



Project 4X PRO

1/10 scale electric touring car

Instruction Manual

SERPENT

INTRODUCTION

Thank you very much for selecting this Serpent rc car and thus become a member of the ever growing worldwide Serpent racing family. Serpent started in 1980 and has been growing its product-line and fan-base ever since.

The Serpent Project 4X PRO is a state of the art 1/10 scale 4wd touringcar which will give you the true Serpent racing experience. The assembly manual will guide you through all the steps to complete the car, so you can hit the track with a good base-set-up soonest. The Serpent design department succeeded to create a superbly performing car combined with eas of assembly and maintenance. The high quality standards of all parts and hardware will make racing your Serpent car a very rewarding activity!

Through our team, website and social media we will keep you up-to-date on all developments of the Serpent cars. We hope to meet you on the track and through our various media! Enjoy the drive!

Team Serpent
Multiple World Champions

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. 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. Remaining parts will be needed lateron in the assembly process.

PLASTIC PARTS

The Serpent moulded parts are very durable and hard. When assembling longer screws in new composite parts, make sure to use new hex bits in your (power) tools. Pre-threading also helps to avoid screw damage.

SETUP

In certain assembly steps you need to make basic adjustments, which will give you a good initial setup for your Serpent Project 4X PRO. Fine-tuning the initial setup is an essential part of building a high-performance racecar like your Serpent Project 4X PRO.

EXPLODED VIEWS AND PARTS LIST

The exploded views and parts lists for the Serpent Project 4X PRO 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 and hotlink to the Serpent website. Partnumbers in orange indicates that this part is an optional. Optionals part names and numbers are showed below.

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.

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 cloves.
- 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.

CONTENTS

• DIFF ASSEMBLY	4
• SHOCKS ASSEMBLY	6
• ROLL DAMPER ASSEMBLY	8
• CENTRAL AND REAR I ASSEMBLY	10
• FRONT I ASSEMBLY	15
• TRANSMISSION ASSEMBLY	20
• FRONT II ASSEMBLY	23
• REAR II ASSEMBLY	29
• FINAL ASSEMBLY	32
• EXPLODED VIEWS	41
• TEAM SERPENT NETWORK	50

LINES DESCRIPTION

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

ICONS DESCRIPTION

Each step contains a variety of symbols described below.



Read and check very well.



Apply a small amount of cyano glue. Wear protection for eyes and hands.



Detail view to explain assembly or order of parts better.



Default set-up: This symbol indicates the default setup.



Grease: apply a small amount of grease to the parts shown.



Silicone grease: apply a small amount of grease to the parts shown.



Left and right parts should be assembled in the same way.



Thread lock: apply a small amount on the parts shown. Before apply the threadlock, make sure to degrease the parts very well, as otherwise the threadlock will not work.



Silicone oil: use the indicated silicone oil for the shocks and differentials.



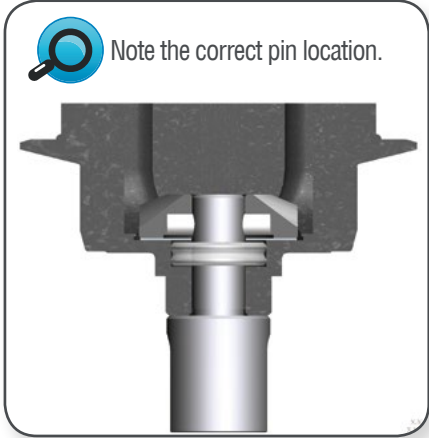
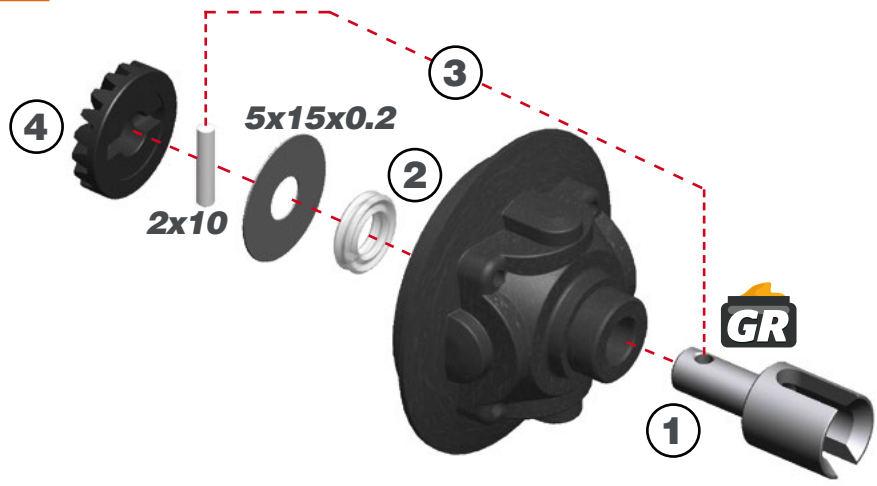
Parts or items not included in the kit.



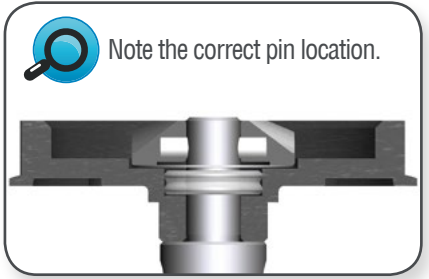
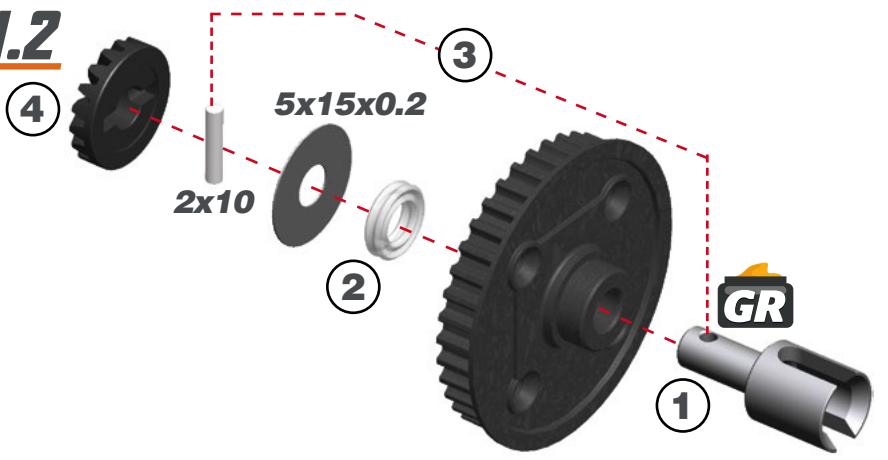
Optional part, not standard in the kit.

STEP 1 DIFF BAG

1.1

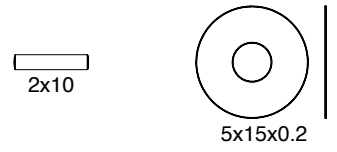
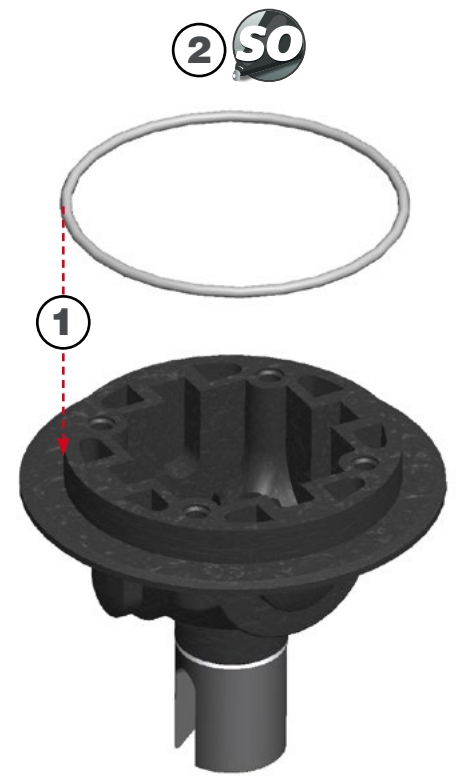


1.2

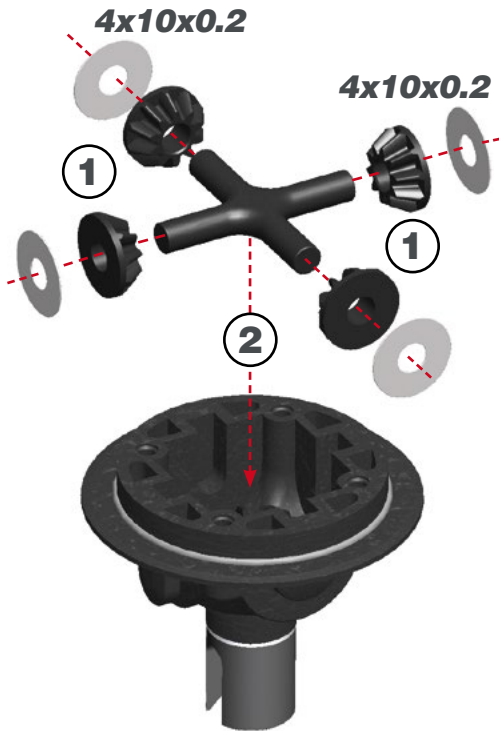


STEP 2

- 1- Fit the o ring before filling the diff with silicone oil.
- 2- Add just enough oil to cover the large gear before assembling the small satellite gears and cross pins. Use the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.



STEP 3



STEP 4



Fill the differential with silicone oil 1 mm above the crosspin, do not overfill. Use the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.

50



AMOUNT OF OIL IN THE DIFFS

Use a digital scale to measure the exact amount of oil in the diff.

Differential weight = 11.4 grams

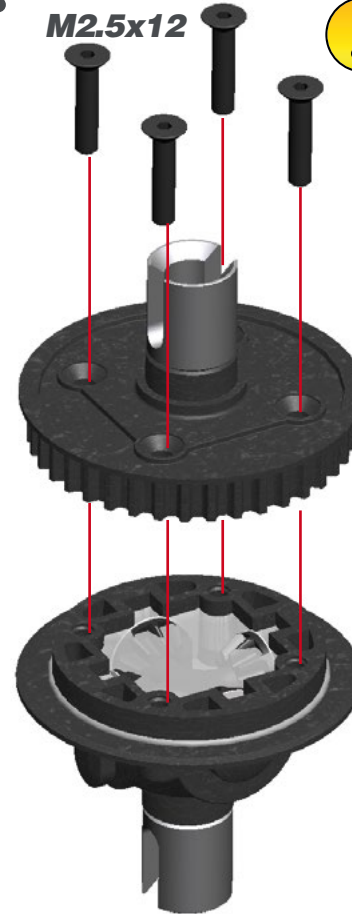


STEP 5

M2.5x12



Do not overtighten the screws. There is always a gap between both sides of the diff housing.



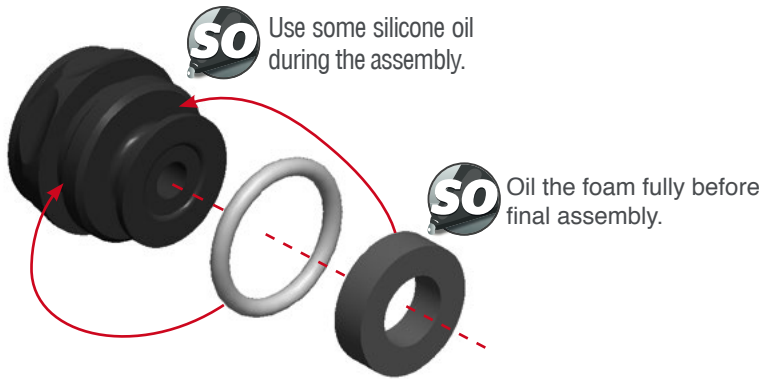
COMPLETE DIFF ASSEMBLY



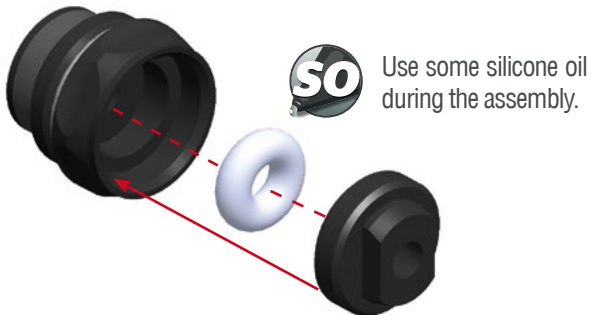
STEP 6 BAG 1

! Follow step 6 to 11 twice to assemble 2 shocks, 1 for the front and 1 for the rear.
Check the default set-up sheet to find the right values for piston, spring and silicone oil. Be aware that front and rear shock-settings may differ.

6.1



6.2

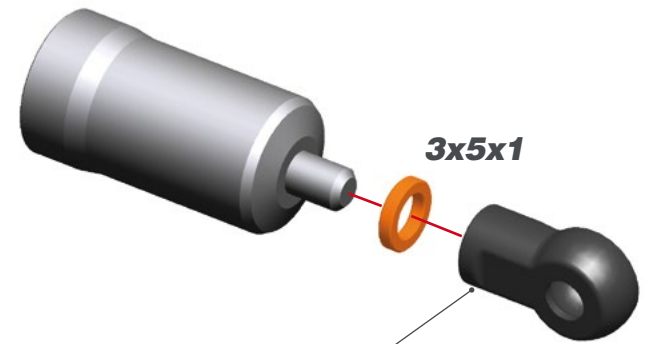


STEP 7



R2

STEP 8



! Mount the shim and balljoint, then tighten. This way the small bleeder hole in the threaded shaft is closed.

3x5x1

STEP 9

1- Fill up with silicone oil fully using the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.

2- Wait all air bubbles have escaped.

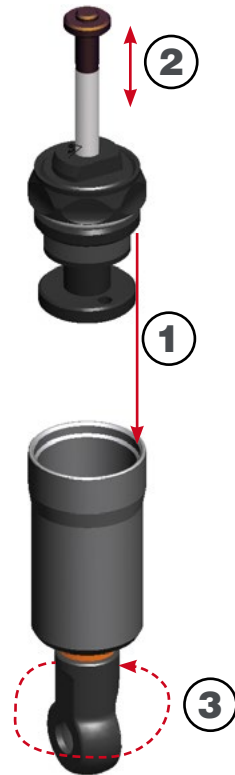


STEP 10

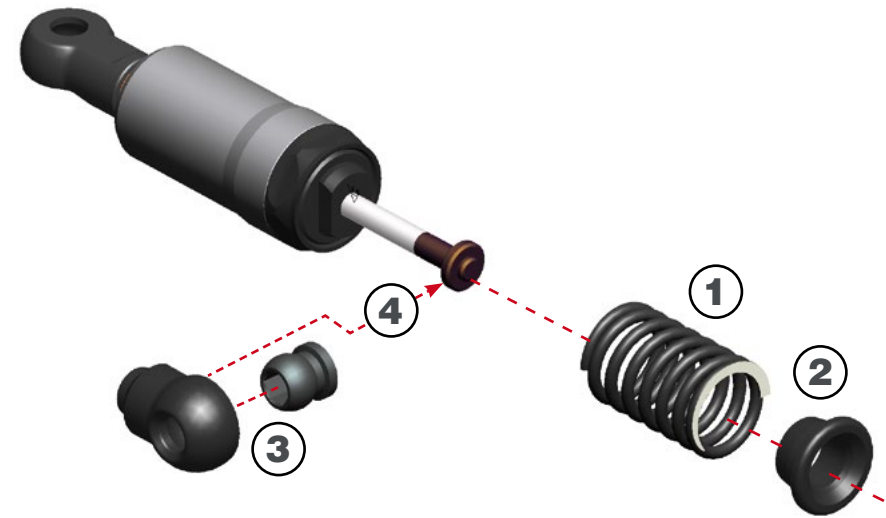
1- Loosen the balljoint anti clockwise, in order to open the small bleeder hole in the threaded shaft and push the piston into the housing and screw the cap assembly gently onto the shock housing clockwise, do NOT overtighten.

2- Bleeding: Turn the shock upside down and push the shockrod slowly fully inside, so the excess oil can escape through the small bleeder hole in the threaded shaft. Wipe away the excess oil. Keep to let excessive oil come out

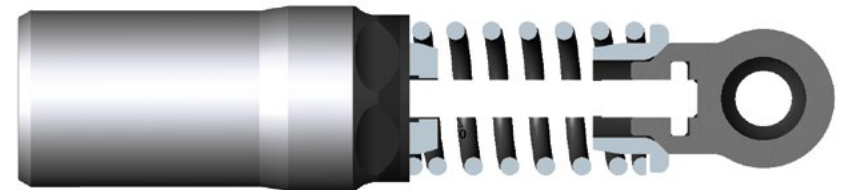
3- With shockrod fully in, close the shock and balljoint fully.



STEP 11



Note the correct position of the shock spring support and ball joint.

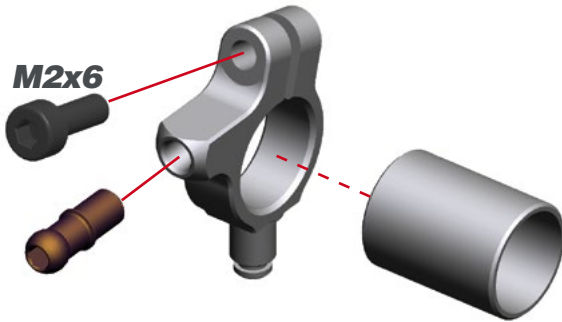


STEP 12 BAG 2

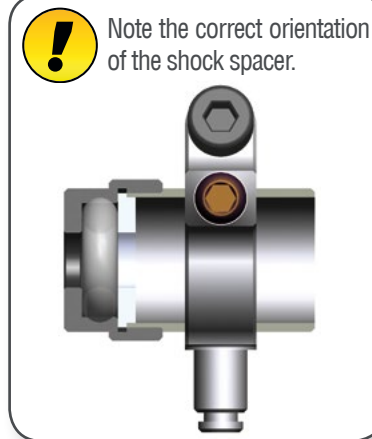
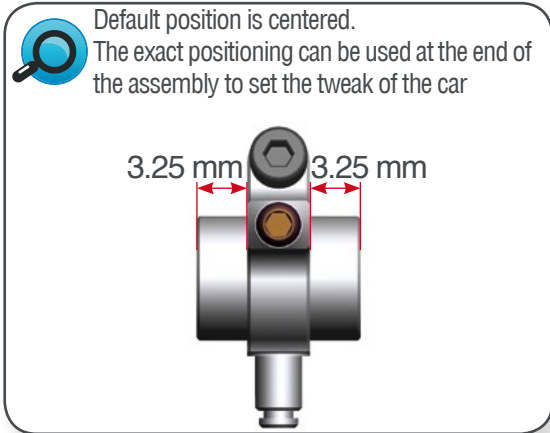
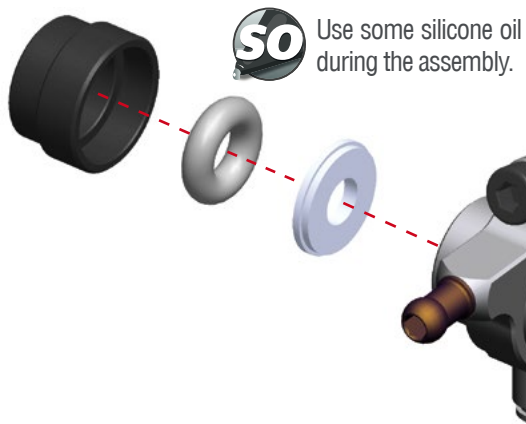
! Follow step 12 to 16 twice to assemble 2 roll dampers, 1 for the front and 1 for the rear.

Check the default set-up sheet to find the right values for piston, spring and silicone oil. Be aware that front and rear roll damper-settings may differ.

12.1 **!** Do not overtighten the M2x6 screw.



12.2



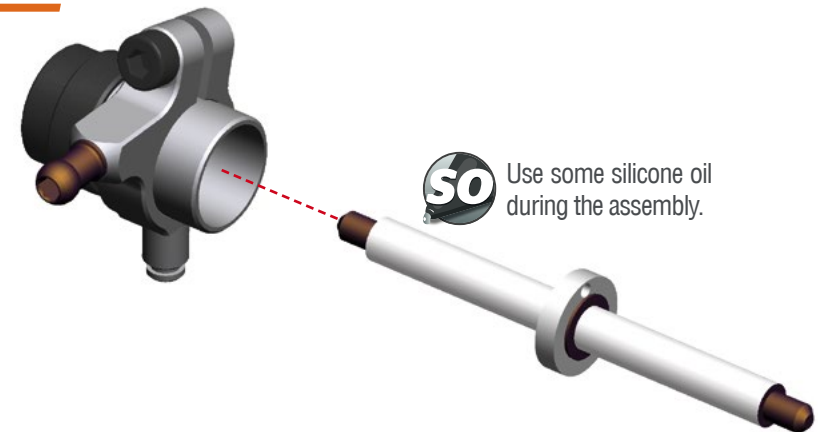
M2x6

STEP 13

13.1 **!** Notice that the piston is not symmetrical. The side with the chamfer should be assembled oriented to the shock shaft.



13.2



STEP 14

1- Fill up with silicone oil fully using the silicone oil supplied in the kit. For the correct cst value please check the default setupsheet.

2- Extend the shockrod fully.

3- Move the shockrod slowly up and down to let all air bubbles escape.



STEP 15



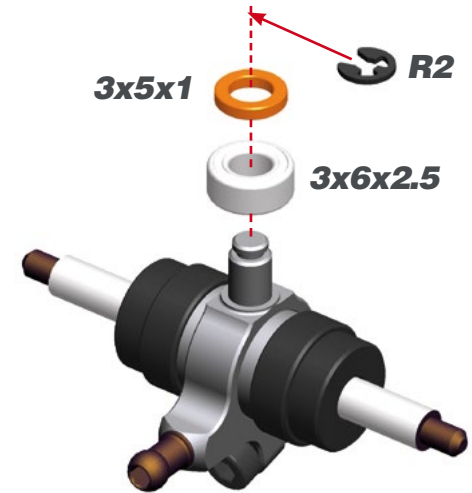
SO Use some silicone oil during the assembly.



Note the correct orientation of the shock spacers.



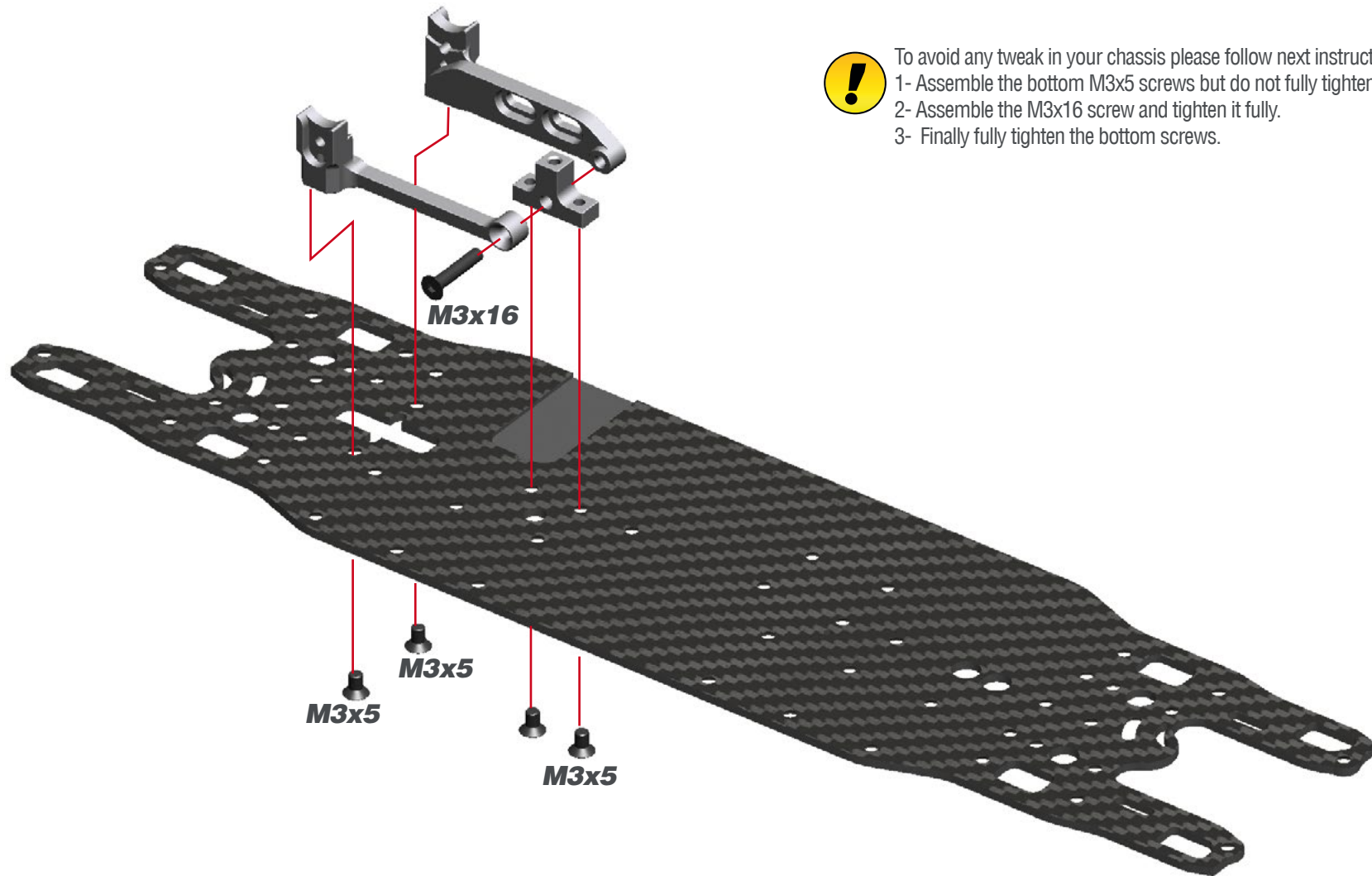
STEP 16



COMPLETE ROLL DAMPER ASSEMBLY



STEP 17 BAG 3



To avoid any tweak in your chassis please follow next instructions:

- 1- Assemble the bottom M3x5 screws but do not fully tighten.
- 2- Assemble the M3x16 screw and tighten it fully.
- 3- Finally fully tighten the bottom screws.



