



# INSTRUCTION MANUAL

## & REFERENCE GUIDE



## INTRODUCTION

Welcome to the Serpent owners network! By buying the Cobra GT, you have become part of the fast growing base of Serpent drivers around the world, active in most classes of rc car racing. Serpent racers share their knowledge and experiences on the tracks and on the internet, so join in!

The Serpent Cobra GT is a high-end racing car, for competition purposes. The Serpent Cobra GT offers state of the art specifications and leads the way in 1/8 scale gas on-road chassis design, using all the knowledge our designers have gathered from racing on-road cars for over 35 years, into this design too. Continuously pushing the performance envelope. Designed, tested and raced by Billy Easton and Michael Salven, World Champions.

All information about the Serpent Cobra GT is accessible from the Serpent Cobra GT product page which can be found on Serpent.com and can be accessed by simply typing [serpent.com/600046](http://serpent.com/600046) into your web browsers address bar. From the Serpent Cobra GT product page you will find the very latest information about your car: reports by team drivers and other experts, tips and tricks, setups, image gallery and downloadable files including the latest version of the instruction manual is available as downloadable PDF-files.

Enjoy assembly, preparations and racing !  
Team Serpent

## 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.

## INSTRUCTIONS, HOW TO USE

The kit includes bags, with bag numbers, which refer to the same step in the manual. Open only the indicated bag(s) per step and finish that part of the assembly. Remaining parts will be needed later on in the assembly process.

## SETUP

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

## EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent Cobra GT 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.

## 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](http://www.serpent.com) or you may ask your dealer or the Serpent distributor for advice, or email Serpent direct: [info@serpent.com](mailto:info@serpent.com)

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

## 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.

## Read this first!

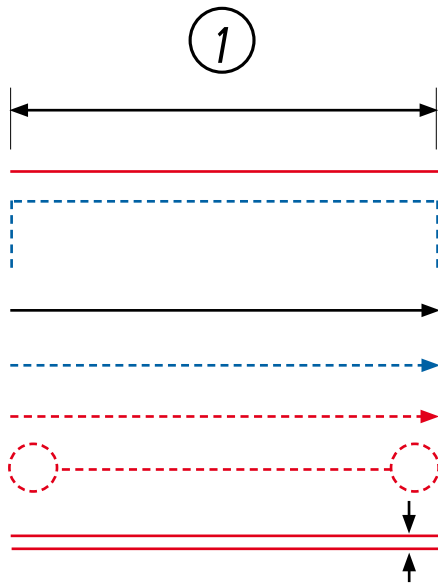
- This is a highly technical hobby product, intended to be used in a safe racing environment. This car is capable of speeds in excess of 80 km/h or 50mph. Please follow these guidelines when building and operating this model.
- Parental guidance is required when the builder/user of this car is under 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.

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# 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 CA Glue (Red)\*



Apply threadlock (Blue)\*



Apply silicone oil

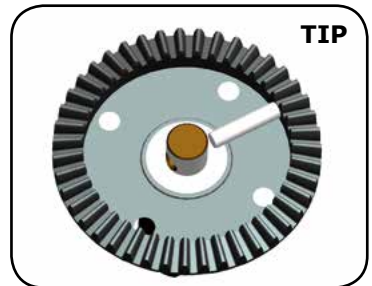
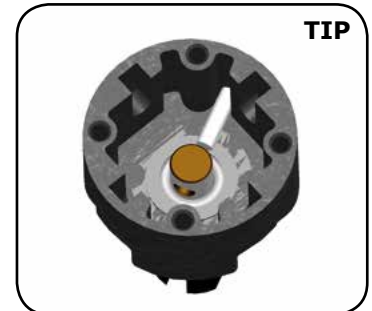
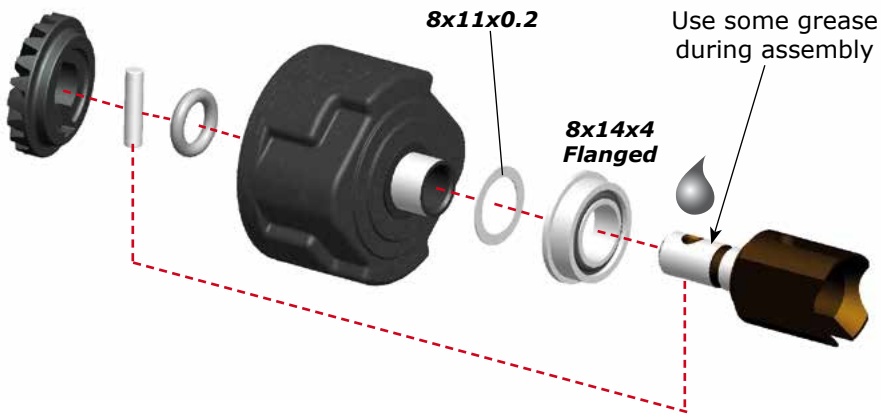
(\*Items not included.)

## ASSEMBLY INSTRUCTIONS

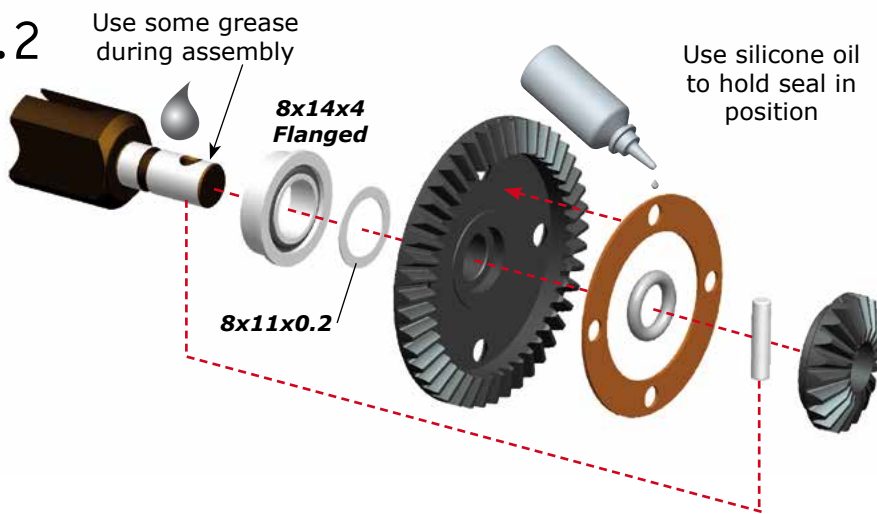
# DIFFERENTIAL FRONT/REAR ASSEMBLY

STEP  
1  
FR/RR  
DIFF  
BAG

1.1



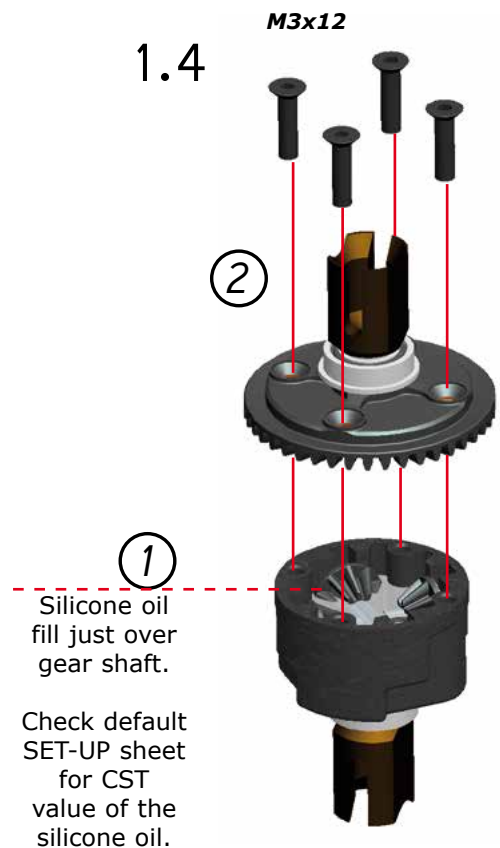
1.2



1.3



1.4

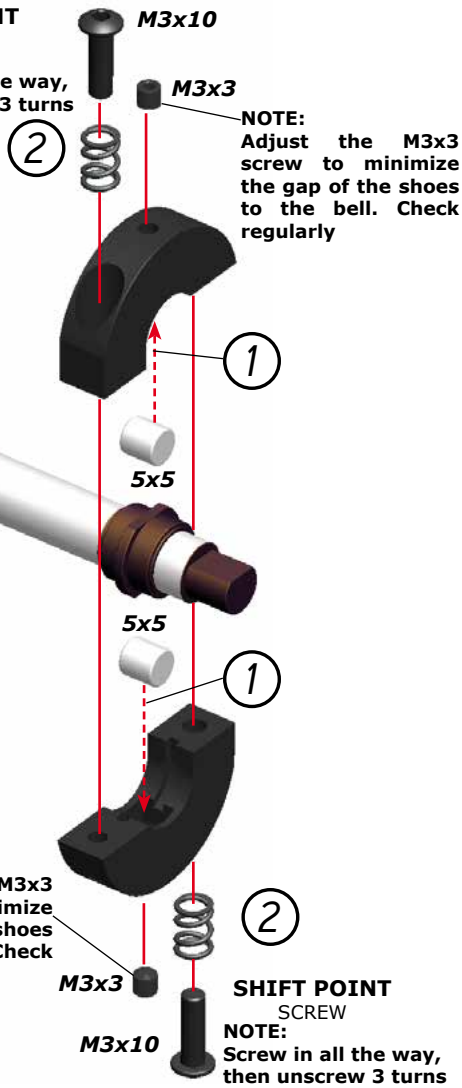


# GEARBOX ASSEMBLY

2.1

**SHIFT POINT**  
SCREW

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

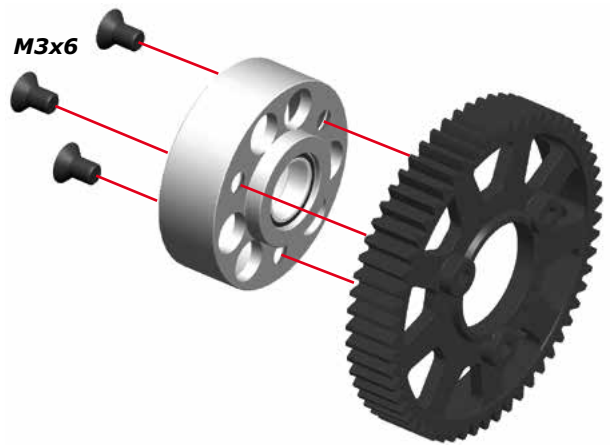


**NOTE:**  
Adjust the M3x3  
screw to minimize  
the gap of the shoes  
to the bell. Check  
regularly

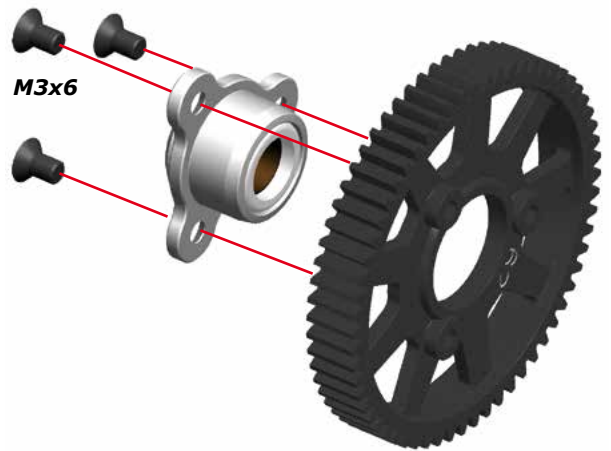
**SHIFT POINT**  
SCREW

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

2.2

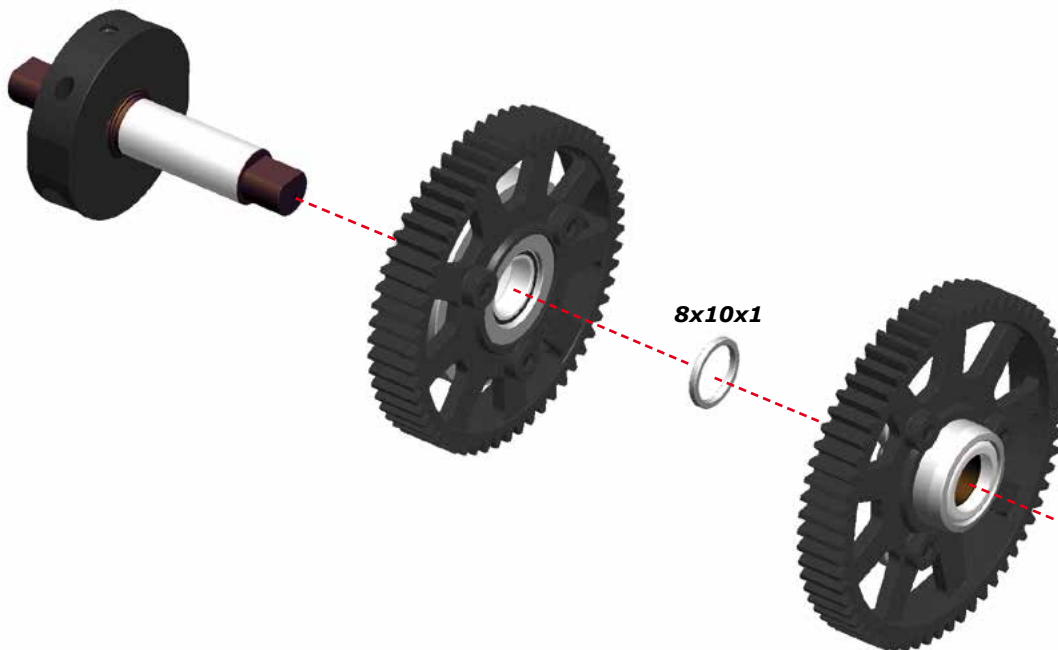


2.3



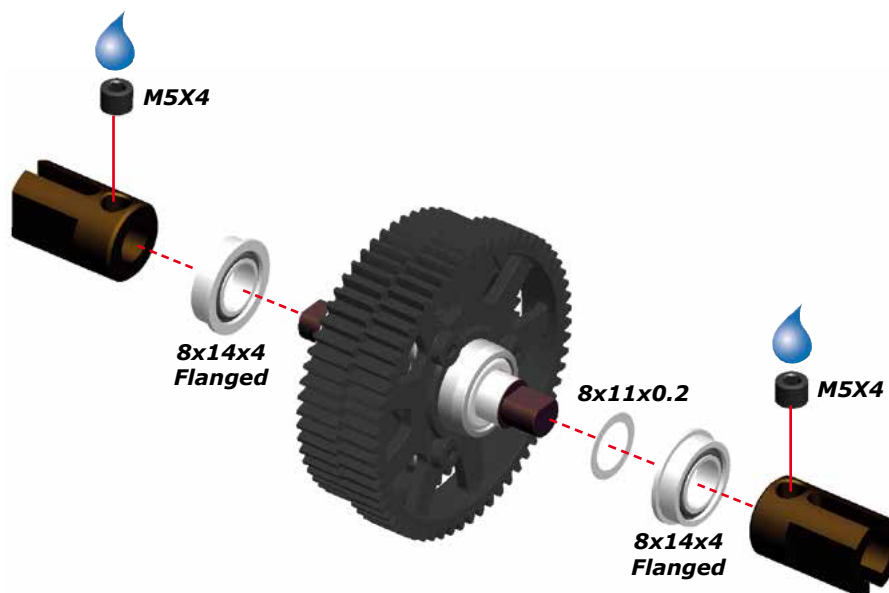
STEP  
2

Bag  
1



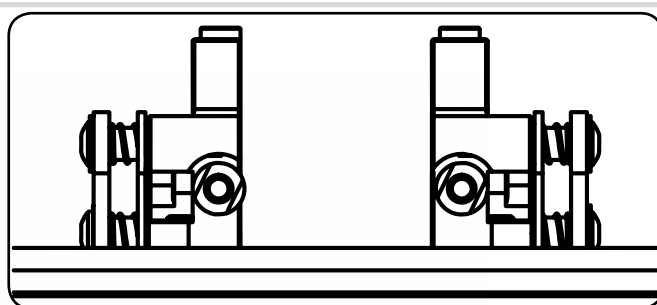
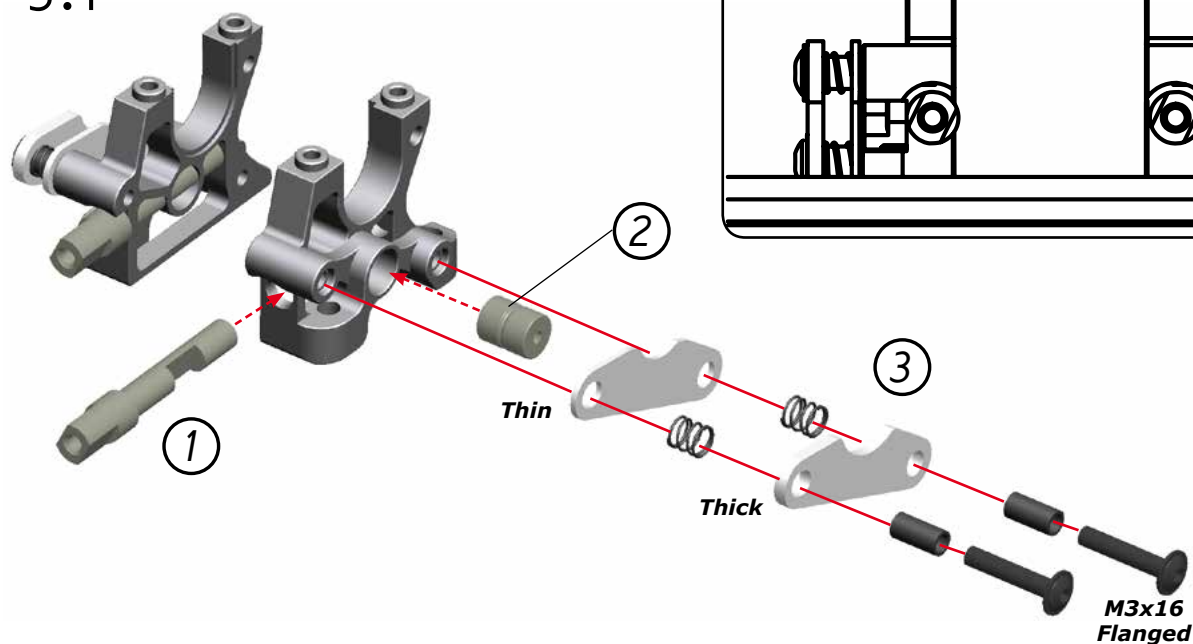
STEP  
3

STEP  
4

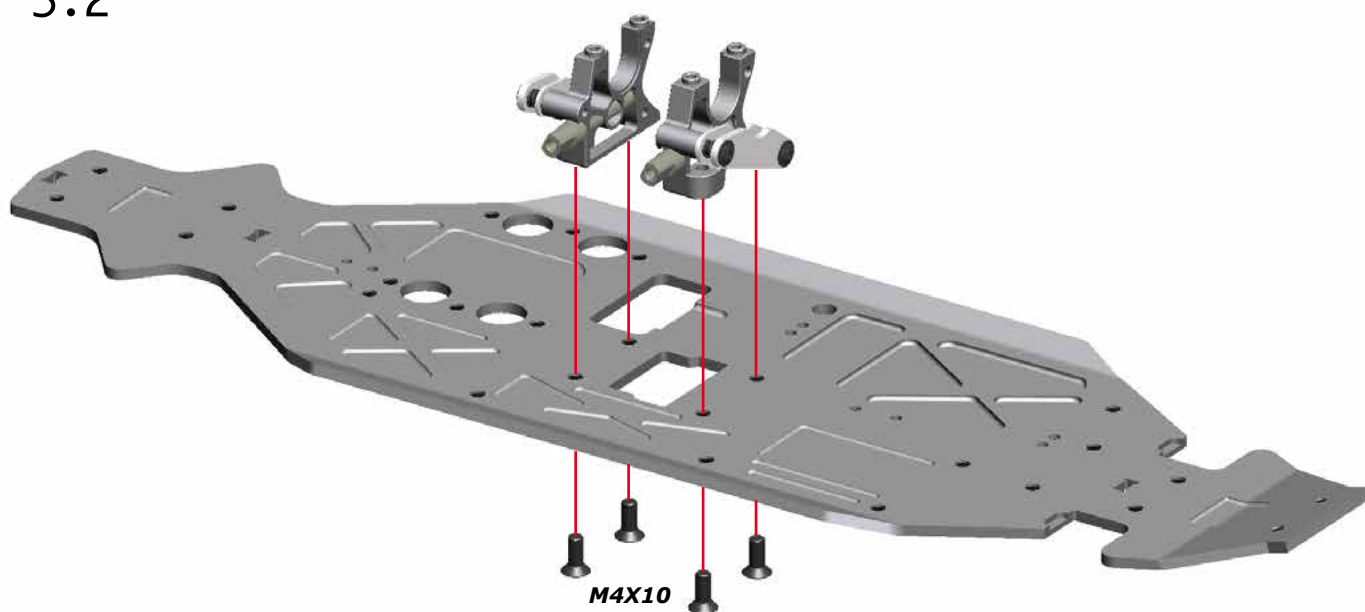


STEP  
5

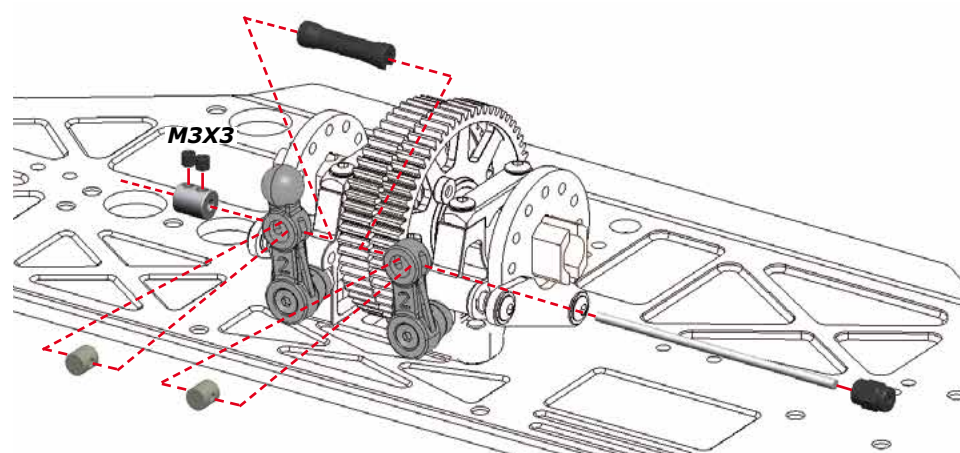
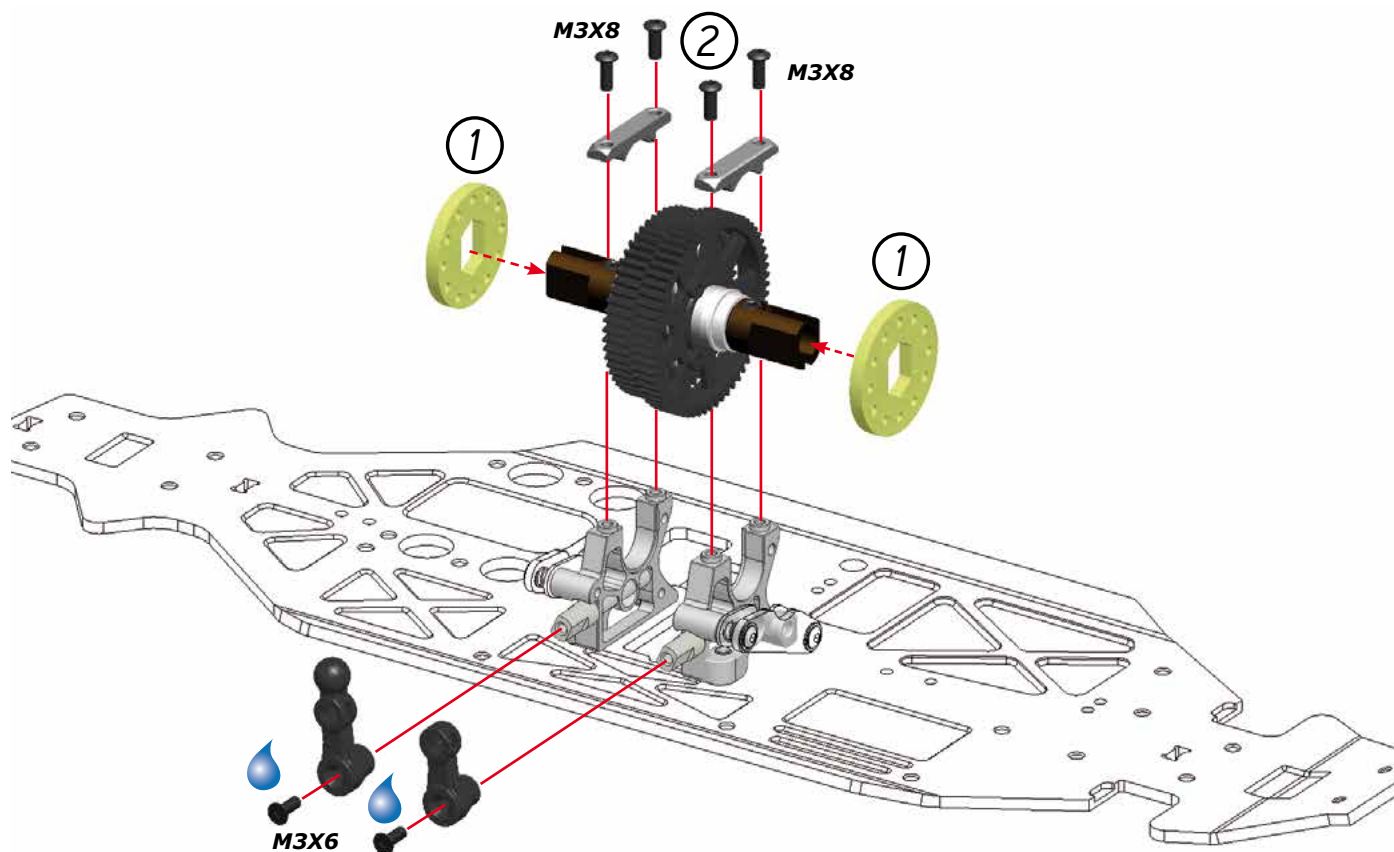
5.1



5.2

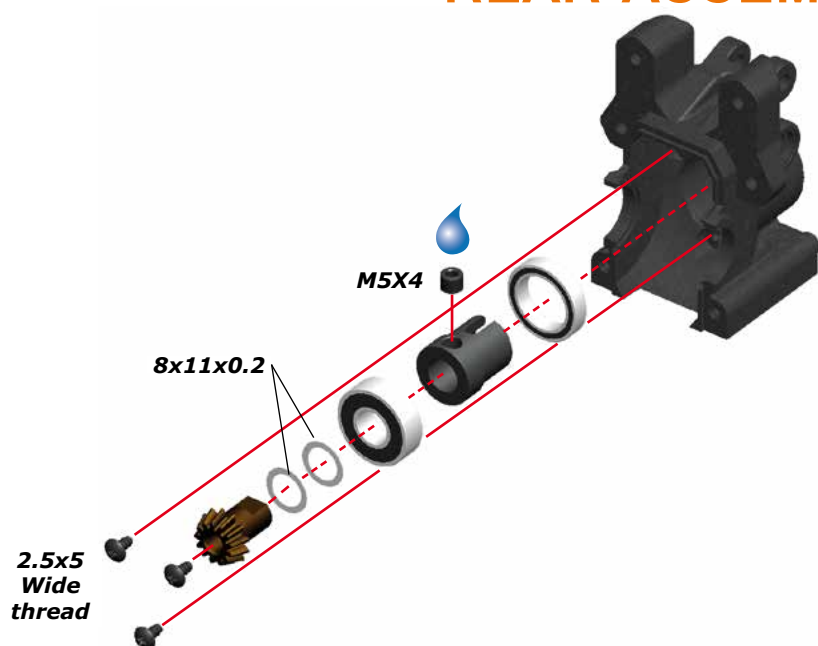






Note:  
Check for free movement

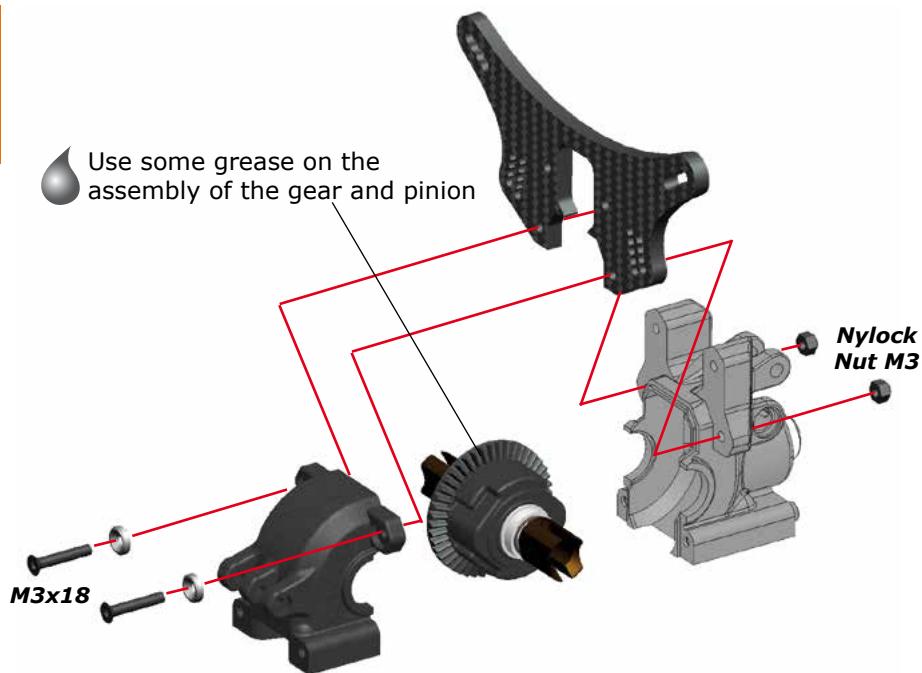
## REAR ASSEMBLY



Note:

After building the differential with new gears a new differential case and bearings, the differential may feel a little tight. The connected parts need at least an hour run-time to create a perfect match. Attention: When you assemble the diff with too much initial play, the gears will not run-in properly and may wear quickly. After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly now. You may add one or more extra shims on the pinion or ring-gear, start off by placing 1 x 0.1mm more, and try again.

