



**XRAY**  
1/10 LUXURY ELECTRIC TOURING CAR FWD

# TT44F

**INSTRUCTION  
MANUAL**

MADE IN  
**EUROPE**



# INTRODUCTION

The T4F is a high-competition, high-quality, 1/10-scale front wheel drive car intended for persons aged 16 years and older with previous experience building and operating RC model racing cars. This is not a toy; it is a precision racing model. This model racing car is not intended for use by beginners, inexperienced customers, or by children without direct supervision of a responsible, knowledgeable adult. If you do not fulfill these requirements, please return the kit in unused and unassembled form back to the shop where you have purchased it.

Before building and operating your T4F, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get

## CUSTOMER SUPPORT

We have made every effort to make these instructions as easy to understand as possible. However, if you have any difficulties, problems, or questions, please do not hesitate to contact the XRAY support team at [info@teamxray.com](mailto:info@teamxray.com). Also, please visit our Web site at [www.teamxray.com](http://www.teamxray.com) to find the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

You can join thousands of XRAY fans and enthusiasts in our online community at: [www.teamxray.com](http://www.teamxray.com)

the maximum enjoyment and prevent unnecessary damage. Read carefully and fully understand the instructions before beginning assembly.

Make sure you review this entire manual, download and use set-up book from the web, and examine all details carefully. If for some reason you decide The T4F is not what you wanted or expected, do not continue any further. Your hobby dealer cannot accept your T4F kit for return or exchange after it has been partially or fully assembled.

Contents of the box may differ from pictures. In line with our policy of continuous product development, the exact specifications of the kit may vary without prior notice.

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**FAILURE TO FOLLOW THESE INSTRUCTIONS WILL BE CONSIDERED AS ABUSE AND/OR NEGLECT.**

## SAFETY PRECAUTIONS

Contains:

LEAD (CAS 7439-92-1) ANTIMONY (CAS 7440-36-0)

WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

CAUTION: CANCER HAZARD

Contains lead, a listed carcinogen. Lead is harmful if ingested. Wash thoroughly after using. DO NOT use product while eating, drinking or using tobacco products. May cause chronic effects to gastrointestinal tract, CNS, kidneys, and blood. MAY CAUSE BIRTH DEFECTS.

When building, using and/or operating this model always wear protective glasses and gloves.

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions. Always keep the instruction manual at hand for quick reference, even after completing the assembly. Use only genuine and original authentic XRAY parts for maximum performance. Using any third party parts on this model will void guaranty immediately.

Improper operation may cause personal and/or property damage. XRAY and its distributors have no control over damage resulting from shipping, improper construction, or improper usage. XRAY assumes and accepts no responsibility for personal and/or property damages resulting from the use of improper building materials, equipment and operations. By purchasing any item produced by XRAY, the buyer expressly warrants that he/she is in compliance with all applicable federal, state and local laws and regulation regarding the purchase, ownership and use of the item. The buyer expressly agrees to indemnify and hold harmless XRAY for all claims resulting directly or indirectly from the purchase, ownership or use of the product. By the act of assembling or operating this product, the user accepts all resulting liability. If the buyer is not prepared to accept this liability, then he/she should return this kit in new, unassembled, and unused condition to the place of purchase.

## IMPORTANT NOTES - GENERAL

- This product is not suitable for children under 16 years of age without the direct supervision of a responsible and knowledgeable adult.
  - Carefully read all manufacturers warnings and cautions for any parts used in the construction and use of your model.
  - Assemble this kit only in places away from the reach of very small children.
  - First-time builders and users should seek advice from people who have building experience in order to assemble the model correctly and to allow the model to reach its performance potential.
  - Exercise care when using tools and sharp instruments.
  - Take care when building, as some parts may have sharp edges.
  - Keep small parts out of reach of small children. Children must not be allowed to put any parts in their mouth, or pull vinyl bag over their head.
  - Read and follow instructions supplied with paints and/or cement, if used (not included in kit).
  - Immediately after using your model, do NOT touch equipment on the model such as the motor and speed controller, because they generate high temperatures. You may seriously burn yourself seriously touching them.
  - Follow the operating instructions for the radio equipment at all times.
  - Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury as your finger, hair, clothes, etc. may get caught.
  - Be sure that your operating frequency is clear before turning on or running your model, and never share the same frequency with somebody else at the same time. Ensure that others are aware of the operating frequency you are using and when you are using it.
  - Use a transmitter designed for ground use with RC cars. Make sure that no one else is using the same frequency as yours in your operating area. Using the same frequency at the same time, whether it is driving, flying or sailing, can cause loss of control of the RC model, resulting in a serious accident.
  - Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
  - Keep the wheels of the model off the ground when checking the operation of the radio equipment.
  - Disconnect the battery pack before storing your model.
  - When learning to operate your model, go to an area that has no obstacles that can damage your model if your model suffers a collision.
  - Remove any sand, mud, dirt, grass or water before putting your model away.
  - If the model behaves strangely, immediately stop the model, check and clear the problem.
  - To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
  - The model car is not intended for use on public places and roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
  - Because the model car is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary loss of control, always allow a safety margin in all directions around the model in order to prevent collisions.
  - Do not use your model:
    - Near real cars, animals, or people that are unaware that an RC car is being driven.
    - In places where children and people gather
    - In residential districts and parks
    - In limited indoor spaces
    - In wet conditions
    - In the street
    - In areas where loud noises can disturb others, such as hospitals and residential areas.
    - At night or anytime your line of sight to the model may be obstructed or impaired in any way.
- To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models.

## **IMPORTANT NOTES - ELECTRICAL**

- Insulate any exposed electrical wiring (using heat shrink tubing or electrical tape) to prevent dangerous short circuits. Take maximum care in wiring, connecting and insulating cables. Make sure cables are always connected securely. Check connectors for if they become loose. And if so, reconnect them securely. Never use RC models with damaged wires. A damaged wire is extremely dangerous, and can cause short-circuits resulting in fire. Please have wires repaired at your local hobby shop.
- Low battery power will result in loss of control. Loss of control can occur due to a weak battery in either the transmitter or the receiver. Weak running battery may also result in an out of control car if your car's receiver power is supplied by the running battery. Stop operation immediately if the car starts to slow down.
- When not using RC model, always disconnect and remove battery.
- Do not disassemble battery or cut battery cables. If the running battery short-circuits, approximately 300W of electricity can be discharged, leading to fire or burns. Never disassemble battery or cut battery cables.
- Use a recommended charger for the receiver and transmitter batteries and follow the instructions correctly. Over-charging, incorrect charging, or using inferior chargers can cause the batteries to become dangerously hot.

Recharge battery when necessary. Continual recharging may damage battery and, in the worst case, could build up heat leading to fire. If battery becomes extremely hot during recharging, please ask your local hobby shop for check and/or repair and/or replacement.

- Regularly check the charger for potential hazards such as damage to the cable, plug, casing or other defects. Ensure that any damage is rectified before using the charger again. Modifying the charger may cause short-circuit or overcharging leading to a serious accident. Therefore do not modify the charger.
- Always unplug charger when recharging is finished.
- Do not recharge battery while battery is still warm. After use, battery retains heat. Wait until it cools down before charging.
- Do not allow any metal part to short circuit the receiver batteries or other electrical/electronic device on the model.
- Immediately stop running if your RC model gets wet as may cause short circuit.
- Please dispose of batteries responsibly. Never put batteries into fire.

## **R/C & BUILDING TIPS**

- Make sure all fasteners are properly tightened. Check them periodically.
- Make sure that chassis screws do not protrude from the chassis.
- For the best performance, it is very important that great care is taken to ensure the free movement of all parts.
- Clean all ball-bearings so they move very easily and freely.
- Tap or pre-thread the plastic parts when threading screws.
- Self-tapping screws cut threads into the parts when being tightened. Do not use excessive force when tightening the self-tapping screws because you may strip out the thread in the plastic. We recommended you stop tightening a screw when you feel some resistance.
- Ask your local hobby shop for any advice.

Please support your local hobby shop. We at XRAY Model Racing Cars support all local hobby dealers. Therefore we ask you, if at all possible, to purchase XRAY products at your hobby dealer and give them your support like we do. If you have difficulty finding XRAY products, please check out [www.teamxray.com](http://www.teamxray.com) to get advice, or contact us via email at [info@teamxray.com](mailto:info@teamxray.com), or contact the XRAY distributor in your country.

## **WARRANTY**

XRAY guarantees this model kit to be free from defects in both material and workmanship within 30 days of purchase. The total monetary value under warranty will in no case exceed the cost of the original kit purchased. This warranty does not cover any components damaged by use or modification or as a result of wear. Part or parts missing from this kit must be reported within 30 days of purchase. No part or parts will be sent under warranty without proof of purchase. Should you find a defective or missing part, contact the local distributor. Service and customer support will be provided through local hobby store where you have purchased the kit, therefore make sure to purchase any XRAY products at your local hobby store. This model racing car is considered to be a high-performance racing vehicle. As such this vehicle will be used in an extreme range of conditions and situations, all which may cause premature wear or failure of any component. XRAY has no control over usage of vehicles once they leave the dealer, therefore XRAY can only offer warranty against all manufacturer's defects in materials, workmanship, and assembly at point of sale and before use. No warranties are expressed or implied that cover damage caused by what is considered normal use, or cover or imply how long any model cars' components or electronic components will last before requiring replacement.

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes but is not limited to

damage from crashing, chemical and/or water damage, excessive moisture, improper or no maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

### **Limitations of Liability**

XRAY makes no other warranties expressed or implied. XRAY shall not be liable for any loss, injury or damages, whether direct, indirect, special, incidental, or consequential, arising from the use, misuse, or abuse of this product and/or any product or accessory required to operate this product. In no case shall XRAY's liability exceed the monetary value of this product.

**Take adequate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation.**

**Disregard of the any of the above cautions may lead to accidents, personal injury, or property damage. XRAY MODEL RACING CARS assumes no responsibility for any injury, damage, or misuse of this product during assembly or operation, nor any addictions that may arise from the use of this product.**

**All rights reserved.**

## **QUALITY CERTIFICATE**

XRAY MODEL RACING CARS uses only the highest quality materials, the best compounds for molded parts and the most sophisticated manufacturing processes of TQM (Total Quality Management). We guarantee that all parts of a newly-purchased kit are manufactured with the highest regard to quality. However, due to the many factors inherent in model racecar competition, we cannot guarantee

any parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty.

We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

**In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number.**

**We do reserve all rights to change any specification without prior notice. All rights reserved.**

# SYMBOLS USED

Part bags used 	Assemble in the specified order 	Assemble left and right sides the same way 	Pay attention here 	Assemble as many times as specified (here twice) 	Apply thread lock 	Apply CA glue 	Apply oil 
Scale 	Apply grease 	Optional parts 	Ensure smooth non-binding movement 	Tighten screw gently 	Completed assembly 	Detail view 	Follow Set-up Book 

# TOOLS REQUIRED

**HUDY TOOLS:**

Allen: 1.5mm 	Allen: 2.0mm 	Allen: 3.0mm 	Socket: 5.5mm 	Socket: 7.0mm 	Arm Reamer 3.0mm 	Turnbuckle Wrench 4mm (HUDY #181040) 
Scissors (HUDY #188990) 	Combination Pliers (HUDY #189020) 	Side Cutters (HUDY #189010) 	Pocket Hobby Knife (HUDY #188981) 	RC Shock-Plier Uni Tool (HUDY #183011) 	Reamer (HUDY #107600) or (HUDY #107601) 	

# ITEMS INCLUDED

Premium Silicone Oil 450cSt (HUDY #106345) 	Premium Silicone Oil 300.000cSt (HUDY #106630) 
Graphite Grease (HUDY #106210) 	

# NOT INCLUDED

	To ensure that you always have access to the most up-to-date version of the XRAY Set-up Book, XRAY will now be offering only the digital online version on our website <a href="http://www.teamxray.com">www.teamxray.com</a> . By offering this online version instead of including a hardcopy printed version in kits, you will always be assured of having the most current updated version.								
<table border="1"> <thead> <tr> <th colspan="2">SAMPLE OF OPTIONAL PARTS</th> </tr> </thead> <tbody> <tr> <td>#30XXXX</td> <td>OPTION 1</td> </tr> <tr> <td>#30XXXX</td> <td>OPTION 2</td> </tr> <tr> <td>#30XXXX</td> <td>OPTION 3</td> </tr> </tbody> </table>	SAMPLE OF OPTIONAL PARTS		#30XXXX	OPTION 1	#30XXXX	OPTION 2	#30XXXX	OPTION 3	XRAY offers wide range of optional tuning parts which are listed in tables like these. Please refer to the exploded view of each main section to verify which part is included in the kit while all other parts are available only as an optional part and must be purchased separately.
SAMPLE OF OPTIONAL PARTS									
#30XXXX	OPTION 1								
#30XXXX	OPTION 2								
#30XXXX	OPTION 3								

# EQUIPMENT REQUIRED

Transmitter 	Receiver 	Steering Servo 	Electric Motor & Pinion Gear and Setscrew 	Bearing Oil (HUDY #106230) 	Speed Controller 
Bodysell 	LiPo Battery 	Lexan™ Paint 	Battery Charger 	Fibre Tape (HUDY #107870) Double-sided Tape (HUDY #107875) 	Wheels Tires Inserts 

# COLOR INDICATIONS

At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section.

The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

Style A - indicates parts that are included in the bag marked for the section.

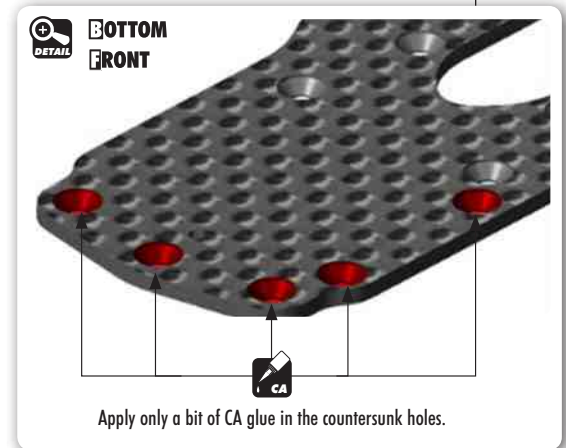
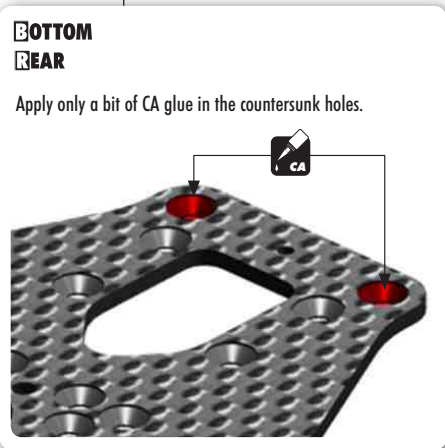
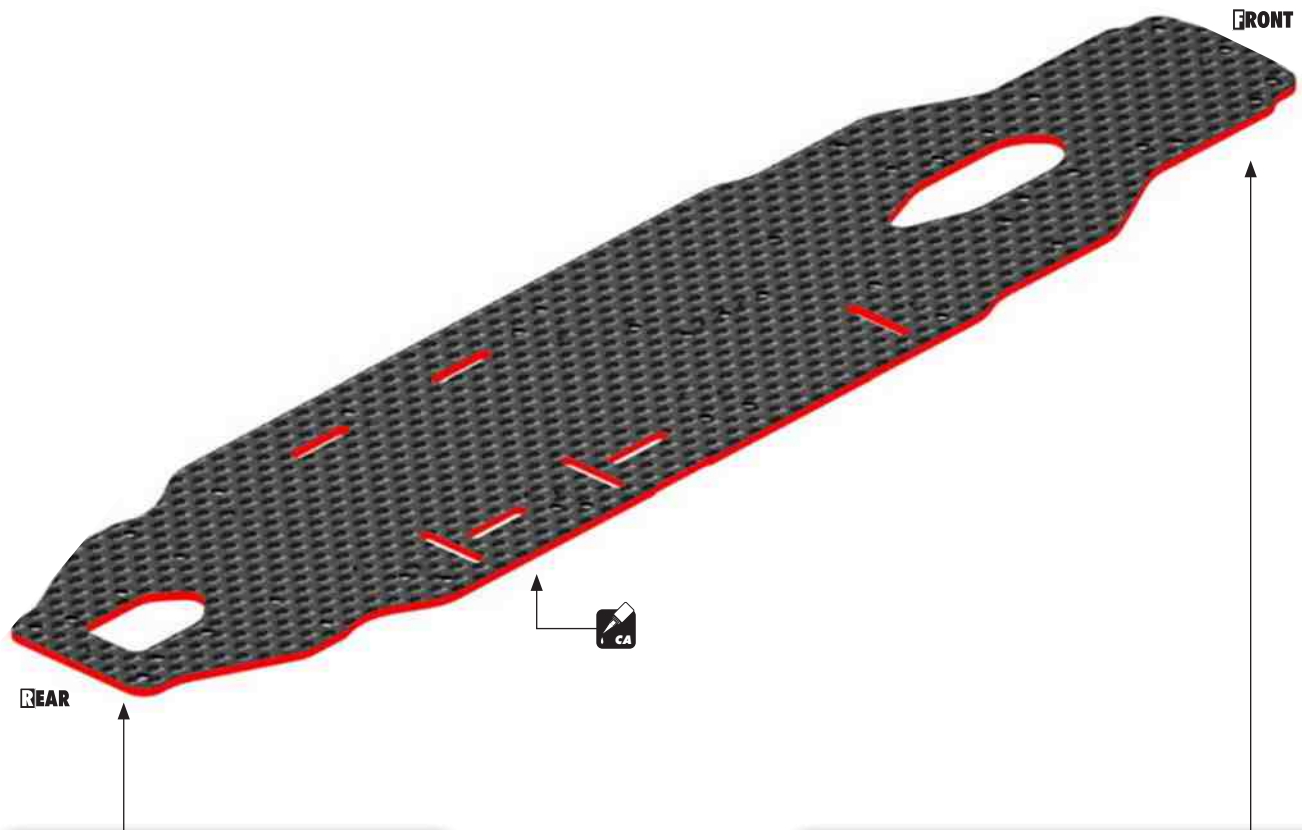
STYLE B - indicates parts that are included in the box.

STYLE C - indicates parts that are already assembled from previous steps.

## CHASSIS PREPARATION

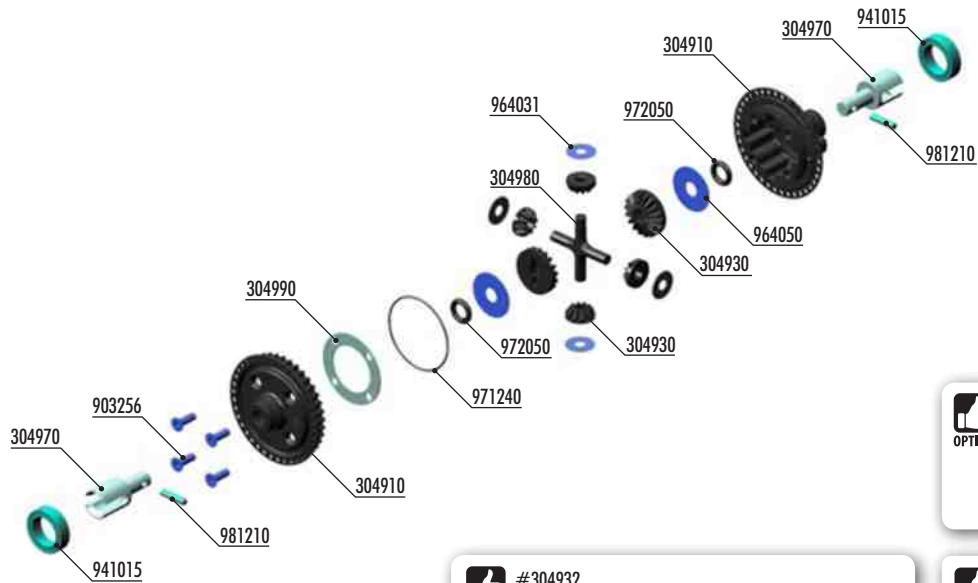
To protect and seal edges of graphite parts, sand edges smooth and then apply CA glue.

Do this for: chassis edges, countersunk holes, and shock towers.



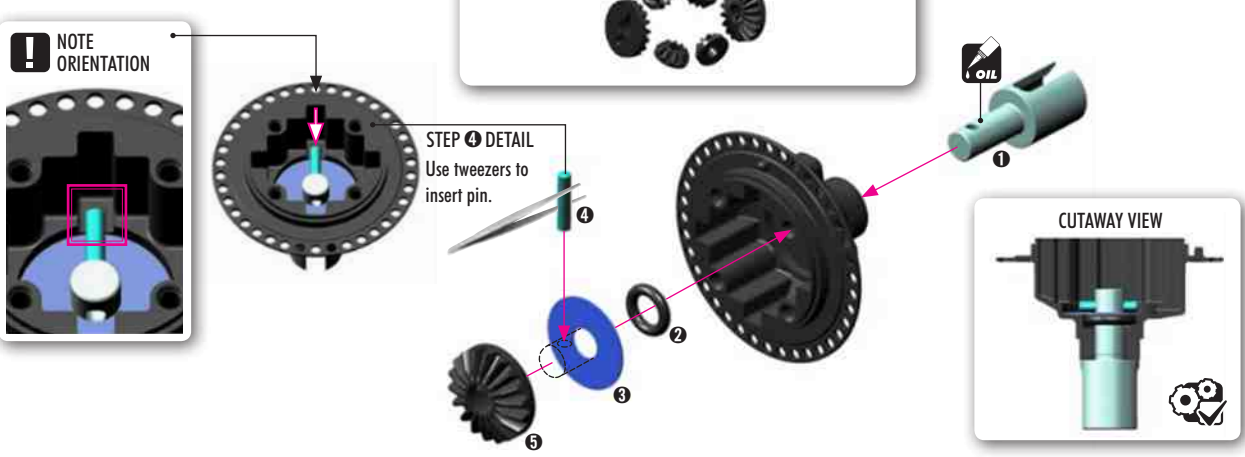
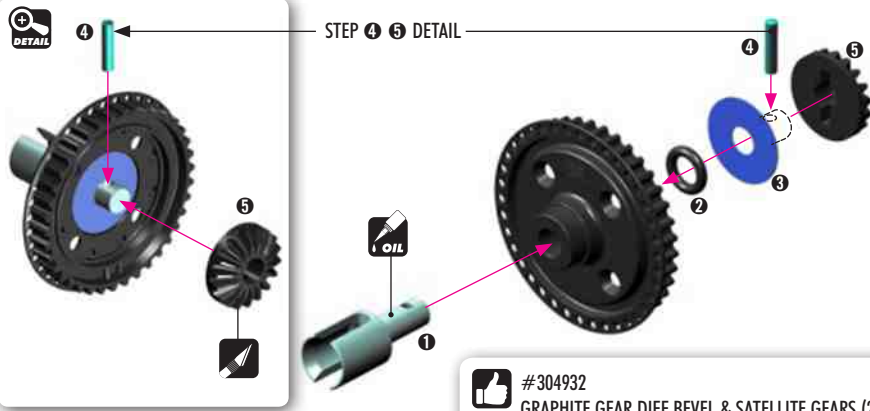


# 1. GEAR DIFFERENTIAL



304900 XRAY GEAR DIFFERENTIAL - SET  
 304910 COMPOSITE GEAR DIFF. CASE & COVER  
 304930 COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)  
 304970 ALU GEAR DIFF OUTDRIVE ADAPTER - 7075 T6 (2)  
 304980 COMPOSITE GEAR DIFF CROSS PIN  
 304990 DIFF GASKET (4)

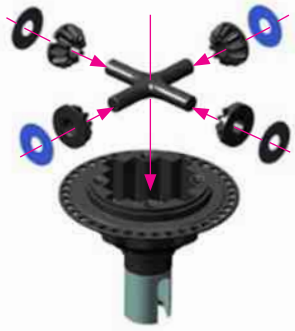
903256 HEX SCREW SFH M2.5x6 (10)  
 941015 BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2)  
 964031 WASHER S 3.5x10x0.2 (10)  
 964050 WASHER S 5x15x0.3 (10)  
 971240 SILICONE O-RING 24x0.7 (10)  
 972050 SILICONE O-RING 5x2 (10)  
 981210 PIN 2x10 (10)



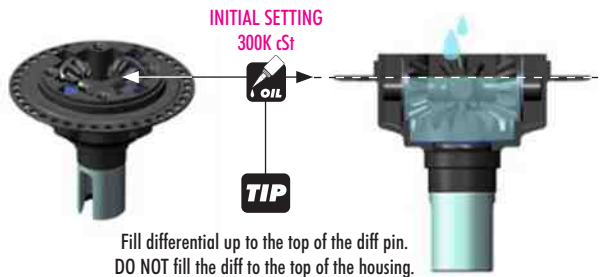
# 1. GEAR DIFFERENTIAL



964031  
S 3.5x10x0.2



#304932  
OPTION GRAPHITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)



**TO ENSURE YOU HAVE THE SAME AMOUNT OF OIL FROM REBUILD TO REBUILD, DO THE FOLLOWING:**

#107865  
HUDY Ultimate Digital Pocket Scale 300g ± 0.01g

8.30g + 1.70g = 10g

1 Put the diff (without oil) on the scale and check the weight (approximately 8.30g)

2 Slowly pour oil into the diff and watch the weight. Add 1.70g of oil into the diff. The approximate weight of the diff including oil is 10g.

