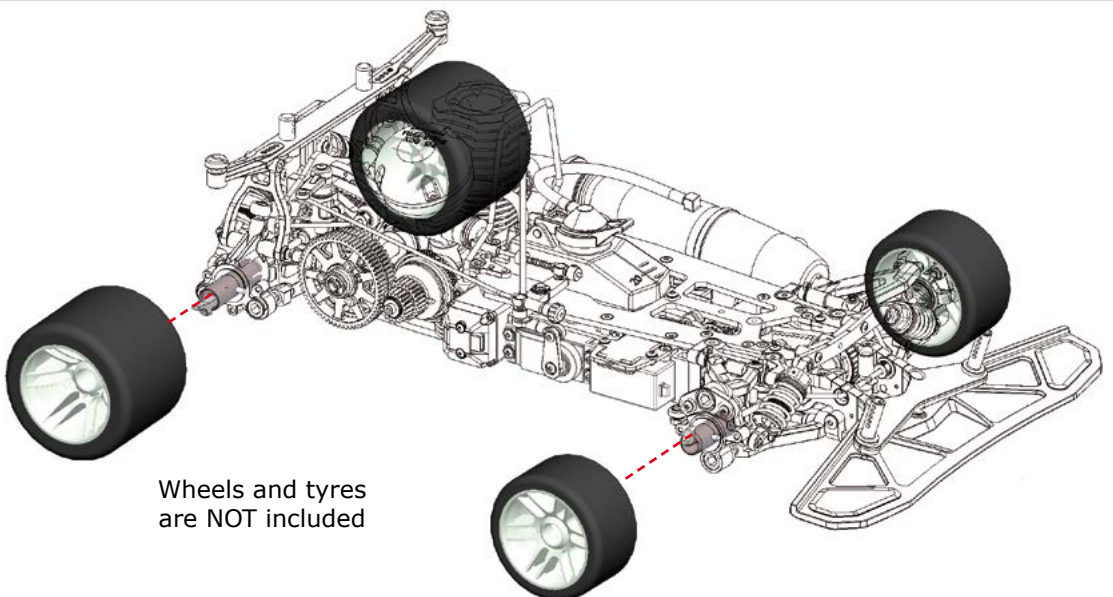
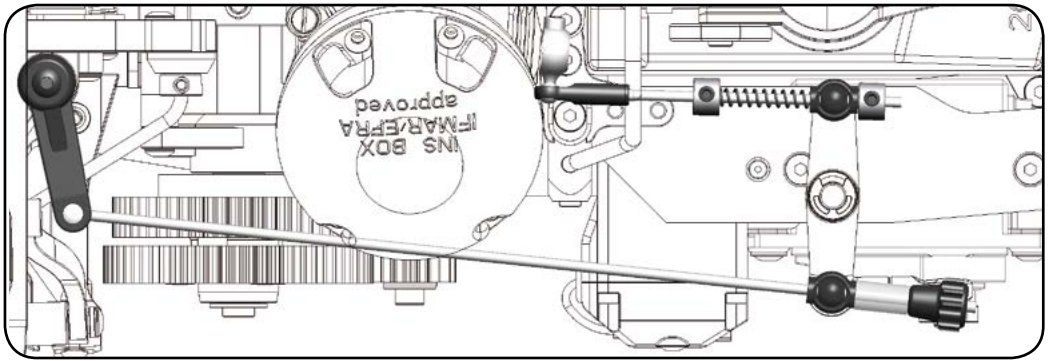
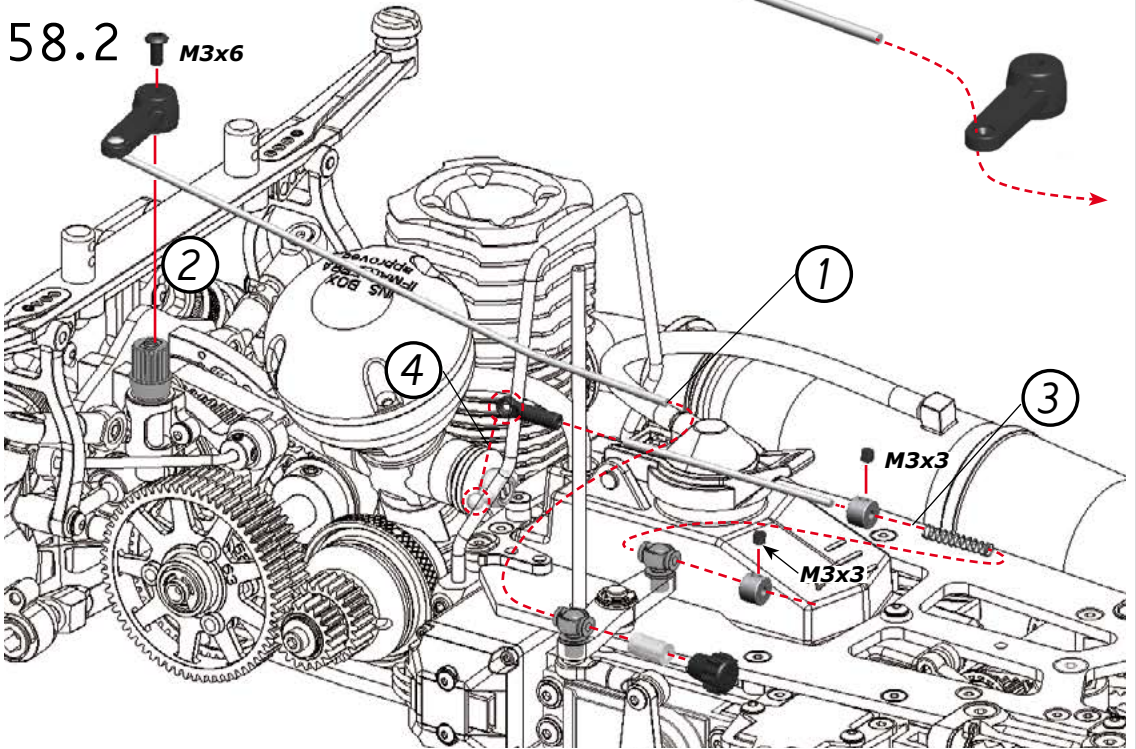