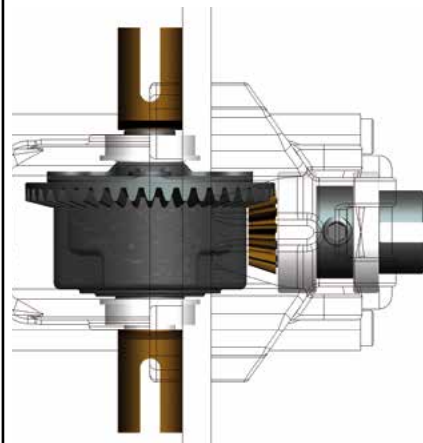
# STEP 9



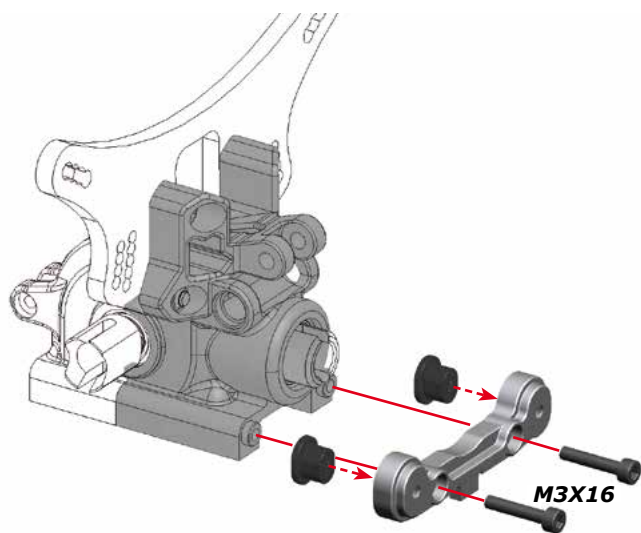
## Notes:

1) Use 14x15.6x0.2 shims to adjust proper gear mesh.

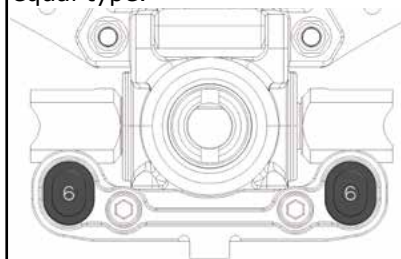
2) Notice orientation of differential.



# STEP 10

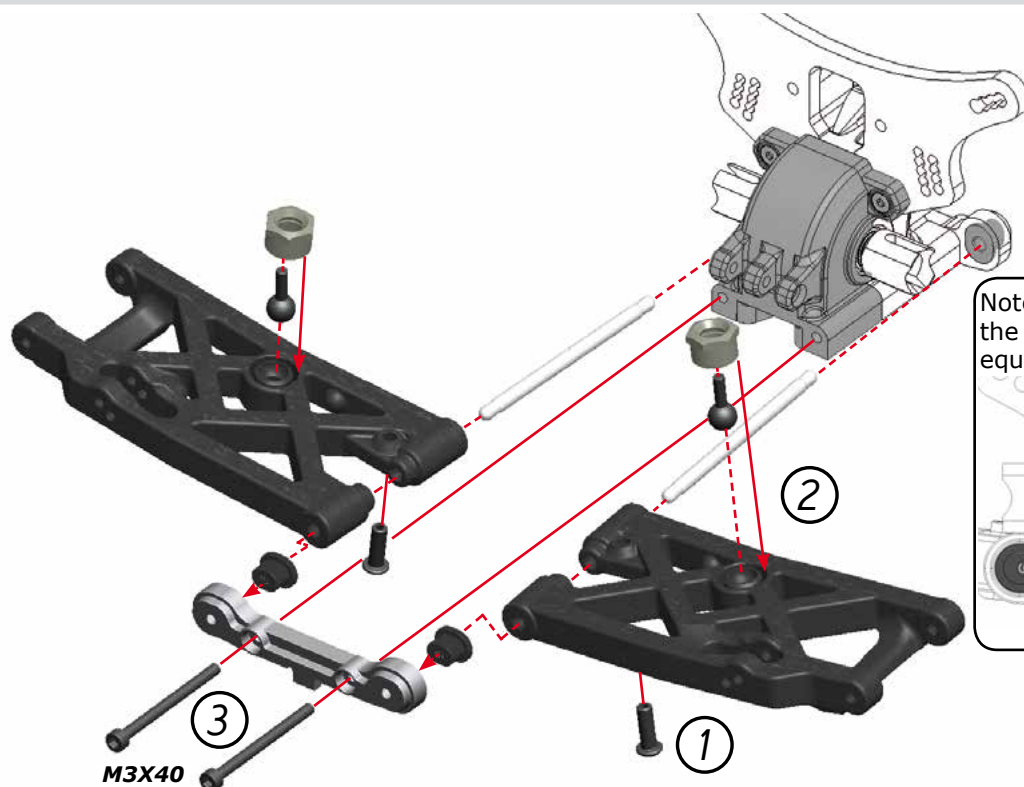


Note proper insert orientation in the rear bracket, left and right equal type.

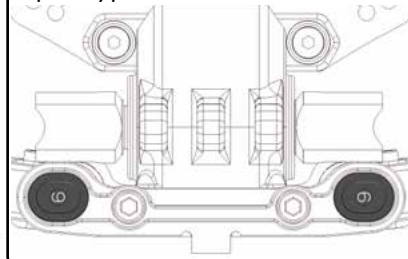


# STEP 11

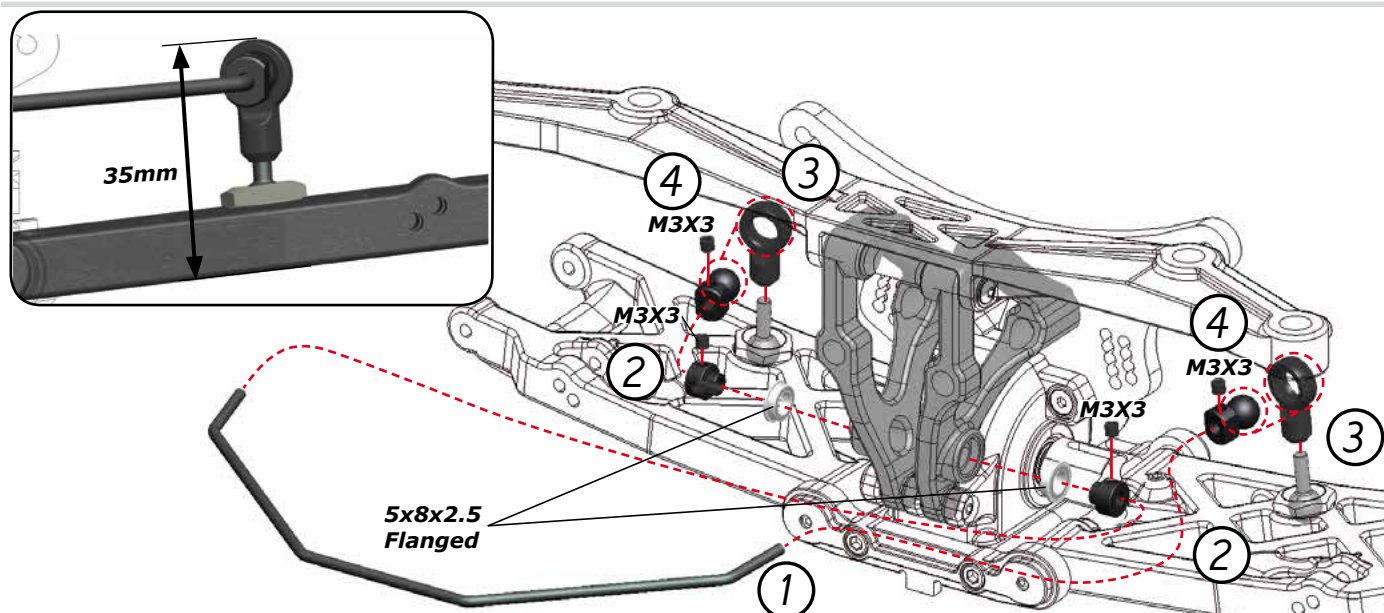
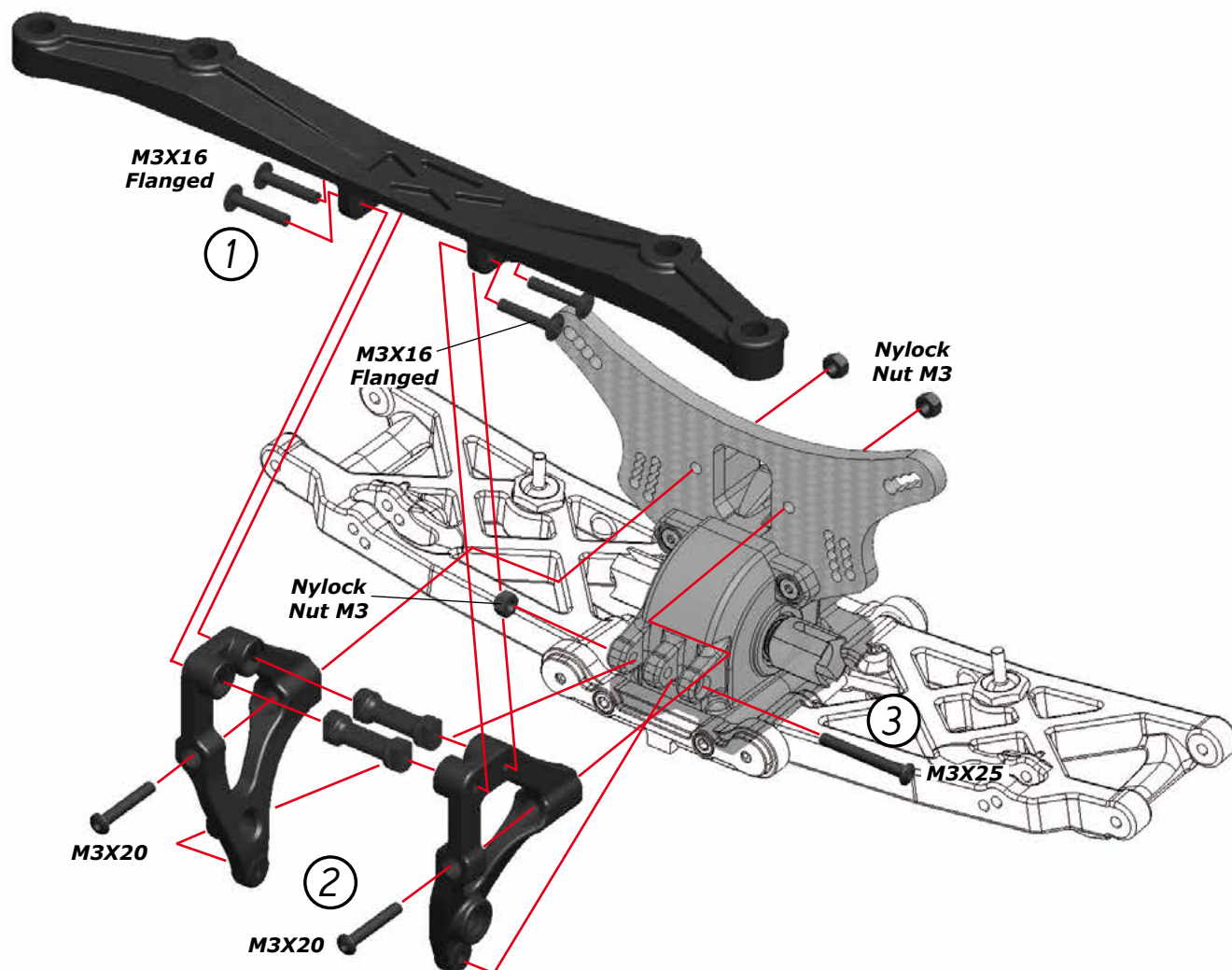
Bag 3



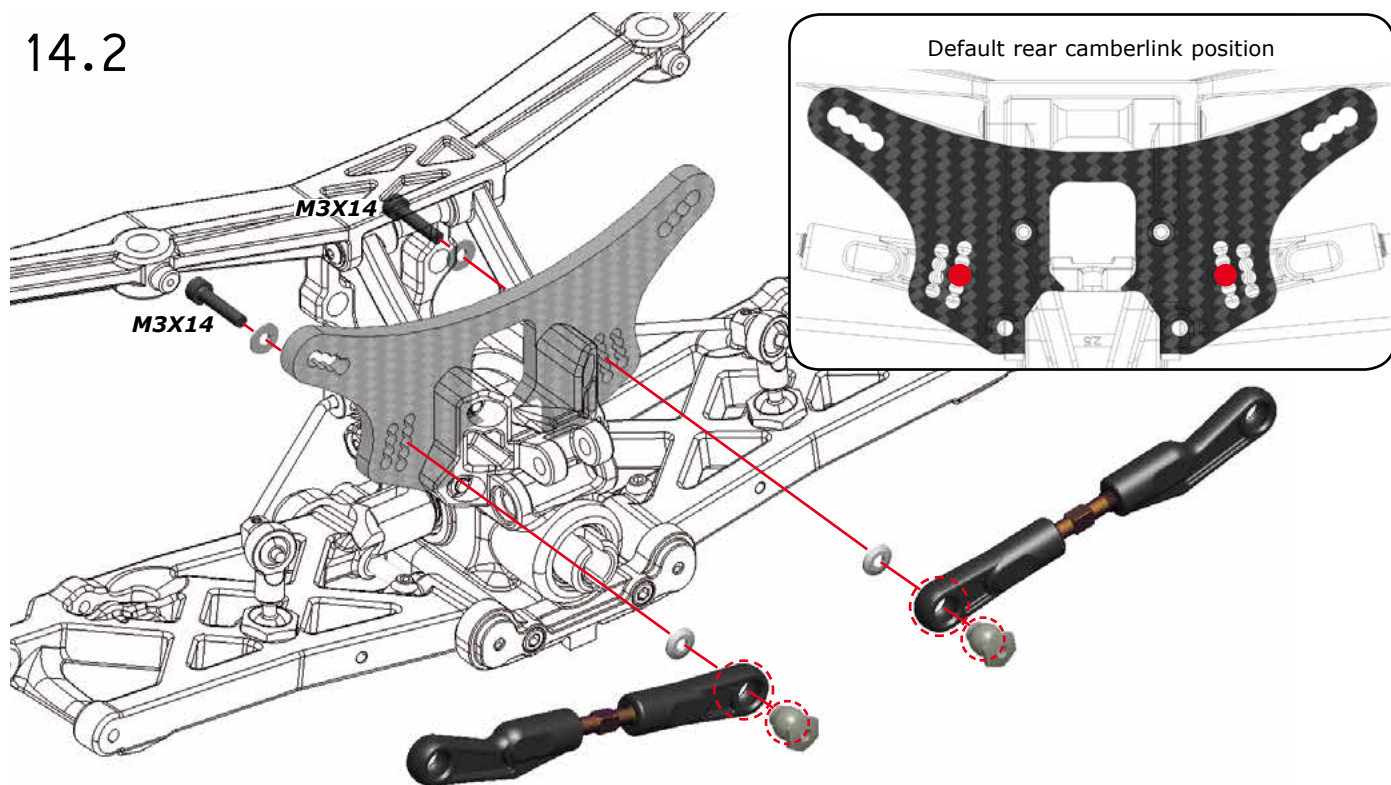
Note proper insert orientation in the rear bracket, left and right equal type.





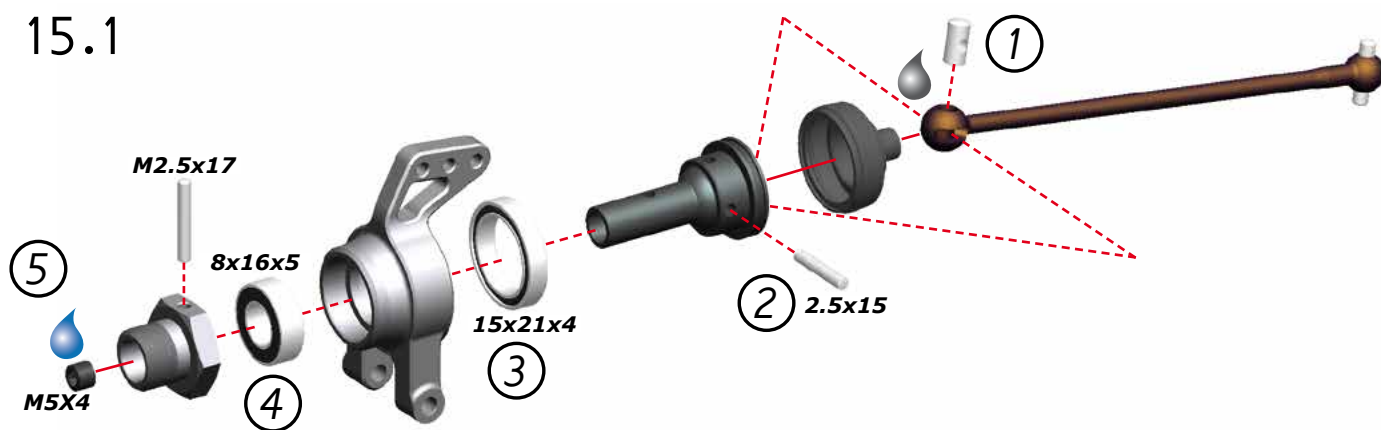


14.2

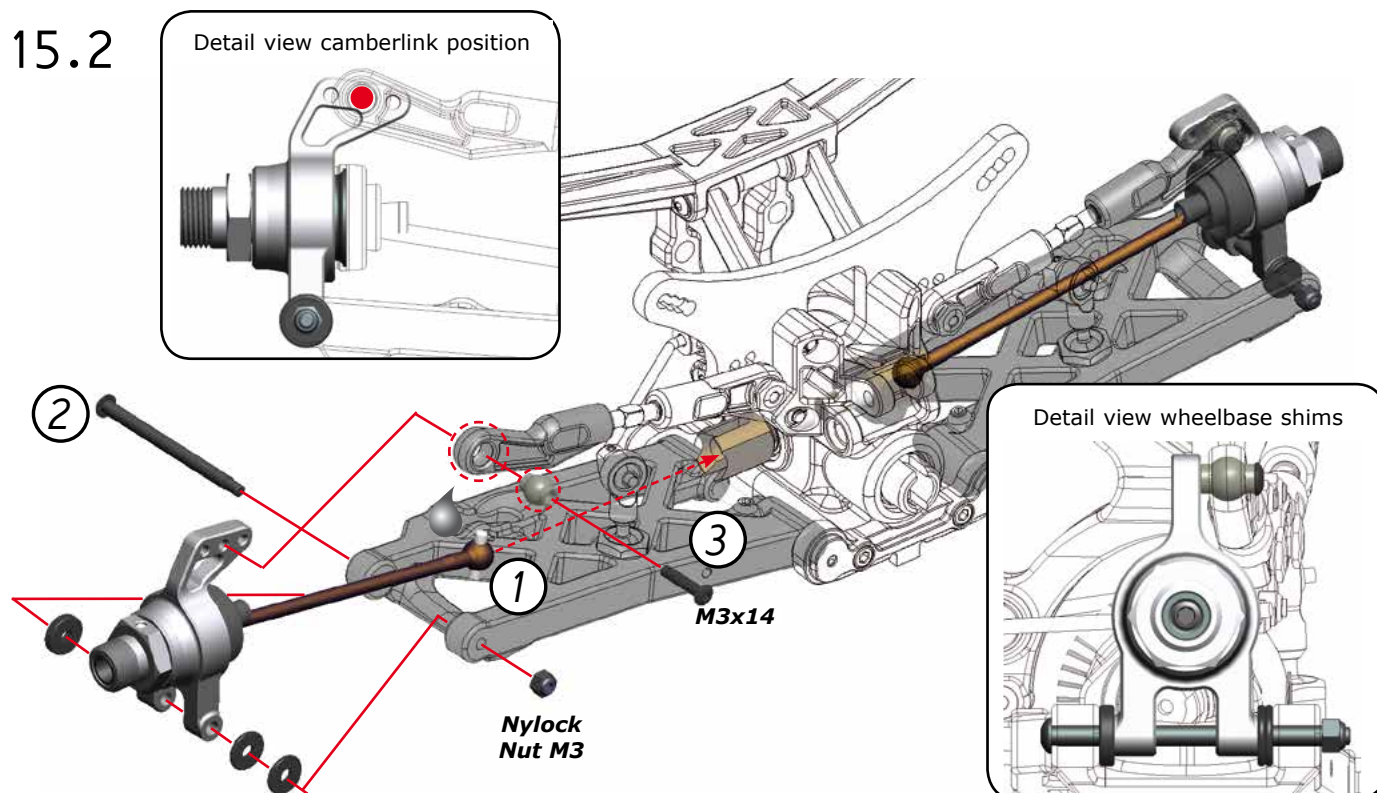


STEP  
15

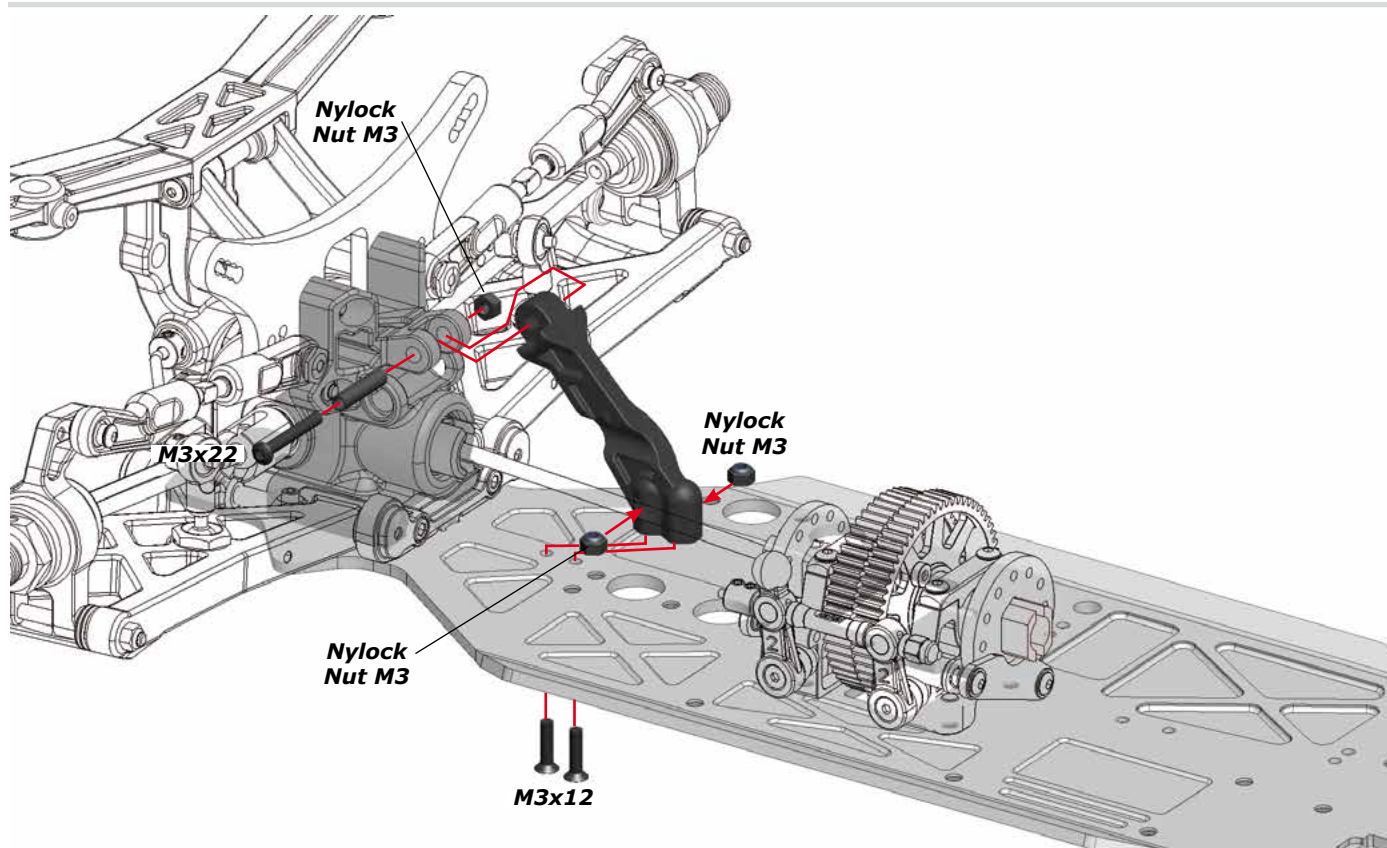
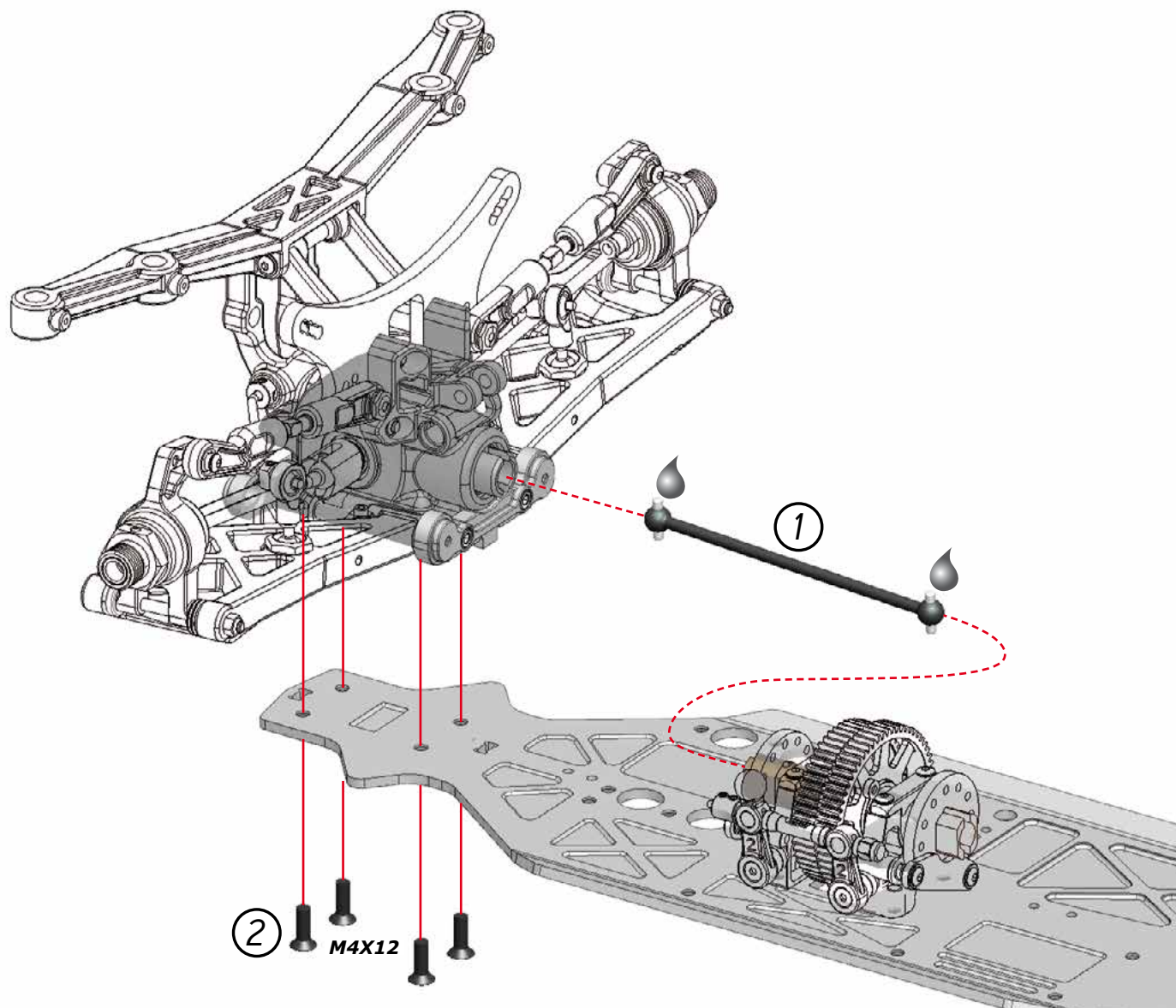
15.1