**TIP**

## TIPS FOR DIFFERENTIALS

**TIP**

100K	(HUDY #106610)
200K	(HUDY #106620)
300K	(HUDY #106630) <b>INITIAL SETTING</b>
500K	(HUDY #106650)
1MILLION	(HUDY #106650)

If softer oil is used, the car has better rotation, but traction decreases.

**SOFTER**

**HARDER**

If harder oil is used, the car has more forward traction and is more stable, but rotation decreases.

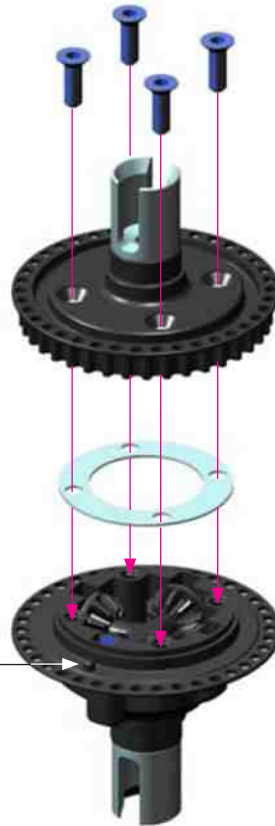


After disassembling the gear diff the large O-ring may have an increased size and may be more difficult to re-install. We recommend either inserting the old O-ring carefully in the diff cover, or replacing the old O-ring with a new O-ring if the old one cannot be made to fit properly.

# 1. GEAR DIFFERENTIAL



903256  
SFH M2.5x6



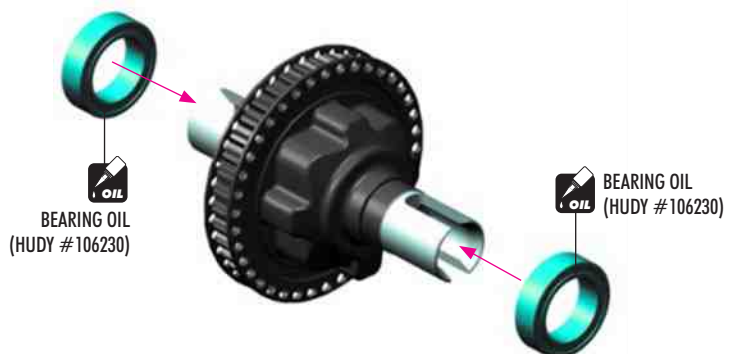
Tighten the screws equally but do NOT tighten them completely.



Finish tightening in this order.

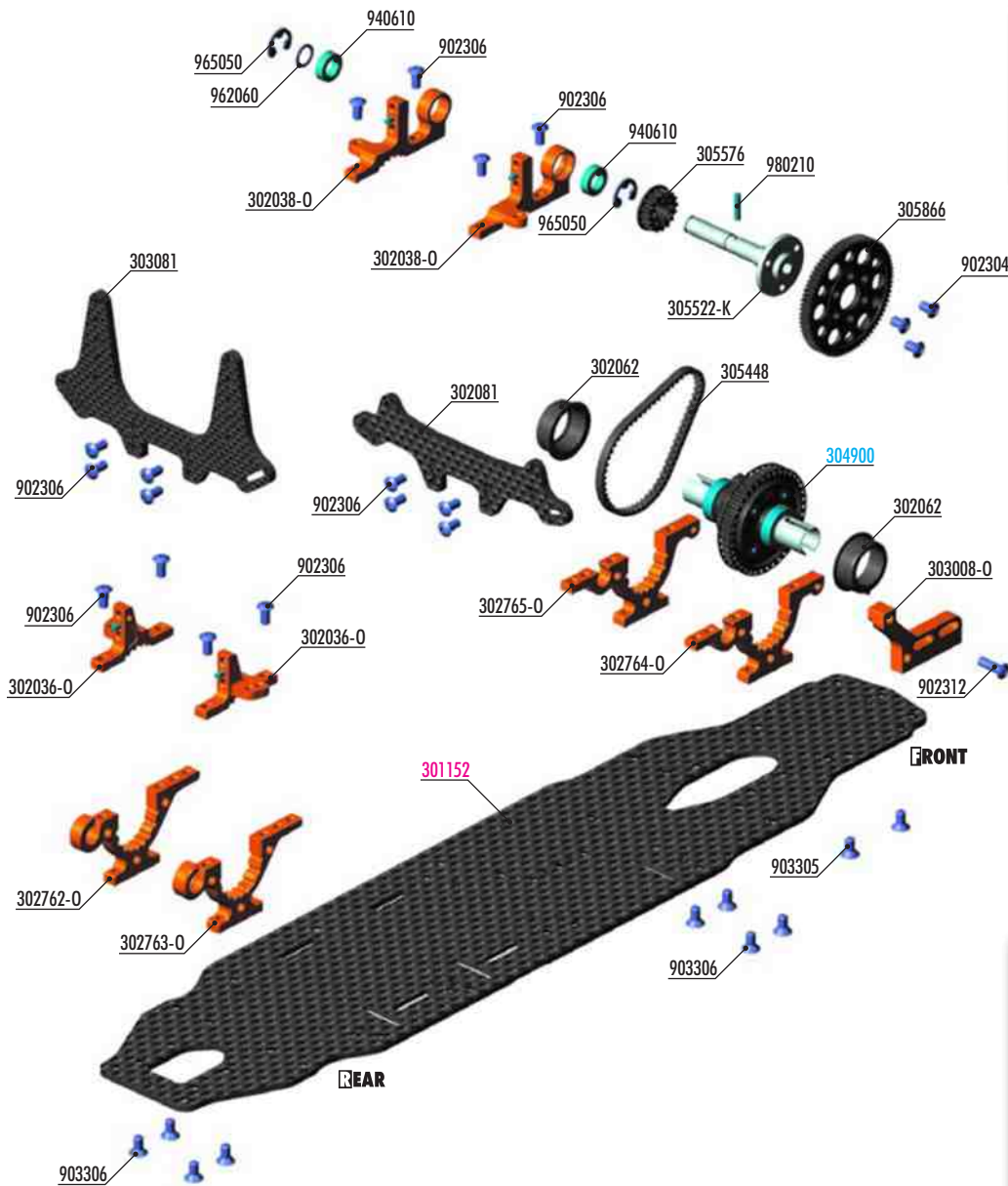


941015  
BB 10x15x4





## 2. FRONT TRANSMISSION



**#309002**  
**OPTION** SET OF CERAMIC BALL-BEARINGS (14)



**#302063**  
**OPTION** ALU ADJUSTMENT BALL-BEARING HUB (2)



**OPTION** **OFFSET SPUR GEARS 48P**

#305772	72T / 48P	OPTION
#305776	76T / 48P	OPTION
#305778	78T / 48P	OPTION
#305779	79T / 48P	OPTION

**OFFSET SPUR GEARS 64P**

#305860	90T / 64P	OPTION
#305862	92T / 64P	OPTION
#305866	96T / 64P	INCLUDED
#305869	99T / 64P	OPTION
#305870	100T / 64P	OPTION
#305874	104T / 64P	OPTION
#305876	106T / 64P	OPTION

**BAG**

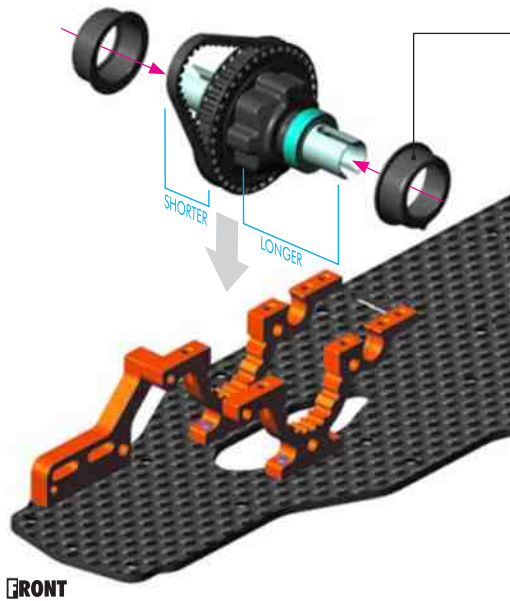
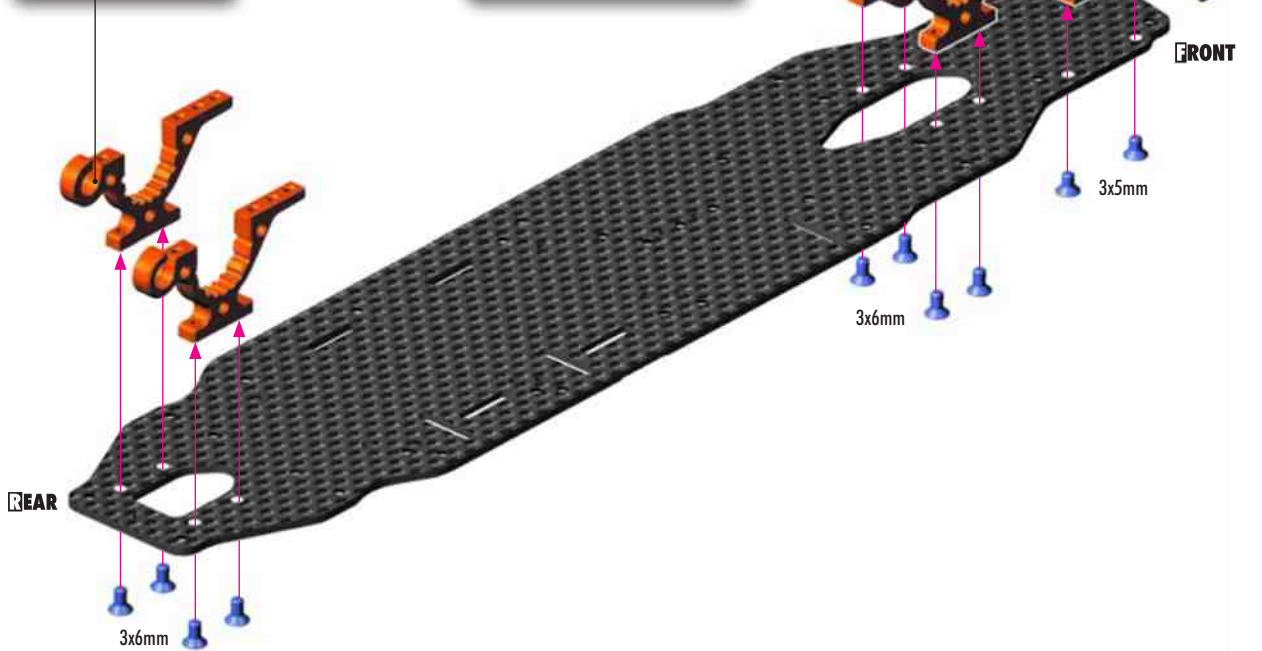
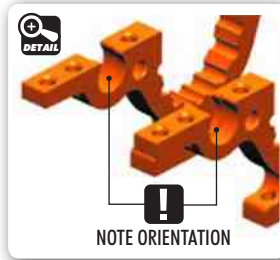
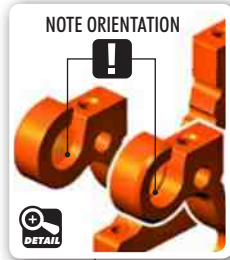
**02**

- 302036-0 T4 ALU UPPER CLAMP WITH 2 ADJ. ROLL-CENTERS (L+R) - ORANGE
- 302038-0 T4F ALU UPPER CLAMP - ORANGE
- 302062 T4 COMPOSITE ADJUSTMENT BALL-BEARING HUB (4)
- 302081 T4F SHOCK TOWER FRONT 3.0MM GRAPHITE
- 302762-0 T4 ALU LOWER ADJUSTMENT BULKHEAD - FRONT R / REAR L - ORANGE
- 302763-0 T4 ALU LOWER ADJUSTMENT BULKHEAD - FRONT L / REAR R - ORANGE
- 302764-0 T4F ALU LOWER ADJUSTMENT BULKHEAD - FRONT RIGHT - ORANGE
- 302765-0 T4F ALU LOWER ADJUSTMENT BULKHEAD - FRONT LEFT - ORANGE
- 303008-0 T4F ALU MOTOR MOUNT - ORANGE
- 303081 T4F SHOCK TOWER REAR 3.0MM GRAPHITE
- 305448 HIGH-PERFORMANCE DRIVE BELT REAR 3 x 144 MM
- 305522-K T4F ALU SOLID LAYSHAFT - BLACK
- 305576 COMPOSITE FIXED PULLEY 16T (2)
- 305866 COMPOSITE OFFSET SPUR GEAR 96T / 64

- 902304 HEX SCREW SH M3x4 - STAINLESS (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 903305 HEX SCREW SFH M3x5 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 940610 BALL-BEARING 6x10x3 RUBBER SEALED - OIL (2)
- 962060 WASHER S 6x8x0.5 (10)
- 965050 E-CLIP 5 (10)
- 980210 PIN 2x10 (10)

- 304900 XRAY GEAR DIFFERENTIAL - SET
- 301152 T4F CHASSIS 2.2MM GRAPHITE

## 2. FRONT TRANSMISSION



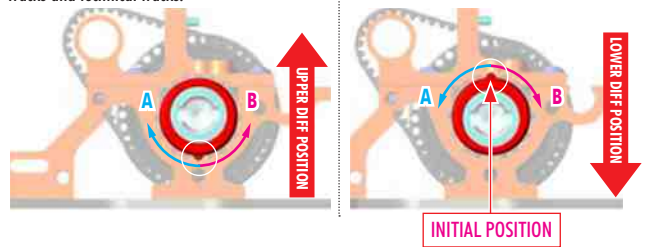
### BELT TENSION ADJUSTMENT

Front diff **UPPER** position - tab in bottom notch - provides **more steering**, but **less front traction**

Recommended for **medium-high** traction tracks and technical tracks.

Front diff **LOWER** position - tab in top notch - provides **more front traction**, but makes the car **push on-power**.

Recommended for **low-traction** tracks.



**TO TIGHTEN FRONT BELT:** Rotate both front nylon hubs in arrow direction **A**

**TO LOOSEN FRONT BELT:** Rotate both front nylon hubs in arrow direction **B**

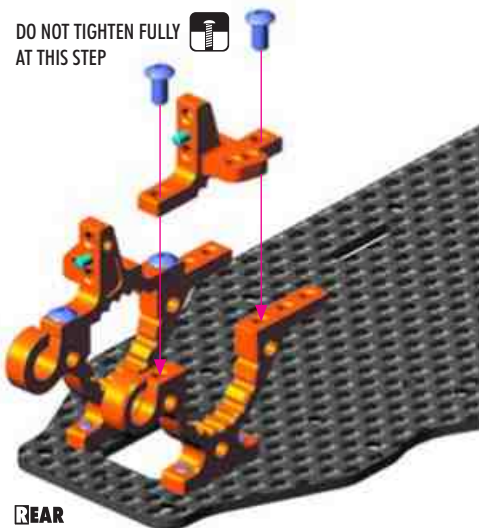
# 2. FRONT TRANSMISSION



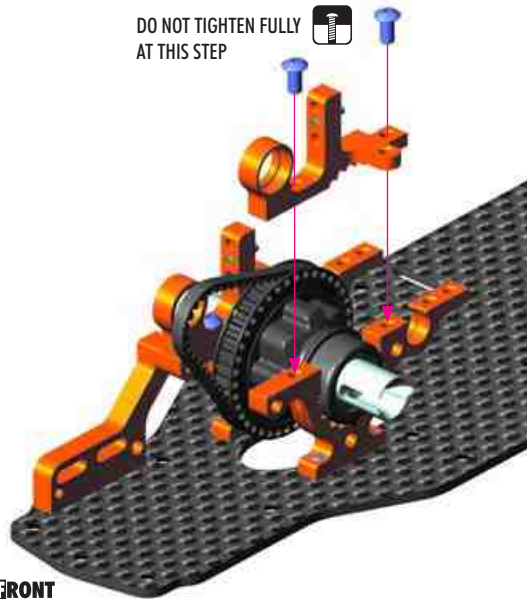
902306  
SH M3x6



DO NOT TIGHTEN FULLY  
AT THIS STEP



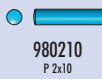
DO NOT TIGHTEN FULLY  
AT THIS STEP



940610  
BB 6x10x3



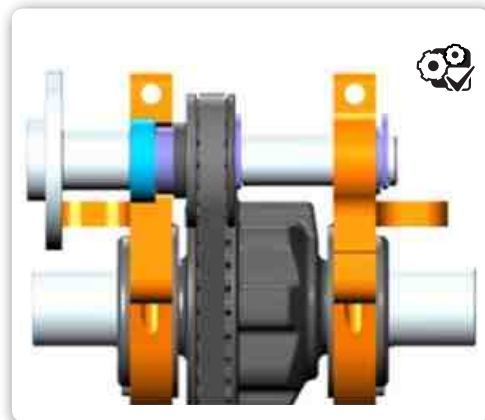
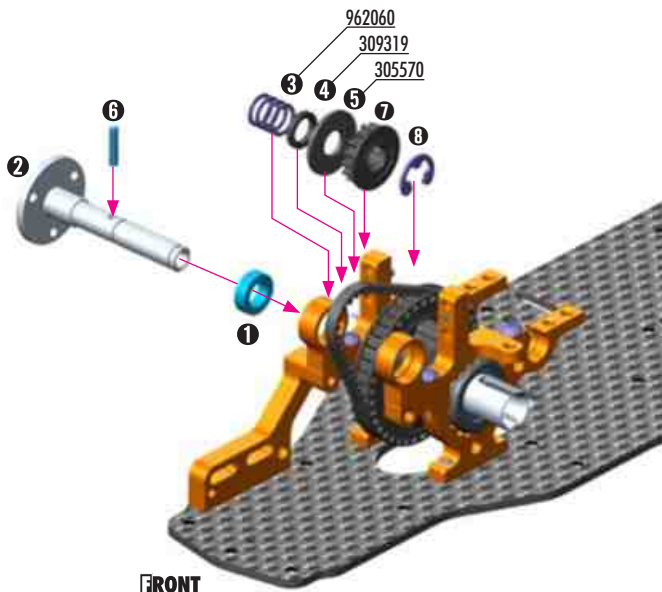
965050  
CS



980210  
P 2x10



962060  
SHIM 6x8x0.5



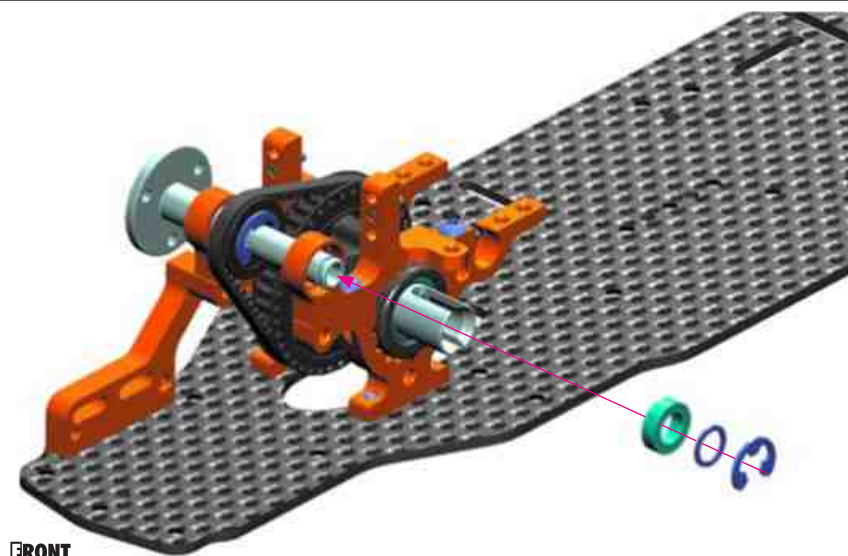
940610  
BB 6x10x3



962060  
SHIM 6x8x0.5



965050  
CS

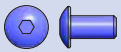
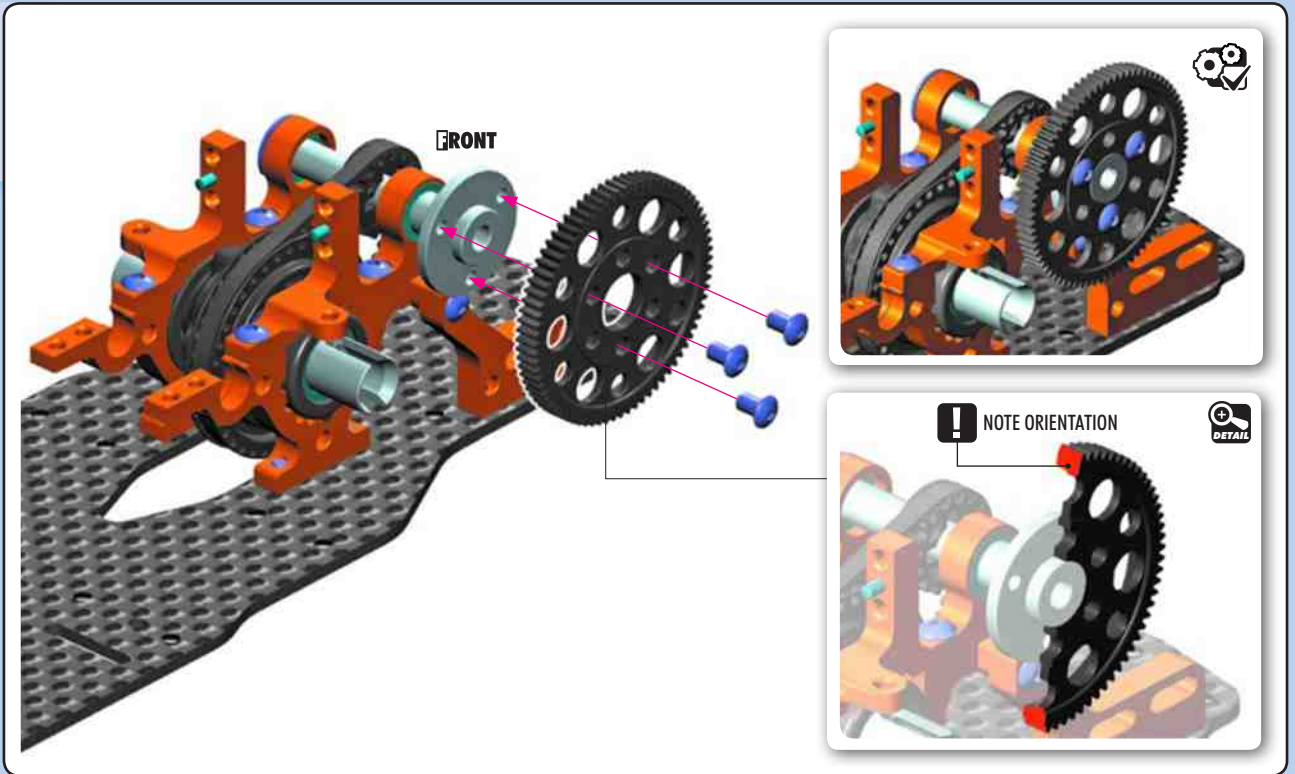