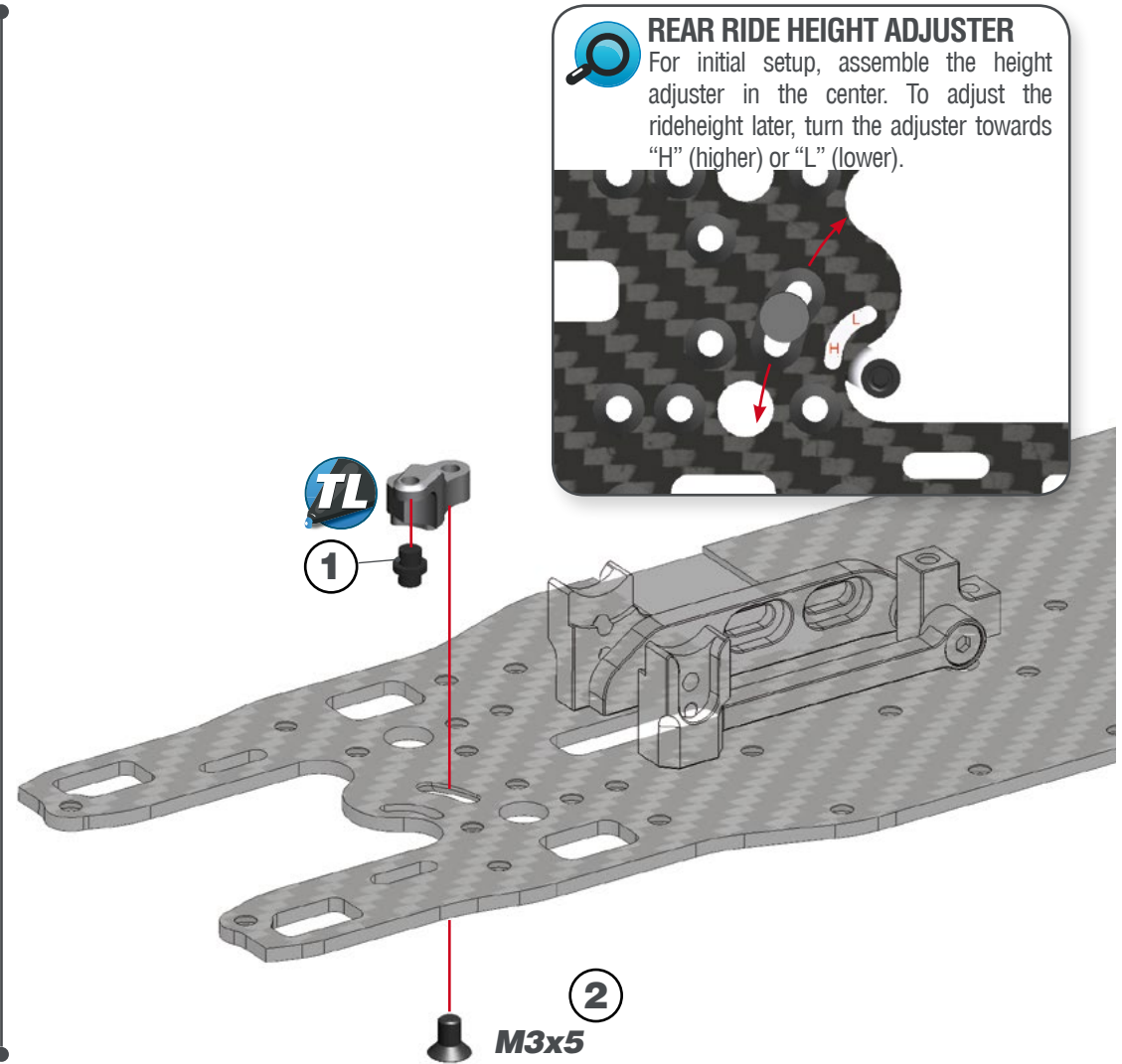
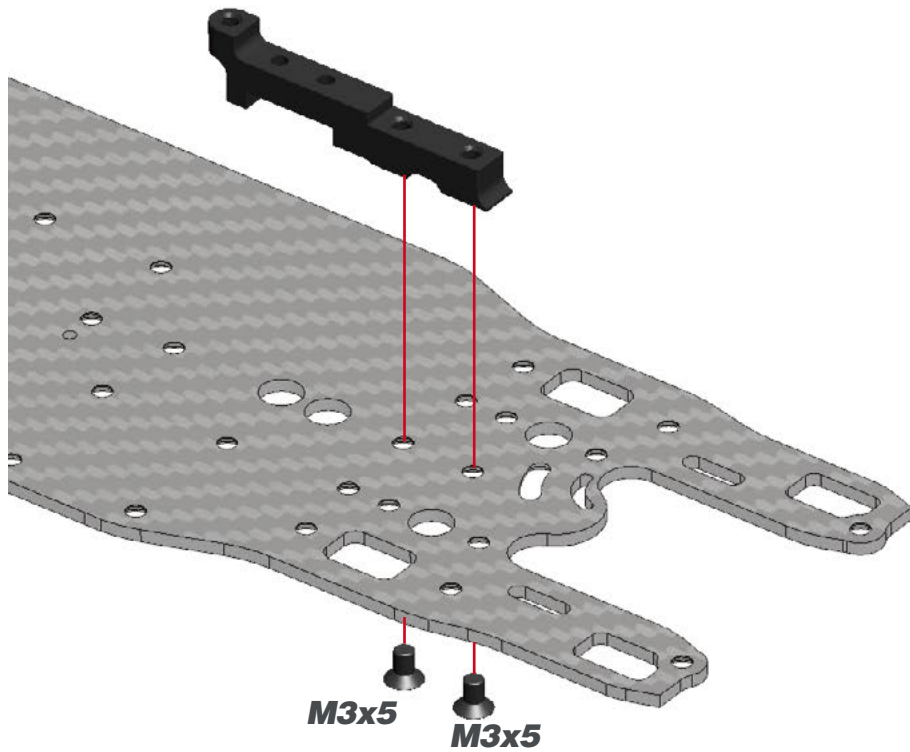
M3x5



M3x16

STEP 18

STEP 19

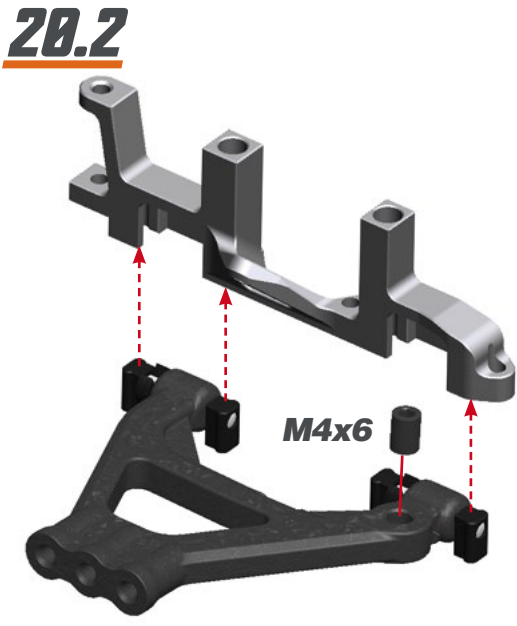


STEP 20 **BAG 4**

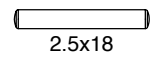
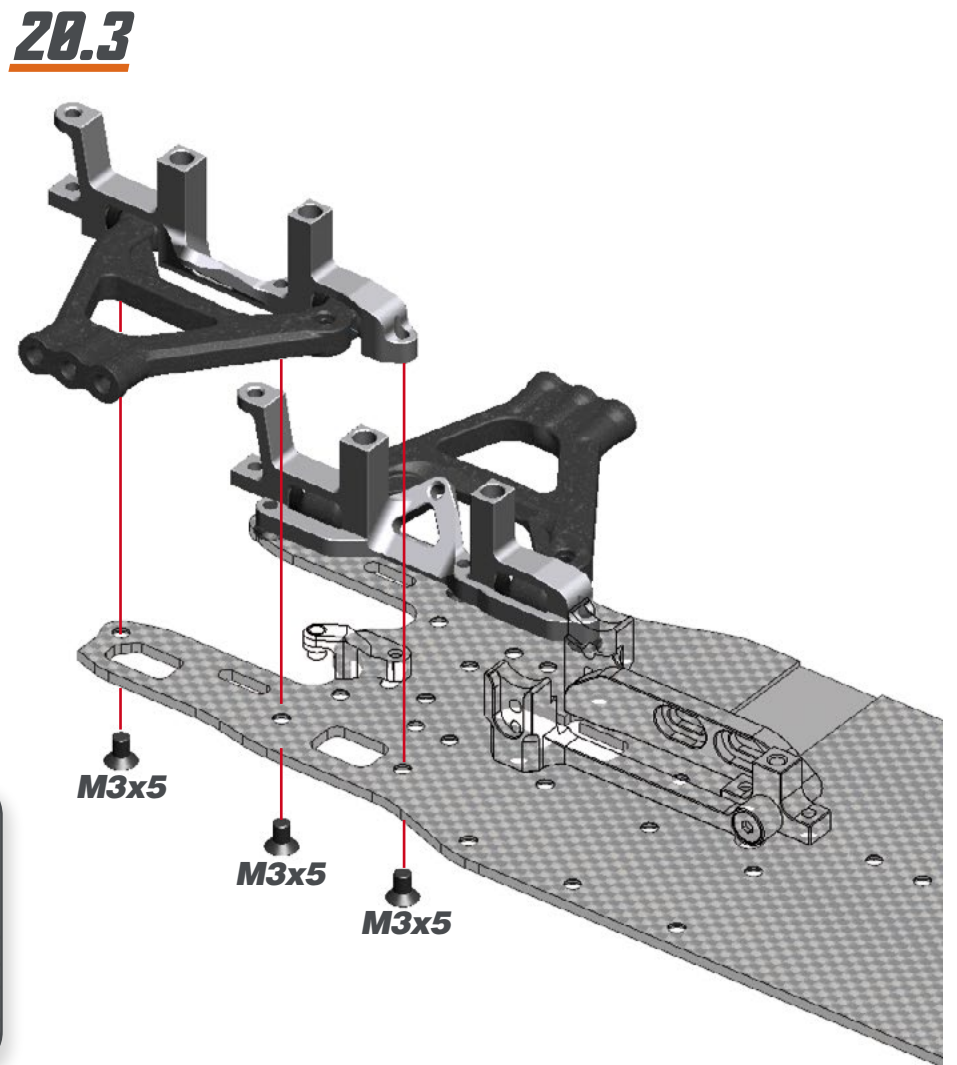


L=R REAR ROLL CENTER
INSERTS CHART

MID LOW	MID HIGH	HIGH
DEF. SETUP		



DEF. SETUP REAR DEFAULT
WHEELBASE SHIMS



STEP 21

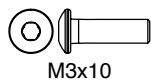
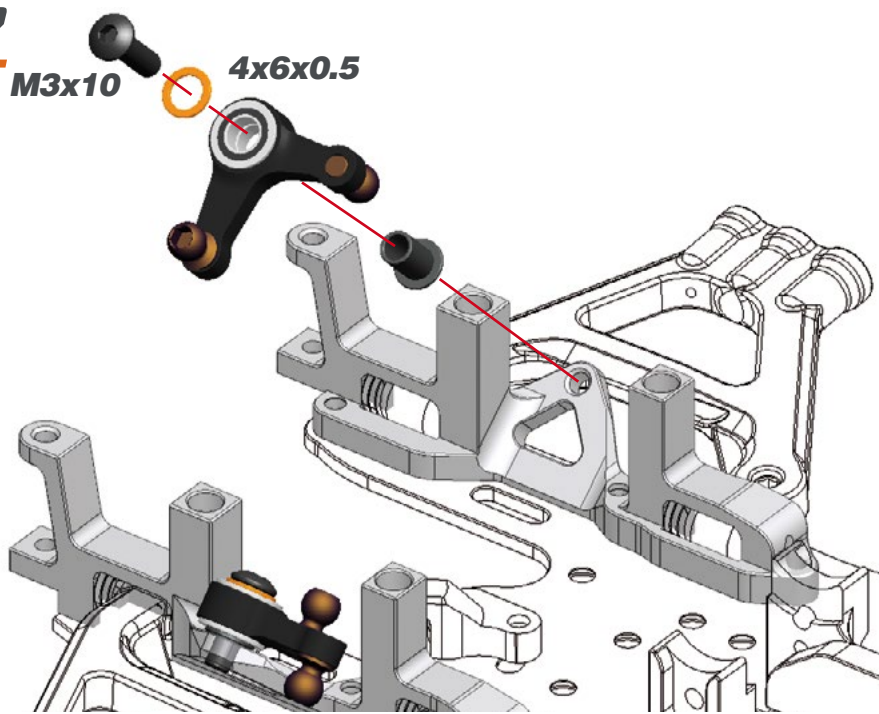
BAG 5

21.1



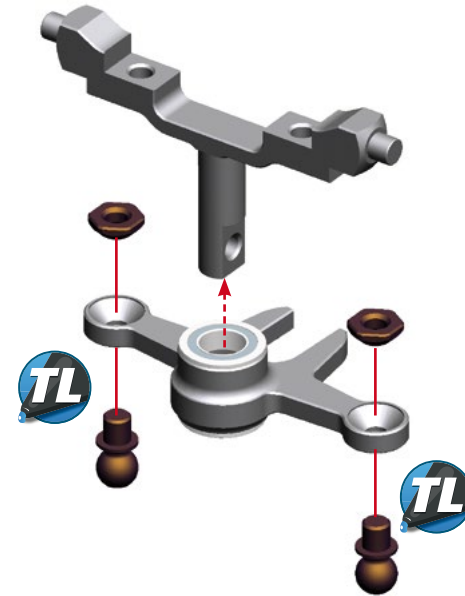
! Note the right orientation of the rocker-legs.

21.2

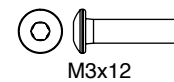
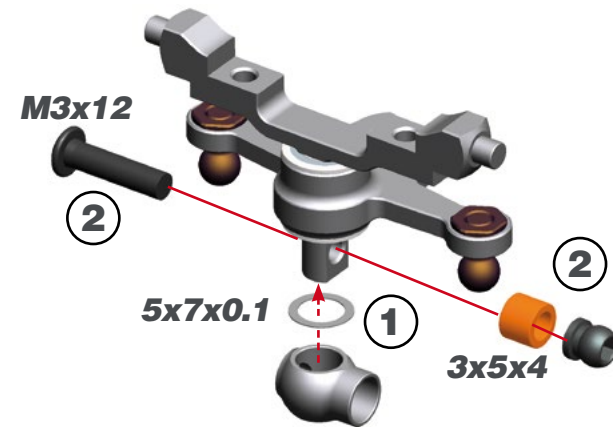


STEP 22

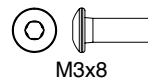
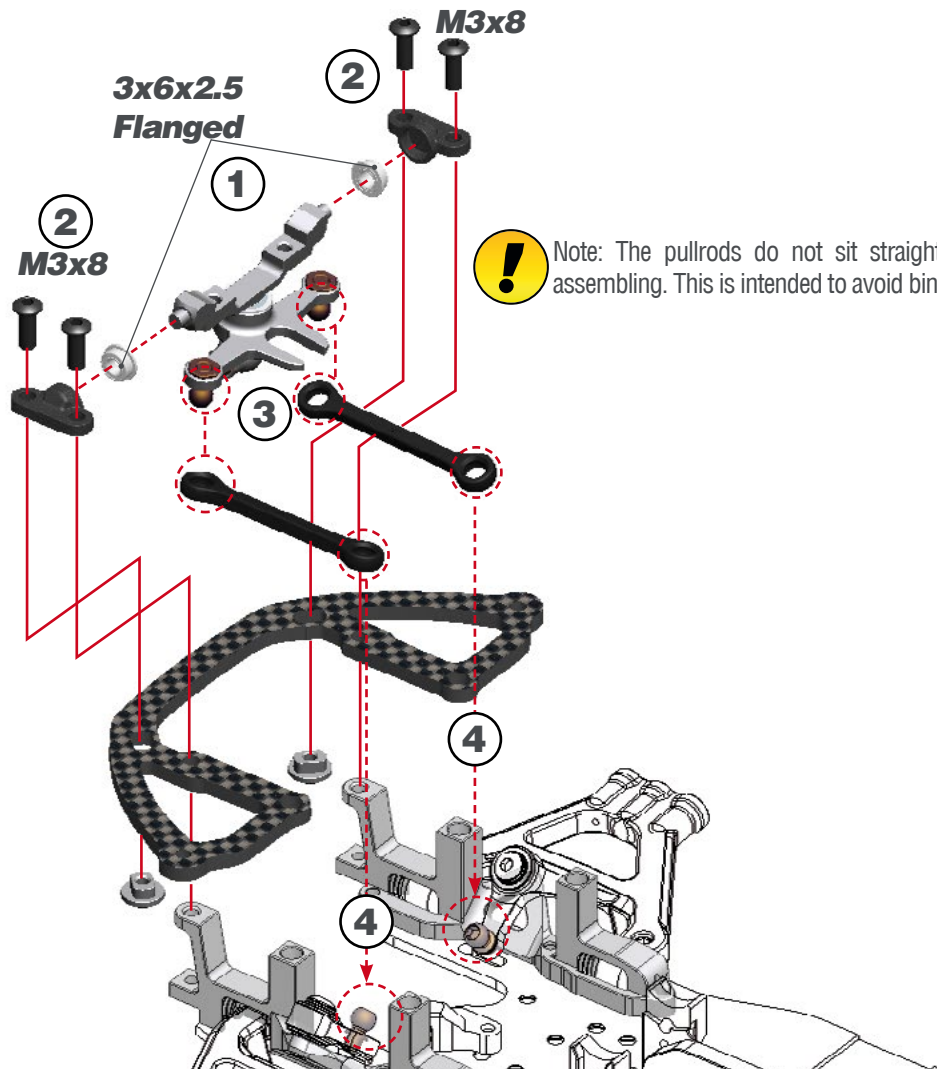
22.1



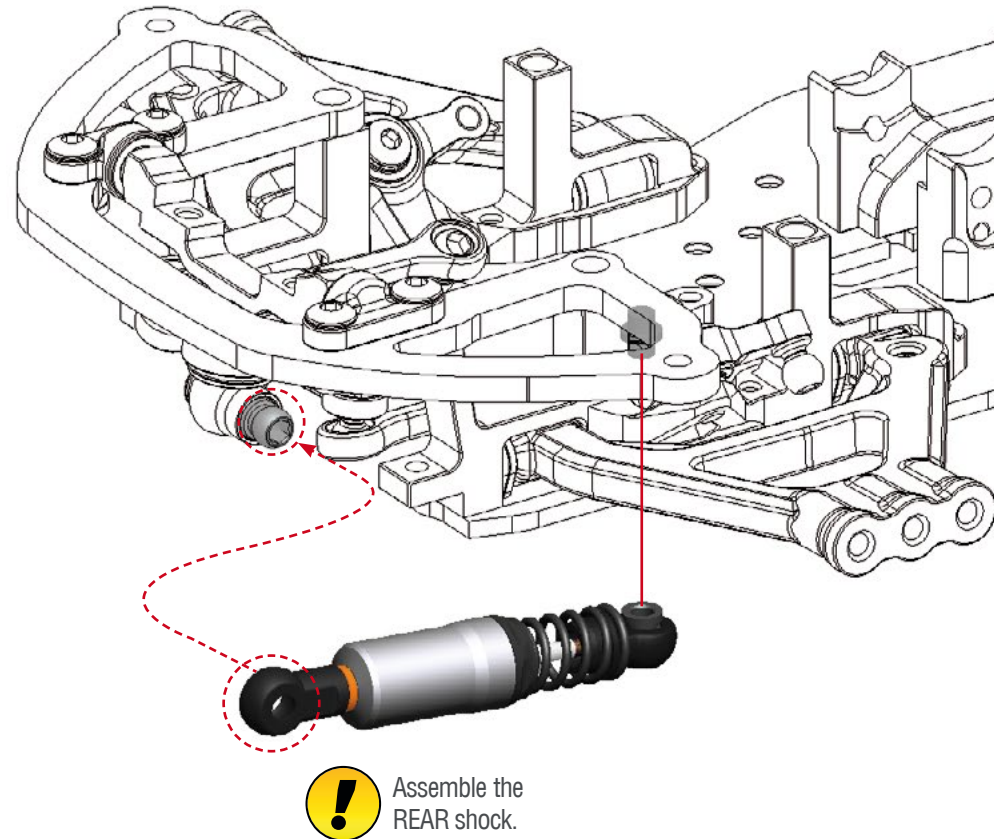
22.2



STEP 23



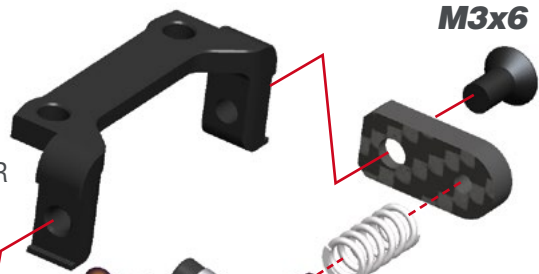
STEP 24



STEP 25

25.1

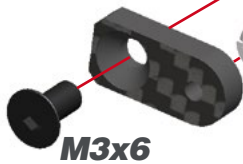
! Assemble the REAR rolldamper.



M3x6

! For the correct spring colour please check the default setupsheet.

25.2



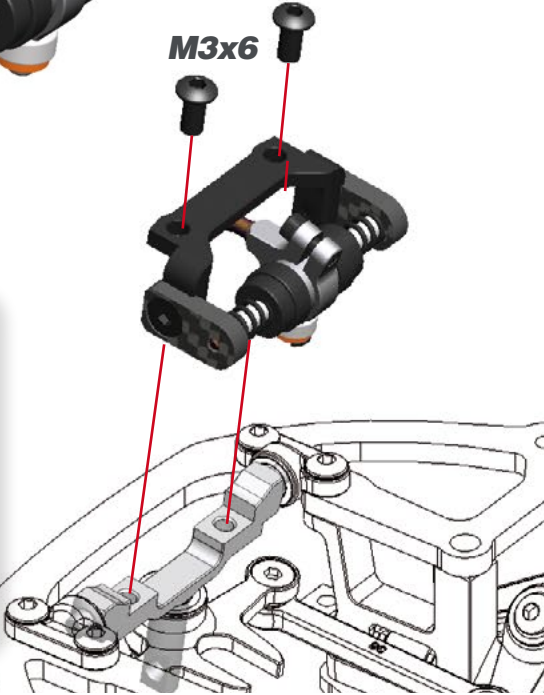
M3x6

ROLL DAMPER HOLDERS LENGTH
 Use the long holder (8mm)

L=R

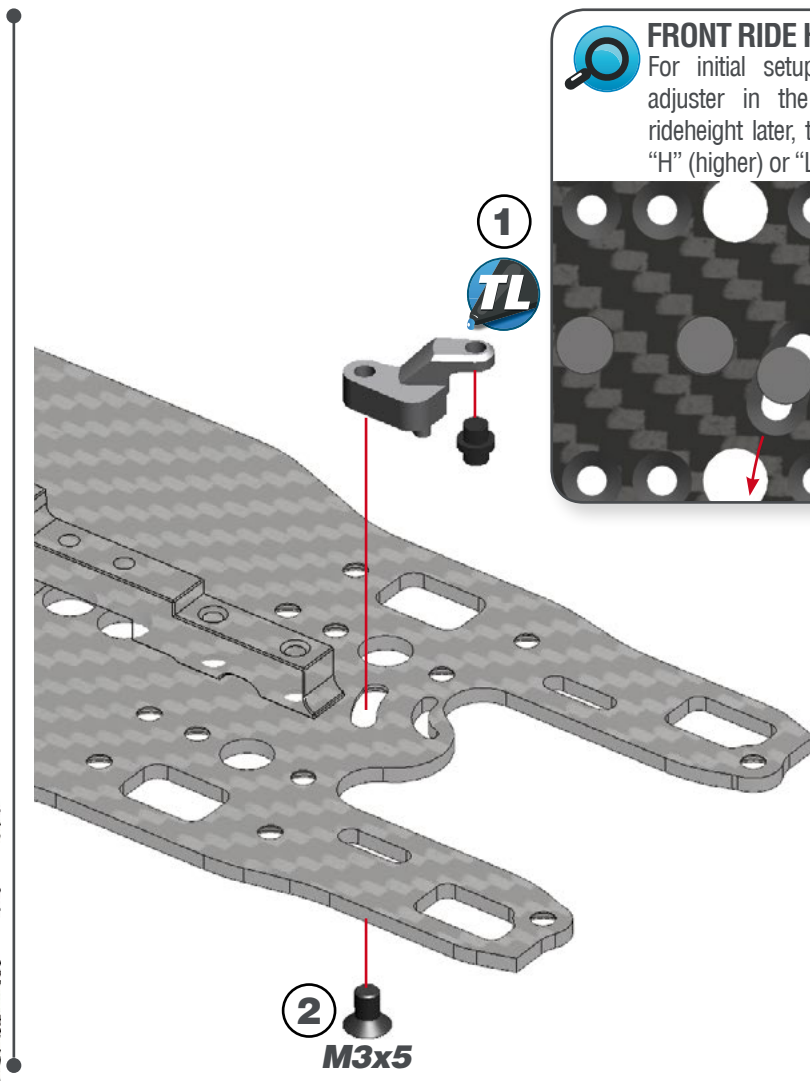
LONG

SHORT



M3x6

STEP 26 BAG 6



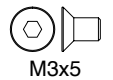
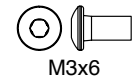
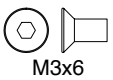
FRONT RIDE HEIGHT ADJUSTER
 For initial setup, assemble the height adjuster in the center. To adjust the rideheight later, turn the adjuster towards "H" (higher) or "L" (lower).

1

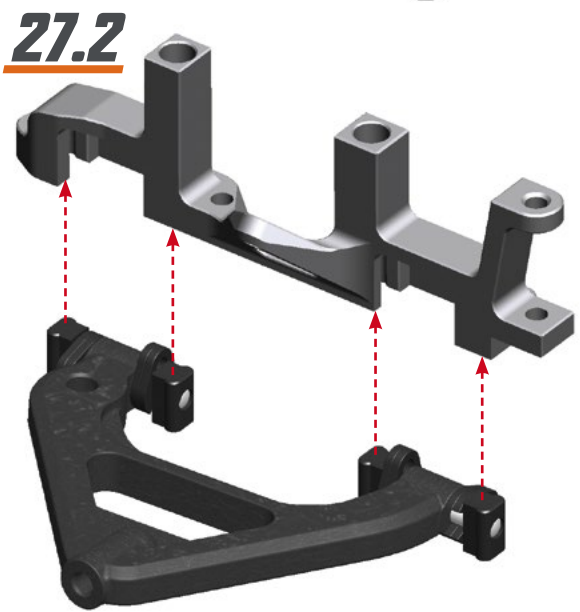
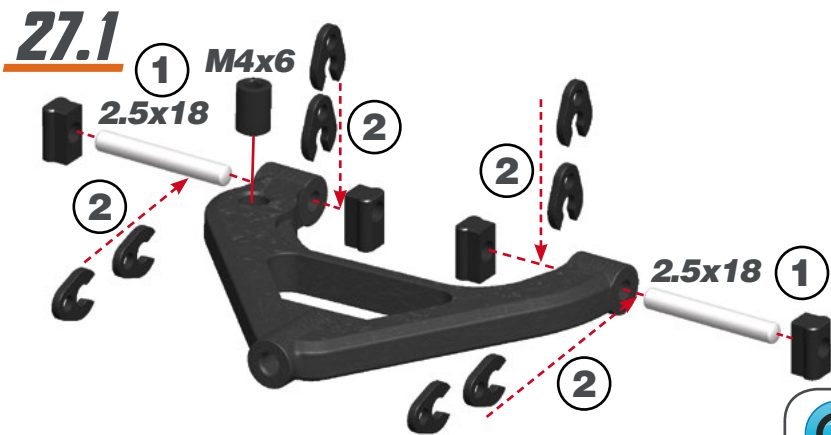
TL

2

M3x5



STEP 27



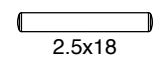
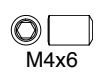
L=R FRONT ROLL CENTER INSERTS

MID	MID	HIGH
LOW	HIGH	HIGH

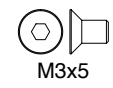
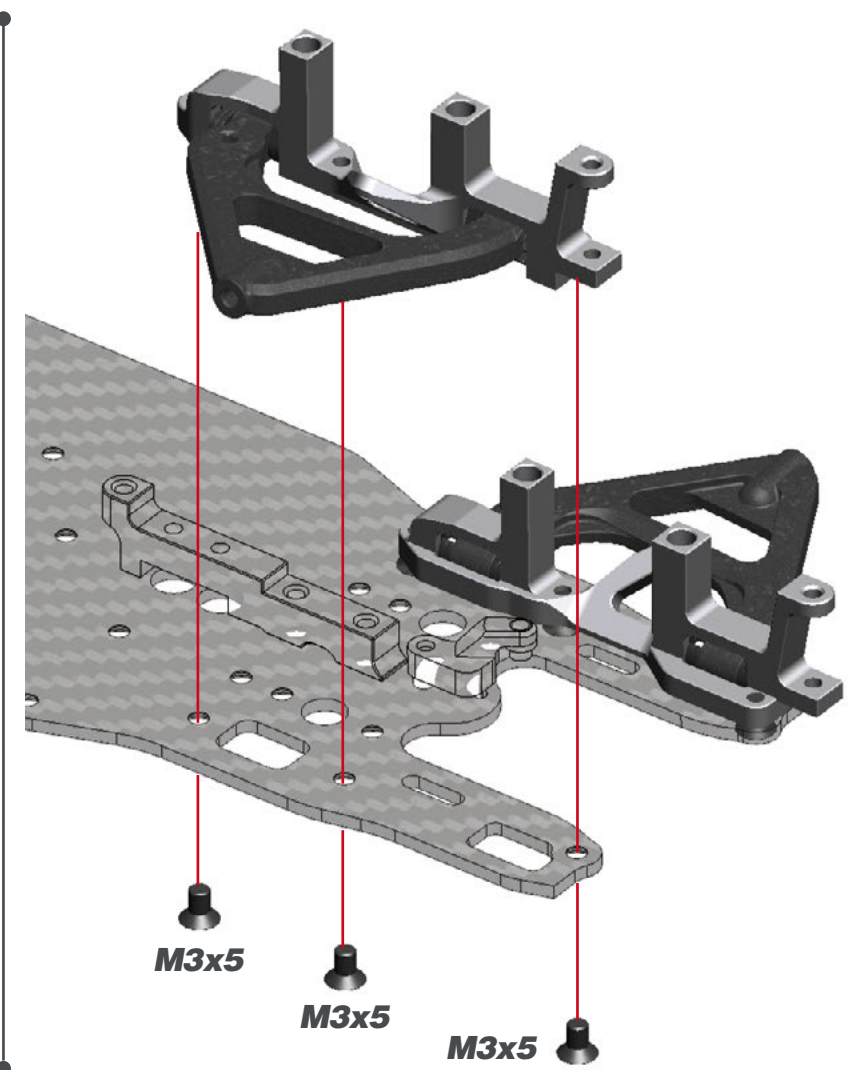
DEF. SETUP

FRONT DEFAULT WHEELBASE SHIMS

DEF. SETUP

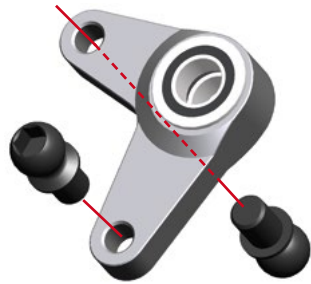


STEP 28



STEP 29 **BAG 7**

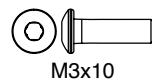
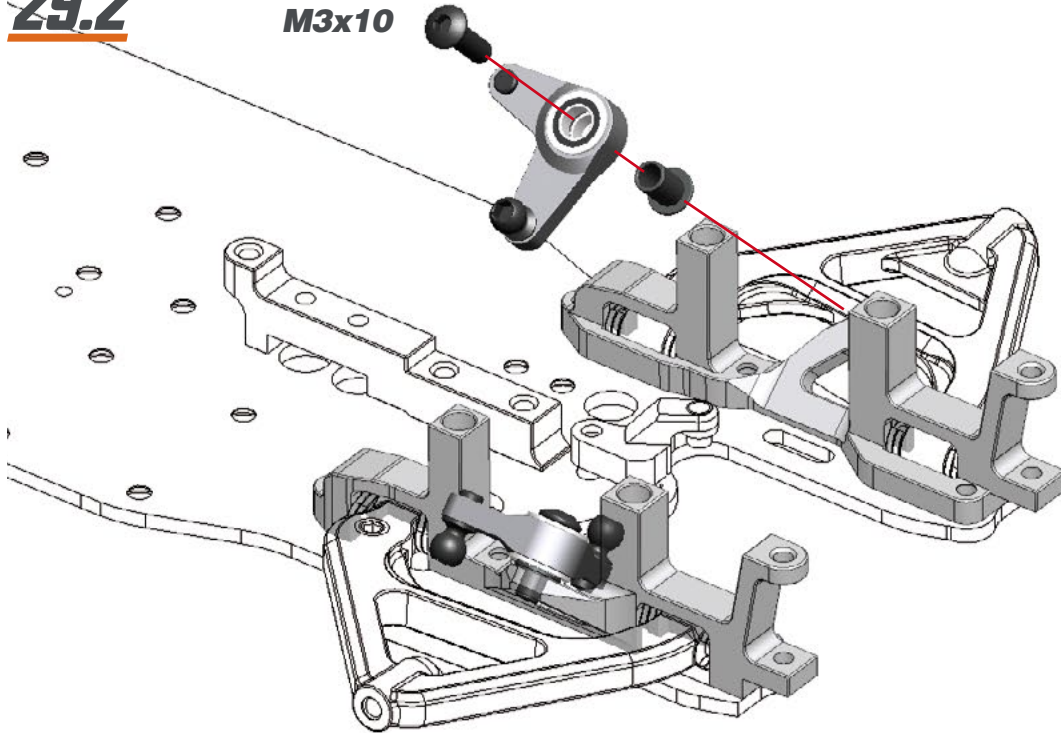
29.1



! Note the right orientation of the rocker-legs.

