

# X4B4

1/10 LUXURY OFF-ROAD CAR 4WD



INSTRUCTION  
MANUAL



# INTRODUCTION

The XRAY XB4 is a modern, high-competition premium luxury racing 1/10 electric 4WD off-road buggy that is the epitome of high-performance and fine distinctive design. Your XB4 offers highest performance, responsive handling, and traditionally exceptional XRAY quality, engineering, and design. The superb craftsmanship and attention to detail are clearly evident everywhere on the XRAY XB4.

XB4 was designed around a no compromise platform; the attention to detail creates a low maintenance, extra long life nitro buggy. The ultra-low center of gravity (CG) and optimized weight balance makes set-up, driving, and maintenance easy and quick.

## 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 XRAY XB4 was created by blending highest-quality materials and excellent design. On high-speed flat tracks or bumpy tracks, whether driving for fun or racing to win, the XB4 delivers outstanding performance, speed, and precision handling.

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.

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Email: [xray@rcamerica.com](mailto:xray@rcamerica.com)

**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 R/C 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 additions 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.**

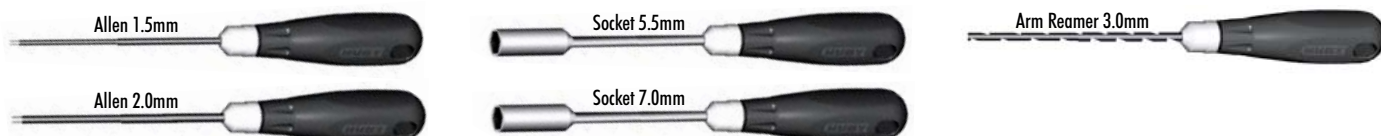
## SYMBOLS USED

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 	Apply grease 	Apply cleaner 	Ensure smooth non-binding movement 	Tighten screw gently 	<div> <div>CORRECT </div> <div>WRONG </div> </div> <p>Overtightened      The threads are stripped.</p>	Follow Set-Up Book 

## TOOLS REQUIRED

Scissors (HUDY #188990) 	Special Tool for turnbuckles, nuts (HUDY #108090) 	Combination Pliers (HUDY #189020) 	Side Cutters (HUDY #189010) 	Hobby Knife 	Turnbuckle Wrench 3mm (HUDY #181030) 	Reamer (HUDY #107600) or (HUDY #107601) 
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### HUDY TOOLS:



## EQUIPMENT INCLUDED

XRAY Premium Silicone Oils 	Graphite Grease (HUDY #106210) 
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## NOT INCLUDED

To ensure that you always have access to the most up-to-date version of the Set-up Book you can download the HUDY Set-up Book from their web site at [www.hudy.net](http://www.hudy.net). 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.

**SAMPLE OF OPTIONAL PARTS**

#36XXXX	OPTION 1
#36XXXX	OPTION 2
#36XXXX	OPTION 3

XRAY offers wide range of optional tuning parts which are listed in a table like this. 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.

## EQUIPMENT REQUIRED

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



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## 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.

## XB4 TECH TIPS

### TIP DRIVE SHAFT PINS SERVICING

To enjoy the longest possible lifespan of the drive shafts and diff outdrives, it is extremely important to properly service the drive shaft pins. Inspect the pins after every 3 hours of runtime. If the pins show any wear, replace them with new pins.



Do not use drive shafts when the pins are worn.

Press out the worn pins.

Press in new pins and regularly inspect for wear.



For easy and comfortable drive pin replacements use #106000 HUDY Drive Pin Replacement Tool.



To replace the worn pins use only the premium HUDY drive pins #106051.

### TIP GRAPHITE PARTS PROTECTION

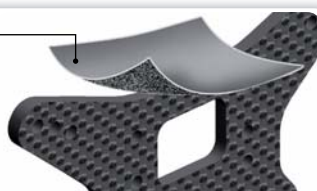
Follow this tech tip to protect the graphite parts.

**Protect all XB4 Graphite Parts:**

- Front shock tower
- Rear shock tower

Fine sandpaper

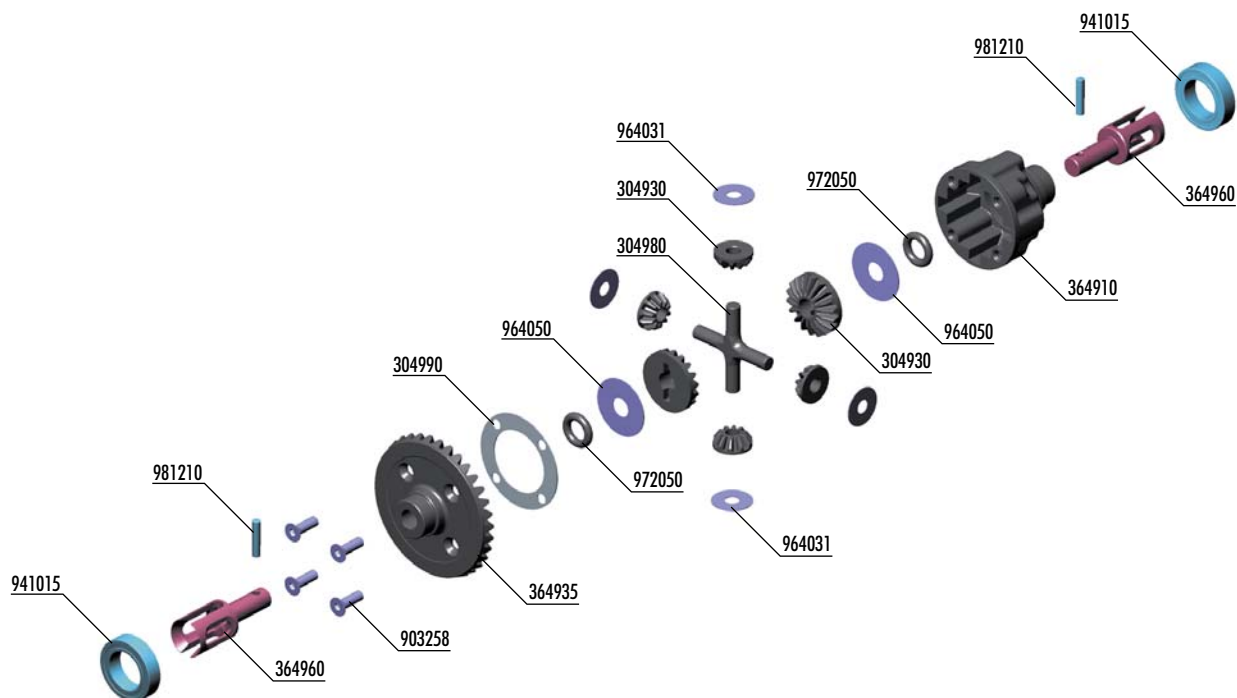
Use fine sandpaper to sand smooth the edges of all graphite parts.



Apply CA glue to all edges of the graphite parts.



# 1. FRONT & REAR DIFFERENTIAL

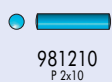


**BAG**

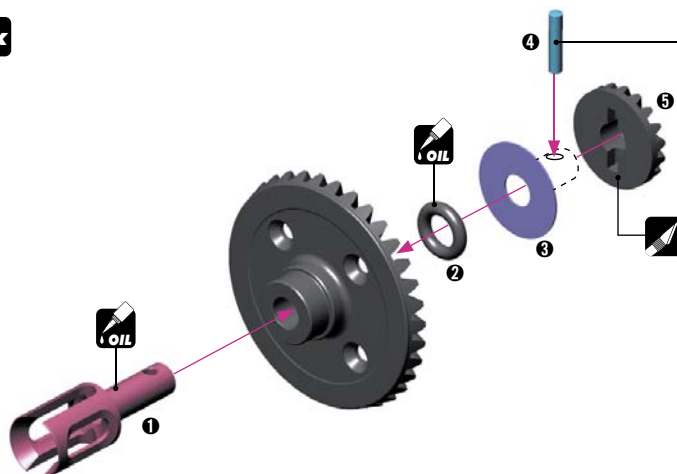
**01**

30 4930 COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)  
 30 4980 COMPOSITE GEAR DIFF CROSS PIN  
 30 4990 DIFF GASKET (4)  
 36 4900 GEAR DIFFERENTIAL - SET  
 36 4910 COMPOSITE GEAR DIFFERENTIAL CASE  
 36 4935 COMPOSITE DIFF. BEVEL GEAR 35T  
 36 4960 GEAR DIFF OUTDRIVE ADAPTER - HUDY SPRING STEEL™ (2)

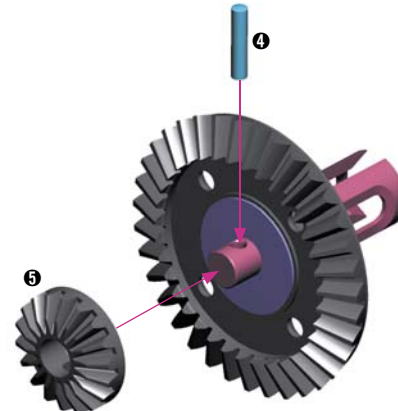
90 3258 HEX SCREW SFH M2.5x8 (10)  
 94 1015 HIGH-SPEED BALL-BEARING 10x15x4 RUBBER SEALED (2)  
 96 4031 WASHER S 3.5x10x0.2 (10)  
 96 4050 WASHER S 5x15x0.3 (10)  
 97 2050 SILICONE O-RING 5x2 (10)  
 98 1210 PIN 2x10 (10)



**2x**

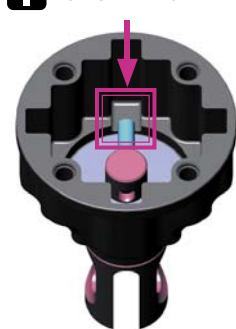


STEP 4 & 5 DETAIL

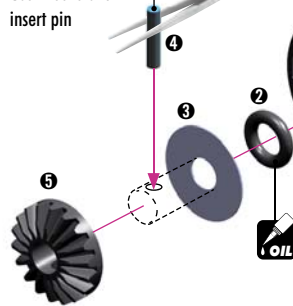


**2x**

**!** NOTE ORIENTATION



STEP 4 DETAIL  
Use tweezers to insert pin

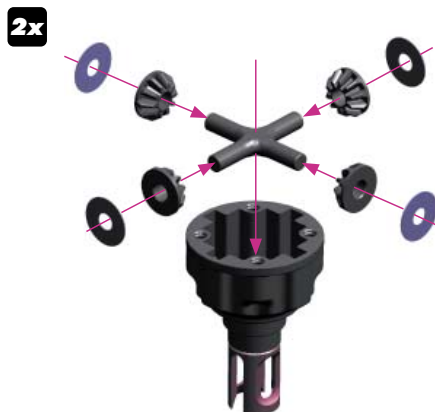


CUTAWAY VIEW





964031  
S 3.5x10x0.2



## Front diff

Silicone oil **10 000cSt**  
Fill just above the  
satellite gears.



## Rear diff

Silicone oil **5 000cSt**  
Fill just above the  
satellite gears.



Fill differential up to the top of the  
diff pin. DO NOT fill the diff to the  
top of the housing.

**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

9.80g



$$9.80g + 1.32g = 11.12g$$



11.12g

**1** Put the diff (without oil) on the scale and check the  
weight (approximately 9.80g)

**2** Slowly pour oil into the diff and watch the weight. Add  
1.32g of oil into the diff. The approximate weight of the diff  
including oil is 11.12g.

## TIPS FOR DIFFERENTIALS

**TIP**

### FRONT DIFFERENTIAL

LOW TRACTION 5 000cSt (HUDY #106450)  
MEDIUM-HIGH TRACTION 10 000cSt (HUDY #106510)  
SUPER-HIGH TRACTION 10 000cSt (HUDY #106510)

#### NOTE:

Softer oil increases steering, harder oil increases stability  
of the car.

### REAR DIFFERENTIAL

LOW TRACTION 2 000cSt (HUDY #106420)  
MEDIUM-HIGH TRACTION 5 000cSt (HUDY #106450)  
SUPER-HIGH TRACTION 10 000cSt (HUDY #106510)

#### NOTE:

Softer oil increases rear traction, harder oil increases  
on-power steering.

**TIP**

## SET-UP BOOK

DIFFERENTIAL OIL



903258  
SFH M2.5x8



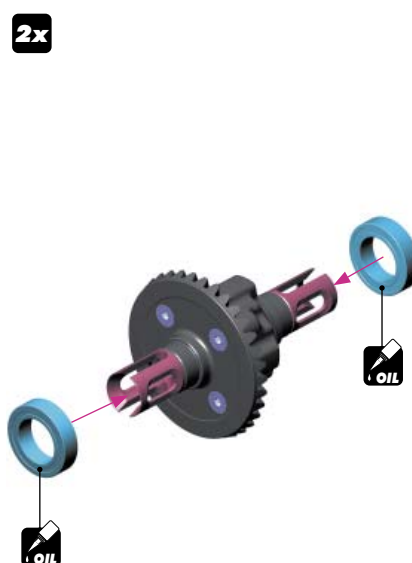
941015  
BB 10x15x4



**2x** Tighten the screws equally but do NOT  
tighten them completely.

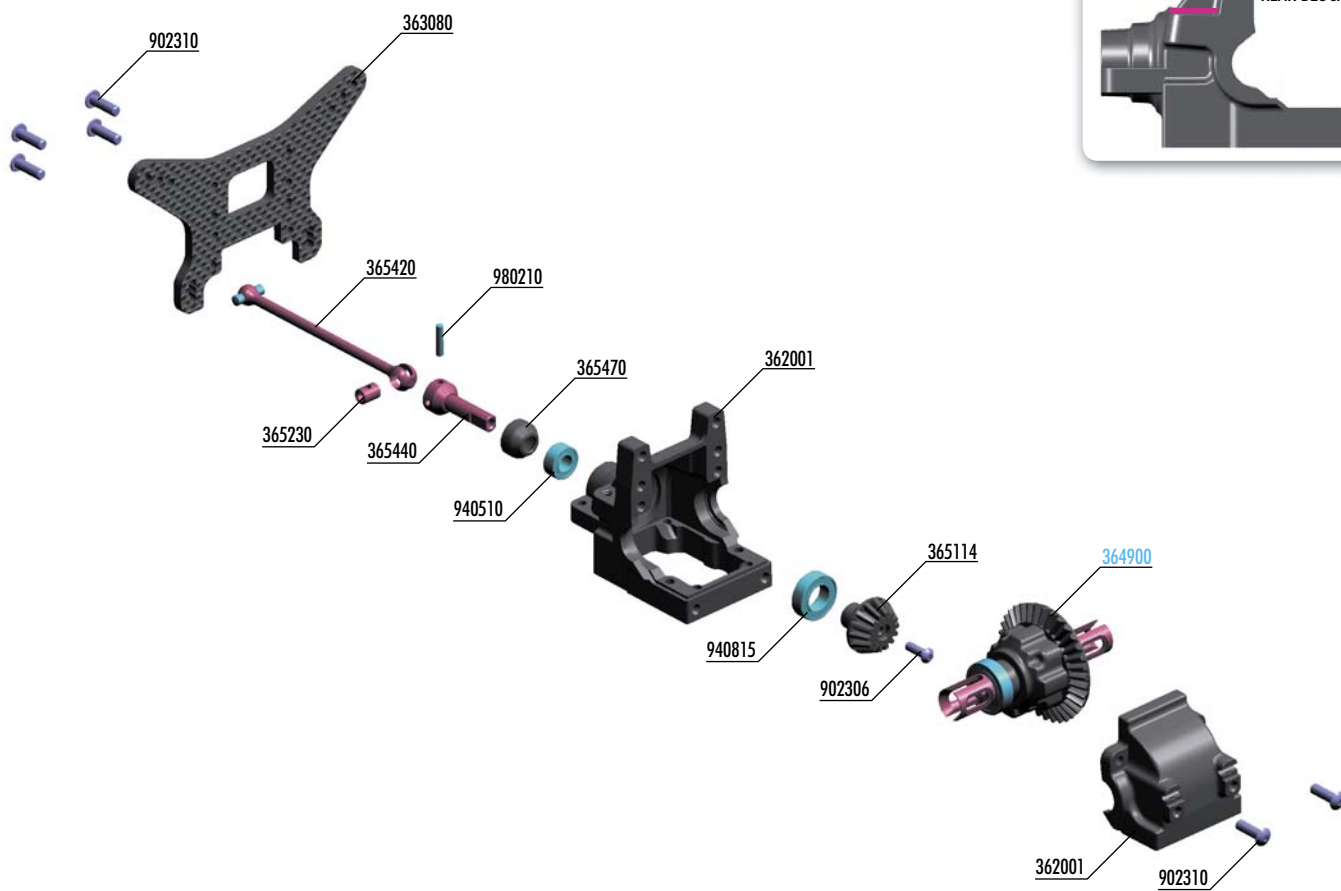
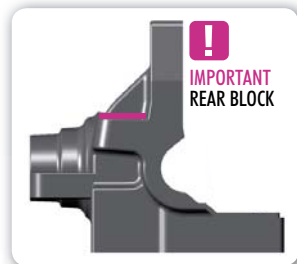


Finish tightening in  
this order.





## 2. REAR CENTRAL TRANSMISSION



**BAG**

**02**

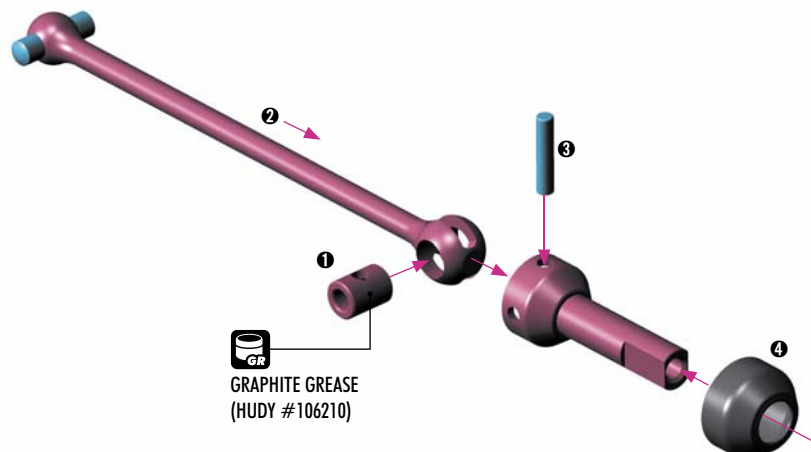
36 2001 DIFF BULKHEAD BLOCK SET REAR  
36 3080 GRAPHITE SHOCK TOWER REAR 3.0MM  
36 5114 COMPOSITE BEVEL DRIVE GEAR 14T  
36 5230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™  
36 5420 CENTRAL DRIVE SHAFT 88MM - HUDY SPRING STEEL™  
36 5440 CENTRAL SHAFT UNIVERSAL JOINT  
36 5470 COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)  
90 2306 HEX SCREW SH M3x6 (10)

90 2310 HEX SCREW SH M3x10 (10)  
94 0510 HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)  
94 0815 HIGH-SPEED BALL-BEARING 8x14x4 RUBBER SEALED (2)  
98 0210 PIN 2x10 (10)

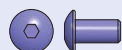
36 4900 GEAR DIFFERENTIAL - SET



980210  
P 2x10



# REAR CENTRAL TRANSMISSION



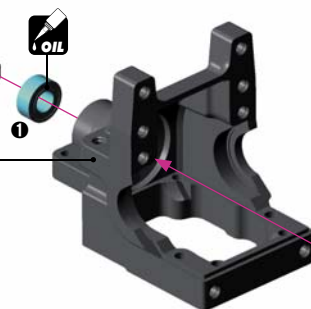
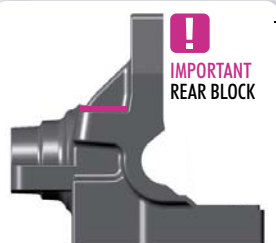
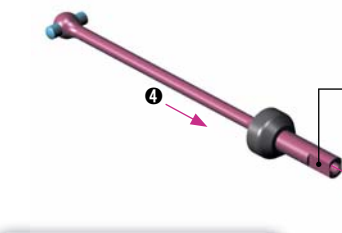
902306  
SH M3x6



940510  
BB 5x10x4



940815  
BB 8x14x4



GRAPHITE GREASE  
(HUDY #106210)



NOTE ORIENTATION

THREAD LOCK



GRAPHITE GREASE  
(HUDY #106210)

NOTE ORIENTATION

REAR DIFF 5 000 cSt



902310  
SH M3x10



NOTE ORIENTATION

NOTE ORIENTATION

REAR DIFF 5 000 cSt



902310  
SH M3x10

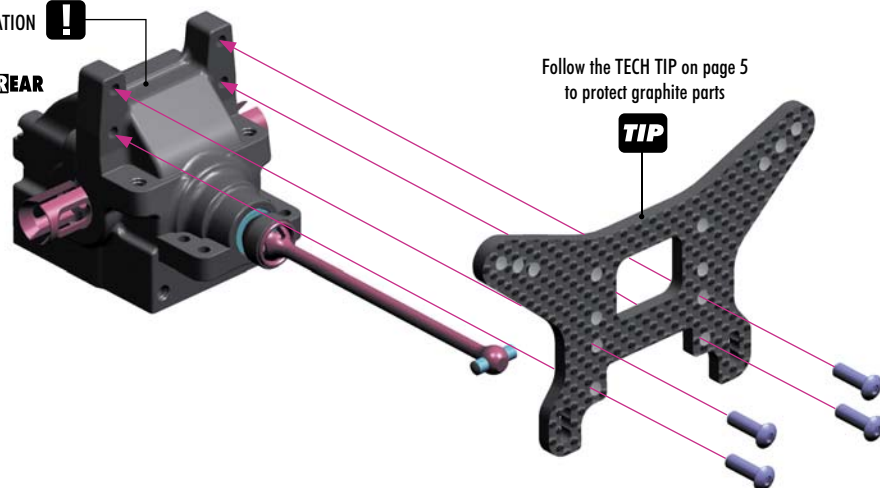
NOTE ORIENTATION



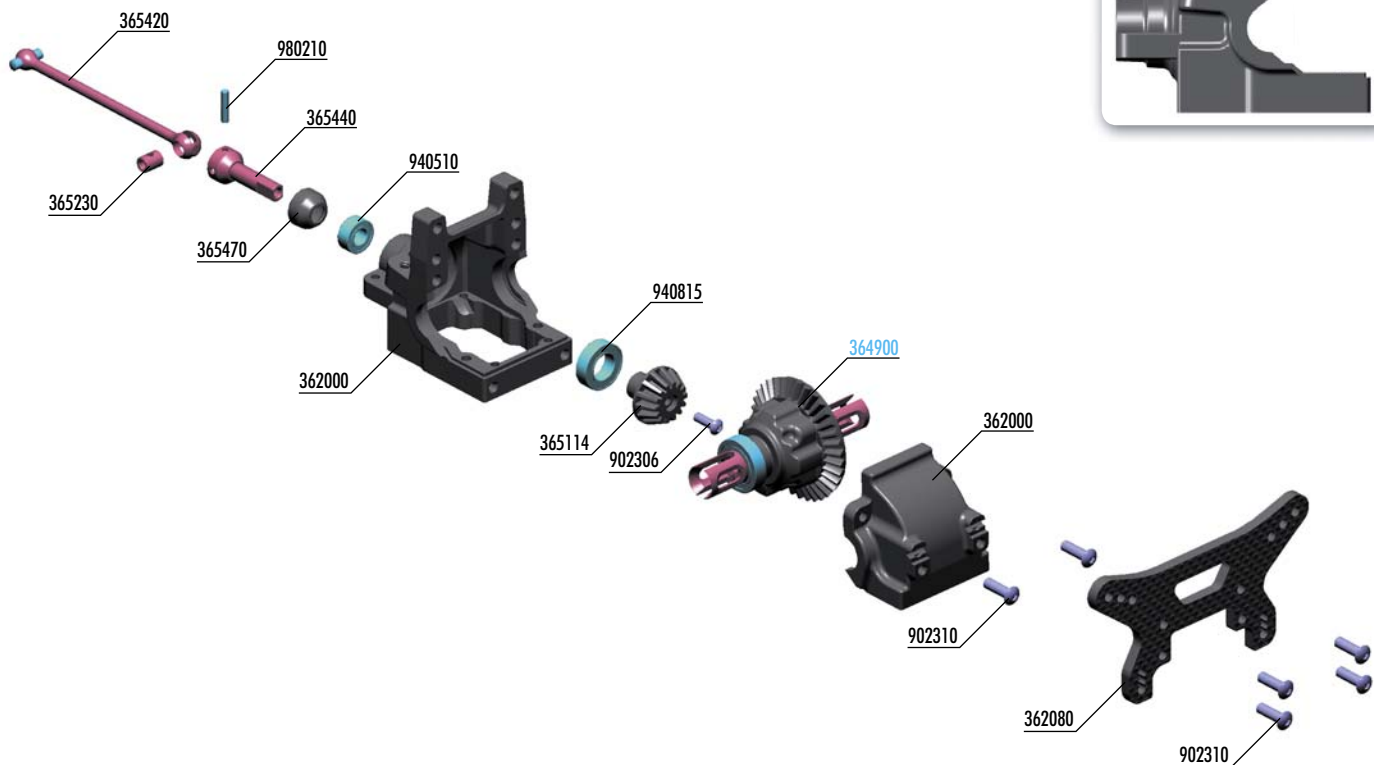
REAR

Follow the TECH TIP on page 5  
to protect graphite parts

TIP



## 2. FRONT CENTRAL TRANSMISSION



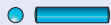
**BAG**

**02**

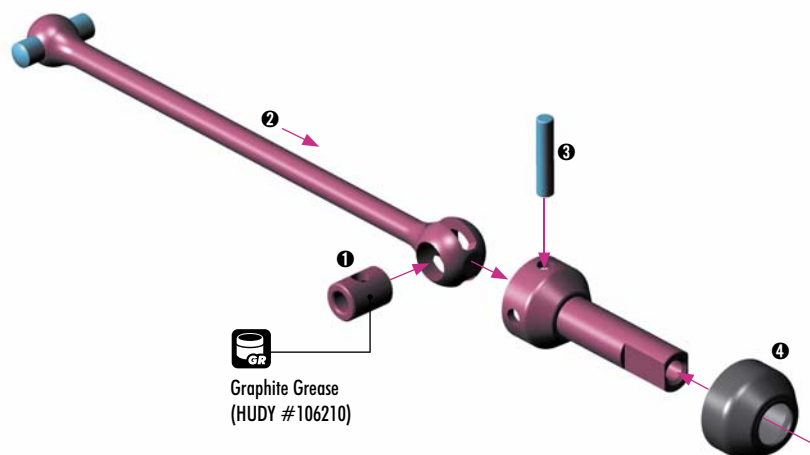
36 2000 DIFF BULKHEAD BLOCK SET FRONT  
 36 2080 GRAPHITE SHOCK TOWER FRONT 3.0MM  
 36 5114 COMPOSITE BEVEL DRIVE GEAR 14T - KEVLAR GRAPHITE  
 36 5230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™  
 36 5420 CENTRAL DRIVE SHAFT 88MM - HUDY SPRING STEEL™  
 36 5440 CENTRAL SHAFT UNIVERSAL JOINT  
 36 5470 COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)