58.1



58.2

M3x6



Wheels and tyres are NOT included

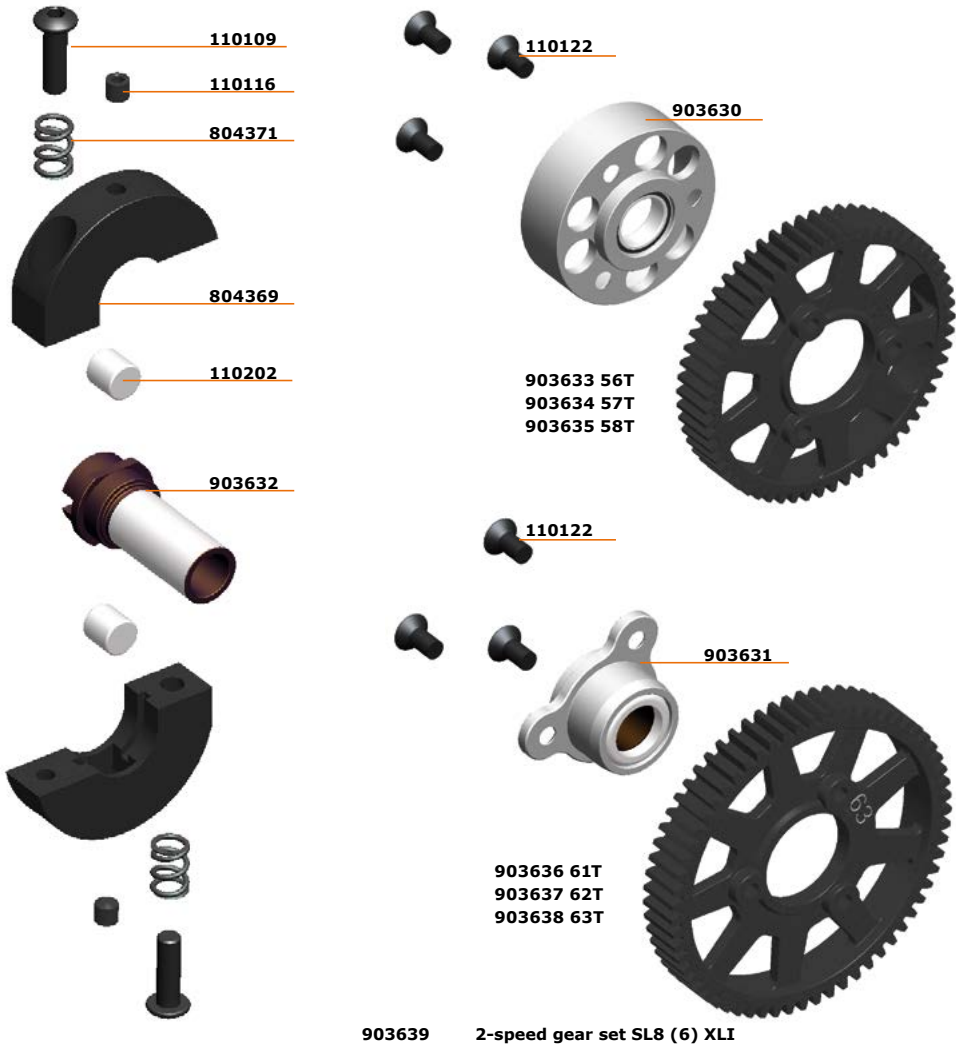
REF GUIDE:

EXPLODED VIEWS and PARTS-LIST

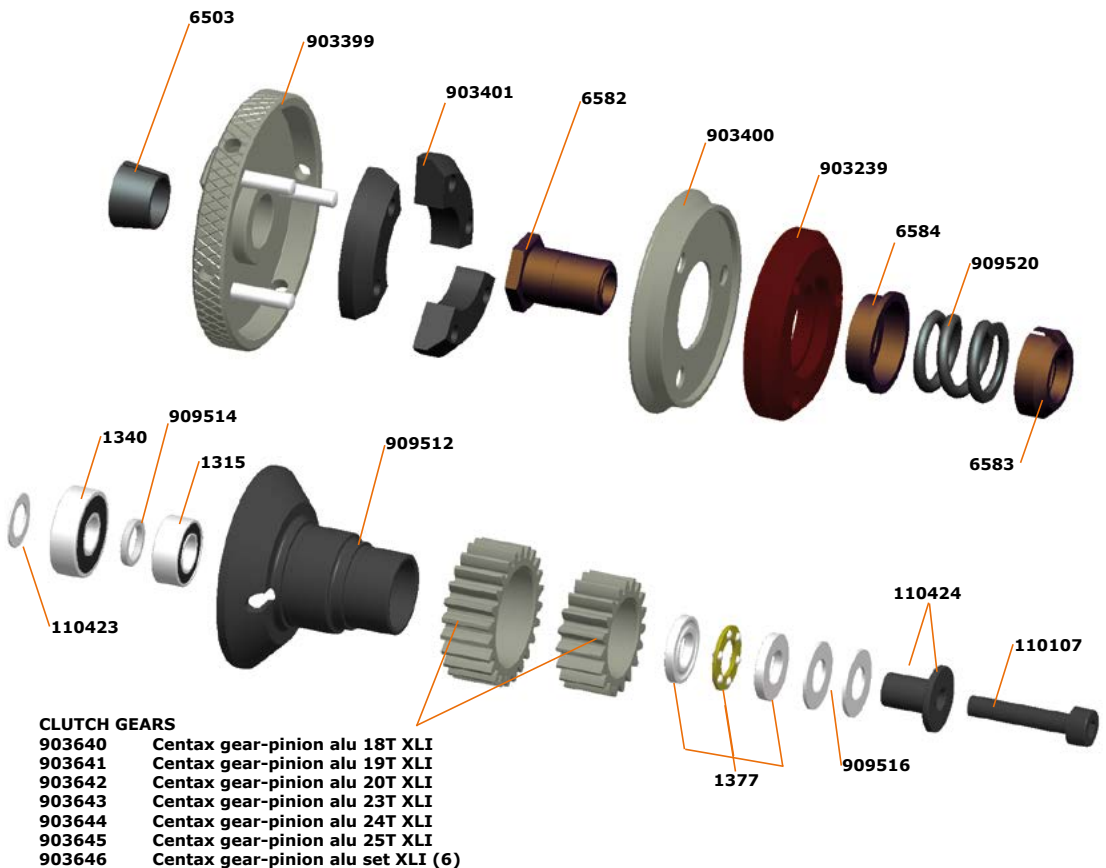
