

1/10 LUXURY ELECTRIC TOURING CAR FWD

# XRAY X4F



**INSTRUCTION MANUAL**  
FOR X4F'23 EDITION

## BEFORE YOU START

This is a high-competition, high-quality RC 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 XRAY, **YOU MUST** read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage.

## 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)

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 this is not what you wanted or expected, **do not continue any further**. Your hobby dealer can not accept your 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.

### XRAY Europe

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91101 Trenčín  
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Phone: 421-32-7401100  
Fax: 421-32-7401109  
E-mail: [info@teamxray.com](mailto:info@teamxray.com)

### XRAY USA

RC America, 2030 Century Center Blvd #15  
Irving, TX 75062  
USA  
Phone: (214) 744-2400  
Fax: (214) 744-2401  
E-mail: [xray@rcamerica.com](mailto:xray@rcamerica.com)

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

## 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 warranty 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.

**XRAY**

## **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.**

# TOOLS REQUIRED



# INCLUDED



# EQUIPMENT REQUIRED

<p>Transmitter</p>	<p>Receiver</p>	<p>Speed Controller</p>	<p>Steering Servo</p>
<p>Electric Motor</p>	<p>Pinion Gear with Setscrew</p>	<p>LiPo Battery</p>	<p>Battery Charger</p>
<p>Lexan™ Paint</p>	<p>Wheels &amp; Tires &amp; Inserts (HUDY #803040 SLICK PRECUT)</p>	<p>190mm Bodyshell</p>	<p>Double-sided Tape (HUDY #107875)</p>
<p>Fibre Tape (HUDY #107870)</p>	<p>Bearing Oil (HUDY #106230)</p>	<p>Threadlock</p>	<p>CA glue</p>



# BUILD TIPS & NOTES



**Alexander Hagberg** (Factory Driver)

When a QR CODE is found in the instruction manual, scan the code to be directed to an online video that explains that feature or adjustment in more detail. Make sure to watch all of the instructional videos to get the most performance out of your car.

VIDEO TECH TIP



**NOTE!**

Please note that the videos are made specifically for the X4, but will contain very good information that may apply to the X4F as well.



**SAMPLE OF OPTIONAL PARTS**

#30XXX	TYPE1	OPTION 1
#30XXX	TYPE1	OPTION 2
#30XXX	TYPE1	INCLUDED
#30XXX	TYPE1	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.