90 2306 HEX SCREW SH M3x6 (10)  
 90 2310 HEX SCREW SH M3x10 (10)  
 94 0510 HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)  
 94 0815 HIGH-SPEED BALL-BEARING 8x14x4 RUBBER SEALED (2)  
 98 0210 PIN 2x10 (10)

36 4900 GEAR DIFFERENTIAL - SET



980210  
P 2x10

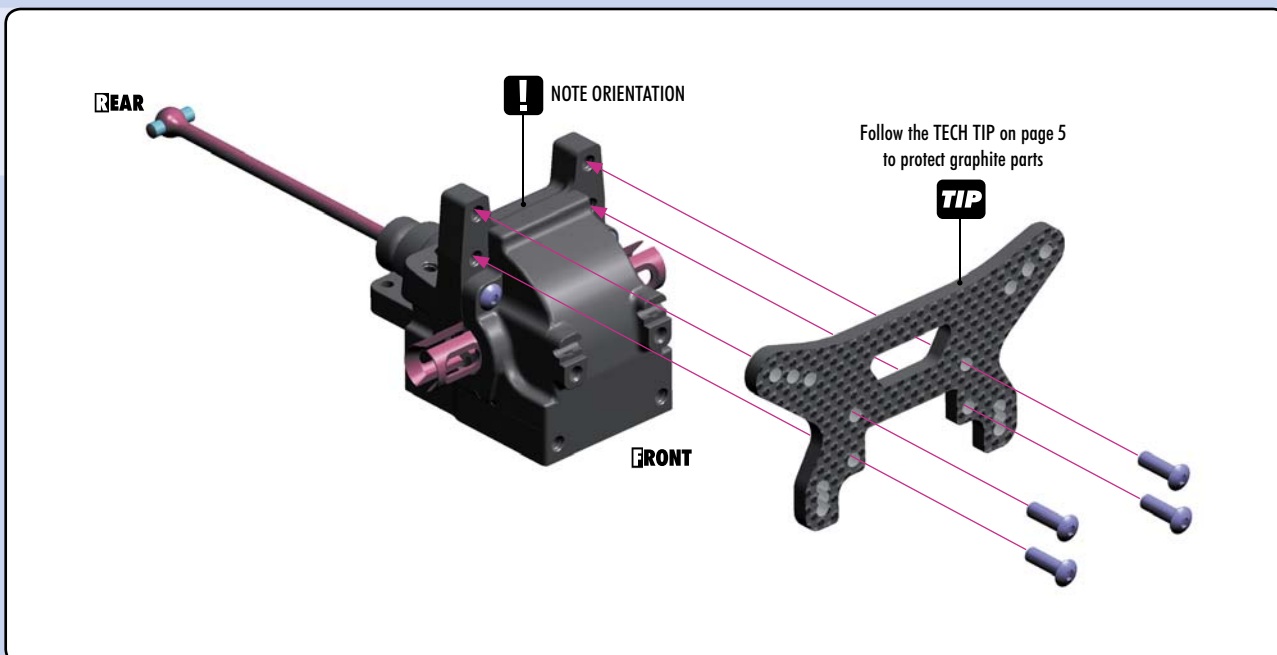
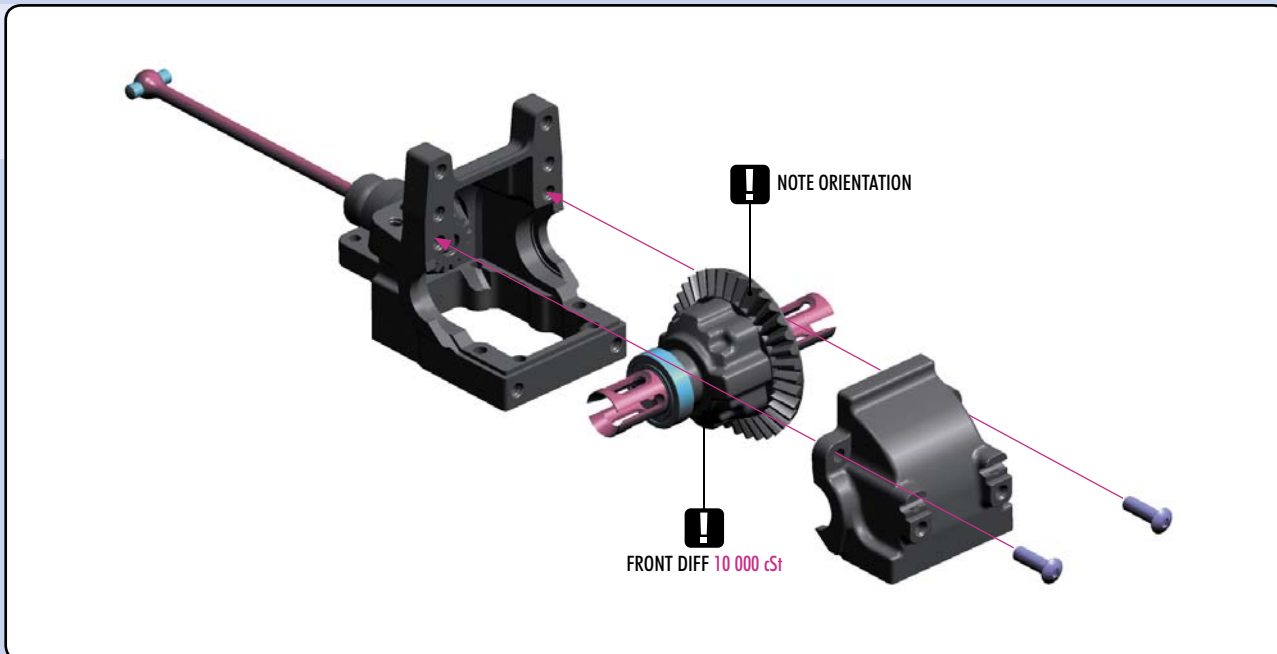
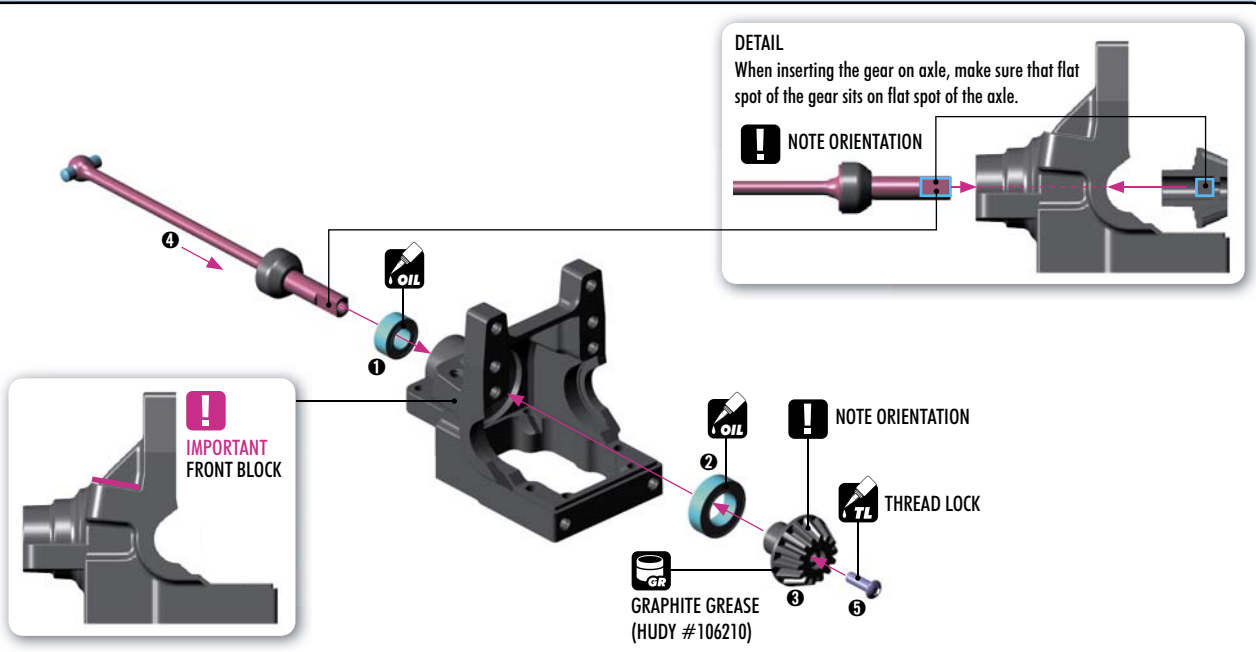




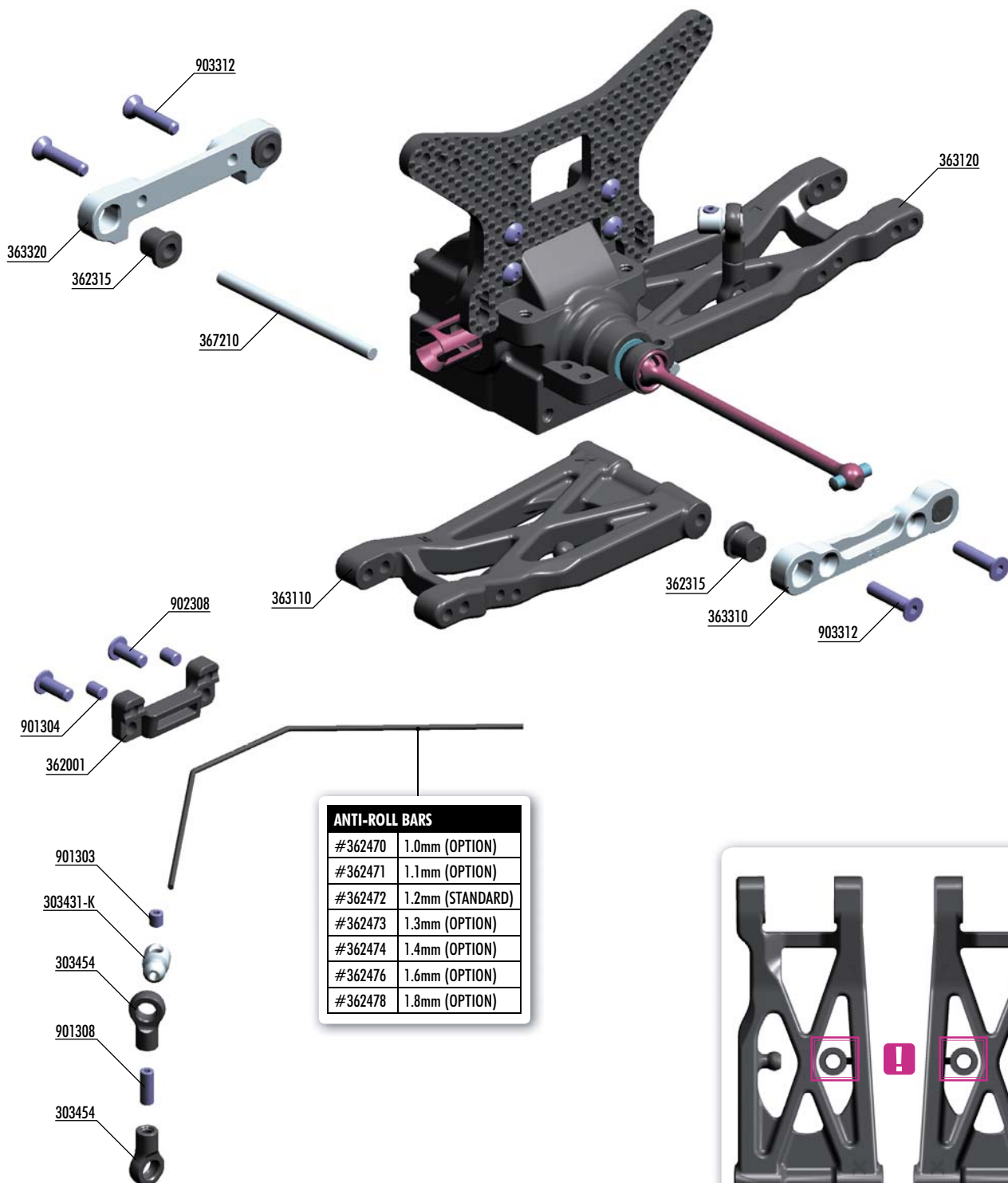
# FRONT CENTRAL TRANSMISSION



940815  
BB 6x14x4



### 3. REAR SUSPENSION



Remove the 3x6.5x2mm shim from each rear arm, this shim will be used in Rear Transmission section on page 19, step 1.

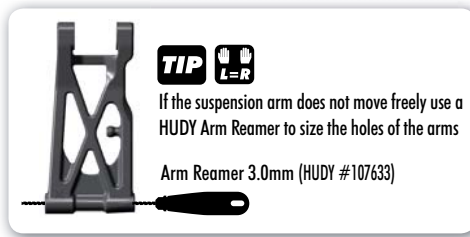
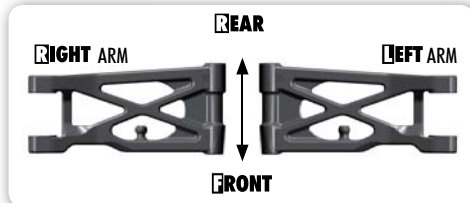
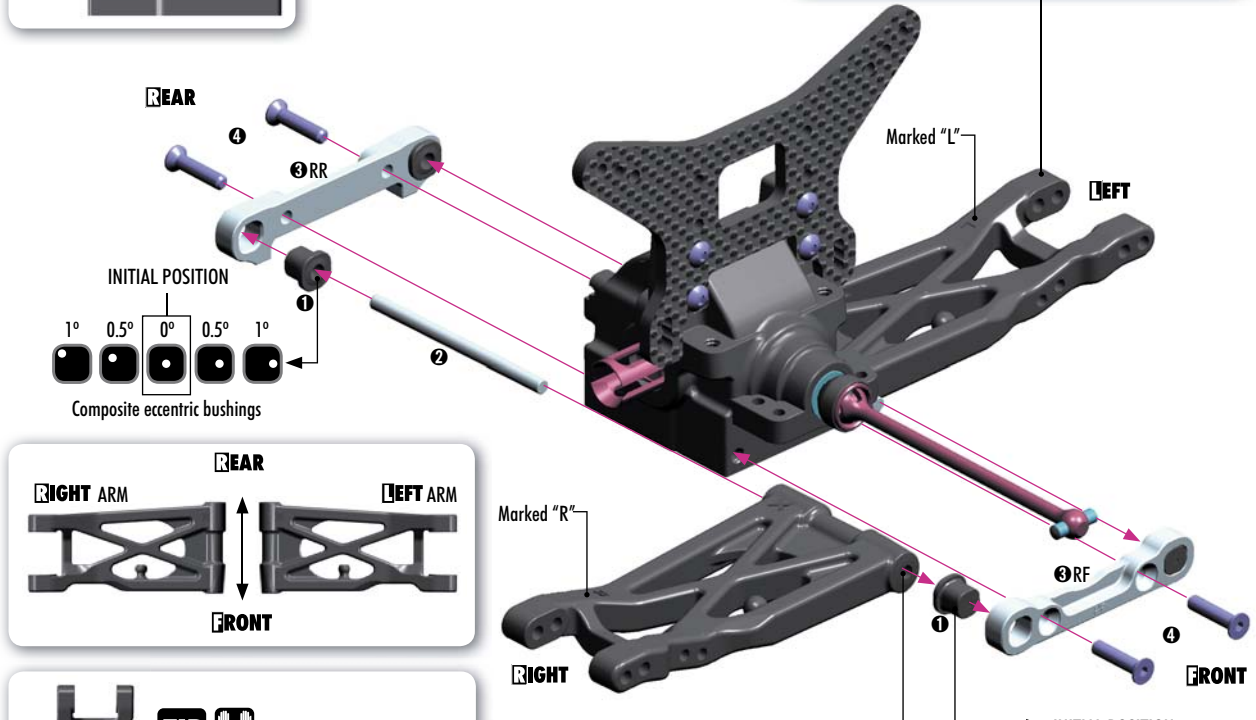
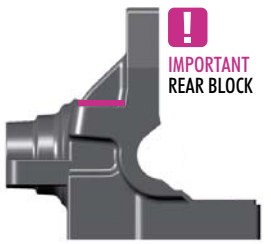
**BAG**

**03**

30 3431-K ALU 4.9MM BALL END - BLACK (2)  
 30 3454 BALL JOINT 4.9MM - OPEN (4)  
 36 2001 DIFF BULKHEAD BLOCK SET REAR  
 36 2315 ECCENTRIC BUSHING SET (2)  
 36 2470 ANTI-ROLL BAR 1.0 MM (OPTION)  
 36 2471 ANTI-ROLL BAR 1.1 MM (OPTION)  
 36 2472 ANTI-ROLL BAR 1.2 MM  
 36 2473 ANTI-ROLL BAR 1.3 MM (OPTION)  
 36 2474 ANTI-ROLL BAR 1.4 MM (OPTION)  
 36 2476 ANTI-ROLL BAR 1.6 MM (OPTION)  
 36 2478 ANTI-ROLL BAR 1.8 MM (OPTION)

36 3110 COMPOSITE SUSPENSION ARM REAR LOWER RIGHT  
 36 3120 COMPOSITE SUSPENSION ARM REAR LOWER LEFT  
 36 3310 ALU REAR LOWER SUSP. HOLDER - FRONT - 7075 T6 (5MM)  
 36 3320 ALU REAR LOWER SUSP. HOLDER - REAR - 7075 T6 (5MM)  
 36 7210 SUSPENSION PIVOT PIN (2)

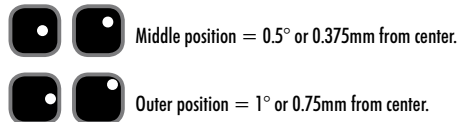
90 1303 HEX SCREW SB M3x3 (10)  
 90 1304 HEX SCREW SB M3x4 (10)  
 90 1308 HEX SCREW SB M3x8 (10)  
 90 2308 HEX SCREW SH M3x8 (10)  
 90 3312 HEX SCREW SFH M3x12 (10)



## SET-UP BOOK

TOE-IN  
ANTI-SQUAT  
ROLL CENTER  
TRACK WIDTH

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.



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

ANTI-SQUAT		
RR	RF	(°)
		= 2°
		= 3°
		= 1°
		= 3°
		= 2°
		= 4°
		= 1°
		= 2°
		= 0°

ROLL-CENTER		
RR	RF	(mm)
		= +0.75mm
		= 0mm
		= -0.75mm

TRACK WIDTH		
RR	RF	(mm)
		= +1.5mm
		= 0mm
		= -1.5mm

The track width is directly influenced by the size of the wheels and tires used.

The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings.

The middle position eccentric bushings allow for finer adjustment increments.

Example:

$$0(RR) - 0(RF) = 2^\circ$$

$$0(RR) - 0.5(RF) = 2.5^\circ$$

$$0(RR) - 1(RF) = 3^\circ$$

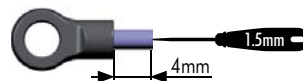
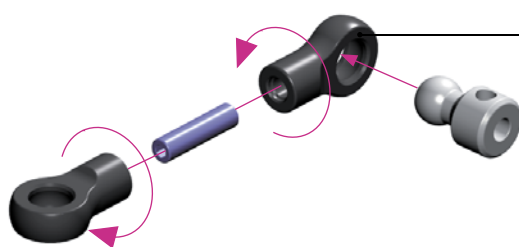
TOE-IN		
RR	RF	(°)
		= 3°
		= 4°
		= 2°
		= 3°
		= 1°
		= 4°
		= 5°
		= 3°



# REAR SUSPENSION

901308  
SB M3x8

2x  
L=R



ASSEMBLY VIEW



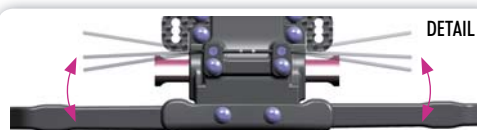
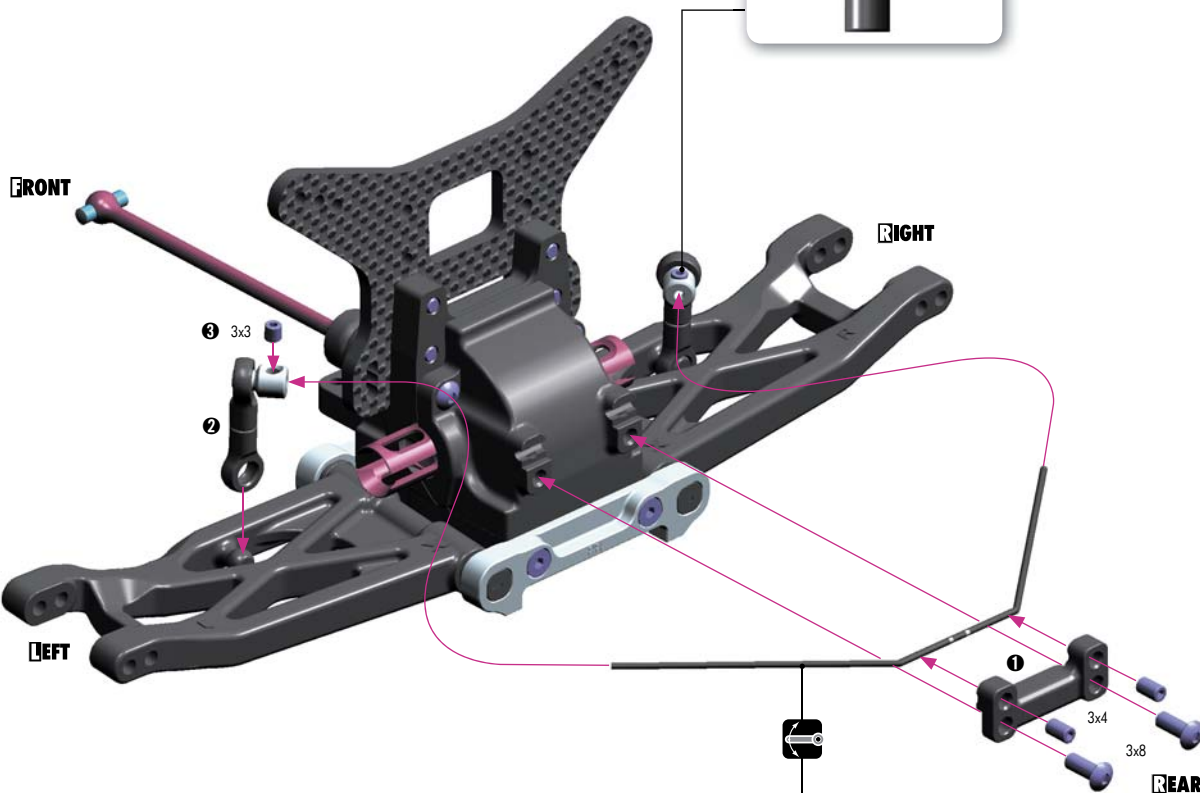
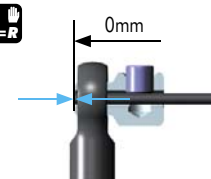
901303  
SB M3x3