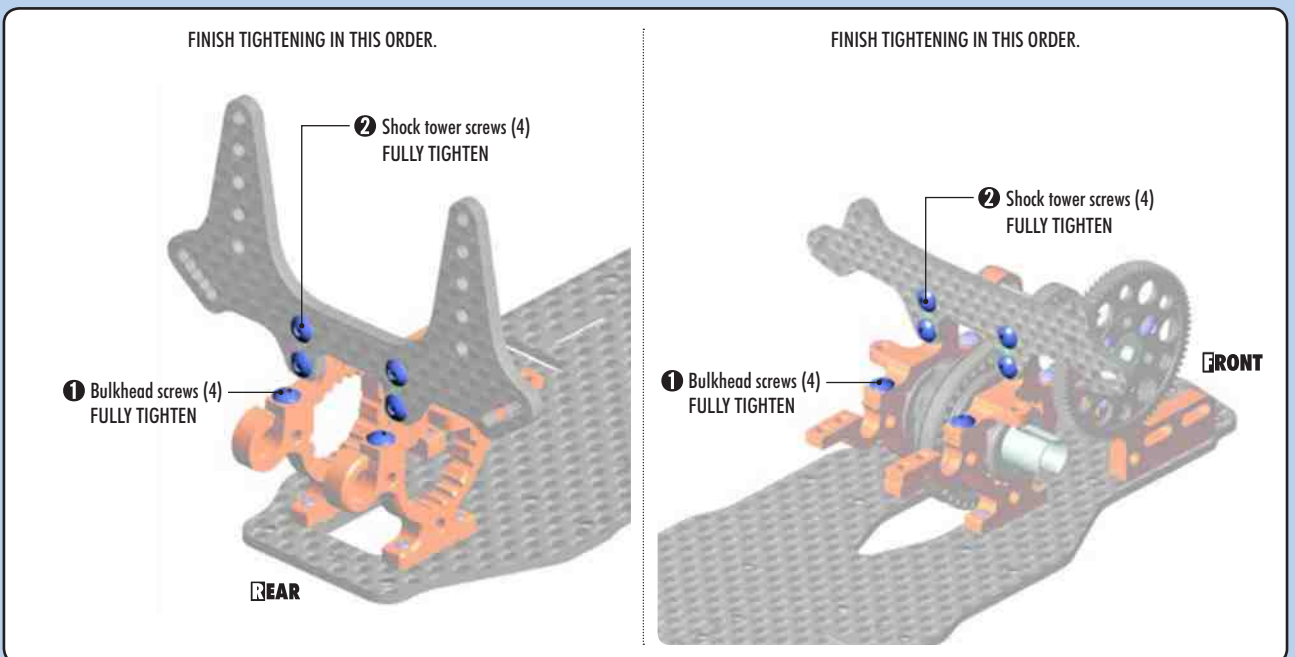
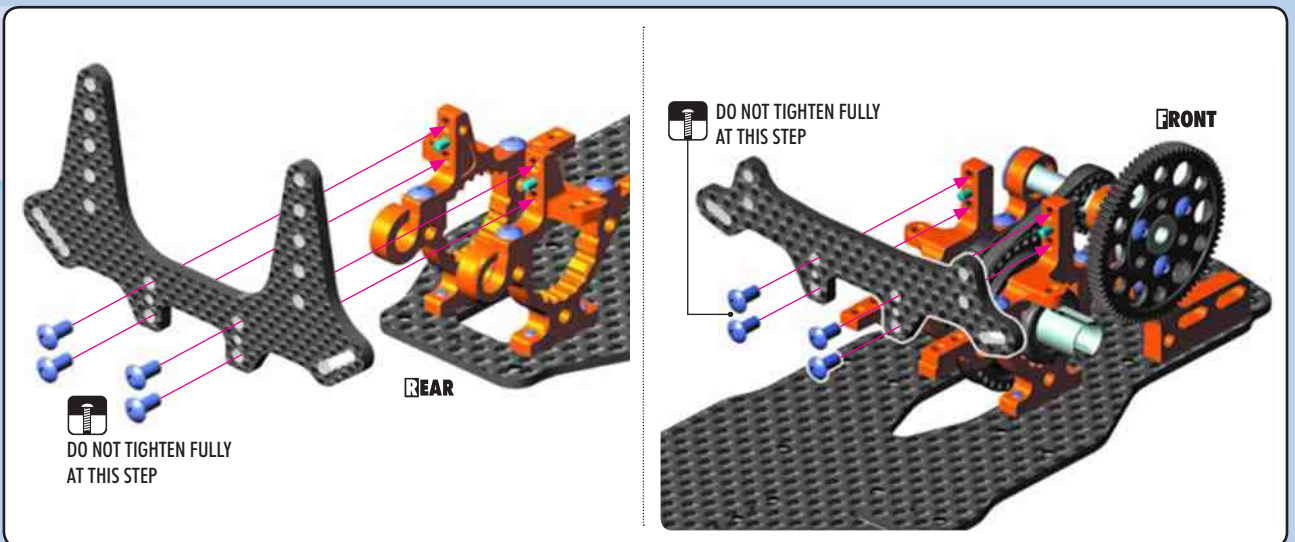
## 2. FRONT TRANSMISSION



902304  
SH M3x4



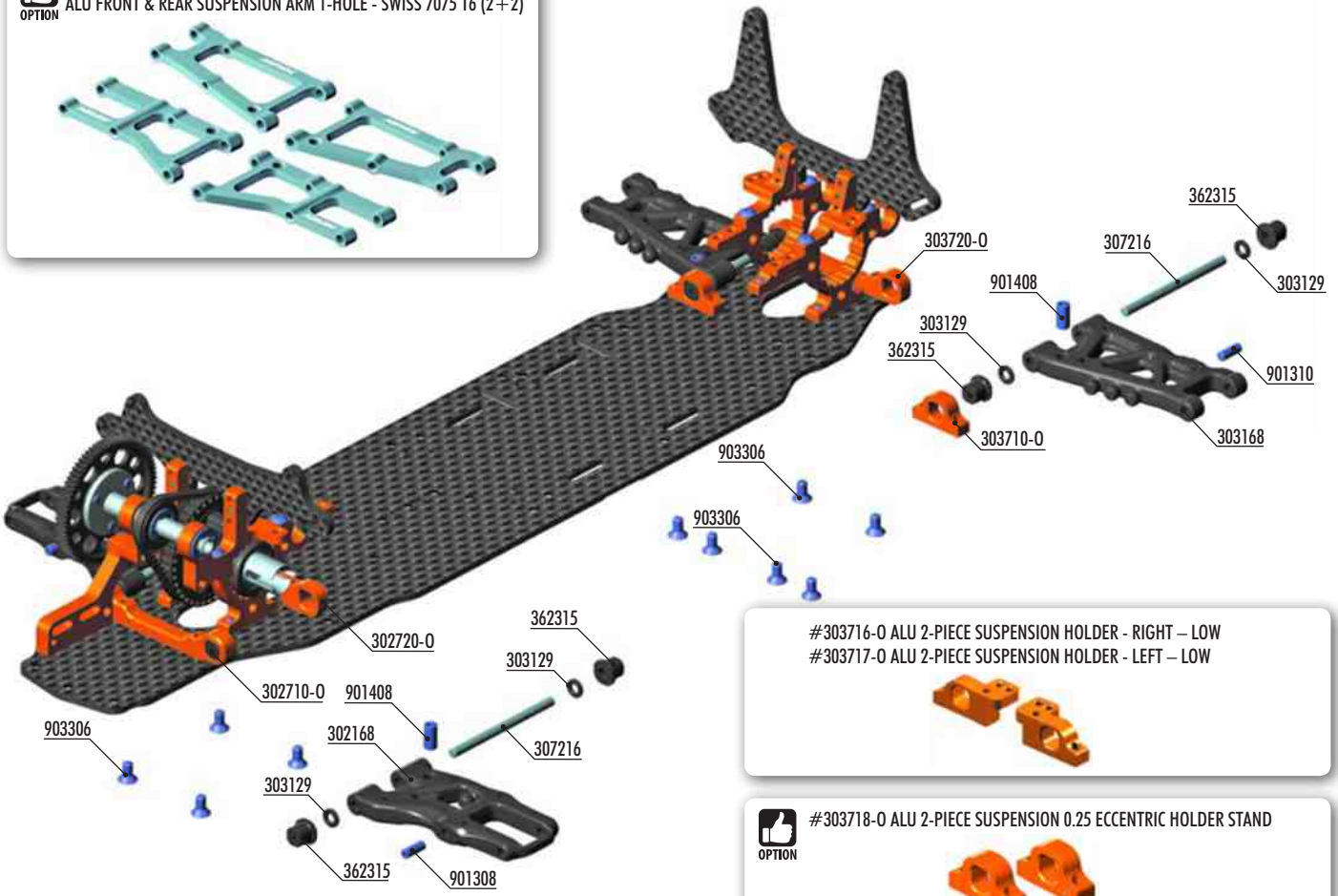
902306  
SH M3x6



# 3. FRONT & REAR SUSPENSION



#302101  
ALU FRONT & REAR SUSPENSION ARM 1-HOLE - SWISS 7075 T6 (2+2)



#303716-0 ALU 2-PIECE SUSPENSION HOLDER - RIGHT - LOW  
#303717-0 ALU 2-PIECE SUSPENSION HOLDER - LEFT - LOW



#303718-0 ALU 2-PIECE SUSPENSION 0.25 ECCENTRIC HOLDER STAND



#303722-0 ALU REAR 1-PIECE SUSPENSION HOLDER - RR - LOW



#302712-0 ALU FRONT 1-PIECE SUSPENSION HOLDER (FF-LOW)  
#302722-0 ALU FRONT 1-PIECE SUSPENSION HOLDER (FR-LOW)



#302711 BRASS FRONT 1-PIECE SUSPENSION HOLDER - FRONT - FF  
#302721 BRASS FRONT 1-PIECE SUSPENSION HOLDER - REAR - FR  
#303714 BRASS 2-PIECE SUSPENSION HOLDER - RIGHT  
#303715 BRASS 2-PIECE SUSPENSION HOLDER - LEFT  
#303721 BRASS REAR 1-PIECE SUSPENSION HOLDER - REAR - RR



## FRONT ARMS

Part Number	Material	Status
#302168	HARD	INCLUDED
#302169	GRAPHITE	OPTION
#302170	ALU	OPTION



## REAR ARMS

Part Number	Material	Status
#303168	HARD	INCLUDED
#303169	GRAPHITE	OPTION
#303172	ALU	OPTION



#307217  
TITANIUM SUSPENSION PIVOT PIN (2)



**BAG**

**03**

302168 FRONT SUSPENSION ARM - HARD - 1-HOLE  
302710-0 ALU FRONT 1-PIECE SUSPENSION HOLDER - FRONT - FF  
302720-0 ALU FRONT 1-PIECE SUSPENSION HOLDER - REAR - FR  
303129 COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)  
303168 REAR SUSPENSION ARM - HARD - 1-HOLE  
303710-0 ALU 2-PIECE SUSPENSION HOLDER (1)  
303720-0 ALU REAR 1-PIECE SUSPENSION HOLDER - REAR - RR

307216 SUSPENSION PIVOT PIN (2)  
362315 ECCENTRIC BUSHING SET (2)  
901308 HEX SCREW SB M3x8 (10)  
901310 HEX SCREW SB M3x10 (10)  
901408 HEX SCREW SB M4x8 (10)  
903306 HEX SCREW SFH M3x6 (10)

# 3. FRONT & REAR SUSPENSION

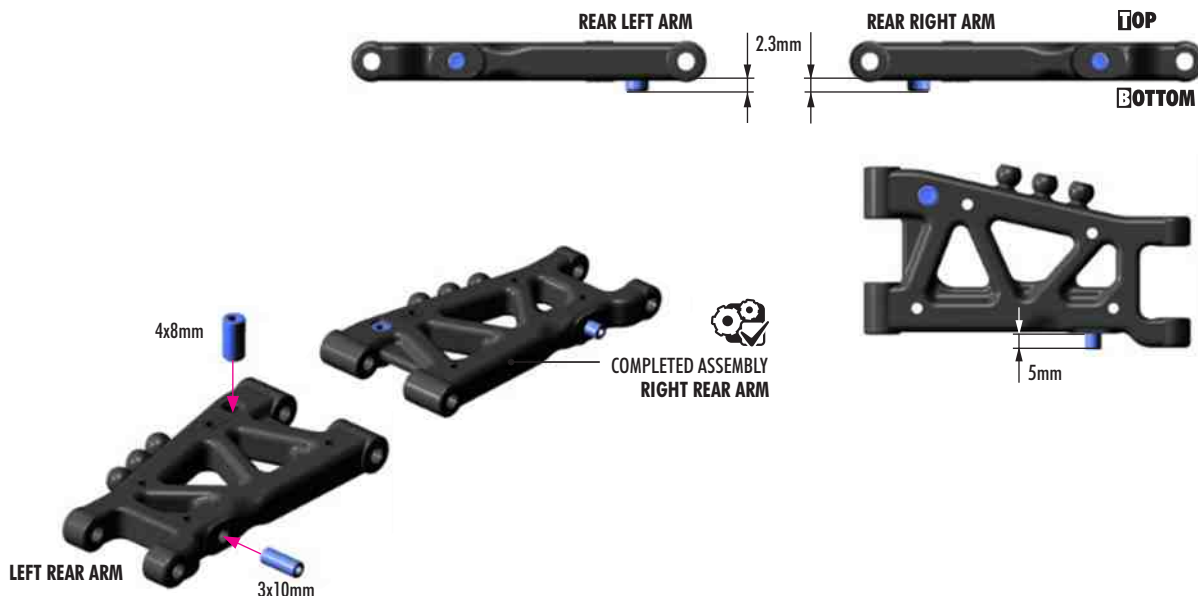


901310  
SB M3x10



901408  
SB M4x8

## 2x REAR ARMS



REAR ARMS			
OPTION	#303168	HARD	INCLUDED
	#303169	GRAPHITE	OPTION
	#303172	ALU	OPTION

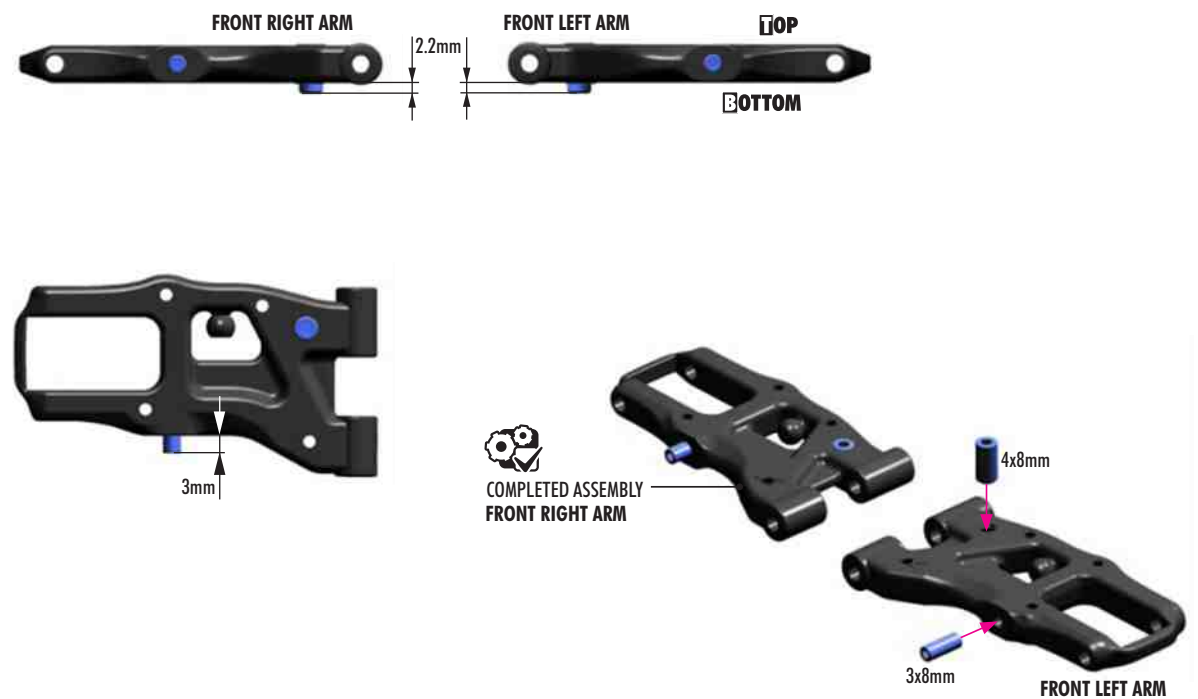


901308  
SB M3x8



901408  
SB M4x8

## 2x FRONT ARMS



FRONT ARMS			
OPTION	#302168	HARD	INCLUDED
	#302169	GRAPHITE	OPTION
	#302170	ALU	OPTION





# 3. FRONT & REAR SUSPENSION

IO

303129  
SHIM 3x6x1



903306  
SFH M3x6

## REAR SUSPENSION



#303722-0  
ALU REAR 1-PIECE SUSPENSION HOLDER  
- RR - LOW



#303721  
BRASS REAR 1-PIECE SUSPENSION  
HOLDER - (RR)



#303716-0 ALU 2-PIECE SUSPENSION HOLDER - RIGHT - LOW  
#303717-0 ALU 2-PIECE SUSPENSION HOLDER - LEFT - LOW



It is extremely important that the arms move freely on the pivot pins. If they do not, use the Arm Reamer (3.0mm) to slightly resize the holes in the arms.



#107633 HUDY Arm Reamer 3.0mm



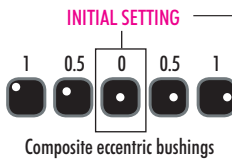
#303718-0 ALU 2-PIECE SUSPENSION 0.25  
ECCENTRIC HOLDER STAND



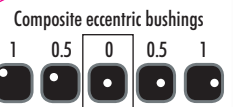
#303714 BRASS 2-PIECE SUSPENSION HOLDER - RIGHT  
#303715 BRASS 2-PIECE SUSPENSION HOLDER - LEFT



NOTE ORIENTATION



3x6x1mm



#307217  
TITANIUM SUSPENSION  
PIVOT PIN (2)



### ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER

- Middle position = 0.5 mm or 0.5° from center
- Outer position = 1mm or 1° from center

The XRAY rear alu lower suspension holders provide even greater range of adjustment for the rear suspension. Using different combinations of eccentric bushings, fine adjustment of rear squat, rear toe-in, rear roll center, and rear track-width can be obtained. For more information about the influence of rear squat, rear toe-in, rear roll center and rear track-width on car handling, please refer to HUDY Set-up Book (#209100).



TOE-IN  
TRACK-WIDTH  
WHEELBASE  
ROLL CENTER  
ANTI-SQUAT  
PRO-SQUAT

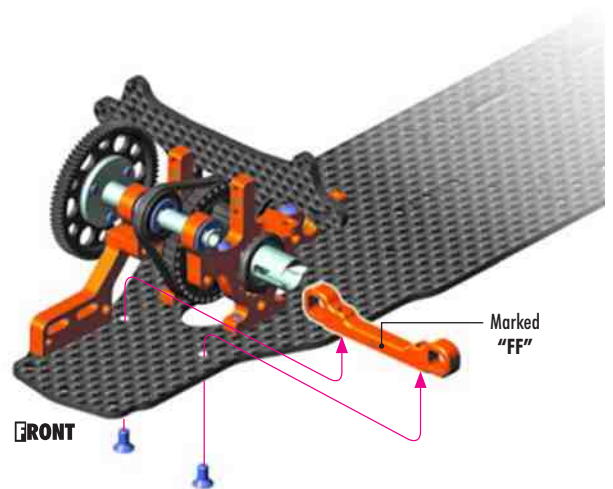
## FRONT SUSPENSION



#302711  
BRASS FRONT 1-PIECE  
SUSPENSION HOLDER - (FF)



#302712-0  
ALU FRONT 1-PIECE  
SUSPENSION HOLDER (FF-LOW)



FRONT

Marked "FF"

# 3. FRONT & REAR SUSPENSION

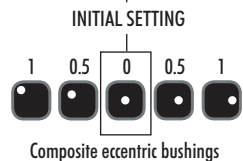
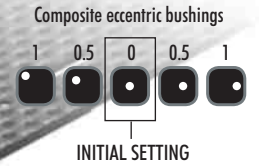
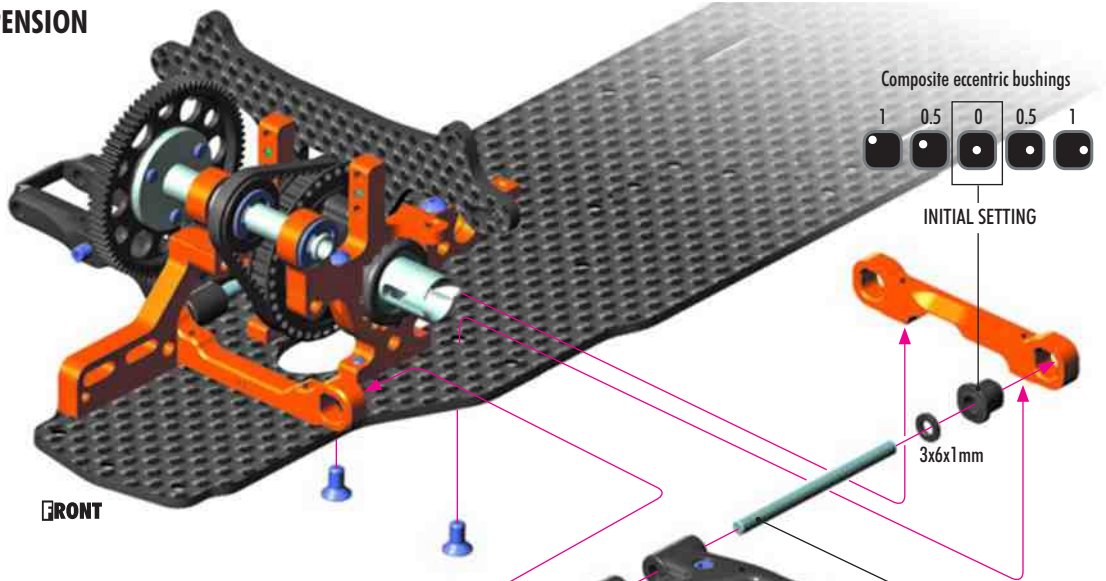
10

303129  
SHIM 3x6x1



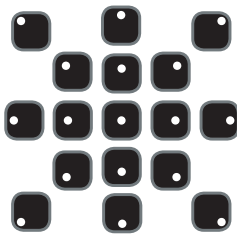
903306  
SFH M3x6

## FRONT SUSPENSION



**OPTION** #307217  
TITANIUM SUSPENSION  
PIVOT PIN (2)

All possible mounting alternatives of eccentric bushings



It is extremely important that the arms move freely on the pivot pins. If they do not, use the Arm Reamer (3.0mm) to slightly resize the holes in the arms.

#107633 HUDY Arm Reamer 3.0mm

**SET-UP BOOK**

TOE-IN  
TRACK-WIDTH  
WHEELBASE  
ROLL CENTER  
ANTI-DIVE  
KICK-UP

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

- Middle position = 0.5 mm or 0.5° from center
- Outer position = 1mm or 1° from center

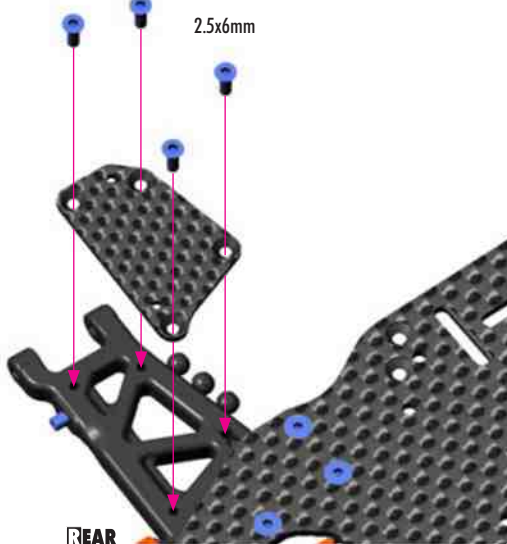
The XRAY front alu lower suspension holders provide even greater range of adjustment for the front suspension. Using different combinations of eccentric bushings, fine adjustment of front anti-squat, front kick-up, front toe-in, front roll center, and front track-width can be obtained. For more information about the influence of front anti-dive, front kick-up, front toe-in, front roll center and front track-width on car handling, please refer to HUDY Set-up Book.