15.2





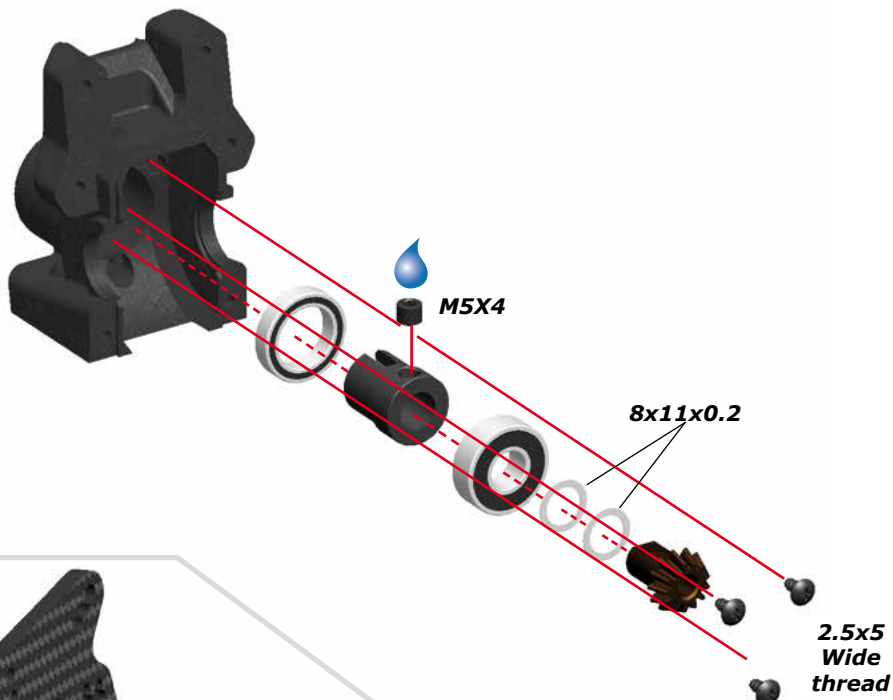


# FRONT ASSEMBLY

Note:

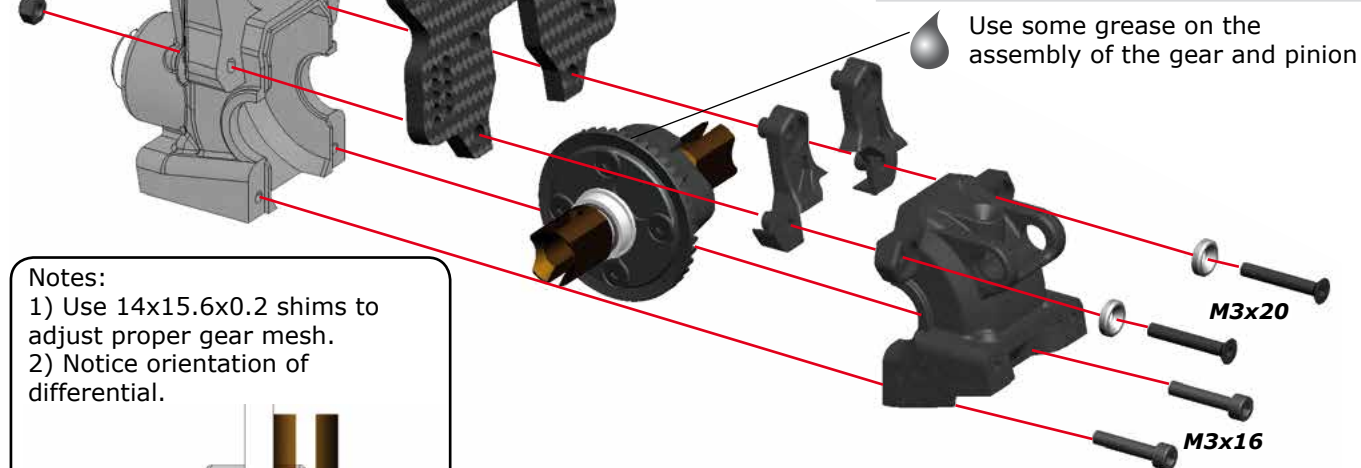
STEP  
18

After building the differential with new gears a new differential case and bearings, the differential may feel a little tight. The connected parts need at least an hour run-time to create a perfect match. Attention: When you assemble the diff with too much initial play, the gears will not run-in properly and may wear quickly. After 1 or 2 hours of running the car, re-check the gear-mesh between the ring gear and the pinion. All parts should have run-in properly now. You may add one or more extra shims on the pinion or ring-gear, start off by placing 1 x 0.1mm more, and try again.



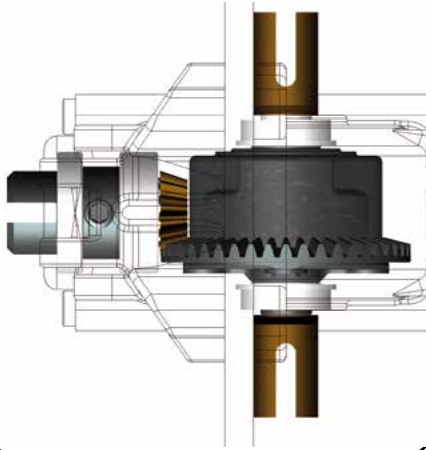
STEP  
19

Nylock  
Nut M3



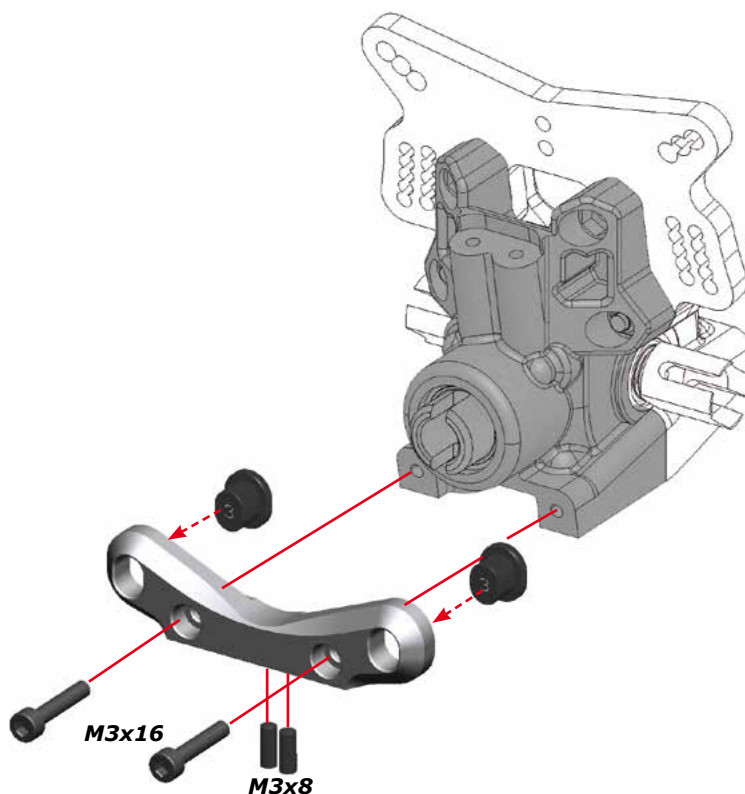
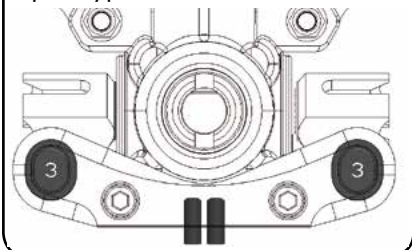
Notes:

- 1) Use 14x15.6x0.2 shims to adjust proper gear mesh.
- 2) Notice orientation of differential.

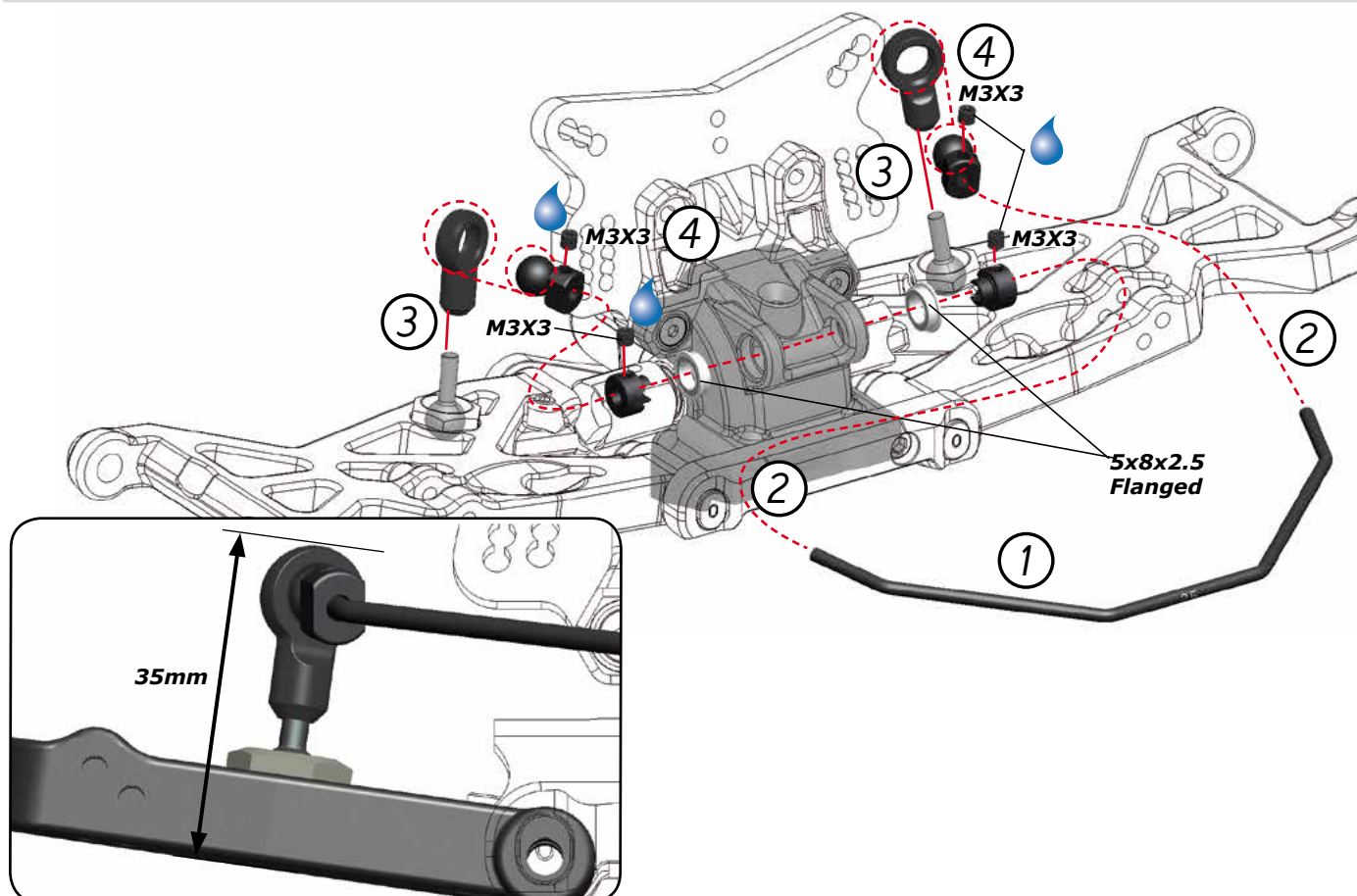
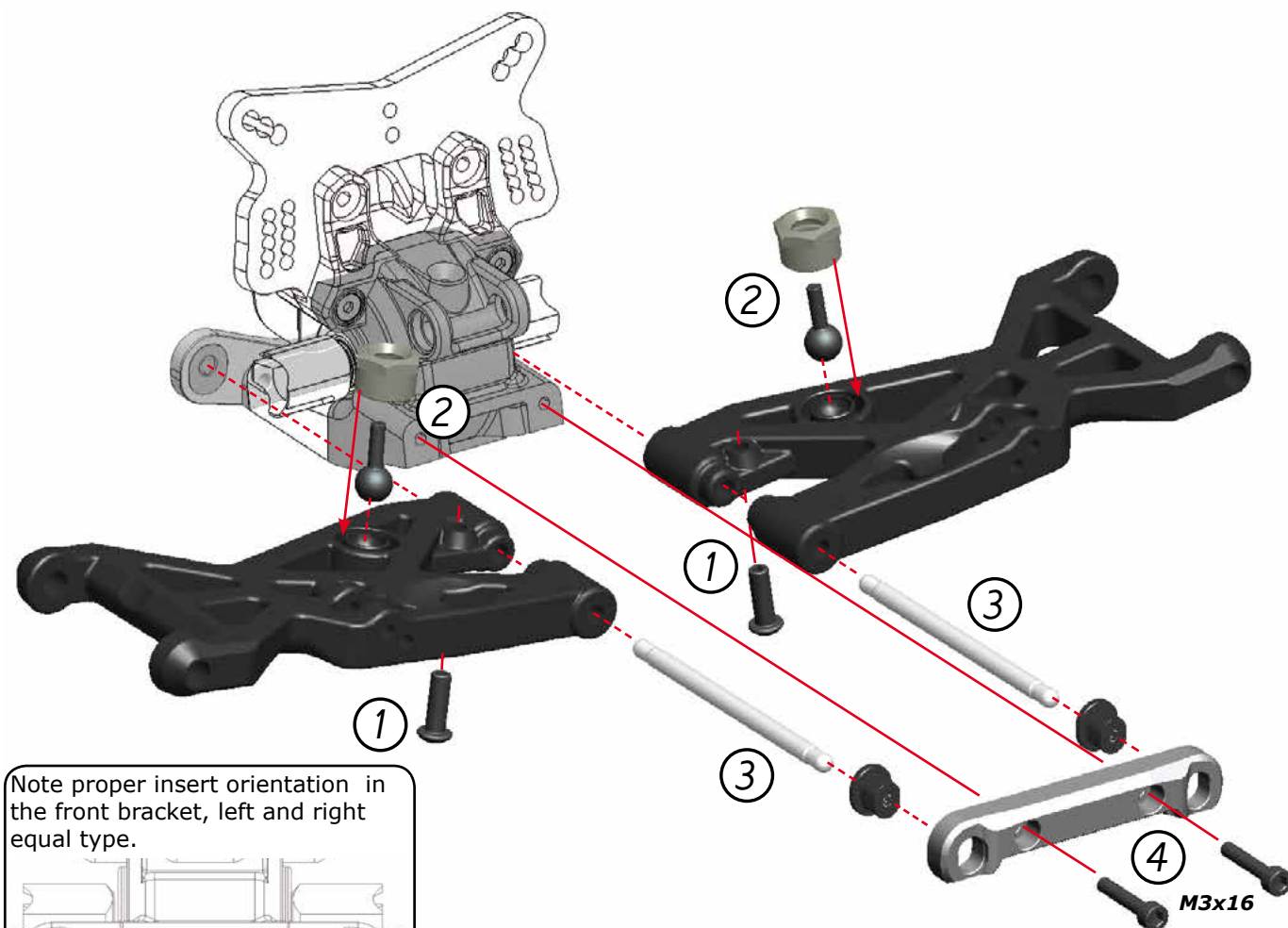


STEP  
20

Note proper insert orientation in the rear bracket, left and right equal type.





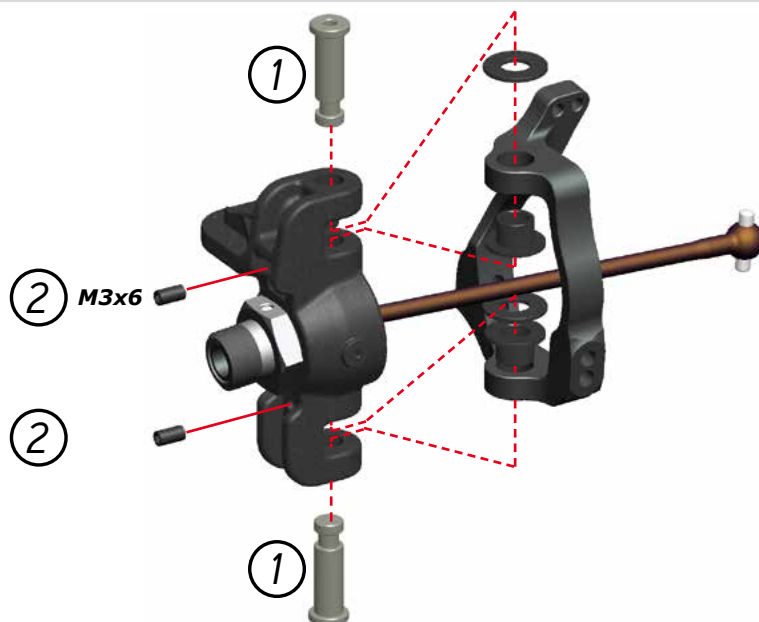
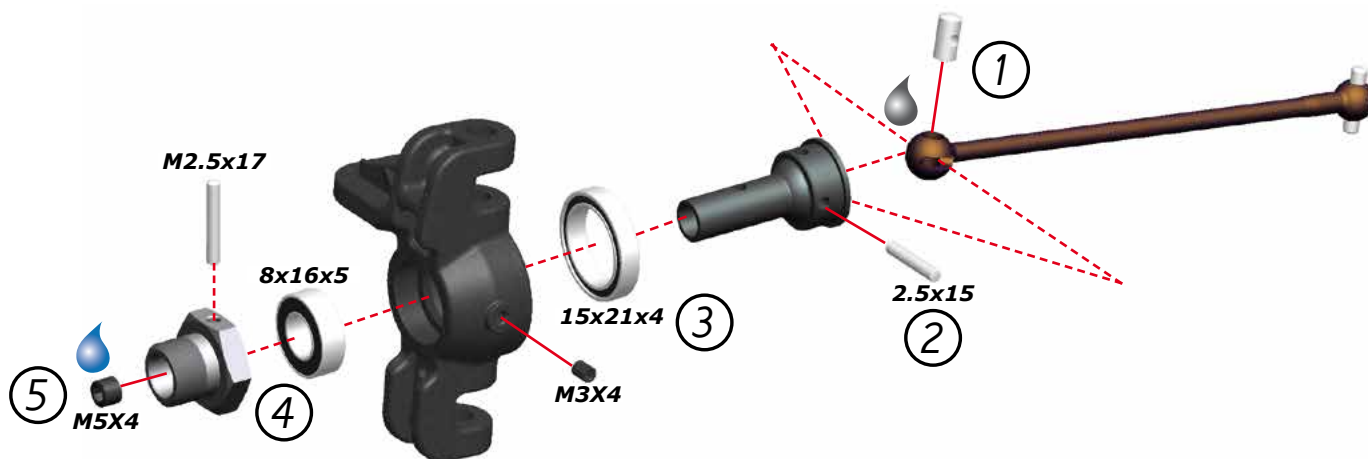
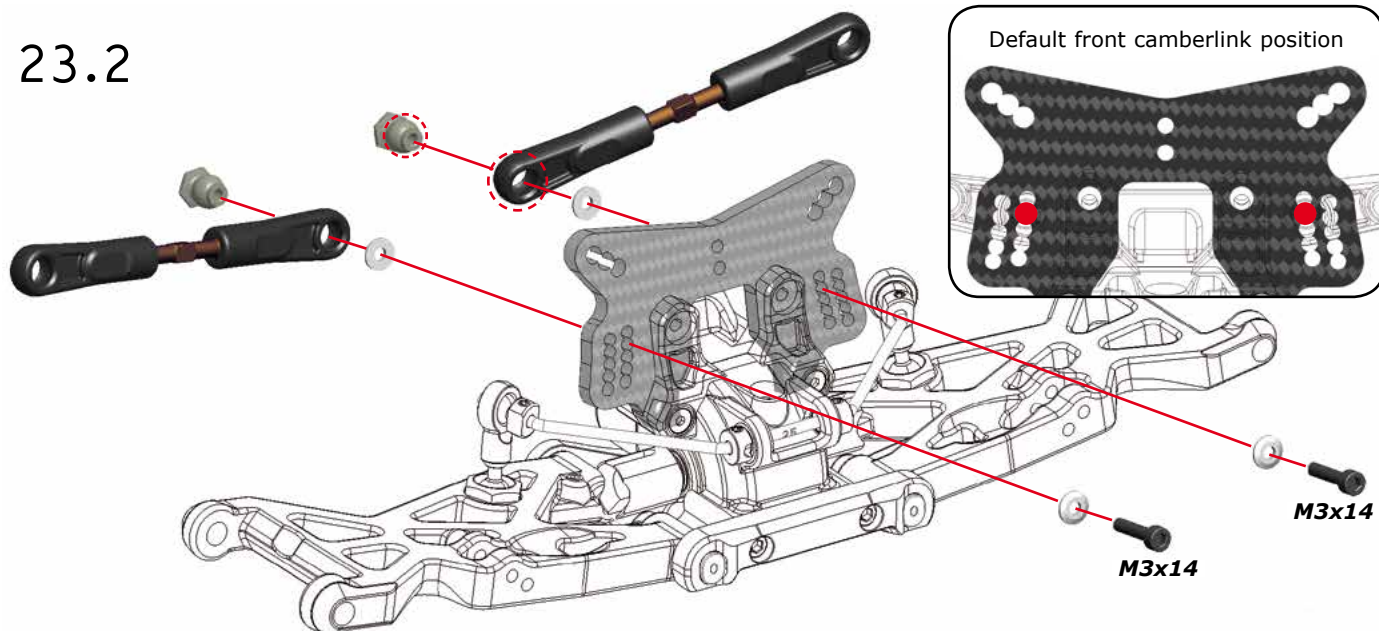


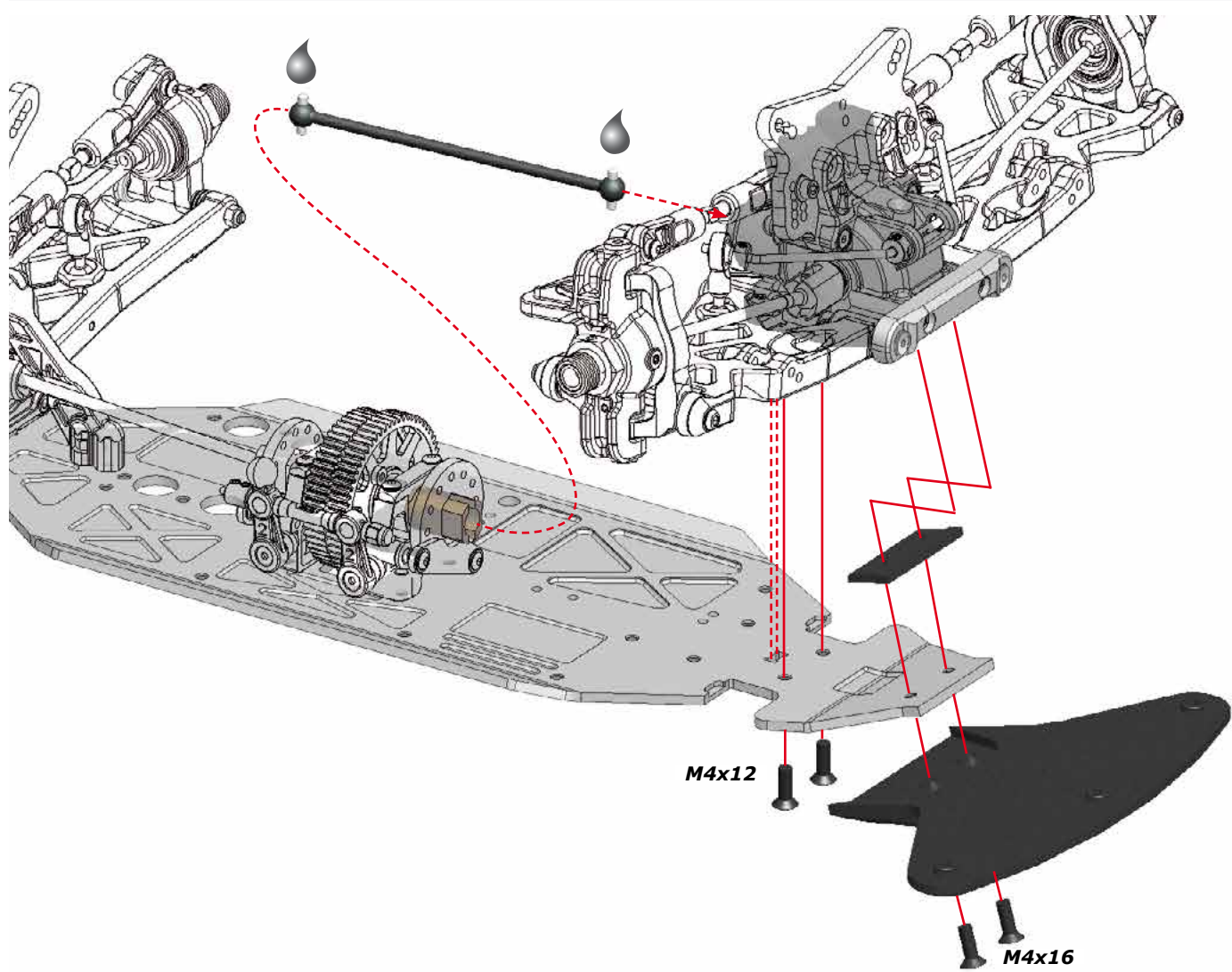
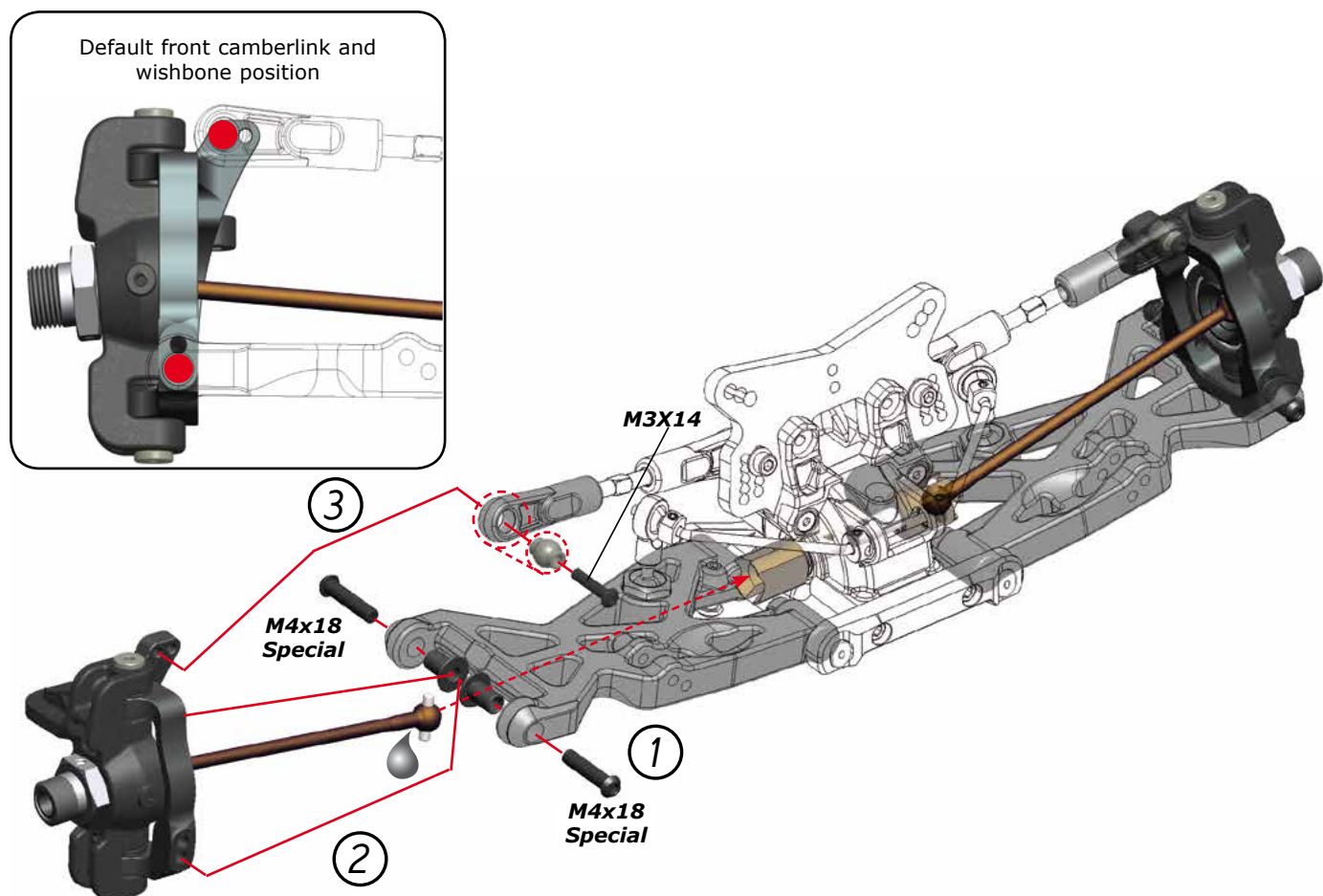