901304  
SB M3x4

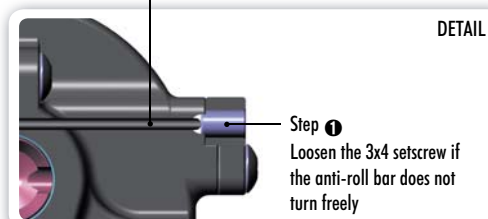
902308  
SH M3x8

STEP 3 DETAIL

L=R



Step 1 check for free movement

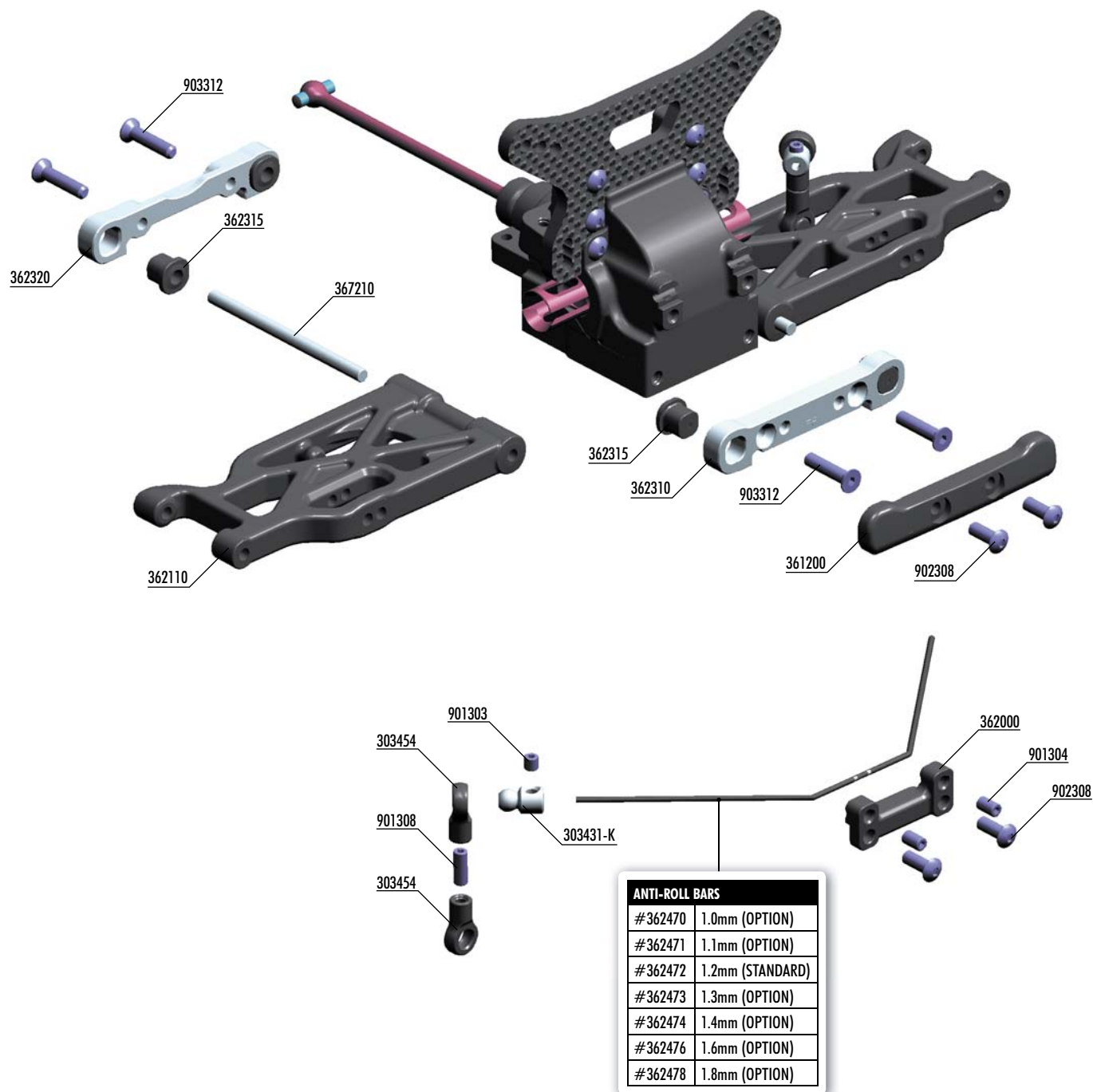


Step 1  
Loosen the 3x4 setscrew if  
the anti-roll bar does not  
turn freely

SET-UP  
BOOK

ANTI-ROLL BAR

### 3. FRONT SUSPENSION



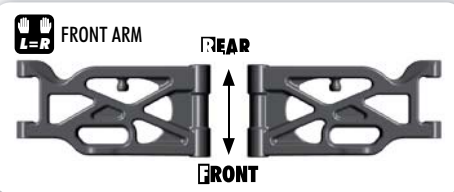
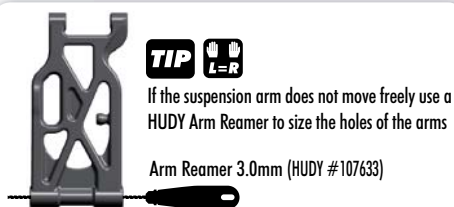
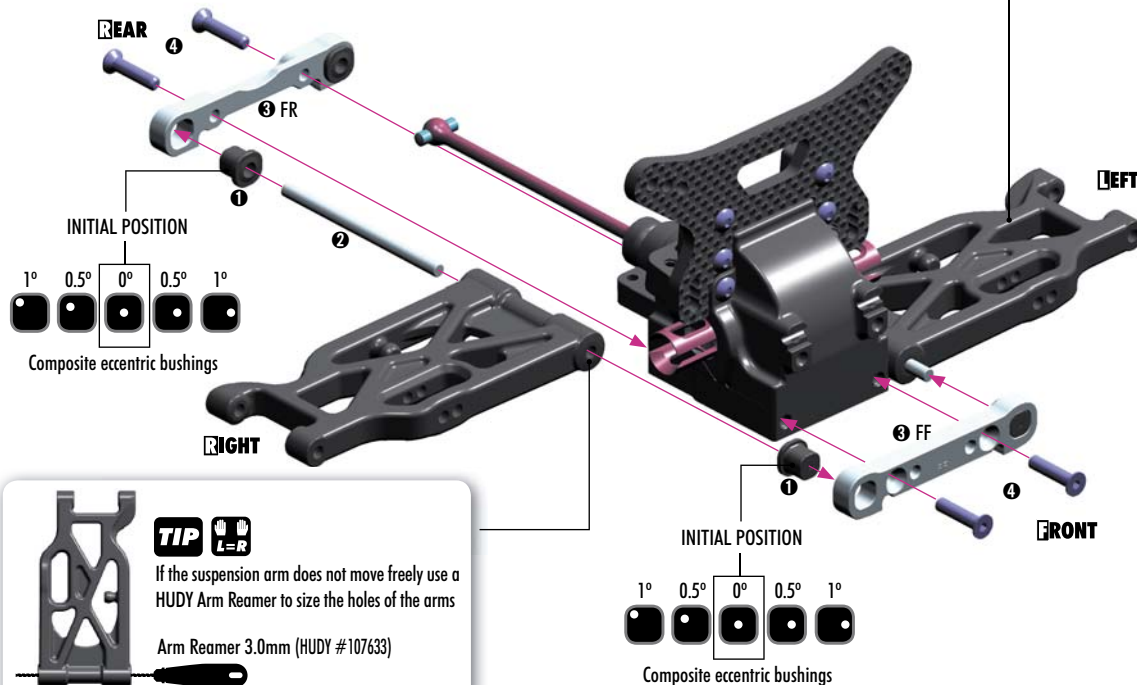
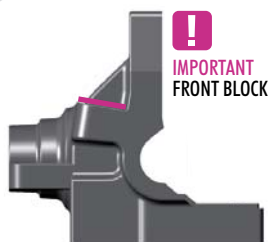
**BAG**

**03**

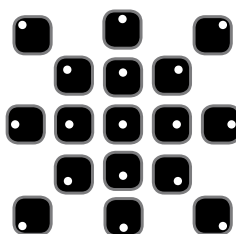
30 3431-K ALU 4.9MM BALL END - BLACK (2)  
 30 3454 BALL JOINT 4.9MM - OPEN (4)  
 36 1200 COMPOSITE BUMPER  
 36 2000 DIFF BULKHEAD BLOCK SET FRONT  
 36 2110 COMPOSITE SUSPENSION ARM FRONT LOWER  
 36 2310 ALU FRONT LOWER SUSP. HOLDER - FRONT - 7075 T6 (5MM)  
 36 2315 ECCENTRIC BUSHING SET (2)  
 36 2320 ALU FRONT LOWER SUSP. HOLDER - REAR - 7075 T6 (5MM)  
 36 2470 ANTI-ROLL BAR 1.0 MM (OPTION)  
 36 2471 ANTI-ROLL BAR 1.1 MM (OPTION)  
 36 2472 ANTI-ROLL BAR 1.2 MM  
 36 2473 ANTI-ROLL BAR 1.3 MM (OPTION)

36 2474 ANTI-ROLL BAR 1.4 MM (OPTION)  
 36 2476 ANTI-ROLL BAR 1.6 MM (OPTION)  
 36 2478 ANTI-ROLL BAR 1.8 MM (OPTION)  
 36 7210 SUSPENSION PIVOT PIN (2)  
 90 1303 HEX SCREW SB M3x3 (10)  
 90 1304 HEX SCREW SB M3x4 (10)  
 90 1308 HEX SCREW SB M3x8 (10)  
 90 2308 HEX SCREW SH M3x8 (10)  
 90 3312 HEX SCREW SFH M3x12 (10)

# FRONT SUSPENSION



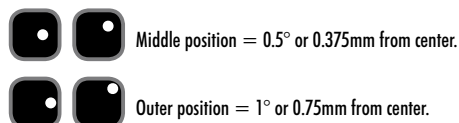
All possible mounting alternatives of eccentric bushings



## SET-UP BOOK

KICK UP  
ROLL CENTER  
TRACK WIDTH

ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.



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

KICK-UP	
FF	FR (°)
	= 9°
	= 8°
	= 10°
	= 8°
	= 7°
	= 9°
	= 10°
	= 9°
	= 11°

ROLL-CENTER	
FF	FR (mm)
	= +0.75mm
	= 0mm
	= -0.75mm

TRACK WIDTH	
FF	FR (mm)
	= +1.5mm
	= 0mm
	= -1.5mm

The track width is directly influenced by the size of the wheels and tires used.

The tables describe the amounts of adjustment using the center and outside positions of the eccentric bushings.

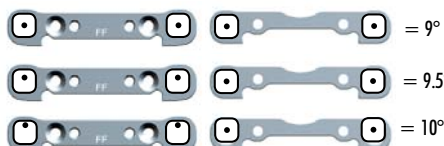
The middle position eccentric bushings allow for finer adjustment increments.

Example:

$$0(\text{FF}) - 0(\text{FR}) = 9^\circ$$

$$0.5(\text{FF}) - 0(\text{FR}) = 9.5^\circ$$

$$1(\text{FF}) - 0(\text{FR}) = 10^\circ$$



TOTAL CASTER = C-HUB CASTER + KICK UP

C-HUB CASTER	KICK-UP				
	7°	8°	9°	10°	11°
6°	13°	14°	15°	16°	17°
9°	16°	17°	18°	19°	20°

Caster is the angle between the steering pivot axis and the vertical plane. Caster is affected not only by the C-Hub caster, but also by the front kick-up angle relative to the flat chassis bottom. The table indicates how kick up angle effects total caster.

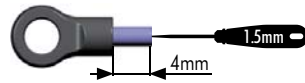
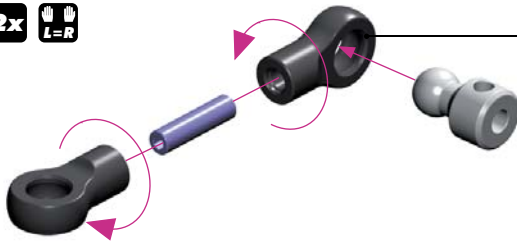
The XB4's stock caster blocks are 9°, but 6° blocks are available as an option.



# FRONT SUSPENSION

901308  
SB M3x8

2x  
L=R



ASSEMBLY VIEW



902308  
SH M3x8



901303  
SB M3x3

901304  
SB M3x4

902308  
SH M3x8

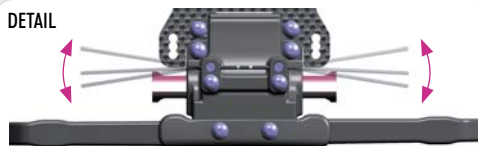
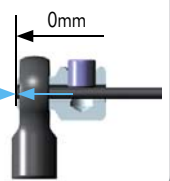
REAR

LEFT

RIGHT

STEP 3 DETAIL

L=R



DETAIL



Step 1 check for free movement



DETAIL

Step 1  
Loosen the 3x4 setscrew if  
the anti-roll bar does not  
turn freely

SET-UP  
BOOK

ANTI-ROLL BAR

## 4. REAR TRANSMISSION

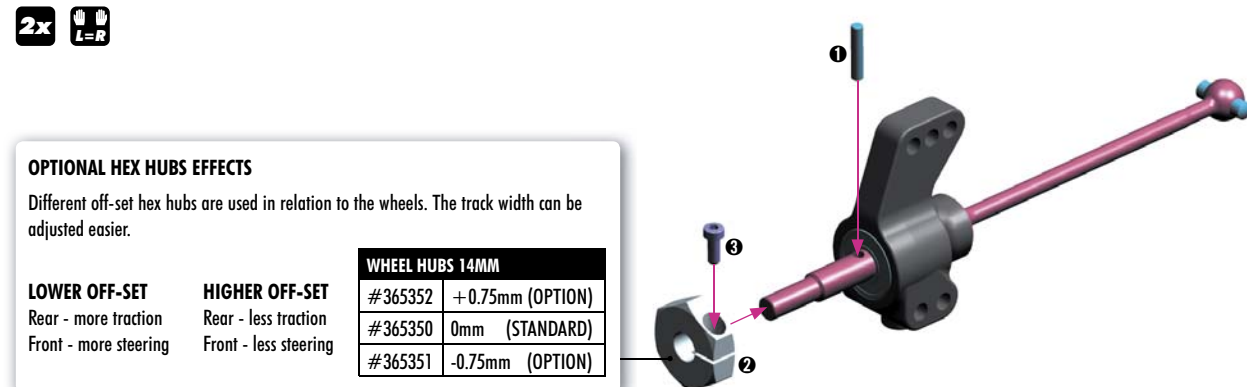
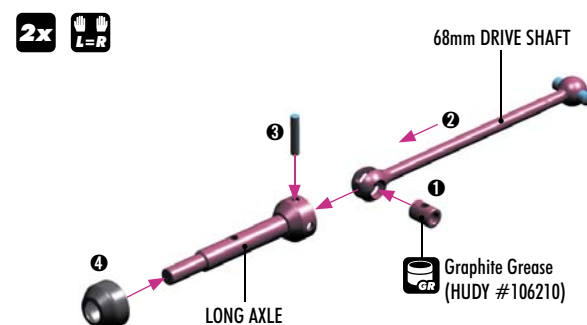
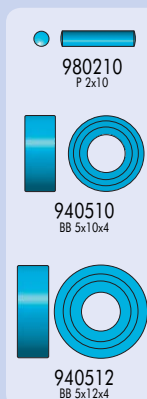


**BAG**

**04**

- 30 2665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 36 2610 ADJ. TURNBUCKLE M3 L/R 50 MM - SPRING STEEL (2)
- 36 2650 BALL END 4.9MM WITH THREAD 6MM (2)
- 36 2651 BALL END 4.9MM WITH THREAD 8MM (2)
- 36 3110 REAR SUSPENSION ARM - RIGHT
- 36 3120 REAR SUSPENSION ARM - LEFT
- 36 3350 COMPOSITE UPRIGHT REAR
- 36 3520 REAR WING POST (2)
- 36 5230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 36 5320 REAR DRIVE SHAFT 68MM - HUDY SPRING STEEL™
- 36 5340 REAR DRIVE AXLE - HUDY SPRING STEEL™
- 36 5350 ALU WHEEL HUB 14MM (2)

- 36 5351 ALU WHEEL HUB 14MM - OFFSET "-0.75MM" (2) (OPTION)
- 36 5352 ALU WHEEL HUB 14MM - OFFSET "+0.75MM" (2) (OPTION)
- 36 5470 COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)
- 36 7320 REAR ARM PIVOT PIN (2)
- 90 1306 HEX SCREW SB M3x6 (10)
- 90 2205 HEX SCREW SH M2x5 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 94 0510 HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)
- 94 0512 HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)
- 96 0030 NUT M3 (10)
- 98 0210 PIN 2x10 (10)



### OPTIONAL HEX HUBS EFFECTS

Different off-set hex hubs are used in relation to the wheels. The track width can be adjusted easier.

#### LOWER OFF-SET

Rear - more traction  
Front - more steering

#### HIGHER OFF-SET

Rear - less traction  
Front - less steering

WHEEL HUBS 14MM	
#365352	+0.75mm (OPTION)
#365350	0mm (STANDARD)
#365351	-0.75mm (OPTION)

# REAR TRANSMISSION

901306  
SB M3x6

**10**  
From Rear Arm  
SHIM 3x6.5x2

**! IMPORTANT!**

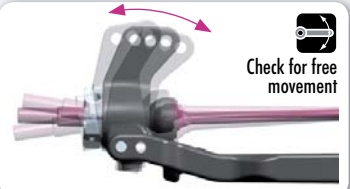


When using **OUTSIDE** position on the hub, use only outside position on the arm.

The outside hole offers great stability and is recommended for bumpy open tracks.

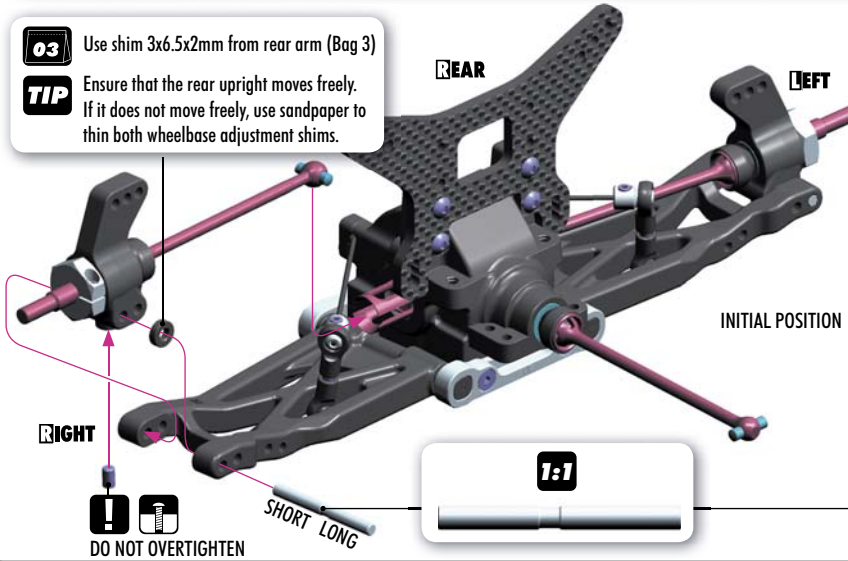
When using **INSIDE** position on the hub, use only inside position on the arm.

Inside hole offers great amount of steering and is recommended for flat, technical tracks.



**03** Use shim 3x6.5x2mm from rear arm (Bag 3)

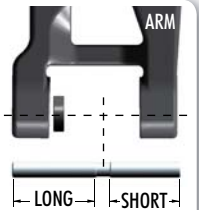
**TIP** Ensure that the rear upright moves freely. If it does not move freely, use sandpaper to thin both wheelbase adjustment shims.



**TOP VIEW**

Alternative Shim **BEHIND HUB**

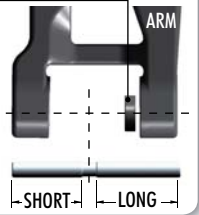
**! NOTE ORIENTATION**



**TOP VIEW**

Alternative Shim **IN FRONT OF HUB**

**! NOTE ORIENTATION**



**SET-UP BOOK**  
WHEELBASE

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

6mm thread

RIGHT THREAD

LEFT THREAD

8mm thread

**1:1** **2x** **L=R**

33.5 mm



**SET-UP BOOK**  
CAMBER

960030  
N M3

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

**! NOTE ORIENTATION**

6mm THREAD

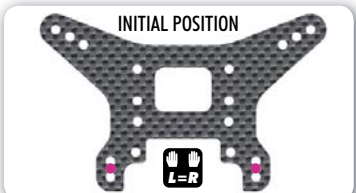
8mm THREAD

**! NOTE ORIENTATION**

LEFT

RIGHT

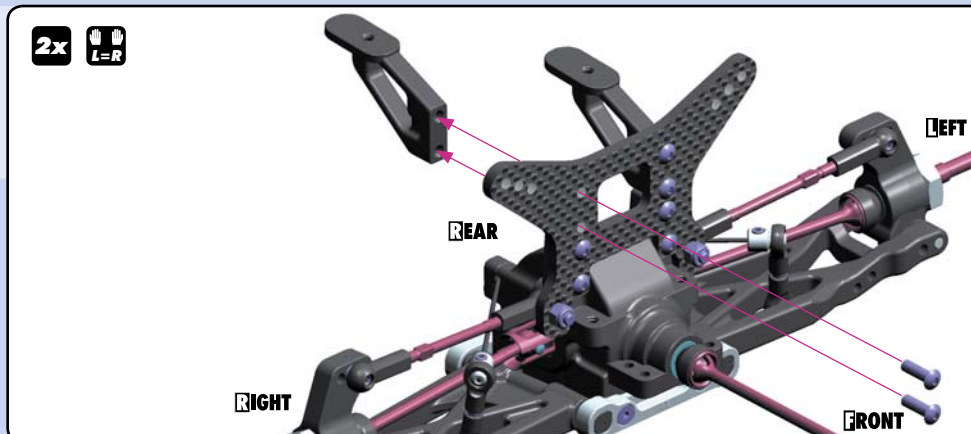
FRONT



**SET-UP BOOK**  
ROLL CENTER

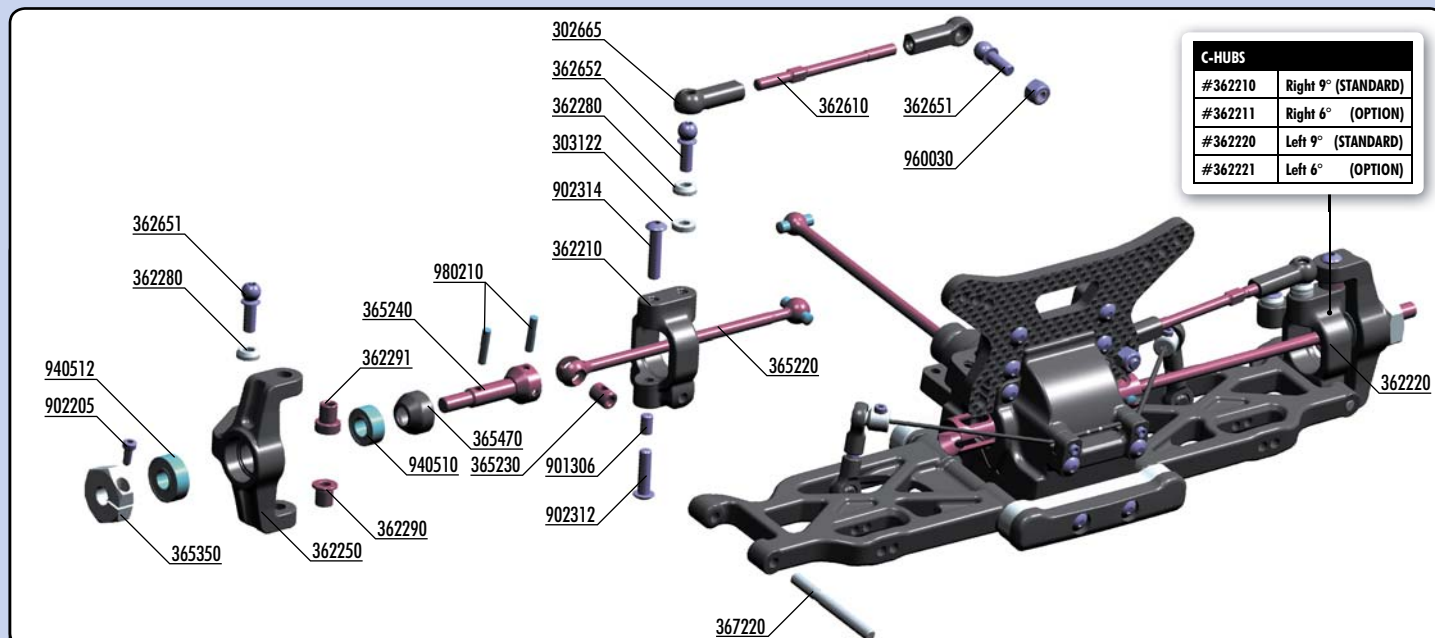
902310  
SH M3x10

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





## 4. FRONT TRANSMISSION



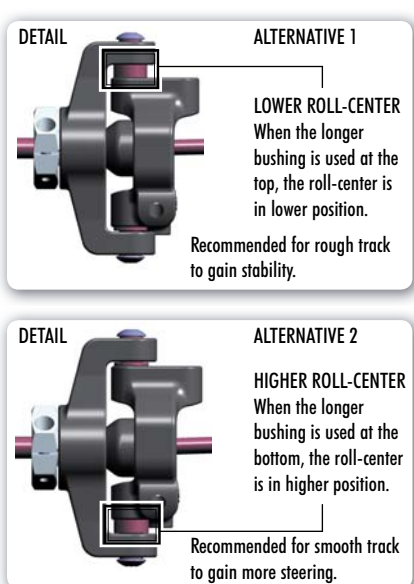
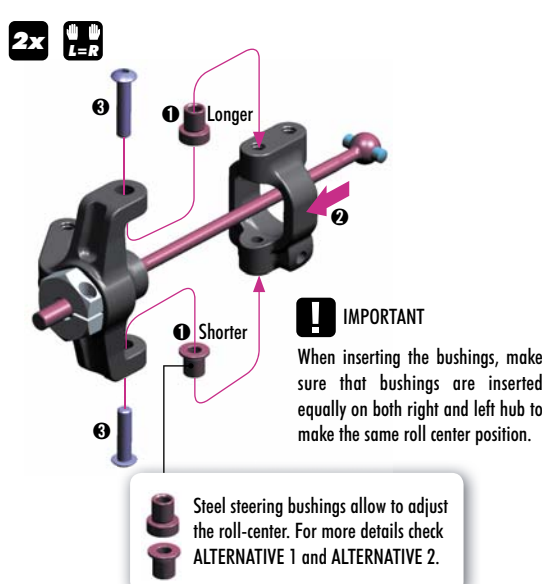
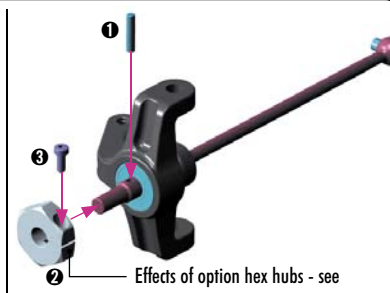
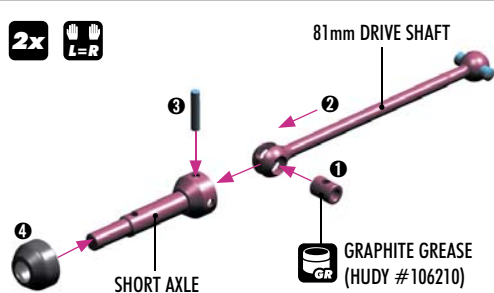
C-HUBS	
#362210	Right 9° (STANDARD)
#362211	Right 6° (OPTION)
#362220	Left 9° (STANDARD)
#362221	Left 6° (OPTION)