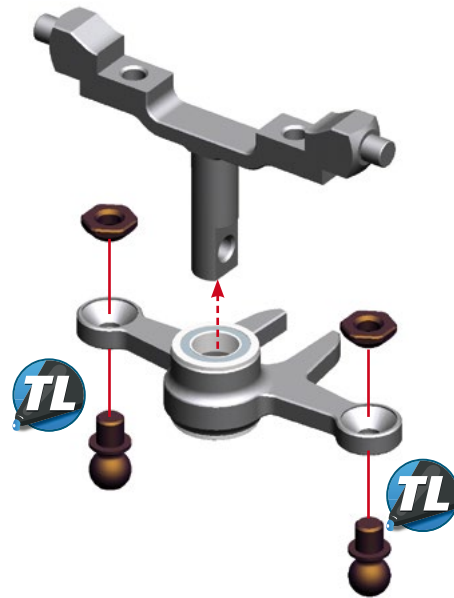
29.2

M3x10

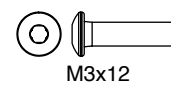
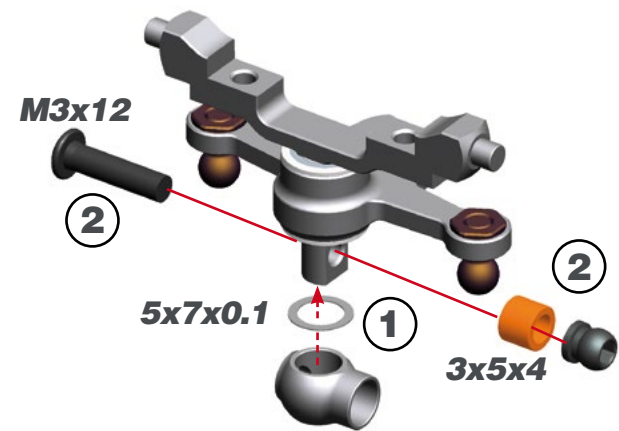


STEP 30

30.1



30.2



STEP 31

STEP 32



Note: The pullrods do not sit straight after assembling. This is intended to avoid binding.

① 3x6x2.5 Flanged

② M3x8

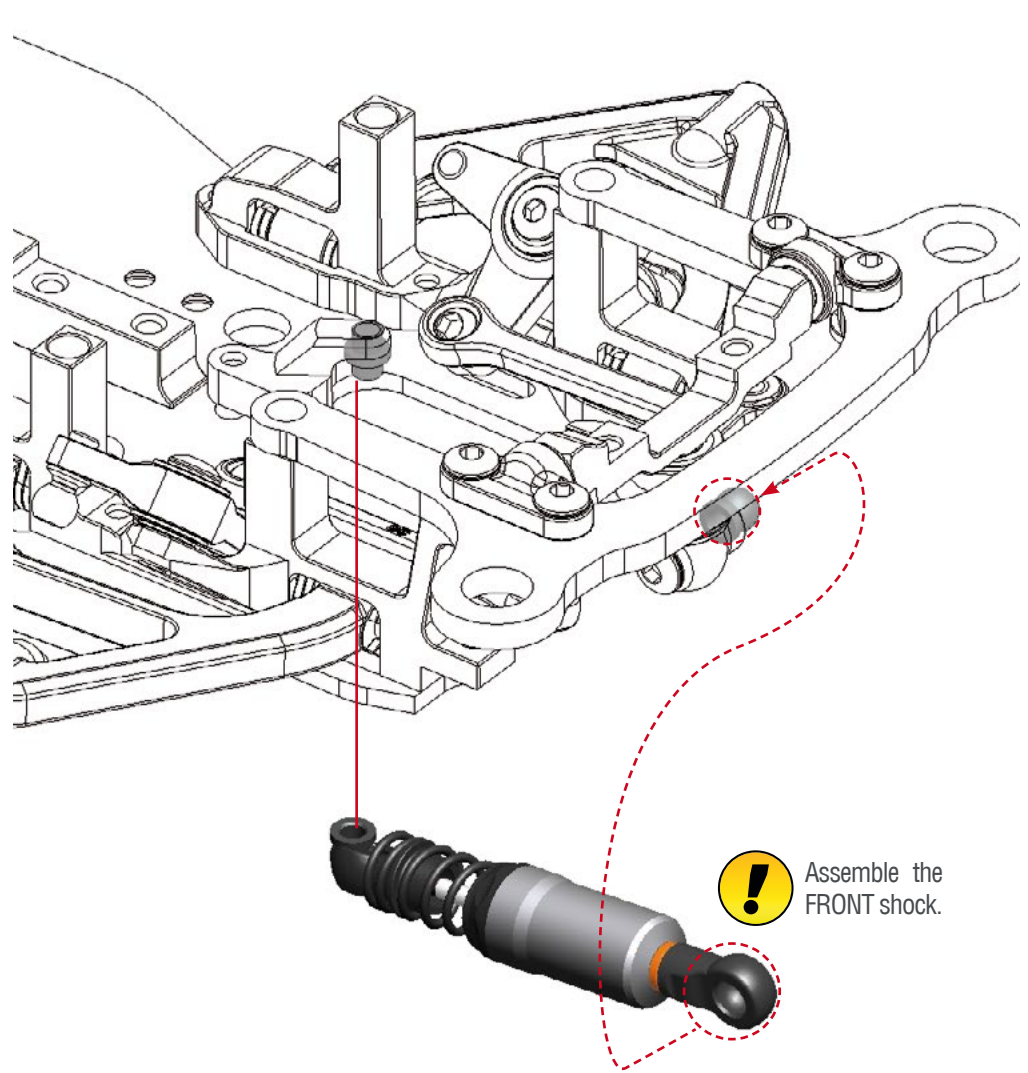
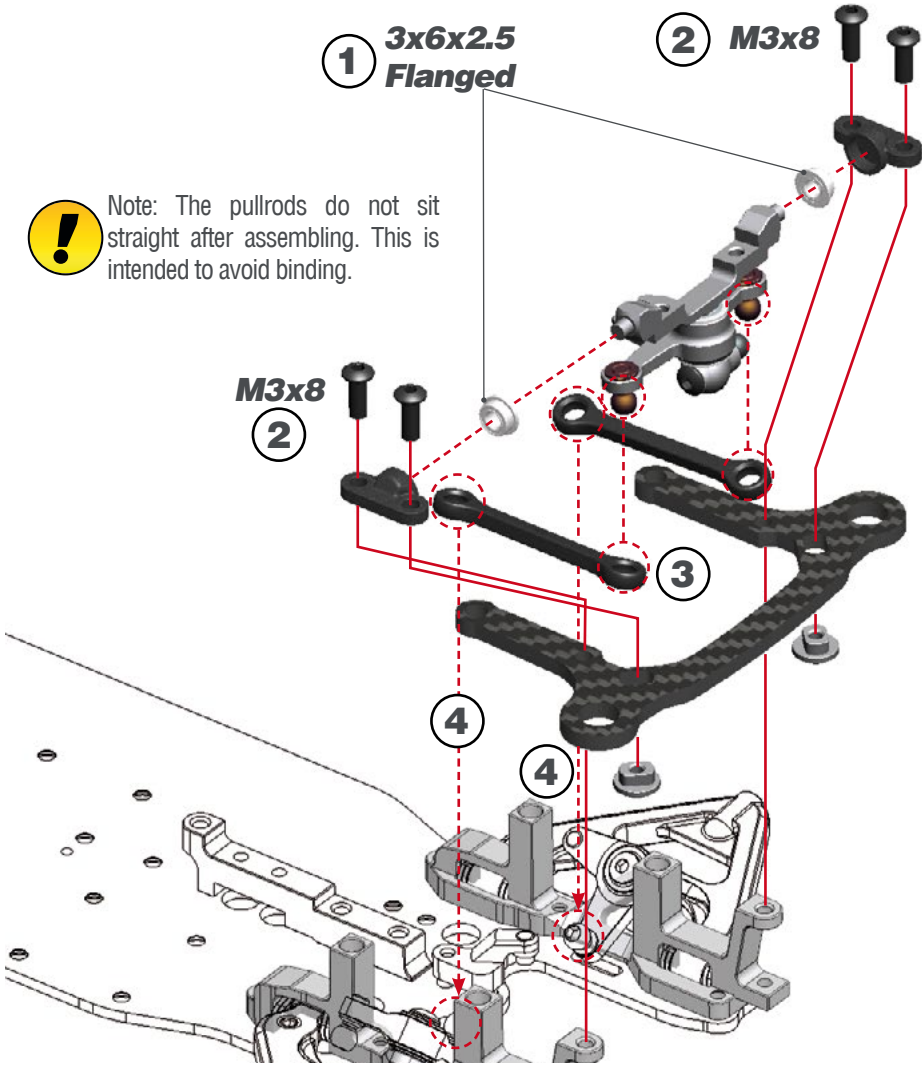
M3x8

②

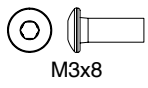
③

④

④



Assemble the FRONT shock.

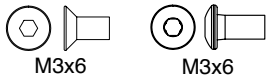
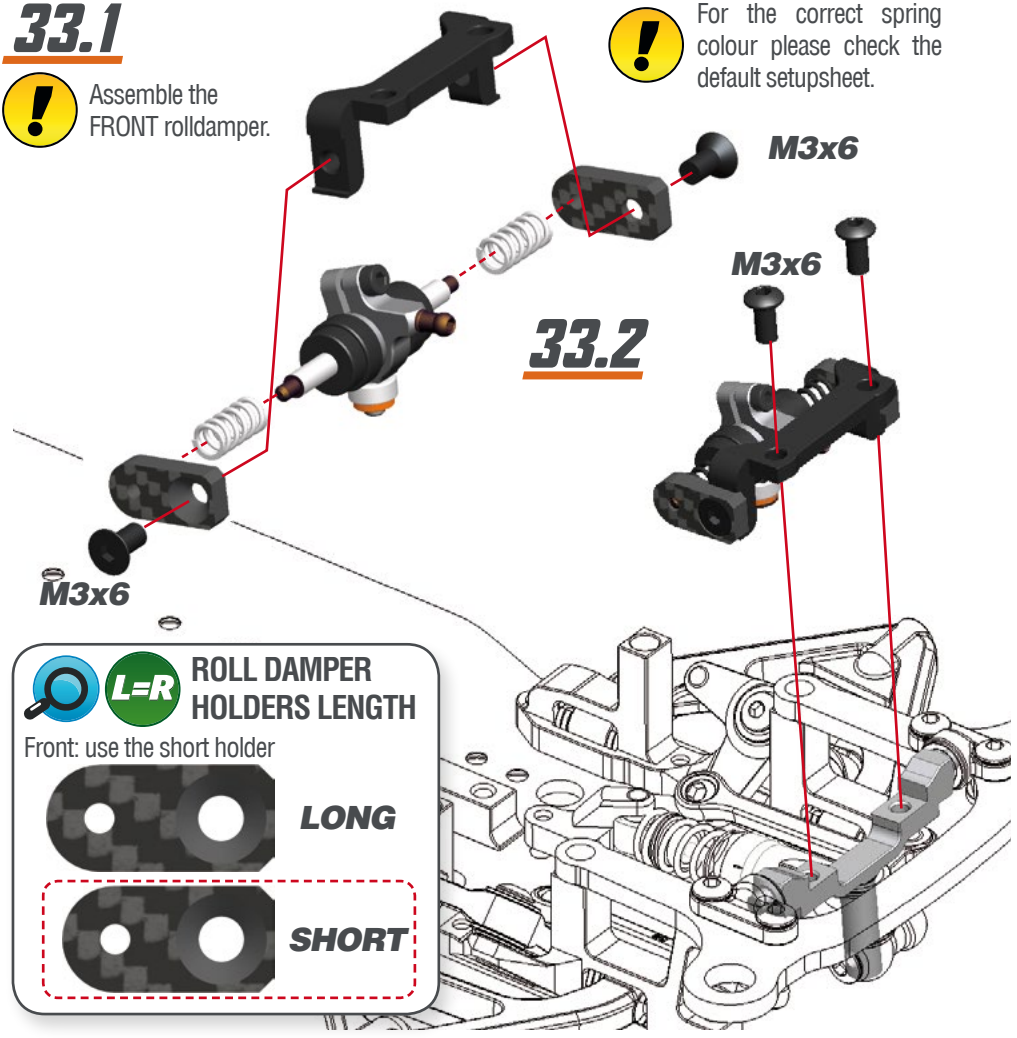


STEP 33

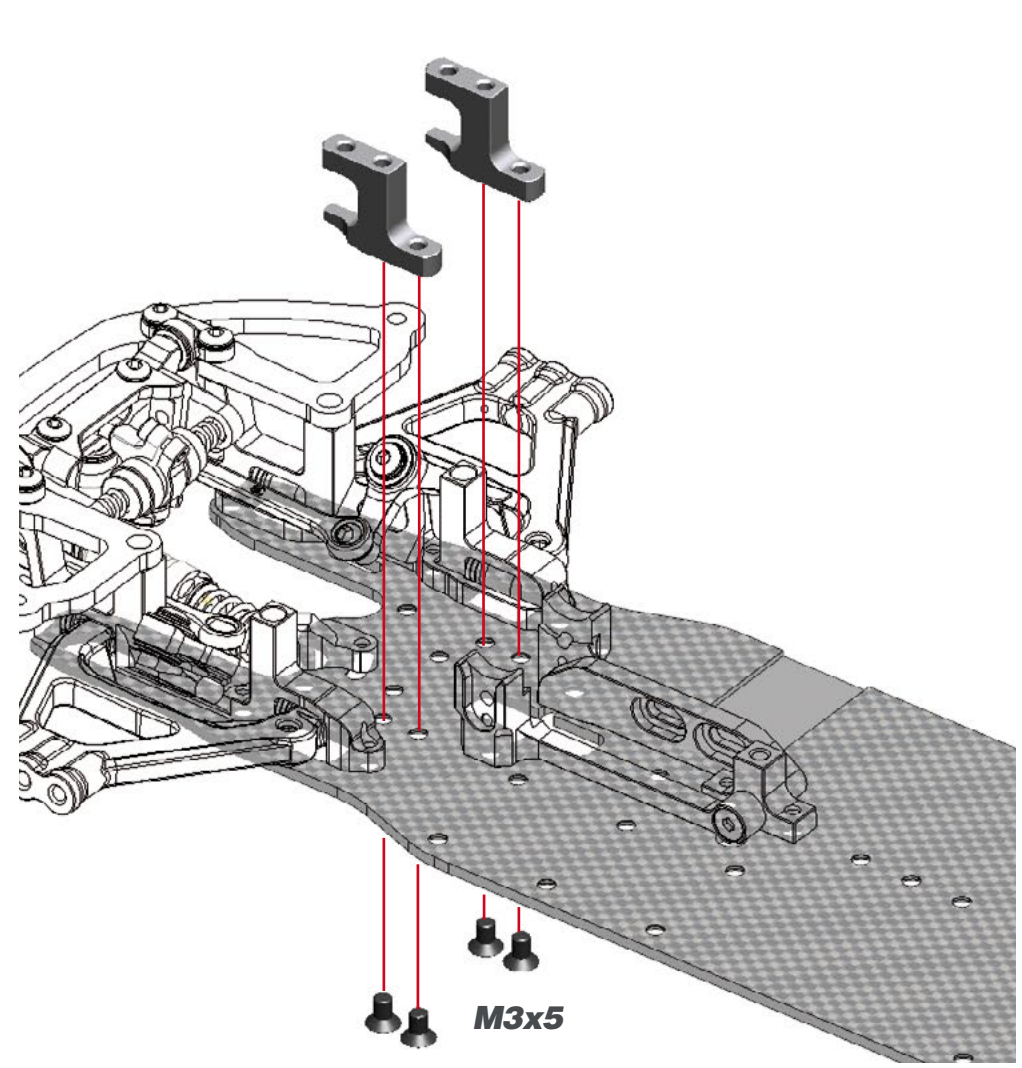
33.1

! Assemble the FRONT rolldamper.

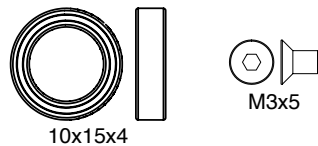
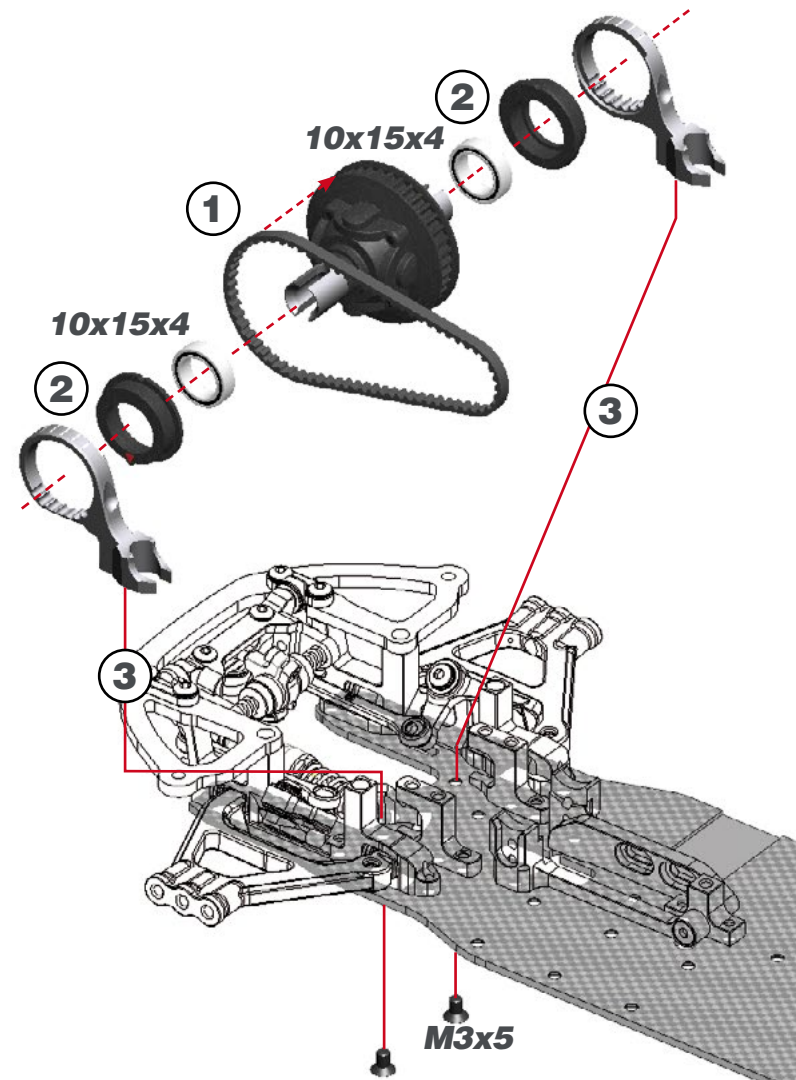
! For the correct spring colour please check the default setupsheet.



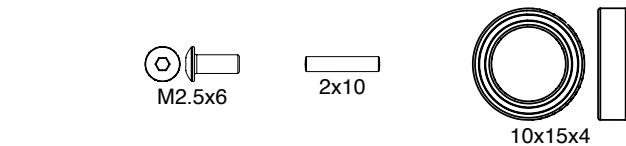
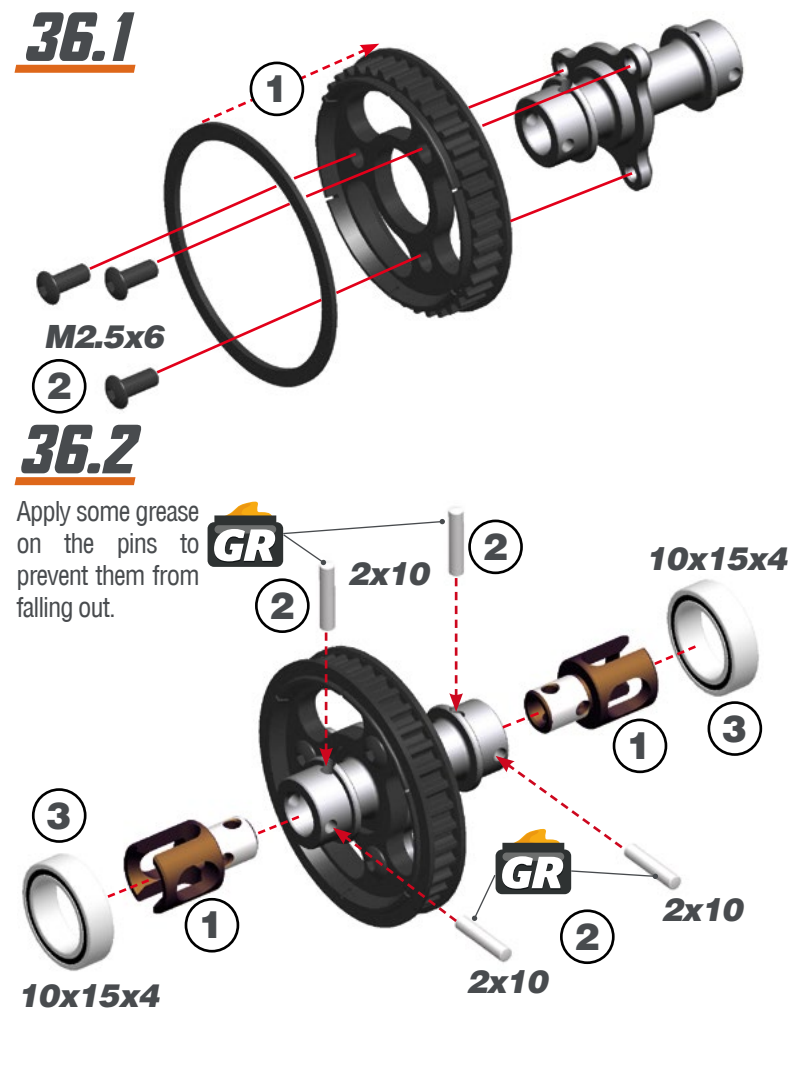
STEP 34 **BAG 8**



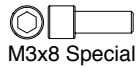
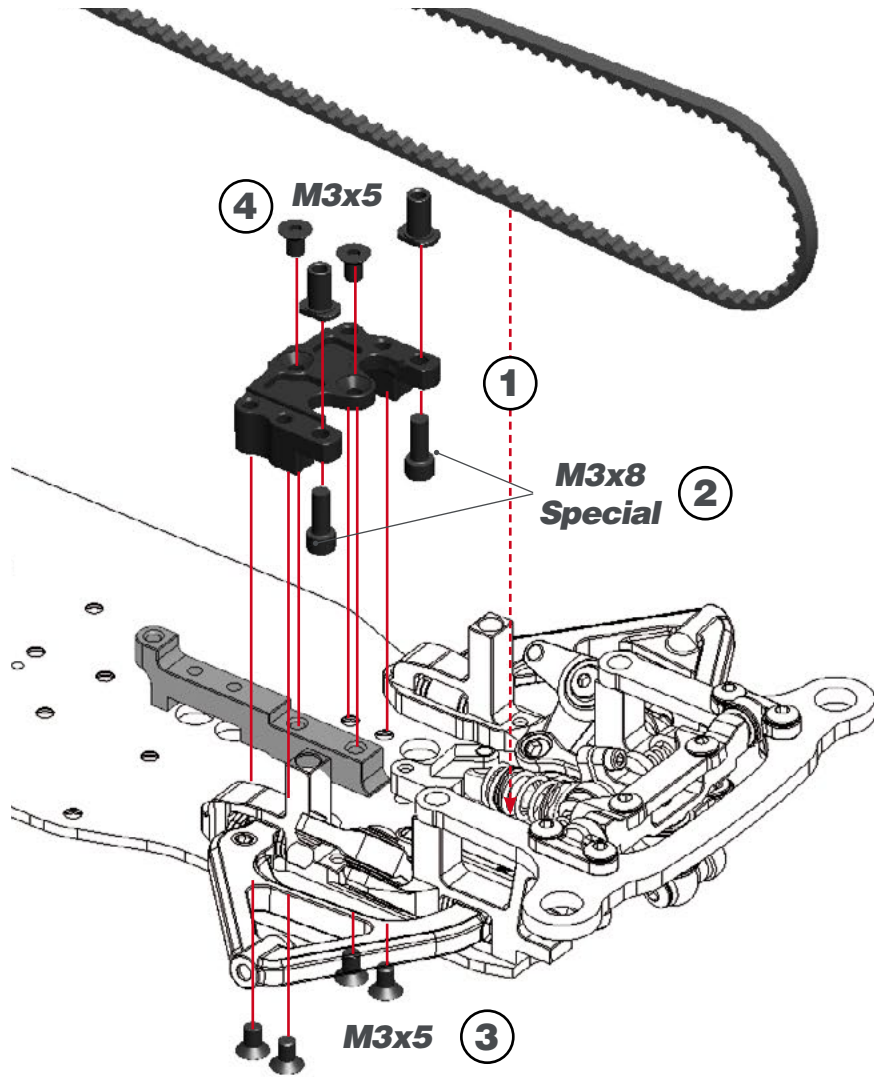
STEP 35



STEP 36

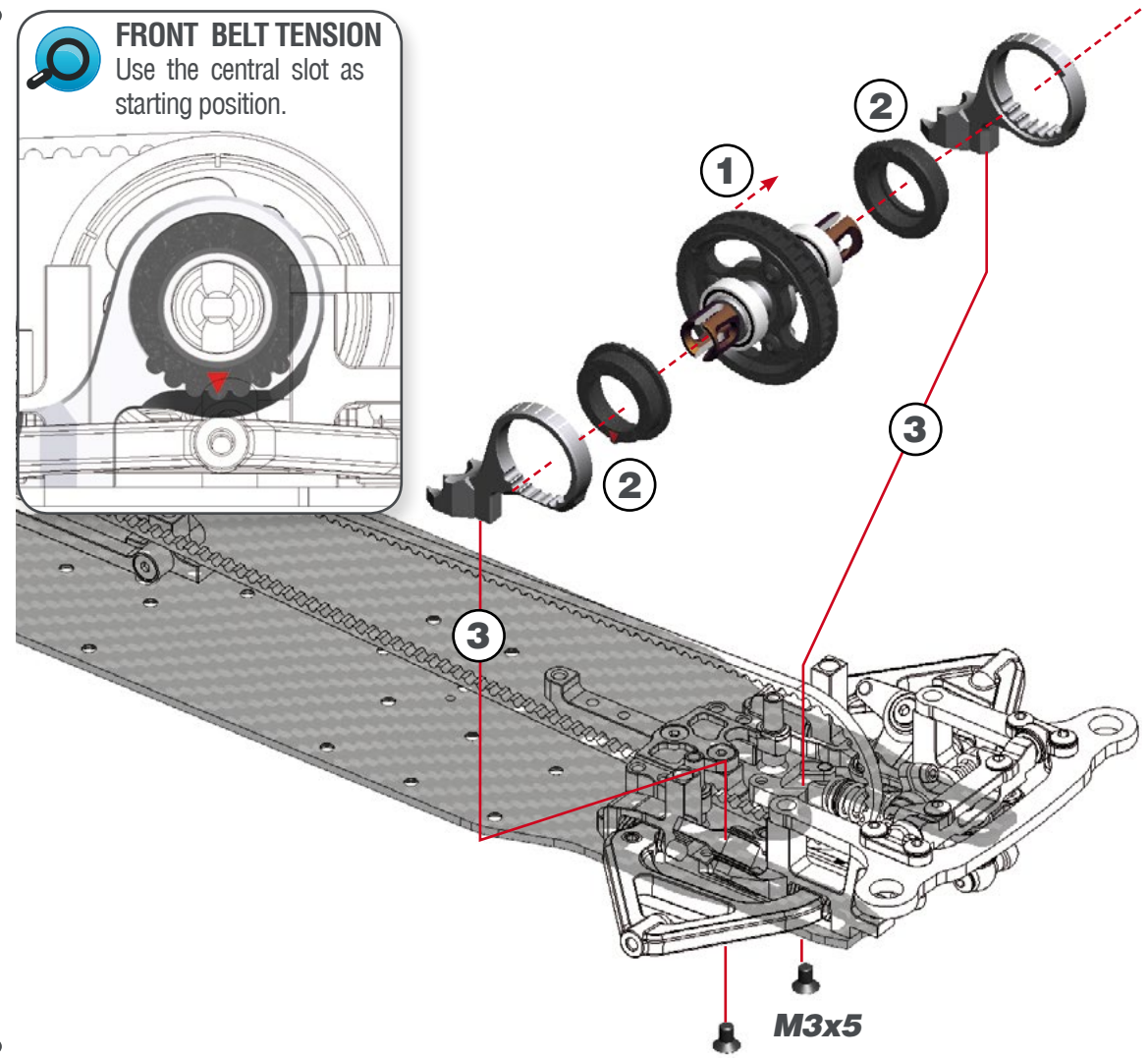
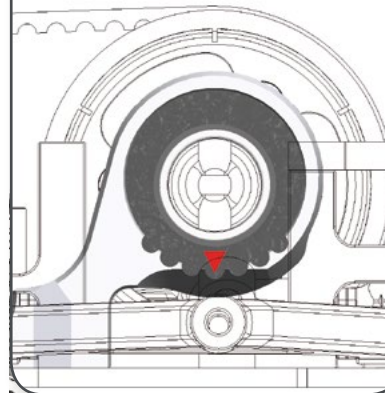


STEP 37



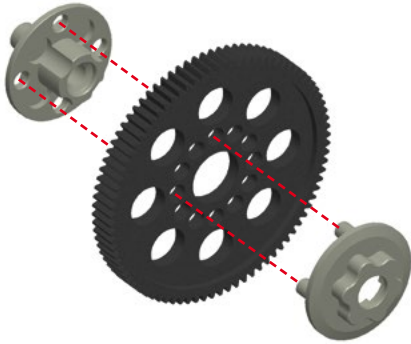
STEP 38

FRONT BELT TENSION
Use the central slot as starting position.