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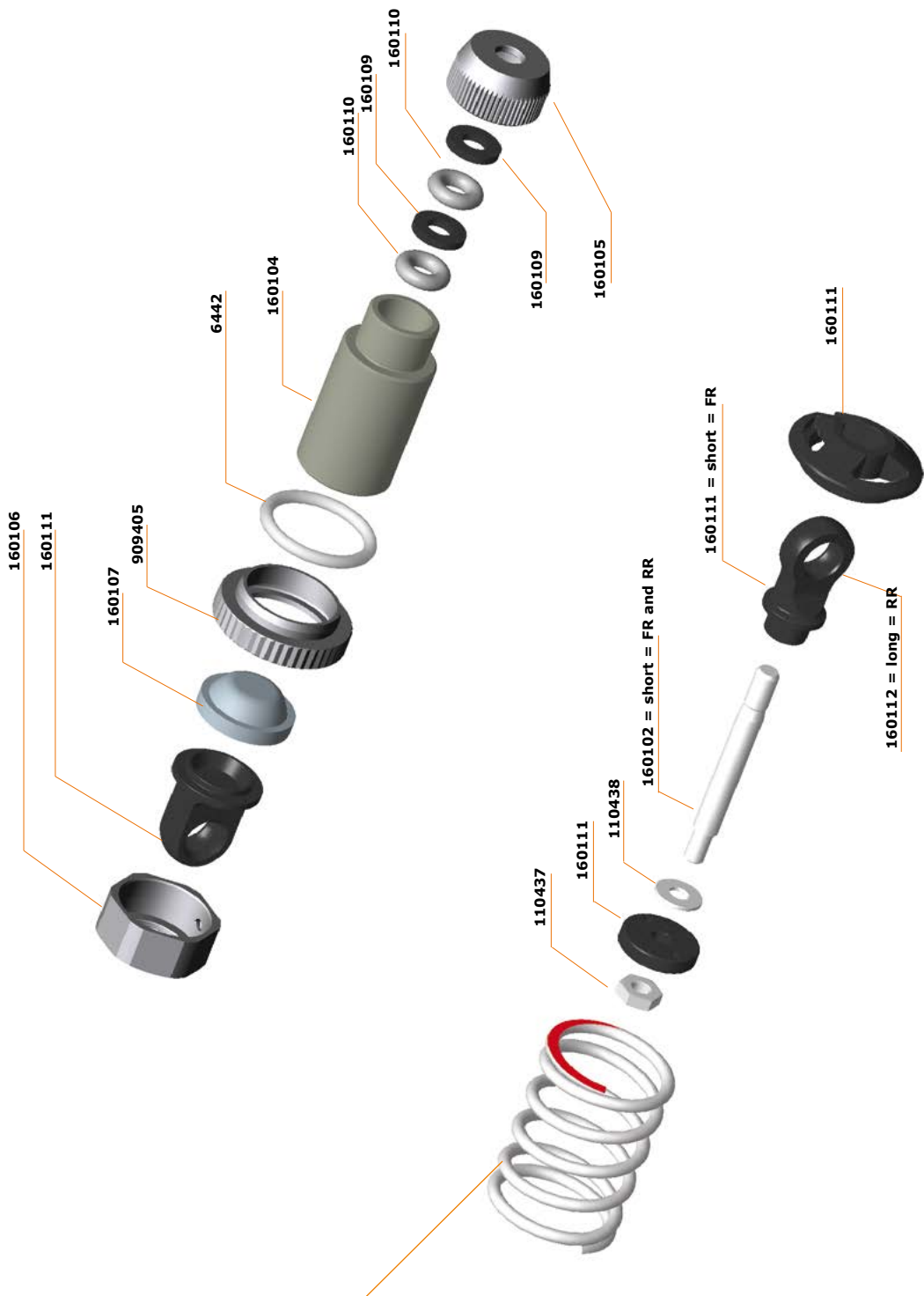
GEARBOX ASSEMBLY