23.1



23.2



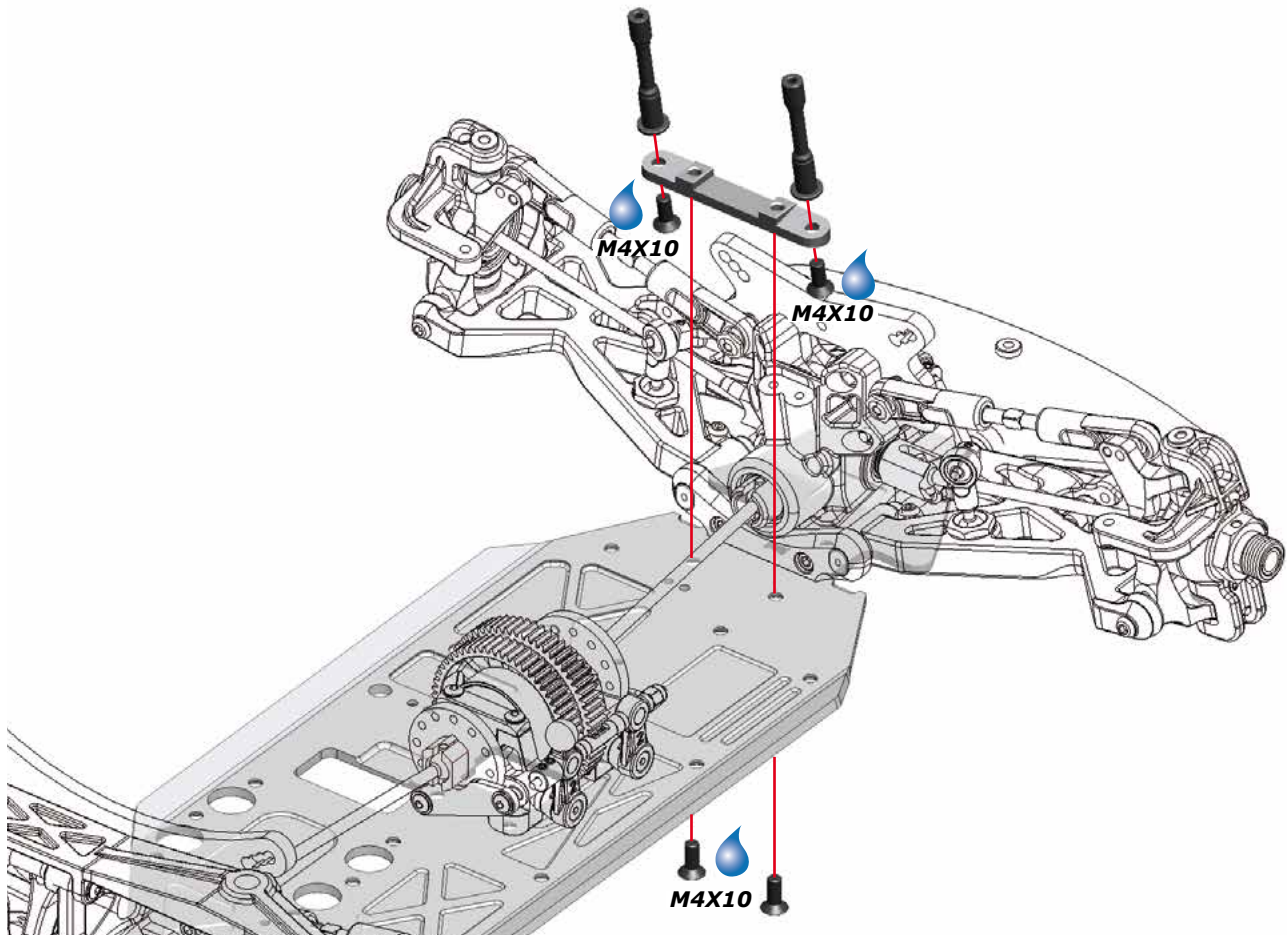




# STEERING ASSEMBLY

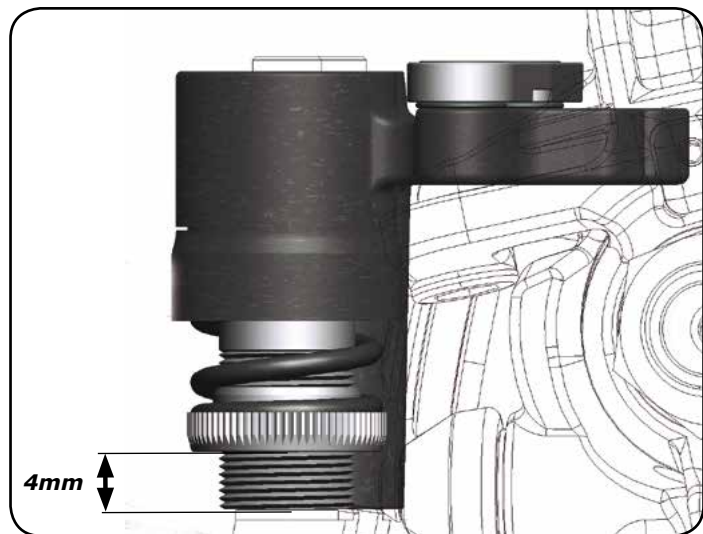
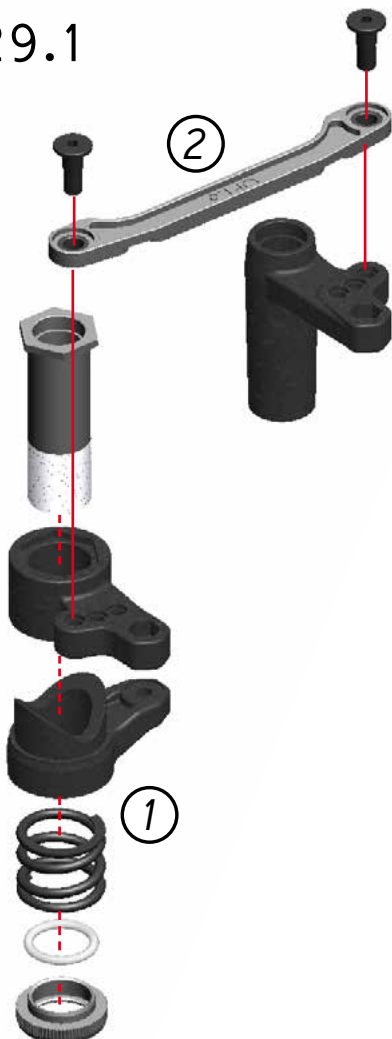
STEP  
28