BAG

04

30 2665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)  
 30 3122 ALU SHIM 3x6x1.0MM (10)  
 36 2210 COMPOSITE C-HUB 9° DEG. RIGHT  
 36 2211 COMPOSITE C-HUB 6° DEG. RIGHT (OPTION)  
 36 2220 COMPOSITE C-HUB 9° DEG. LEFT  
 36 2221 COMPOSITE C-HUB 6° DEG. LEFT (OPTION)  
 36 2250 COMPOSITE STEERING BLOCK  
 36 2280 ALU CONICAL SHIM 3x6x2.0MM (10)  
 36 2290 STEEL STEERING BUSHING - SHORT (2)  
 36 2291 STEEL STEERING BUSHING - LONG (2)  
 36 2610 ADJ. TURNBUCKLE M3 L/R 50 MM - SPRING STEEL (2)  
 36 2651 BALL END 4.9MM WITH THREAD 8MM (2)  
 36 2652 BALL END 4.9MM WITH THREAD 10MM (2)  
 36 5220 FRONT DRIVE SHAFT 81MM - HUDY SPRING STEEL™  
 36 5230 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™

36 5240 FRONT DRIVE AXLE - HUDY SPRING STEEL™  
 36 5350 ALU WHEEL HUB 14MM (2)  
 36 5351 ALU WHEEL HUB 14MM - OFFSET "-0.75MM" (2) (OPTION)  
 36 5352 ALU WHEEL HUB 14MM - OFFSET "+0.75MM" (2) (OPTION)  
 36 5470 COMPOSITE DRIVE SHAFT SAFETY COLLAR (3)  
 36 7220 FRONT ARM PIVOT PIN (2)  
 90 1306 HEX SCREW SB M3x6 (10)  
 90 2205 HEX SCREW SH M2x5 (10)  
 90 2312 HEX SCREW SH M3x12 (10)  
 90 2314 HEX SCREW SH M3x14 (10)  
 94 0510 HIGH-SPEED BALL-BEARING 5x10x4 RUBBER SEALED (2)  
 94 0512 HIGH-SPEED BALL-BEARING 5x12x4 RUBBER SEALED (2)  
 96 0030 NUT M3 (10)  
 98 0210 PIN 2x10 (10)



SET-UP BOOK  
 CASTER  
 ROLL-CENTER

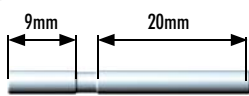


901306  
SB M3x6

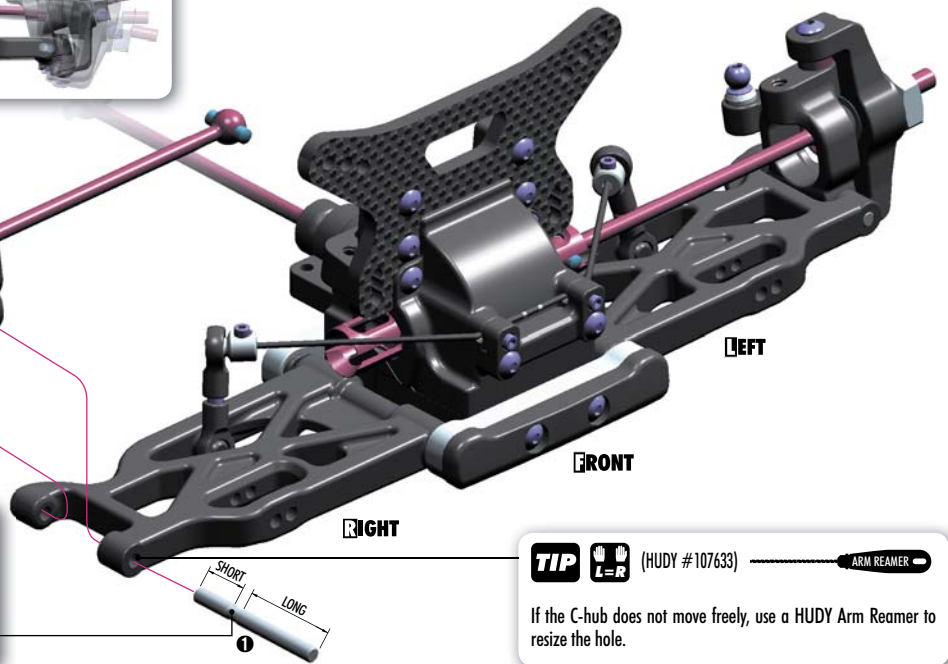
2x L=R



DO NOT OVERTIGHTEN

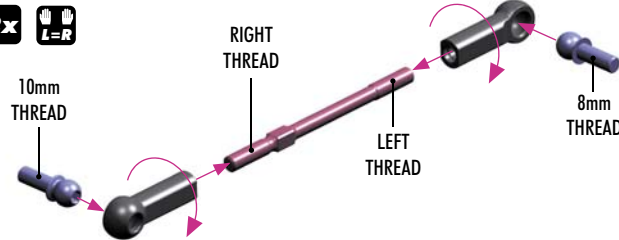


1:1 NOTE ORIENTATION

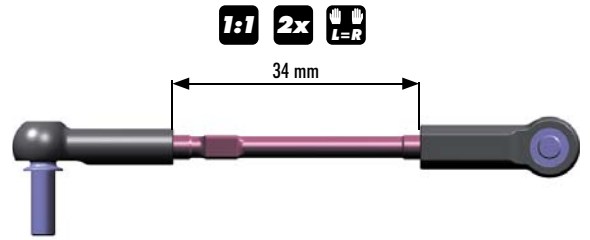


**TIP** L=R (HUDY #107633) ARM REAMER  
If the C-hub does not move freely, use a HUDY Arm Reamer to resize the hole.

2x L=R



1:1 2x L=R



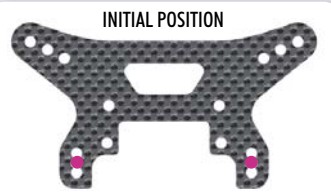
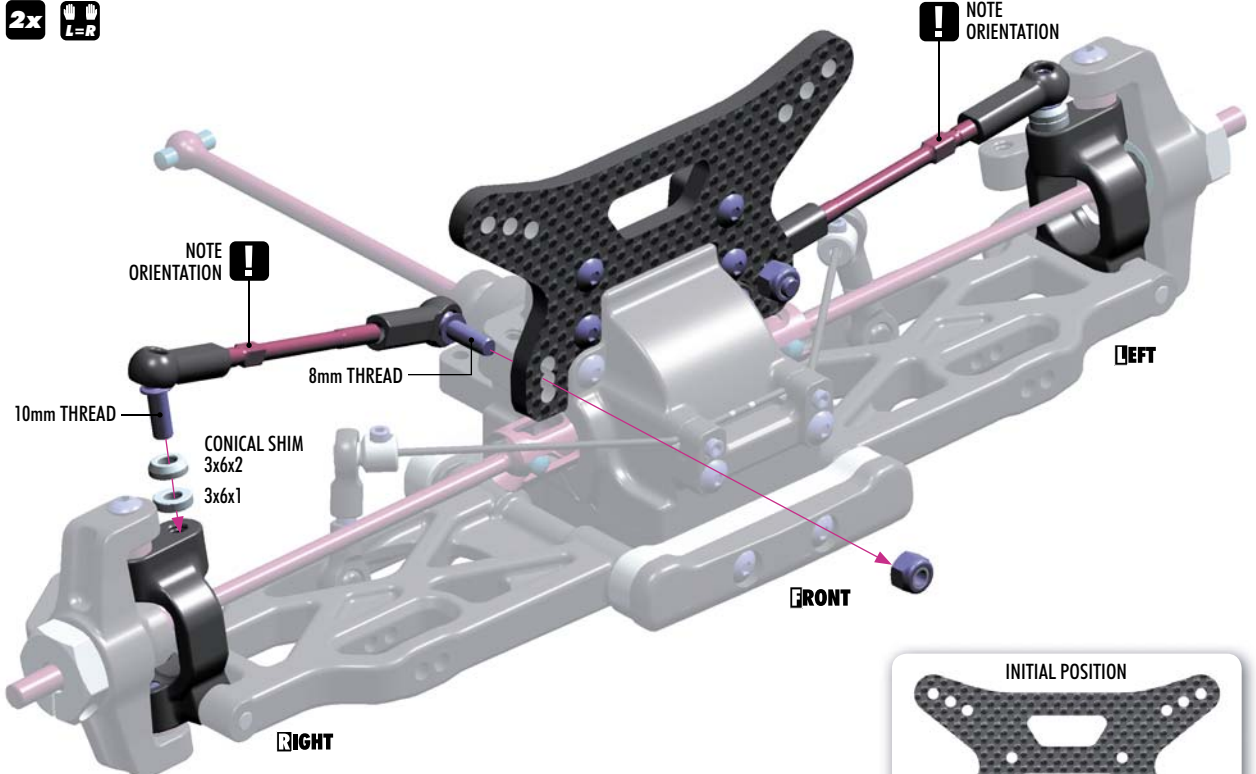
**SET-UP BOOK**  
CAMBER

303122  
SHIM 3x6x1

362280  
CON. SHIM 3x6x2

960030  
N M3

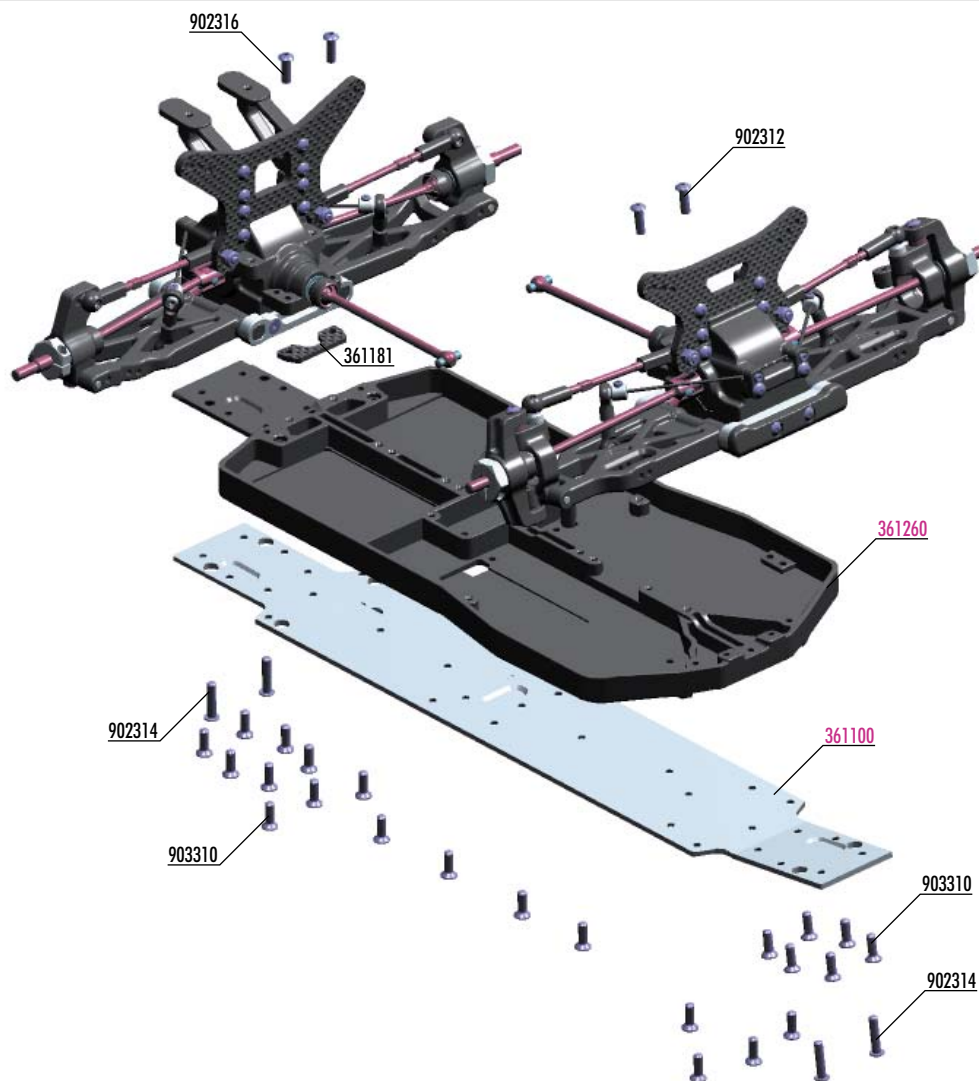
2x L=R



**SET-UP BOOK**

ROLL CENTER

## 4. FRONT & REAR ASSEMBLY



**BAG**

**04**

36 1181 GRAPHITE REAR LOWER BRACE 2.0MM  
90 2312 HEX SCREW SH M3x12 (10)  
90 2314 HEX SCREW SH M3x14 (10)  
90 2316 HEX SCREW SH M3x16 (10)

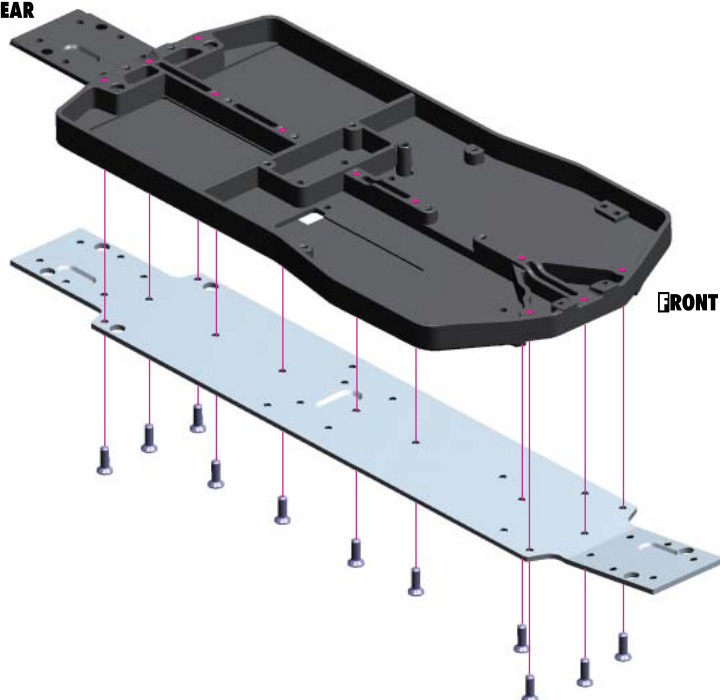
90 3310 HEX SCREW SFH M3x10 (10)

36 1100 ALU CHASSIS - SWISS 7075 T6 (2MM)  
36 1260 COMPOSITE CHASSIS FRAME



903310  
SFH M3x10

**REAR**



**FRONT**

**SET-UP  
BOOK**

CHASSIS FLEX SETTING

# FRONT & REAR ASSEMBLY



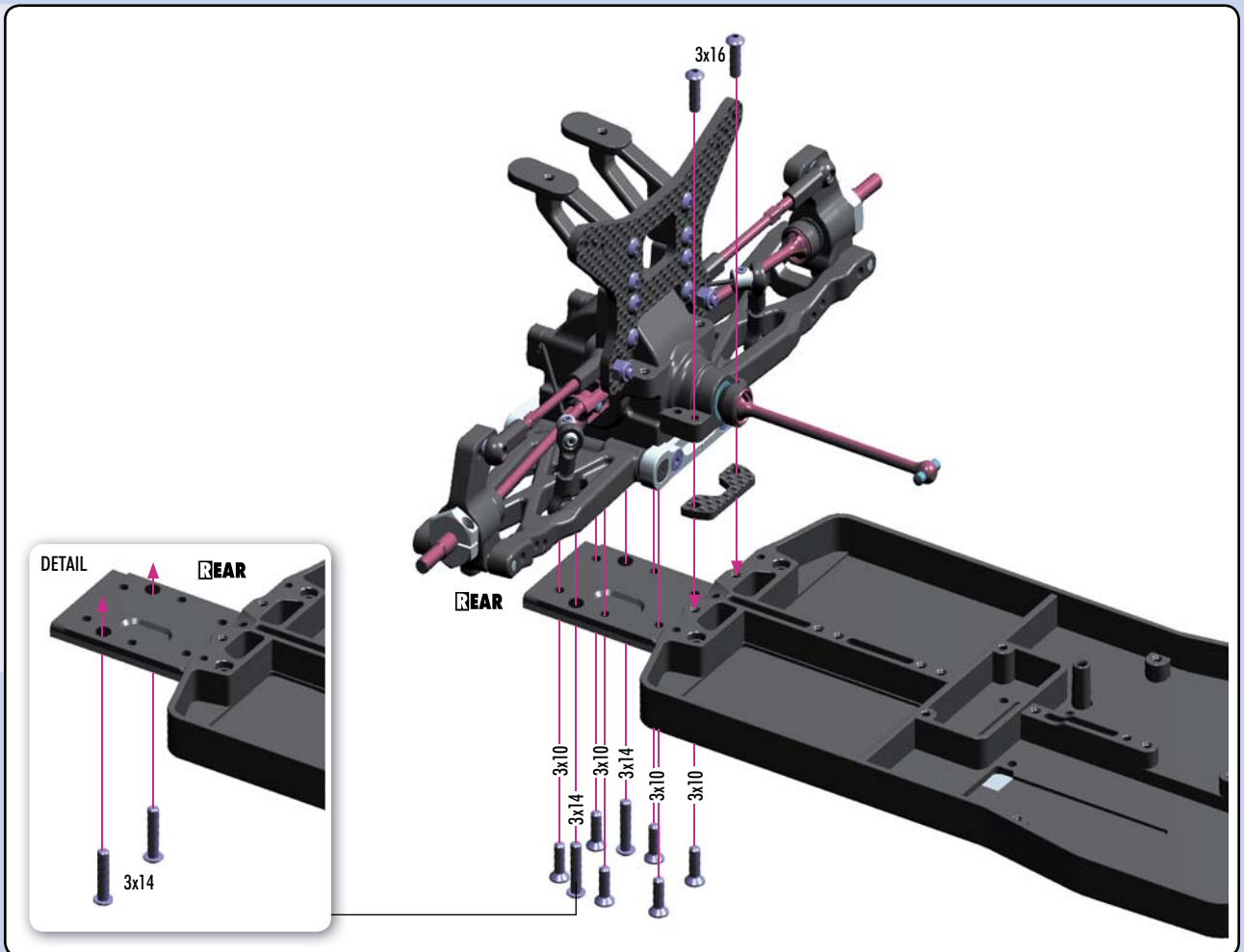
902314  
SH M3x14



902316  
SH M3x16



903310  
SFH M3x10



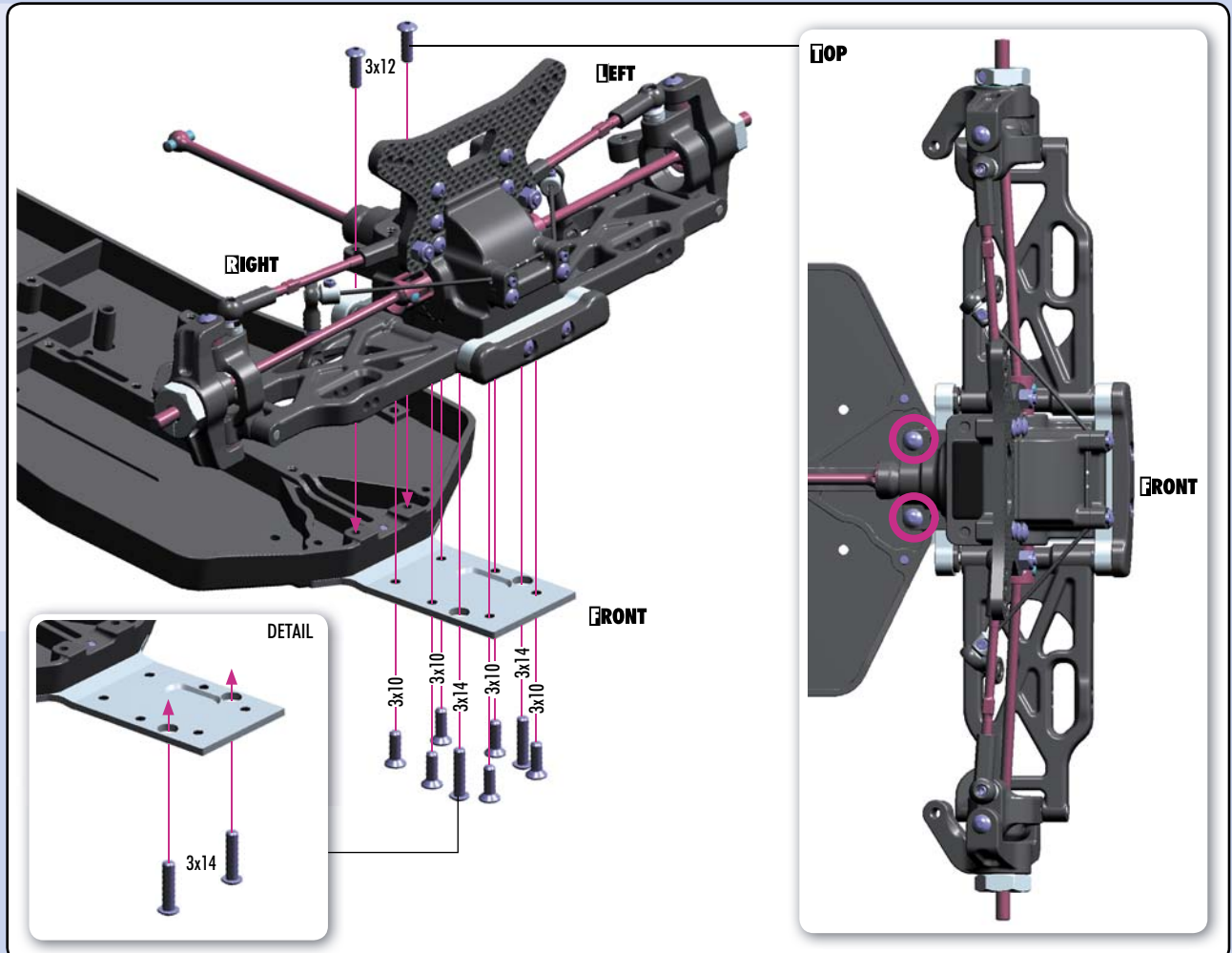
902312  
SH M3x12



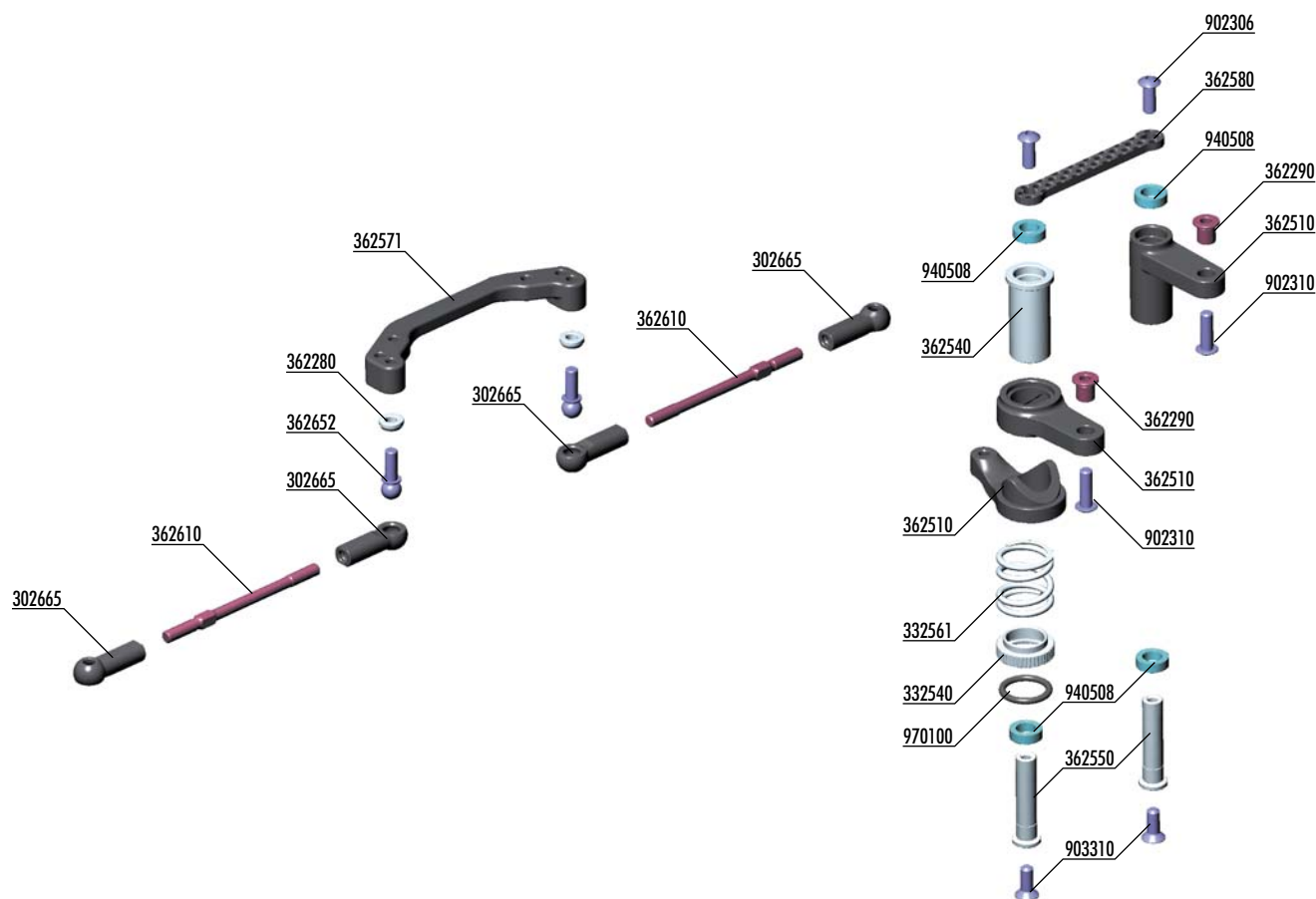
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SH M3x14