## 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:

304911

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

301015

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

304901

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

## CHASSIS PREPARATION



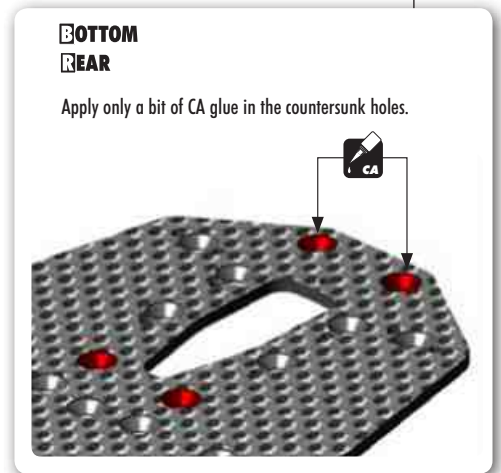
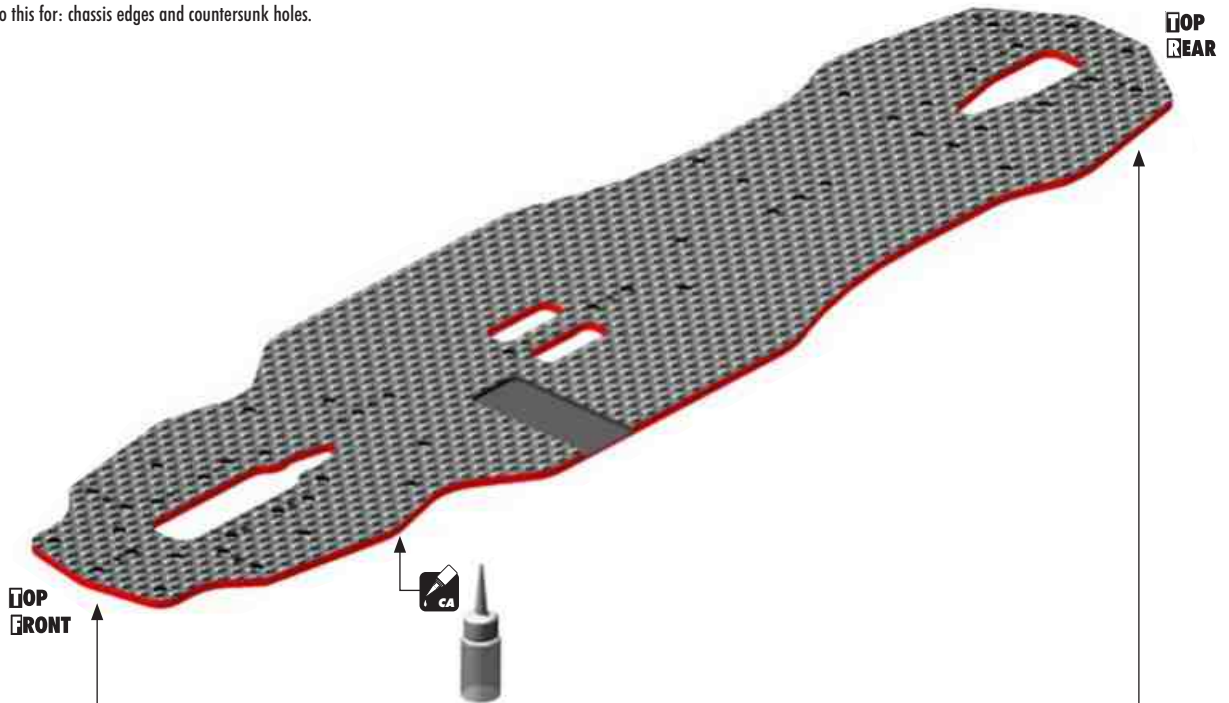
VIDEO TECH TIP