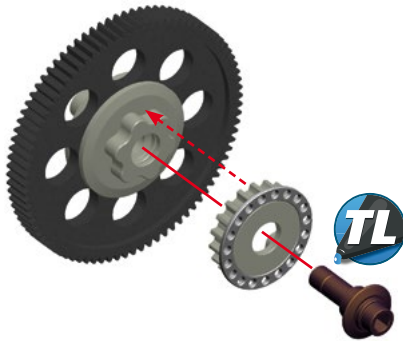


STEP 39

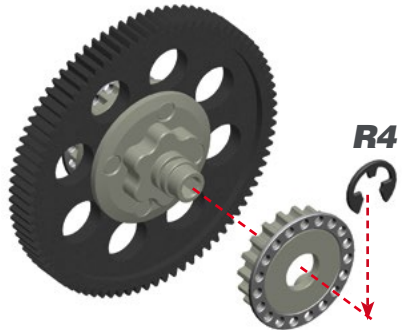
39.1



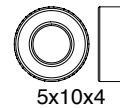
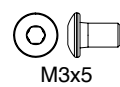
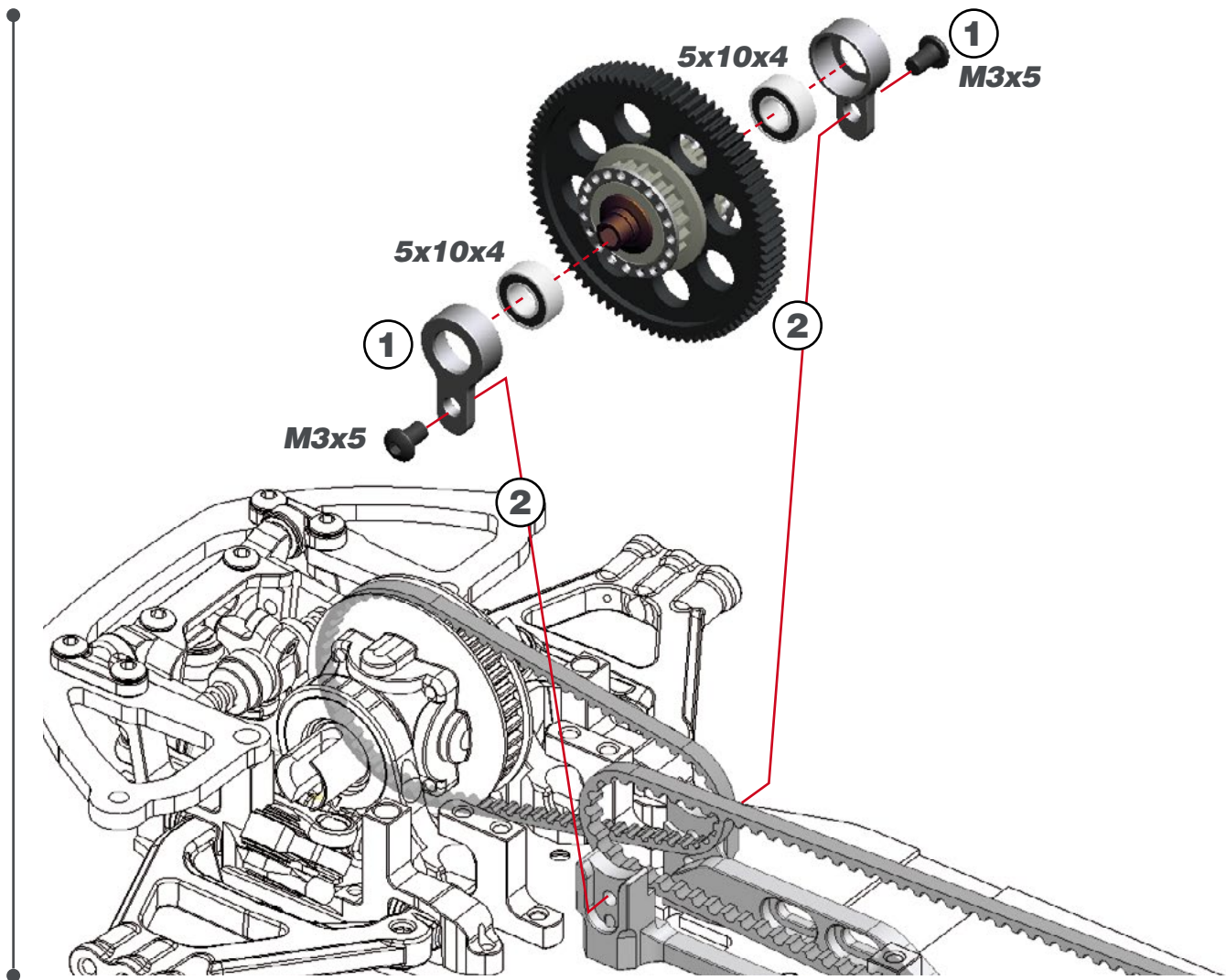
39.2



39.3

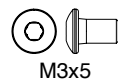
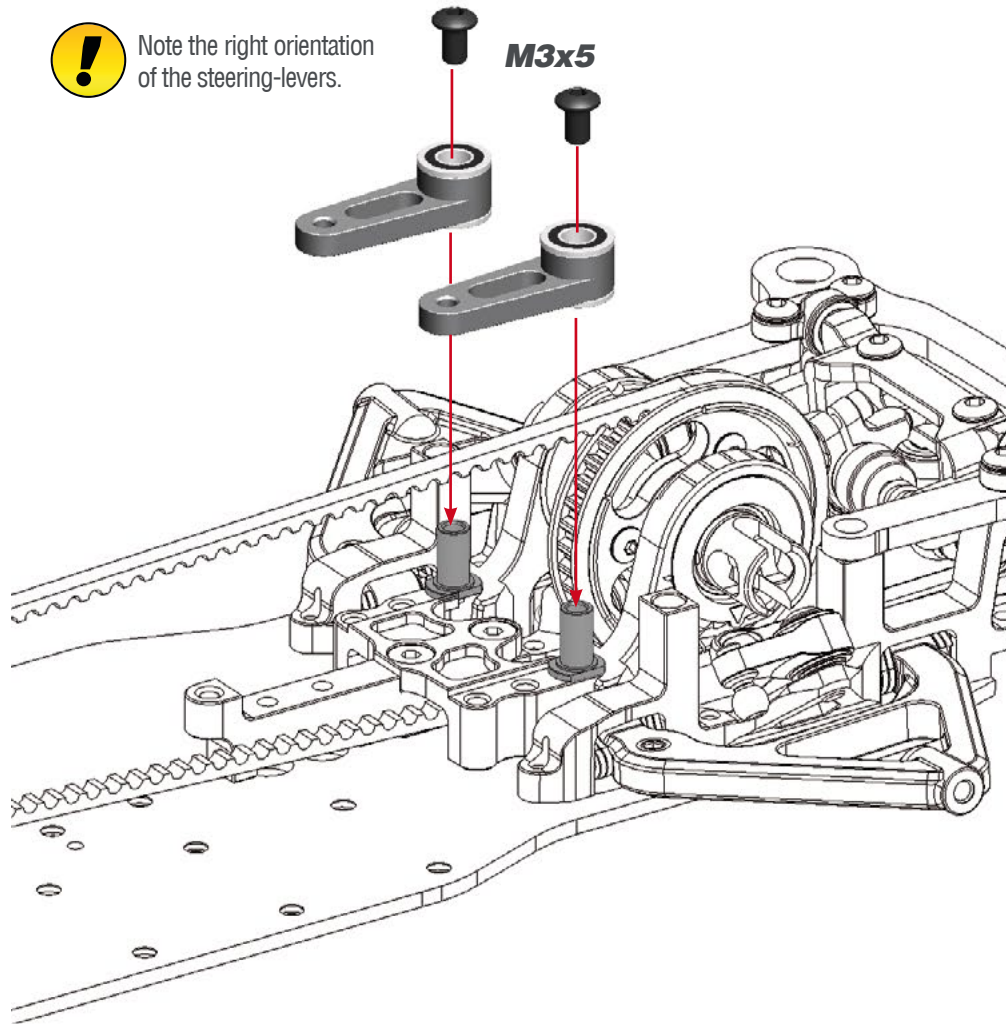


STEP 40

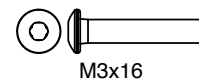
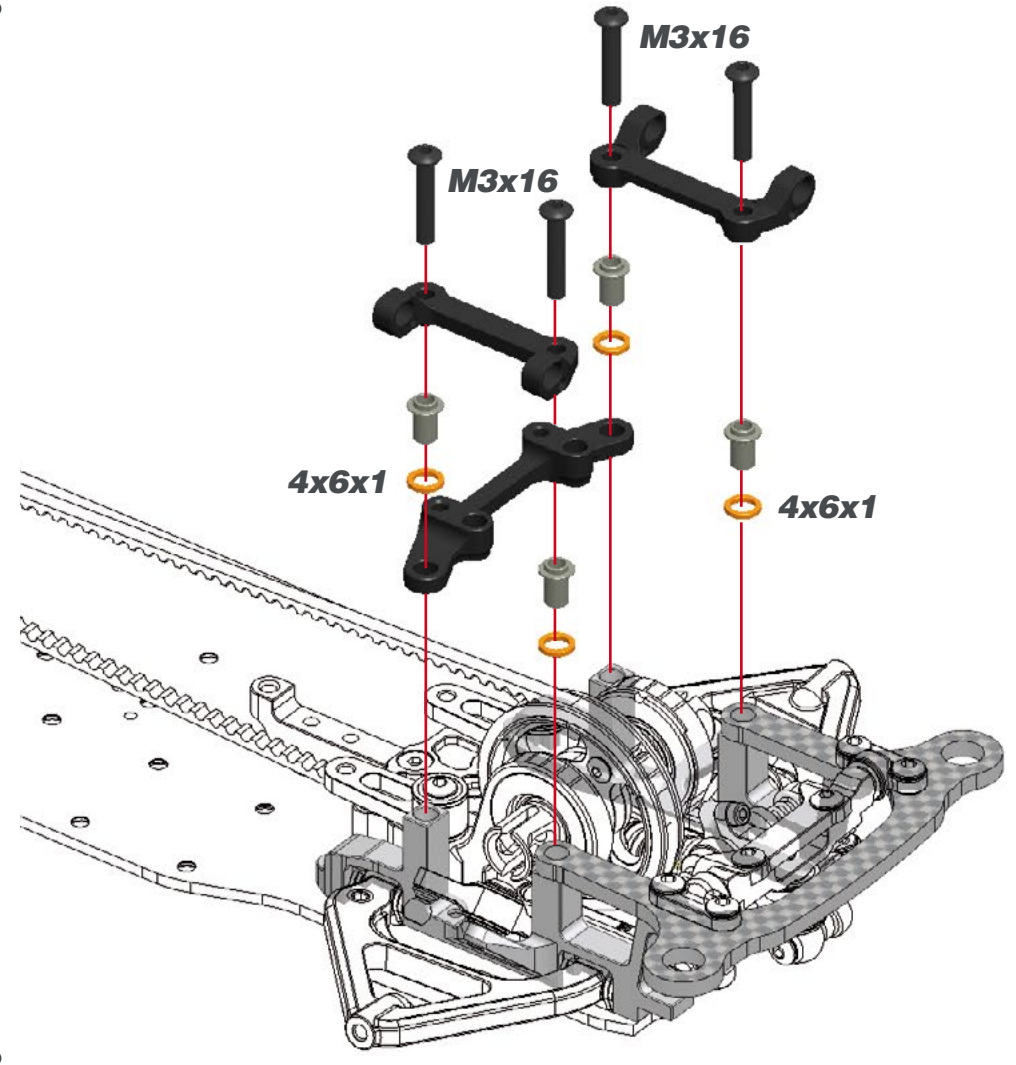


STEP 41 BAG 9

! Note the right orientation of the steering-levers.

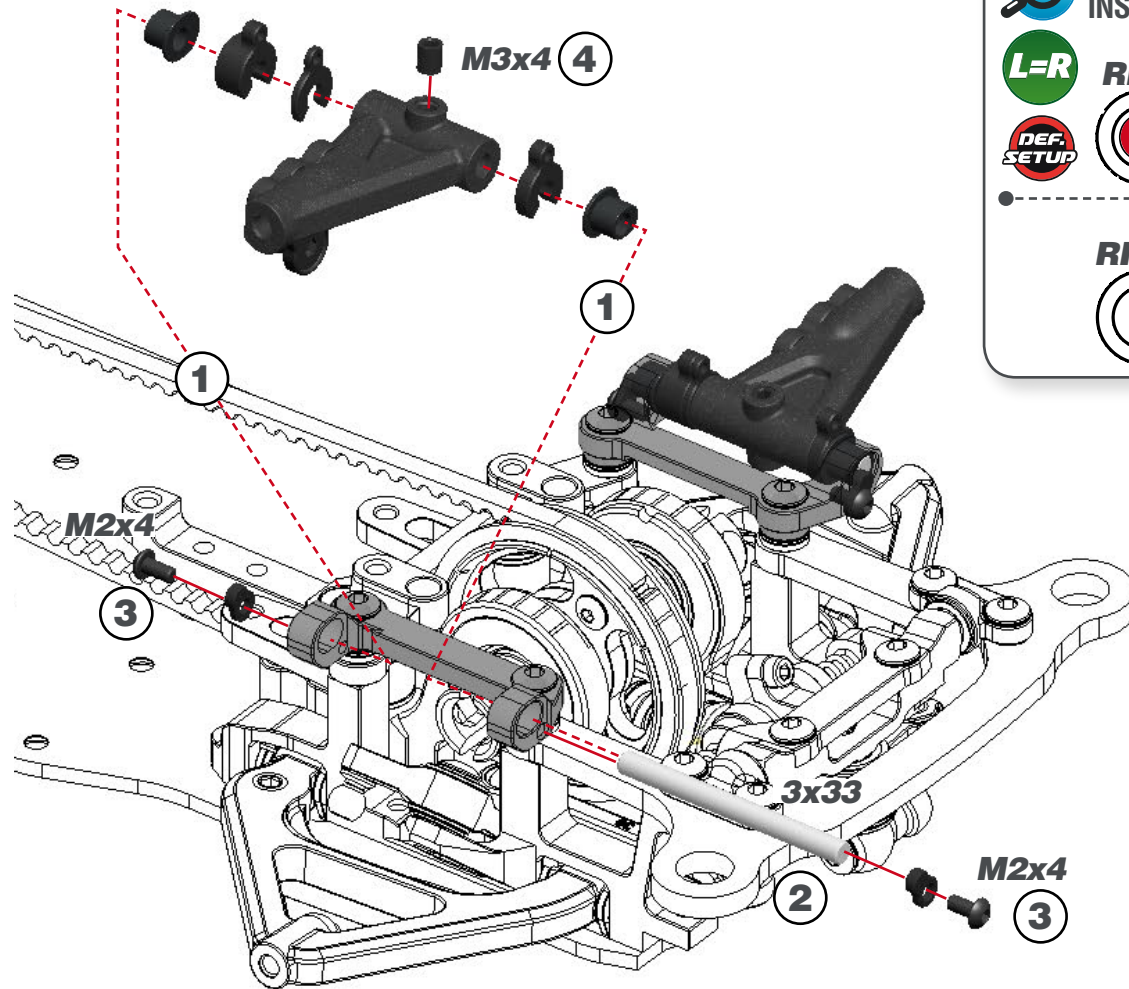
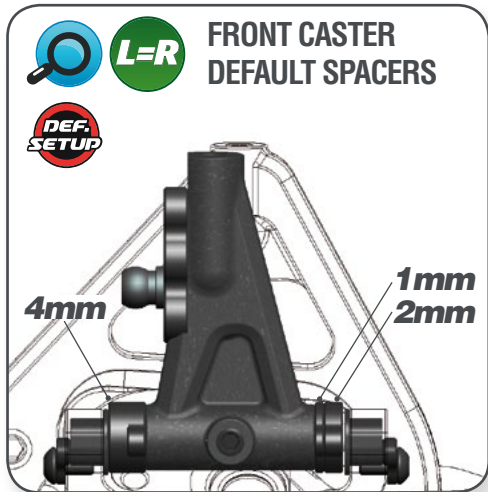
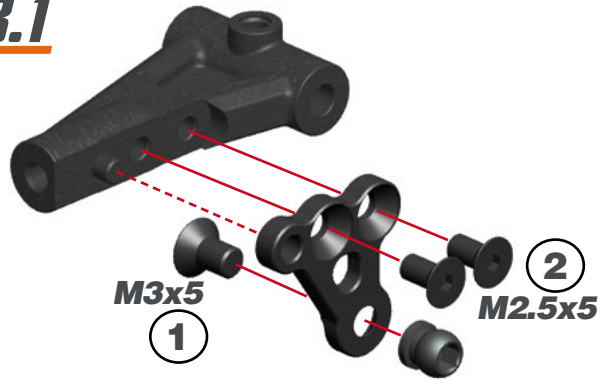


STEP 42



STEP 43 **BAG 18**

43.1



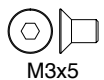
FRONT SUSPENSION
INSERTS CHART

OUTSIDE
RIGHT LEFT

L=R

DEF. SETUP

INSIDE
RIGHT LEFT



STEP 44

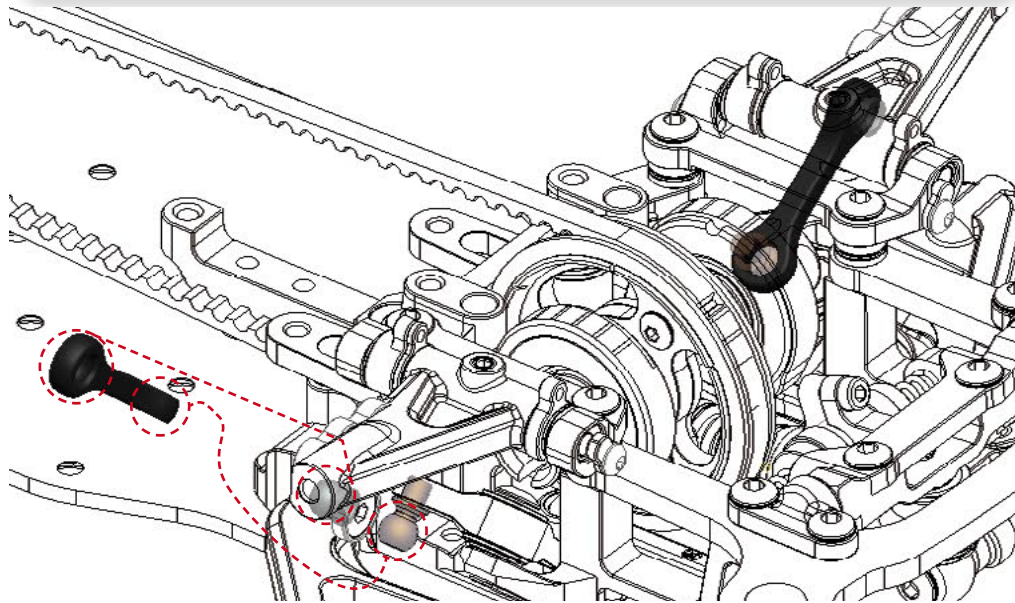
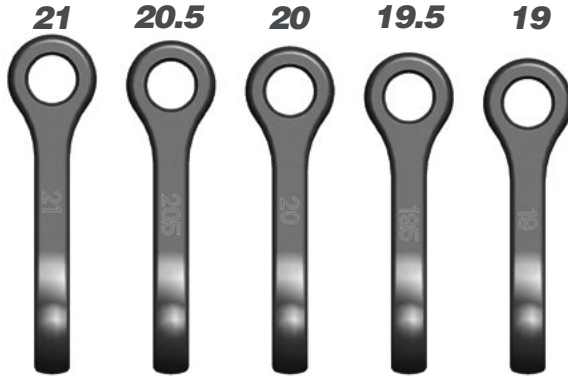


PULLROD LENGTH (mm)



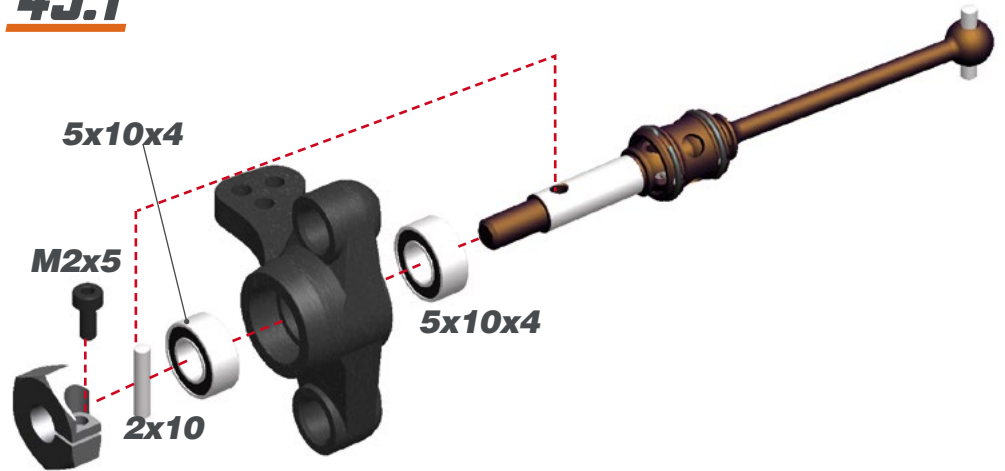
Included are 5 lengths of composite pullrods. If ride height can not be adjusted enough using the excentric holder for the heavedamper, use different pullrod length. For more ride height, use shorter pullrod.

Make sure to use same length Left and Right side.



STEP 45

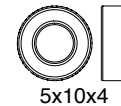
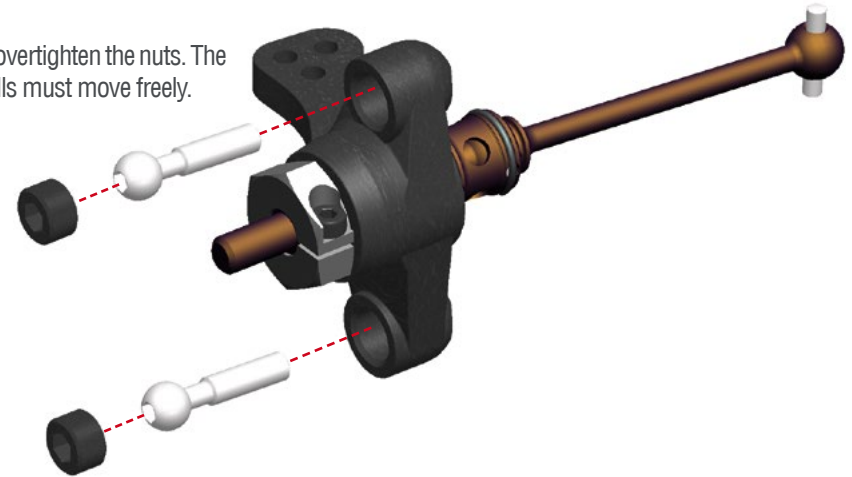
45.1



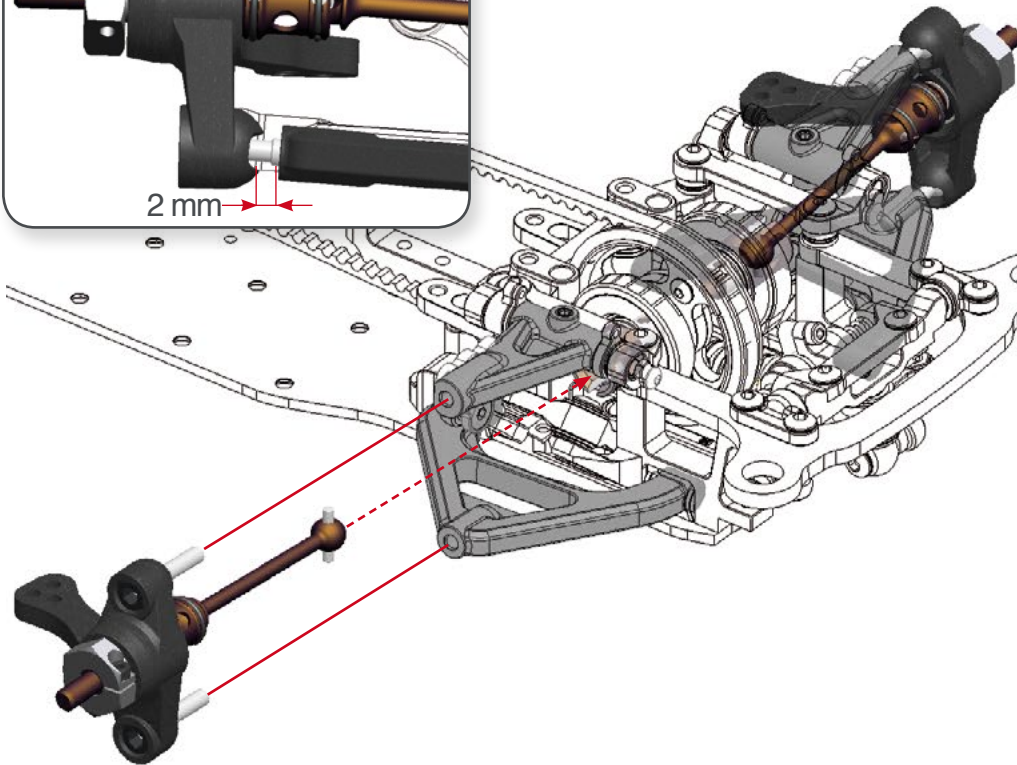
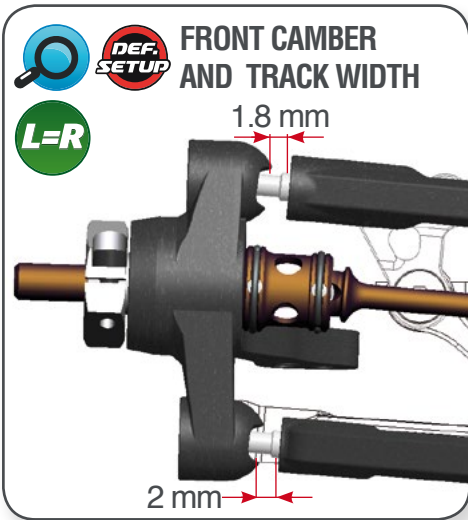
45.2



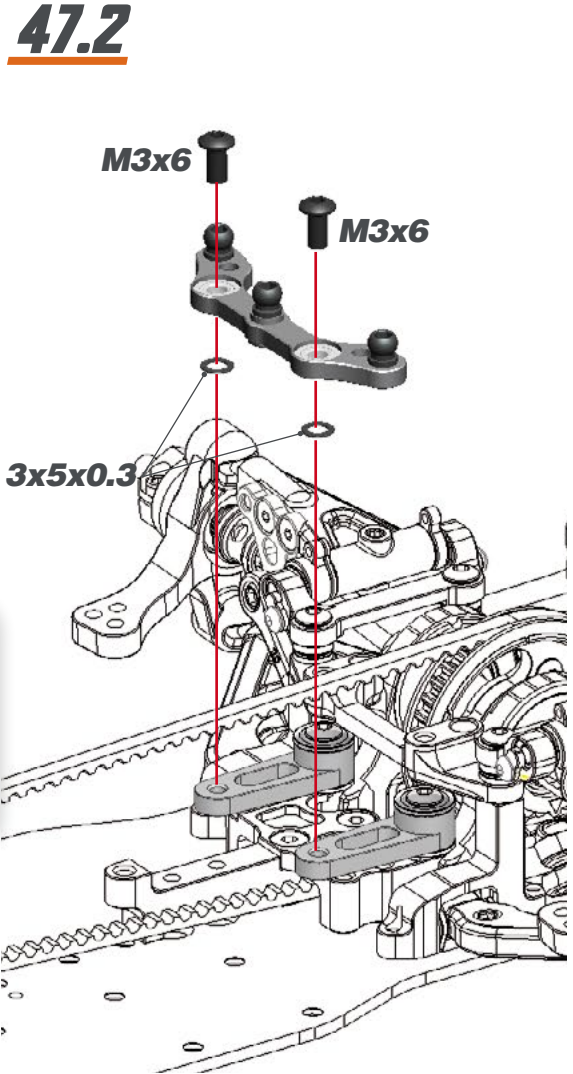
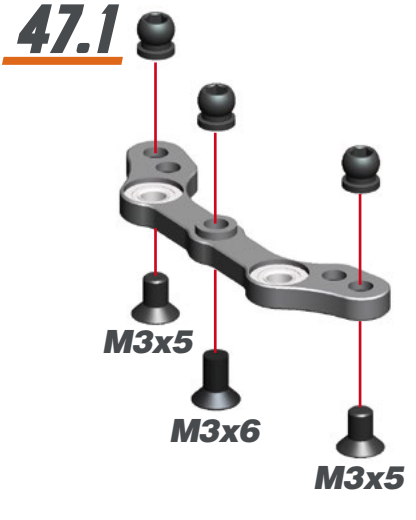
Do not overtighten the nuts. The pivotballs must move freely.