For better stability and to make the car easier to drive, optional #302190 and #303190 graphite stiffeners may be used on the suspension arms. Using only 4 screws, each graphite stiffener can be installed or removed which will completely change the characteristics of the car. Stiffeners may be used independently at front and/or rear. **IMPORTANT!** Install/remove stiffeners equally on left & right sides.

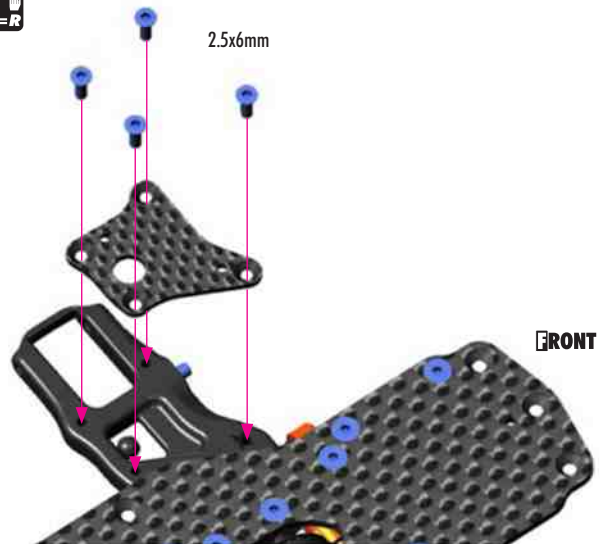
#303190  
GRAPHITE REAR LOWER ARM PLATE 1.6MM (2)

2x L=R



#302190  
GRAPHITE FRONT LOWER ARM PLATE 1.6MM (2)

2x L=R



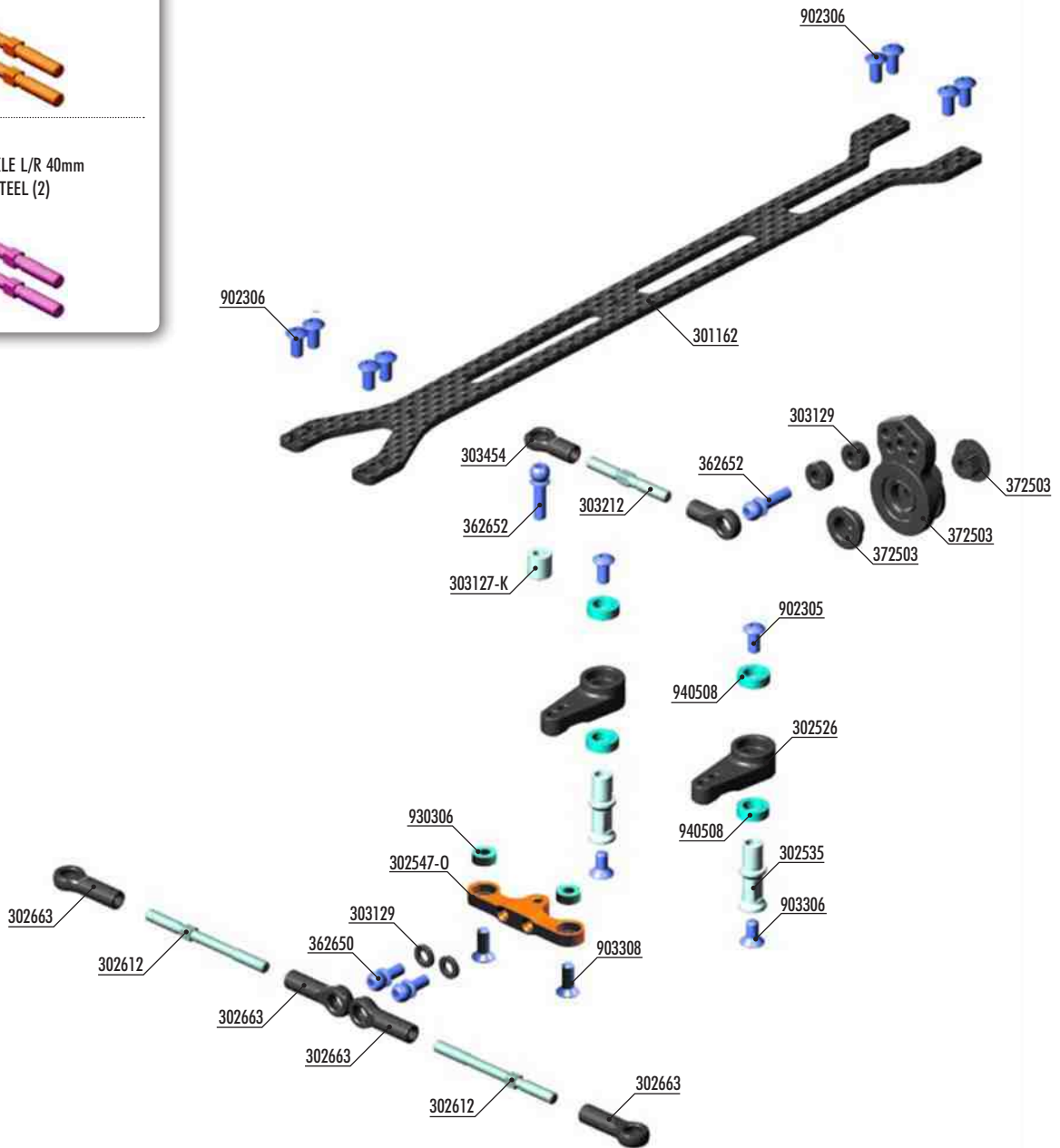
# 4. STEERING



#302612-0  
ALU ADJ. TURNBUCKLE M3 L/R 39mm  
ORANGE - SWISS 7075 T6 (2)



#302610  
ADJ. TURNBUCKLE L/R 40mm  
HVDY SPRING STEEL (2)



#302570  
GRAPHITE STEERING  
PLATE SET



#302525  
ALU DUAL-SERVO SAVER ARM



#302544-0  
ALU SHIM FOR RADIAL PLAY ADJUSTMENT  
OF STEERING ARM - ORANGE (2)



**BAG**

**04**

- 301162 T4F UPPER DECK 2.0MM GRAPHITE
- 302526 COMPOSITE DUAL SERVO SAVER ARM
- 302535 ALU STEERING POST FOR DUAL-SERVO SAVER (2)
- 302547-0 ALU STEERING PLATE 8.5MM FOR DUAL-SERVO SAVER - ORANGE
- 302612 ALU ADJ. TURNBUCKLE M3 L/R 39 MM - SWISS 7075 T6 (2)
- 302663 COMPOSITE BALL JOINT 5 MM - OPEN - V2 (8)
- 303127-K ALU SHIM 3x6x4.0MM - BLACK (10)
- 303129 COMPOSITE SET OF SHIMS (3x1MM; 1x2MM) (2)
- 303212 ALU ADJ. TURNBUCKLE L/R 26 MM - SWISS 7075 T6 (2)
- 303454 BALL JOINT 4.9MM - OPEN (4)
- 362650 BALL END 4.9MM WITH THREAD 6MM (2)
- 362652 BALL END 4.9MM WITH THREAD 10MM (2)

- 372503 COMPOSITE SERVO SAVER - X-STIFF - SET - V2
- 902305 HEX SCREW SH M3x5 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 930306 BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)
- 940508 BALL-BEARING 5x8x2.5 RUBBER-SEALED - OILED (2)



# 4. STEERING

**2x STEERING LINKS**

65.4mm

**OPTION** #302612-0  
ALU ADJ. TURNBUCKLE M3  
L/R 39mm ORANGE - SWISS  
7075 T6 (2)

**OPTION** #302610  
ADJ. TURNBUCKLE L/R 40mm  
HUDY SPRING STEEL (2)

**SERVO LINK**  
Adjust servo link to fit your servo

approximately 47mm

**903308**  
SFH M3x8

**930306**  
BB 3x6x2.5

**940508**  
BB 5x8x2.5

**BEARING OIL (HUDY #106230)**

5x8x2.5mm

3x6x2.5mm

**NOTE ORIENTATION**

**!** Tighten the screws gently but fully, and then loosen 1/3 turn so the composite dual-servo saver moves freely.

**!** tighten fully

**!** loosen 1/3 ccw

**!** check free movement (120° CCW)

**OPTION** #302525  
ALU DUAL SERVO SAVER ARM

We recommend using the aluminum dual-servo saver arms when better steering response is needed. Also recommended for asphalt tracks.

**OPTION** #302544-0  
ALU SHIM FOR RADIAL PLAY ADJUSTMENT OF STEERING ARM - ORANGE (2)

**10**

**303129**  
SHIM 3x6x1

**2x** **L=R**

**NOTE ORIENTATION**

6mm THREAD

**INITIAL SETTING (3x6x1mm)**

**NOTE ORIENTATION**

**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)

**TIP** To change Ackermann angle, use 2 identical shims (of same thickness) between the alu steering plate and ball ends.

3x1mm & 1x2mm shims

**10**

**303129**  
SHIM 3x6x2

**303127-K**  
SHIM 3x6x4

3x6x2mm

8mm THREAD

10mm THREAD

3x6x4mm

**!** INITIAL SETTING

H = Hitec (24T)  
F = Futaba, Robe (25T)  
K = KO, JR, Airtronics, Sanwa (23T)

	HUDY ALU SERVO HORNS	HUDY CLAMP ALU SERVO HORNS
<b>OPTION</b>	#293501 KO, Sanwa - 23T	#293407 KO, Sanwa - 23T
	#293502 Hitec - 24T	#293408 Hitec - 24T
	#293503 Futaba - 25T	#293409 Futaba - 25T

For more in-corner steering and better steering response, aluminum servo horns may be used.

**IMPORTANT!** When the aluminum horn is used, the steering servo saver is not used. This increases the risk of breaking the servo in serious crashes.

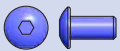
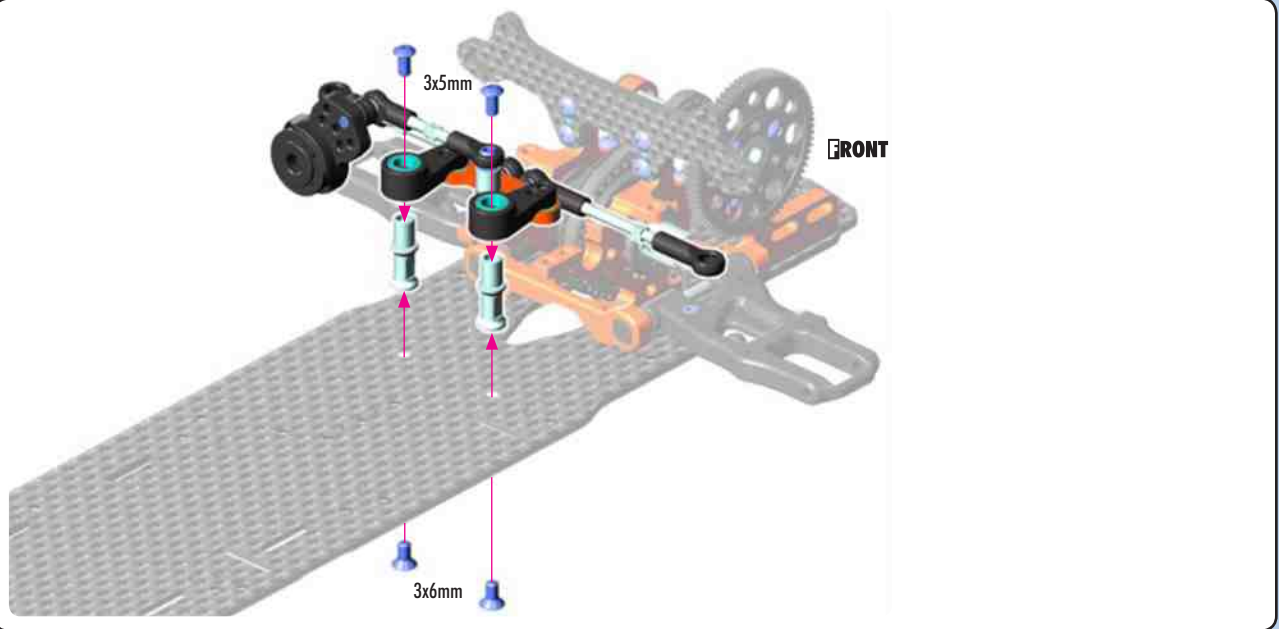
# 4. STEERING



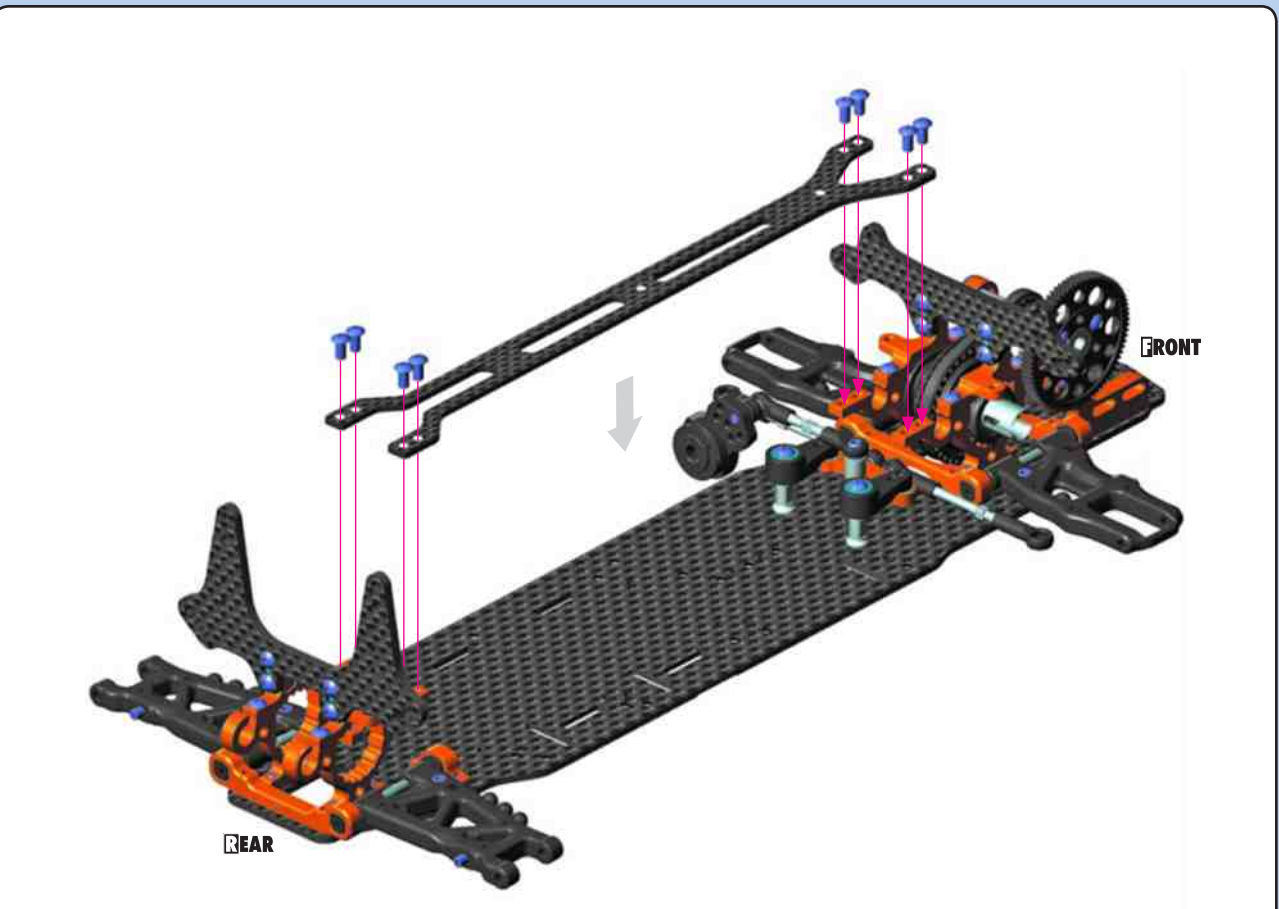
902305  
SH M3x5



903306  
SFH M3x6



902306  
SH M3x6



OPTION

#302570

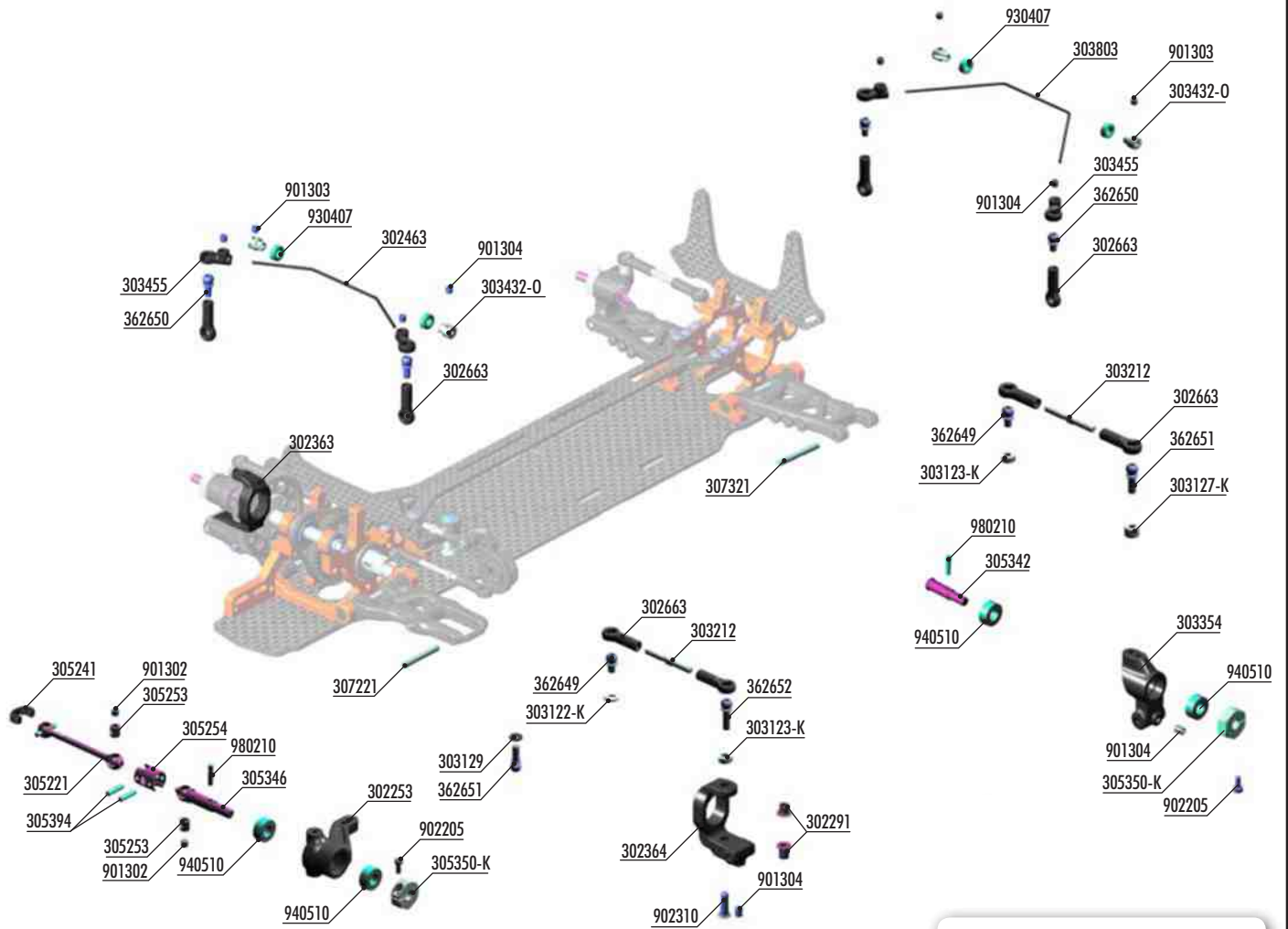
GRAPHITE STEERING PLATE SET



Smart chassis flex adjustment via graphite steering plate which can be mounted with an additional aluminum stand. Using only the graphite steering plate, chassis flex is medium; using the aluminum stand for reinforcement, the flex becomes stiffer. Stiffer flex results in more aggressive handling and increased steering.



# 5. FRONT & REAR TRANSMISSION



**#305242**  
 DRIVE SHAFT REPLACEMENT CAP  
 3.5MM - ORANGE - STRONG (4)



**#307222** TITANIUM FRONT ARM PIVOT PIN (2)  
**#307322** TITANIUM REAR ARM PIVOT PIN (2)



**#303212-0**  
 ALU TURNBUCKLE L/R 26mm  
 ORANGE - SWISS 7075 T6 (2)



**#303210**  
 TURNBUCKLE M3 L/R 26mm  
 HUDY SPRING STEEL™ (2)



**#309002**  
 SET OF CERAMIC  
 BALL-BEARINGS (14)



FRONT ANTI-ROLL BARS		
#302463	FRONT 1.3 MM	INCLUDED
#302464	FRONT 1.4 MM	OPTION

REAR ANTI-ROLL BARS		
#303801	REAR 1.1 MM	OPTION
#303802	REAR 1.2 MM	OPTION
#303803	REAR 1.3 MM	INCLUDED
#303804	REAR 1.4 MM	OPTION
#303805	REAR 1.5 MM	OPTION
#303806	REAR 1.6 MM	OPTION

**BAG**

**05**

- 302253 COMPOSITE STEERING BLOCK - HARD
- 302291 STEEL STEERING BUSHING (2+2)
- 302363 COMPOSITE C-HUB RIGHT - 4° DEG. - MEDIUM - V2
- 302364 COMPOSITE C-HUB LEFT - 4° DEG. - MEDIUM - V2
- 302463 T4F ANTI-ROLL BAR FOR BALL BEARINGS - FRONT 1.3 MM
- 302663 COMPOSITE BALL JOINT 4.9MM - OPEN - V2 (8)
- 303122-K ALU SHIM 3x6x1.0MM - BLACK (10)
- 303123-K ALU SHIM 3x6x2.0MM - BLACK (10)
- 303127-K ALU SHIM 3x6x4.0MM - BLACK (10)
- 303129 COMPOSITE SET OF SHIMS (3x1MM; 1x2MM) (2)
- 303212 ALU ADJ. TURNBUCKLE M3 L/R 26 MM - SWISS 7075 T6 (2)
- 303354 COMPOSITE UPRIGHT 0° OUTBOARD TOE-IN - HARD
- 303432-0 ALU ANTI-ROLL BAR BUSHING - ORANGE (2)
- 303455 COMPOSITE ANTI-ROLL BAR BALL JOINT 4.9 MM (4)
- 303803 ANTI-ROLL BAR FOR BALL BEARINGS - REAR 1.3 MM
- 305241 DRIVE SHAFT REPLACEMENT CAP 3.5 MM (4)
- 305221 ECS (ES) DRIVE SHAFT 51MM FOR 2MM PIN - HUDY SPRING STEEL™ (1)
- 305253 ECS DRIVE SHAFT COUPLING FOR 2MM PIN - HUDY SPRING STEEL™
- 305254 ECS (ES) DRIVE SHAFT CASE FOR 2MM PIN - HUDY SPRING STEEL™
- 305332 ECS ES (ES) DRIVE SHAFT 52MM - HUDY SPRING STEEL™ - SET (OPTION)
- 305333 ECS ES (ES) DRIVE SHAFT 50MM - HUDY SPRING STEEL™ - SET (OPTION)
- 305334 ECS ES (ES) DRIVE SHAFT 51MM - HUDY SPRING STEEL™ - SET
- 305342 T4F REAR DRIVE AXLE - HUDY SPRING STEEL™
- 305346 ECS DRIVE AXLE FOR 2MM PIN - HUDY SPRING STEEL™

- 305350-K ALU WHEEL HUB - BLACK (2)
- 305394 ECS DRIVE SHAFT PIN 2 x 9 WITH FLAT SPOT (2)
- 307221 FRONT ARM PIVOT PIN (2)
- 307321 REAR ARM PIVOT PIN (2)
- 362649 BALL END 4.9MM WITH THREAD 5MM (2)
- 362650 BALL END 4.9MM WITH THREAD 6MM (2)
- 362651 BALL END 4.9MM WITH THREAD 8MM (2)
- 362652 BALL END 4.9MM WITH THREAD 10MM (2)
- 901302 HEX SCREW SB M3x2.5 (10)
- 901303 HEX SCREW SB M3x3 (10)
- 901304 HEX SCREW SB M3x4 (10)
- 902205 HEX SCREW SH M2x5 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 930407 BALL-BEARING 4x7x2.5 STEEL SEALED - OIL (2)
- 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
- 980210 PIN 2x10 (10)



# 5. FRONT & REAR TRANSMISSION

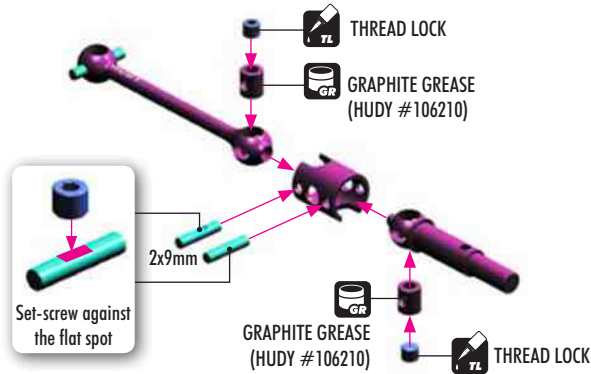


901302  
SB M3x2.5



305394  
P 2x9

## 2x FRONT TRANSMISSION



#305242  
DRIVE SHAFT REPLACEMENT CAP  
3.5MM ORANGE - STRONG (4)



ECS drive shafts are available in 51mm length in kit, or optional 50mm & 52mm lengths. Longer drive shafts (52mm) make the car easier to drive because they give more traction and better stability, mainly in chicanes. However, the car will understeer more than with shorter (50mm) shafts which give a lot of steering and make the car more aggressive. Both left & right shafts should ALWAYS be the same length.