TRUE MOTION 1/8 CLUTCH ASSEMBLY

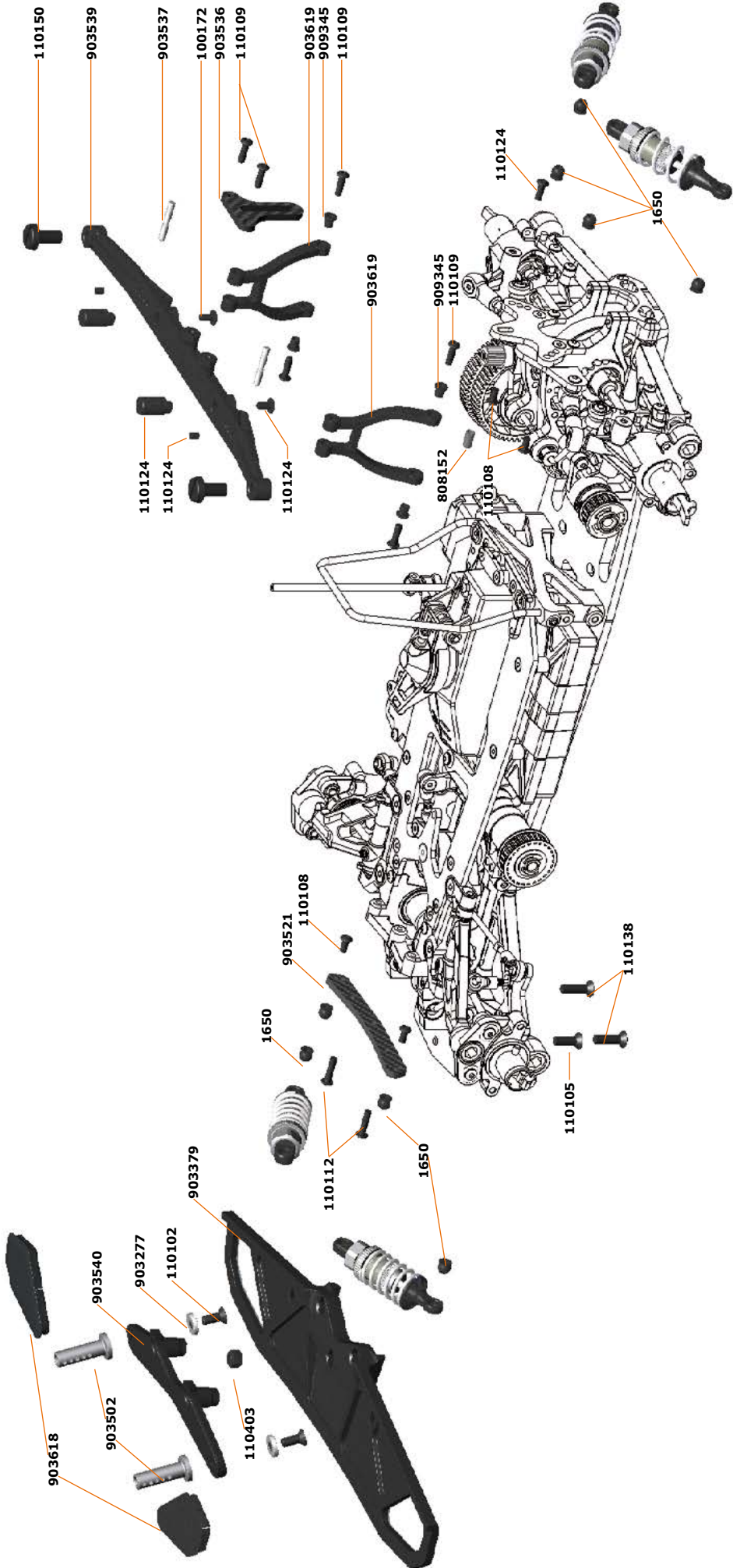


SHOCKS ASSEMBLY

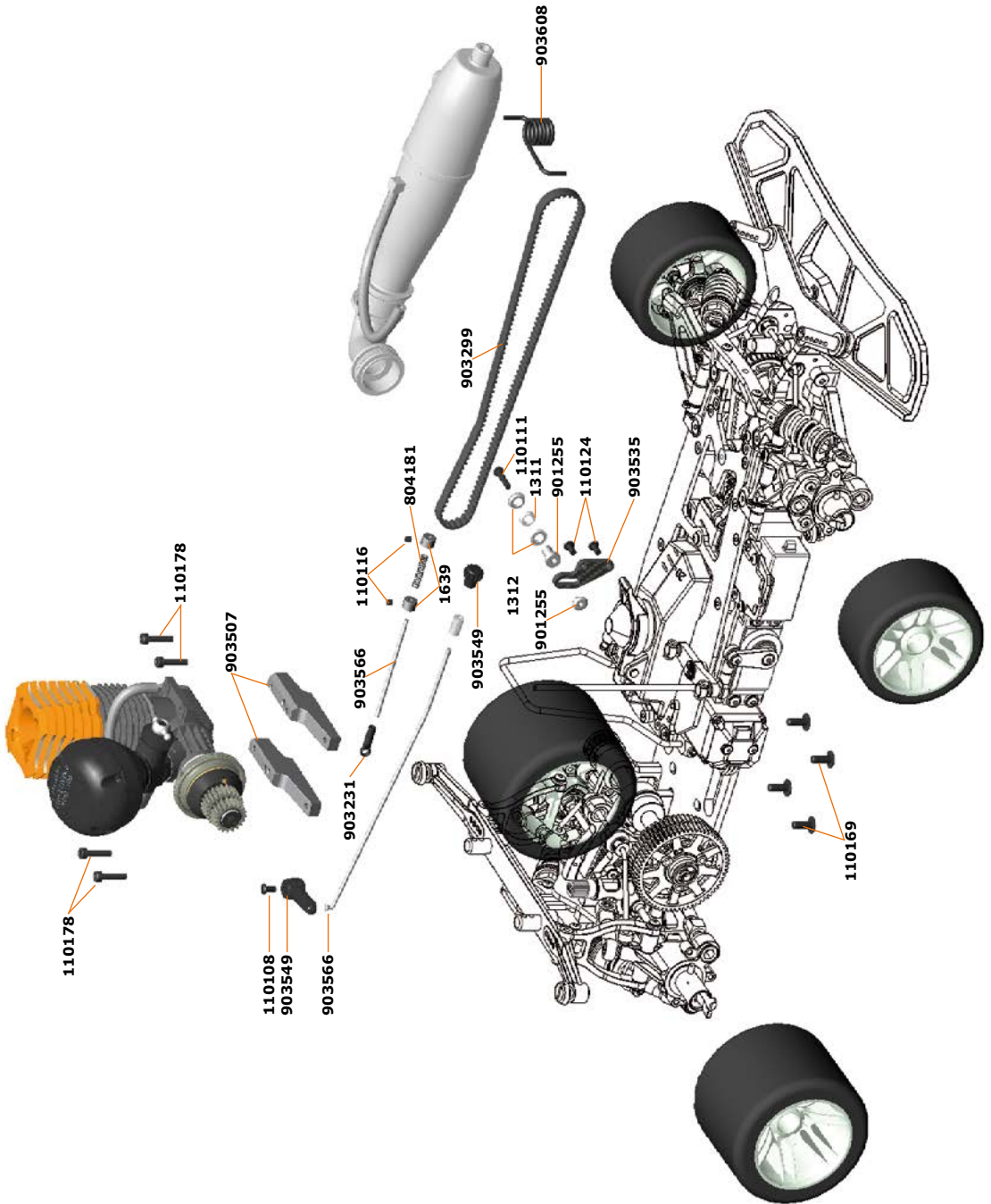


- 160300 Spring white L23 (2.3/13) (2)
- 160301 Spring yellow L23 (2.8/16) (2)
- 160302 Spring orange L23 (3.4/19.5) (2)
- 160303 Spring red L23 (4.1/23.5) (2)
- 160304 Spring pink L23 (4.0/28) (2)
- 160305 Spring blue L23 (5.8/33) (2)
- 160306 Spring purple L23 (6.8/39) (2)
- 160307 Spring green L23 (8/45.5) (2)
- 160308 Spring grey L23 (9/51.5) (2)
- 160309 Spring black L23 (10/57) (2)
- 160310 Spring-set short (5x2)
- 160320 Spring white L27 (2.3/13) (2)
- 160321 Spring yellow L27 (2.8/16) (2)
- 160322 Spring orange L27 (3.4/19.5) (2)
- 160323 Spring red L27 (4.1/23.5) (2)
- 160324 Spring pink L27 (4.0/28) (2)
- 160325 Spring blue L27 (5.8/33) (2)