STEP 46



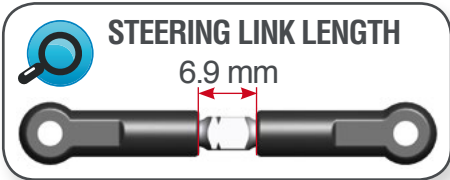
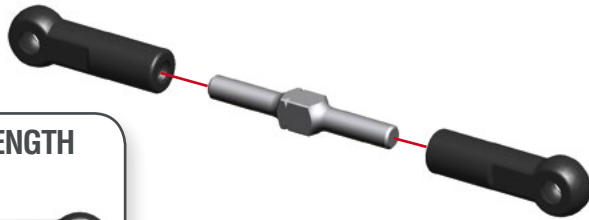
STEP 47 **BAG 11**



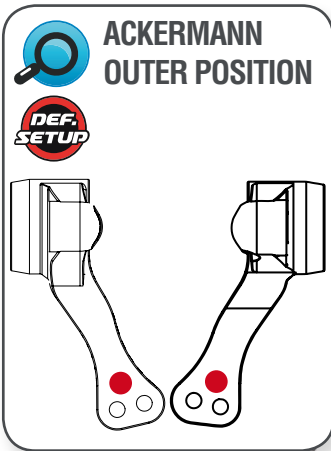
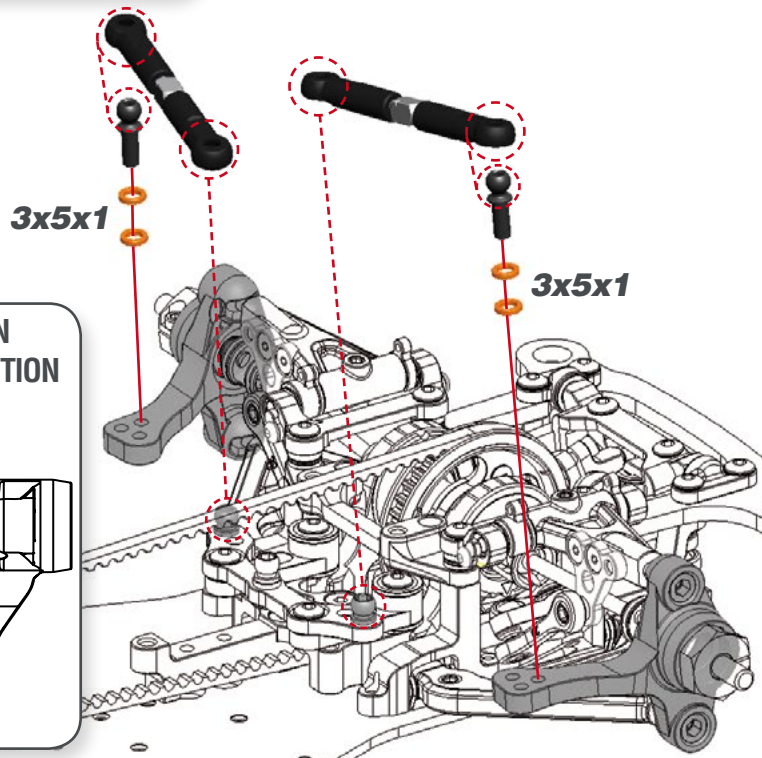
- 
M3x5
- 
M3x6
- 
M3x6
- 
3x5x0.3

STEP 48

48.1

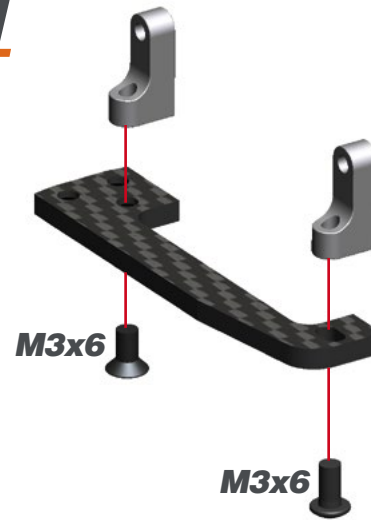


48.2

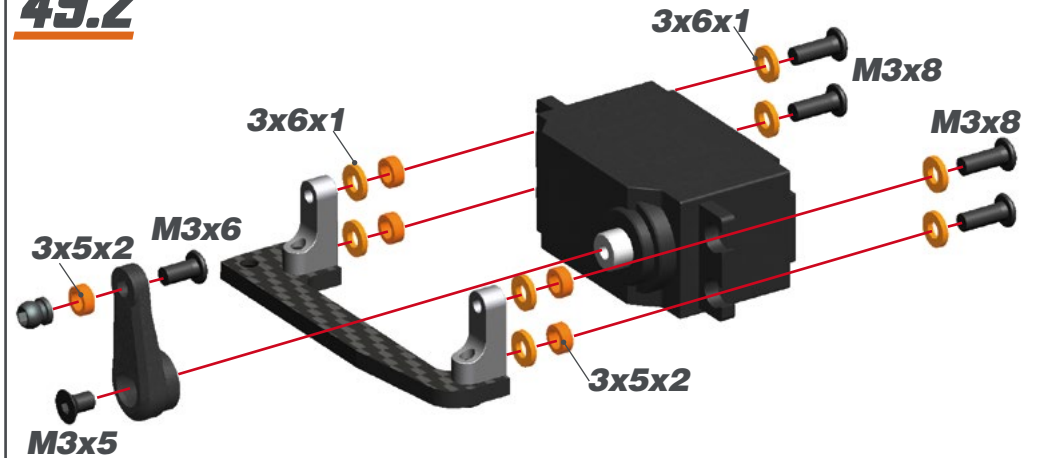


STEP 49

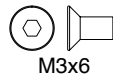
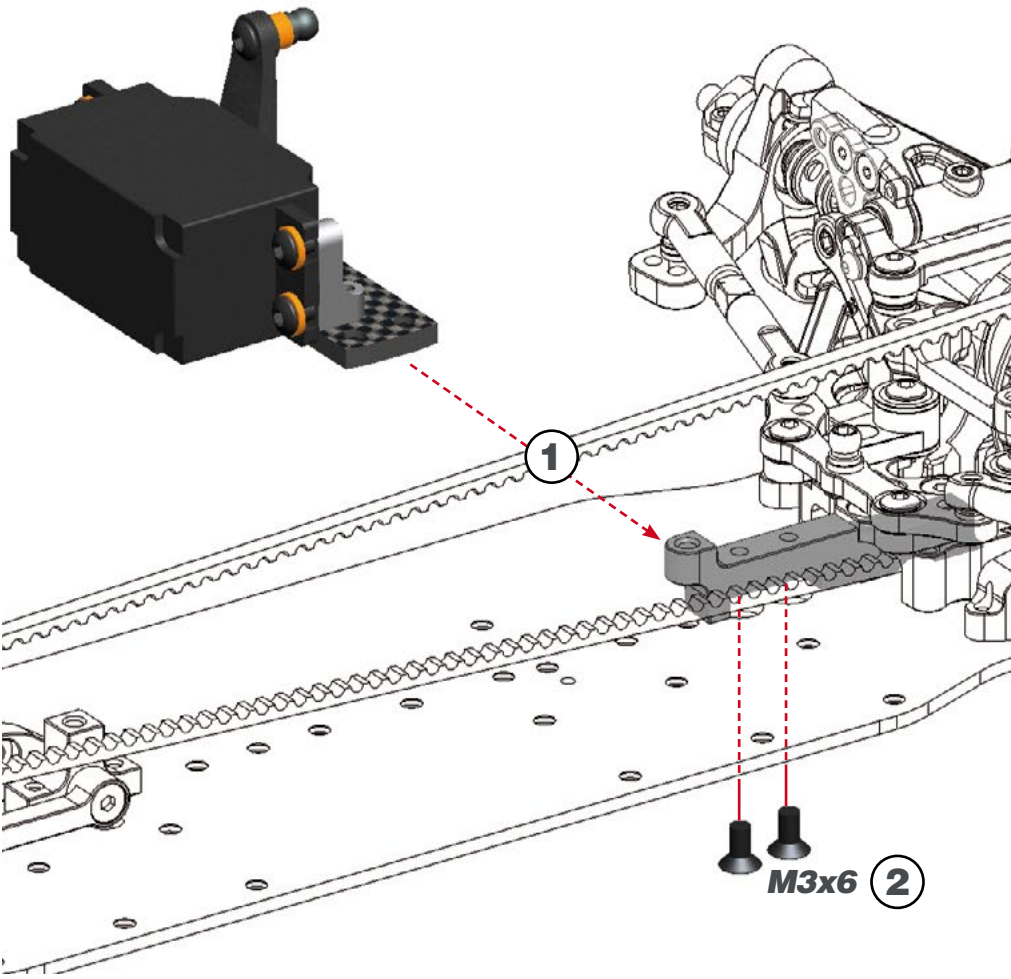
49.1



49.2

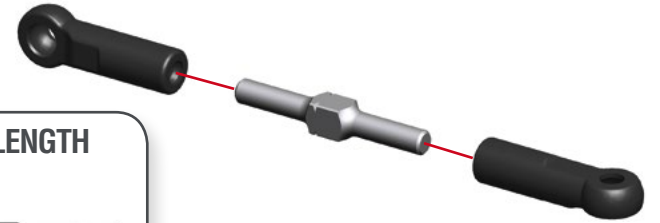
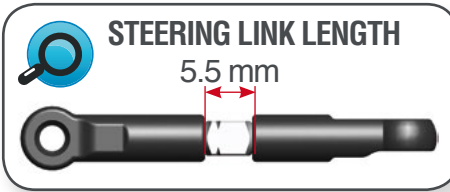


STEP 50

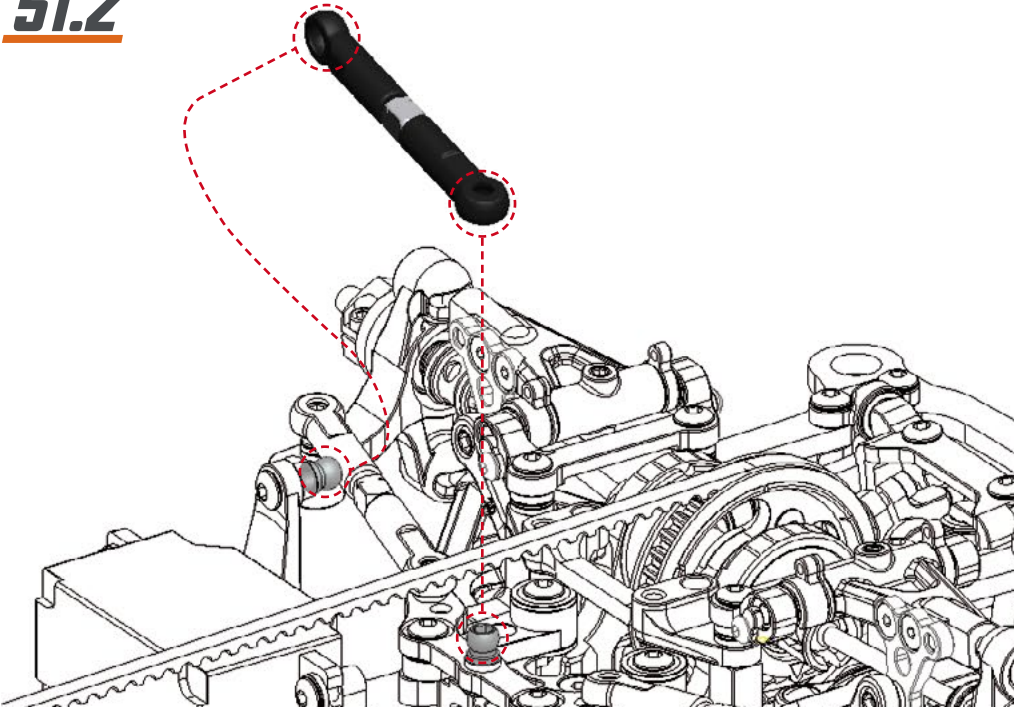


STEP 51

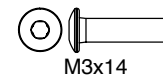
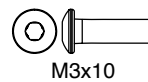
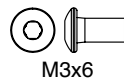
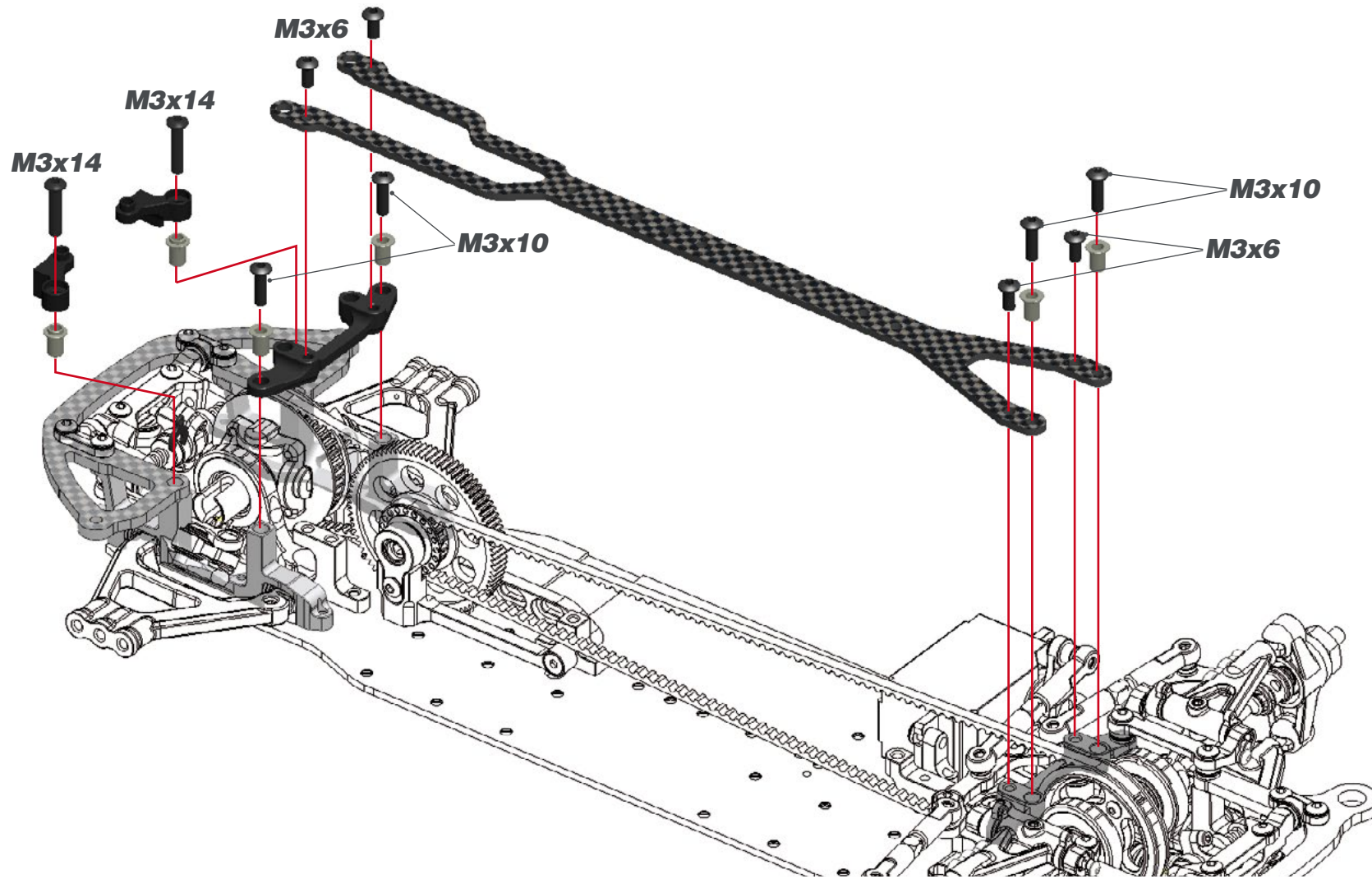
51.1



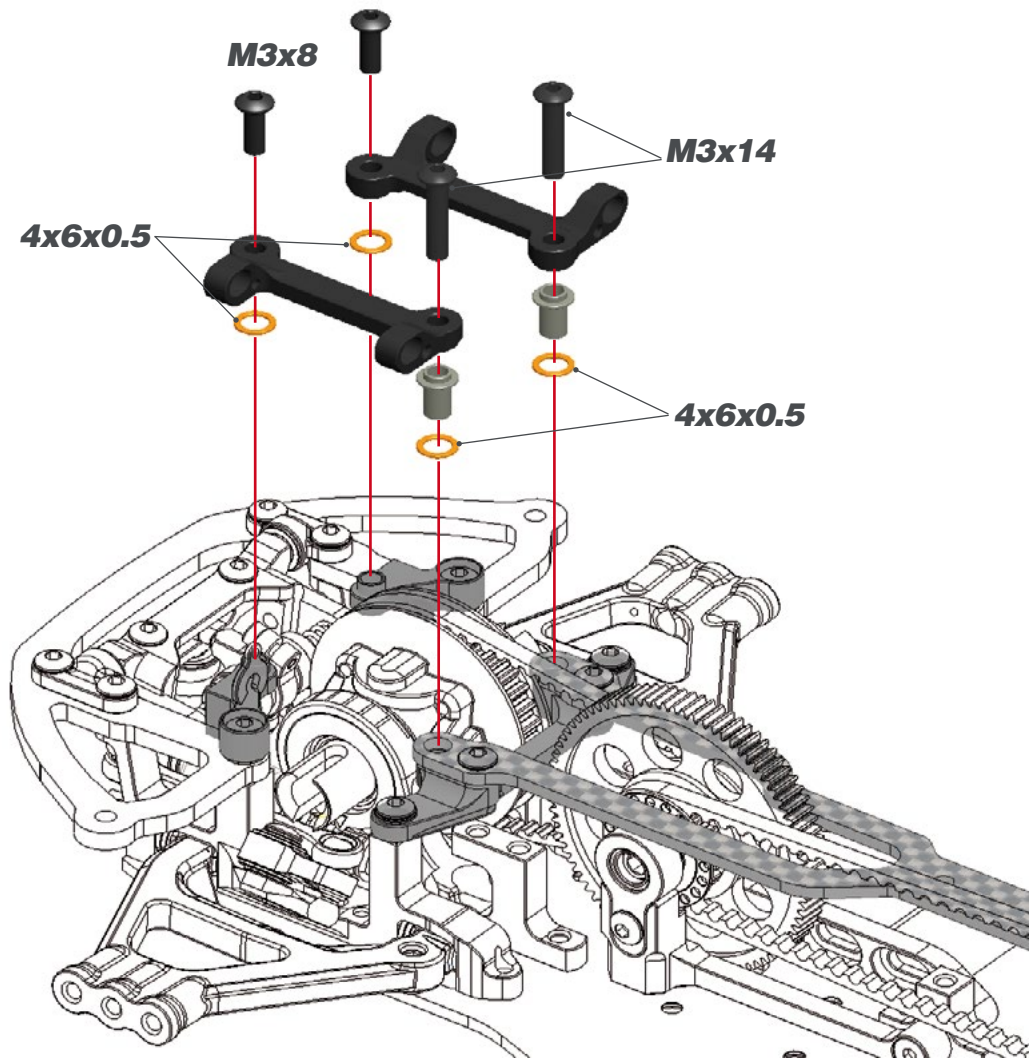
51.2



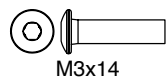
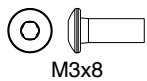
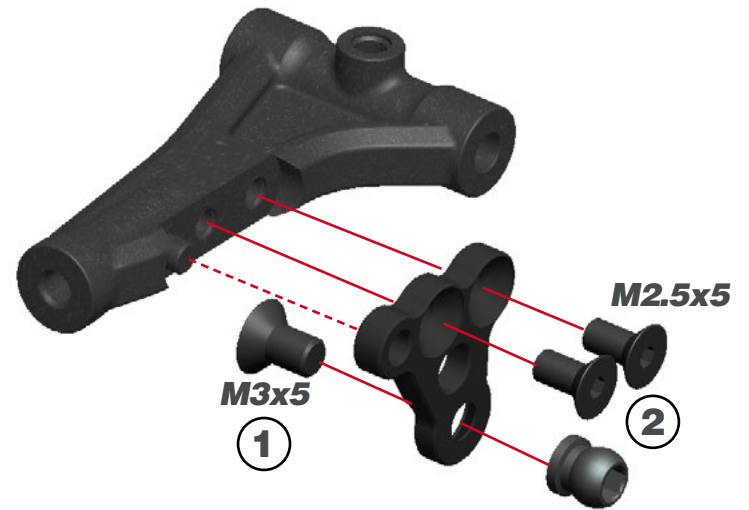
STEP 52 BAG 12



STEP 53



STEP 54



STEP 55

REAR WISHBONE
DEFAULT SPACERS

L=R

DEF. SETUP

2mm
1mm
4mm

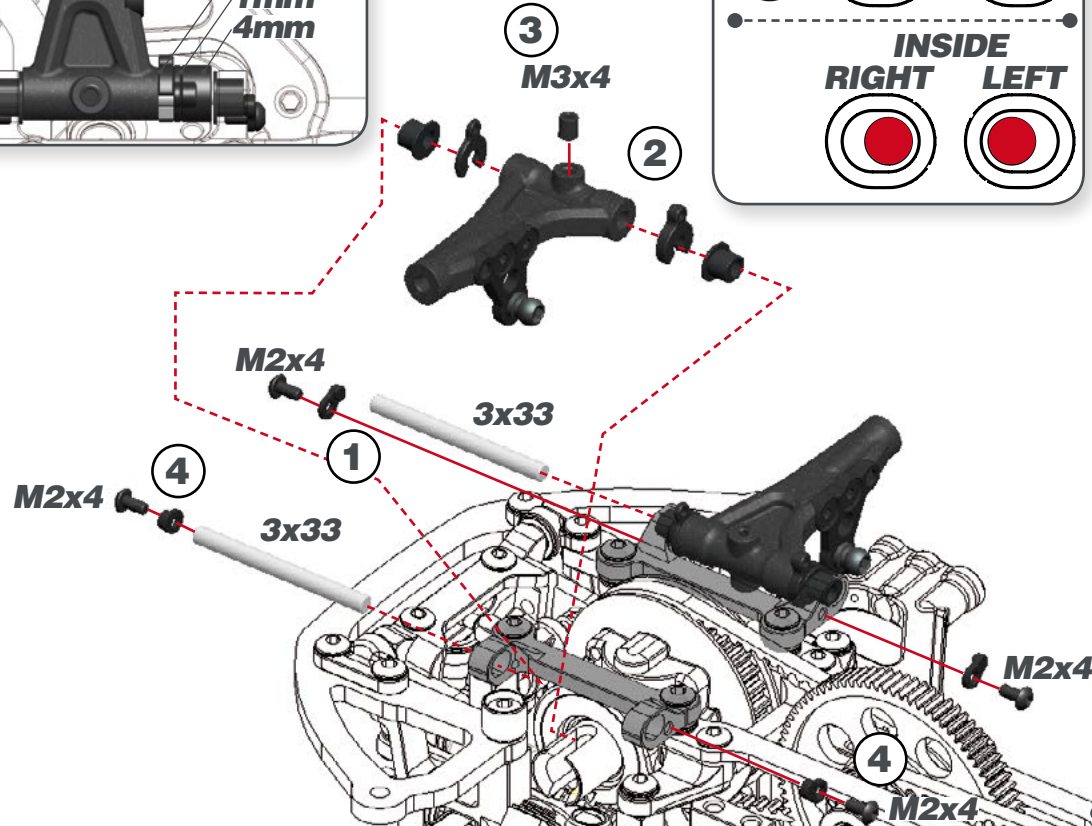
REAR SUSPENSION
INSERTS CHART

L=R

DEF. SETUP

OUTSIDE
RIGHT LEFT

INSIDE
RIGHT LEFT



STEP 56

PULLROD
LENGTH (mm)

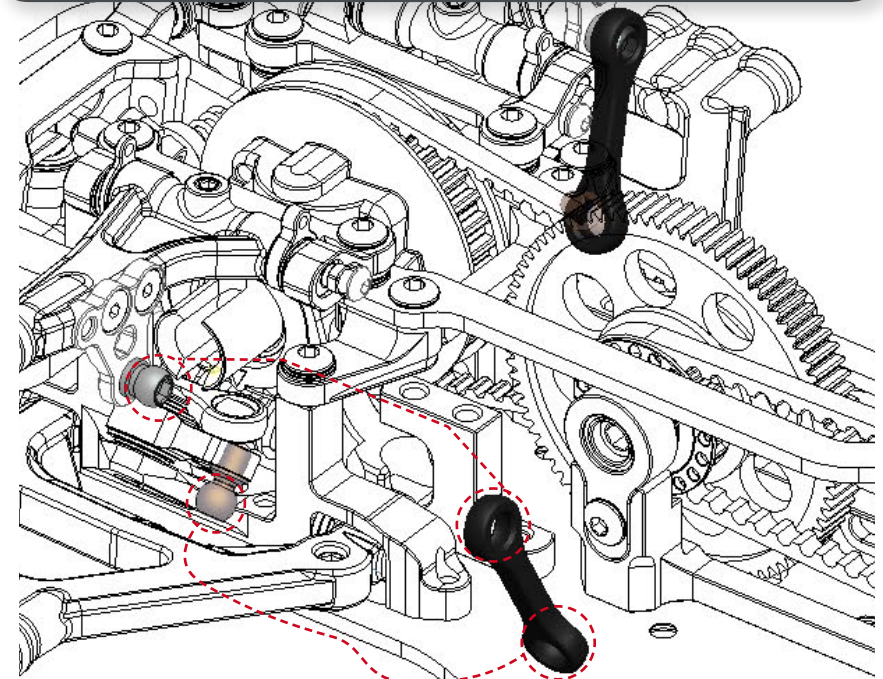
L=R

DEF. SETUP

21 20.5 20 19.5 19

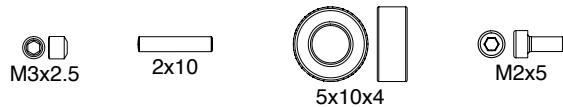
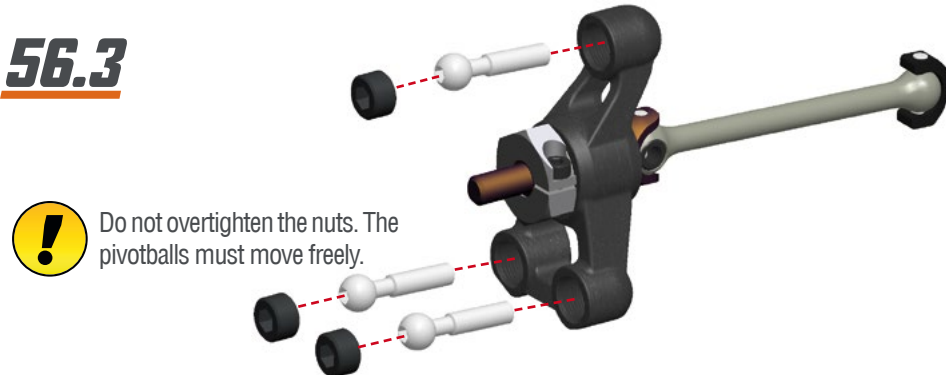
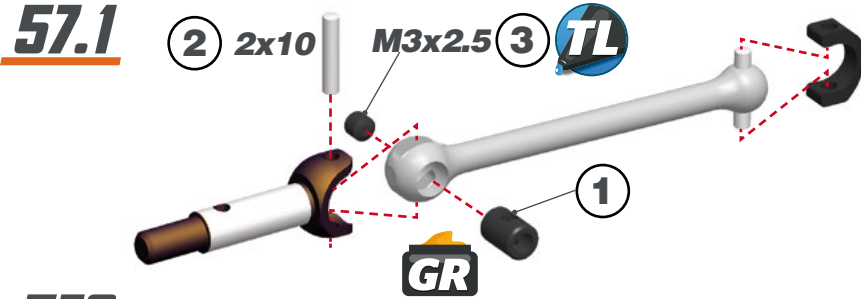
Included are 5 lengths of composite pullrods. If ride height can not be adjusted enough using the eccentric holder for the heavedamper, use different pullrod length. For more ride height, use shorter pullrod.