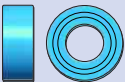
### DRIVE SHAFTS

#305332	52MM - ECS
#305333	50MM - ECS
#305334	51MM - ECS

52mm shafts are recommended for **high-traction tracks**.  
51mm shafts are recommended for **medium-traction tracks**.  
50mm shafts are recommended for **low-traction tracks**.



902205  
SH M2x5

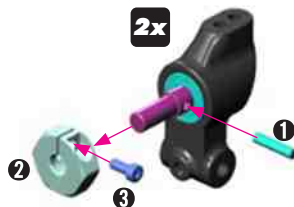
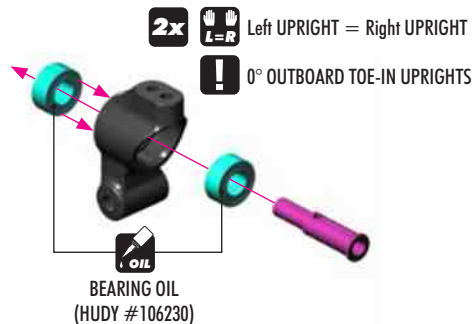


940510  
BB 5x10x4



980210  
P 2x10

## L=R REAR TRANSMISSION



## T4 OPTIONAL PARTS



### UPRIGHTS

#303351	1° - R MEDIUM	(2-HOLE)
#303352	0° - R/L MEDIUM	(2-HOLE)
#303353	1° - R HARD	(2-HOLE)
INCLUDED #303354	0° - R/L HARD	(2-HOLE)
#303360	0° - R/L GRAPHITE	(2-HOLE)
#303361	1° - L MEDIUM	(2-HOLE)
#303362	0° - R/L MEDIUM	(1-HOLE)
#303363	1° - L HARD	(2-HOLE)
#303364	0° - R/L HARD	(1-HOLE)
#303358	ALU 1° - R/L	(4-HOLE)
#303359	ALU 2° - R/L	(4-HOLE)

### WHEEL HUBS

INCLUDED #305350-K	ALU - OFFSET	(0 mm)
#305351	ALU - OFFSET	(-0.75 mm)
#305352	ALU - OFFSET	(+0.75 mm)
#305353	ALU - OFFSET	(+1.5 mm)



### STEERING BLOCKS

#302252	MEDIUM
INCLUDED #302253	HARD
#302254	GRAPHITE
#302256	ALU



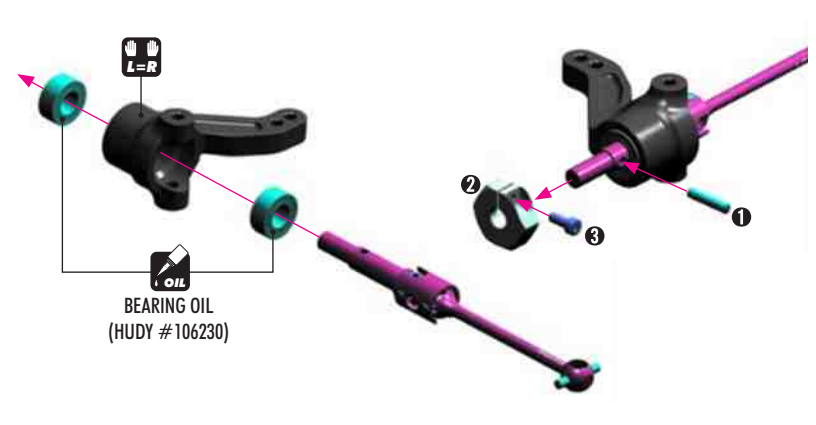
REAR TOE-IN  
TRACK-WIDTH

# 5. FRONT & REAR TRANSMISSION

- 902205 SH M2x5
- 940510 BB 5x10x4
- 980210 P 2x10



## 2x FRONT TRANSMISSION



## T4 OPTIONAL PARTS

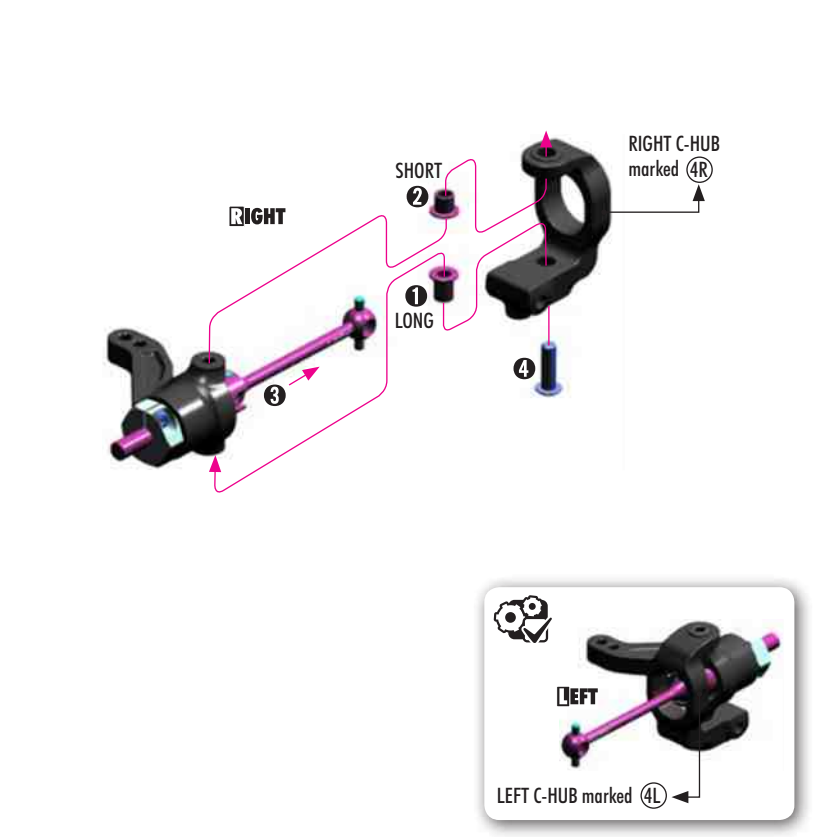
WHEEL HUBS		
INCLUDED	#305350-K	ALU - OFFSET 0 MM
	#305351	ALU - OFFSET -0.75 MM
	#305352	ALU - OFFSET +0.75 MM
	#305353	ALU - OFFSET +1.5 MM

STEERING BLOCKS		
	#302252	MEDIUM
INCLUDED	#302253	HARD
	#302254	GRAPHITE
	#302256	ALU

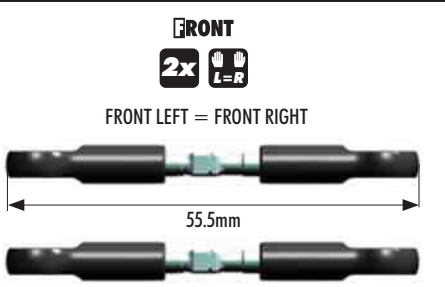
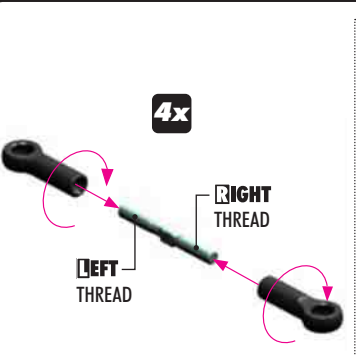
- 902310 SH M3x10



## 2x FRONT TRANSMISSION



C-HUBS FRONT TRANSMISSION		
	#302334	ALU 0° - R+L
	#302335	ALU 2° - RIGHT
	#302336	ALU 2° - LEFT
	#302337	ALU 4° - RIGHT
	#302338	ALU 4° - LEFT
	#302339	ALU 6° - RIGHT
	#302340	ALU 6° - LEFT
	#302361	2° - RIGHT - MEDIUM
	#302362	2° - LEFT - MEDIUM
INCLUDED	#302363	4° - RIGHT - MEDIUM
INCLUDED	#302364	4° - LEFT - MEDIUM
	#302365	6° - RIGHT - MEDIUM
	#302366	6° - LEFT - MEDIUM
	#302371	2° - RIGHT - HARD
	#302372	2° - LEFT - HARD
	#302373	4° - RIGHT - HARD
	#302374	4° - LEFT - HARD
	#302375	6° - RIGHT - HARD
	#302376	6° - LEFT - HARD
	#302383	4° - RIGHT - GRAPHITE
	#302384	4° - LEFT - GRAPHITE



# 5. FRONT & REAR TRANSMISSION



303123-K  
SHIM 3x6x2



303127-K  
SHIM 3x6x4

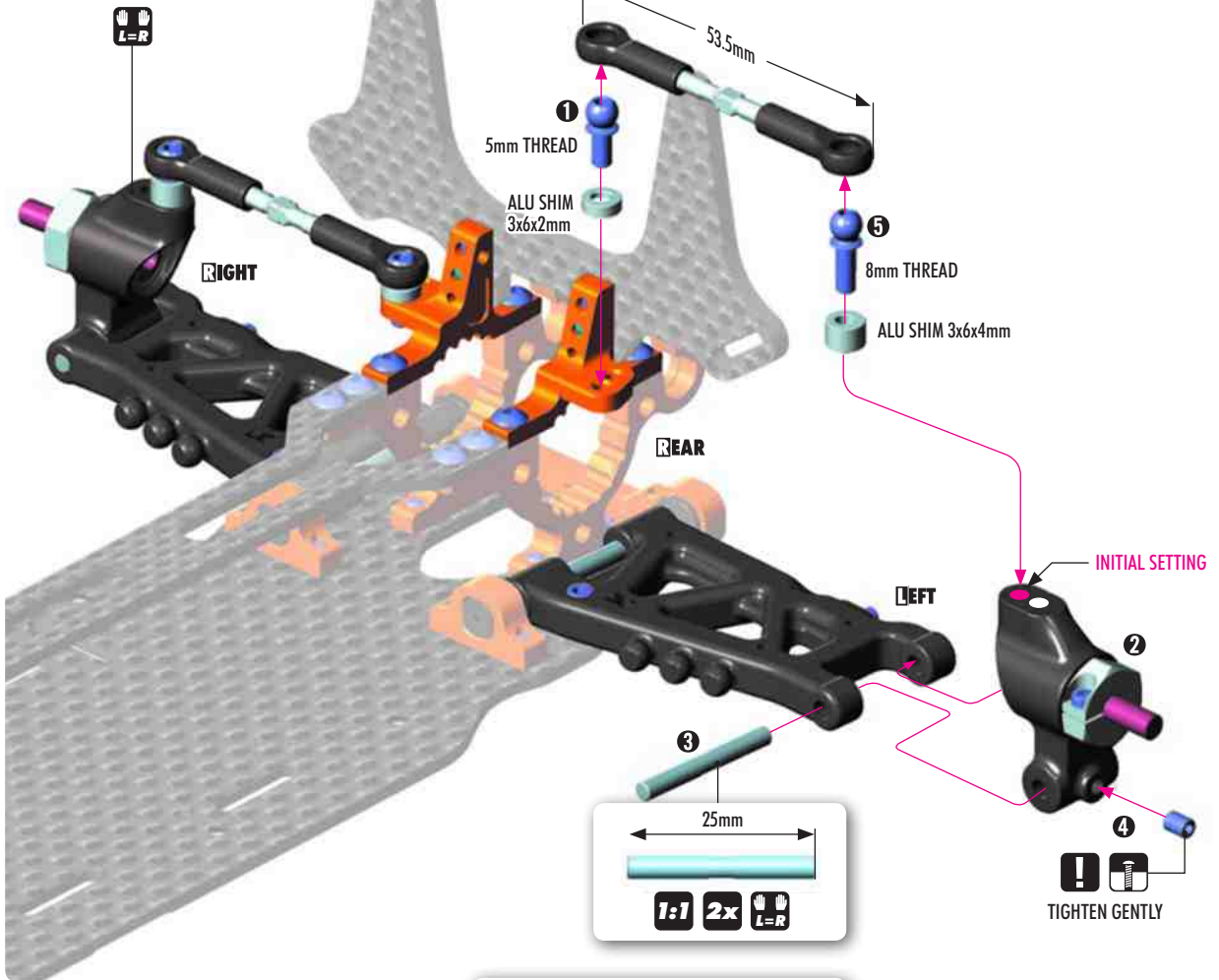


901304  
SB M3x4

## REAR TRANSMISSION



LEFT UPRIGHT = RIGHT UPRIGHT



**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)

**OPTION** 1-HOLE REAR UPRIGHTS (See page 21)

An optional 1-hole rear upright is available for fine tuning. This optional upright may be used on high-traction tracks or tracks with long sweepers, since the position of the center hole will allow faster driving through those corners because of better cornering speed.





# 5. FRONT & REAR TRANSMISSION



303122-K  
SHIM 3x6x1



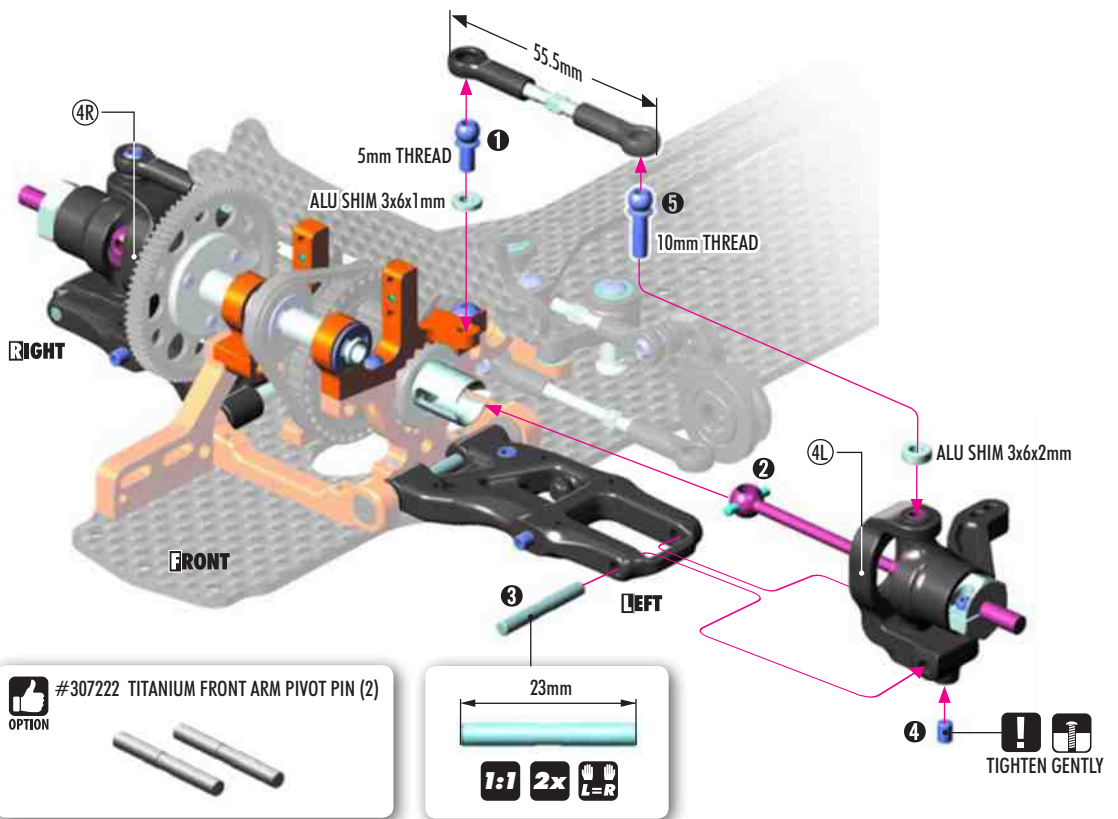
303123-K  
SHIM 3x6x2



901304  
SB M3x4

## 2x L=R FRONT TRANSMISSION

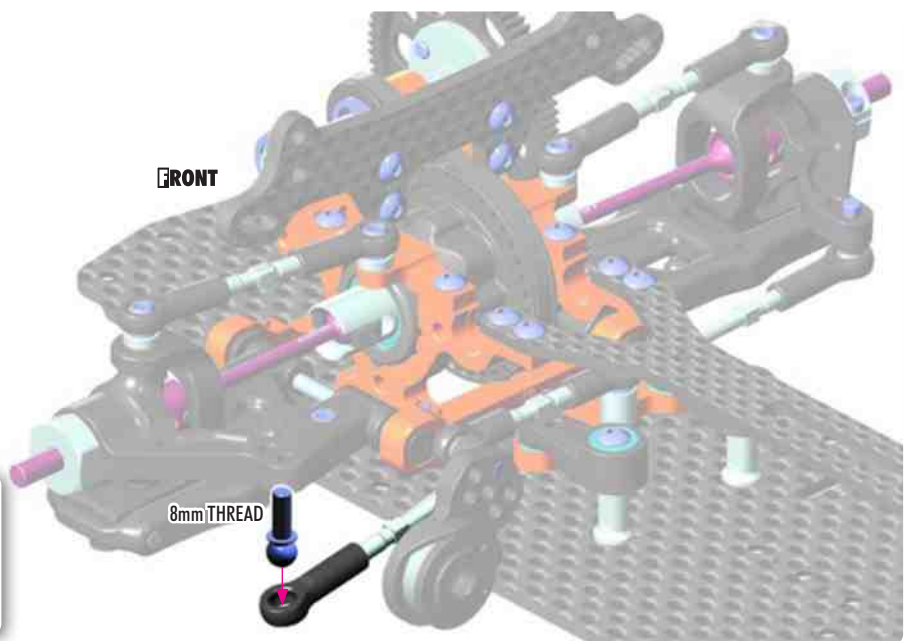
**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)



ROLL-CENTER

## 2x L=R

**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)

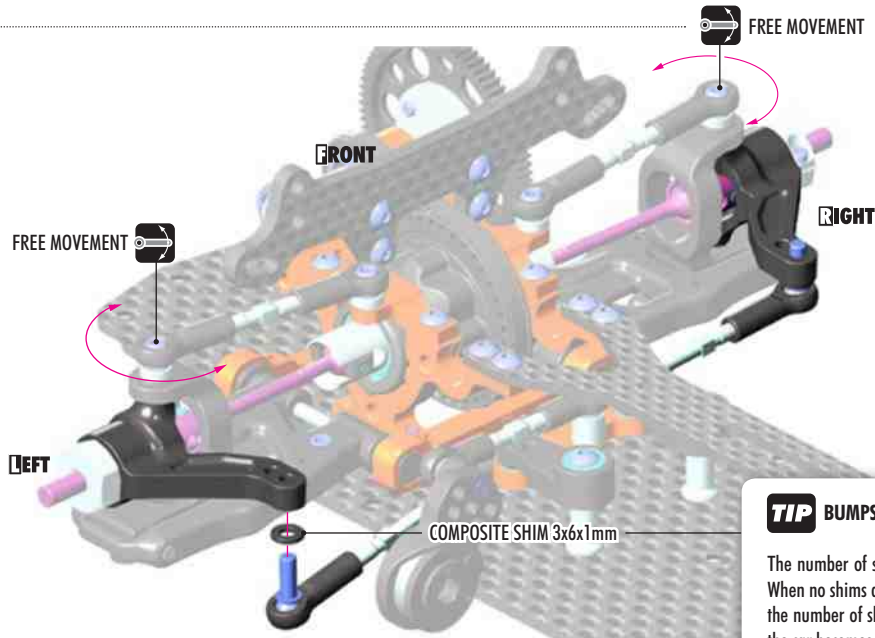


# 5. FRONT & REAR TRANSMISSION

10

303129  
SHIM 3x6x1

## FRONT TRANSMISSION



### INITIAL SETTING



### TIP BUMPSTEER SETTINGS

The number of shims changes the angles of the steering linkage. When no shims are used, the car is easy to drive into the corner. As the number of shims is increased, in-corner steering increases but the car becomes more difficult to drive.