903310  
SFH M3x10



## 5. STEERING



**BAG**

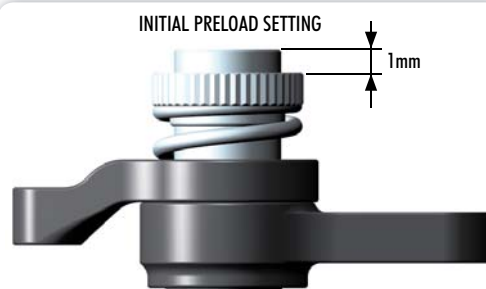
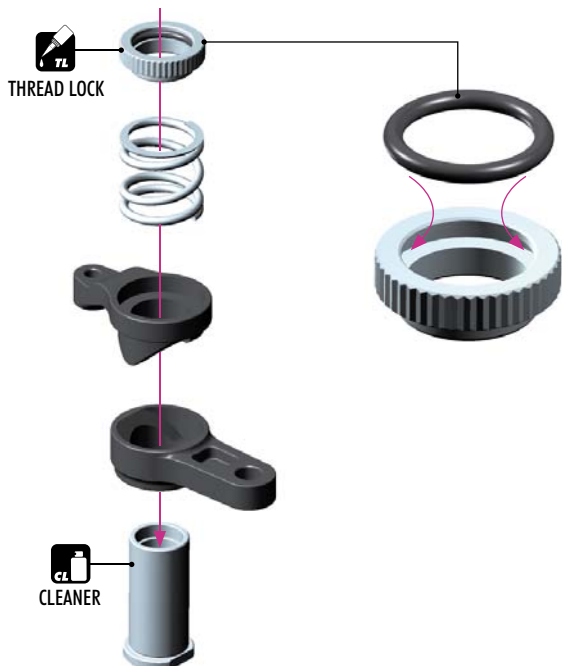
**05**

30 2665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)  
 33 2540 ALU SERVO SAVER ADJUSTABLE NUT  
 33 2561 SERVO SAVER SPRING C=14  
 36 2280 ALU CONICAL SHIM 3x6x2.0MM (10)  
 36 2290 STEEL STEERING BUSHING - SHORT (2)  
 36 2510 COMPOSITE SERVO SAVER  
 36 2540 ALU SERVO SAVER MAIN SHAFT  
 36 2550 SERVO SAVER PIVOT SHAFT (2)  
 36 2571 COMPOSITE STEERING PLATE  
 36 2580 STEERING BRACE 2.0MM GRAPHITE

36 2610 ADJ. TURNBUCKLE M3 L/R 50 MM - SPRING STEEL (2)  
 36 2652 BALL END 4.9MM WITH THREAD 10MM (2)  
 90 2306 HEX SCREW SH M3x6 (10)  
 90 2310 HEX SCREW SH M3x10 (10)  
 90 3310 HEX SCREW SFH M3x10 (10)  
 94 0508 HIGH-SPEED BALL-BEARING 5x8x2.5 RUBBER SEALED (2)  
 97 0100 O-RING 10 x 1.5 (10)



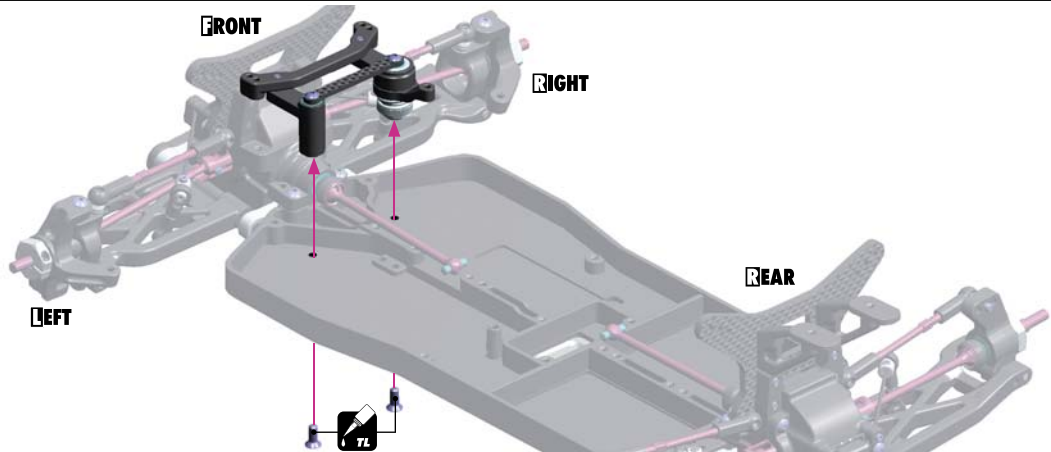
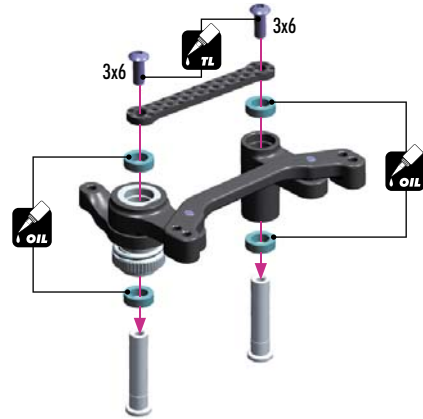
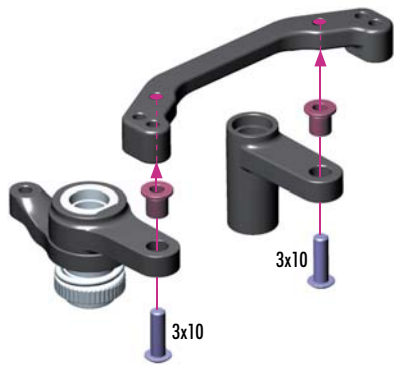
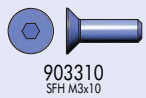
970100  
O 10x1.5



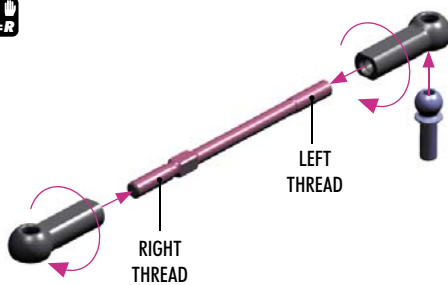
**SET-UP  
BOOK**

SERVO SAVER

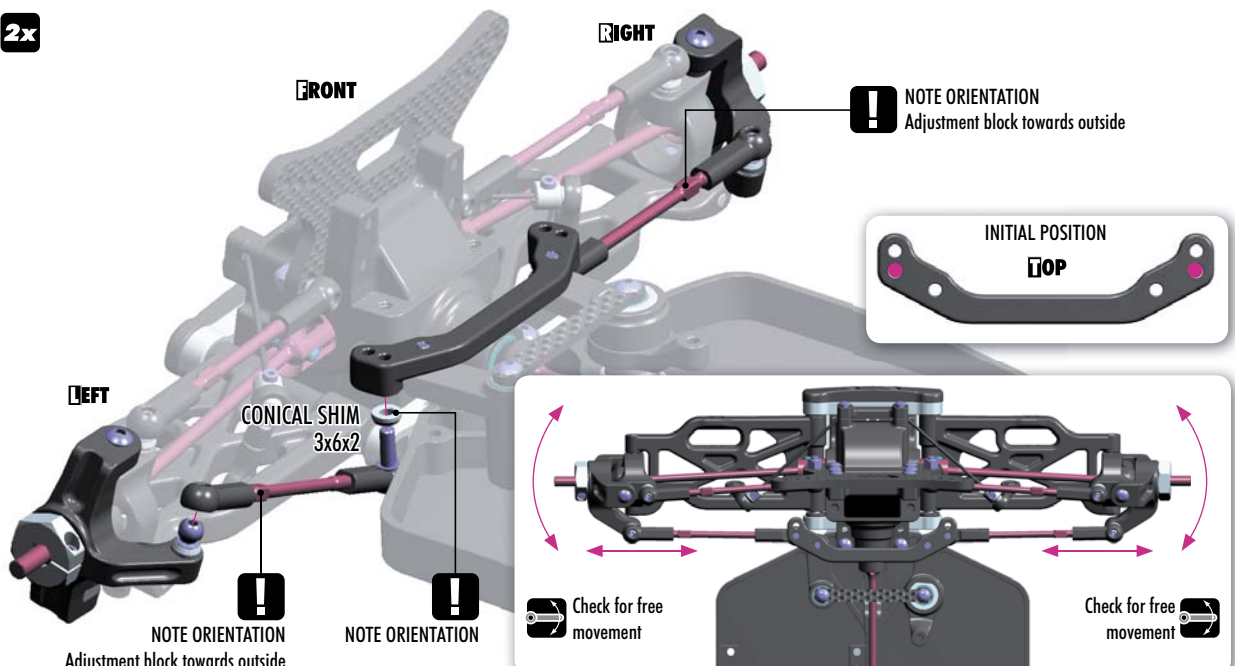




2x

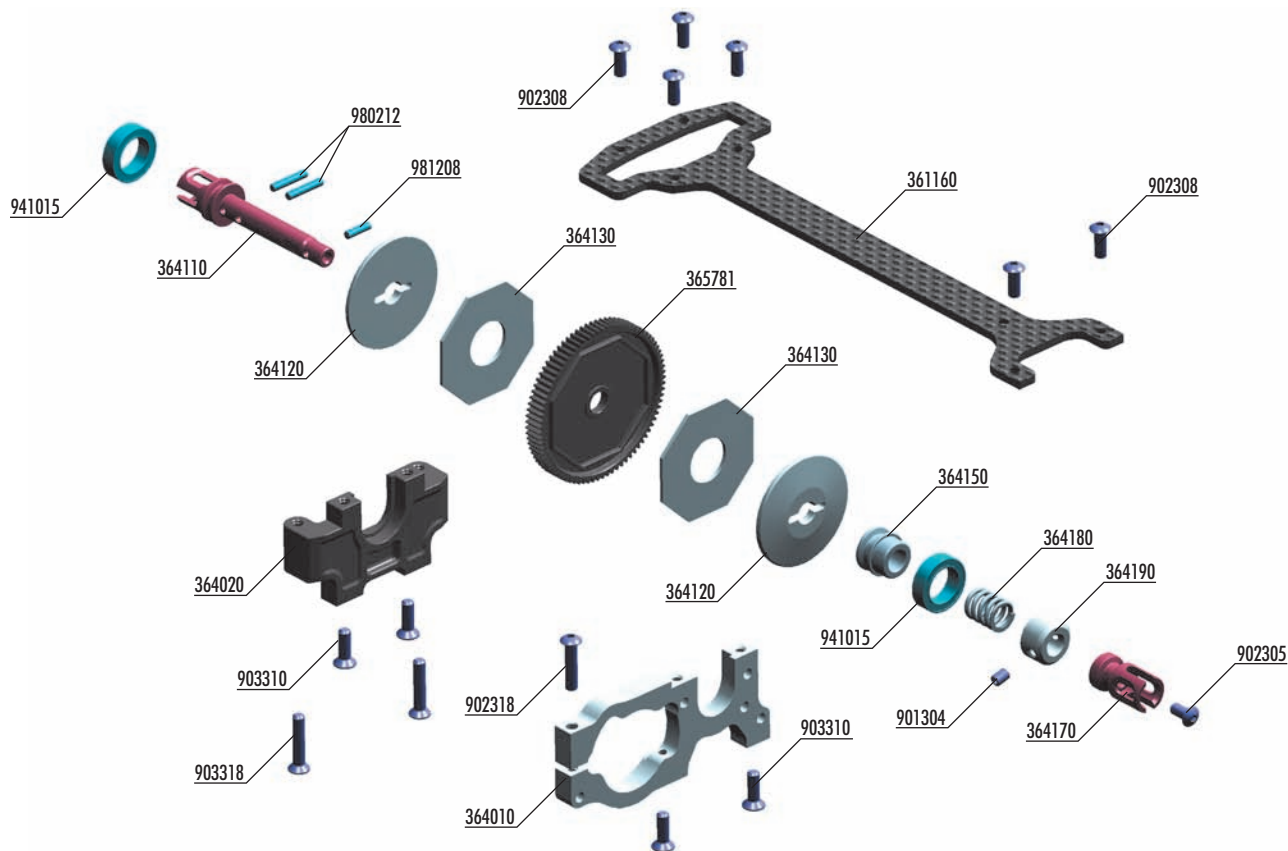


2x



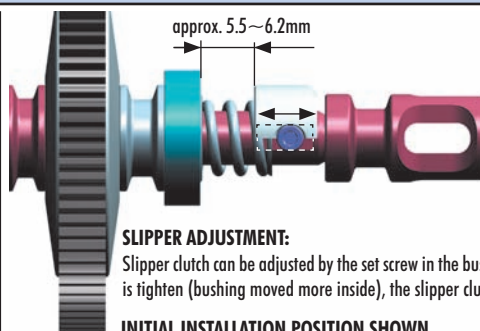
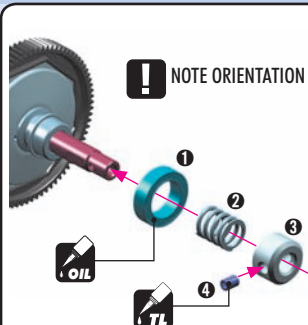
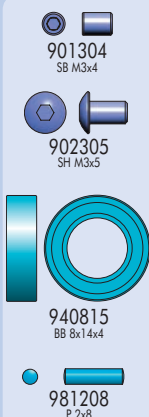
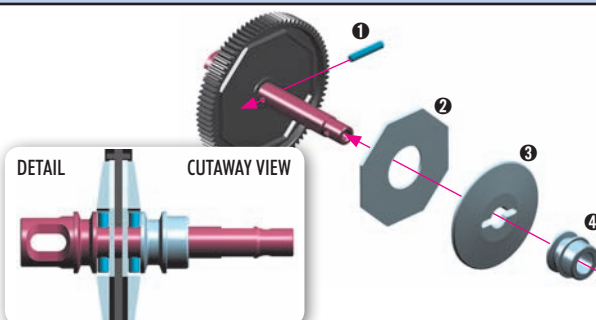
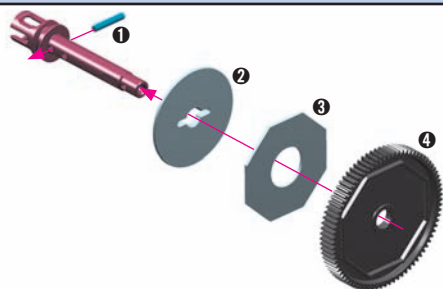
**SET-UP BOOK**  
ACKERMANN  
BUMP STEER  
TOE-IN

## 6. SLIPPER CLUTCH ASSEMBLY



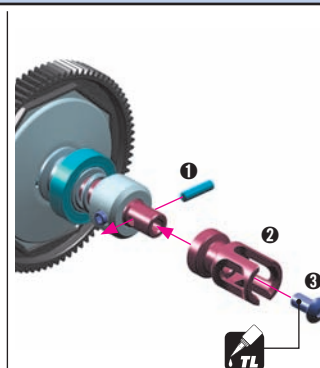
36 1160 GRAPHITE FRONT UPPER DECK 2.0MM  
 36 4010 ALU MOTOR BULKHEAD  
 36 4020 COMPOSITE CLUTCH SHAFT HOLDER  
 36 4110 SLIPPER CLUTCH SHAFT - HUDY SPRING STEEL™  
 36 4120 ALU SLIPPER CLUTCH PLATE - 7075 T6 BLACK HARD COATED  
 36 4130 SLIPPER CLUTCH PAD (2)  
 36 4150 ALU SLIPPER CLUTCH NUT RETAINER  
 36 4170 SLIPPER CLUTCH OUTDRIVE ADAPTER - HUDY SPRING STEEL™  
 36 4180 SLIPPER CLUTCH SPRING C=30 - BLACK  
 36 4190 ALU SLIPPER CLUTCH NUT  
 36 5781 COMPOSITE SLIPPER CLUTCH SPUR GEAR 81T / 48 - GRAPHITE

36 5784 COMPOSITE SLIPPER CLUTCH SPUR GEAR 84T / 48 - GRAPHITE (OPTION)  
 90 1304 HEX SCREW SB M3x4 (10)  
 90 2305 HEX SCREW SH M3x5 (10)  
 90 2308 HEX SCREW SH M3x8 (10)  
 90 2318 HEX SCREW SH M3x18 (10)  
 90 3310 HEX SCREW SFH M3x10 (10)  
 90 3318 HEX SCREW SFH M3x18 (10)  
 94 1015 HIGH-SPEED BALL-BEARING 10x15x4 RUBBER SEALED (2)  
 98 0212 PIN 2x11.6 (10)  
 98 1208 PIN 2x8 (10)

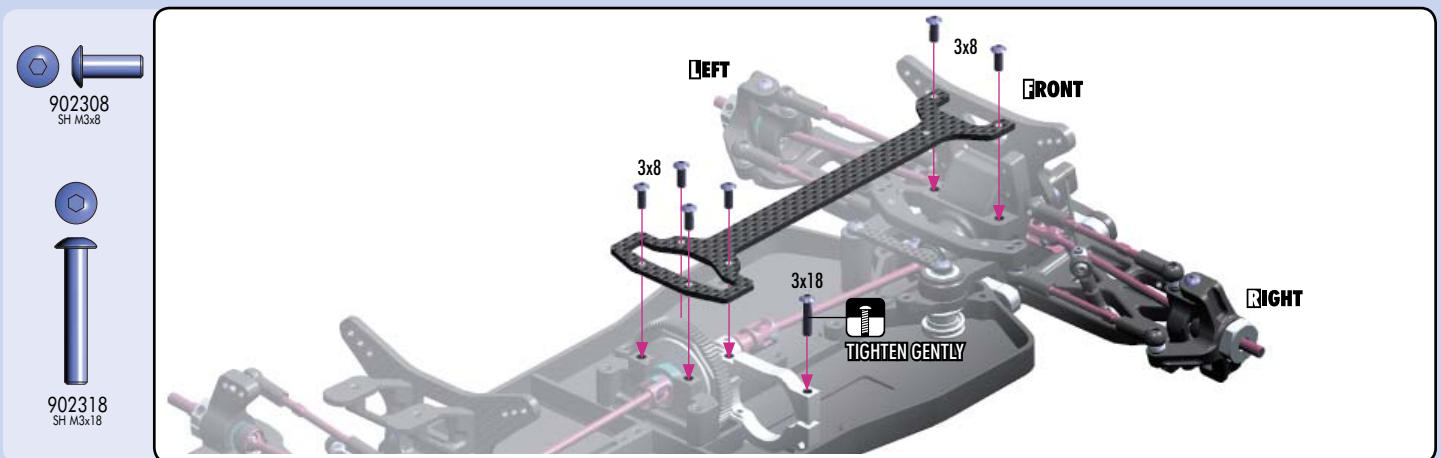
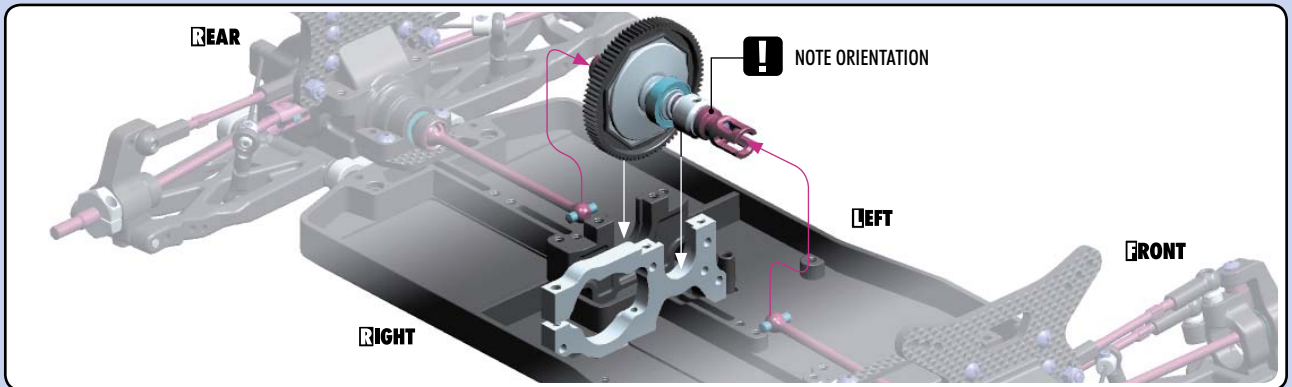
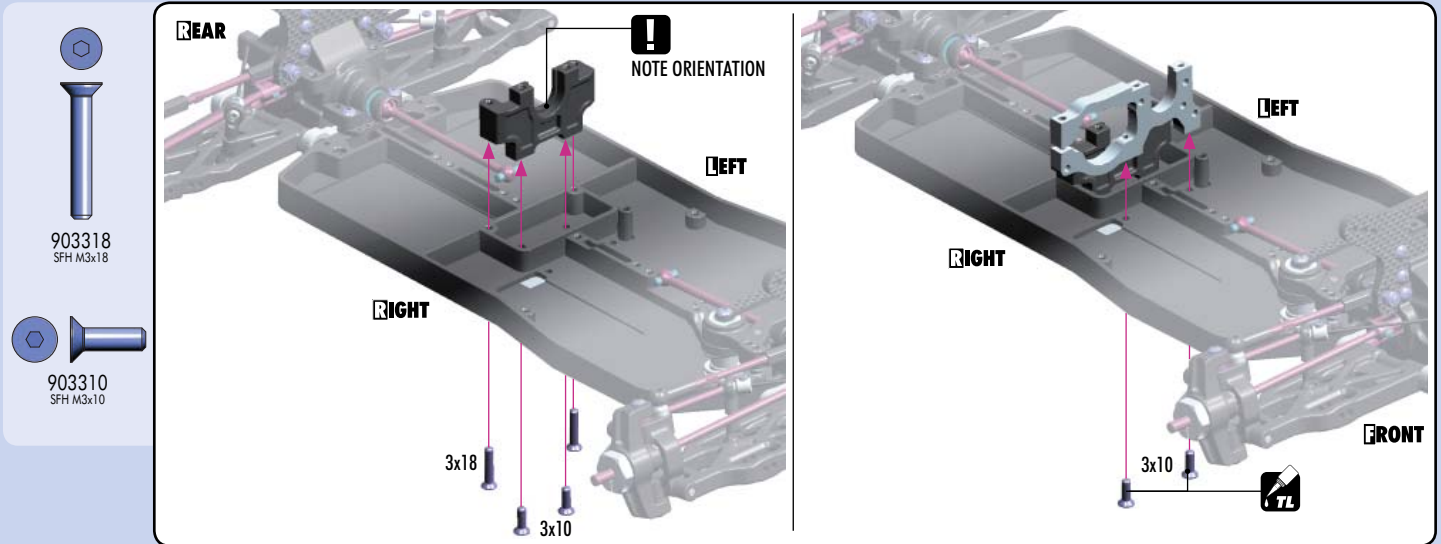


### VERY IMPORTANT!

It is absolutely important that you never fully tighten the Slipper Clutch. Overtightening the Slipper Clutch may result into breaking the diff crown gear and pinion gear. The wheels should always be able to slip.