Make sure to use same length Left and Right side.

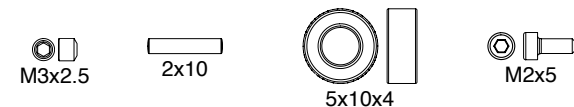
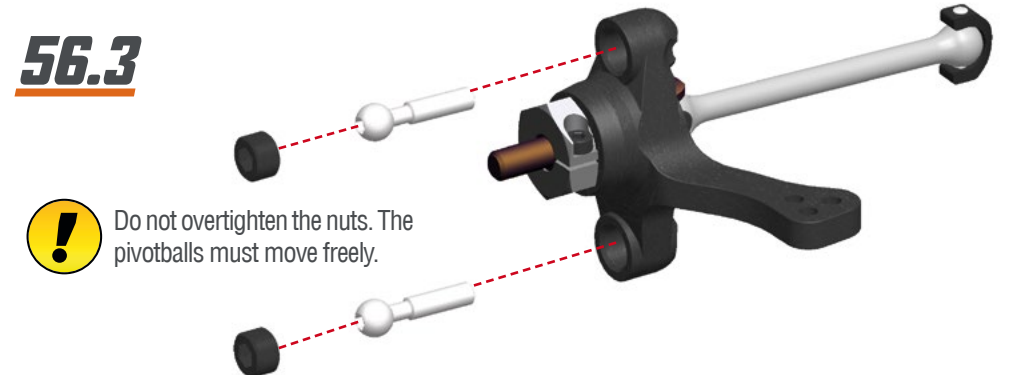
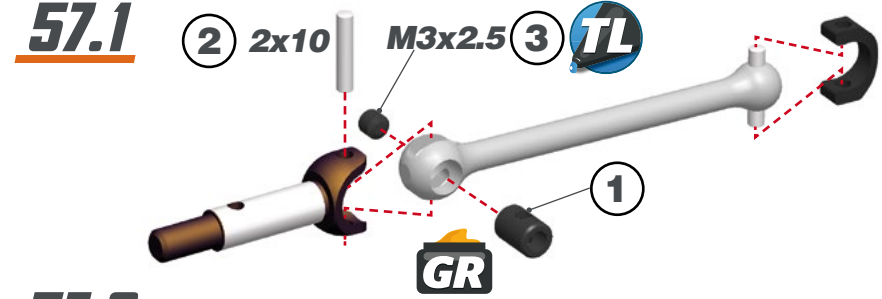


STEP 57 **BAG 13**

NO RRS (CONSTANT RR TOE IN) DEFAULT

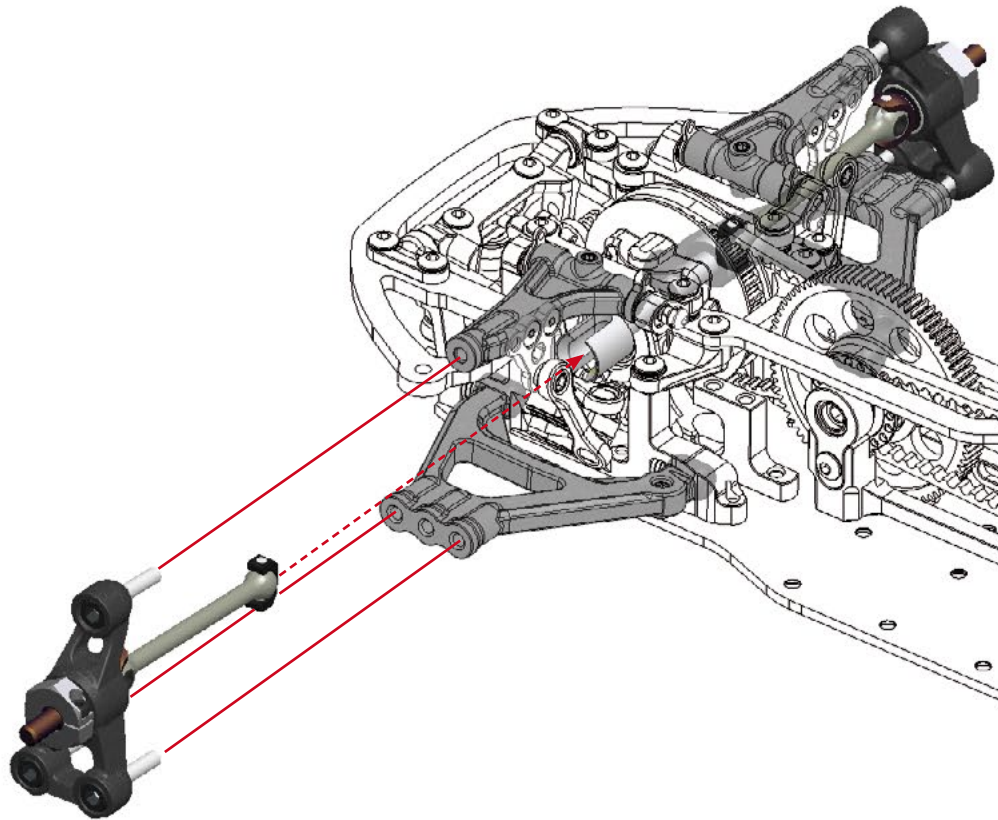


RRS (ACTIVE RR TOE IN) OPTIONAL

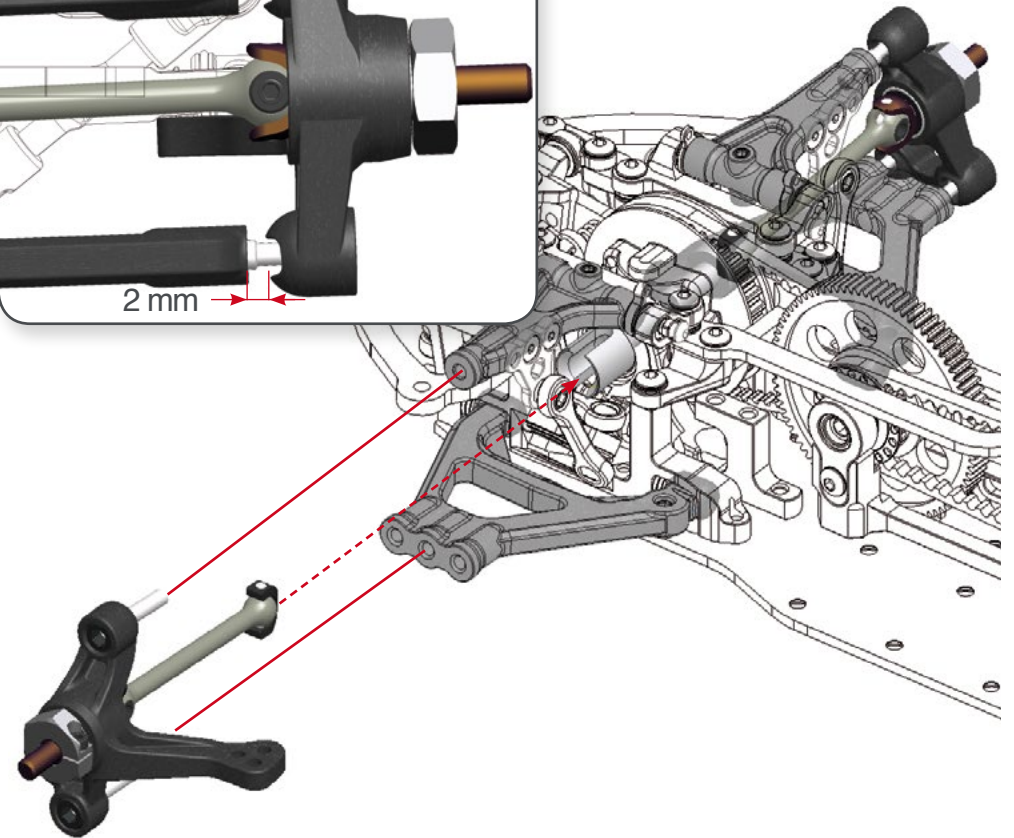
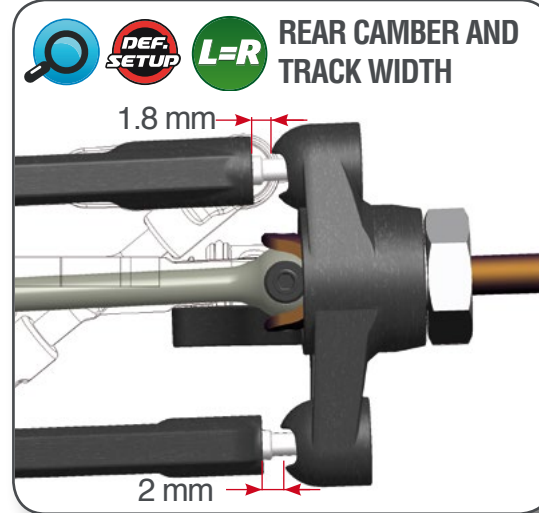


STEP 58

NO RRS (CONSTANT RR TOE IN) DEFAULT



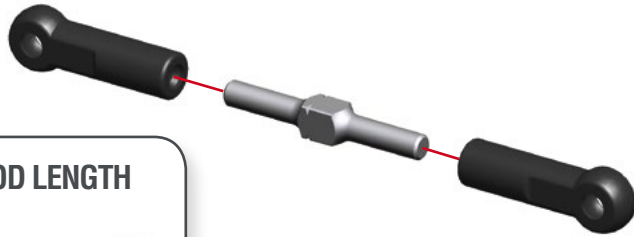
RRS (ACTIVE RR TOE IN) OPTIONAL



STEP 59 RRS (ACTIVE RR TOE IN) OPTIONAL

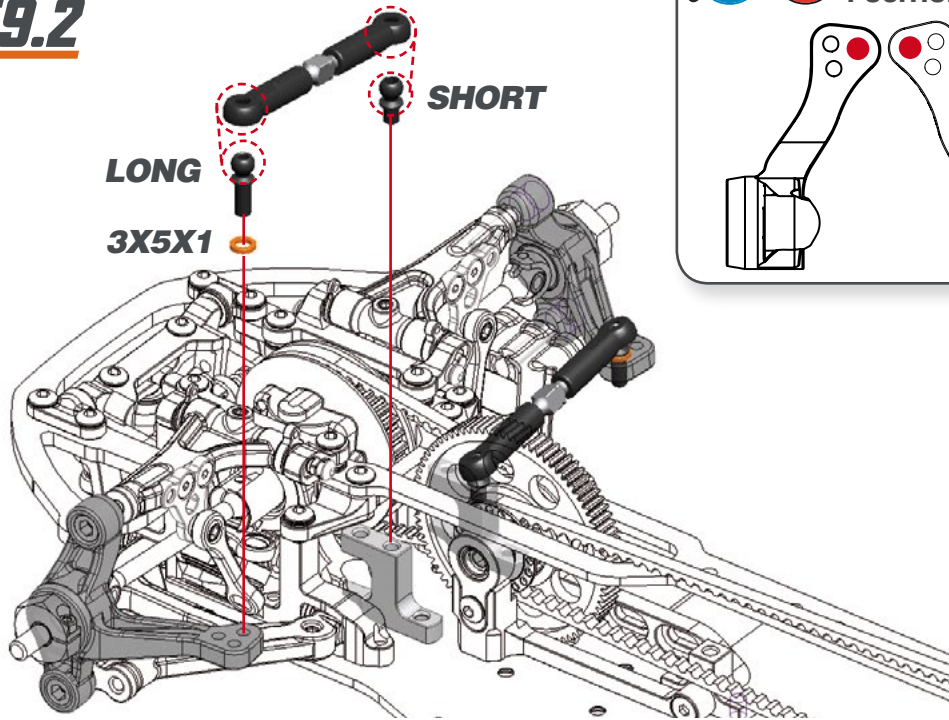
STEP 60 BAG 14

59.1

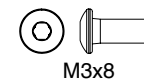
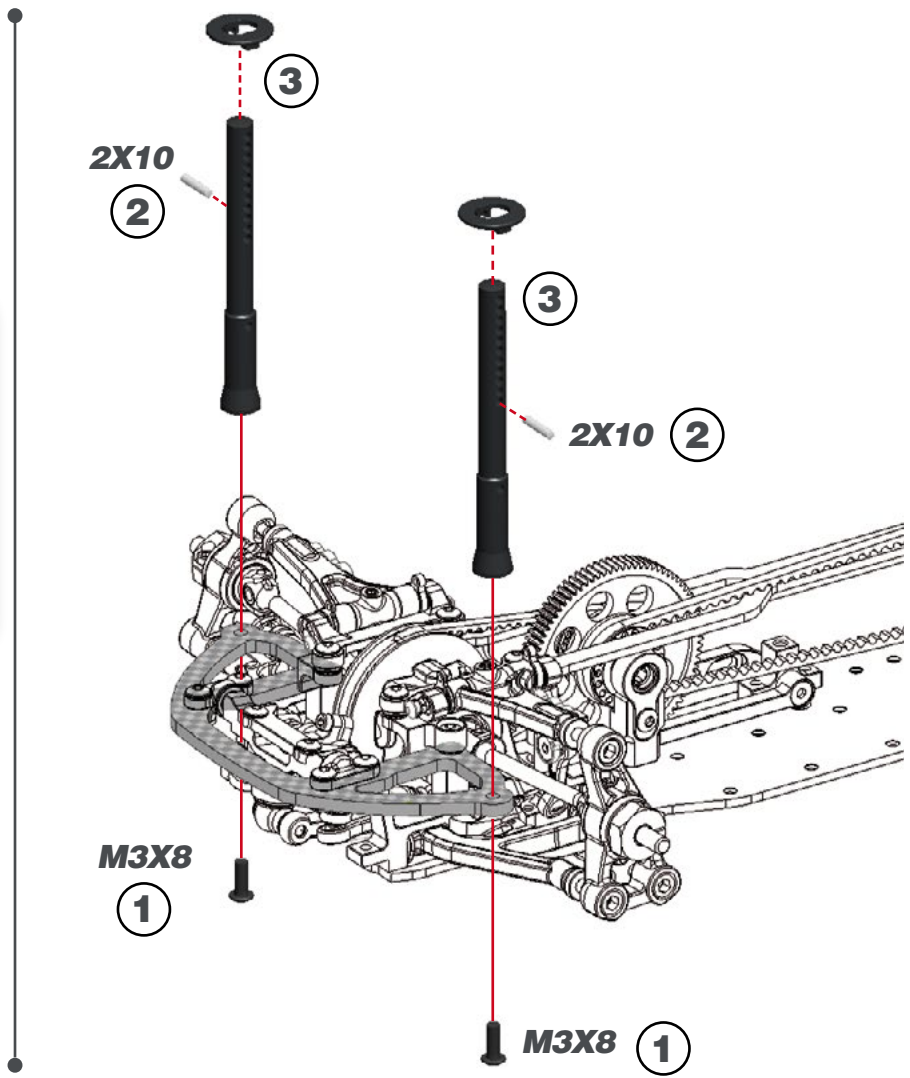


REAR TRACKROD LENGTH
9 mm

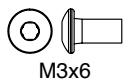
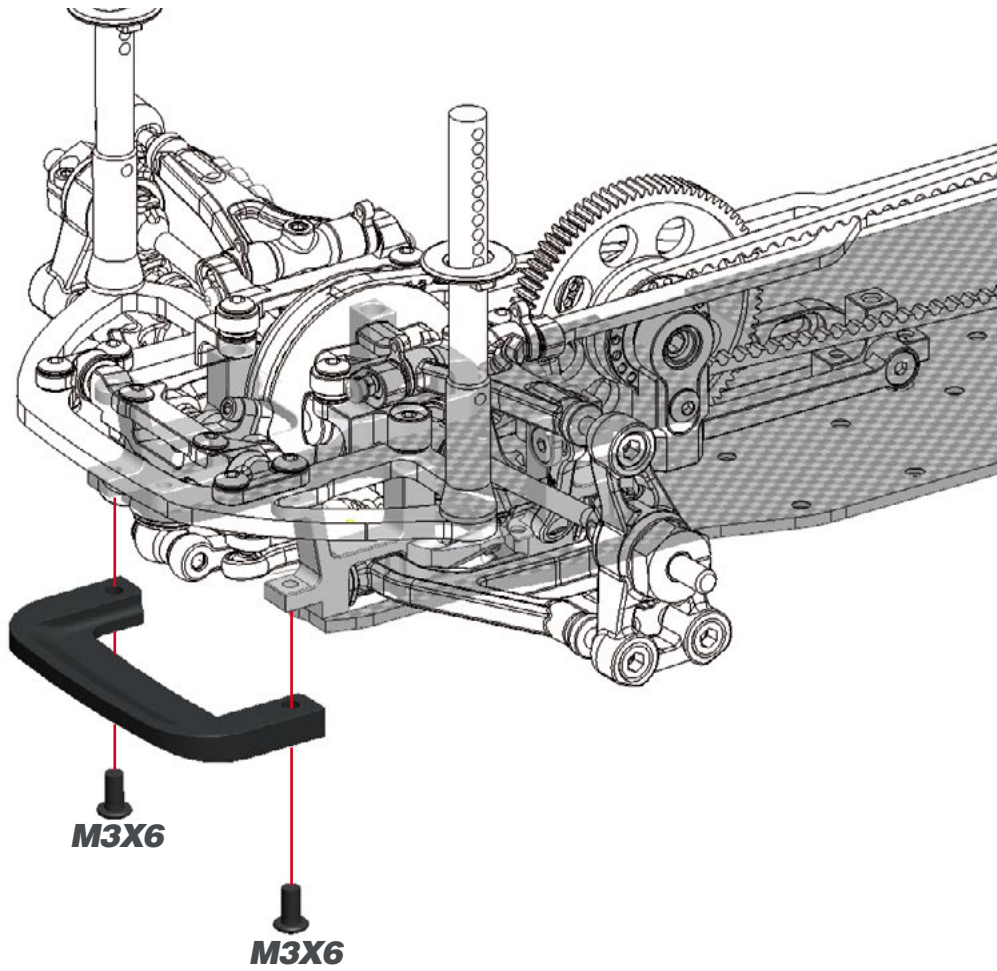
59.2



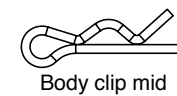
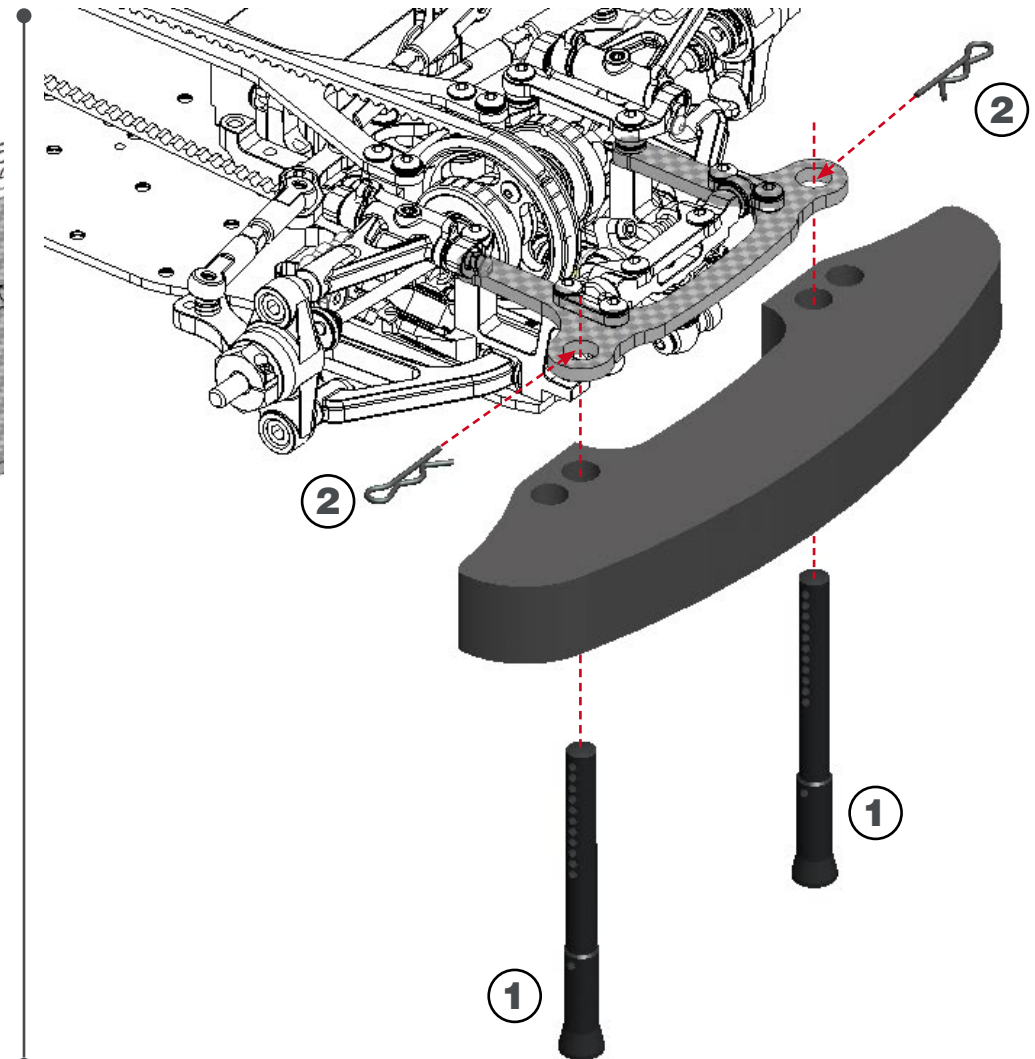
DEF. SETUP UPRIGHT LINKAGE POSITION



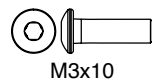
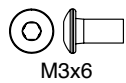
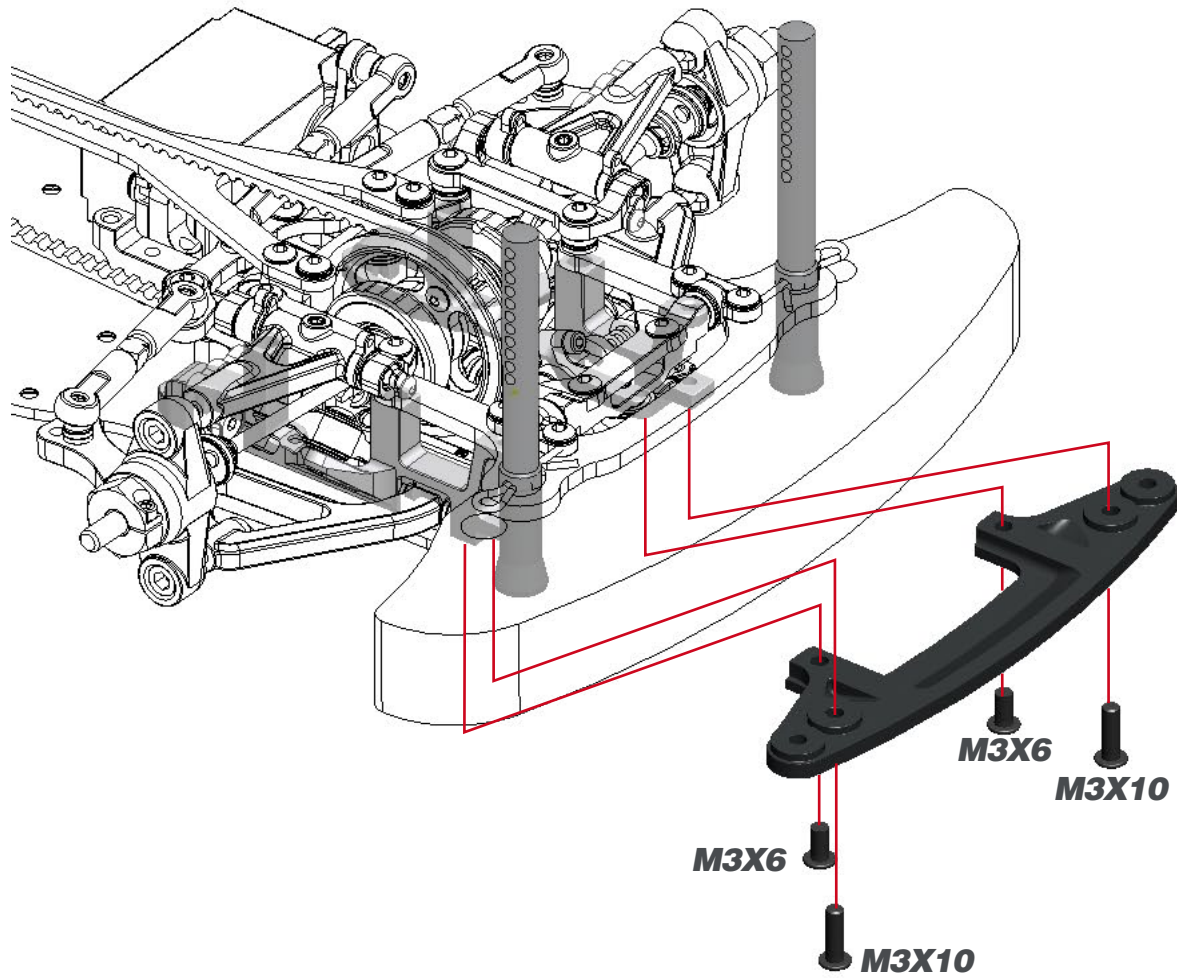
STEP 61