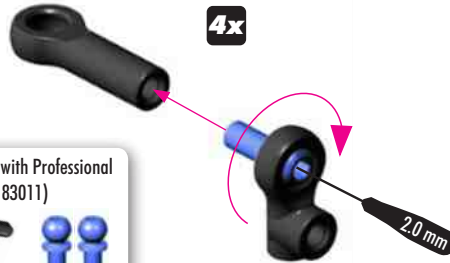
ACKERMANN  
BUMPSTEER



4x

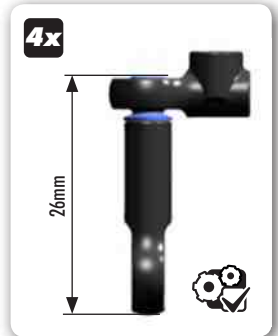
6mm THREAD

**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)



4x

2.0 mm



4x

26mm

2x



OPTION

#### FRONT ANTI-ROLL BARS

#302463	FRONT 1.3 MM	INCLUDED
#302464	FRONT 1.4 MM	



OPTION

#### REAR ANTI-ROLL BARS

#302802	REAR 1.2 MM	
#302803	REAR 1.3 MM	INCLUDED
#302804	REAR 1.4 MM	
#302805	REAR 1.5 MM	
#302806	REAR 1.6 MM	



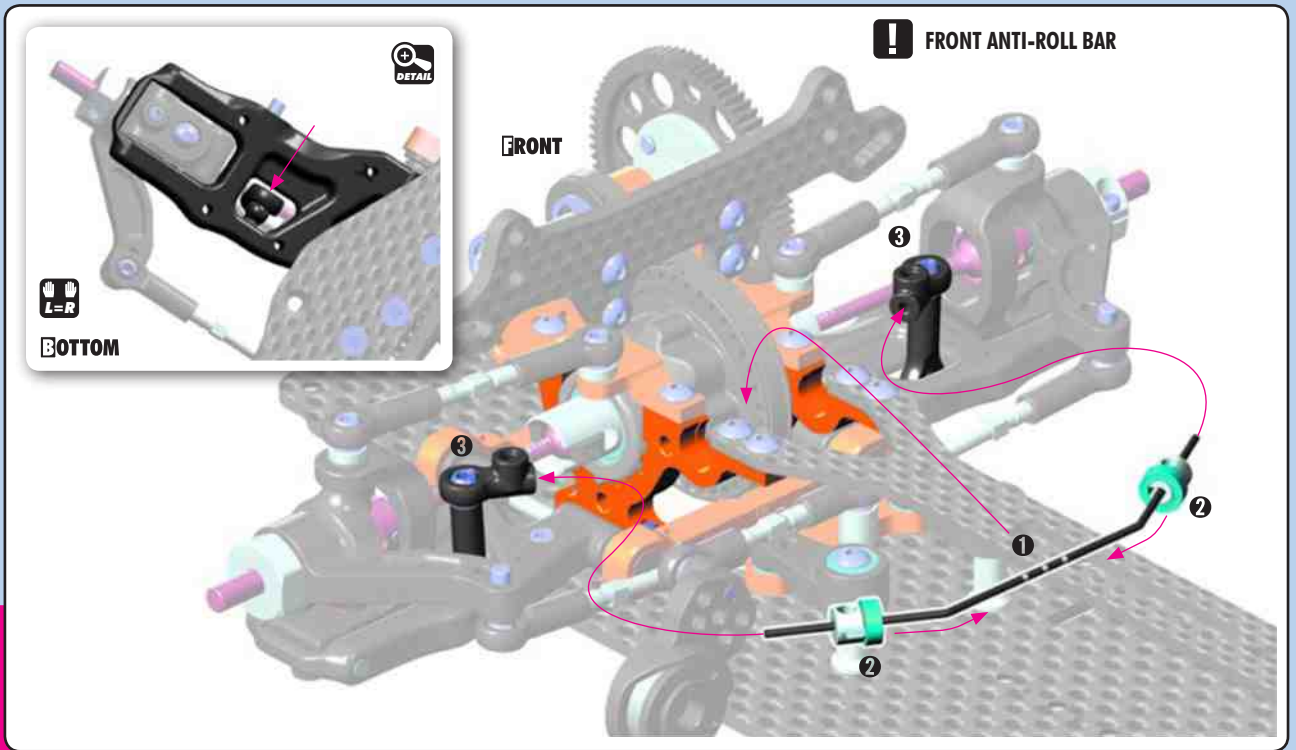
**BEARING OIL**  
(HUDY #106230)

**BEARING OIL**  
(HUDY #106230)



930407  
BB 4x7x2.5

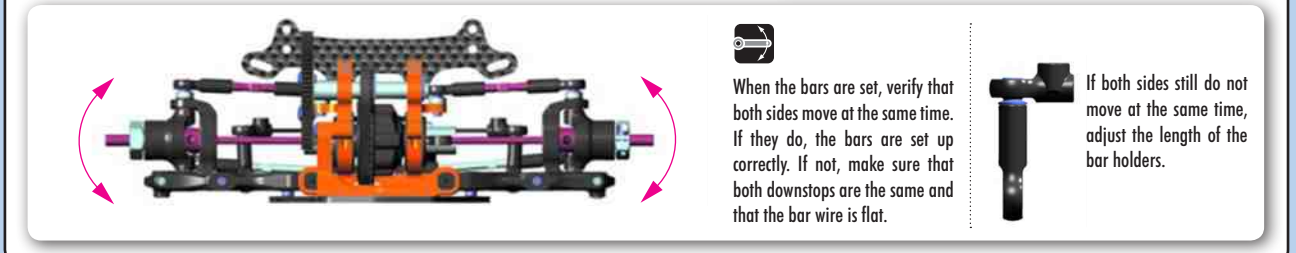
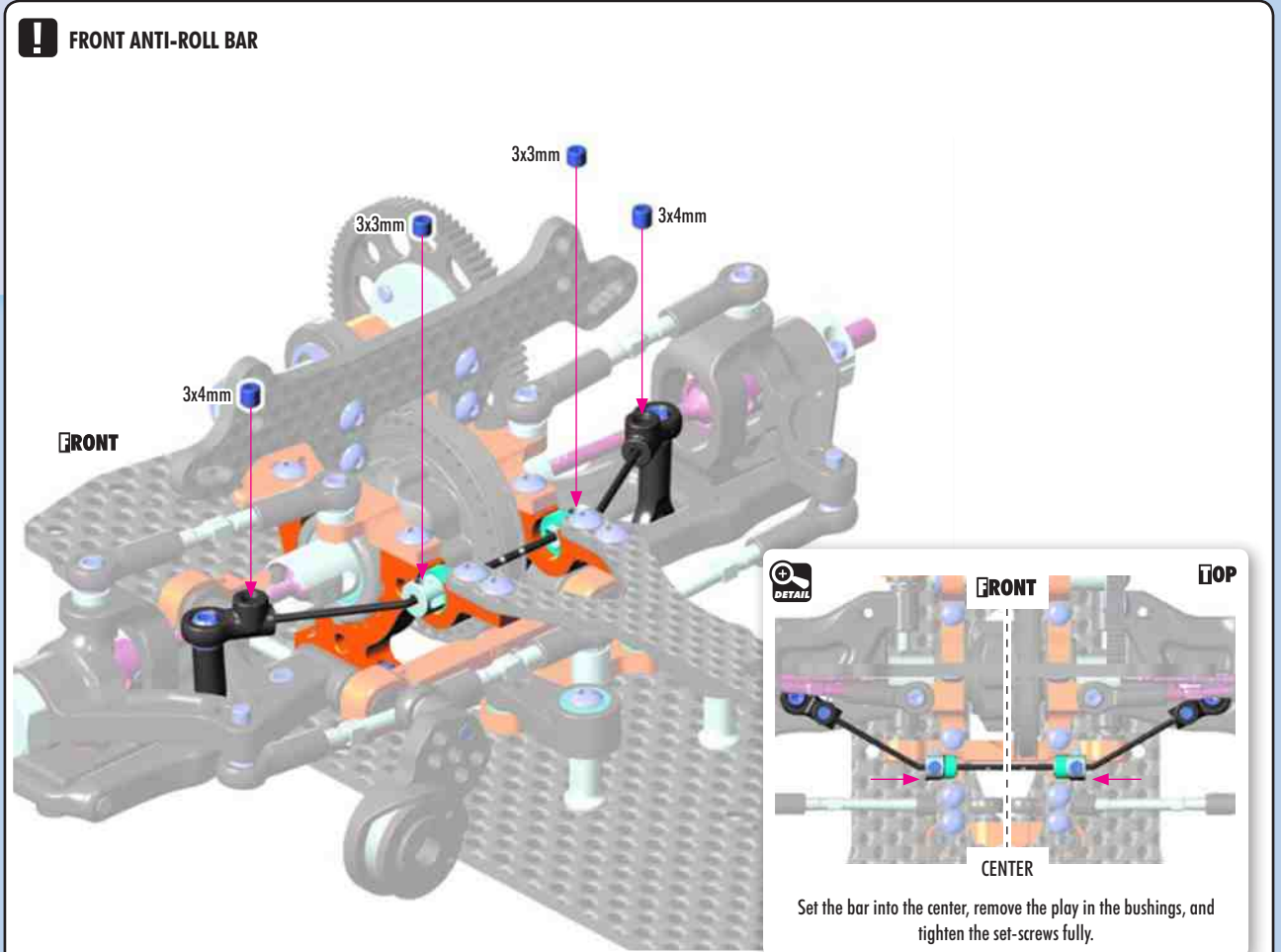
# 5. FRONT & REAR TRANSMISSION



- 

  
 901303  
 SB M3x3
- 

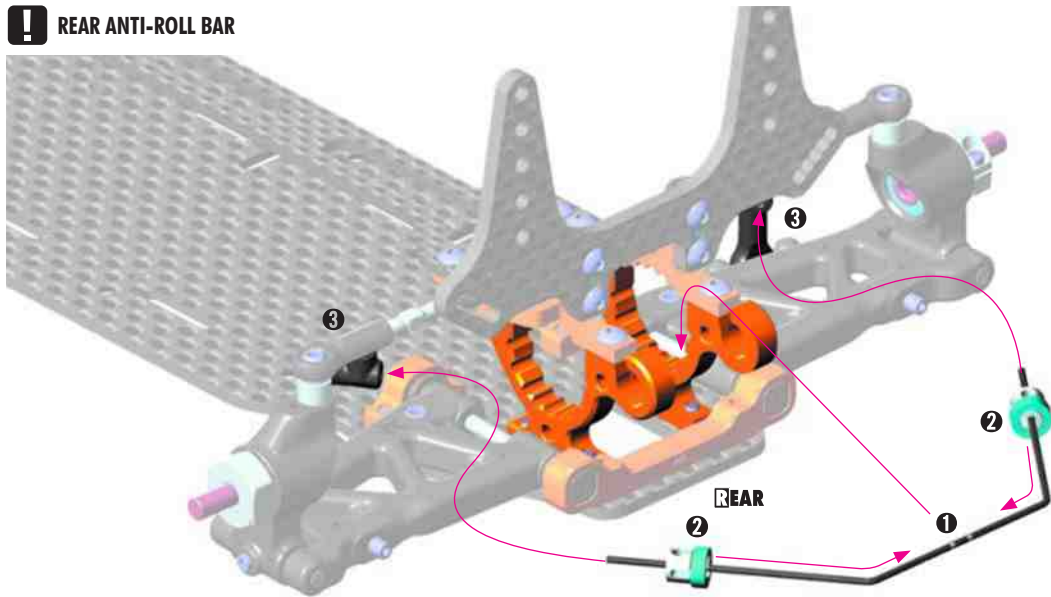
  
 901304  
 SB M3x4



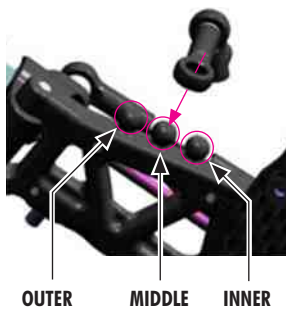


# 5. FRONT & REAR TRANSMISSION

## REAR ANTI-ROLL BAR



### 2x INITIAL POSITION



Use the **INNER** ball on low-traction tracks (mainly low-traction carpet tracks). The car will have more traction & more steering, but will be more difficult to drive because the car will roll more.

### REAR ANTI-ROLL BAR POSITION

INITIAL SETTING = MIDDLE BALL

Use the **MIDDLE** ball on low- to medium-traction tracks (asphalt, carpet). The car will have a little less rear traction and the car will roll a little less which will make it easier to drive with more cornering speed.

Use the **OUTER** ball on high-traction tracks (mainly high-traction asphalt tracks). The car will roll even less which will allow the use of more throttle in the corners, however the car will have less traction.

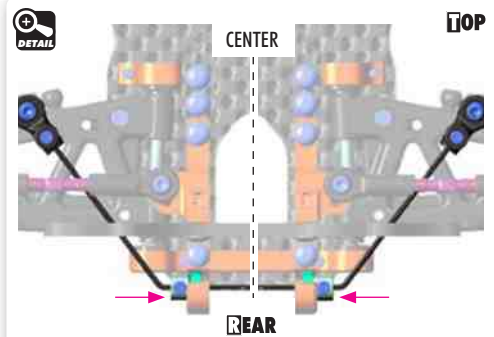
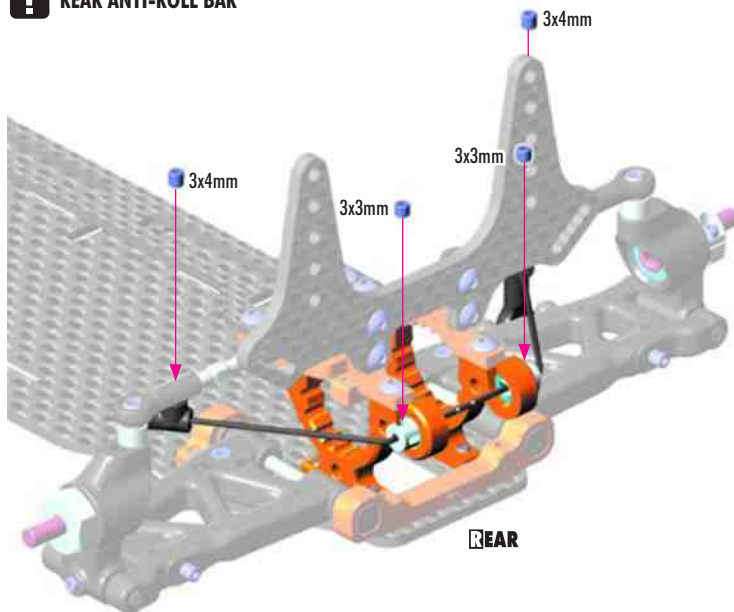


ANTI-ROLL BARS

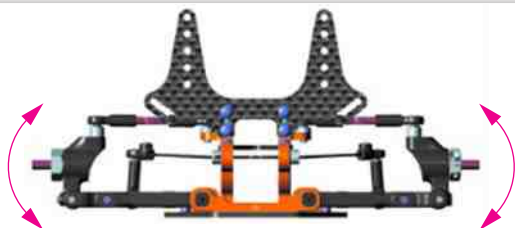
901303  
SB M3x3

901304  
SB M3x4

## REAR ANTI-ROLL BAR



Set the bar into the center, remove the play in the bushings, and tighten the set-screws fully.



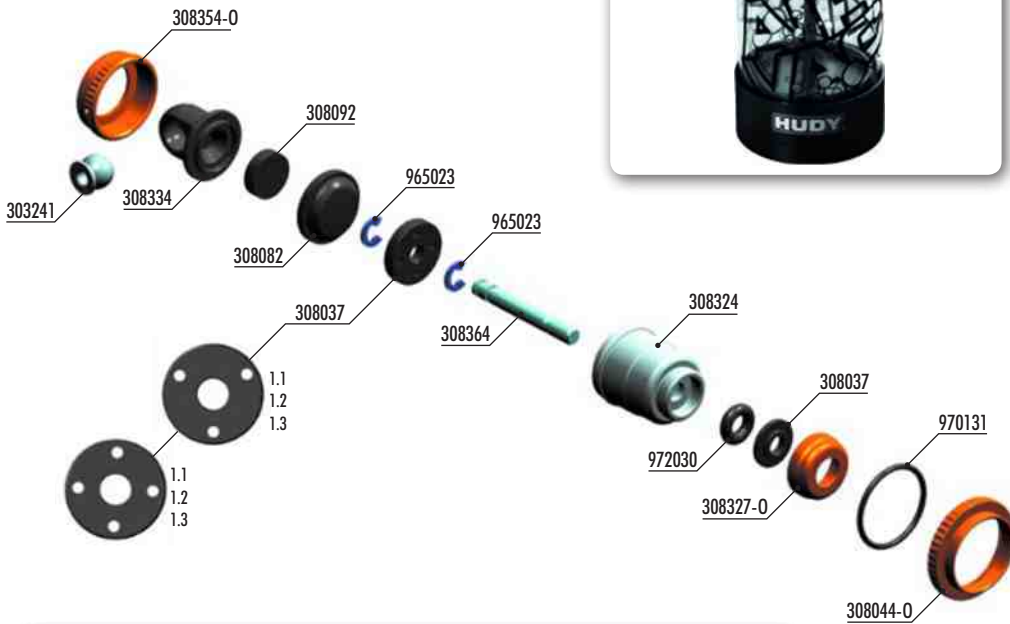
When the bars are set, verify that both sides move at the same time. If they do, the bars are set up correctly. If not, make sure that both downstops are the same and that the bar wire is flat.



If both sides still do not move at the same time, adjust the length of the bar holders.

# 6. SHOCK ABSORBERS

4x



#104002  
HUDY AIR VAC – VACUUM PUMP - ON-ROAD



### XRAY SPRINGS

Part Number	Spring Constant (C)	Availability
#308263	C = 2.3-2.6	OPTION
#308264	C = 2.5-2.8	OPTION
#308274	C = 2.3	OPTION
#308275	C = 2.5	INCLUDED
#308286	C = 2.6	INCLUDED
#308276	C = 2.7	OPTION
#308288	C = 2.8	OPTION
#308277	C = 2.9	OPTION
#308290	C = 3.0	OPTION



#308031-0  
ALU XRAY SHOCK SPRING RETAINING COLLAR - ORANGE (4)



#308029  
ULP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

Progressive shock system for improved traction and steering characteristics. Shock insert with 3 triangular cutouts used with piston WITHOUT holes. The hardness of the shock is influenced not by the holes in the piston, but rather by the insert.



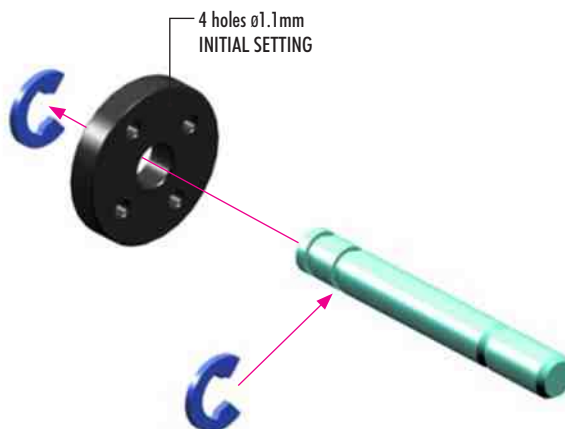
BAG

06

303241	BALL UNIVERSAL 5.8 MM HEX (4)	308334	ULP COMPOSITE SHOCK PARTS
308037	COMPOSITE PISTONS 4-HOLE 1.0-1.2MM, 3-HOLE 1.0-1.2MM	308354-0	ULP ALU SHOCK CAP-NUT WITH VENT HOLE - ORANGE (2)
308044-0	ULP ALU SHOCK ADJUSTABLE NUT - ORANGE (2)	308364	T4 HARDENED SHOCK SHAFT FOR ALU SHOCKS (2)
308082	T4 SHOCK ABSORBER MEMBRANE (4)	308275	XRAY SPRING-SET C=2.5
308092	T4 SHOCK FOAM INSERTS (4)	308286	XRAY SPRING-SET C=2.6
308308-0	ULP ALU SHOCK ABSORBER-SET - ORANGE (2)	965023	E-CLIP 2.3 (10)
308316	SHOCK BALL JOINT - OPEN (4)	970131	O-RING 13 x 1.0 (10)
308324	ULP ALU SHOCK BODY (2)	972030	SILICONE O-RING 3 x 2 (10)
308327-0	ALU CAP FOR XRAY SHOCK BODY - ORANGE		

965023  
C2.3

4x



# 6. SHOCK ABSORBERS

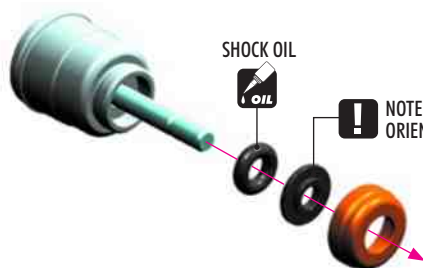


972030  
0 3x2

4x



SHOCK OIL



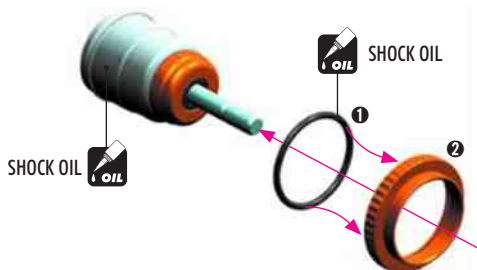
SHOCK OIL

NOTE ORIENTATION



970131  
0 13x1.0

4x



SHOCK OIL

SHOCK OIL



CUTAWAY VIEW



Be careful not to cross-thread the collar on the shock body.

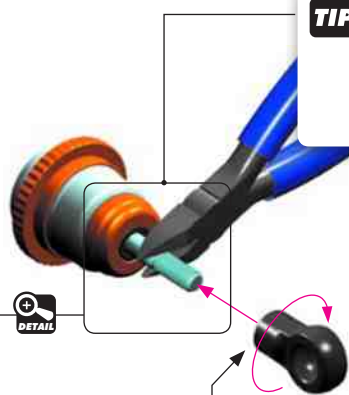
4x



INCORRECT ✗



CORRECT ✓



TIP

Install the ball joint with Professional Multi Tool (HUDY #183011)



9.8mm

INITIAL SETTING

4x

! HINT: Pre-thread the ball joint using an M3 screw.

! WARNING! Be careful not to pre-thread too far, since the ball joint may split or the plastic threads may strip out.

OIL 450cSt

4x



SHOCK FILLING

- 1 Fully extend the piston rod so the piston is at the bottom of the shock body.
- 2 Hold the shock upright and slightly overfill the shock body with shock oil.
- 3 Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down to allow oil into all cavities within the shock body.
- 4 Extend the piston rod most of the way out of the shock body. Let the shock rest for 5 minutes to allow the air bubbles to escape.
- 5 Add shock oil as necessary.



TIP



#104002

HUDY AIR VAC – VACUUM PUMP

OPTION HUDY



To make sure that all the air is removed from the shock oil, we recommend using the HUDY Air Vac.



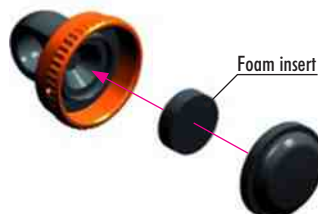
OPTION HUDY

SHOCK OILS (50ml)

#106325	250cSt
#106330	300cSt
#106335	350cSt
#106340	400cSt
INCLUDED #106345	450cSt
#106350	500cSt
#106355	550cSt
#106360	600cSt
#106365	650cSt
#106370	700cSt
#106375	750cSt
#106380	800cSt



4x



Foam insert



CUTAWAY VIEW



After you insert the membrane, ensure that it is fully seated inside the alu cap.



# 6. SHOCK ABSORBERS



- ❶ When installing the shock cap assembly on the shock body, some oil will leak out... this is normal.
- ❷ Tighten the cap and clean off any excess oil.
- ❸ After the shock is assembled, the shock rod will push itself out of the shock body fairly quickly.
- ❹ Follow the next procedure to adjust the rebound.



**4x** **REBOUND ADJUSTMENT**

RELEASE 2-3 turns **1**      TIGHTEN FULLY **3**

**AFTER THE SHOCK IS ASSEMBLED YOU HAVE TO SET THE SHOCK REBOUND:**

- ❶ Release the shock cap by 2-3 turns.
- ❷ Push the shock shaft fully up. For the first time the extra oil will release through the hole in the alu cap-nut.
- ❸ Tighten the shock cap. When tightening the shock cap, extra oil will again release through the hole in the alu cap-nut. When tightening, the shock shaft will push out from the shock body.

**4x** **REBOUND CHECK**

**REBOUND CHECK:**

It is very important to push the shock shaft into the shock body slowly otherwise air can come into the shock body which would create bubbles.

- 100% rebound - do not do step 2 and 3
- 75% rebound - repeat steps 1 to 3 until the shock shaft will push out 75% of its length
- 50% rebound - repeat steps 1 to 3 until the shock shaft will push out 50% of its length
- 25% rebound - repeat steps 1 to 3 until the shock shaft will push out 25% of its length
- 0% rebound - repeat steps 1 to 3 until the shock shaft will push out 0% of its length

If the shock shaft does not rebound enough, you will have to refill the shock with shock oil, and then repeat the bleeding and rebound adjustment procedure.