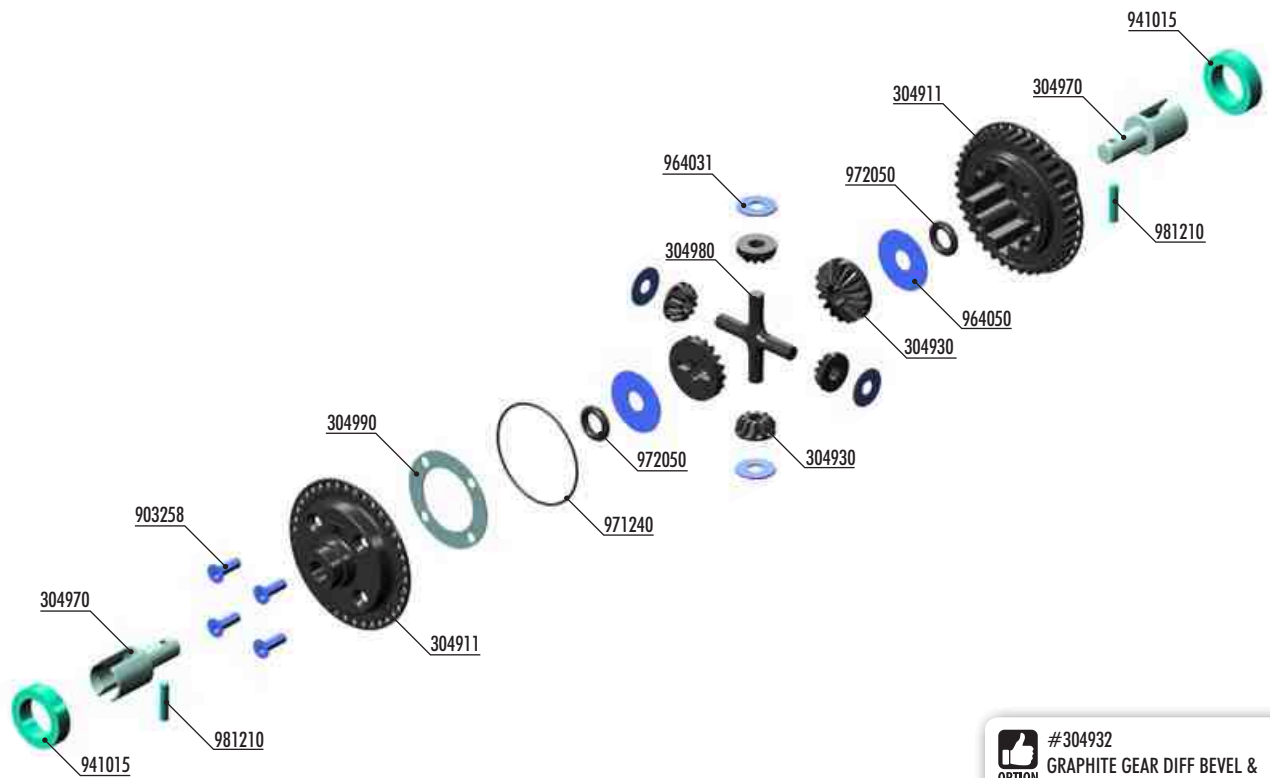
CHASSIS PREPARATION

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

Do this for: chassis edges and countersunk holes.

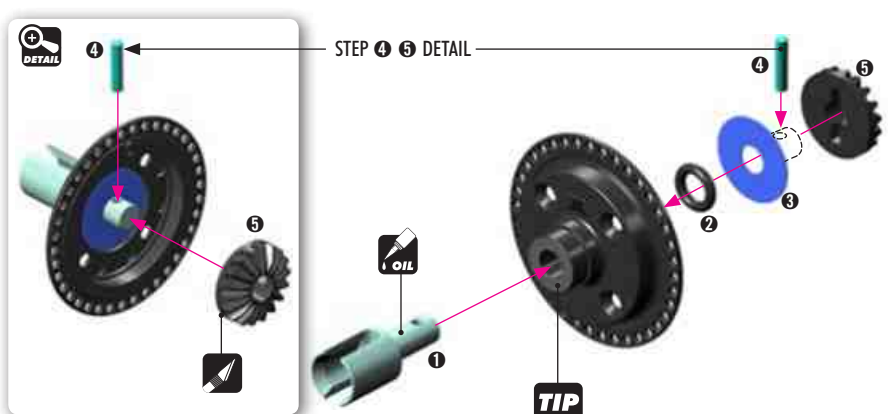


# 1. GEAR DIFFERENTIAL



- 304901 X4 GEAR DIFFERENTIAL - SET
- 304911 X4 COMPOSITE GEAR DIFF. CASE WITH 38T PULLEY & 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)

- 903258 HEX SCREW SFH M2.5x8 (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)



**TIP**  
If the diff is not turning freely after assembly, use thin sand paper to lightly polish the surface.

# 1. GEAR DIFFERENTIAL

**964050**  
S 5x15x0.3

**972050**  
O 5x2

**981210**  
P 2x10

**NOTE ORIENTATION**

**STEP 4 DETAIL**  
Use tweezers to insert pin.

If the diff is not turning freely after assembly, use thin sand paper to lightly polish the surface.

**TIP**

**CUTAWAY VIEW**

**964031**  
S 3.5x10x0.2

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

**INITIAL SETTING**  
500.000cSt

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

If the cross does not enter into the diff freely, use fine sand paper to lightly polish the ends of the cross.

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

**9.50g**

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

**1** Put the diff (without oil) on the scale and check the weight (approximately 9.50g)

**11.00g**

**2** Slowly pour oil into the diff and watch the weight. Add 1.50g of oil into the diff. The approximate weight of the diff including oil is 11.00g.