# SLIPPER CLUTCH ASSEMBLY

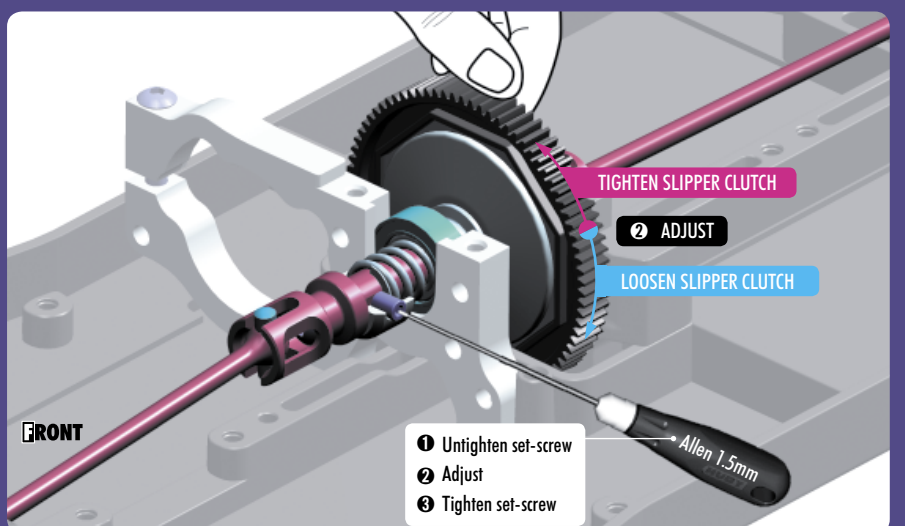
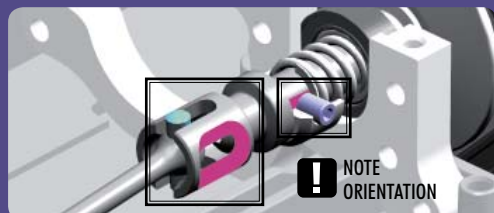


## THE SLIPPER CLUTCH ADJUSTMENT

The slipper clutch can be adjusted by loosening the set screw and then, while keeping the tool inside of the set screw, rotating the spur gear by hand as indicated in the drawing. If the slipper clutch needs to be tighter, rotate the spur gear in the counterclockwise direction. If the slipper clutch needs to be looser, rotate the spur gear in clockwise direction.

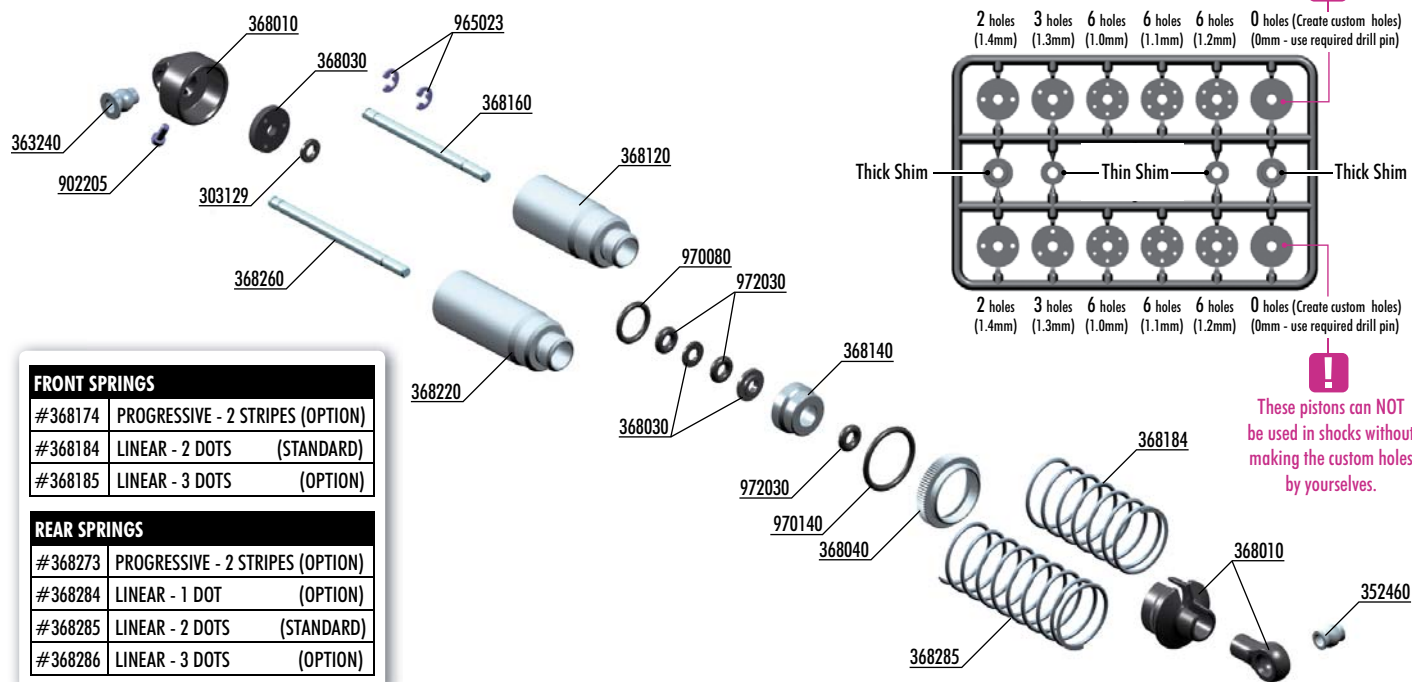
### IMPORTANT

When tightening the setscrew again, ensure that the set screw sits only on the flat spot of the shaft.





# 7. SHOCK ABSORBERS



- 30 3129 COMPOSITE SET OF SHIMS 3x 3x6x1MM; 1x 3x6x2MM (2)
- 35 2460 PIVOT BALL 5.8 - V3 (10)
- 36 3240 BALL UNIVERSAL 5.8MM WITH BACKSTOP (2)
- 36 8010 COMPOSITE SHOCK PARTS
- 36 8030 SHOCK PISTONS - COMPLETE SET - DERLIN
- 36 8040 ALU SHOCK ADJUSTABLE NUT (2)
- 36 8100 FRONT SHOCK ABSORBERS COMPLETE SET (2)
- 36 8120 ALU FRONT SHOCK BODY - HARD COATED (2)
- 36 8140 ALU LOWER SHOCK BODY CAP (2)
- 36 8160 FRONT HARDENED SHOCK SHAFT (2)
- 36 8174 FRONT SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)
- 36 8184 FRONT SPRING-SET LINEAR - 2 DOTS (2)
- 36 8185 FRONT SPRING-SET LINEAR - 3 DOTS (2) (OPTION)

- 36 8200 REAR SHOCK ABSORBERS COMPLETE SET (2)
- 36 8220 ALU REAR SHOCK BODY - HARD COATED (2)
- 36 8260 REAR HARDENED SHOCK SHAFT (2)
- 36 8273 REAR SPRING-SET PROGRESSIVE - 2 STRIPES (2) (OPTION)
- 36 8284 REAR SPRING-SET LINEAR - 1 DOT (2) (OPTION)
- 36 8285 REAR SPRING-SET LINEAR - 2 DOTS (2)
- 36 8286 REAR SPRING-SET LINEAR - 3 DOTS (2) (OPTION)

- 90 2205 HEX SCREW SH M2x5 (10)
- 96 5023 E-CLIP 2.3 (10)
- 97 0080 O-RING 8x1 (10)
- 97 0140 O-RING 14 x 1.5 (10)
- 97 2030 SILICONE O-RING 3x2 (10)



965023  
C 2.3

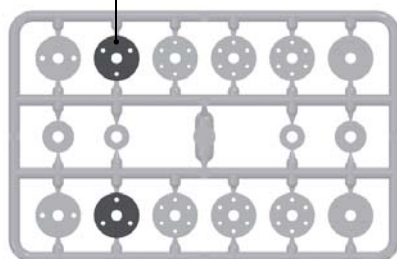
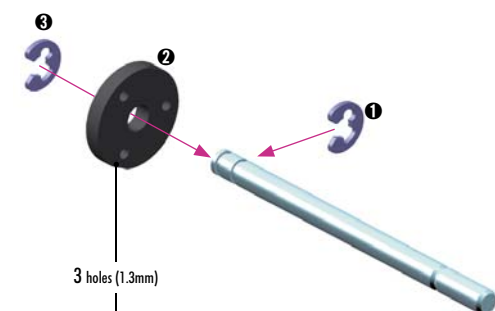


972030  
O 3x2



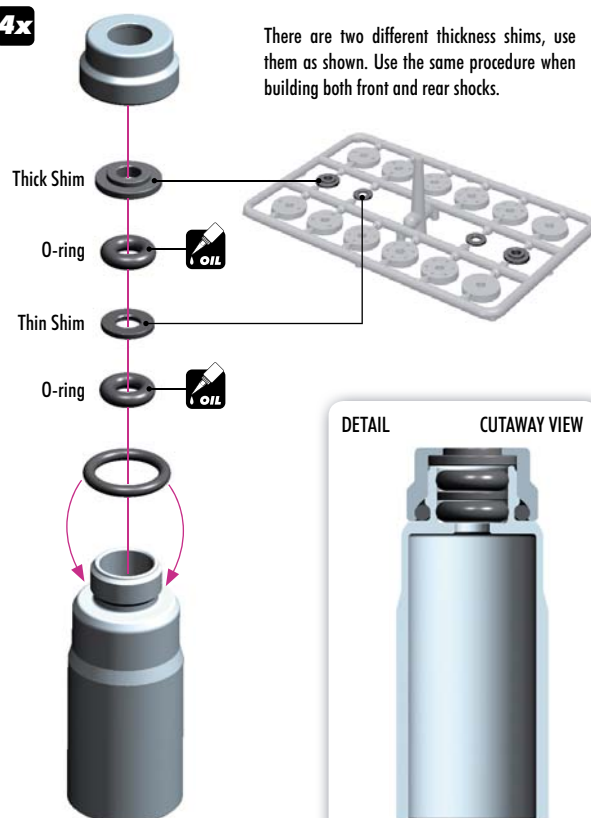
970080  
O 8x1

4x



INITIAL PISTON SETTING

4x

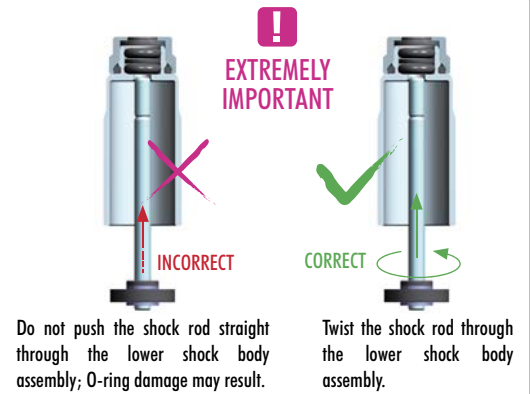
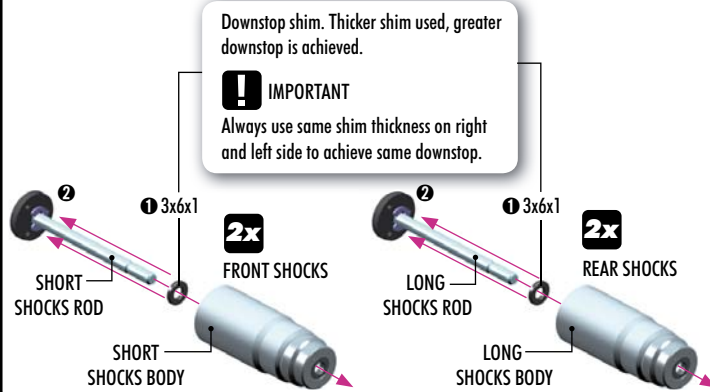


SET-UP BOOK

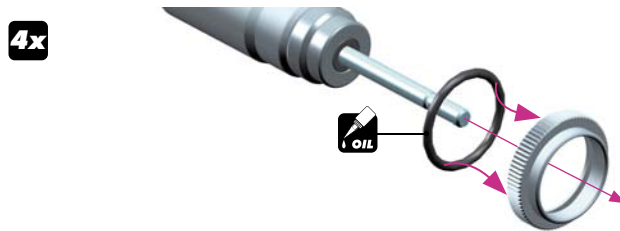
SHOCK DAMPING  
SHOCK PISTONS



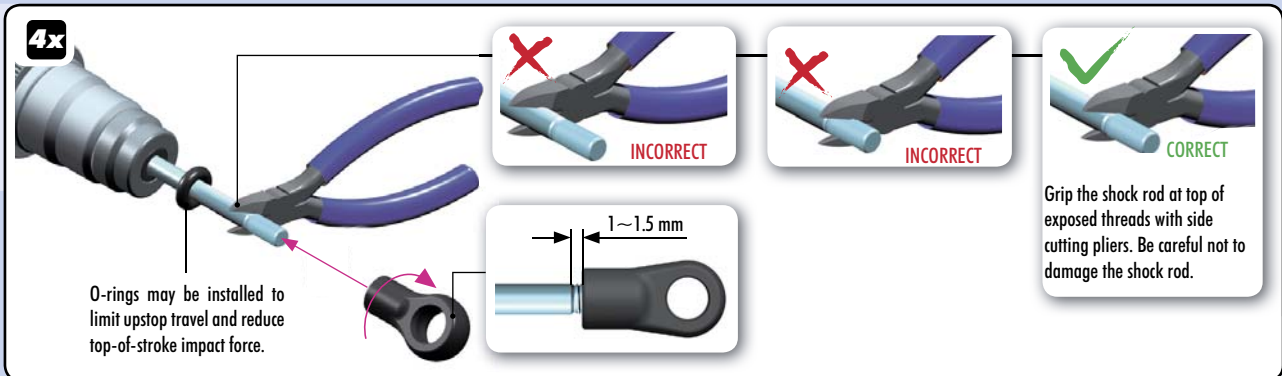
**10**  
303129  
SHIM 3x6x1



**10**  
970140  
O 14x1.5



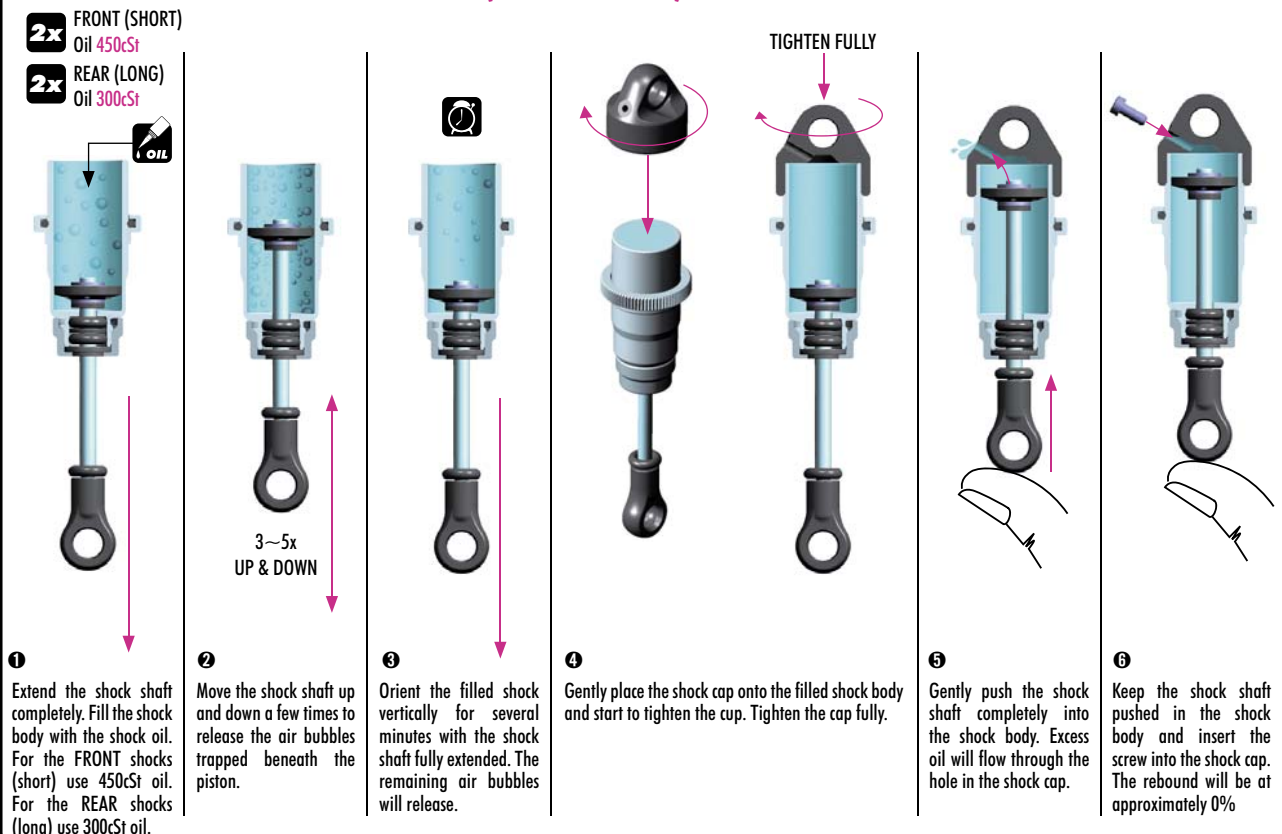
**01**  
972030  
O 3x2



**SET-UP BOOK**  
902205  
SH M2x5

## DEFAULT SHOCK REBOUND SETTING 0% (LOW REBOUND)

Follow the steps below to set the shock rebound to the default setting of 0%.

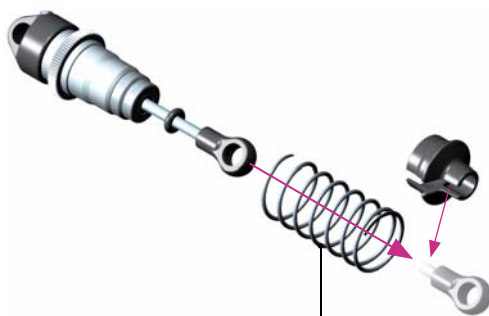


**SET-UP BOOK**  
SHOCK OIL

# SHOCK ABSORBERS

**2x** FRONT SHOCKS (SHORT)

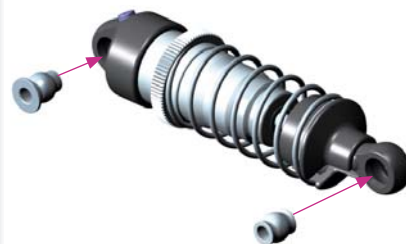
**2x** REAR SHOCKS (LONG)



SHORT FRONT SHOCKS **2x** LONG REAR SHOCKS  
Short Springs Long Springs

**!** IMPORTANT

Both FRONT SHOCKS must be the same overall length.  
Both REAR SHOCKS must be the same overall length.



## TIP ALTERNATE SHOCK REBOUND SETTING (50% AND 100%)

The default shock rebound setting is 0% (as described on page 34).

Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

### SETTING THE SHOCK REBOUND TO 50% (MEDIUM REBOUND)

REMOVE SHOCK CAP AND THE SCREW FROM SHOCK CAP



**1** Extend the shock shaft completely and remove the shock cap and remove screw from shock cap.



**2** Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.

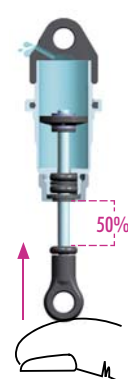


**3** Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

TIGHTEN FULLY



**4** Gently place the shock cap assembly onto the filled shock body.



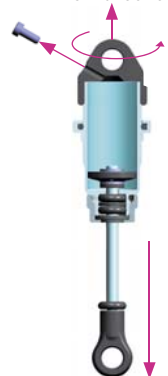
**5** Push the shock shaft 50% into the shock body. Excess oil will bleed through the hole in the shock cap.



**6** Keep the shock shaft pushed 50% into the shock body and insert the screw into the shock cap. The rebound will be at approximately 50%.

### SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)

REMOVE SHOCK CAP



**1** Extend the shock shaft completely and remove the shock cap.

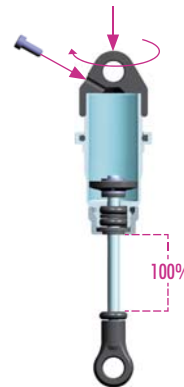


**2** Fill the shock body with shock oil up to the top. Make sure to use same viscosity shock oil as is in the shock.



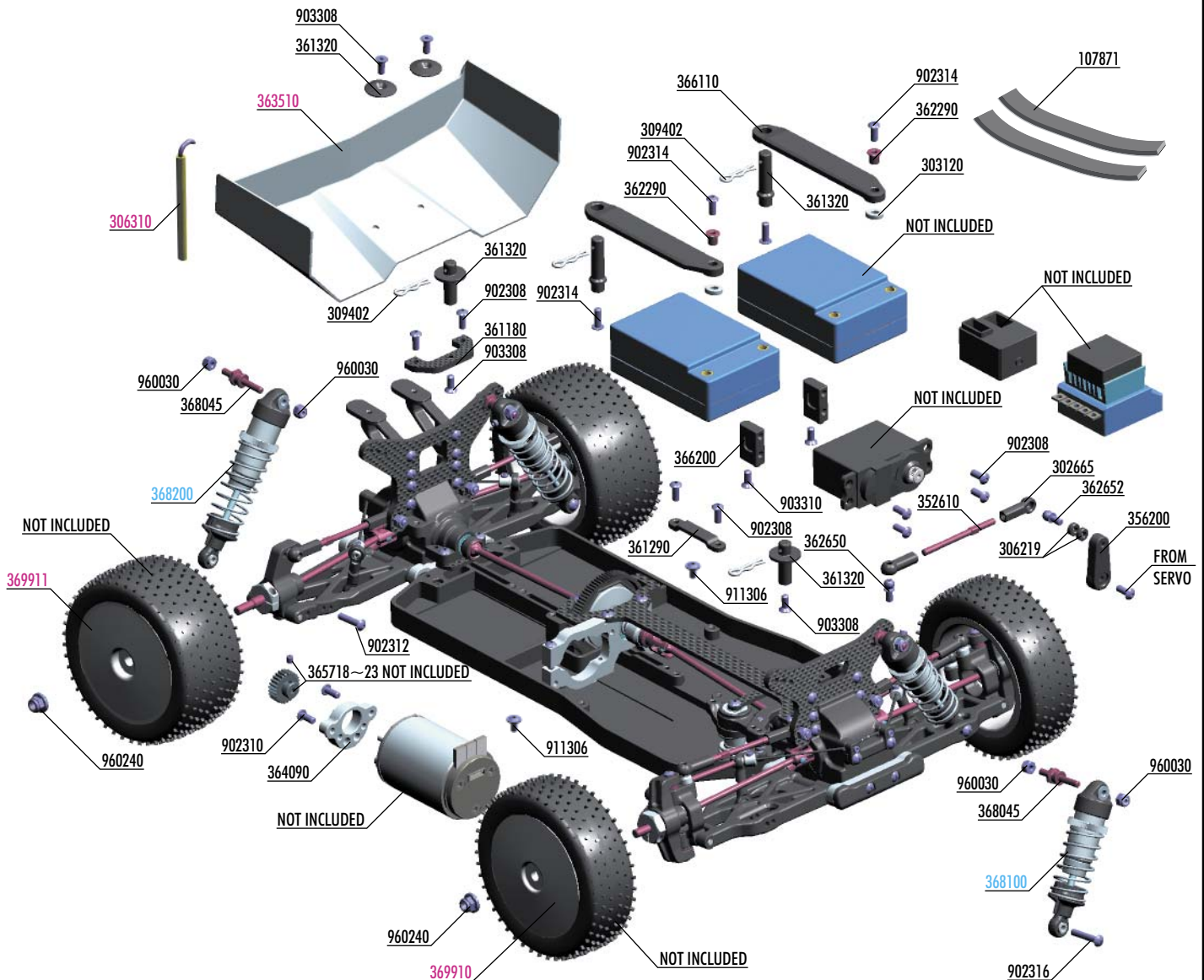
**3** Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

TIGHTEN FULLY



**4** Gently place the shock cap assembly onto the filled shock body. Keep the shock shaft extended 100% from the shock body and tighten the shock cap completely. The rebound will be at approximately 100%.