**4x** **SHOCK LENGTH ADJUSTMENT:**

**!** It is VERY IMPORTANT that all shocks are equal length.

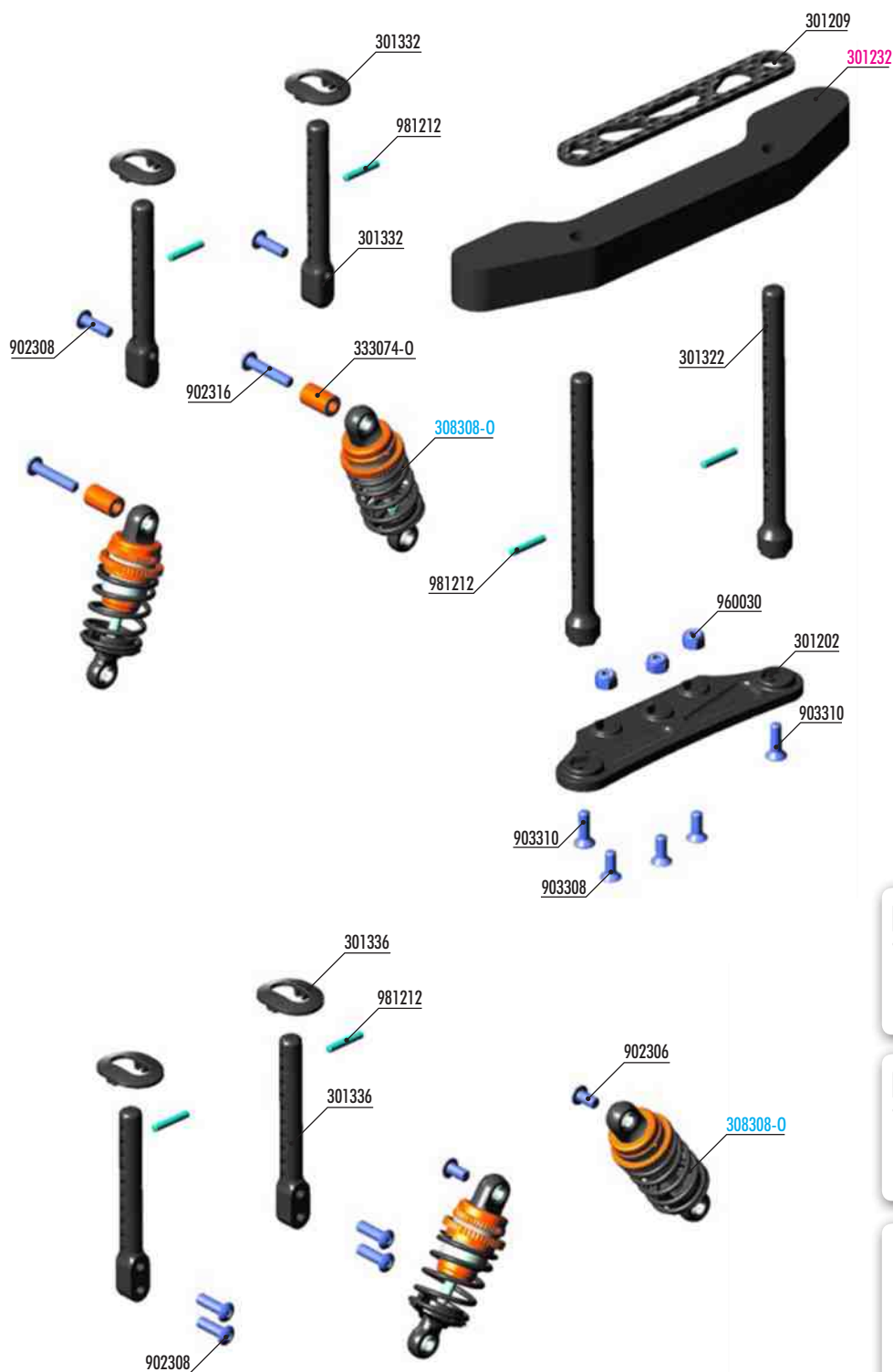
Fully extend the shock absorber and measure the end-to-end length; we recommend using digital calipers to give an accurate measurement. If a shock absorber is shorter or longer than others, adjust the shock length by tightening or loosening the ball joint on the shock rod.

**TIP** Install the balls with Professional Multi Tool (HUDY #183011)

**#308031-0**  
**ALU XRAY SHOCK SPRING RETAINING COLLAR - ORANGE (4)**



# 7. FRONT & REAR ASSEMBLY



FRONT BODY MOUNT SET			
#301332	0mm	INCLUDED	
#301333	+1mm	OPTION	
#301334	+2mm	OPTION	

REAR BODY MOUNT SET			
#301336	0mm	INCLUDED	
#301337	+1mm	OPTION	
#301338	+2mm	OPTION	

**#301351-0**  
ALU ADJUSTABLE BODY POST STOP (2)

**BAG**  
**07**

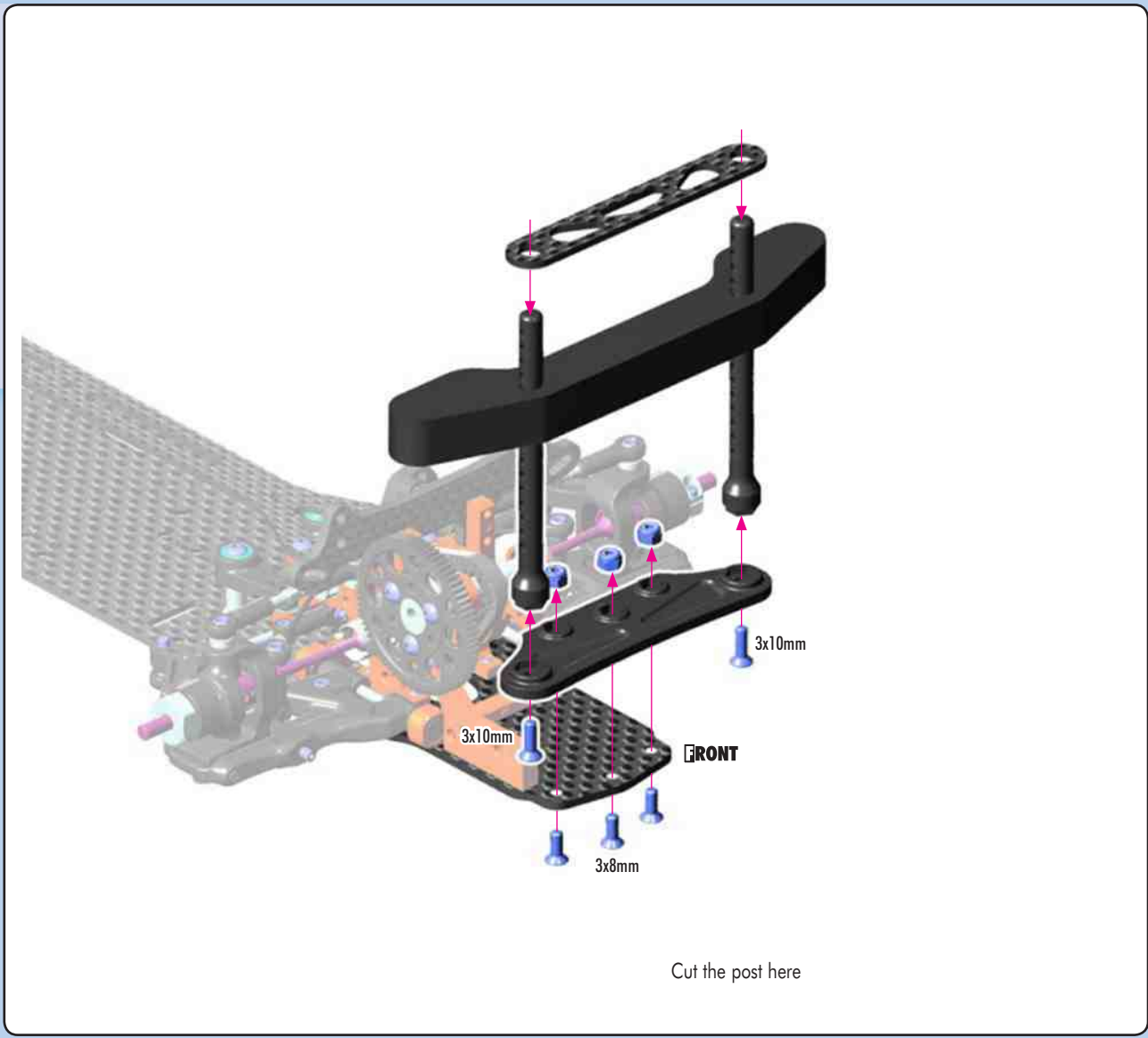
- 301202 COMPOSITE BUMPER
- 301209 GRAPHITE BUMPER UPPER HOLDER
- 301322 FRONT BODY MOUNT SET 6MM
- 301332 REAR BODY MOUNT SET 6MM
- 301336 COMPOSITE REAR 6MM ADJUSTABLE BODY MOUNT SET
- 333074-0 ALU MOUNT 3x6x10.5MM - ORANGE (2)
  
- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 902316 HEX SCREW SH M3x16 (10)
- 903308 HEX SCREW SFH M3x8 (10)

- 903310 HEX SCREW SFH M3x10 (10)
- 960030 NUT M3 (10)
- 981212 PIN 2x12 (10)

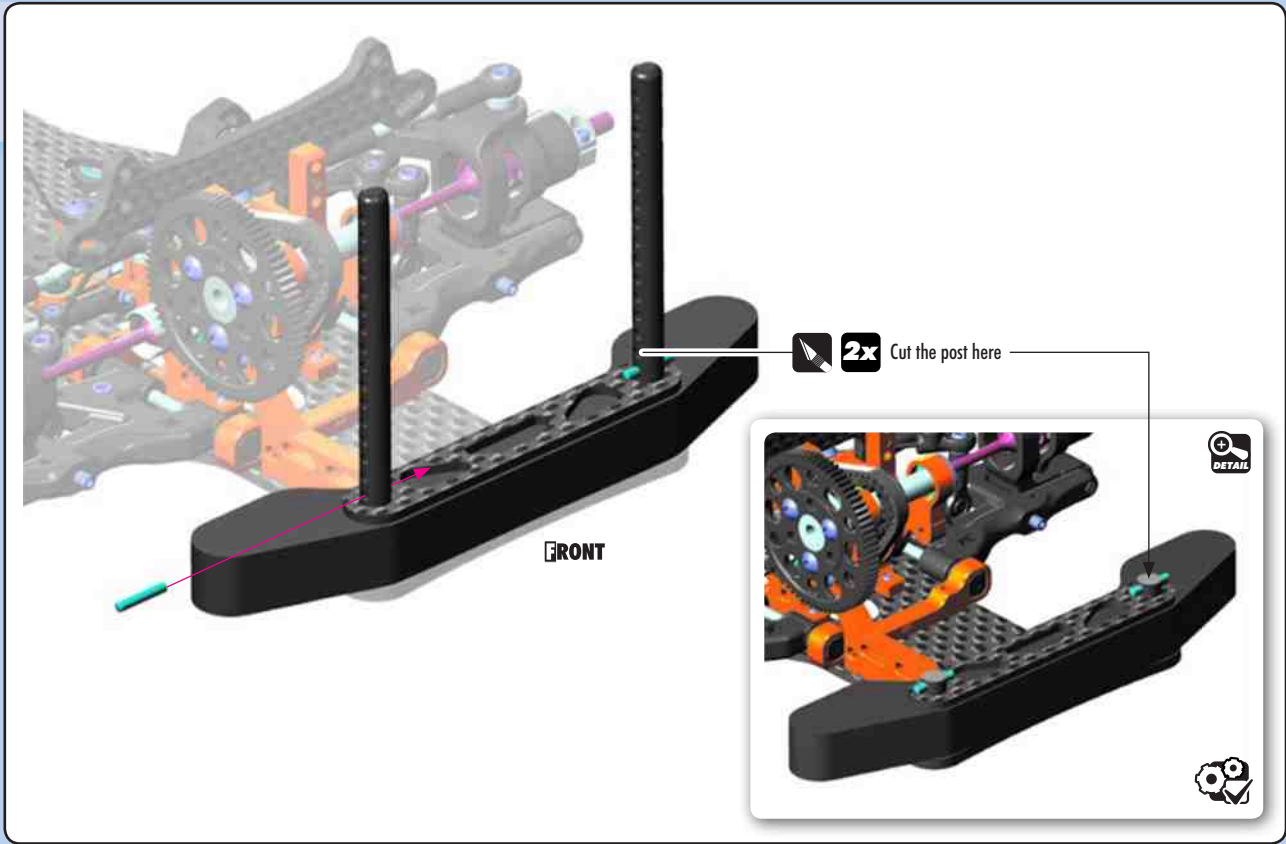
- 301232** T4F FOAM BUMER
- 308308-0** ULP ALU SHOCK ABSORBER-SET - ORANGE (2)

# 7. FRONT & REAR ASSEMBLY

-  903308  
SFH M3x8
-  903310  
SFH M3x10
-  960030  
N M3



-  981212  
P 2x12





# 7. FRONT & REAR ASSEMBLY

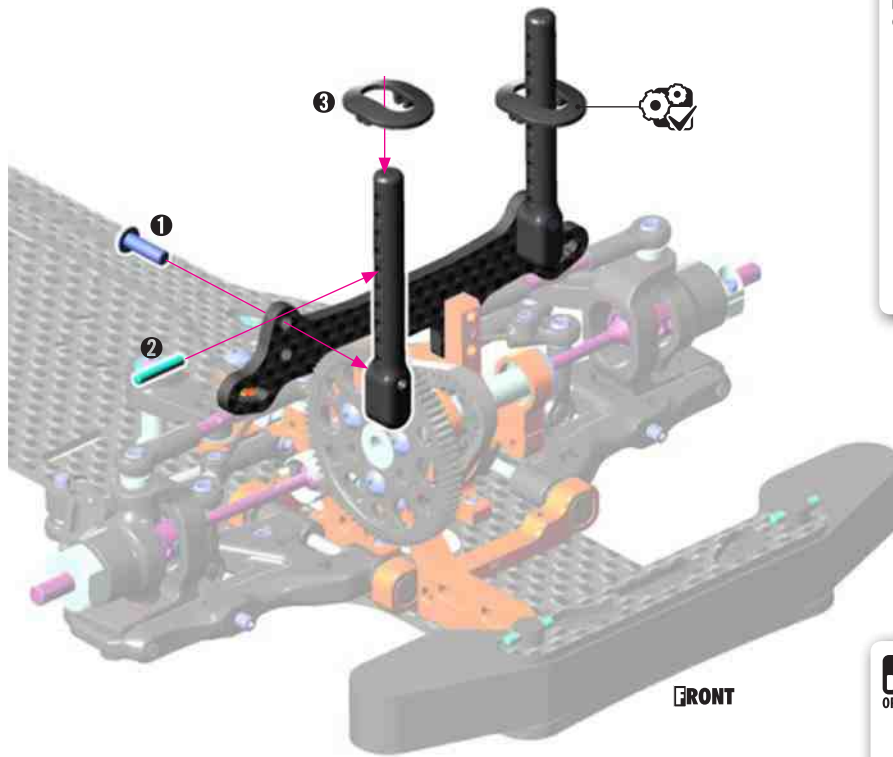


902308  
SH M3x8



981212  
P 2x12

2x L=R



#301351-0  
ALU ADJUSTABLE BODY POST STOP (2)



Very handy, easily externally adjustable body post stop from Swiss 7075 T6 aluminum. Allows for adjustment of body height by 3mm without needing to change the position on the body post.

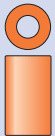


FRONT BODY MOUNT SET

#301332	0mm	INCLUDED
#301333	+1mm	OPTION
#301334	+2mm	OPTION



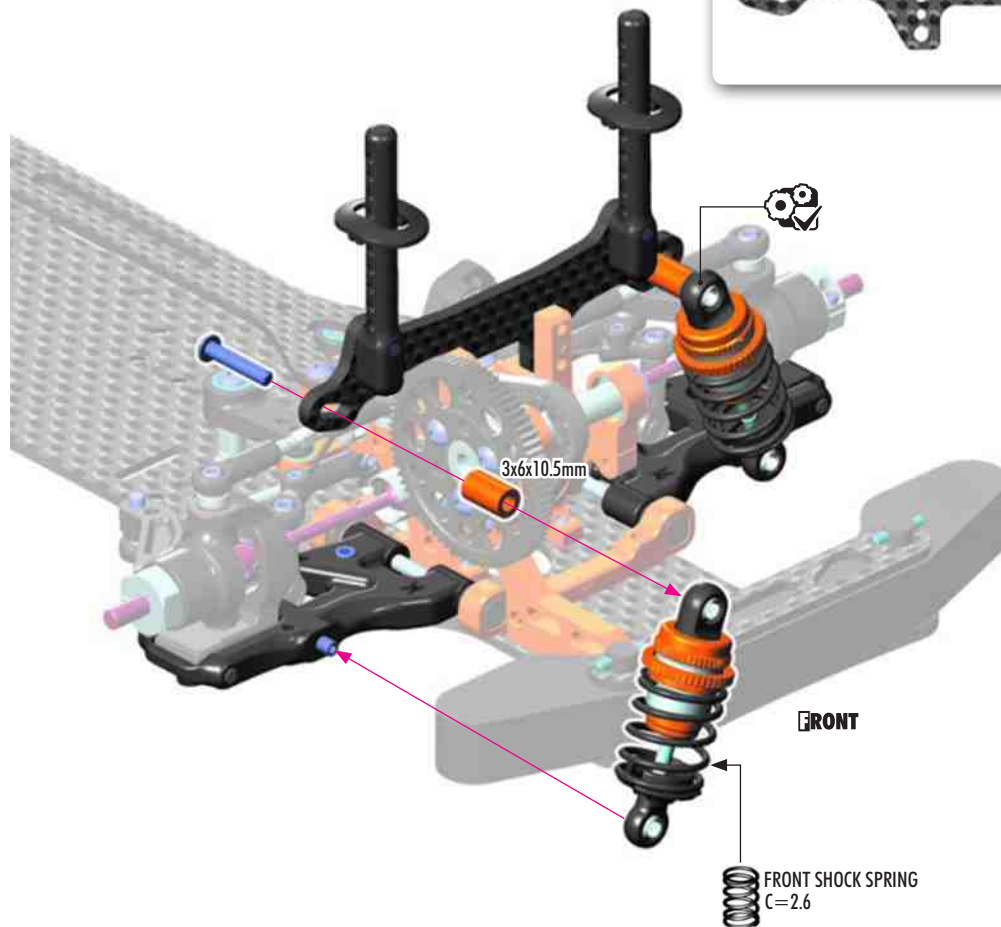
L=R



333074-0  
SHIM 3x6x10.5



902316  
SH M3x16



FRONT SHOCK SPRING  
C=2.6



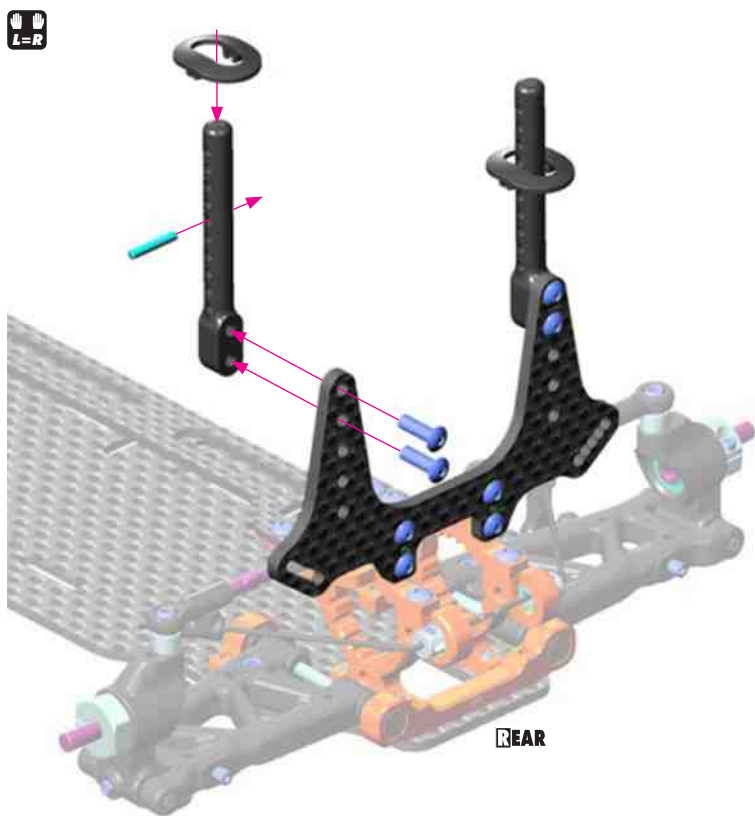
SHOCK POSITION  
RIDE HEIGHT  
DROOP

# 7. FRONT & REAR ASSEMBLY



902308  
SH M3x8

981212  
P 2x12



REAR

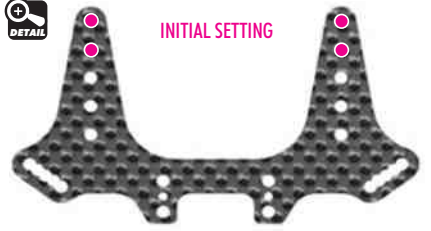


#301351-0  
ALU ADJUSTABLE BODY POST STOP (2)

Very handy, easily externally adjustable body post from Swiss 7075 T6 aluminum. Allows for adjustment of body height by 3mm without needing to change the position on the body post.



INITIAL SETTING

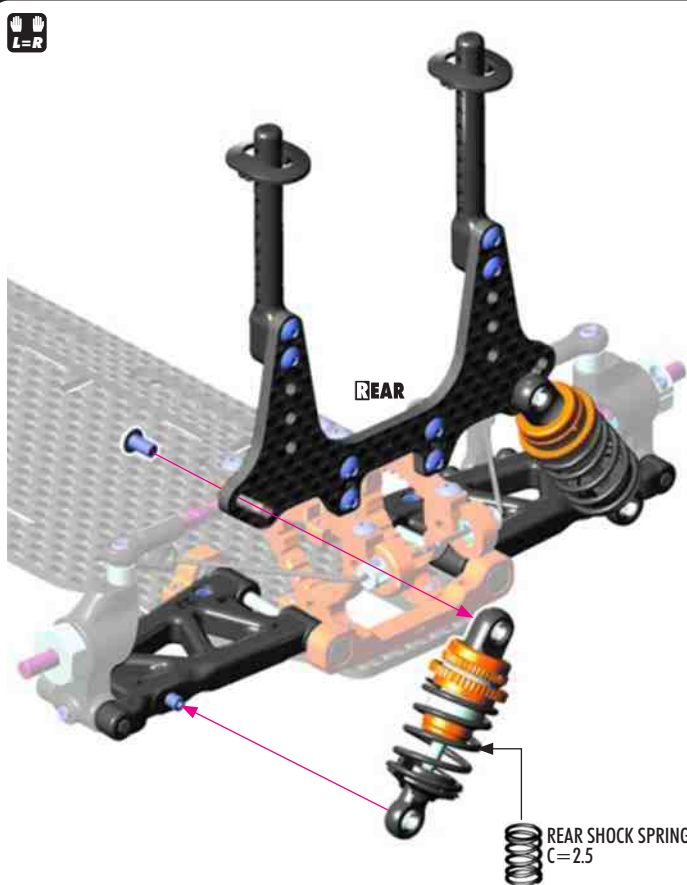


REAR BODY MOUNT SET

#301336	0mm	INCLUDED
#301337	+1mm	OPTION
#301338	+2mm	OPTION



902306  
SH M3x6

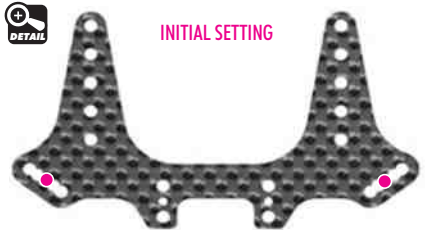


REAR

REAR SHOCK SPRING  
C=2.5

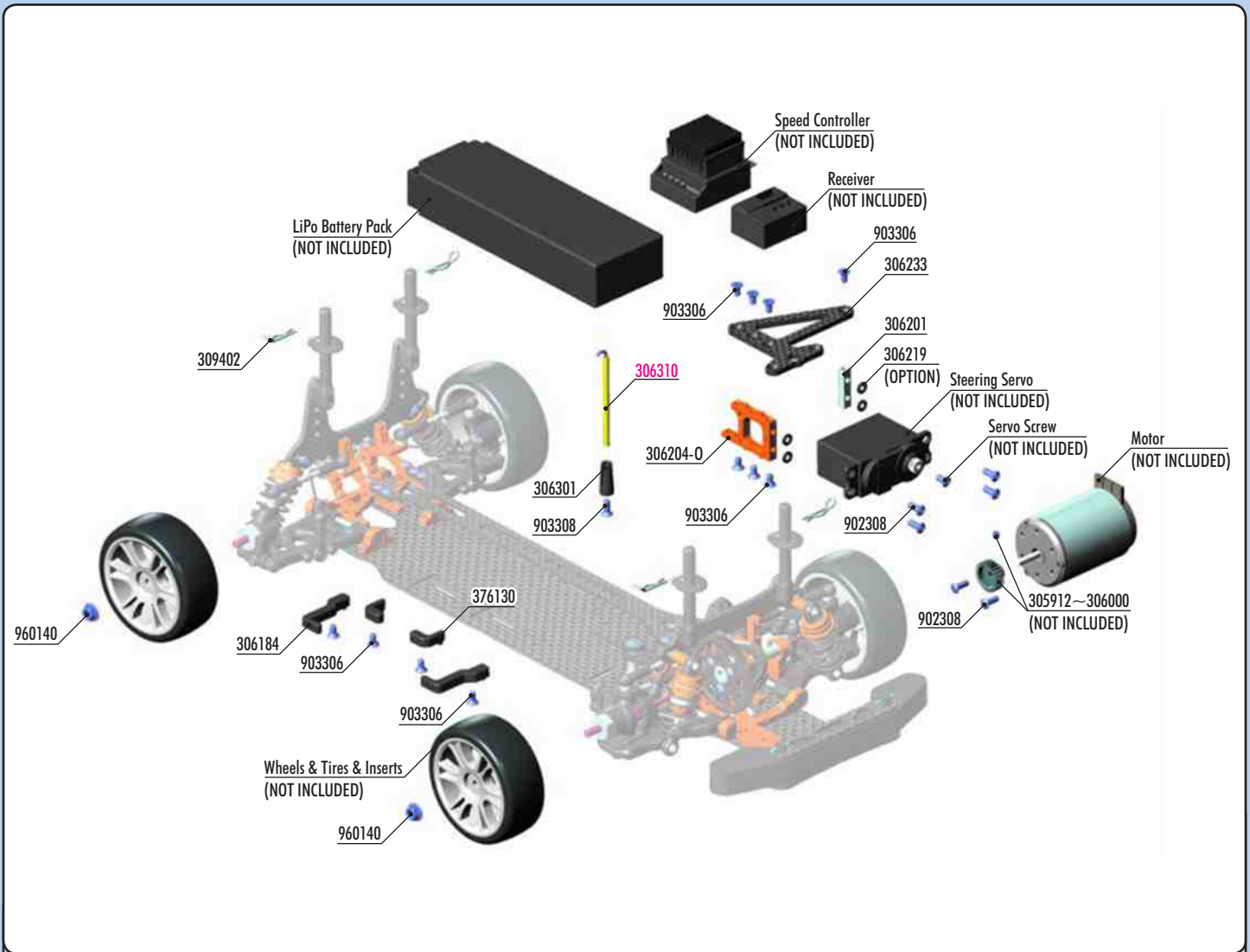


INITIAL SETTING



SHOCK POSITION  
RIDE HEIGHT  
DROOP

# 7. FINAL ASSEMBLY



## BAG

07

- 305912~306000 NARROW PINION GEAR ALU HARD COATED (OPTION)
- 306184 LONG COMPOSITE LIPO BATTERY BACKSTOP (1+1)
- 306201 ALU SERVO MOUNT - LONG
- 306204-0 ALU SERVO MOUNT - ORANGE
- 306219 COMPOSITE SET OF SERVO SHIMS (4) (OPTION)
- 306233 GRAPHITE FLOATING SERVO HOLDER 3.0MM
- 306301 ANTENNA MOUNT - THIN
- 309402 BODY CLIP FOR 6MM BODY POST (4)
- 376130 COMPOSITE LIPO BATTERY BACKSTOP (2)