- 160326 Spring purple L27 (6.8/39) (2)
- 160327 Spring green L27 (8/45.5) (2)
- 160328 Spring grey L27 (9/51.5) (2)
- 160329 Spring black L27 (10/57) (2)
- 160330 Spring black L27 set (5x2)

FINAL ASSEMBLY I



FINAL ASSEMBLY II



Optionals, tools, merchandising

Part no Description

903015 SERPENT 977 EVO

CHASSIS / RADIO PLATE

Optionals

903580 Weight bottom brass 38gr
903603 Radioplate bracket alu
903613 Screwset 977 gray alu (151)
903616 Screw set alu top/side orange 977 (40)
903627 Radioplate support post mid 977 EVO
903648 Topdeck bracket fr L+R 977E Alu

RADIO INSTALLATION / BATTERY

Optionals

804214 Steering lever 23T alu
804215 Steering lever 24T alu
804216 Steering lever 25T alu
903576 Flex system front
903577 Transponder mount carbon
903588 Throttle lever alu
903603 Radioplate bracket alu

FRONT SECTION

Optionals

804253 Pivotball 5.8mm alu coated long (4)
903342 Antirollbar ball 2.5mm (2)
903344 Antirollbar spacer 2.5mm (2)
903378 Wheelaxle front OS2 alu (2)
903396 Pivot-balls 8.5mm titanium (8)
903579 Rim cover FR carbon (2)
903581 Steeringblock lever carbon (2)
903582 Shock extension bracket FR carbon (2)
903584 Antiroll bar FR soft
903585 Antiroll bar FR hard
903589 Servosaver bottom alu (2)
903592 Pulley middle axle 25T alu
903593 Pulley middle axle 18T alu
903594 Pulley front axle 28T alu
903601 Driveshaft cvd FR alu (2)
903611 Wishbone FR lw L+R hard
903612 Wishbone FR up (2) hard
903618 Aero bumper inserts L+R 977
903626 Shock extension bracket FR wide alu (2)
903628 Shock extension bracket FR wide carbon (2)