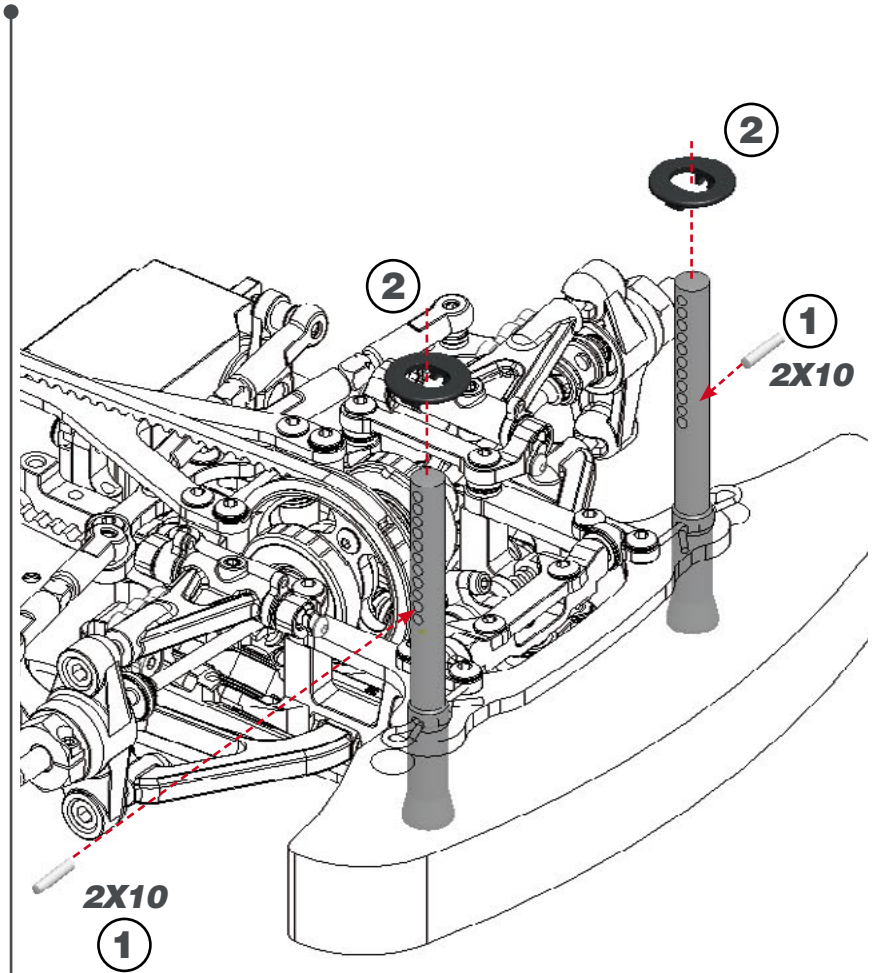
STEP 62

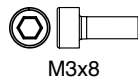
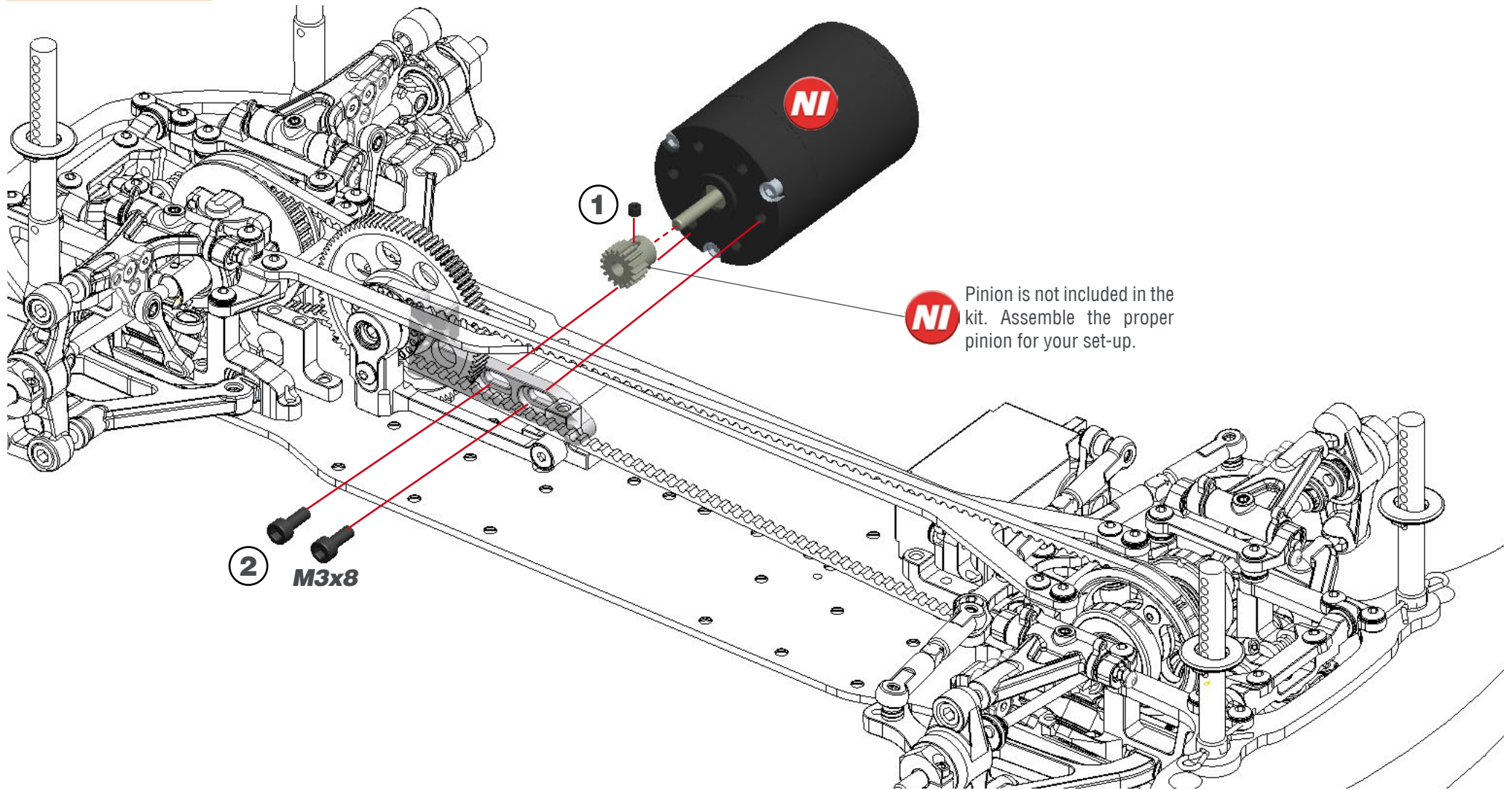


STEP 63



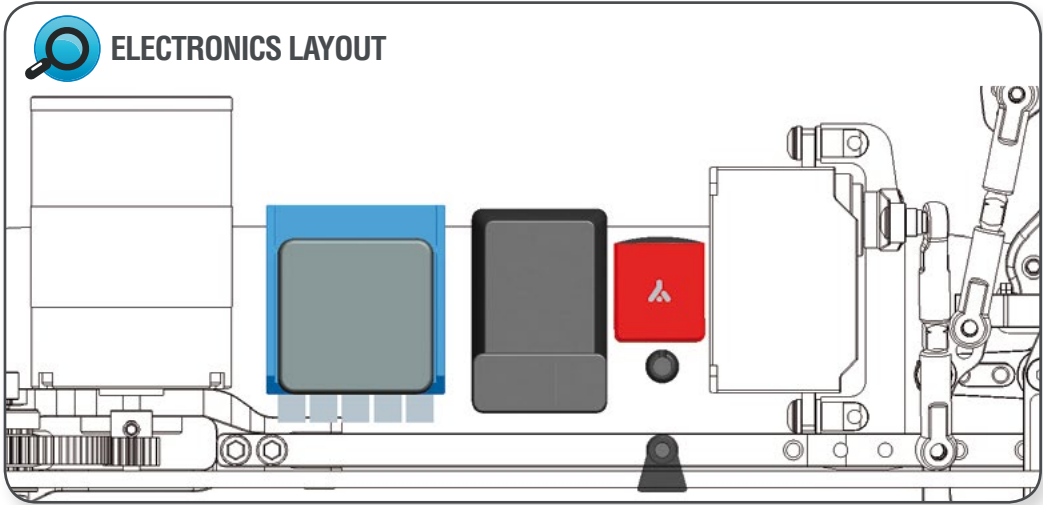
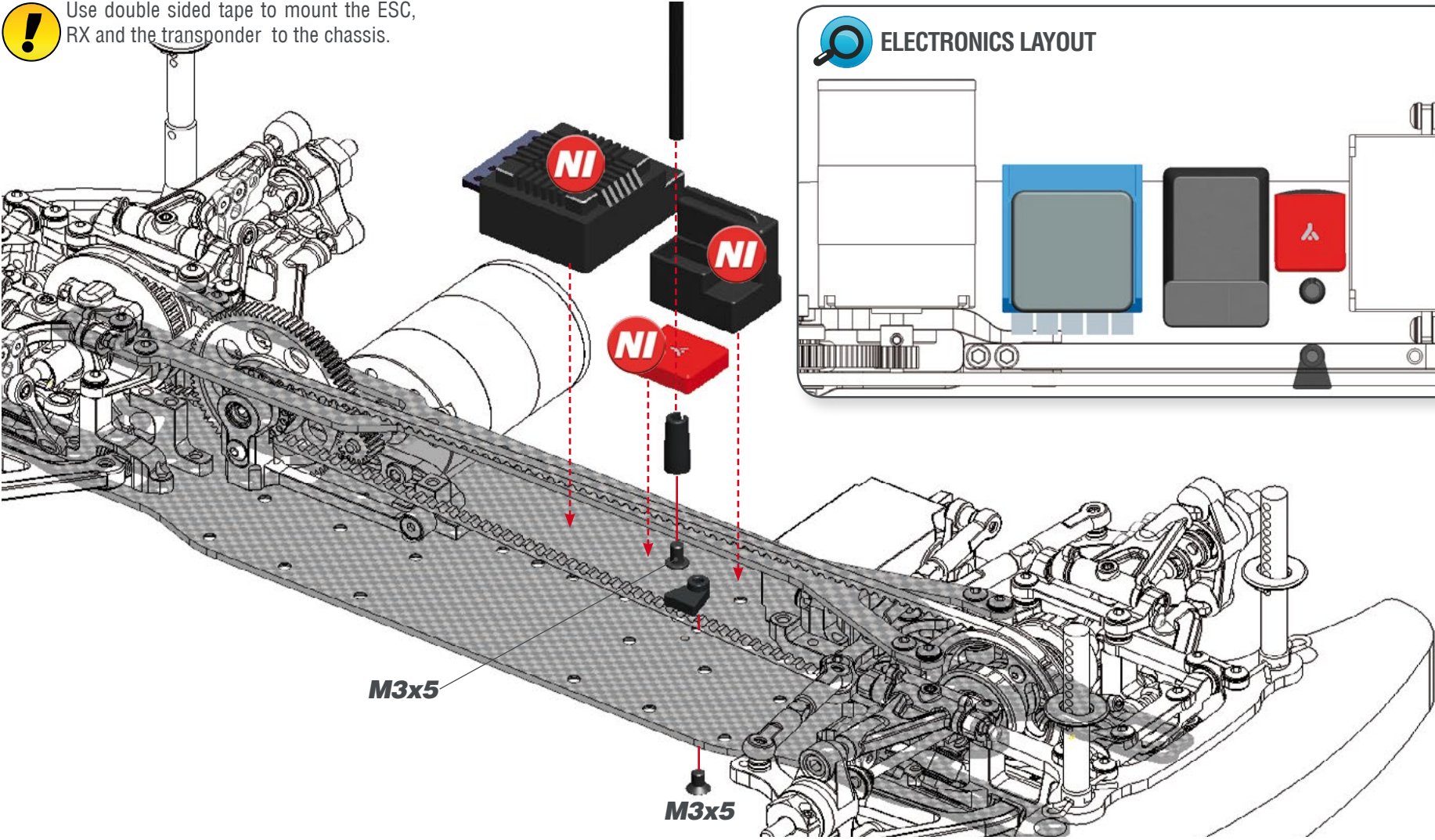
STEP 64



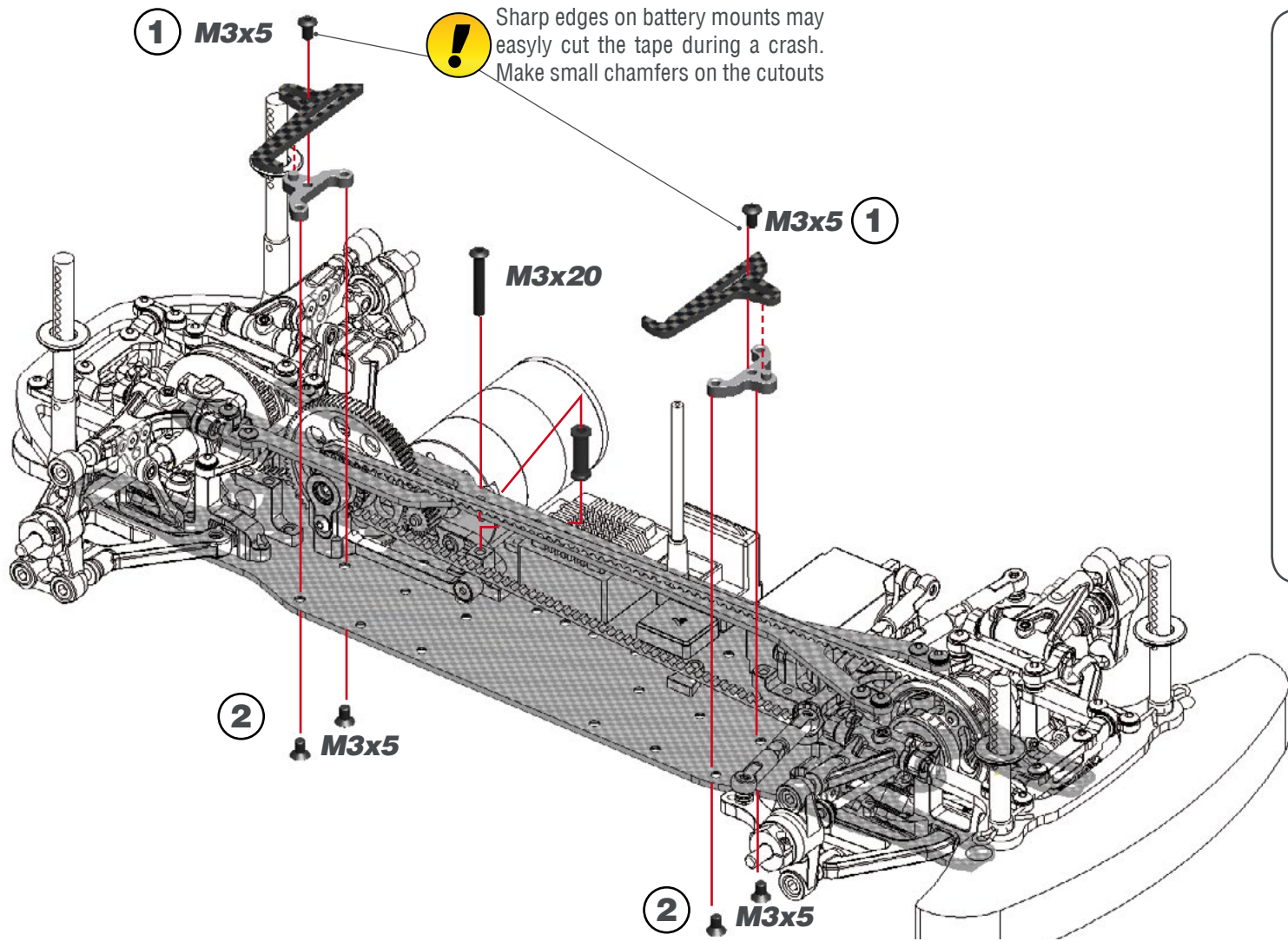
STEP 65 **BAG 15**

STEP 66

! Use double sided tape to mount the ESC, RX and the transponder to the chassis.



STEP 67

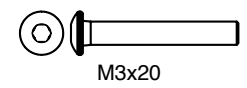
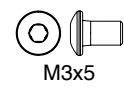
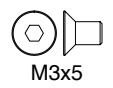
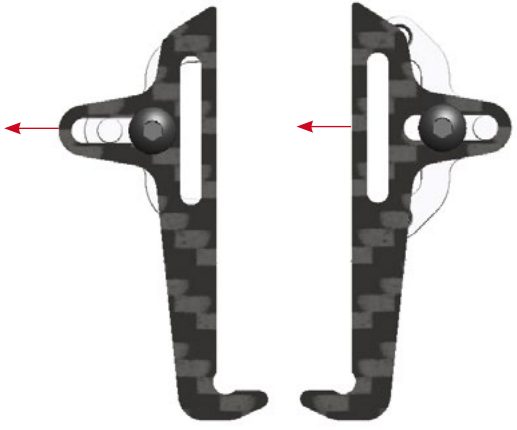


BATTERY MOUNT POSITION

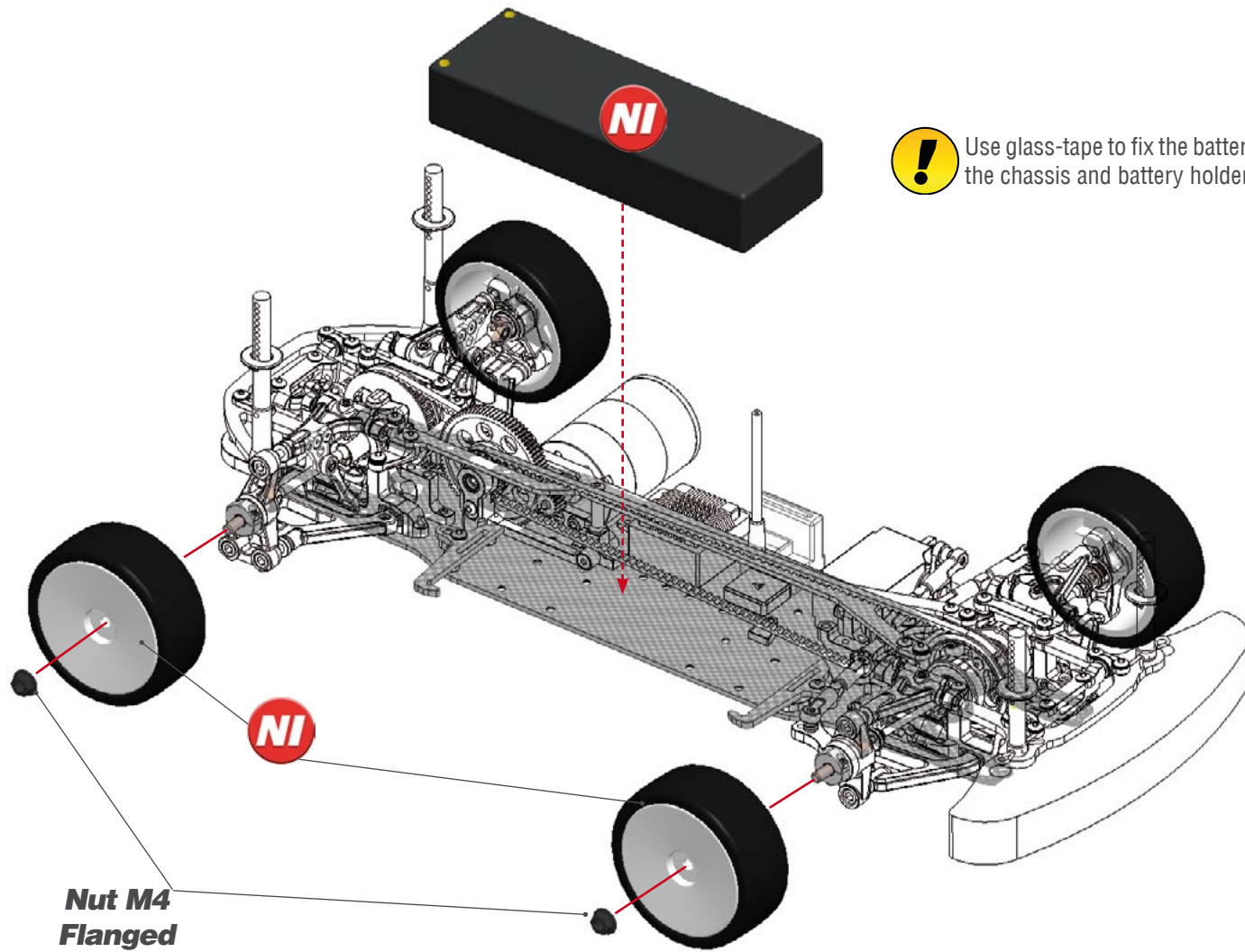
The battery mount can be moved forward or rearward 3mm. Use the battery in the rearward position as default.

REAR

FRONT



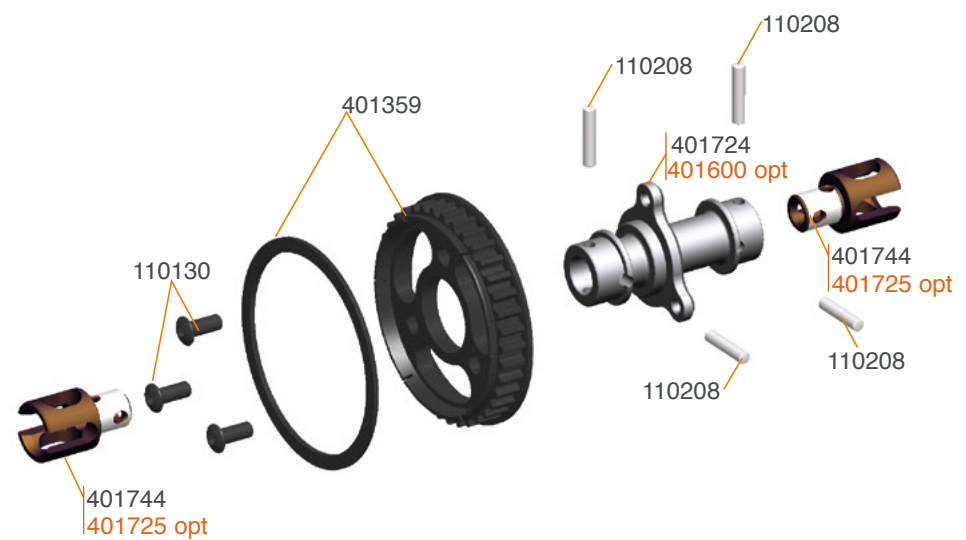
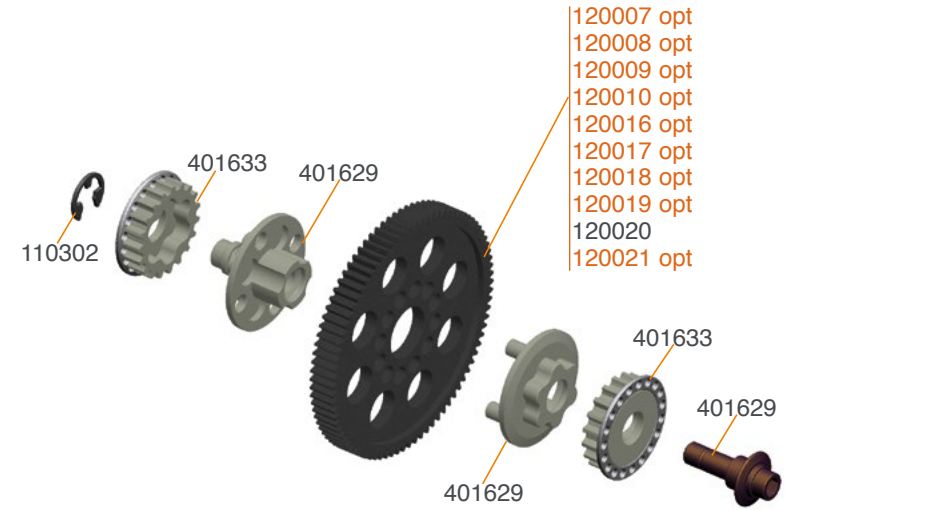
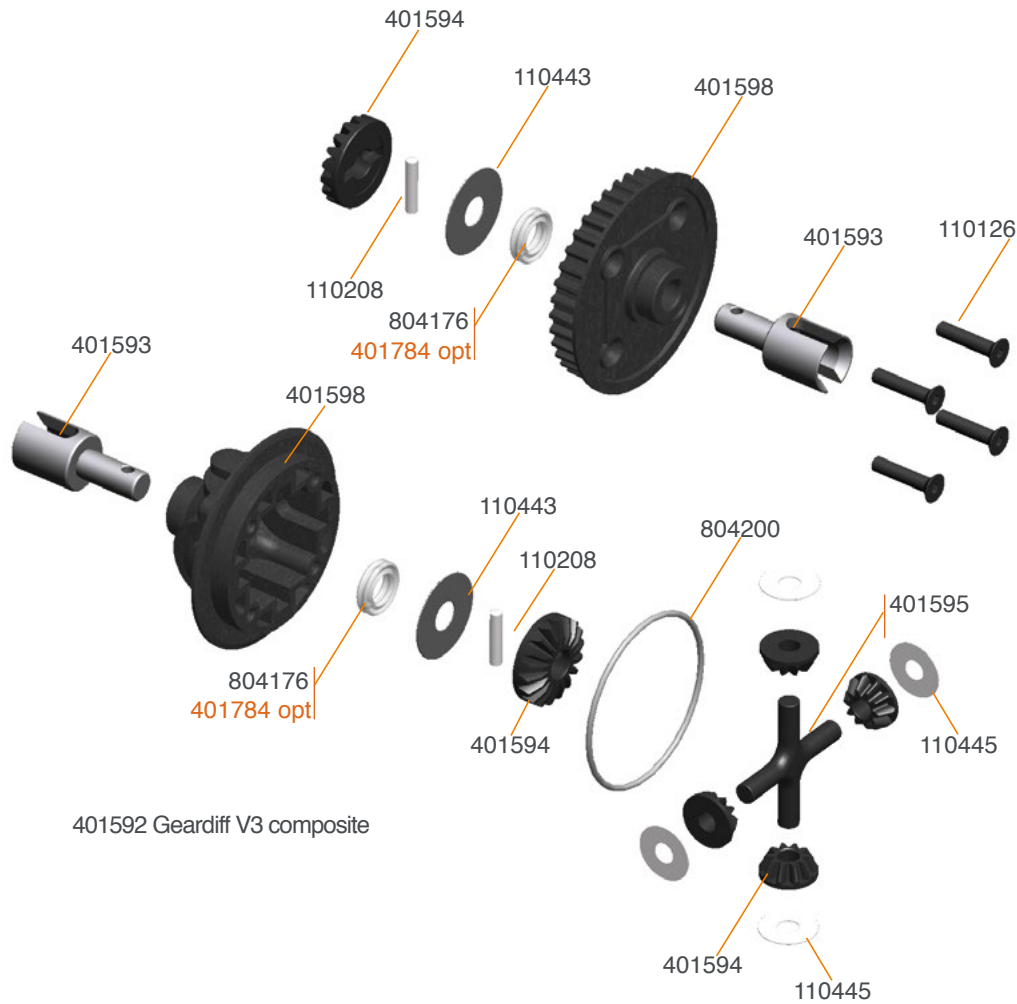
STEP 58



INDEX

<i>DIFF, MID AND FRONT SHAFTS EXPLODED VIEW</i>	42
<i>SHOCKS AND ROLL DAMPER EXPLODED VIEW</i>	43
<i>REAR I EXPLODED VIEW</i>	44
<i>FRONT I EXPLODED VIEW</i>	45
<i>TRANSMISSION EXPLODED VIEW</i>	46
<i>FRONT II EXPLODED VIEW</i>	47
<i>REAR II EXPLODED VIEW</i>	48
<i>FINAL EXPLODED VIEW</i>	49
<i>TEAM SERPENT NETWORK</i>	50

DIFF, MID AND FRONT SHAFTS EXPLODED VIEWS



- 401409 Blade (16)
- 401592 Geardiff V3 composite
- 401600 Solid axle alu S411 mono for blades
- 401725 Drive adaptor solid axle (2)

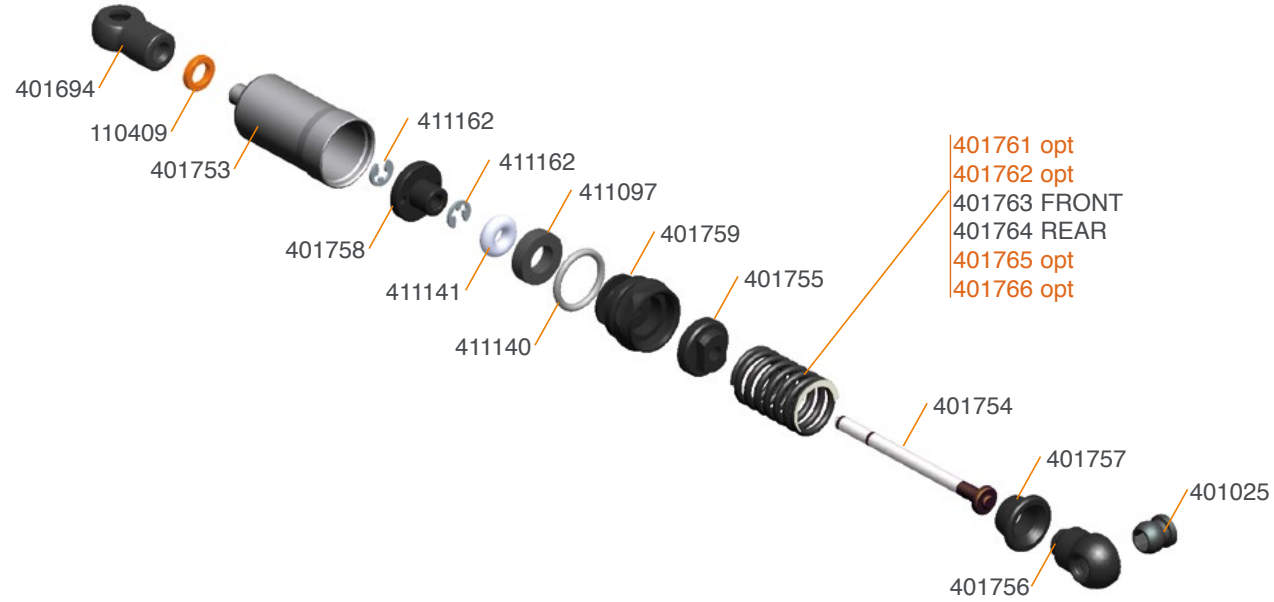
- 401784 Seal 5x9x2 diff (2)
- 120007 Spur-gear Super-True 64P / 100T
- 120008 Spur-gear Super-True 64P / 104T
- 120009 Spur-gear Super-True 64P / 108T

- 120016 Spur-gear Super-True 48P / 72T
- 120017 Spur-gear Super-True 48P / 75T
- 120018 Spur-gear Super-True 48P / 78T
- 120019 Spur-gear Super-True 48P / 81T