Bag  
7

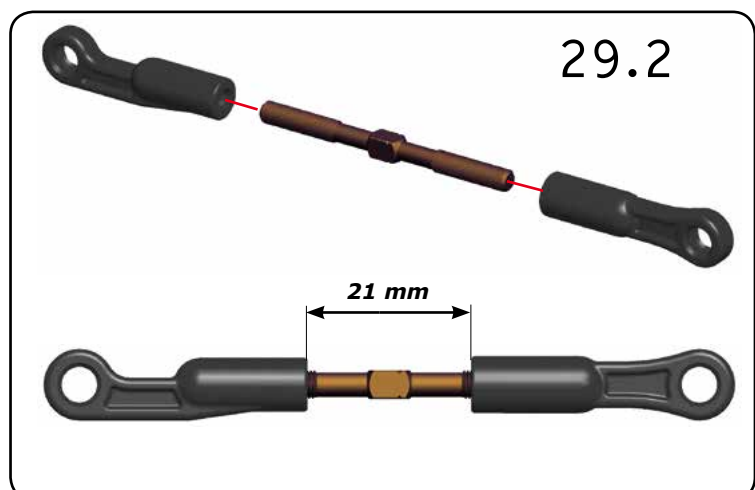


STEP  
29

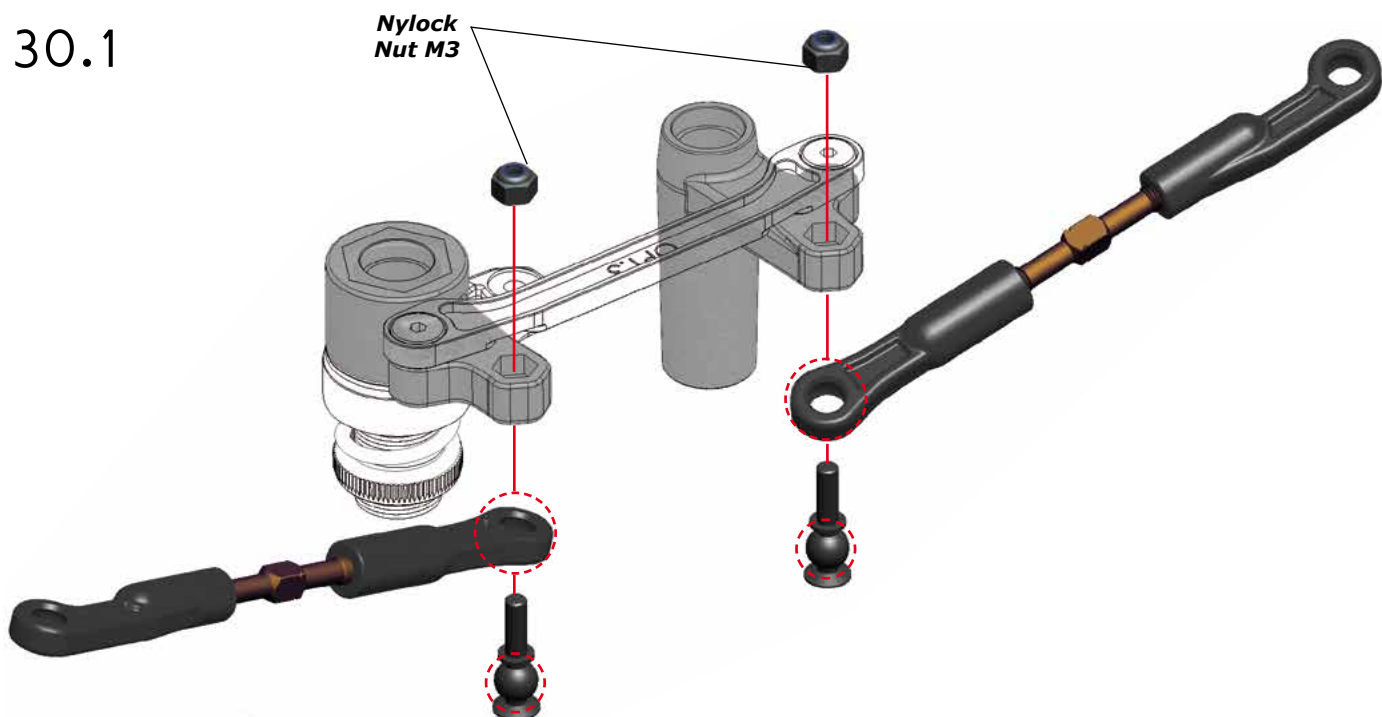
29.1



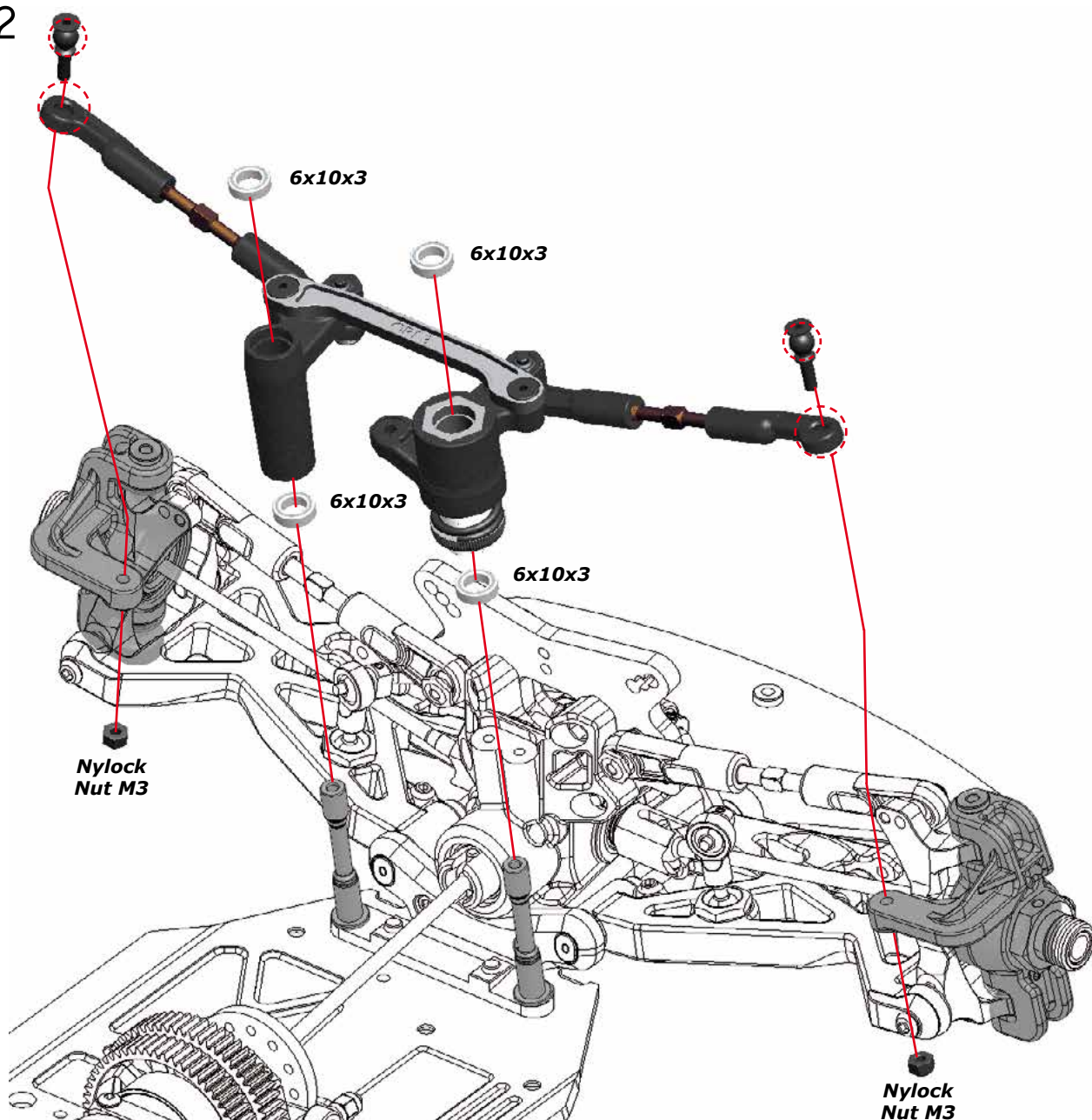
29.2



30.1

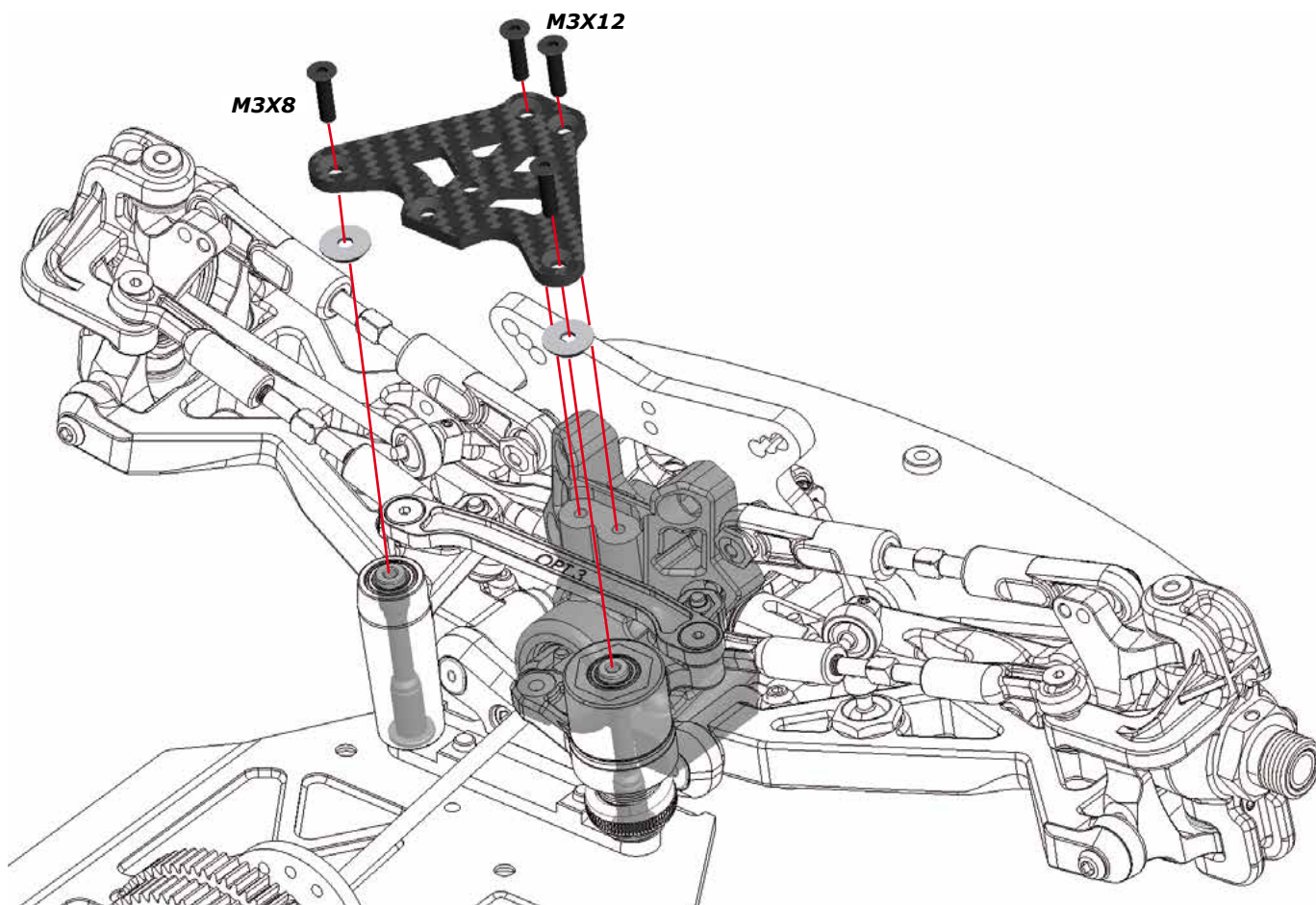


30.2

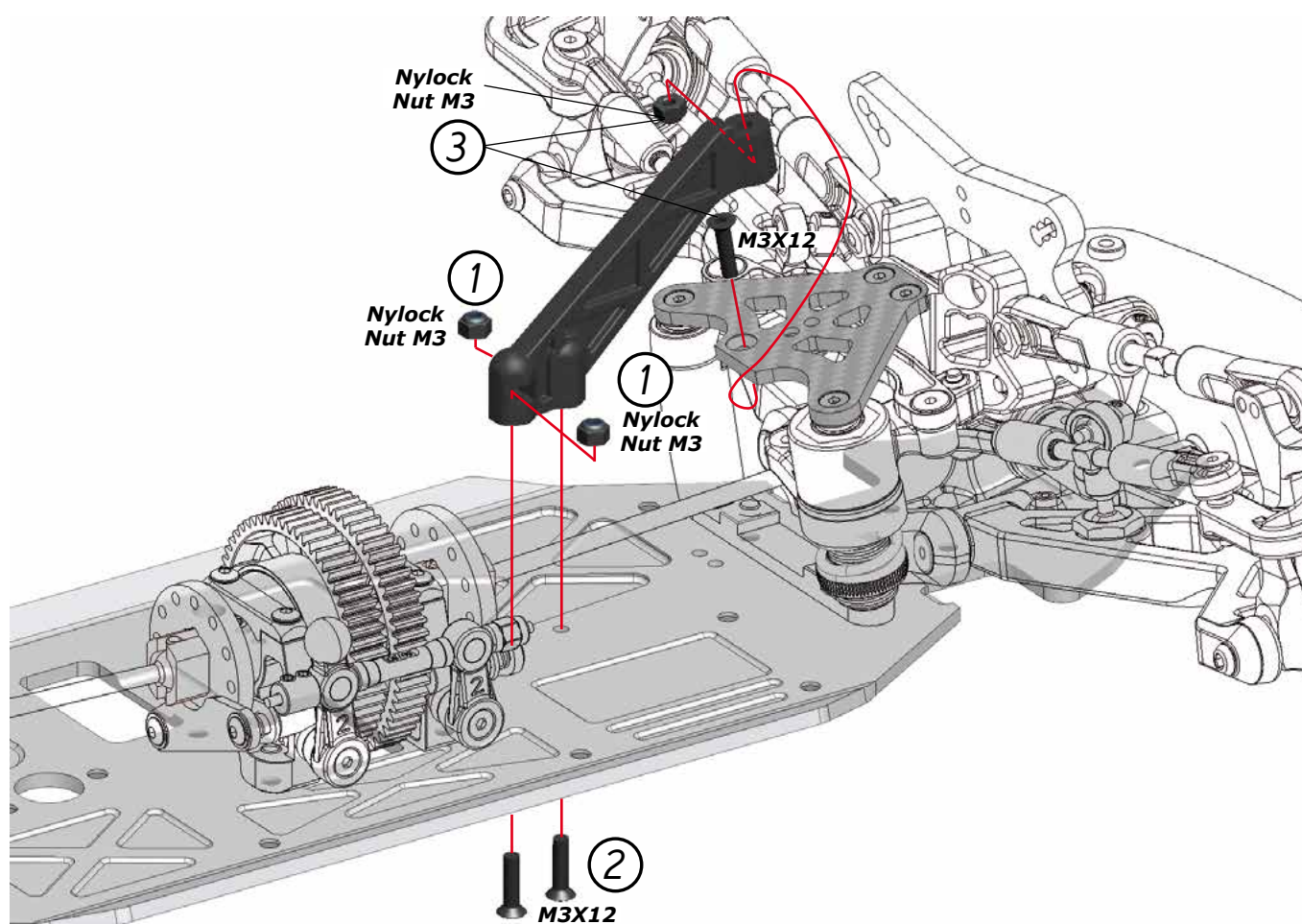




STEP  
31



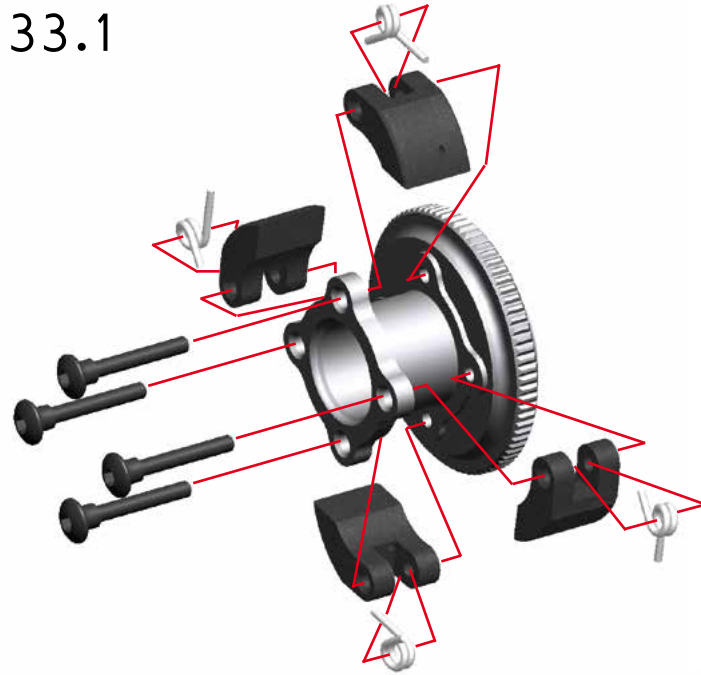
STEP  
32



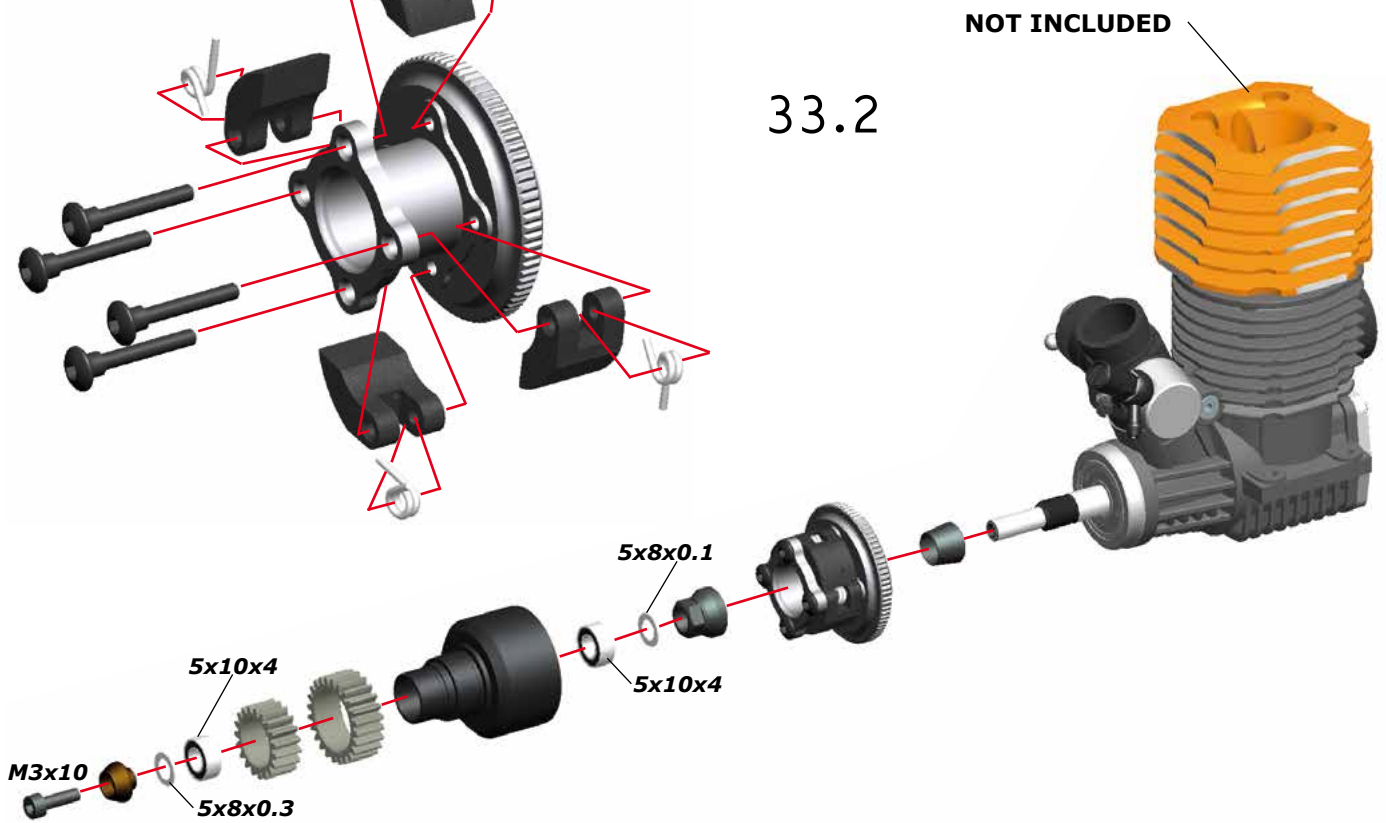


# CLUTCH ASSEMBLY

33.1



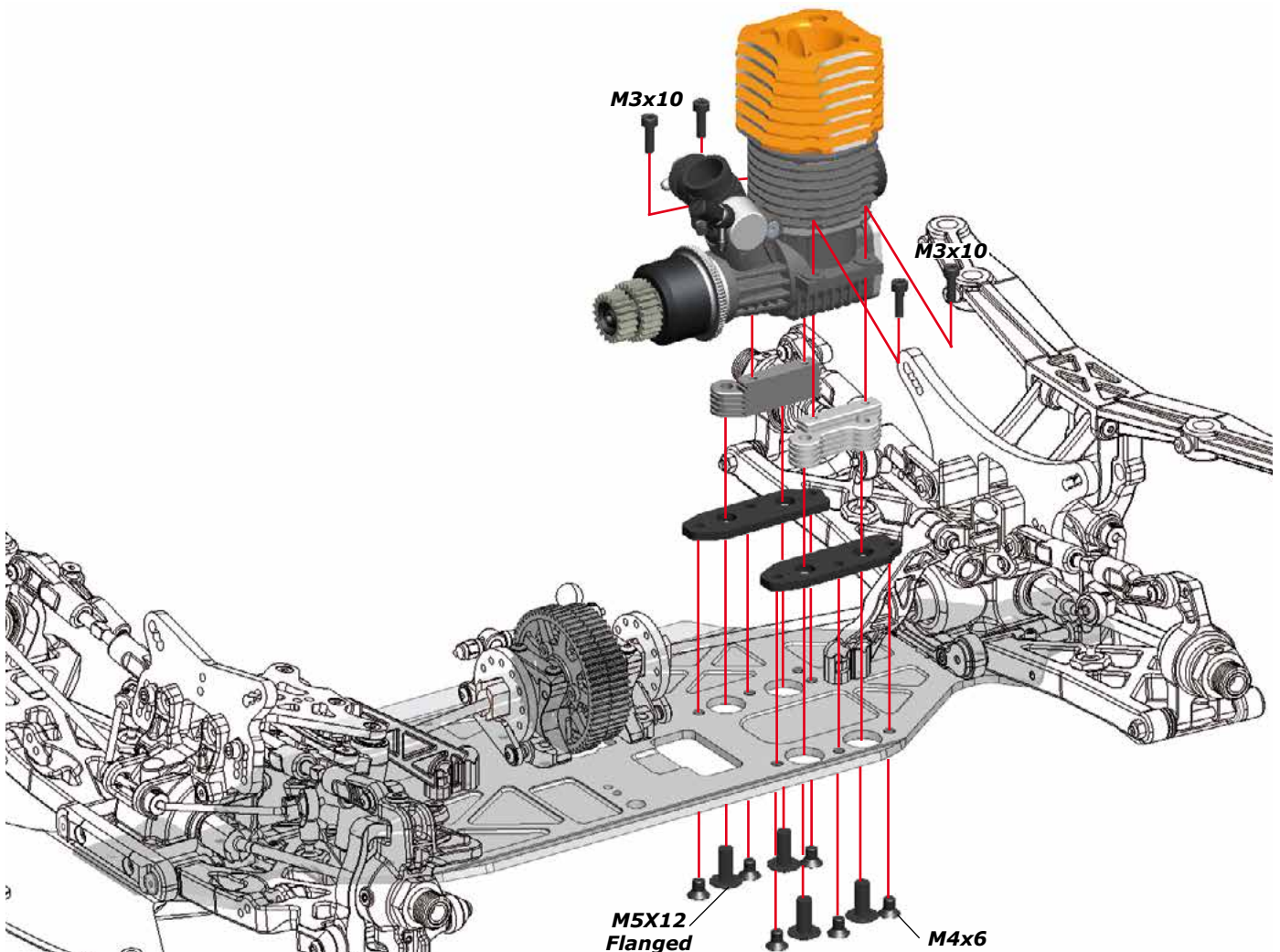
33.2



STEP  
33

CLUTCH  
BAG

STEP  
34



**Cobra**  
3.0

**Serpent**

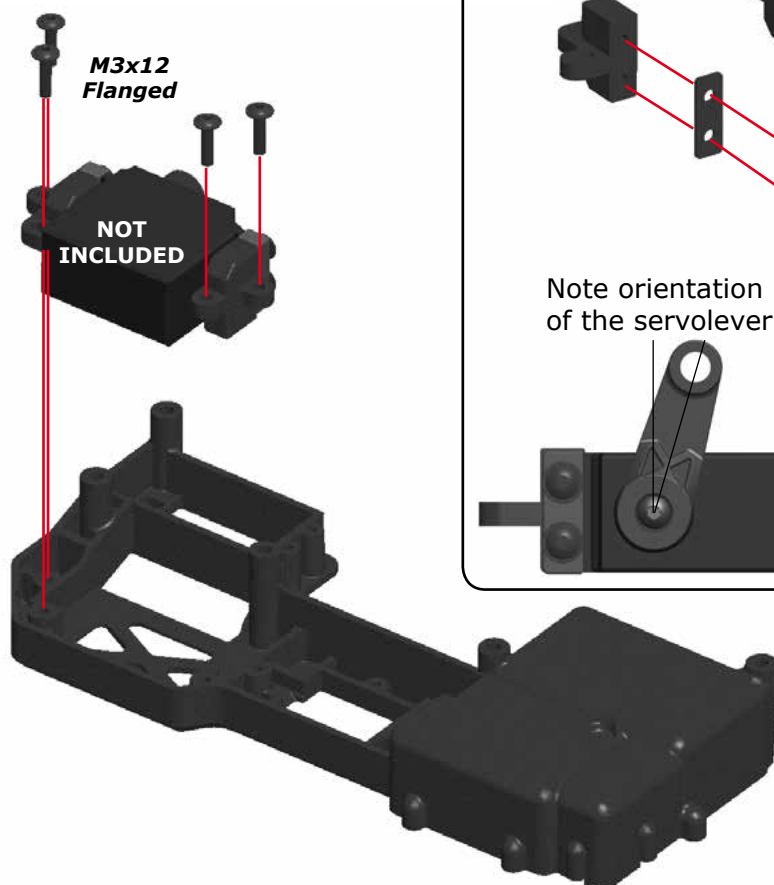
Page  
19

# RADIO ASSEMBLY

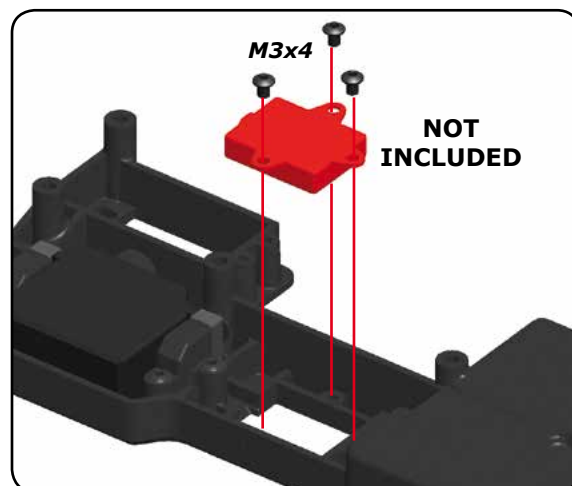
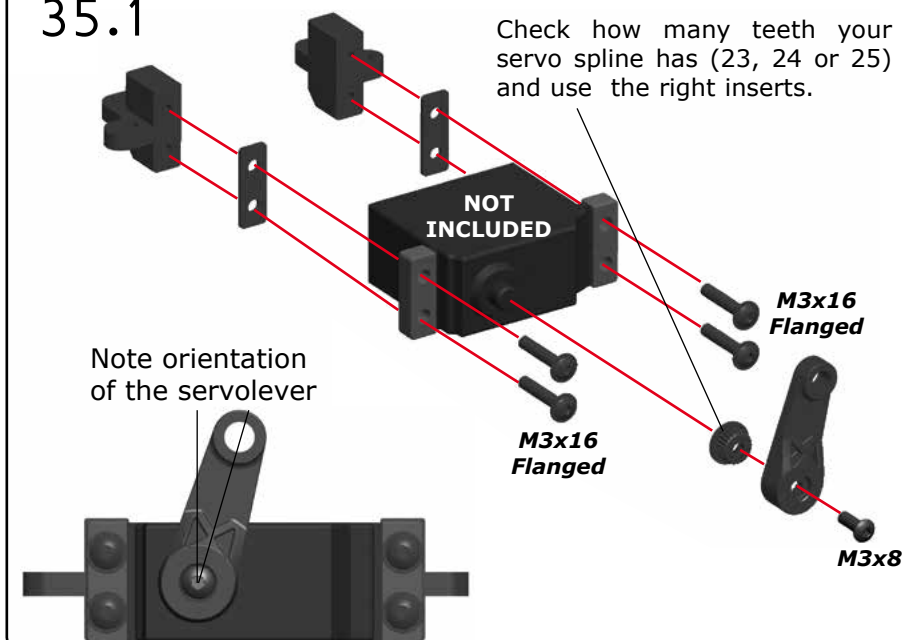
STEP  
35

Bag  
8

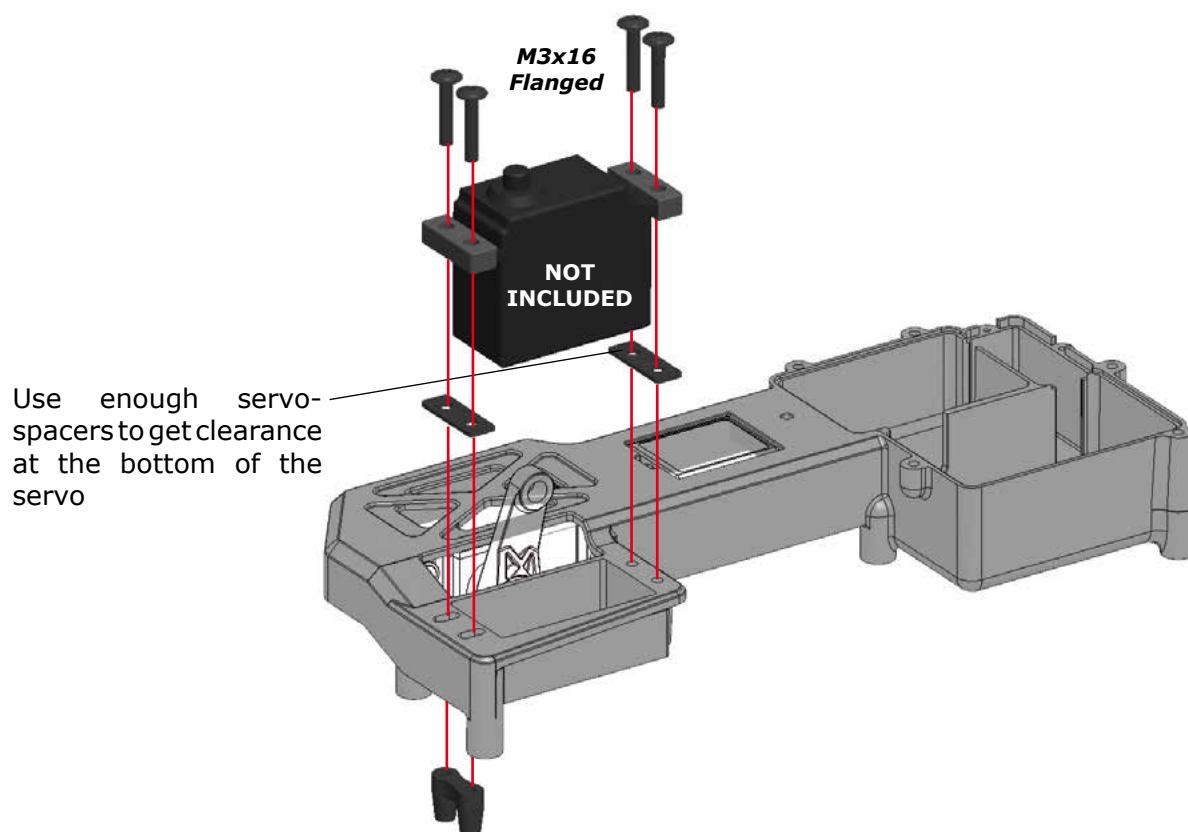
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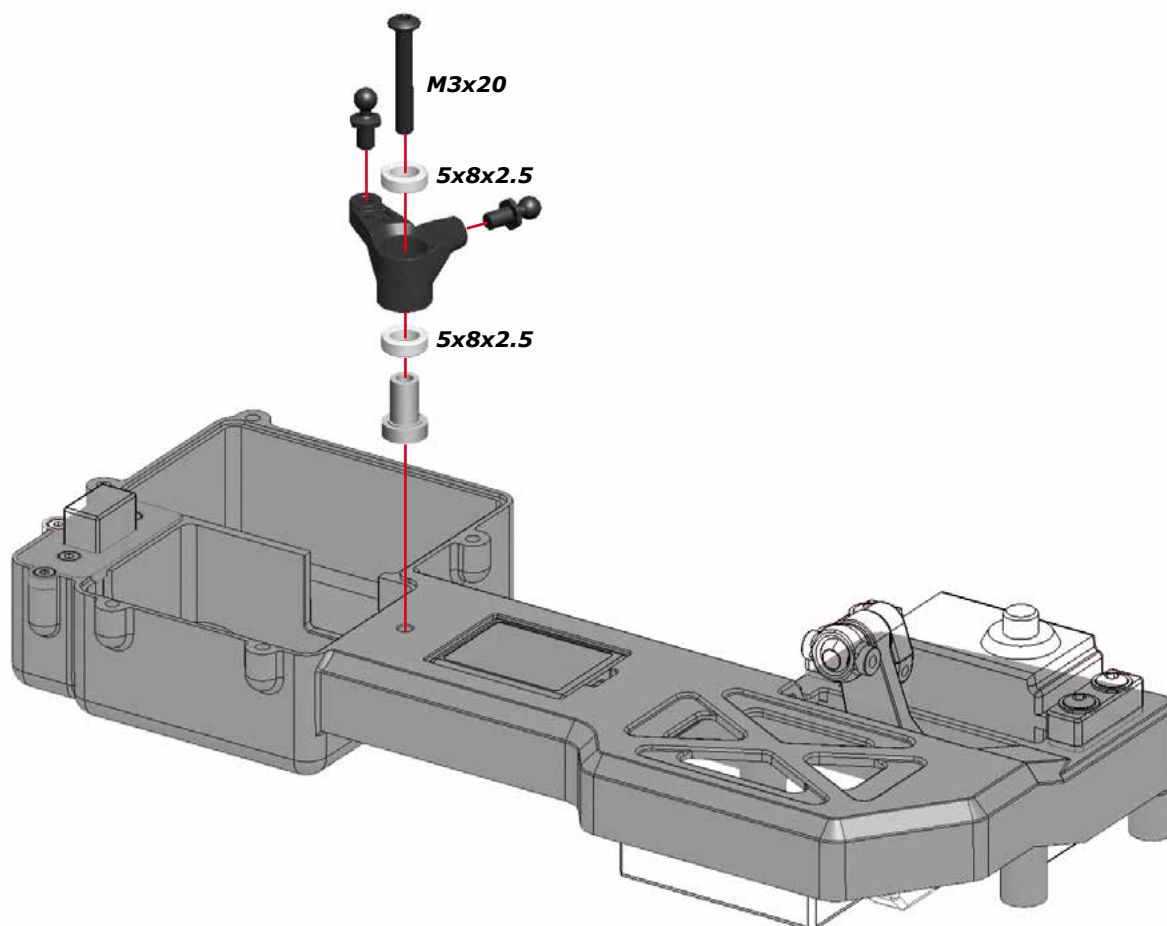
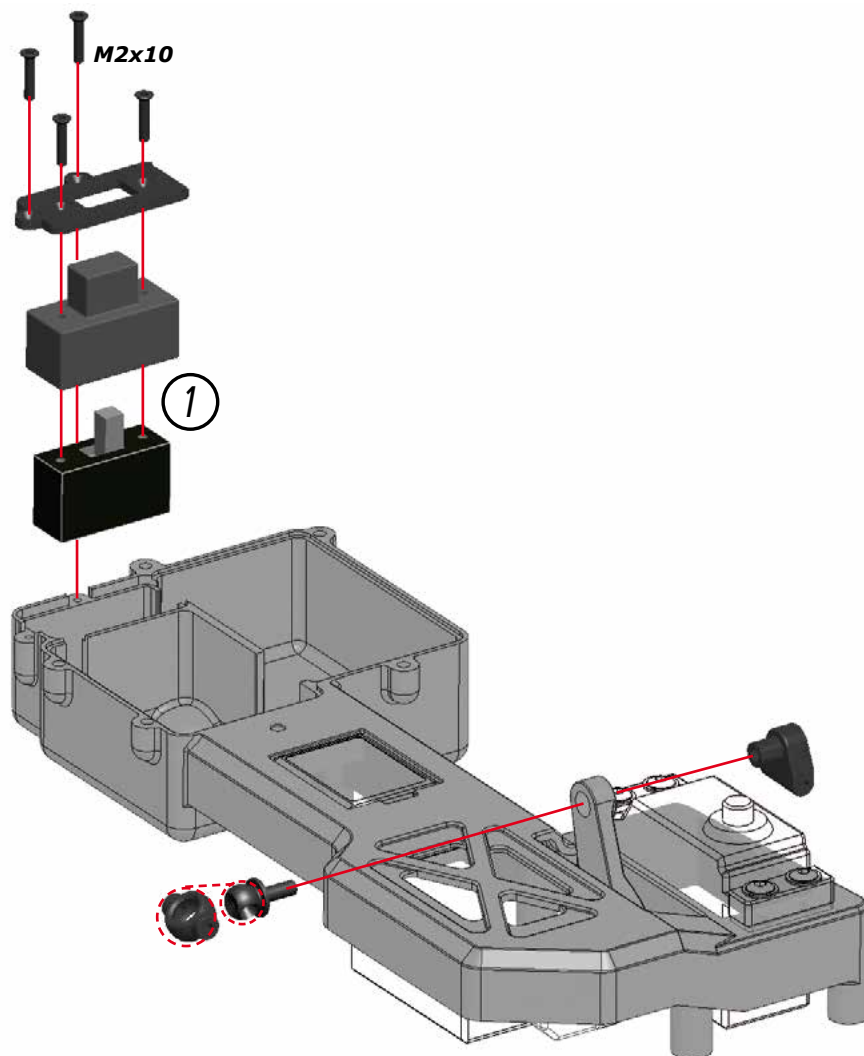


35.1

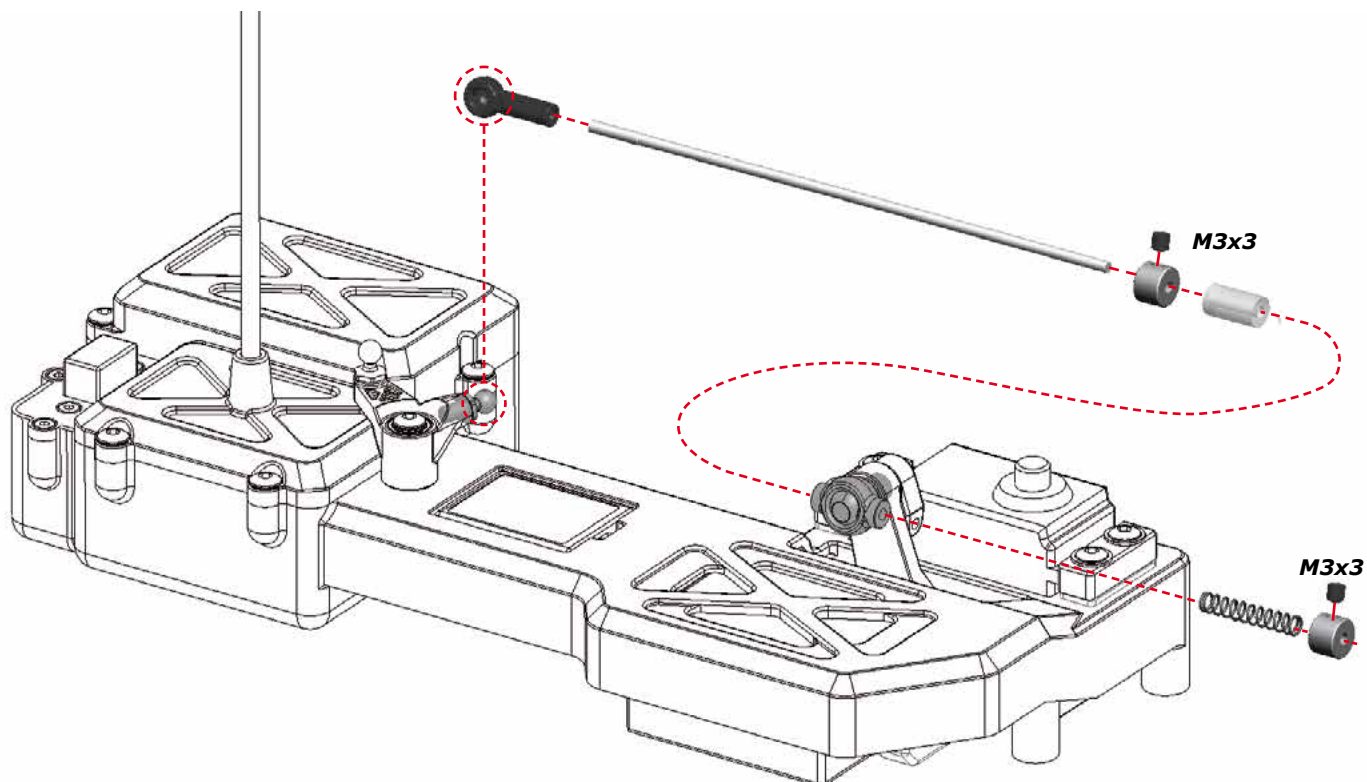
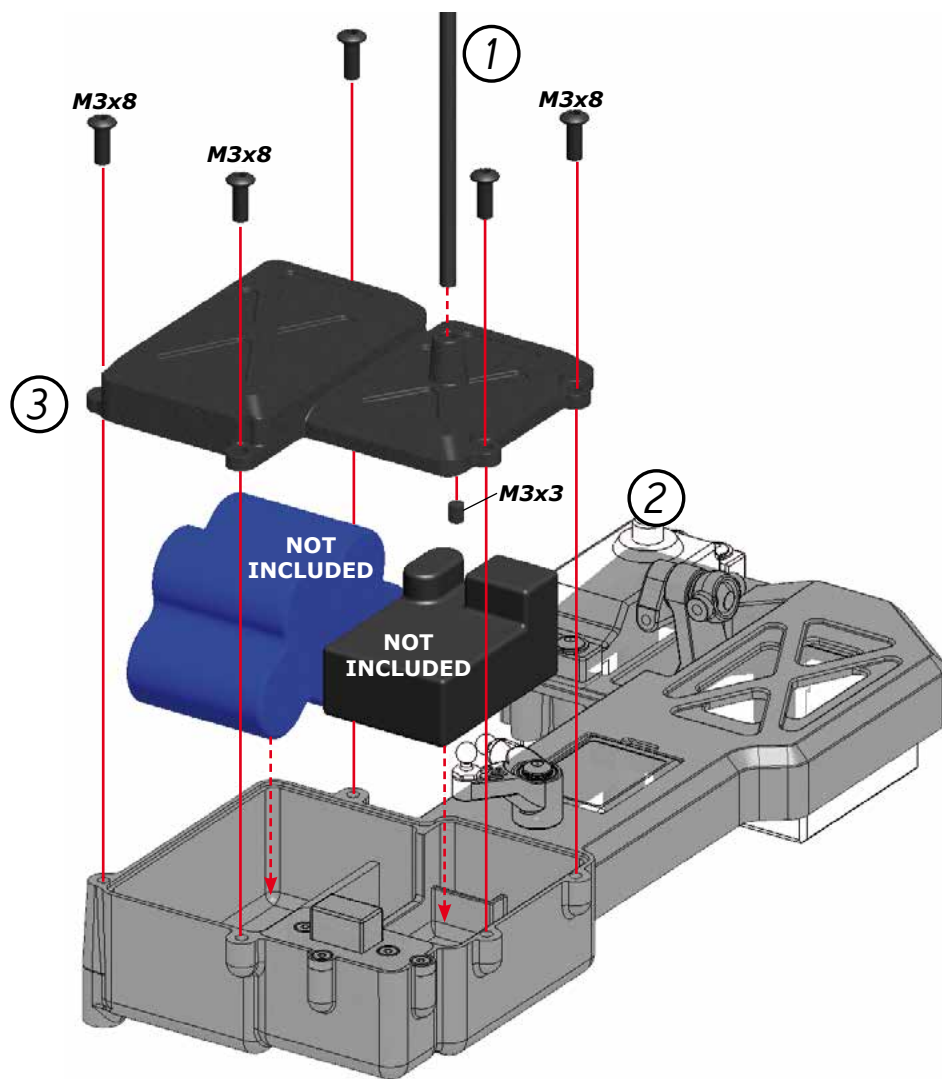


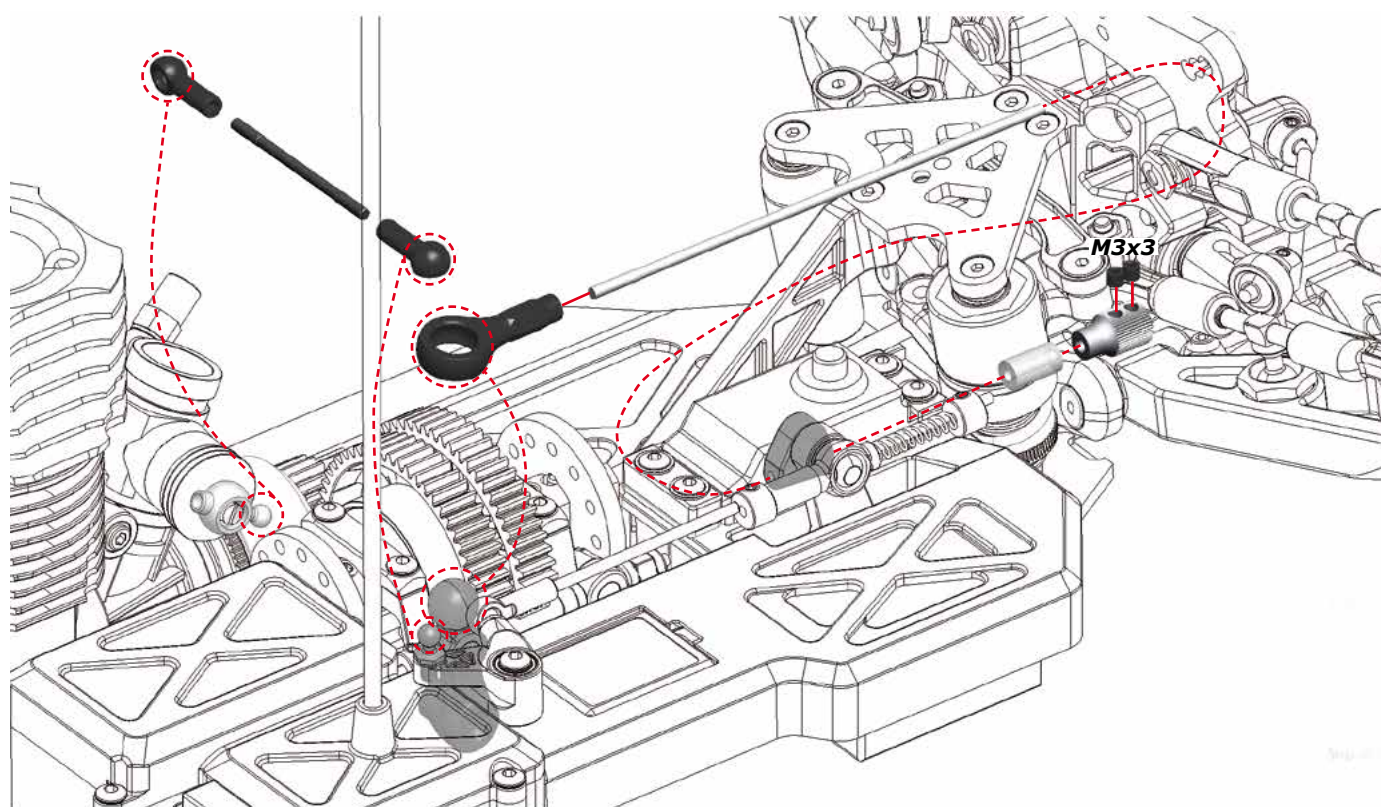
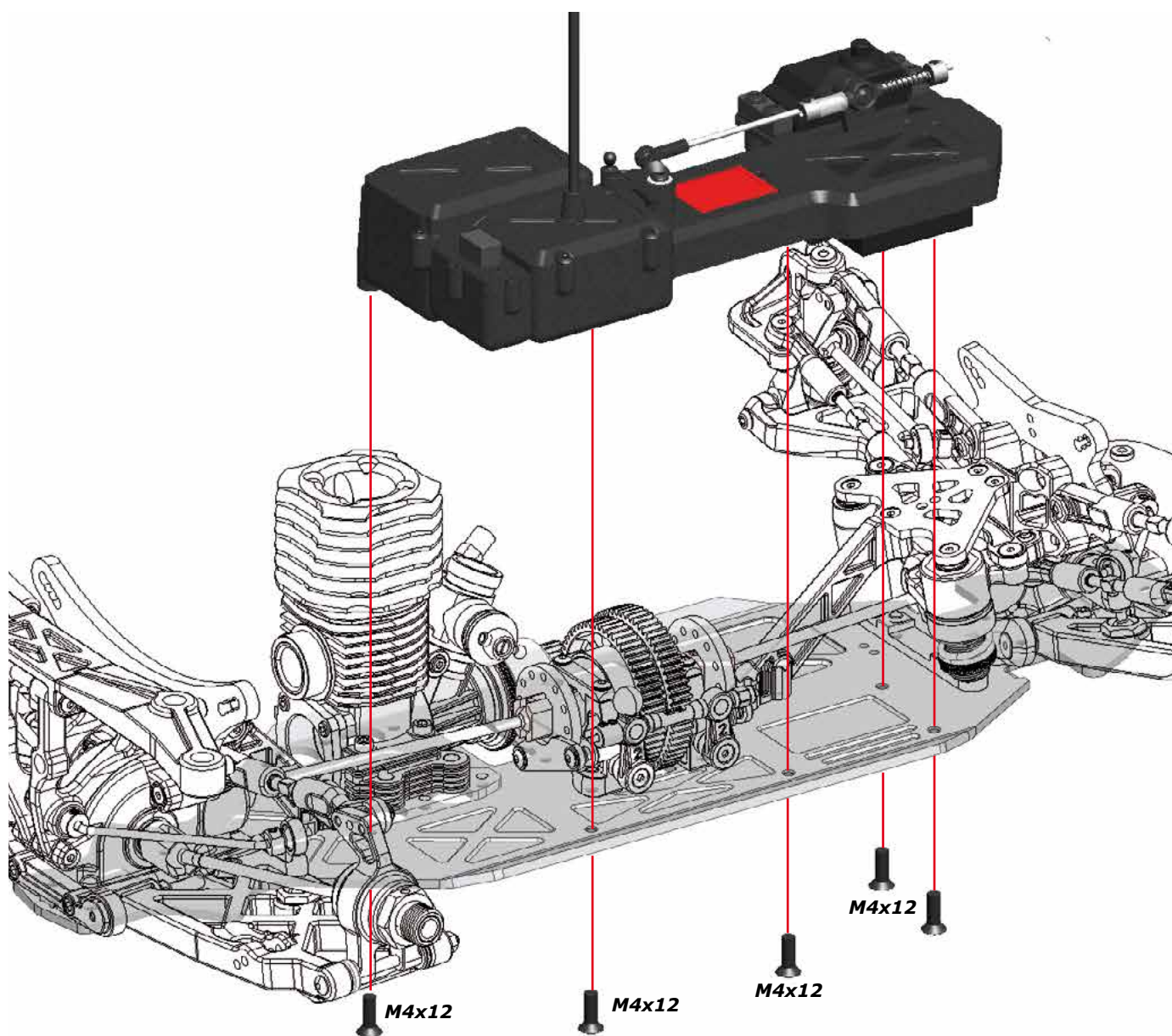
STEP  
36