## 8. FINAL ASSEMBLY



**BAG**

**08**

- 10 7871 HUDY SELF-ADHESIVE FOAM STRIP (2)
- 30 2665 COMPOSITE BALL JOINT 4.9MM - CLOSED WITH HOLE (4)
- 30 3120 SET OF ALU SHIM (0.5MM, 1.5MM, 2.5MM)
- 30 6219 COMPOSITE SET OF SERVO SHIMS (4)
- 30 9402 BODY CLIP FOR 6MM BODY POST (4)
- 35 2610 ADJ. TURNBUCKLE M3 L/R 45 MM - SPRING STEEL™ (2)
- 35 6200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
- 36 1180 GRAPHITE REAR UPPER BRACE 2.0MM
- 36 1290 COMPOSITE CHASSIS WIRE COVER
- 36 1320 BODY MOUNT, BATTERY MOUNT & WING SHIM (2)
- 36 2290 STEEL STEERING BUSHING - SHORT (2)
- 36 2650 BALL END 4.9MM WITH THREAD 6MM (2)
- 36 2652 BALL END 4.9MM WITH THREAD 10MM (2)
- 36 4090 ALU ECCENTRIC MOTOR BULKHEAD INSERT
- 36 5718~23 ALU PINION GEAR HARD COATED 18~23T/48 (OPTION)
- 36 6110 COMPOSITE BATTERY STRAP L+R
- 36 6200 COMPOSITE SERVO MOUNT (2)
- 36 8045 STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)

- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 2312 HEX SCREW SH M3x12 (10)
- 90 2314 HEX SCREW SH M3x14 (10)
- 90 2316 HEX SCREW SH M3x16 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 90 3310 HEX SCREW SFH M3x10 (10)
- 91 1306 HEX SCREW FLANGED SH M3x6 (10)
- 96 0030 NUT M3 (10)
- 96 0240 NUT M4 WITH SERRATED FLANGE (10)

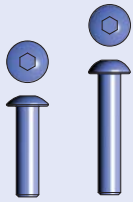
- 36 8100 FRONT SHOCK ABSORBERS COMPLETE SET (2)
- 36 8200 REAR SHOCK ABSORBERS COMPLETE SET (2)

- 30 6310 ANTENNA (2)
- 36 3510 LEXAN REAR WING (2)
- 36 9700 XRAY XB4 BODY
- 36 9910 FRONT WHEELS AERODISK - WHITE (2)
- 36 9911 REAR WHEELS AERODISK - WHITE (2)



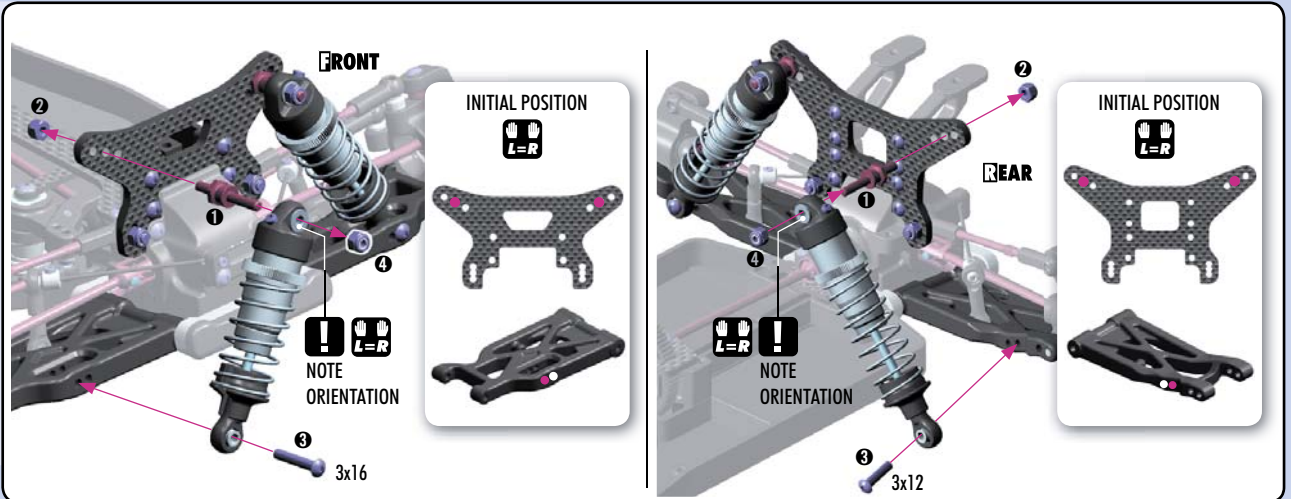


960030  
N M3



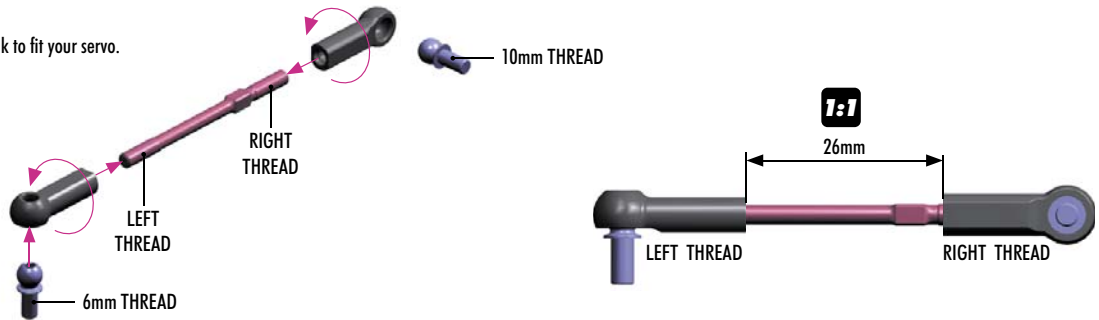
902312  
SH M3x12

902316  
SH M3x16



## SERVO LINK

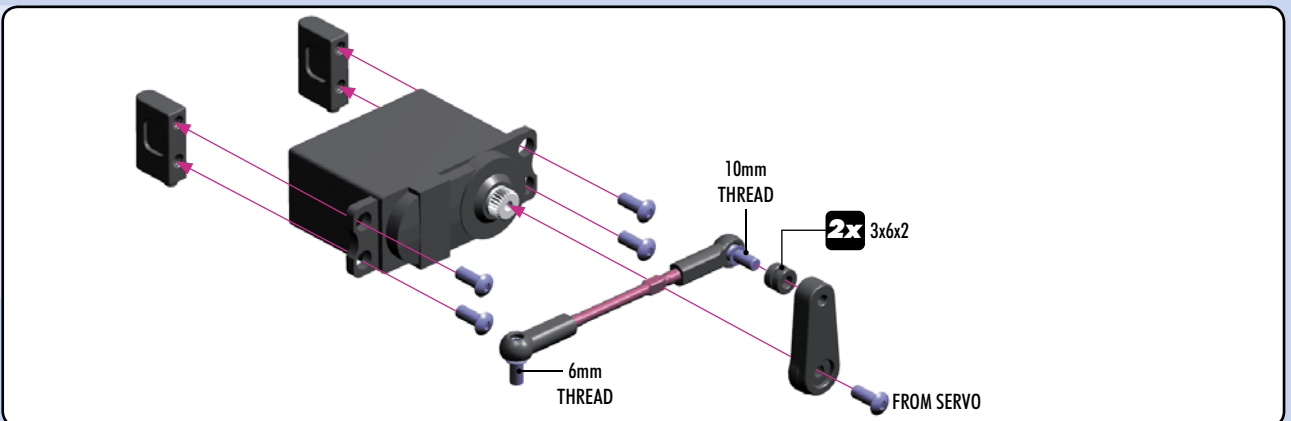
Adjust Servo link to fit your servo.



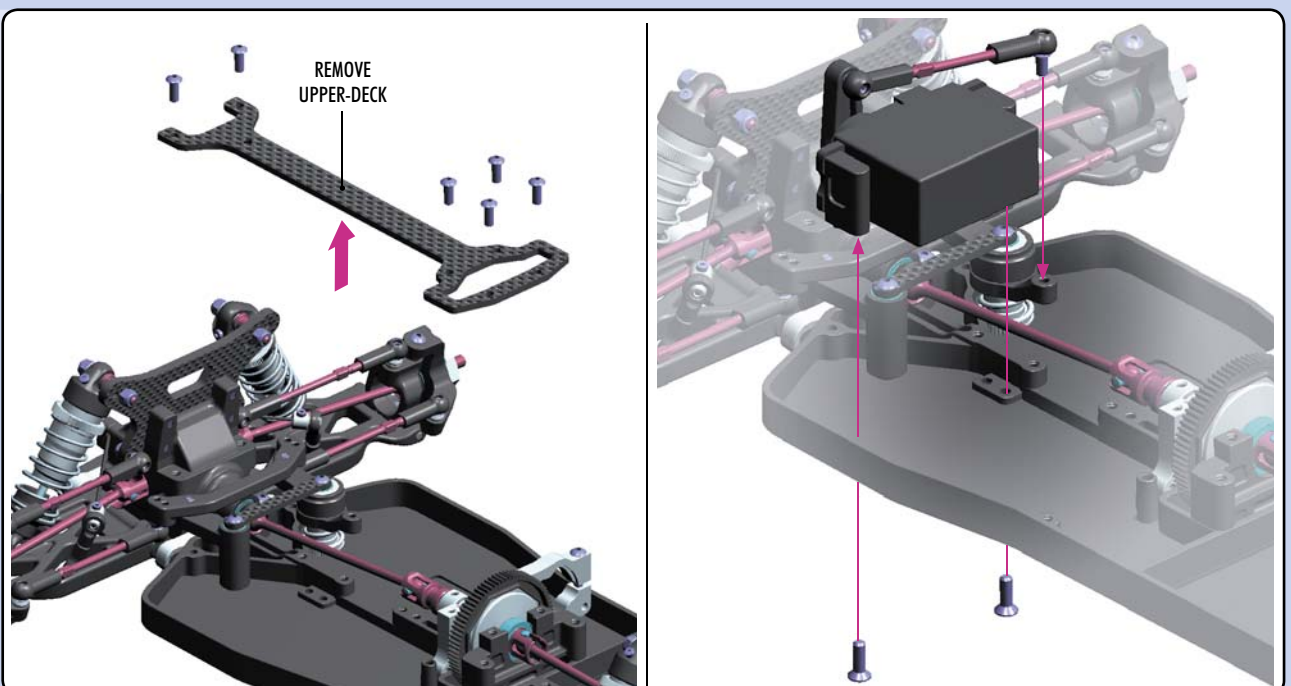
306219  
SHIM 3x6x2



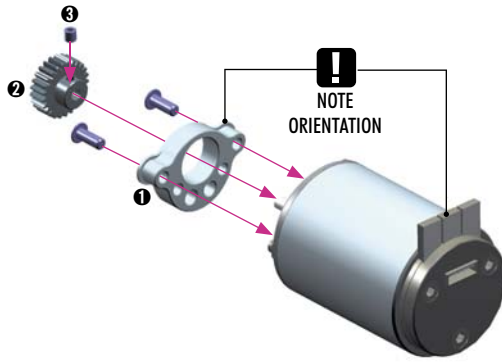
902308  
SH M3x8



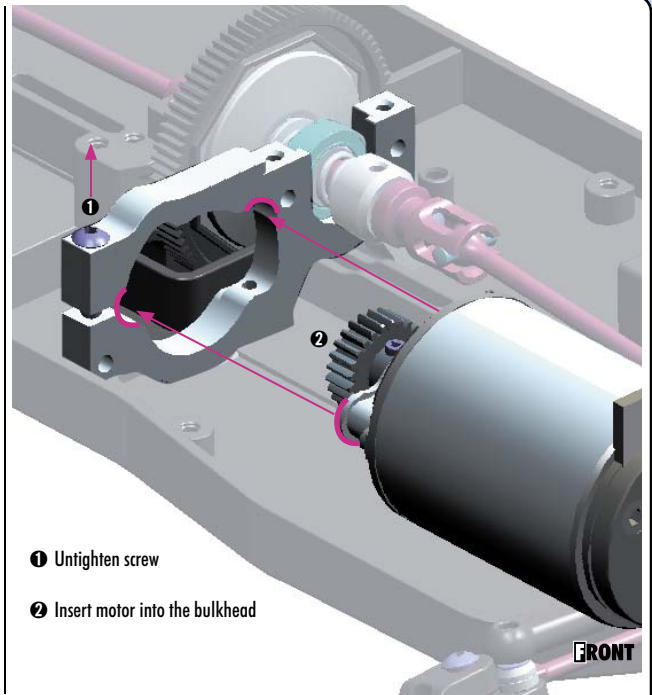
903310  
SFH M3x10





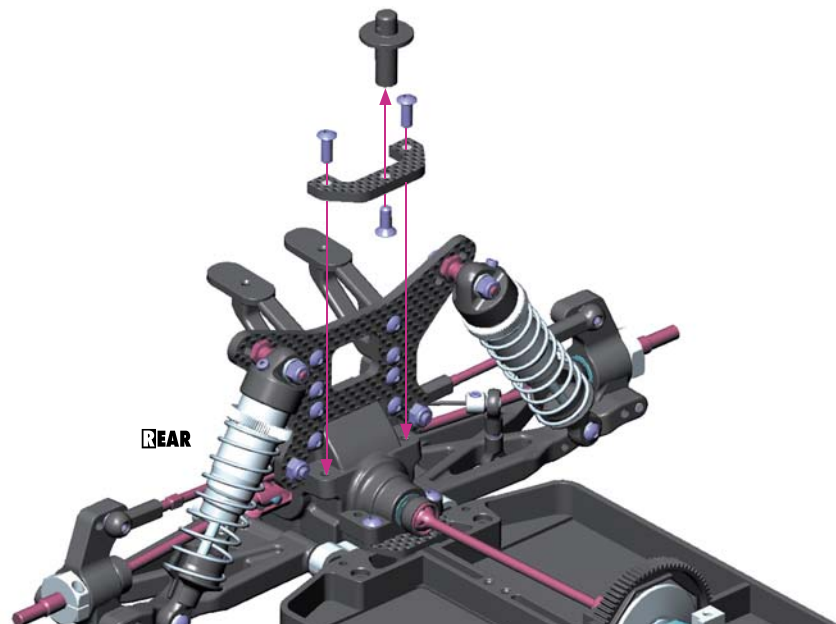
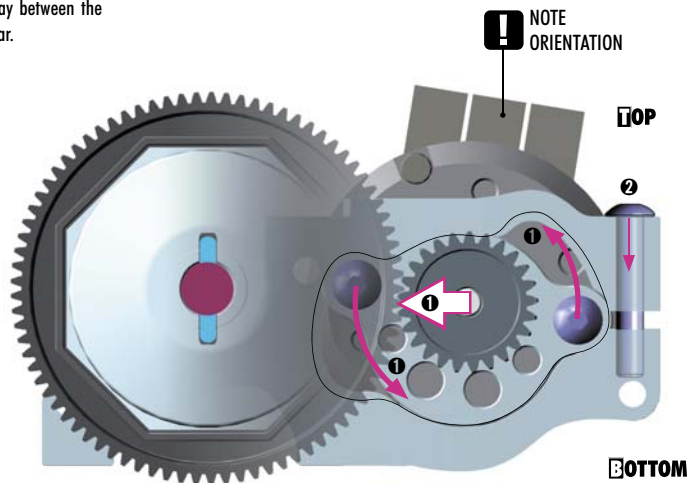


PINIONS	
#365718	18T / 48P (OPTION)
#365719	19T / 48P (OPTION)
#365720	20T / 48P (OPTION)
#365721	21T / 48P (OPTION)
#365722	22T / 48P (OPTION)
#365723	23T / 48P (OPTION)



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

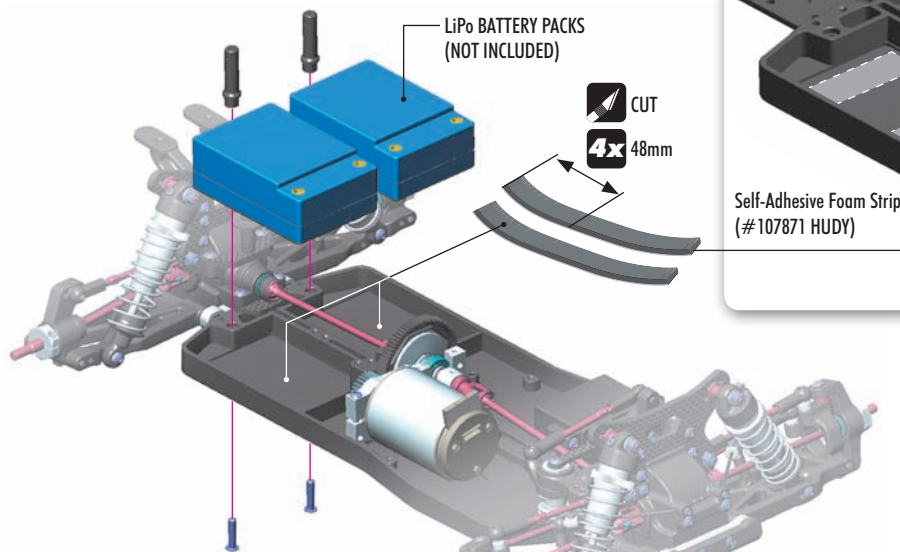
There should be a small amount of play between the teeth of the pinion gear and the spur gear.



# FINAL ASSEMBLY

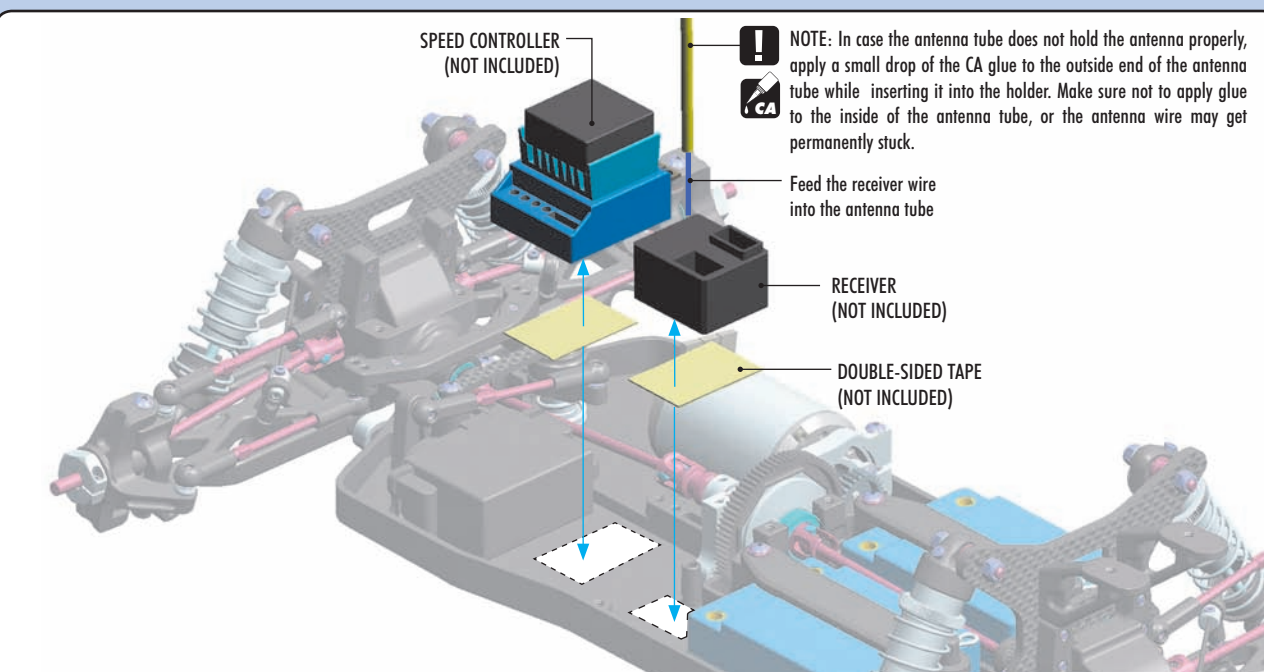
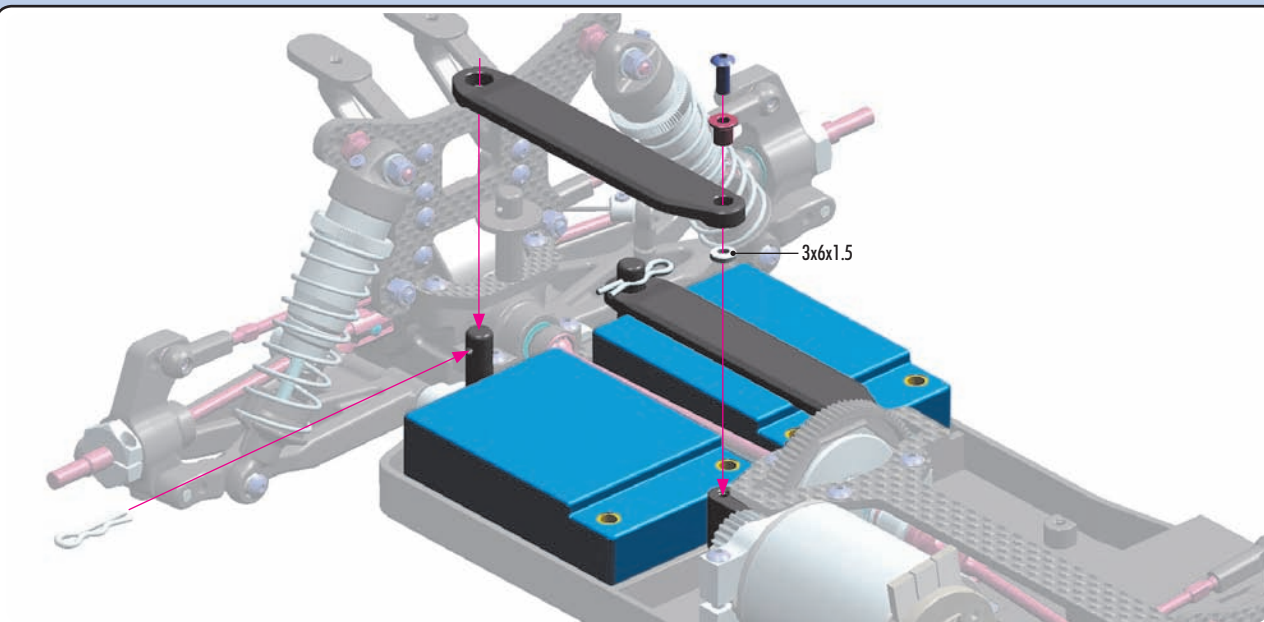