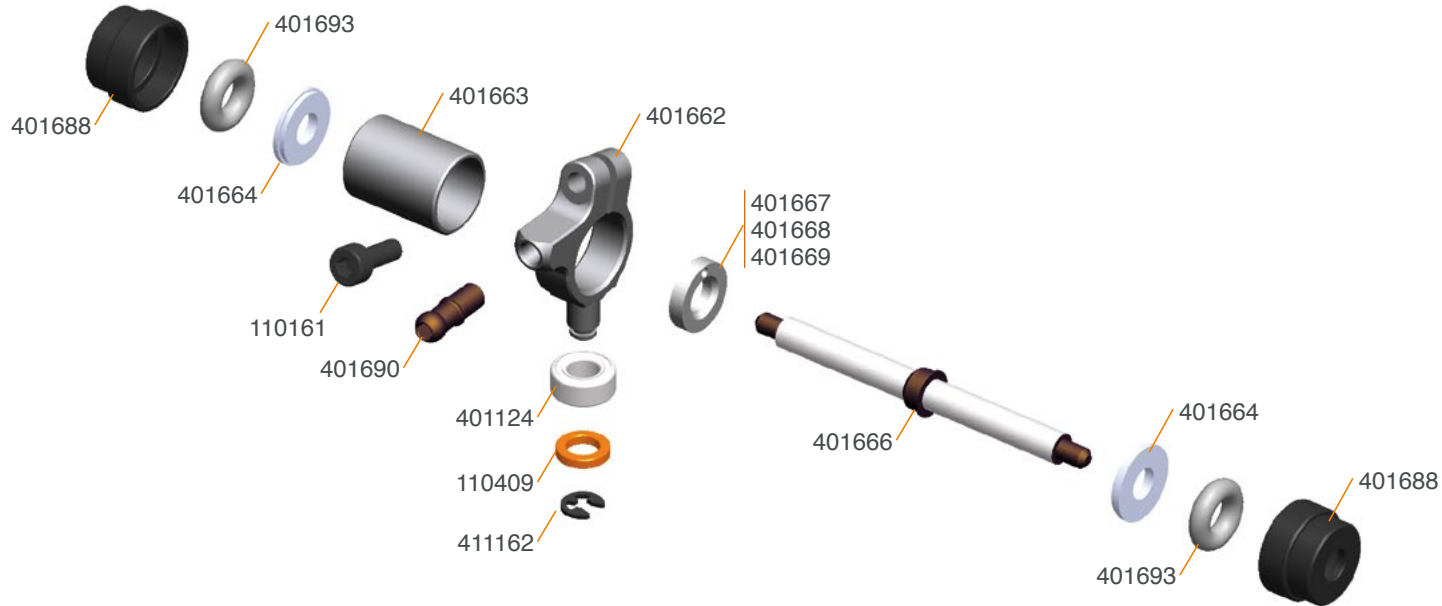
- 120021 Spur-gear Super-True 48P / 87T

SHOCK AND ROLL DAMPER EXPLODED VIEW

401760 Shock set 4X EVO



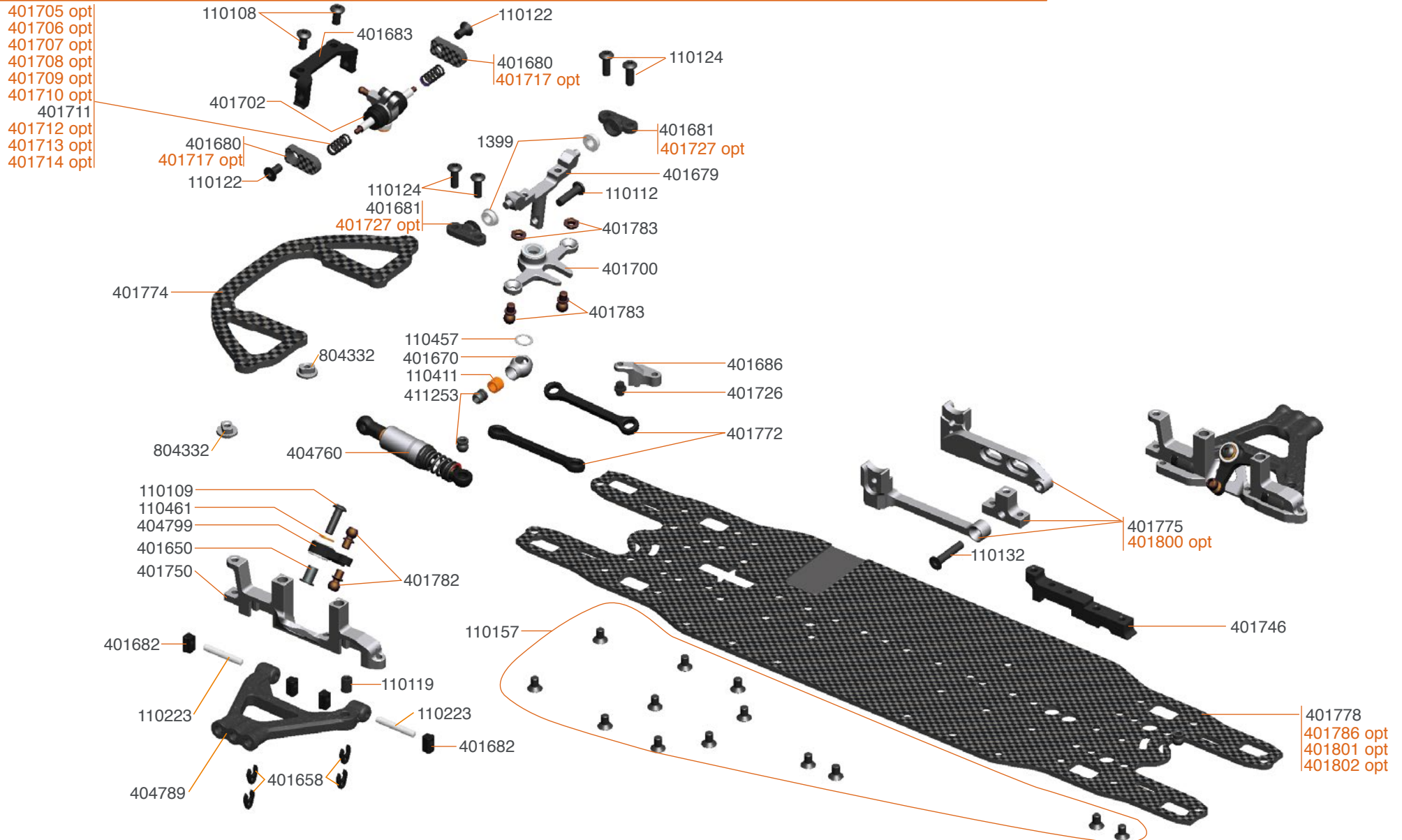
401702 Roll damper 4-X



401761 Shock spring white C=4.6 4X EVO (2)
 401763 Shock spring orange C=5.6 4X EVO (2)
 401764 Shock spring pink C=6.3 4X EVO (2)

401766 Shock spring blue C=7.8 4X EVO (2)

REAR / EXPLODED VIEW

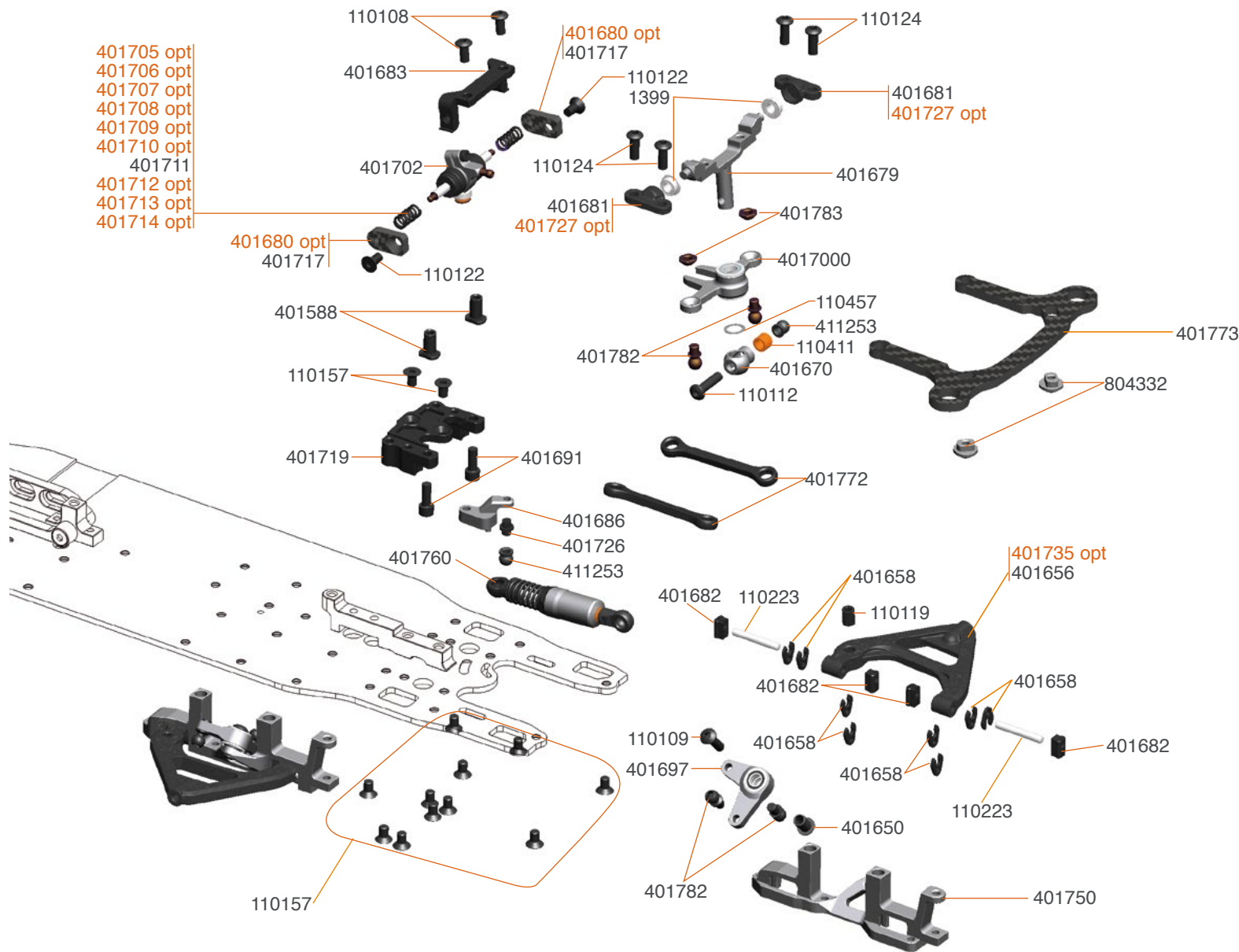


- 401701 Roll damper set 4-X
- 401705 Spring white C4.4 4-X (2)
- 401706 Spring yellow C4.9 4-X (2)
- 401707 Spring orange C5.5 4-X (2)
- 401708 Spring red C6.3 4-X (2)
- 401709 Spring pink C6.9 4-X (2)

- 401710 Spring blue C7.6 4-X (2)
- 401712 Spring green C9.5 4-X (2)
- 401713 Spring grey C10.9 4-X (2)
- 401714 Spring black C12 4-X (2)
- 401717 Roll damper support -7mm carbon 4-X (2)
- 401727 Bearing holder central rocker alu 4-X (2)

- 401786 Chassis alu 2mm 4X EVO
- 401800 Motormount set 4X PROz
- 401801 Chassis arrowspace magnesium stiff 4X
- 401802 Chassis arrowspace magnesium flex 4X



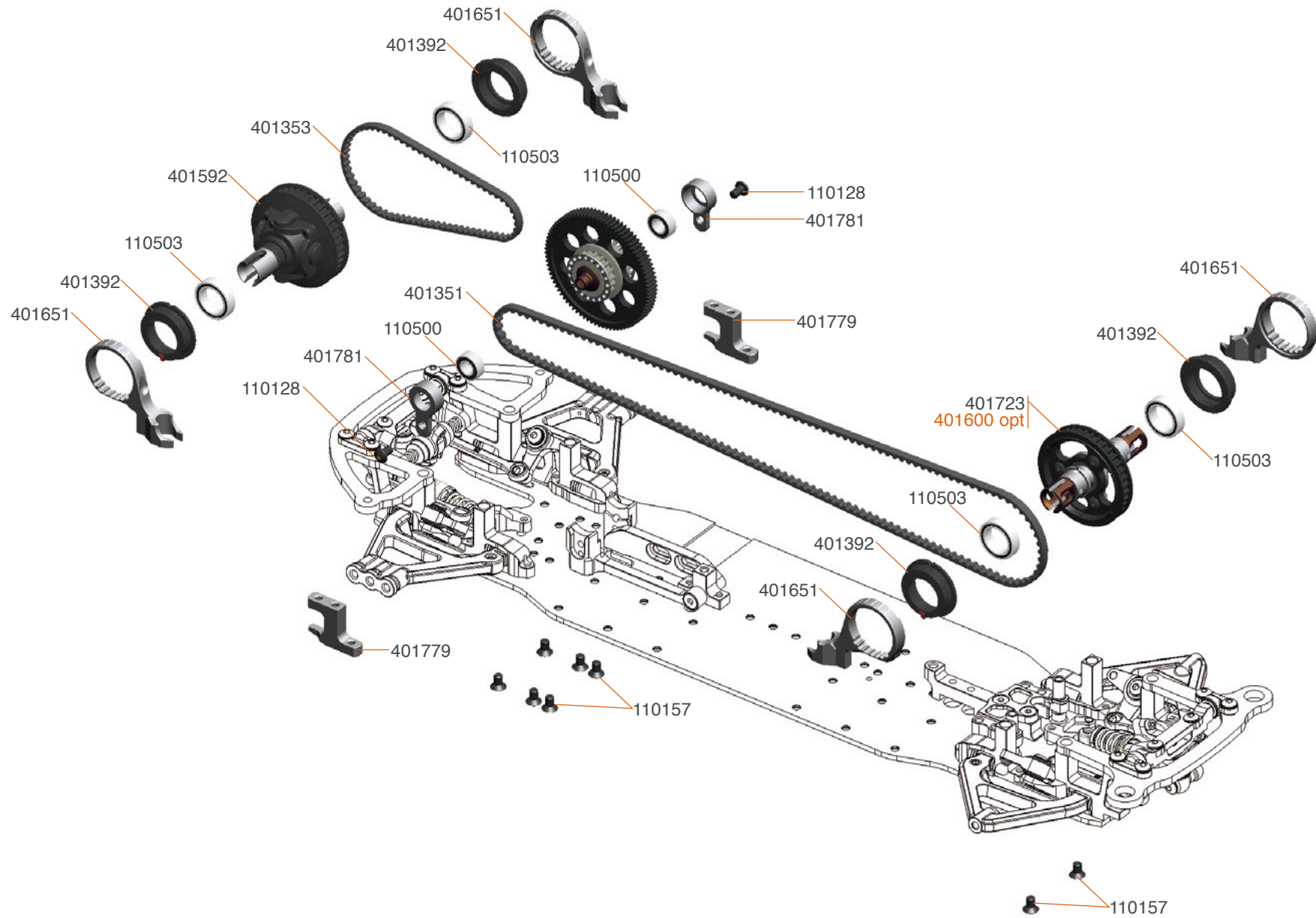


- 401680 Roll damper support carbon 4-X (2)
- 401701 Roll damper set 4-X
- 401705 Spring white C4.4 4-X (2)
- 401706 Spring yellow C4.9 4-X (2)
- 401707 Spring orange C5.5 4-X (2)

- 401708 Spring red C6.3 4-X (2)
- 401709 Spring pink C6.9 4-X (2)
- 401710 Spring blue C7.6 4-X (2)
- 401712 Spring green C9.5 4-X (2)
- 401713 Spring grey C10.9 4-X (2)

- 401714 Spring black C12 4-X (2)
- 401716 Bumper top plate narrow front carbon 4-X
- 401727 Bearing holder central rocker alu 4-X (2)
- 401735 Wishbone lower fr/r hard 4X (2)z

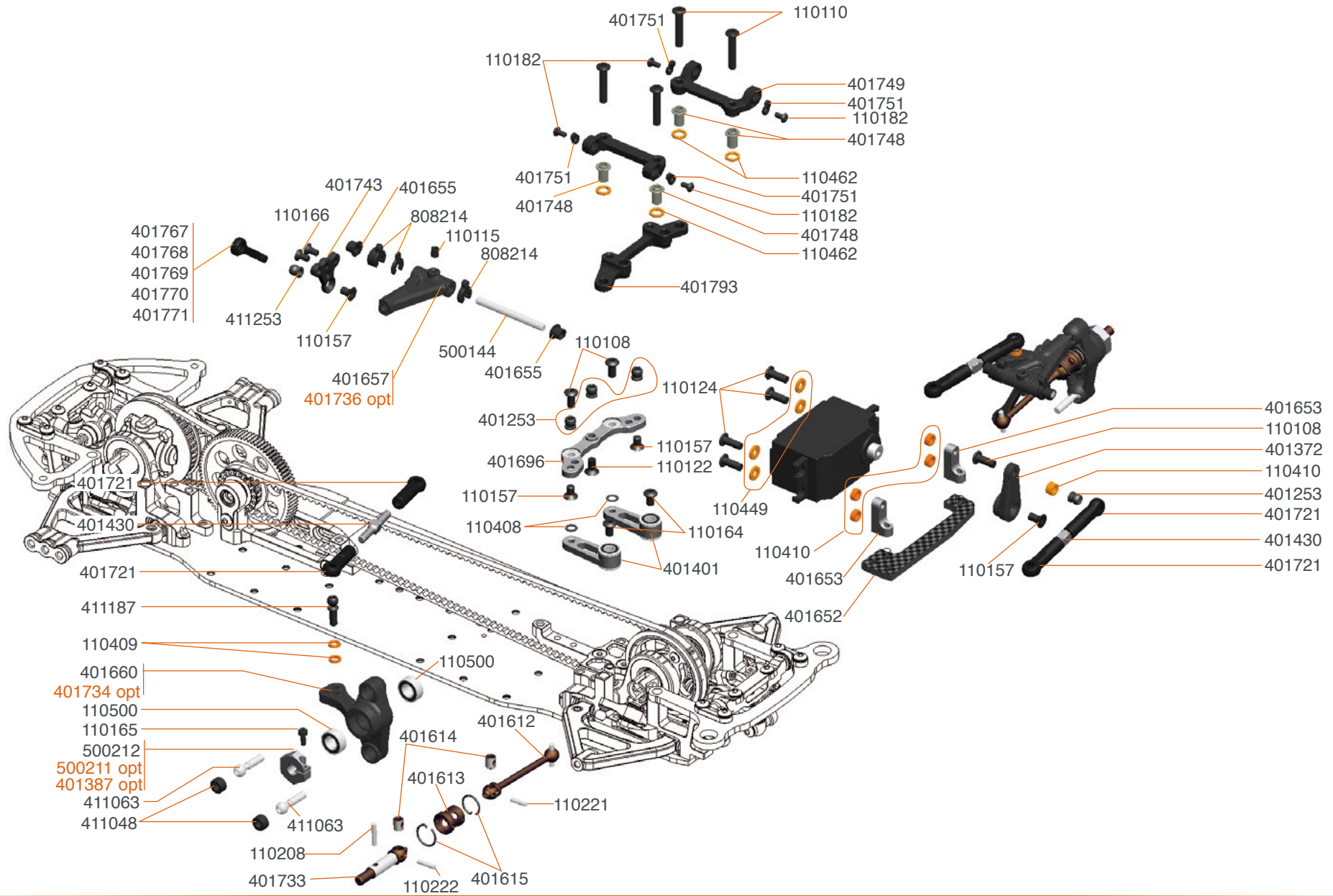




401600 Solid axle alu S411 mono for blades
401780 RRS holder low alu

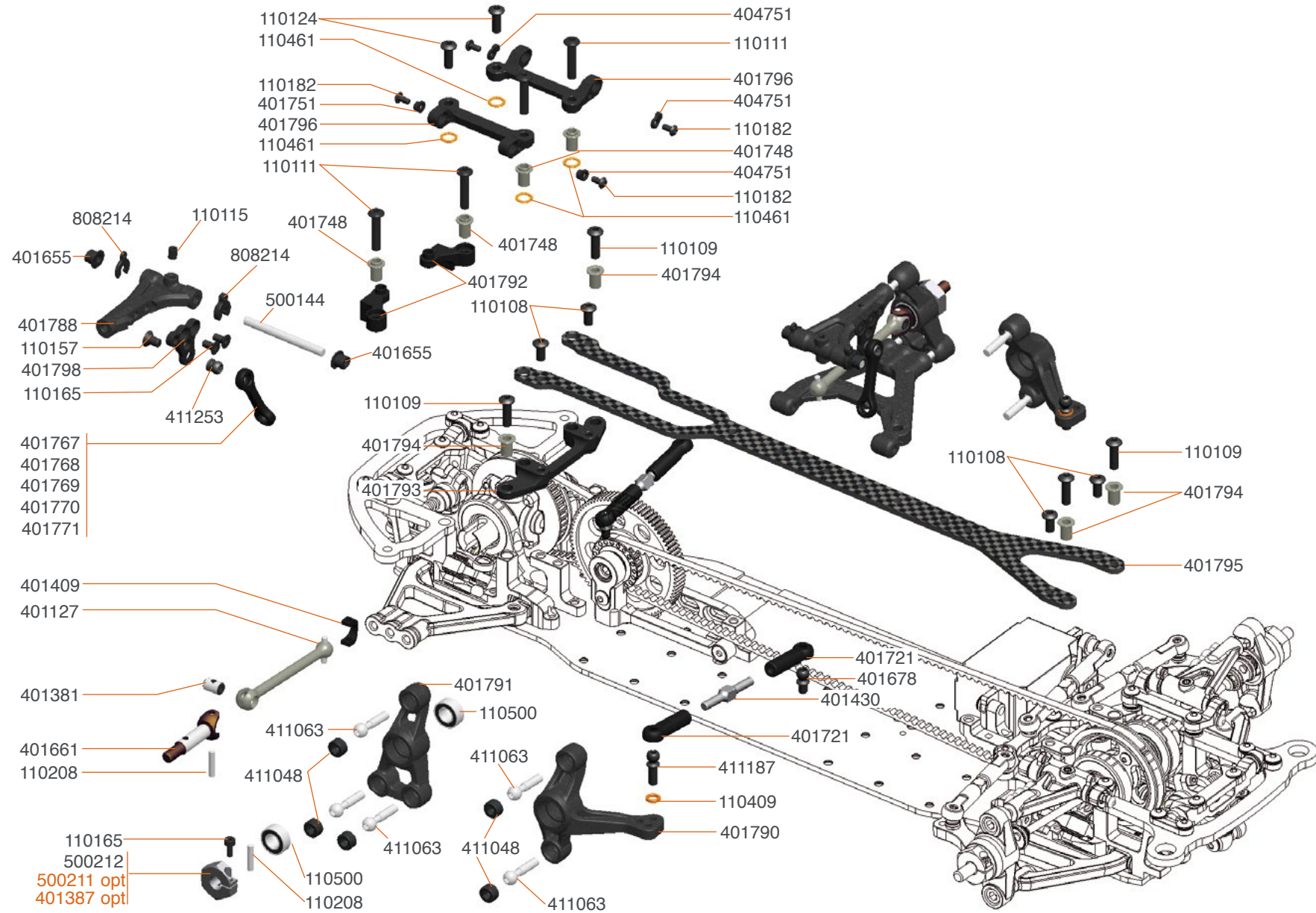


FRONT II EXPLODED VIEW



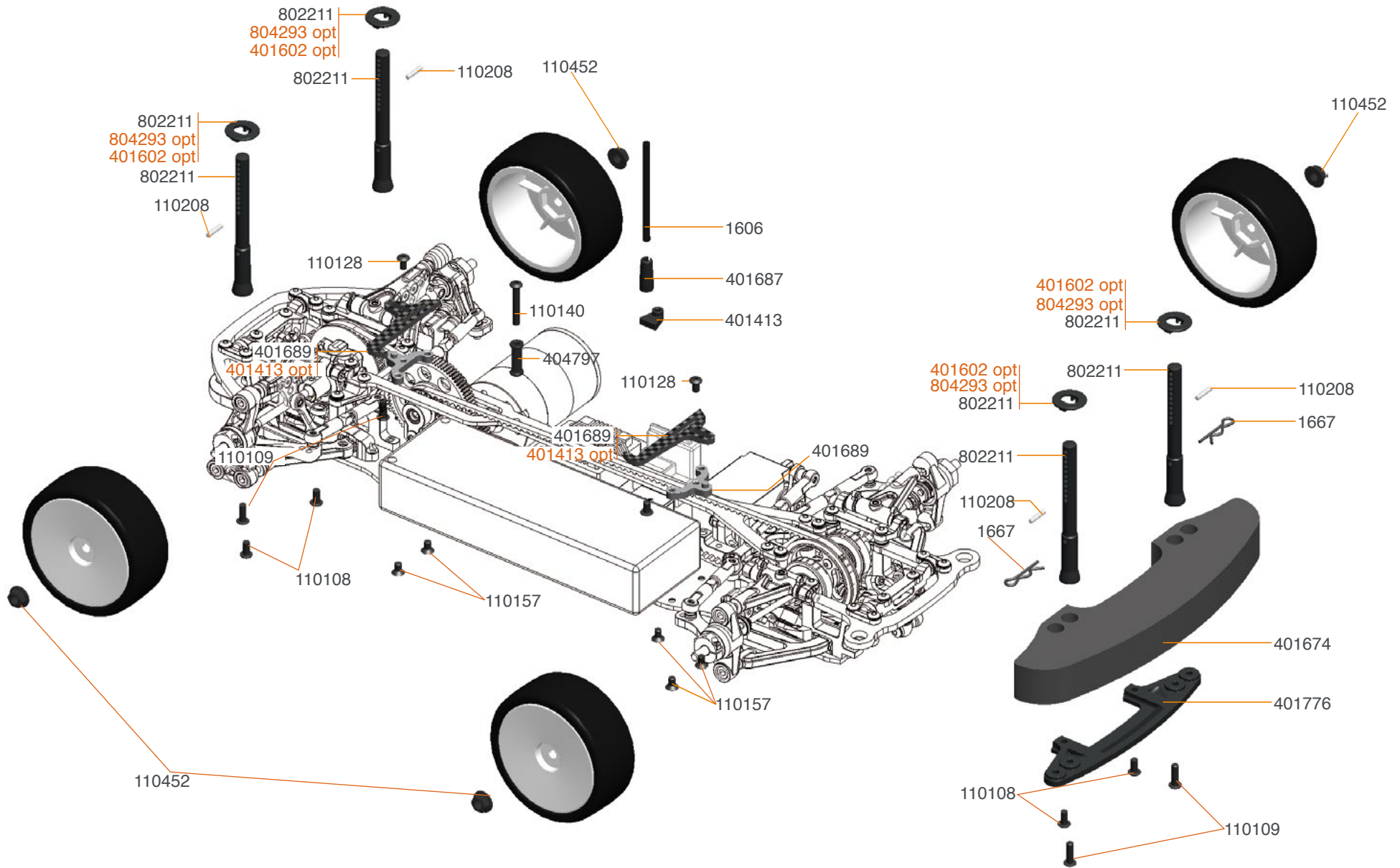
- 401387 Wheelhexagon 1mm offset (2)
- 500211 Wheelhexagon +0.75mm offset (2)
- 401734 Wheelhub fr/rr l+r hard 4X
- 401736 Wishbone upper fr/rr hard 4X (2)

REAR II EXPLODED VIEW



401387 Wheelhexagon 1mm offset (2)
500211 Wheelhexagon +0.75mm offset (2)

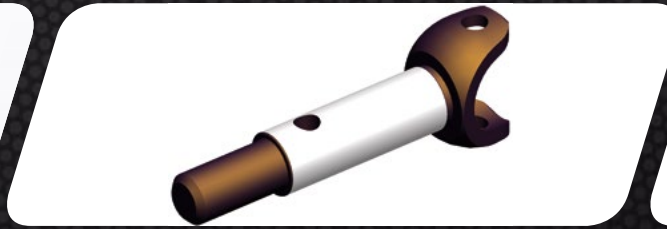




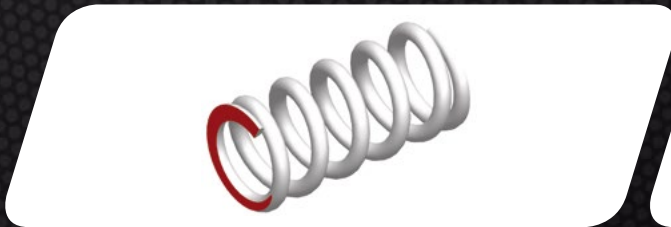
- 401413 Battery mount (4)
- 401602 Body-height fine-tuner alu (4)
- 804293 Body support washers med + high (5+5)

TEAM SERPENT NETWORK

PROJECT 4X PRO SPARE PARTS www.serpent.com/400032/spares



PROJECT 4X PRO OPTIONALS PARTS www.serpent.com/400032/optionals



SERPENT TOOLS www.serpent.com/product/Tools/



SERPENT MERCHANDISING www.serpent.com/product/Merchandising/



SERPENT WEBSITE AND BLOG

www.serpent.com
www.teamserpent.com
www.dragon-rc.com

SERPENT PROMO PAGES <http://promo.serpent.com>

SERPENT FACEBOOK GROUPS <http://promo.serpent.com/indexfb.htm>

SERPENT ADVANCED MANUALS <http://promo.serpent.com/sam/>

SERPENT SOCIAL MEDIA



www.facebook.com/SerpentMRC



www.youtube.com/user/SerpentMRC



www.twitter.com/SerpentMRC



www.plus.google.com/+SerpentModelcars/posts



www.weibo.com/teamserpent

Project 4X PRO

1/10 scale electric touring car



98231-1 Manual 4X PRO

SERPENT