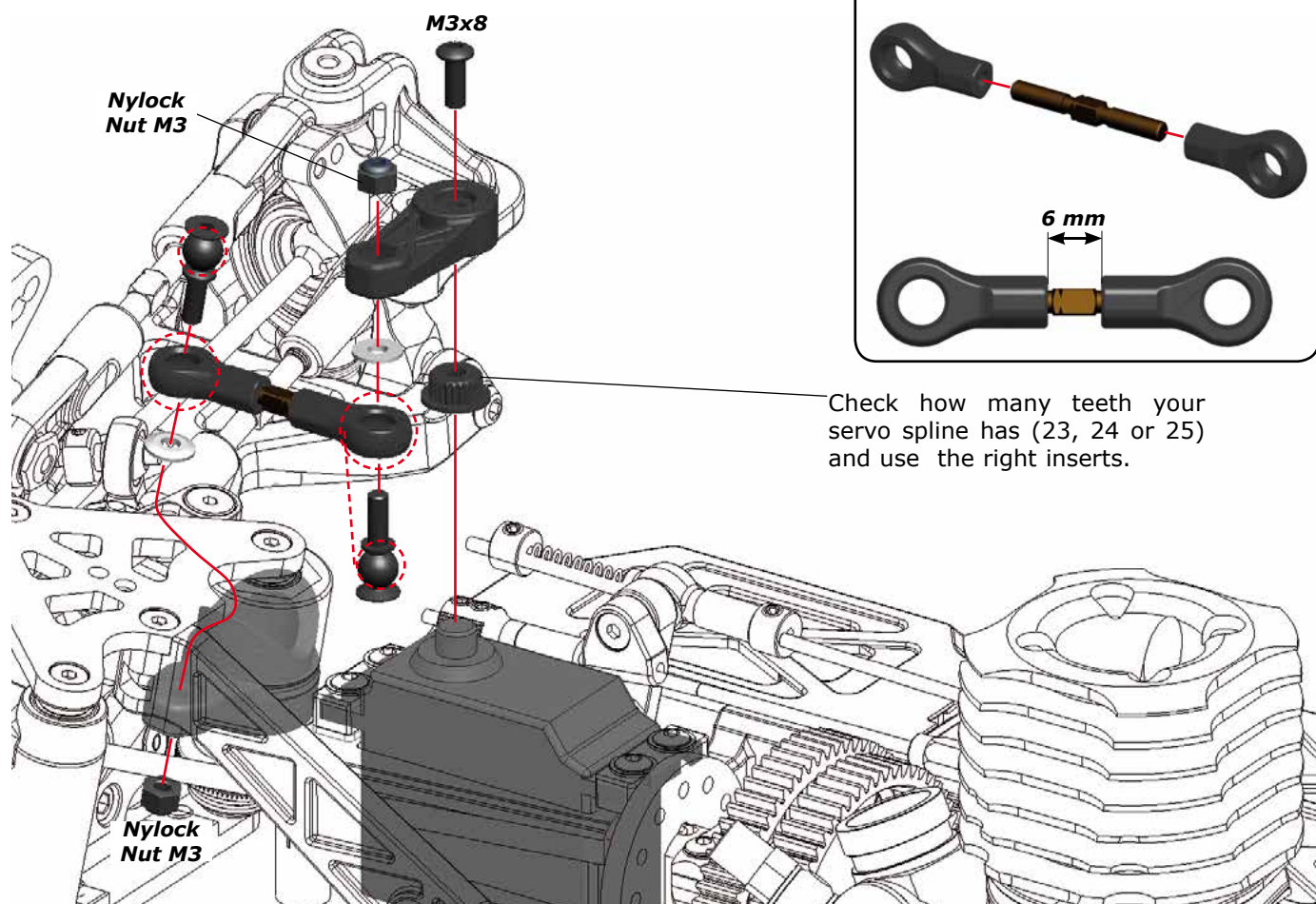




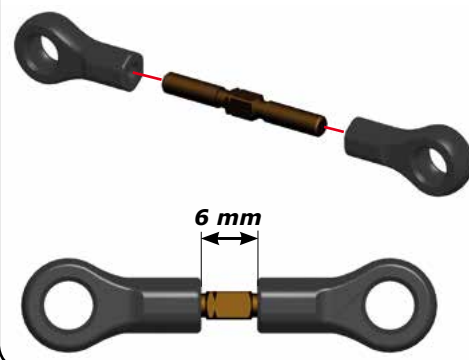




43.2

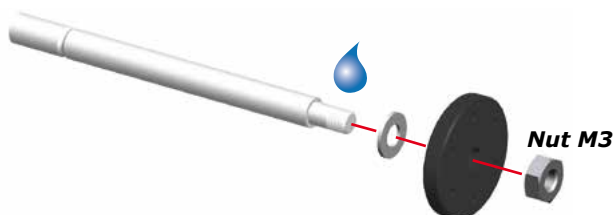


43.1

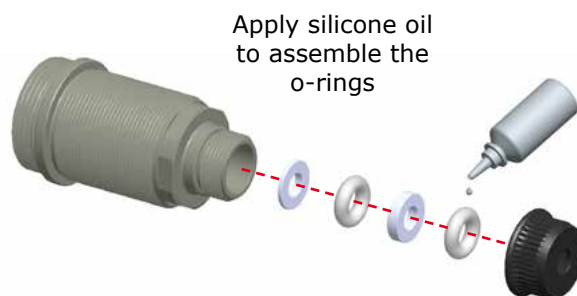


## SHOCKS ASSEMBLY

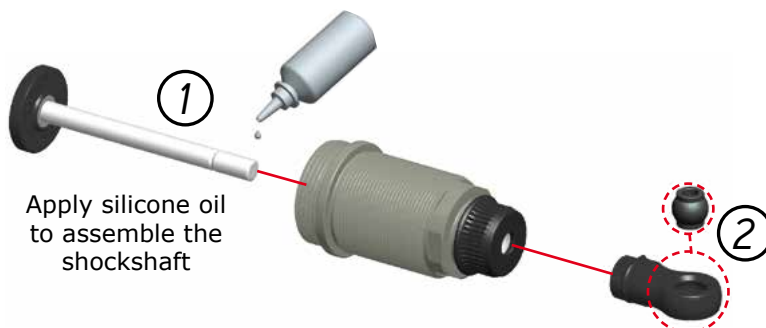
44.1



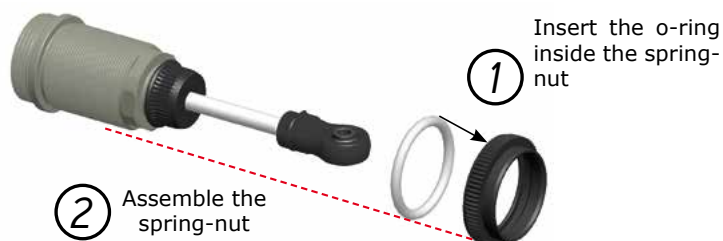
44.2



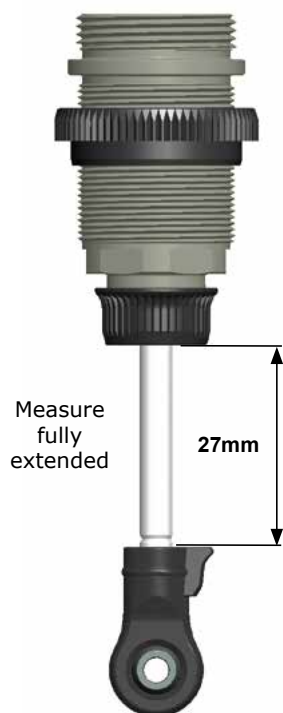
44.3



44.4



44.5



44.6



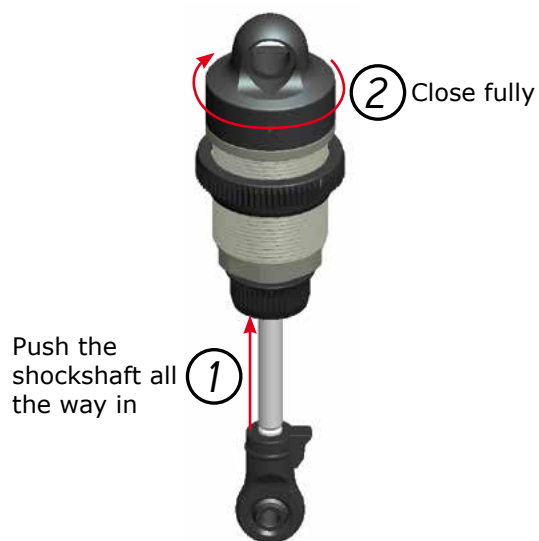
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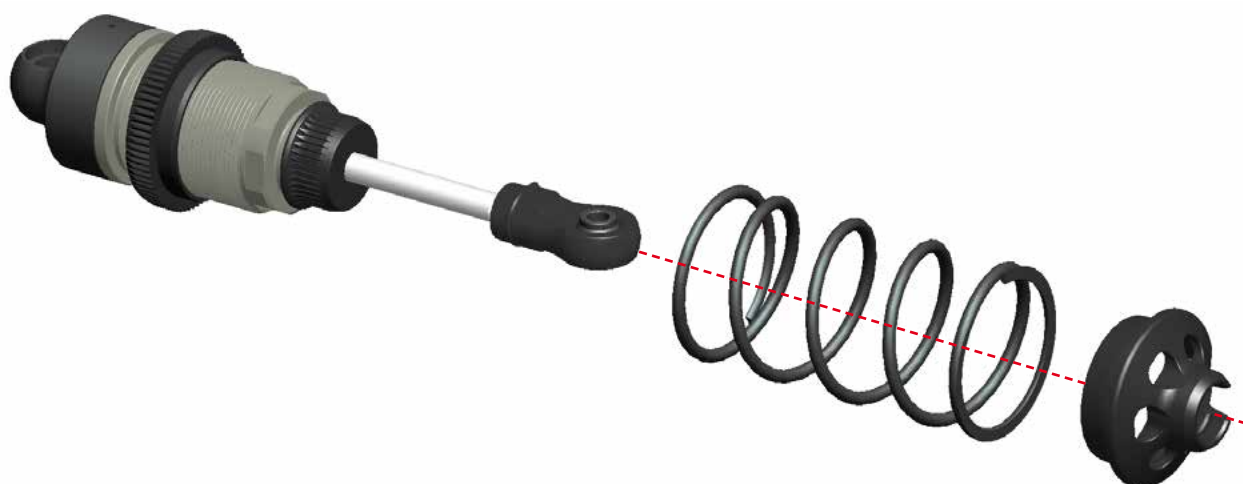
44.8



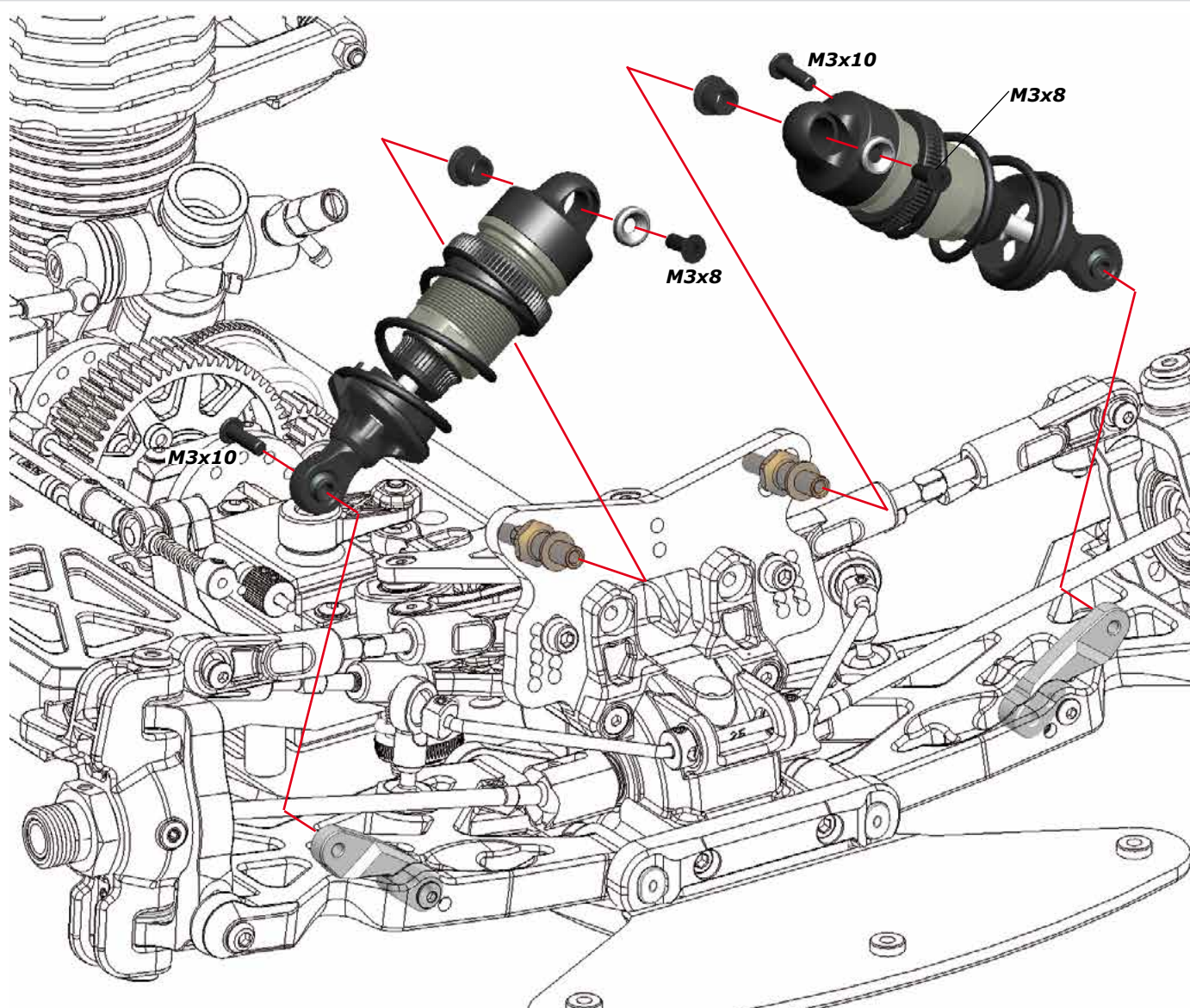
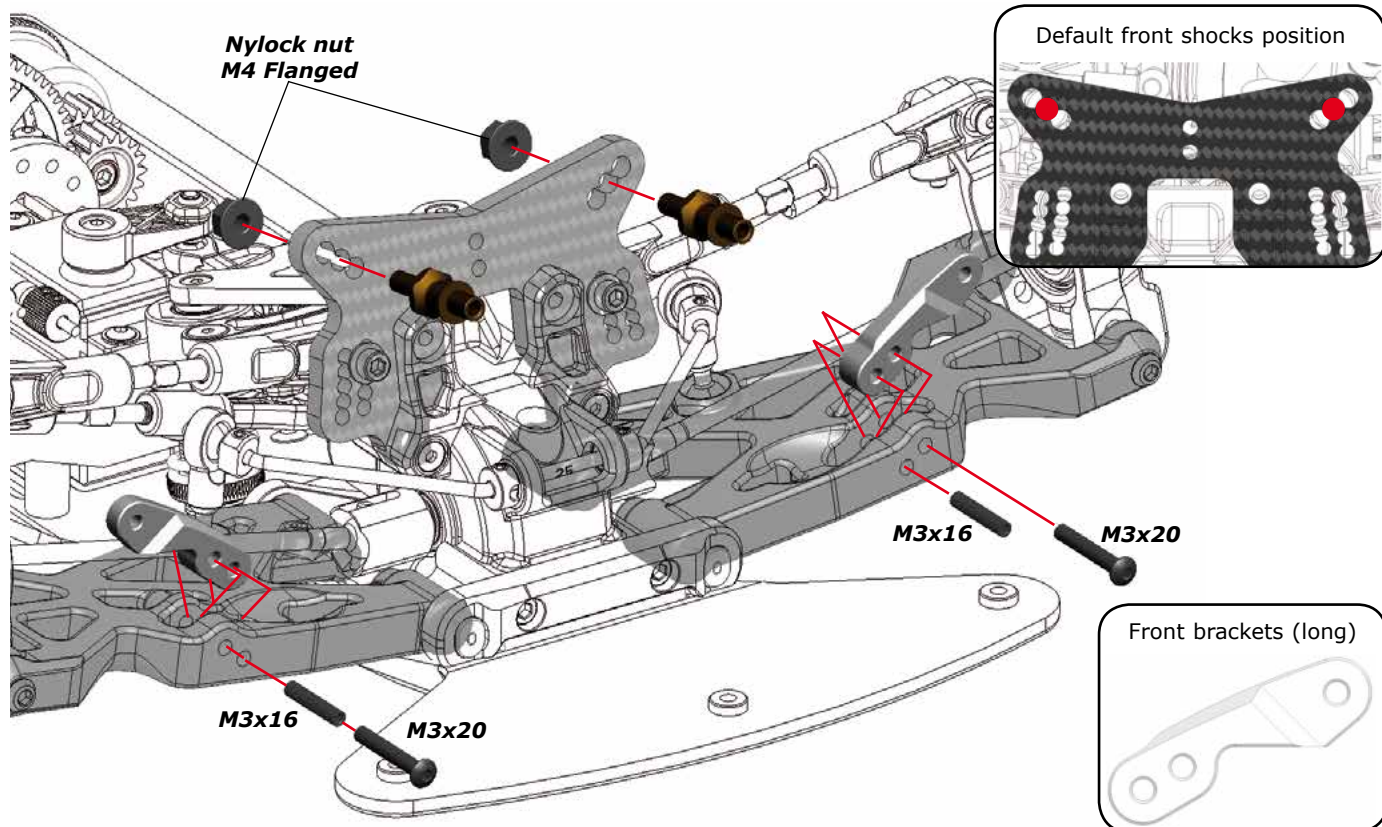
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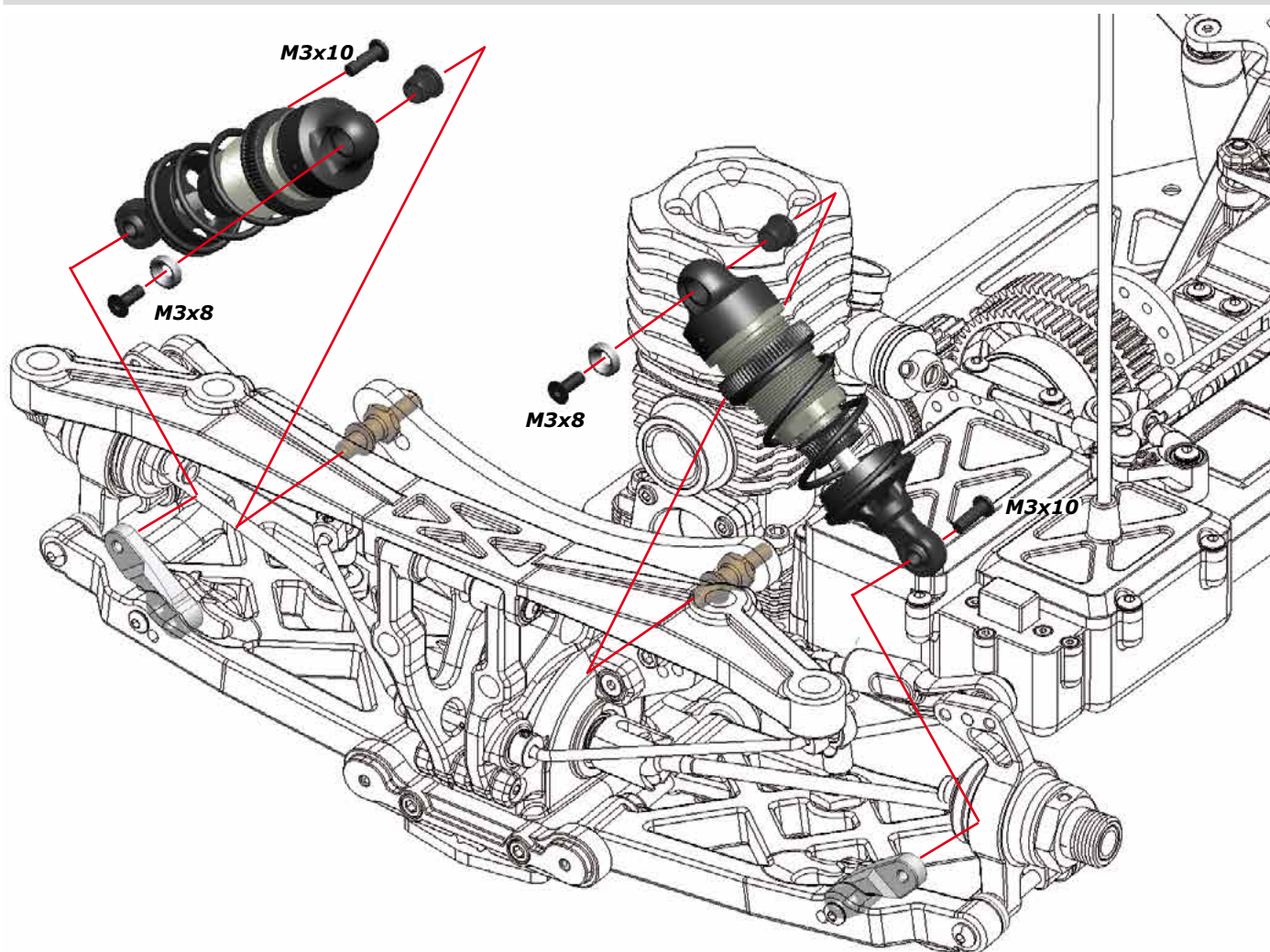
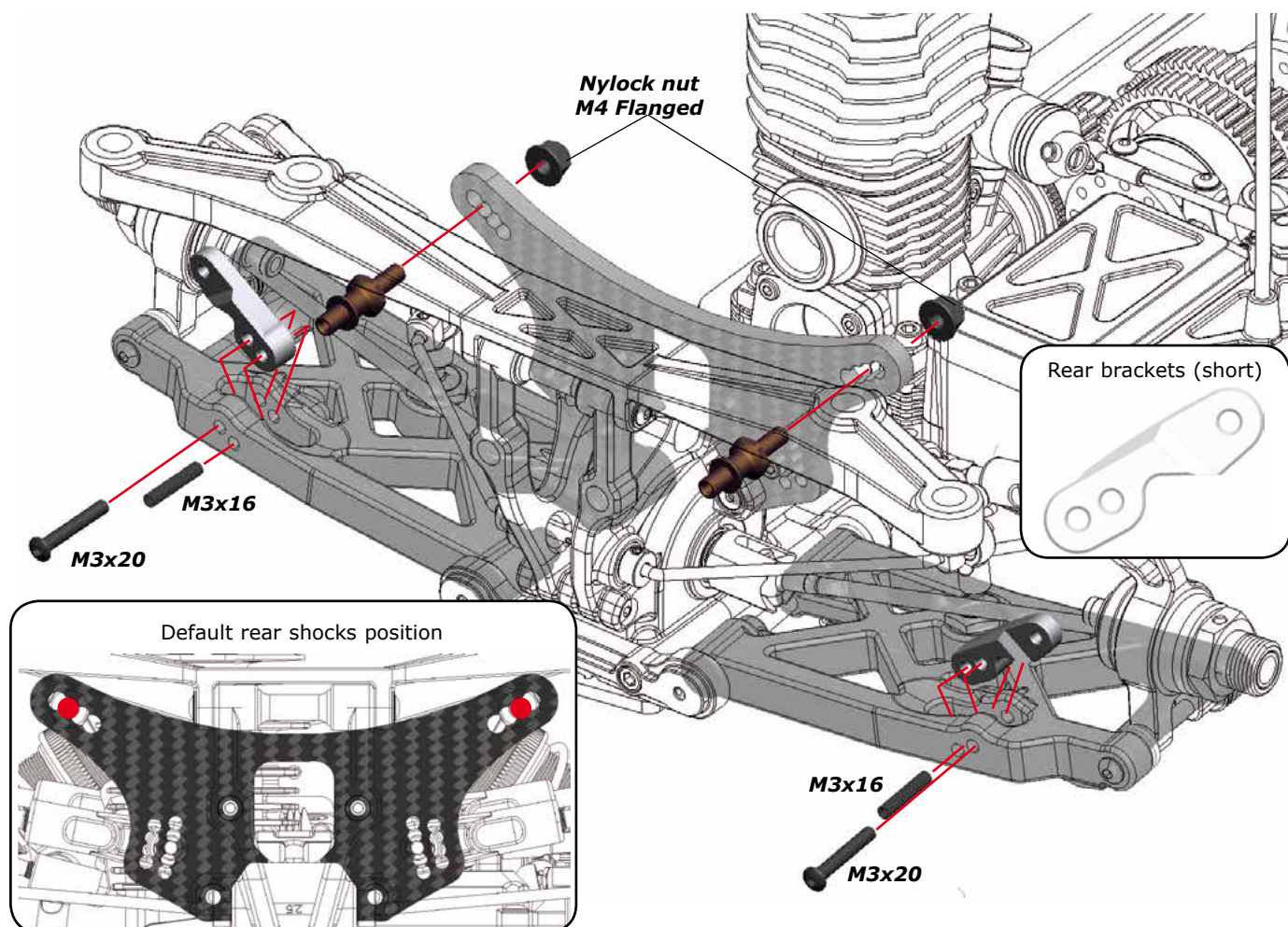
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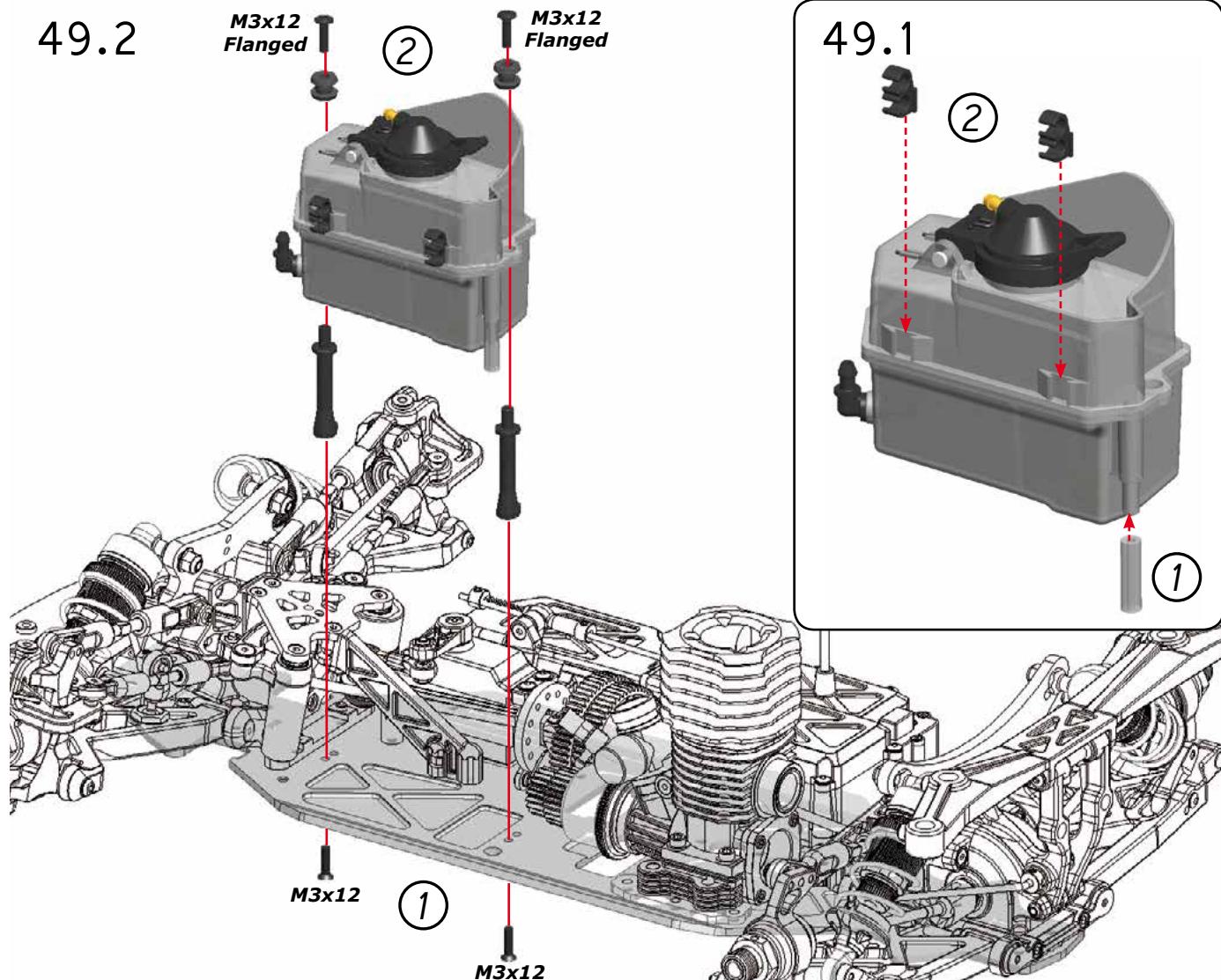