MIDDLE SECTION

Optionals

903592 Pulley middle axle 25T alu
903593 Pulley middle axle 18T alu
903627 Radioplate support post mid 977 EVO

REAR SECTION

Optionals

903342 Antirollbar ball 2.5mm (2)
903344 Antirollbar spacer 2.5mm (2)
903391 Cvd axle set RR (2)
903392 Wheelaxle cvd RR (2)
903393 Driveshaft cvd RR (2)
903396 Pivot-balls 8.5mm titanium (8)
903398 Wheelaxle cvd RR alu (2)
903578 Rim cover RR carbon (2)
903583 Shock extension bracket RR carbon (2)
903586 Antiroll bar RR soft
903587 Antiroll bar RR hard
903590 Pulley 2-sp axle 19T alu
903591 Pulley 2-sp axle 21T alu
903595 Pulley rear axle 48T alu
903596 Pulley adaptor 21T light
903597 Pulley adaptor 19T light
903599 Solid axle RR light

903600 Driveshaft cvd RR alu (2)

903607 2-speed axle SL8 light

903609 Upright (2) hard

903610 Wishbone RR lw (2) hard

CLUTCH SYSTEM

Optionals

1388 Thrust-bearing 5x10 ceramic
6587N Centax clutch shoe yellow
6587XP Centax clutch shoe black XP
903199 Centax fly-weights SPP (3)
903222 Centax II revision-set
903224 Gear pinion set Centax II
903615 Clutch housing centax 2 alu coated
903647 Centax spring x-hard

SHOCK ABSORBERS

Optionals

160109 Shock RCM bushing machined (8)
160115 Shock RCM shaft short TIN coated (2)
160117 Shock piston RCM machined 1-hole (4)
160118 Shock piston RCM machined 2-hole (4)
160119 Shock piston RCM machined 3-hole (4)
160120 Shock piston RCM machined 4-hole (4)

TOOLS AND BAGS

190500 Pit-caddy
190501 Tool-bag
190502 Pit-bag medium. 3 drawers
190503 Fuel bottle 500ml
190504 Ballcup tool
190506 Toolset for On-road (17pcs) 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 wrench2.0 X 120mm
190514 Ball driver hex wrench2.5 X 120mm
190515 Ball driver hex wrench3.0 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 wrench2.0 X 120mm
190521 Tool tip Ball driver hex wrench2.5 X 120mm
190522 Tool tip Ball driver hex wrench3.0 X 120mm
190523 Turnbuckle wrench 3mm
190524 Turnbuckle wrench 4mm
190525 Turnbuckle wrench 5mm
190526 Flat head screwdriver3.0 X 150mm
190527 Flat head screwdriver4.0 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 4.5 X 100mm
190532 Nut driver 5.0 X 100mm
190533 Nut driver 5.5 X 100mm
190534 Reamer with end cap for lexan body
190535 Exhaust spring / caster clip remover
190536 Wrench - Glowplug / Clutchnut - 10mm long
190538 Flywheel wrench

MERCHANDISING

1896 Cap serpent black-orange
190172 Winter jacket Serpent black-orange hooded (M)
190173 Winter jacket Serpent black-orange hooded (L)
190174 Winter jacket Serpent black-orange hooded (XL)
190175 Winter jacket Serpent black-orange hooded (2XL)
190176 Winter jacket Serpent black-orange hooded (3XL)



TEAM SERPENT NETWORK

977evo SPARE PARTS

www.serpent.com/903015



977evo OPTIONAL PARTS

www.serpent.com/903015/optionals



SERPENT TOOLS

www.serpent.com/product/Tools/



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