902314  
SH M3x14

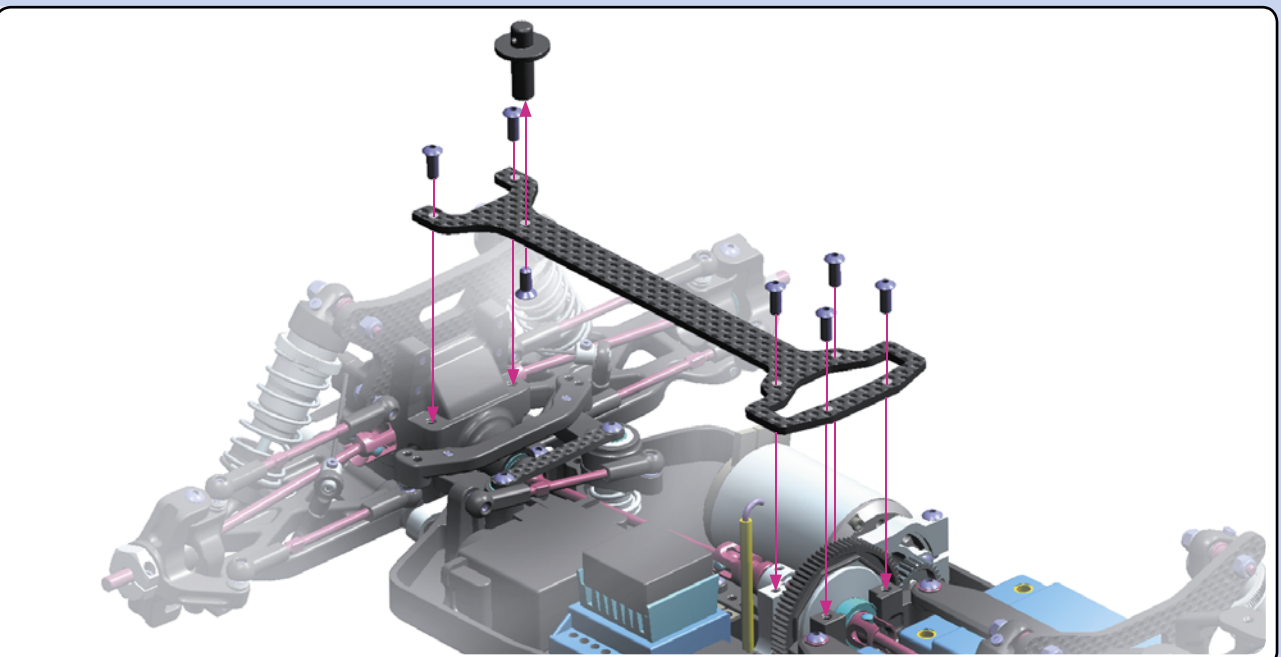
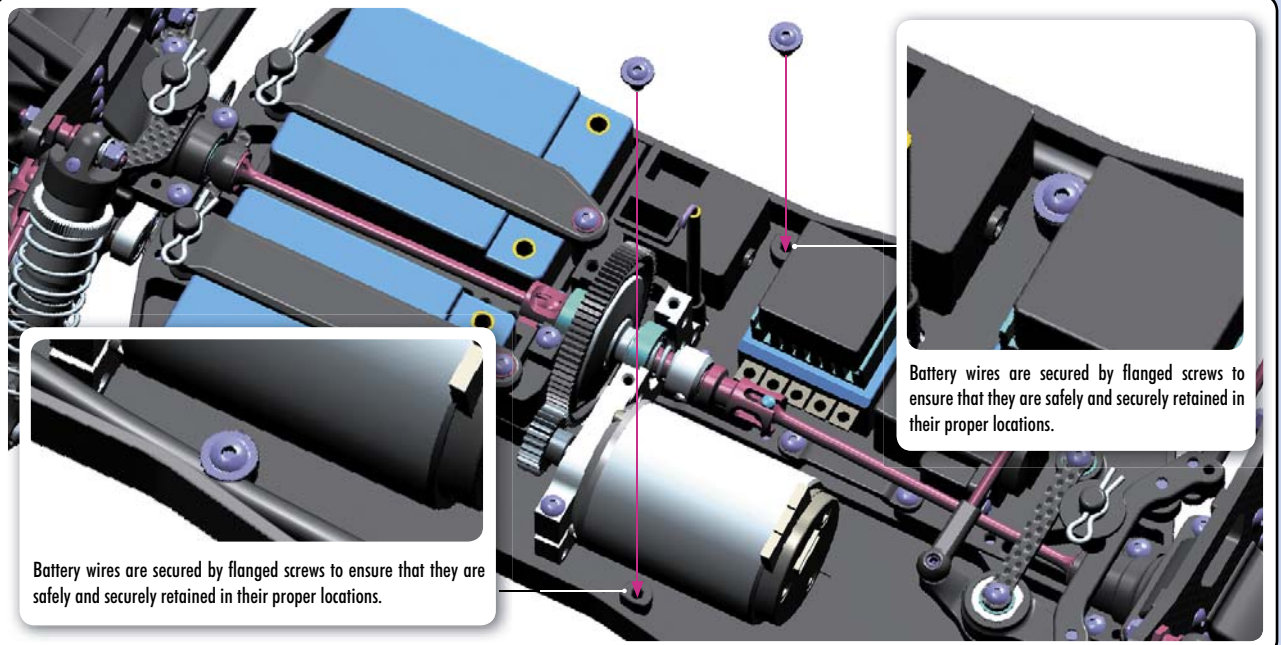
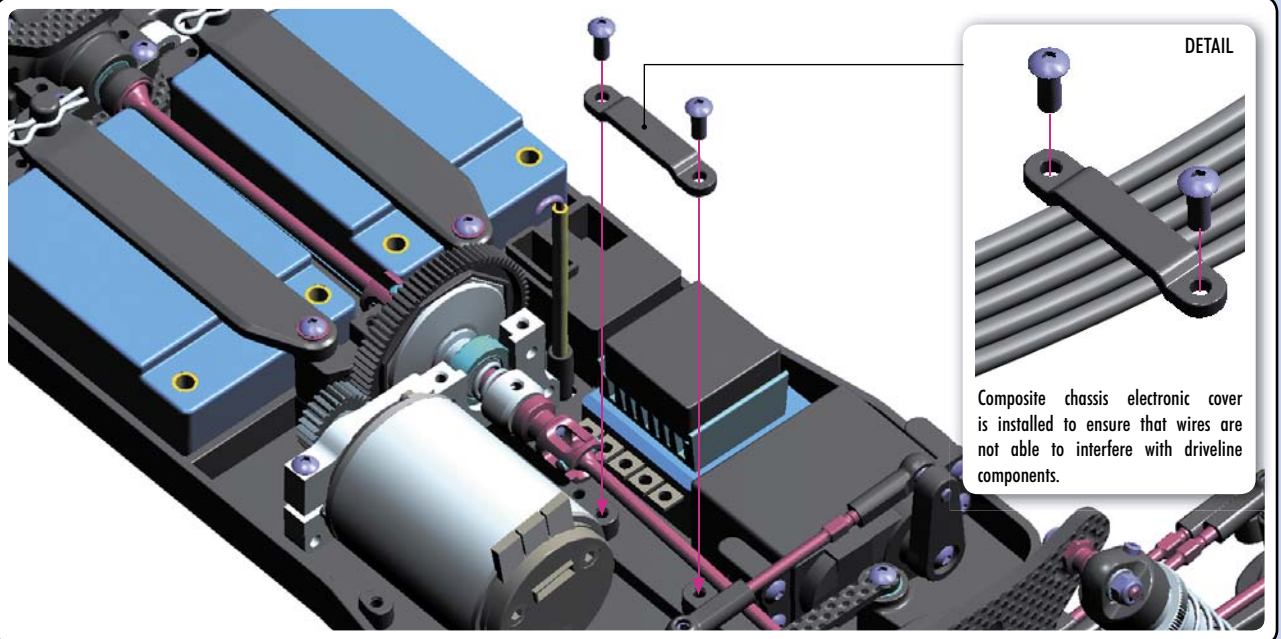


902314  
SH M3x14

303120  
SHIM 3x6x1.5

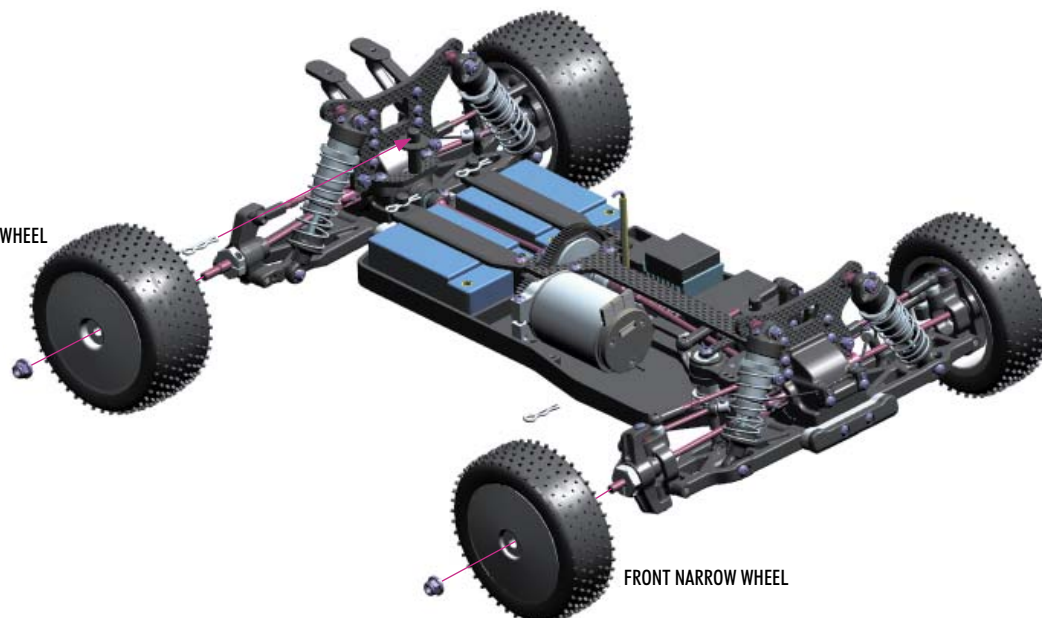








REAR WIDE WHEEL



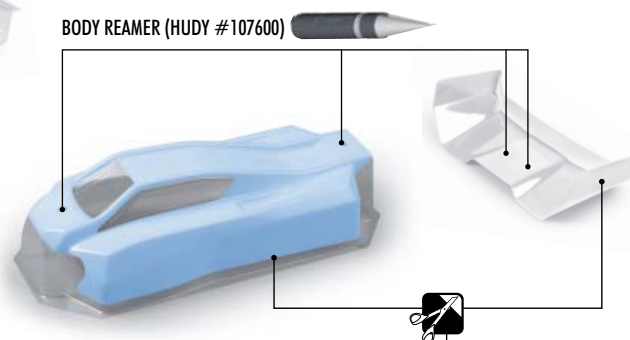
FRONT NARROW WHEEL

- ❶ Before cutting and making holes on the BODY, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts. Before cutting and making holes on the WING, put the unpainted wing on the wing holders to confirm the mounting position and location for holes and cutouts.
- ❷ Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- ❸ Mask all windows.

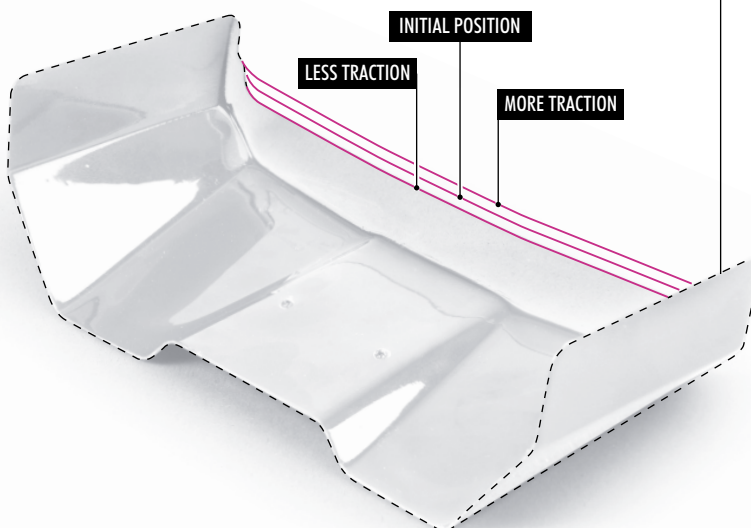
- ❹ Apply paint masks as appropriate.
- ❺ Paint the body using paints formulated for polycarbonate bodies.
- ❻ When the paint is dry, remove the masking.
- ❼ Carefully cut out the body using appropriate scissors or cutting tools.
- ❽ When you have finished cutting, peel off the external protective films.



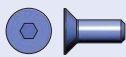
BODY REAMER (HUDY #107600)



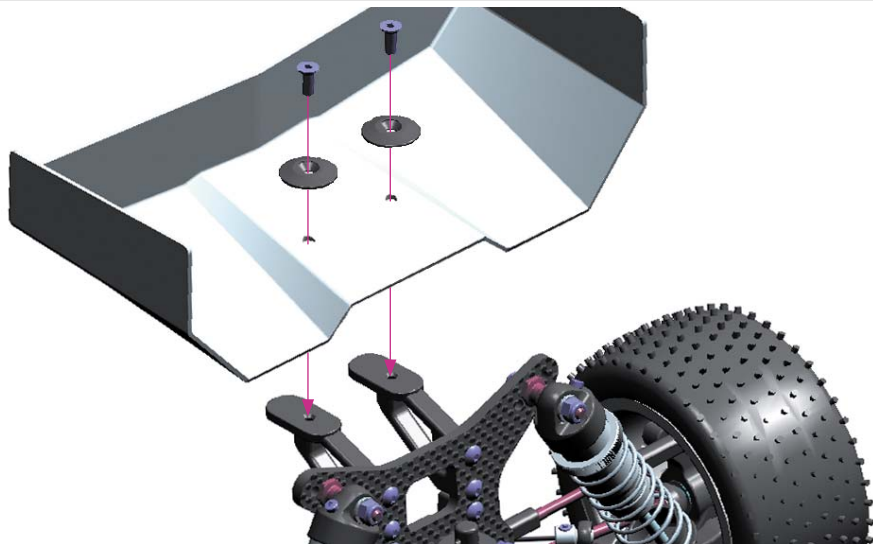
WING CUTTING LINE OPTIONS







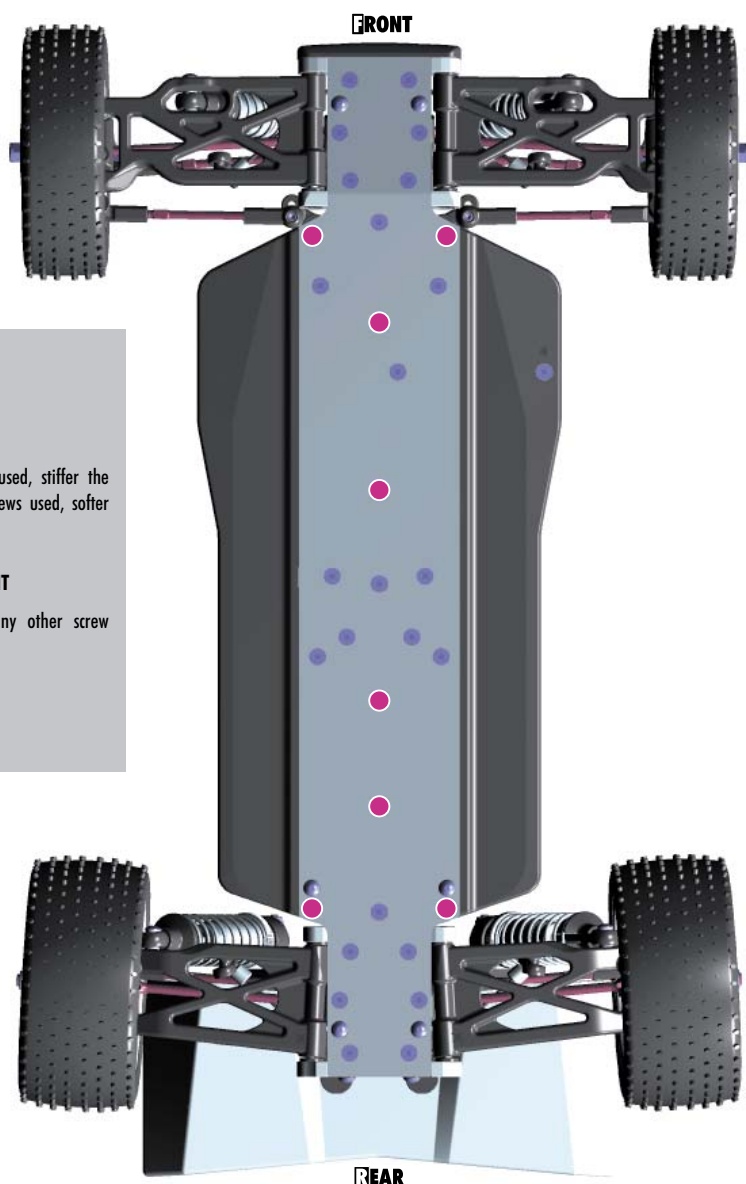
903308  
SFH M3x8



## MULTIFLEX™

XB4 offers revolutionary flex setting possibilities. Depending on the traction, surface, track layout, you can change the flex setting as you need by adding or removing the screws which are shown below.

There are three standard flex settings: soft, medium, stiff. The more screws used, stiffer the car is and less screws used, softer the car is.



### SOFT

Use soft setting for low-traction, dusty tracks. The car will create a lot of traction with this setting but will have less steering and response compared to stiffer setting.

### MEDIUM

Use medium setting for medium-traction tracks. This setting offers good balance between steering responsiveness and traction.

### STIFF

Use stiff setting for high-traction tracks where a lot of steering and car response is required.

The more screws used, stiffer the car is and less screws used, softer the car is.

### ! IMPORTANT

Do not remove any other screw except those shown.

## SHOCK MAINTENANCE

The most important maintenance task for keeping consistent shock performance is refilling and bleeding them correctly. If built correctly, it will not be necessary to re-build them often. Replacing warped/hard o-rings, scarred piston rods, or shaved/split/loose composite upper and lower ball joints are also important.

- For club racing, it is recommended to check the shocks for air inside before each race and only re-fill and bleed them if necessary. Before each race day, make sure you take the spring off of each shock, hold it up to your ear, and quickly compress the shock rod fully into the body while listening for any air making a "whistling" or "squishy" sound as it passes through the piston holes. If you hear any air, refill and bleed your shocks. For high-competition racing, it is recommended that the shocks be re-filled and bled before a large event.
- If building or pairing new shocks, always make sure they are the same length using a shock length measuring tool and adjust the lower ball joints as needed.
- During regular shock operation, oil naturally gets on the shock shaft and drop-by-drop slightly gets out of the shock body. Shocks should be inspected regularly after each race, and oil replaced as required.

## BEARING MAINTENANCE

Ball-bearings in an off-road car must be properly maintained for smooth operation and long lifespan.

The XB4 ball-bearings are degreased and are lubricated with HUDY Bearing Oil. The following procedures are recommended to clean all of the bearings in your off-road car. For high-competition racing, we recommended doing this every 3-4 weeks, or before a major race.

- 1 Remove the seals on both sides of the bearing (if present). If the seals bend a little and you can see a kink, carefully flatten the kink out by hand.
- 2 Spray the seals with motor cleaner and blow dry with compressed air.
- 3 Spray the bearing on both sides with motor cleaner.
- 4 Spin the bearing while it is still wet to dislodge any particles with the cleaner.
- 5 Spray the bearing on both sides again.
- 6 Blow both sides of the bearing dry with compressed air to make sure particles come out.
- 7 Hold the inner part of the bearing with my left thumb/forefinger and spin it to make sure it spins free without any abnormal vibrations or sounds.
- 8 Place one drop of bearing oil into each side of the bearing.
- 9 Replace both seals at the same time by lining them up on each side of the bearing and lightly pressing them in all the way around the bearings circumference with your thumb and forefinger. Do not press too hard or use any type of tool, such as a wrench tip, to push the blue seals in as they will push in too far, bend and cause drag.

If you spin test the bearing after you have re-oiled and sealed it, it will not spin freely for an extended period of time. The lightest of oils may allow it to spin for 1-2 seconds. This is normal and once you have mounted the bearings in the car again, the drive train will spin freely.

Make sure you use a motor cleaner that does not leave a residue after it dries as this may cause drag and wear in the bearings.

### RECOMMENDED PRODUCTS

- Use #106230 HUDY Bearing Oil to lubricate the bearings.

HUDY #106230



## SUSPENSION & DRIVETRAIN MAINTENANCE

- Check suspension for free movement during building and operation, and especially after running and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly check the drive shaft pins (both side and center) and if they show any wear must be immediately replaced by new pins. If the car is run with worn pins, excessive wear on the diff outdrives will result. The 106000 HUDY Drive Pin Replacement Tool (for 3mm Pins) is a compact, rugged multi-use tool set for replacing 3mm drive pins in drive shafts. Use the HUDY replacement drive shaft pins 3x12 (#106051).
- Regularly inspect and replace the connecting pins which connect the center drive shafts with the pinion gear, and also the pins that connect the wheel drive shafts with wheel axles. Use HUDY Graphite Grease to lubricate the drive shaft connecting joints and the diff gears.
- Pivot balls and ball-joints will naturally wear for some time and will generate play. If there is too much play the pivot balls and ball joints need to be replaced.
- If the car is run in wet conditions, apply WD-40® on all drivetrain parts before the run. After the run, clean and dry the parts again.

HUDY #106210



## HUDY SPRING STEEL™

The HUDY Spring Steel™ used in the car is the strongest and most durable steel material on the RC market. While items made from HUDY Spring Steel™ are still subject to wear, the lifespan is considerably longer than any other material. As parts made from HUDY Spring Steel™ wear, the

brown color will after some time "go down" but it will not affect the strength of the material. The brown color is only a surface treatment and if the brown color will wear the durability of the part will be still strong.

SET-UP SHEET

XRAY XB4

RACE			
TRACK			
NAME			
CITY	COUNTRY		
CONTACT	DATE		
TEMPERATURE	AIR °F or °C	TRACK °F or °C	
LAPS		BEST LAP TIME	
QUALIFYING POSITION		FINAL POSITION	SEC
TRACK SIZE	<input type="checkbox"/> OPEN	<input type="checkbox"/> MEDIUM	<input type="checkbox"/> TIGHT
TRACK TRACTION	<input type="checkbox"/> HIGH	<input type="checkbox"/> MEDIUM	<input type="checkbox"/> LOW
TRACK SURFACE	<input type="checkbox"/> SMOOTH	<input type="checkbox"/> MEDIUM	<input type="checkbox"/> BUMPY
TRACK TYPE	<input type="checkbox"/> HARD PACKED	<input type="checkbox"/> SOFT DIRT	<input type="checkbox"/> CLAY
	<input type="checkbox"/> CARPET	<input type="checkbox"/> BLUE GROOVE	<input type="checkbox"/> ASTRO TURF
		<input type="checkbox"/> GRASS	
TRACK CONDITION	<input type="checkbox"/> DRY	<input type="checkbox"/> DUSTY	<input type="checkbox"/> WET
		<input type="checkbox"/> MUD	
FRONT DIFFERENTIAL REAR			
GEAR DIFF	TYPE	GEAR DIFF	
BALL DIFF		BALL DIFF	
COMPOSITE	PINION	COMPOSITE	
METALLIC		METALLIC	
COMPOSITE	CROWN GEAR	COMPOSITE	
OIL			
GEARING			
PINION	T	SPUR GEAR	T
FRONT SHOCKS REAR			
SPRINGS			
OIL			
REBOUND			
DOWNSTOP SHIM			
UPSTOP TRAVEL ORING			
PISTONS			
DIAMETER HOLES			
2 HOLES		2 HOLES	
3 HOLES		3 HOLES	
6 HOLES		6 HOLES	
CUSTOM PISTONS			
DIAMETER HOLES			
mm		mm	
FRONT ANTI ROLL BAR REAR			
THICKNESS			
FRONT TIRES REAR			
TYPE			
INSERTS			
WHEELS			
OTHER			
MOTOR			
ROTOR			
TIMING			
ESC			
BATTERIES			
BODY			
COMMENTS			

FRONT		APPLIED <input type="checkbox"/> <input checked="" type="checkbox"/> APPLIED		REAR	
STEERING BLOCK		SHIM		UPPER SHOCK POSITION	
PLASTIC <input type="checkbox"/>		mm		1 2 3	
LONGER BUSHINGS		FRONT ROLL CENTER		REAR ROLL CENTER	
UP <input type="checkbox"/>		3 2 1		3 2 1	
DOWN <input type="checkbox"/>		2 1		2 1	
CASTER BLOCK		CAMBER LINK LOCATION		UPRIGHT	
PLASTIC <input type="checkbox"/>		1 2 3		PLASTIC <input type="checkbox"/>	
DOWNSTOP		FRONT LOWER SHOCK POSITION		REAR LOWER SHOCK POSITION	
mm		mm		mm	
		HUDDY #107717 GAUGE		HUDDY #107717 GAUGE	
OFFSET		CASTER		WING TYPE	
STANDARD <input type="checkbox"/>		6° <input type="checkbox"/>		STANDARD <input type="checkbox"/>	
+0.75mm <input type="checkbox"/>		9° <input type="checkbox"/>			
-0.75mm <input type="checkbox"/>		BUMP STEER SHIM		WING CUTTING LINE	
		mm		+ <input type="checkbox"/> 0 <input type="checkbox"/> - <input type="checkbox"/>	
FRONT				REAR	
FF		ROLL CENTER		RF	
1° <input type="checkbox"/>		ECCENTRIC BUSHINGS		1° <input type="checkbox"/>	
0.5° <input type="checkbox"/>				0.5° <input type="checkbox"/>	
FR				RR	
1° <input type="checkbox"/>				1° <input type="checkbox"/>	
0.5° <input type="checkbox"/>				0.5° <input type="checkbox"/>	
FRONT TOE		SERVO SAVER		REAR TOE	
OUT		TIGHT <input type="checkbox"/>		IN	
		MEDIUM <input type="checkbox"/>			
		SOFT <input type="checkbox"/>			
		STEERING BRACE			
		YES <input type="checkbox"/> NO <input type="checkbox"/>			
BUMP STEER SHIM		ACKERMANN POSITION			
SHIM UNDER STEERING PLATE		2 1			
mm					
FRONT				REAR	
FRONT CAMBER		SHOCK PRELOAD		SHOCK PRELOAD	
mm		mm		mm	
FRONT ARM		RIDE HEIGHT		RIDE HEIGHT	
STANDARD <input type="checkbox"/>		mm		mm	
		#107720 GAUGE			
FRONT				REAR	
BALANCE		BALANCE		BALANCE	
g		g		g	
CHASSIS FLEX		BRACE		BRACE	
SCREW USED <input type="checkbox"/>		YES <input type="checkbox"/> NO <input type="checkbox"/>		YES <input type="checkbox"/> NO <input type="checkbox"/>	
SCREW NOT USED <input type="checkbox"/>					
FRONT				REAR	

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