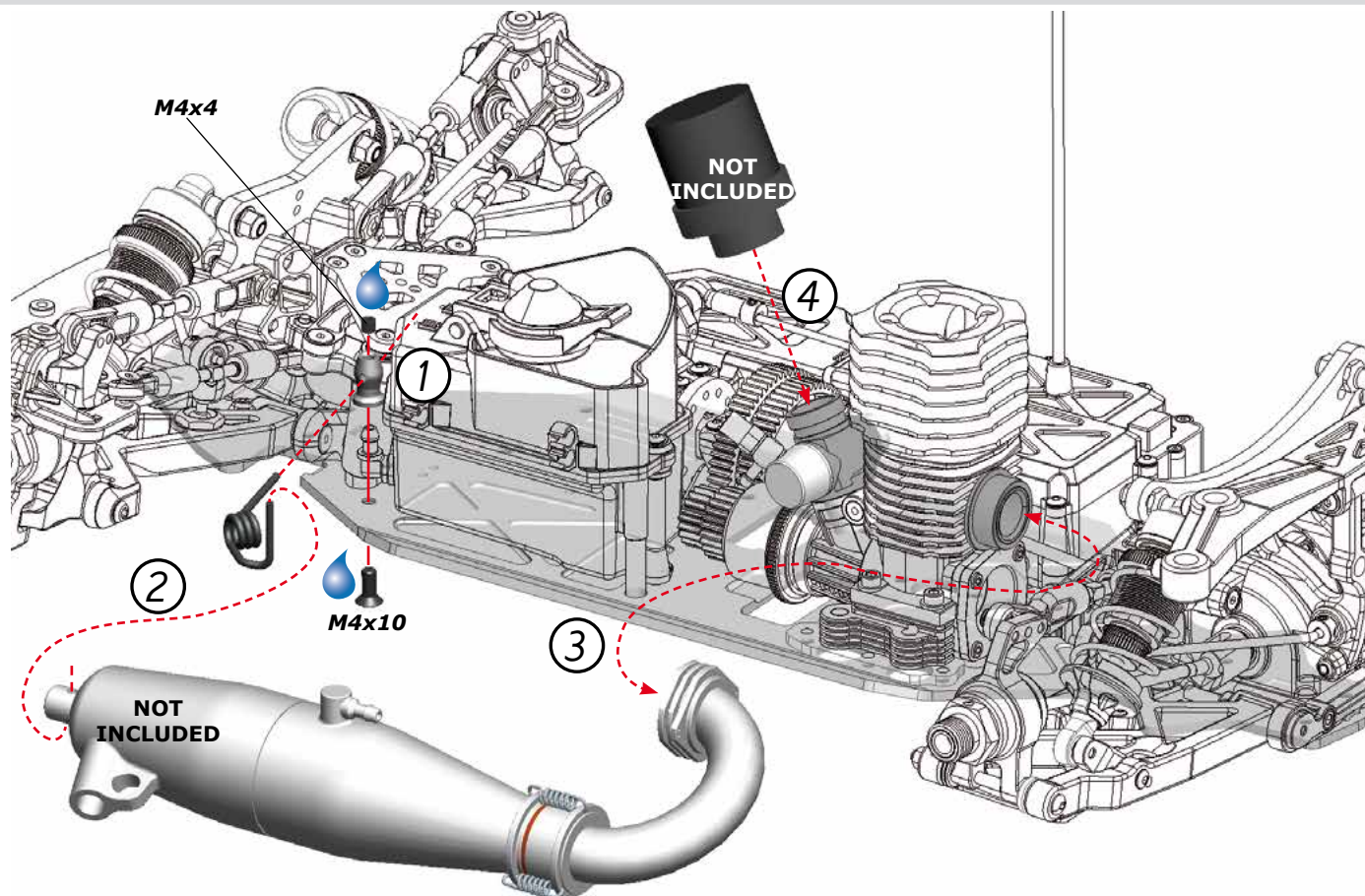


# FINAL ASSEMBLY

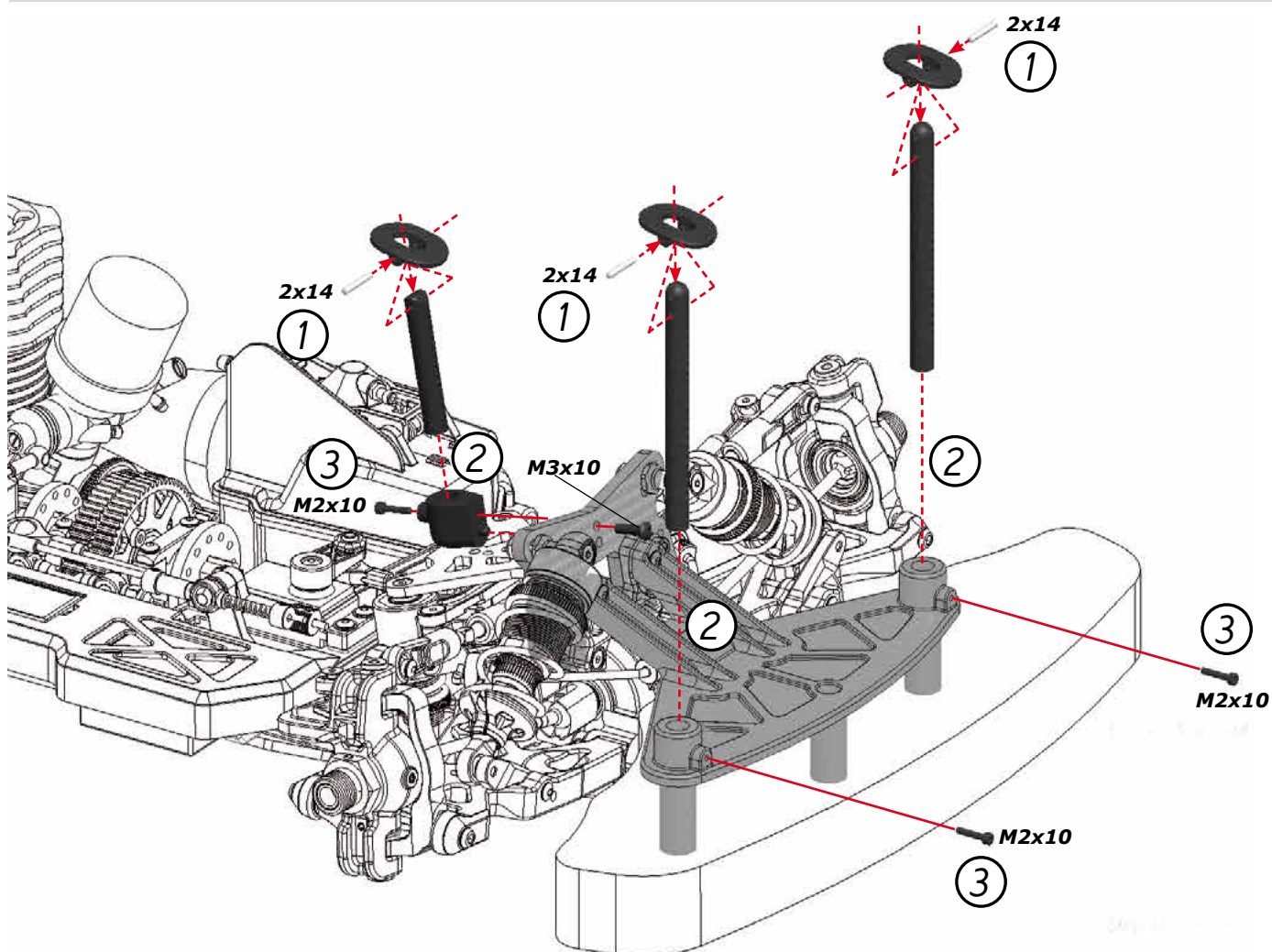
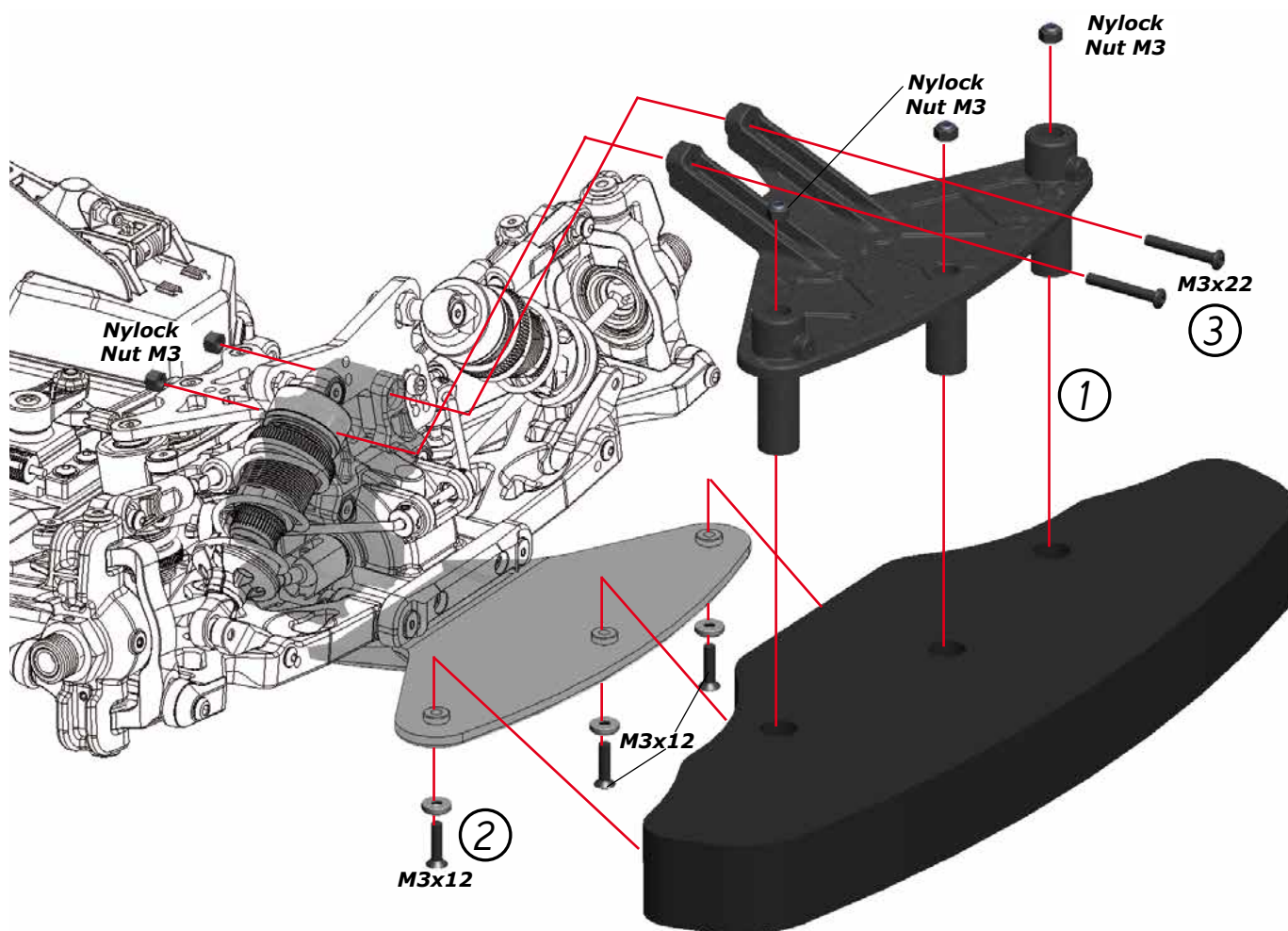
STEP  
49



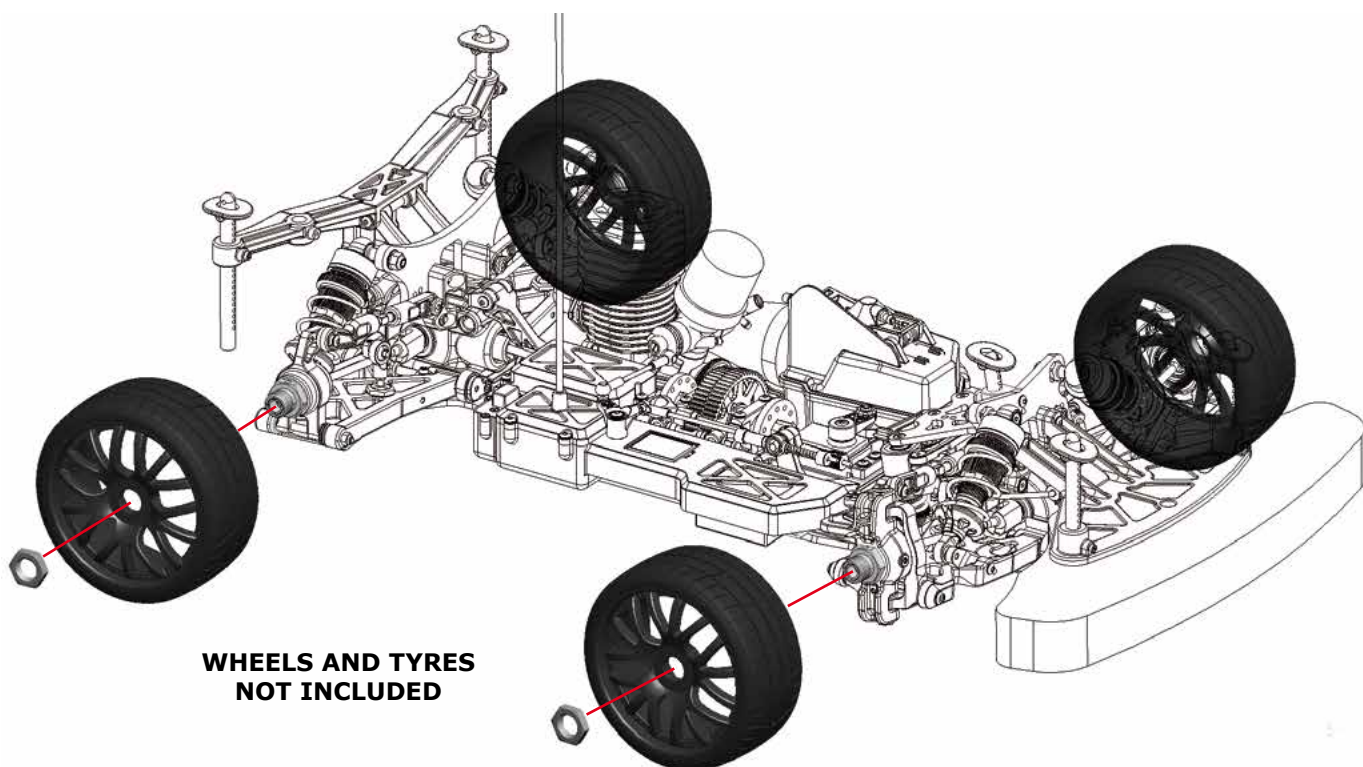
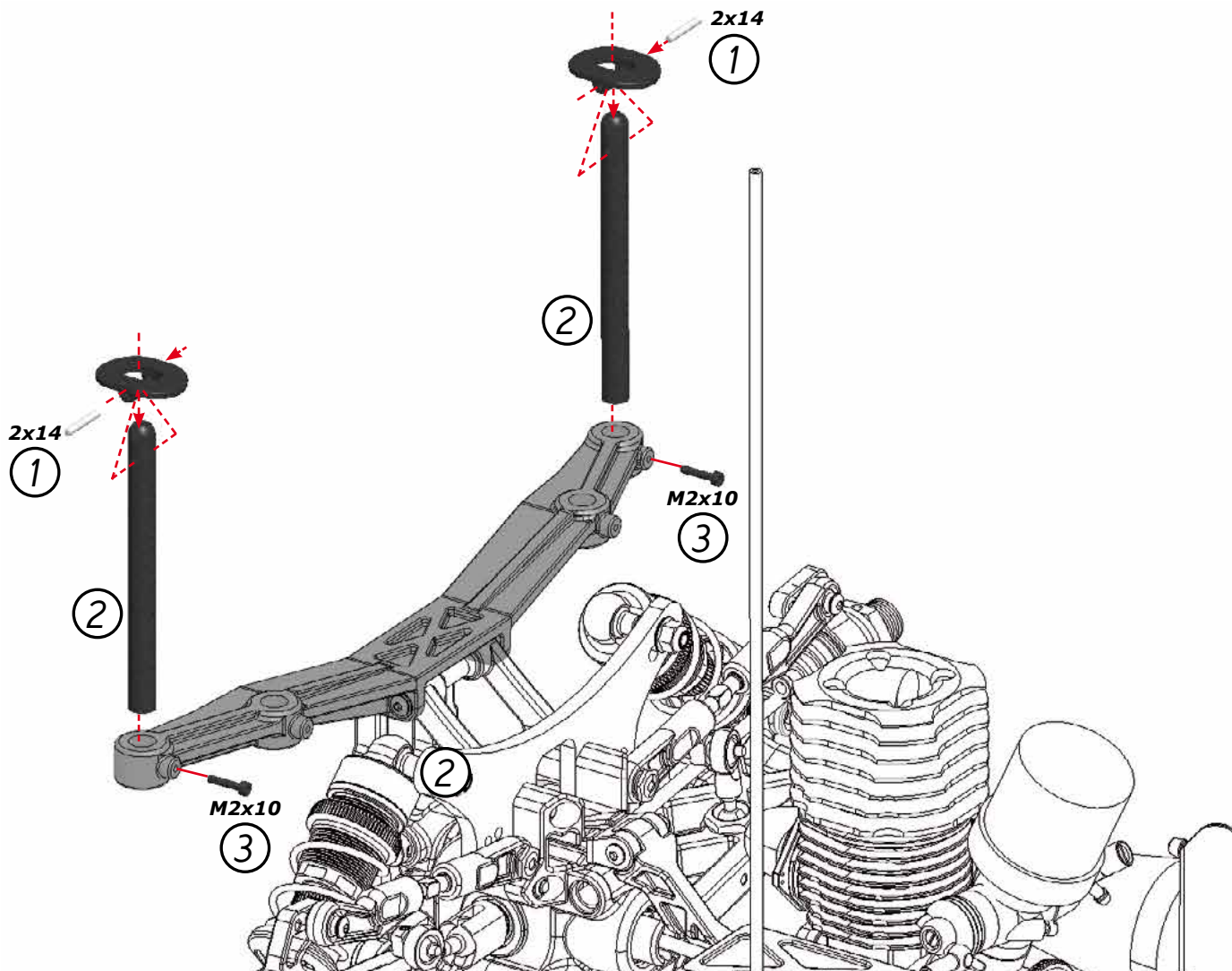
STEP  
50









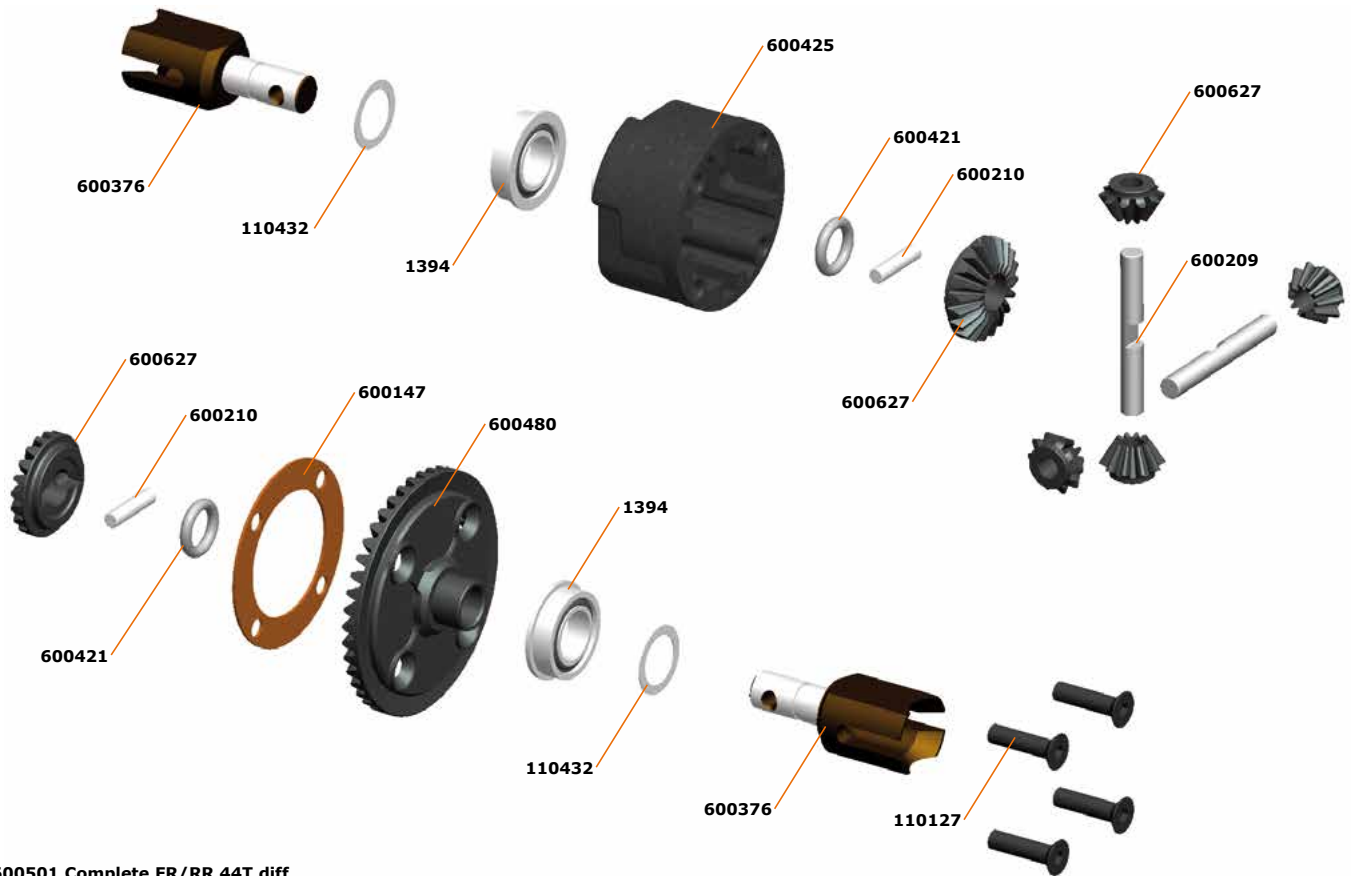


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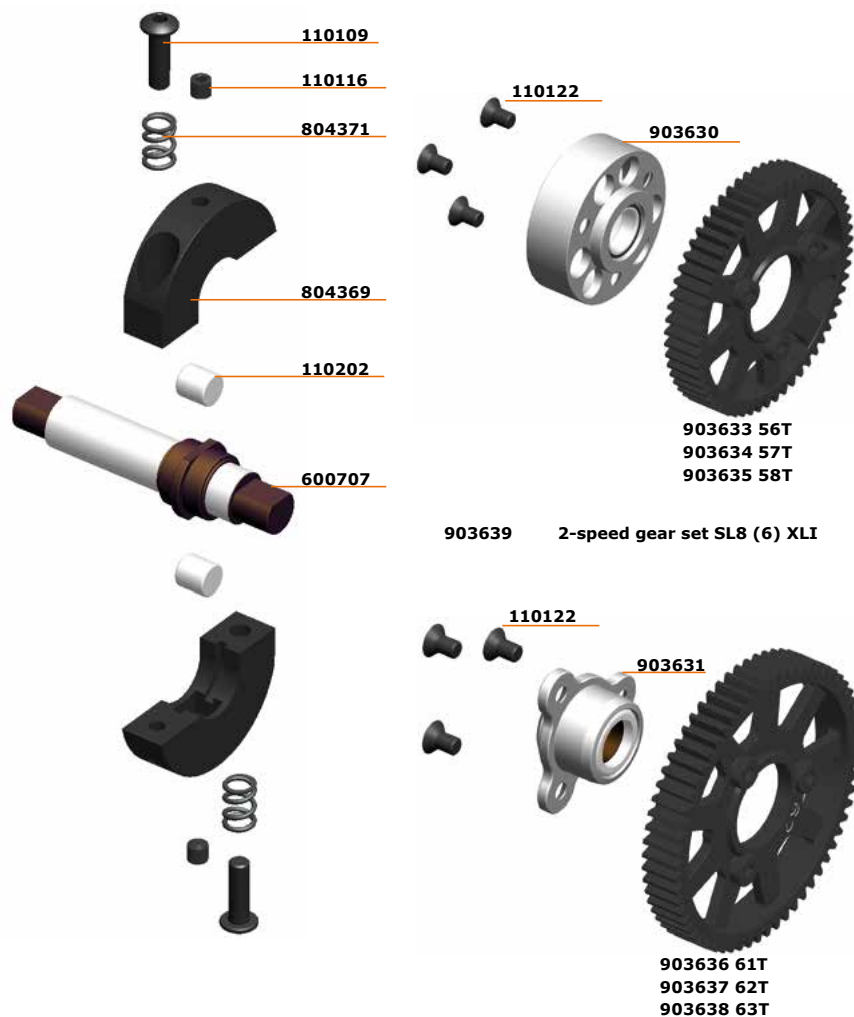
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# FR/RR DIFF ASSEMBLY