- 902308 HEX SCREW SH M3x8 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 960140 NUT M4 WITH FLANGE (10)

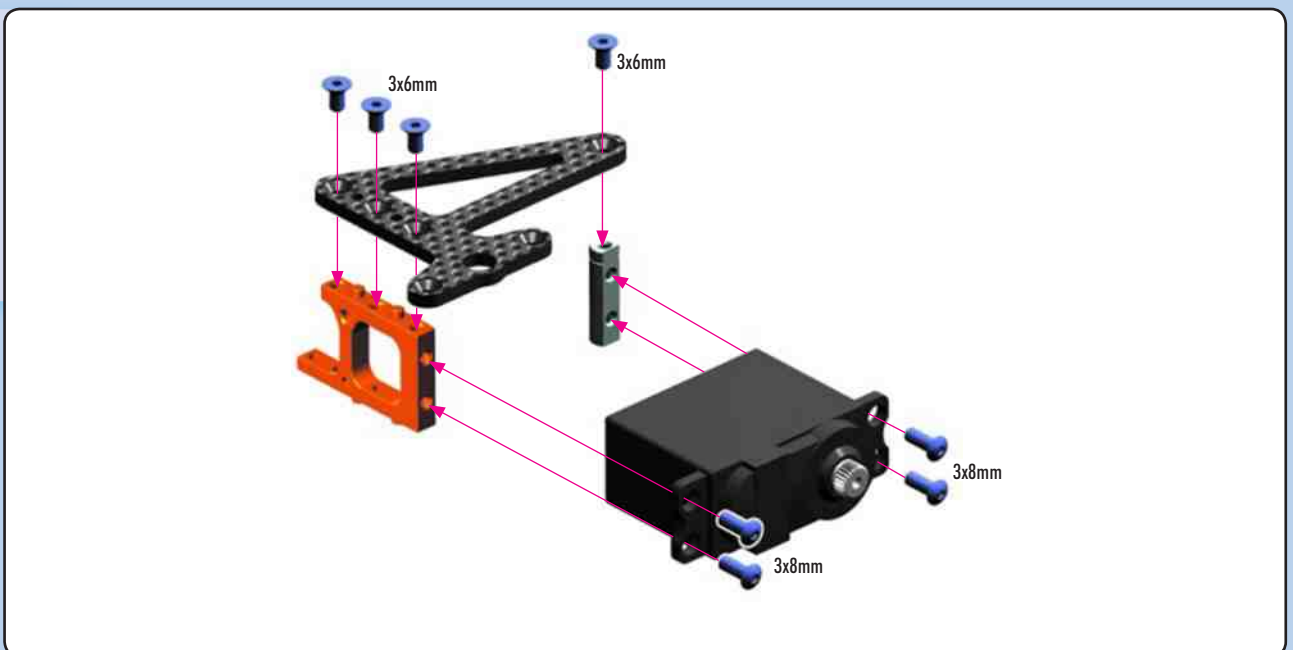
- 306310 ANTENNA (2)



902308  
SH M3x8



903306  
SFH M3x6





# 7. FINAL ASSEMBLY



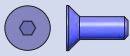
903306  
SFH M3x6

From Servo

For improved weight balance and for more space for electronics, we recommend using a narrow, light servo.

**IMPORTANT!** When adjusting steering on the radio, we recommend using full steering adjustment in order to get the best steering from the car. It is important to verify that the steering block does not touch the C-hub; that would lead to chassis tweak due to extra servo strain.

Attach servo arm to servo output shaft using screw from servo. Servo saver must be perpendicular to chassis when servo is in neutral.



903308  
SFH M3x8



902308  
SH M3x8

3x2.5mm set screw (#901302) (NOT INCLUDED)

Motor & Pinion (NOT INCLUDED)

Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

There should be a small amount of play between the teeth of the pinion gear and the spur gear.

**FRONT**

## LIPO BATTERY CONFIGURATION

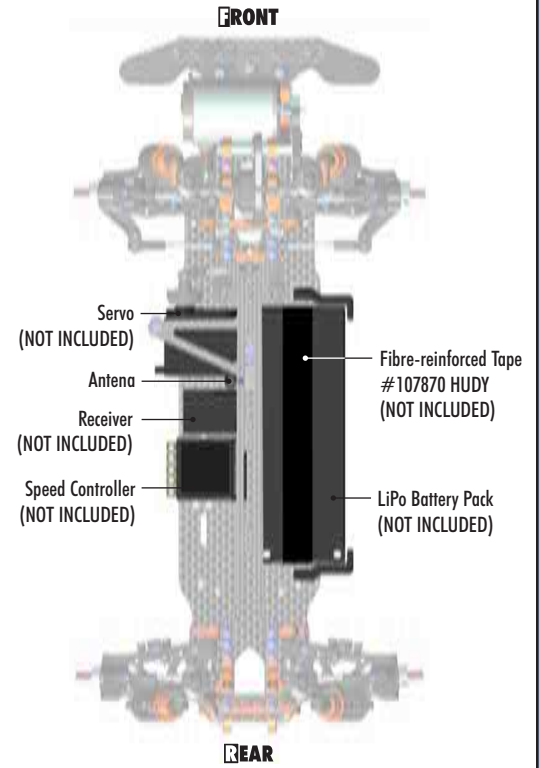
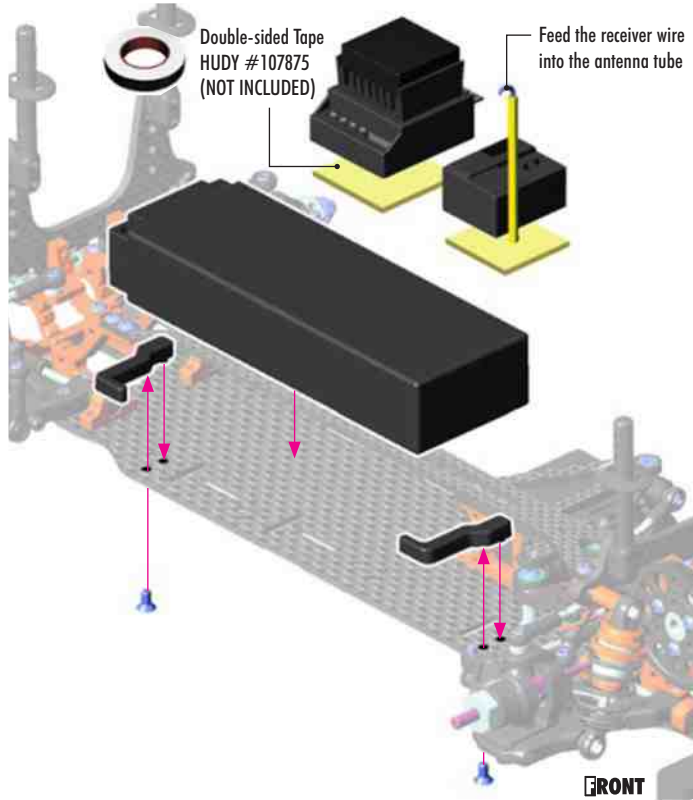
There are 4 alternative battery positions, depending on the battery type used and weight balance preference.



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### ALTERNATIVE 01

LiPo BATTERY SIDE ALIGNMENT

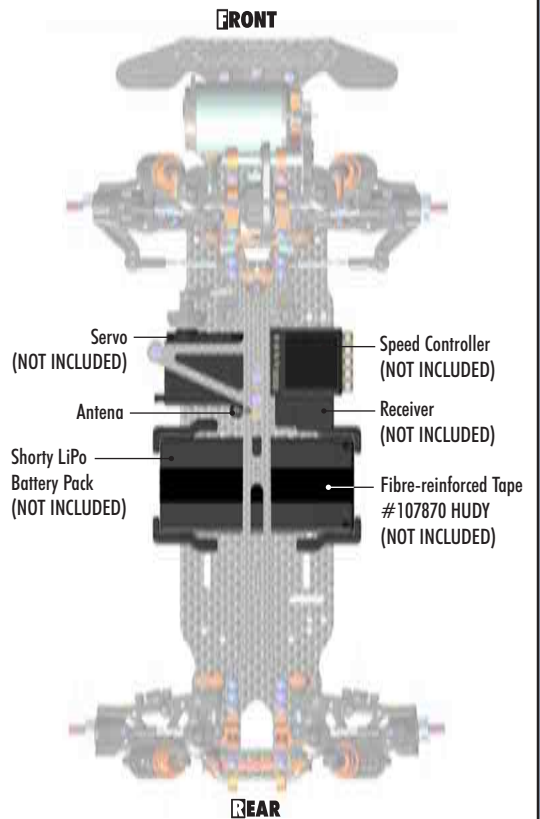
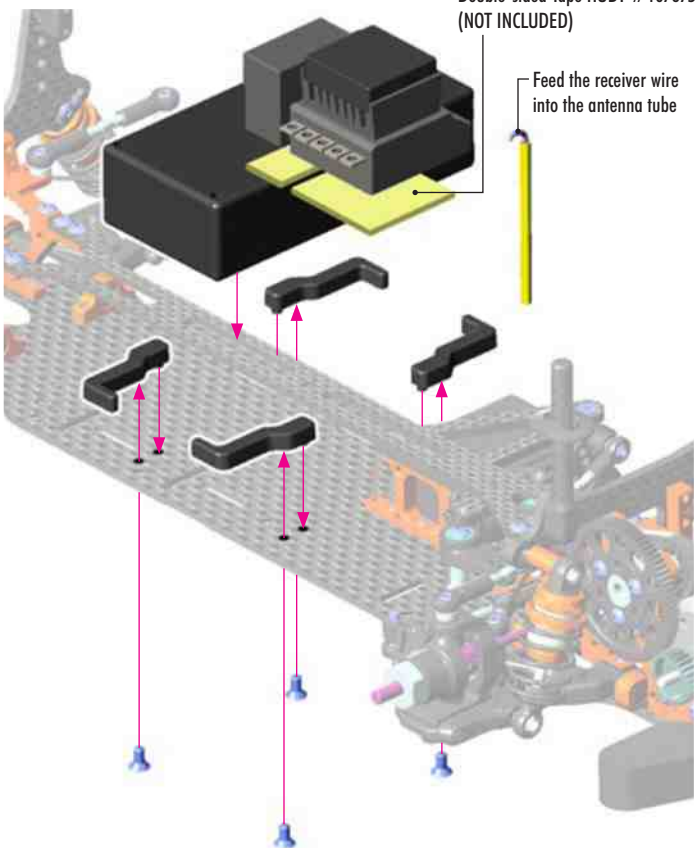


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### ALTERNATIVE 02

SHORTY LiPo BATTERY CENTER CROSS-CHASSIS ALIGNMENT

INITIAL SETTING



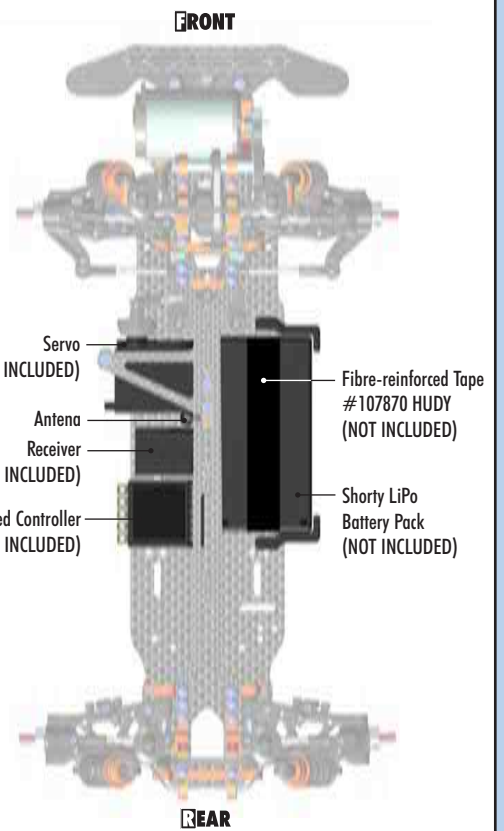
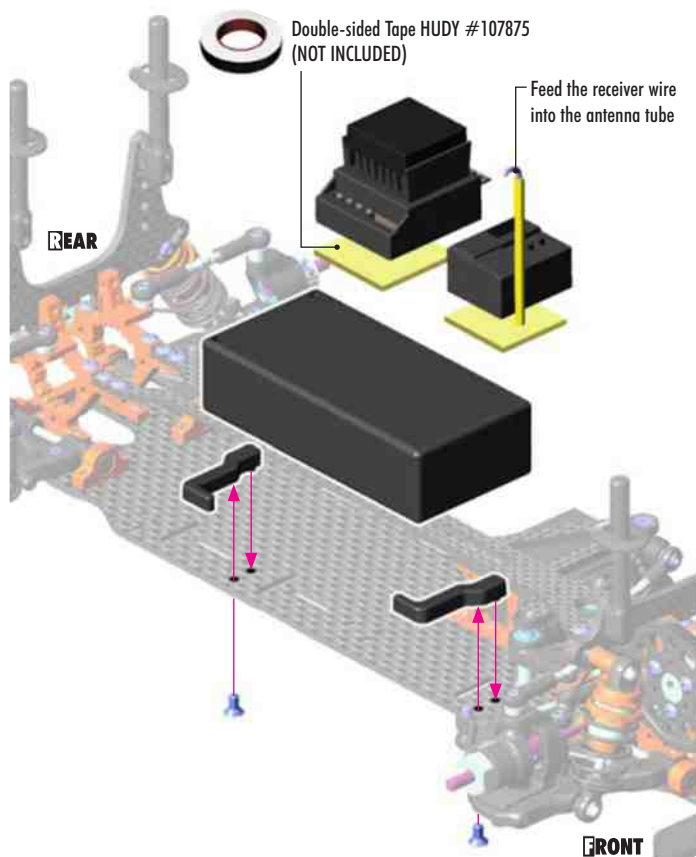
# 7. FINAL ASSEMBLY



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## ALTERNATIVE 03

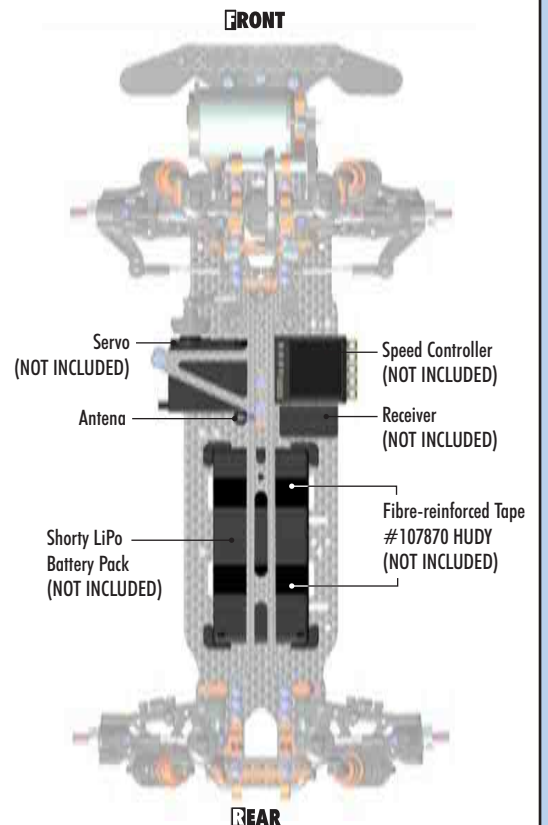
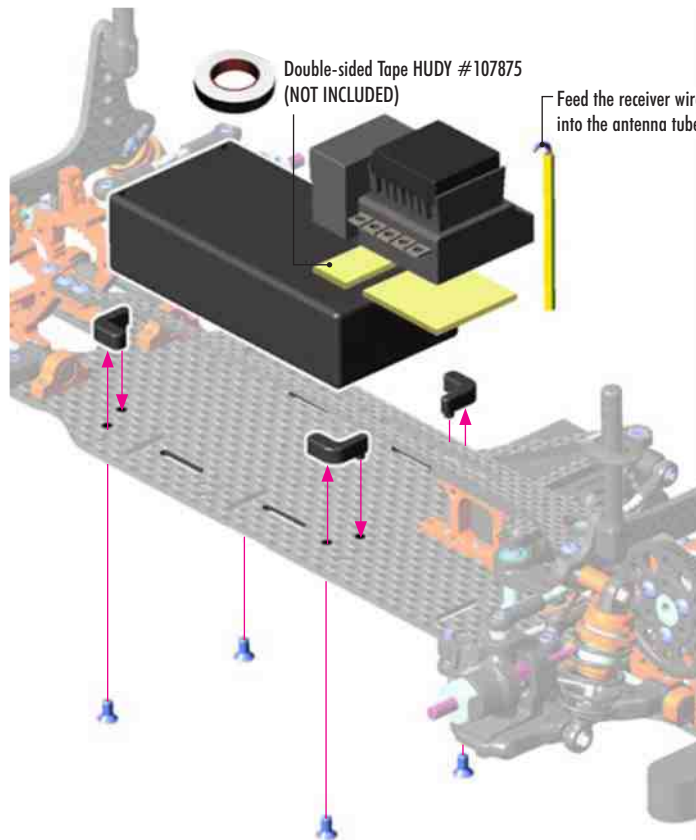
SHORTY LiPo BATTERY SIDE ALIGNMENT



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## ALTERNATIVE 04

SHORTY LiPo BATTERY CENTER INLINE CHASSIS ALIGNMENT

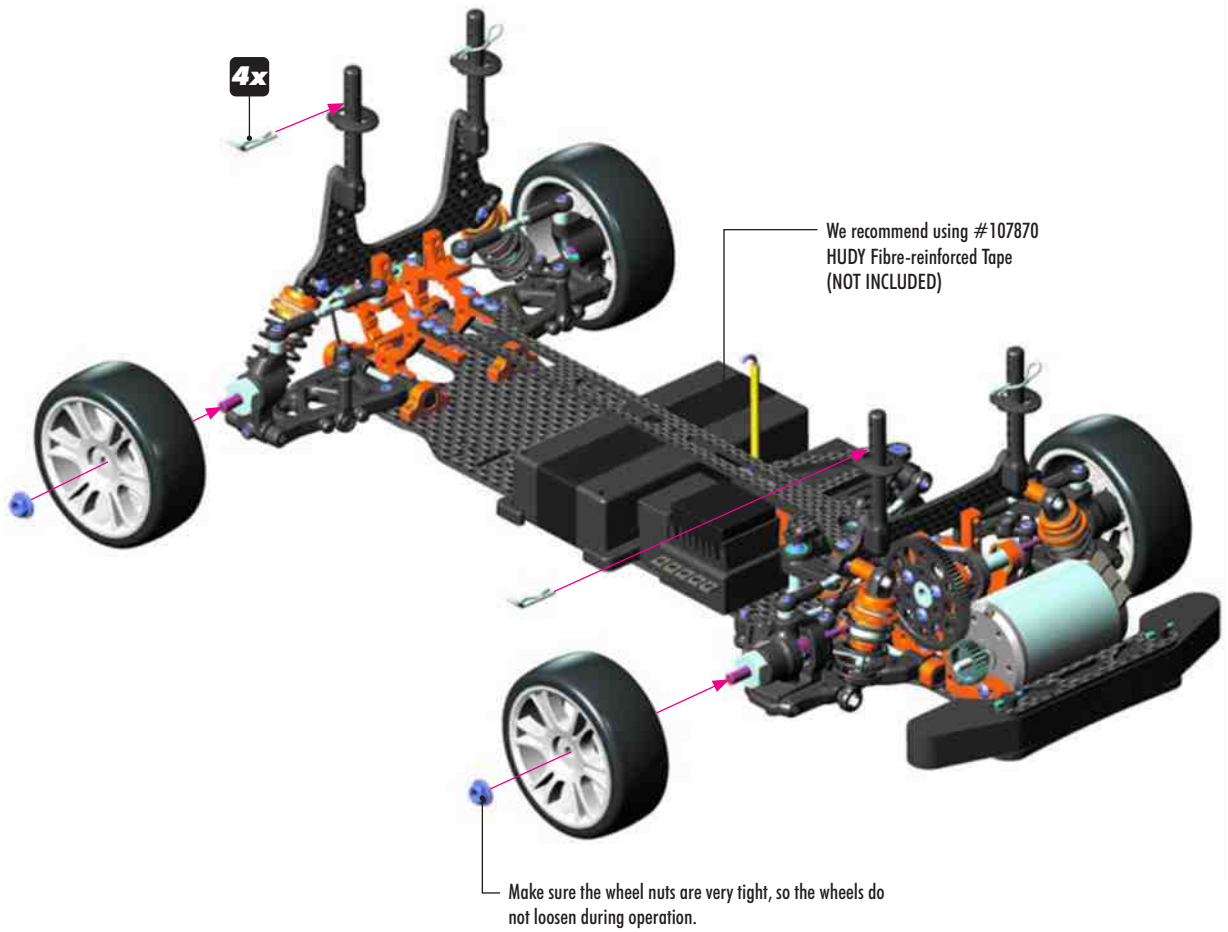




## 7. FINAL ASSEMBLY



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