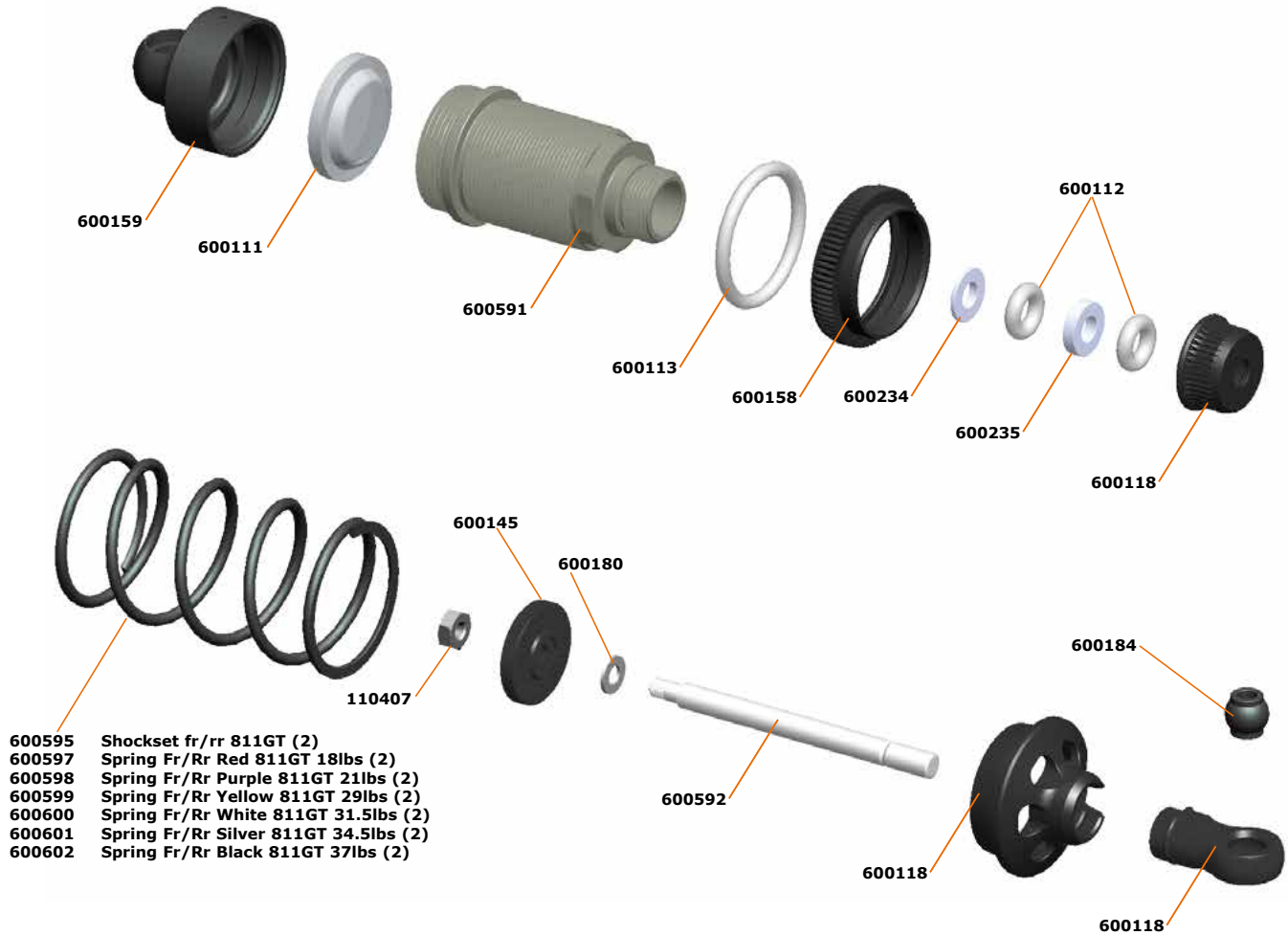
600501 Complete FR/RR 44T diff

# GEARBOX ASSEMBLY

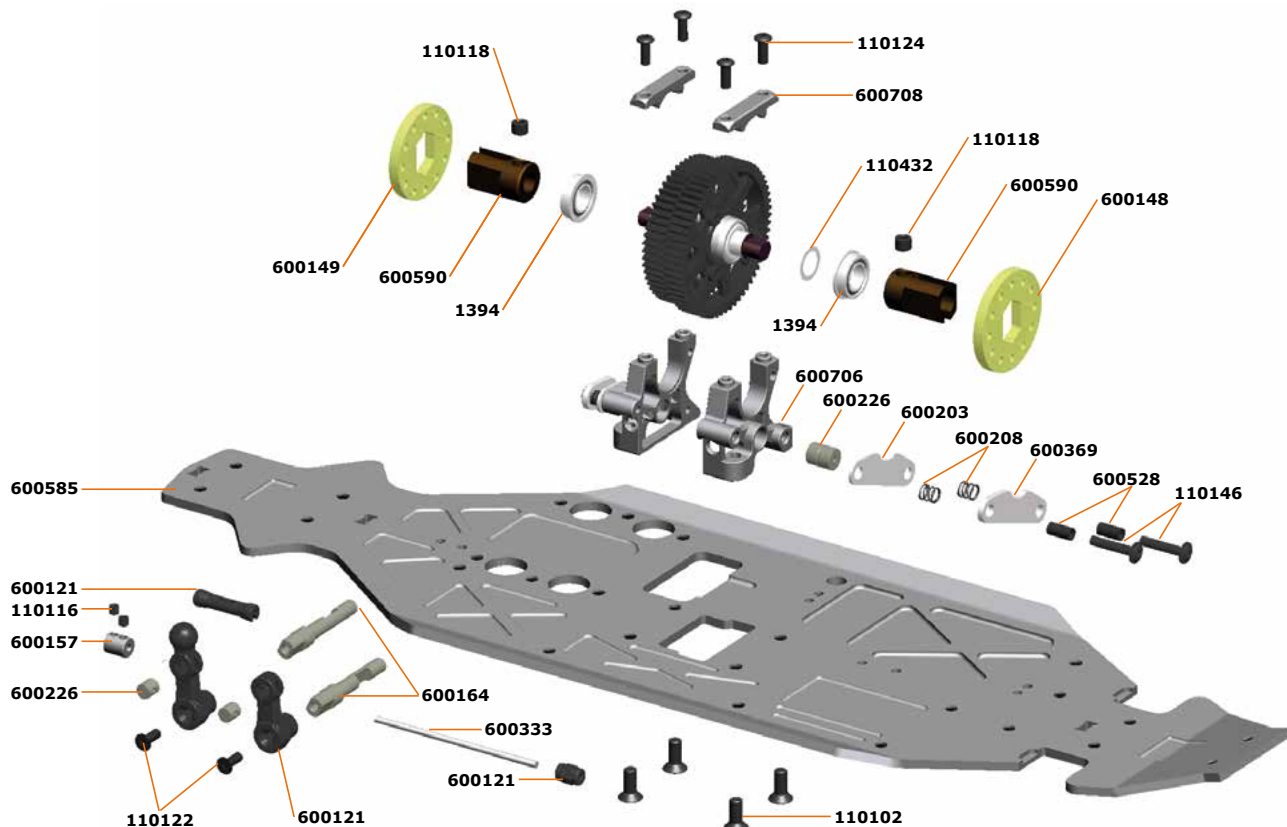




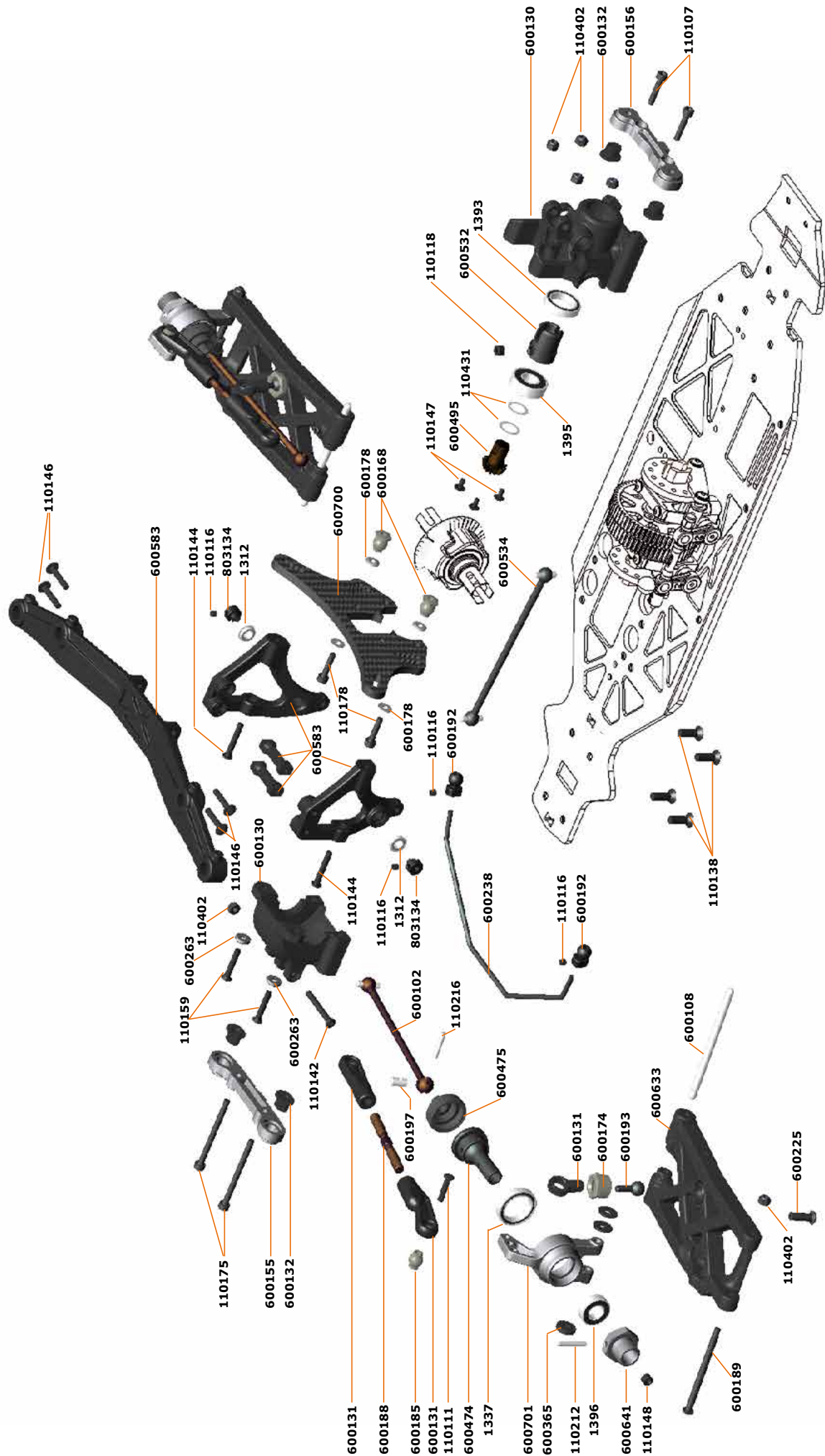
# SHOCKS ASSEMBLY



# CENTER ASSEMBLY



# REAR ASSEMBLY

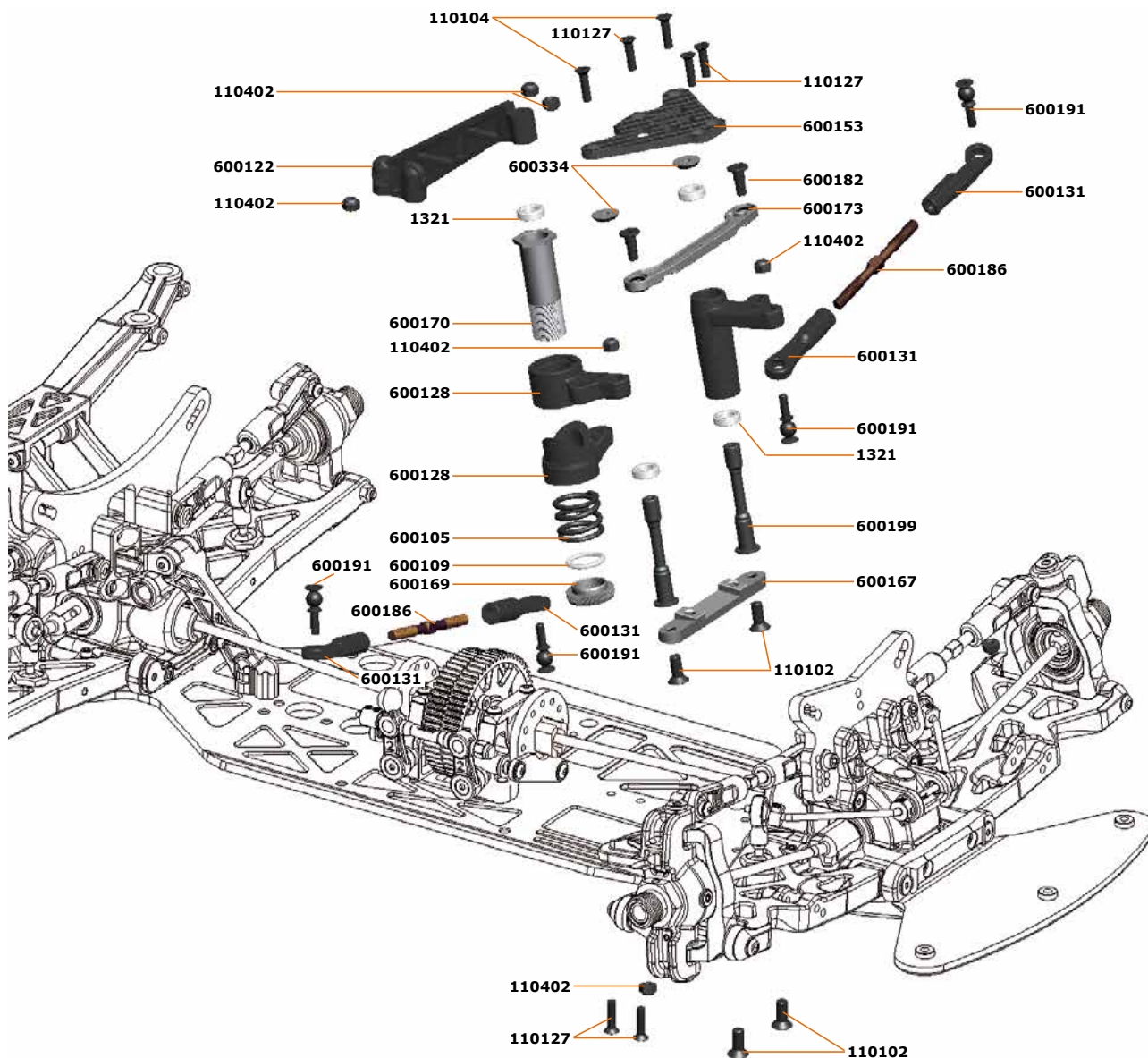


# FRONT ASSEMBLY





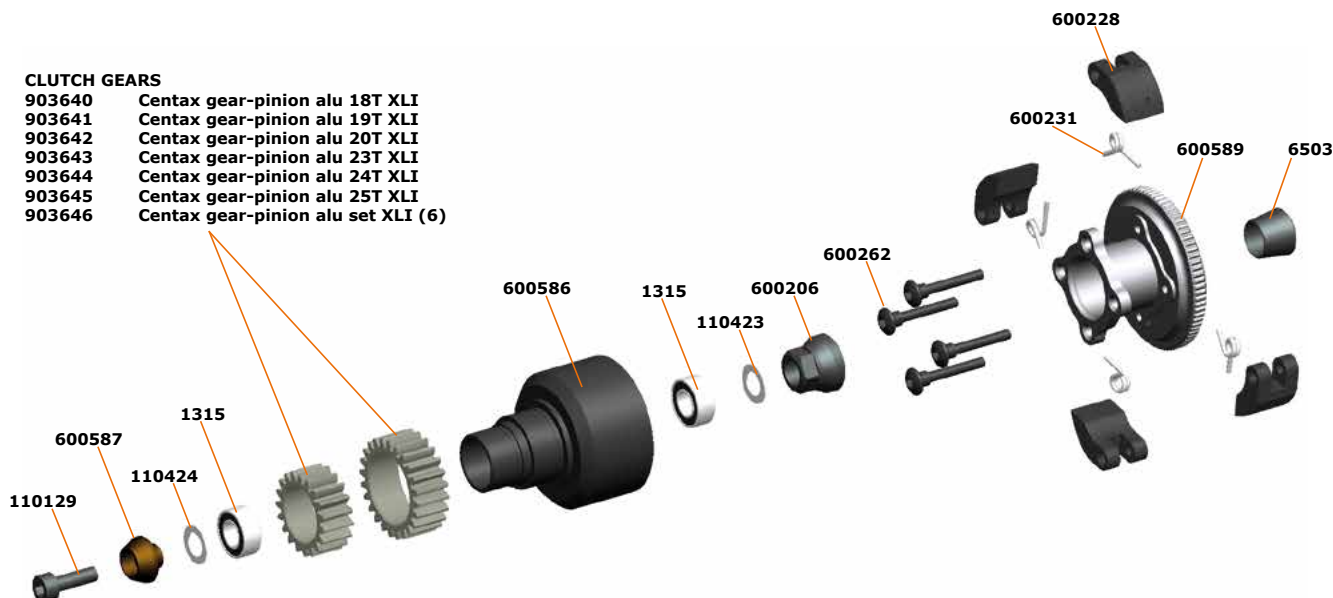
# STEERING ASSEMBLY



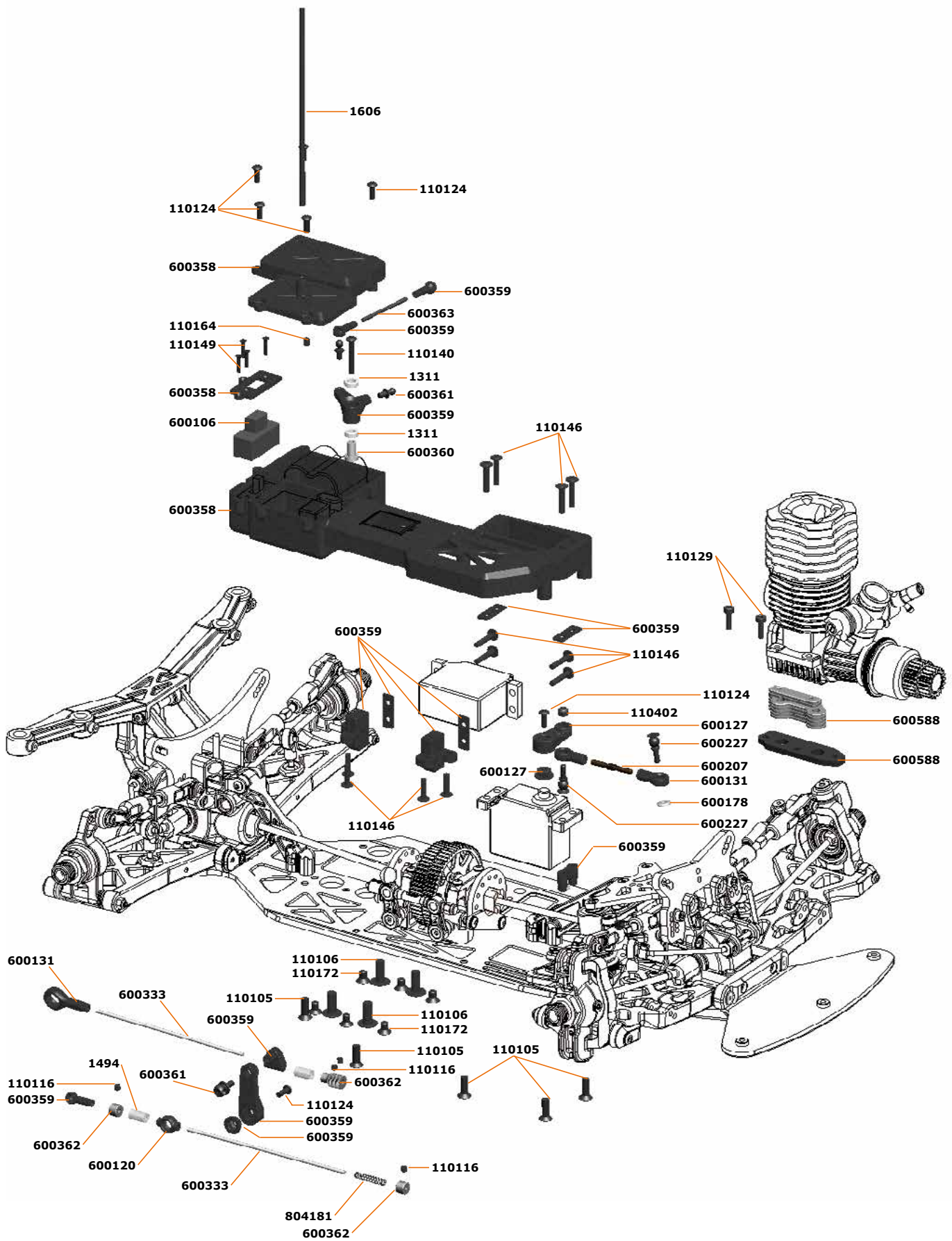
# CLUTCH ASSEMBLY

## CLUTCH GEARS

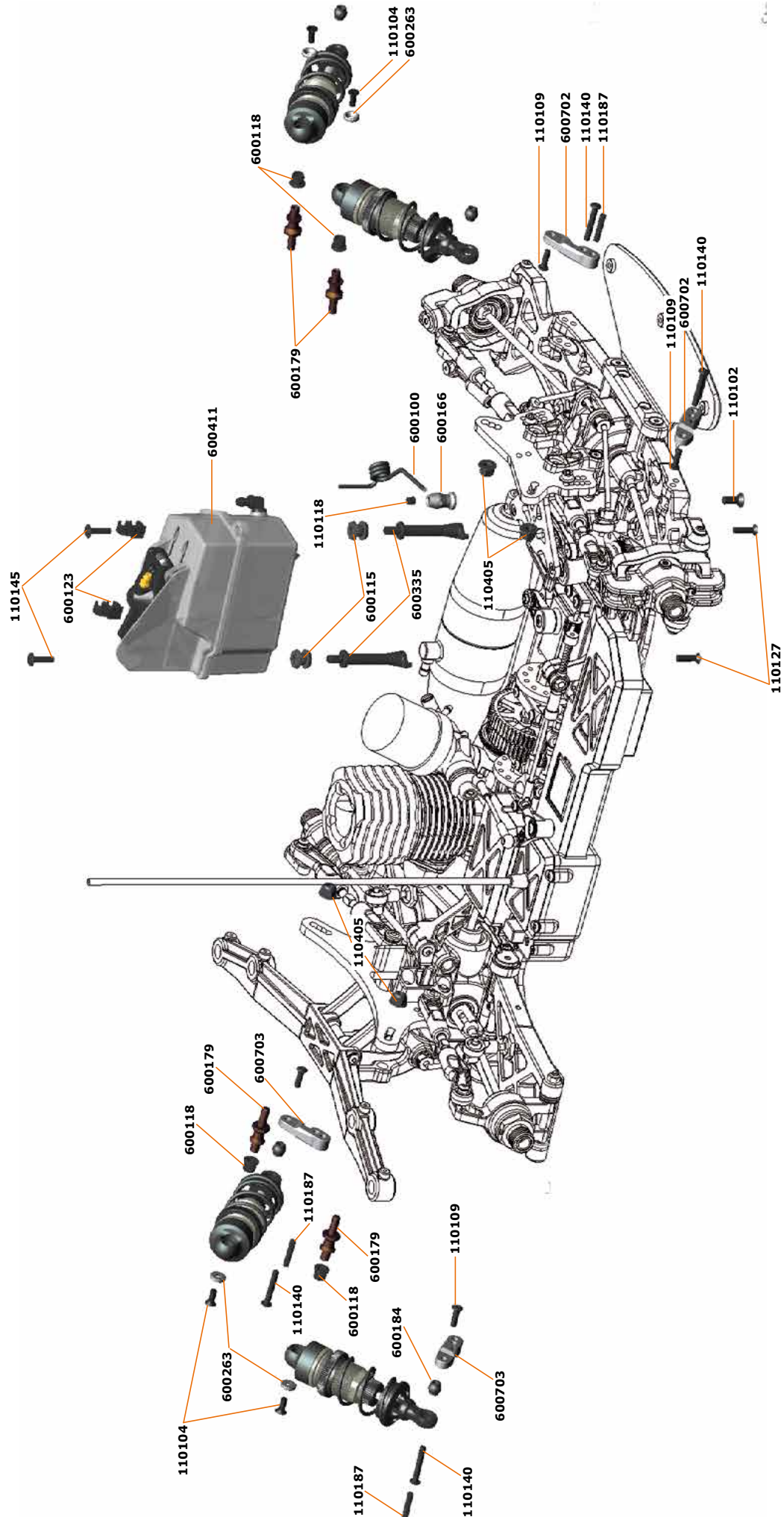
- 903640 Centax gear-pinion alu 18T XLI
- 903641 Centax gear-pinion alu 19T XLI
- 903642 Centax gear-pinion alu 20T XLI
- 903643 Centax gear-pinion alu 23T XLI
- 903644 Centax gear-pinion alu 24T XLI
- 903645 Centax gear-pinion alu 25T XLI
- 903646 Centax gear-pinion alu set XLI (6)



# RADIO ASSEMBLY

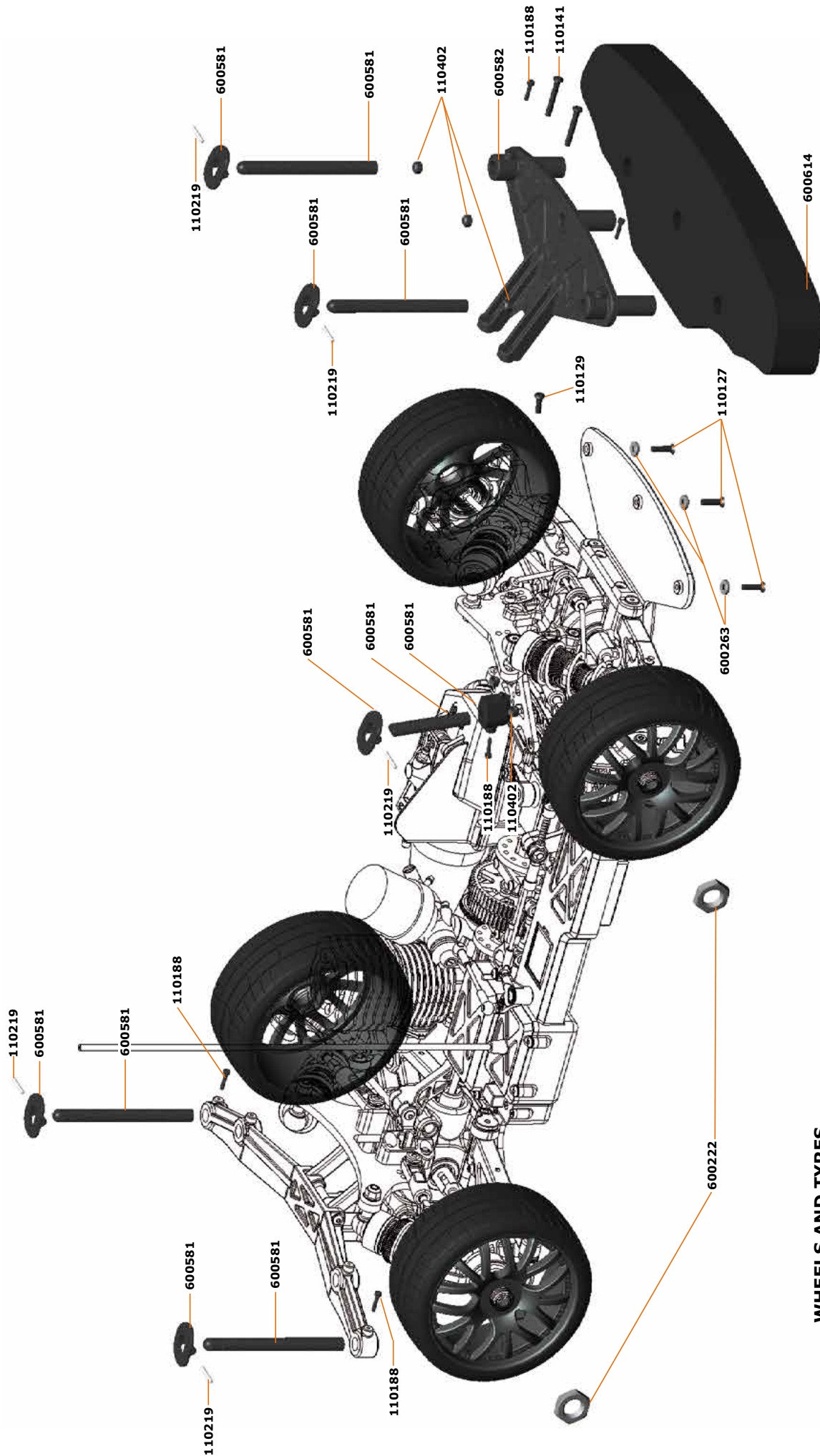


# FINAL ASSEMBLY I





# FINAL ASSEMBLY II



WHEELS AND TYRES  
NOT INCLUDED

# TEAM SERPENT NETWORK

## COBRA GT SPARE PARTS



## COBRA GT OPTIONAL PARTS



## SERPENT TOOLS



## SERPENT MERCHANDISING



## WEBSITE AND BLOG



## SOCIAL MEDIA



# Cobra GT 3.0



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



Cobra GT 3.0 manual v1