**9.50g + 1.50g = 11.00g**

**VIDEO TECH TIP**

REAR DIFFERENTIAL

**TIPS FOR DIFFERENTIALS**

**TIP**

100.000cSt (HUDY #106610)  
150.000cSt (HUDY #106615)  
200.000cSt (HUDY #106620)  
300.000cSt (HUDY #106630)  
**500.000cSt (HUDY #106650) INITIAL SETTING**  
1 000.000cSt (HUDY #106692)  
2 000.000cSt (HUDY #106694)

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

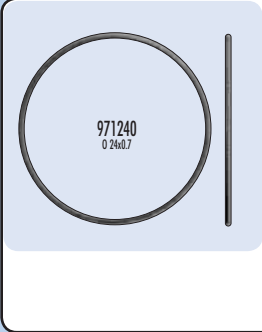
↑

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

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

**#104002**  
**OPTION**  
HUDY AIR VAC – VACUUM PUMP

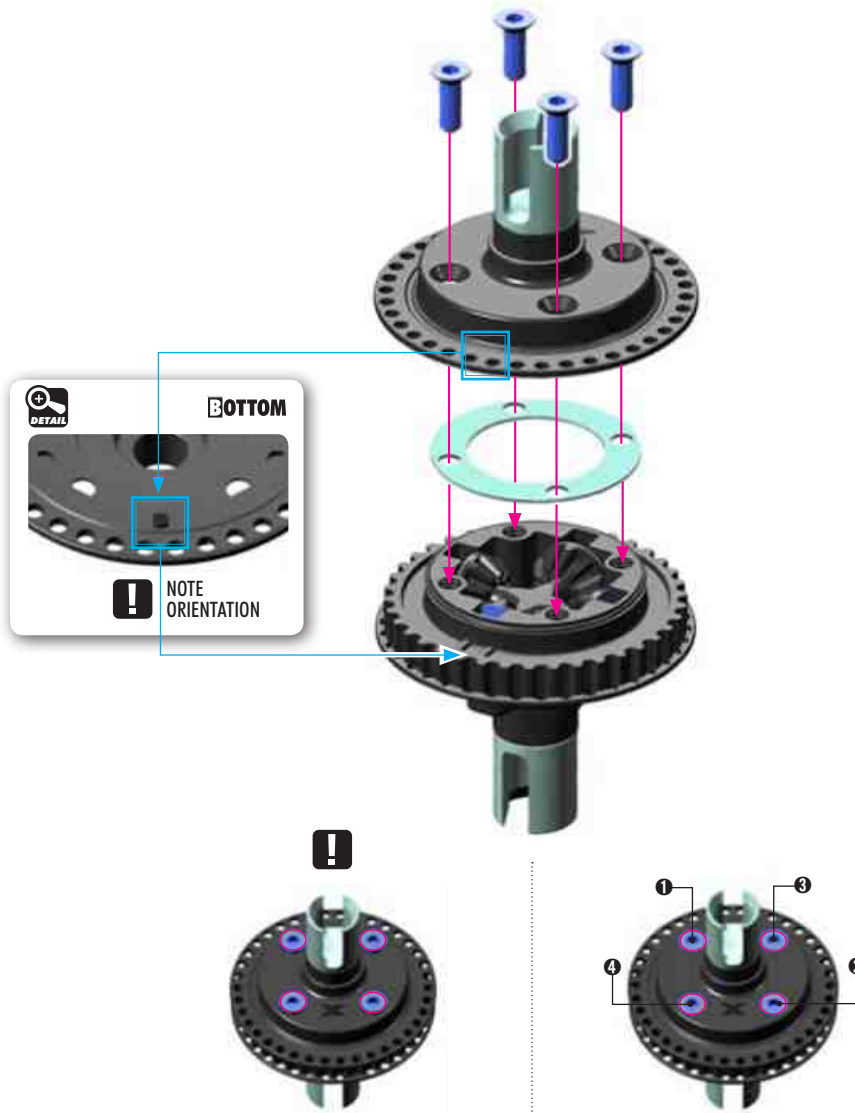
# 1. GEAR DIFFERENTIAL



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 installing a new O-ring if the old one cannot be made to fit properly.

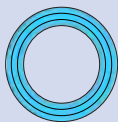


903258  
SFH M2.5x8



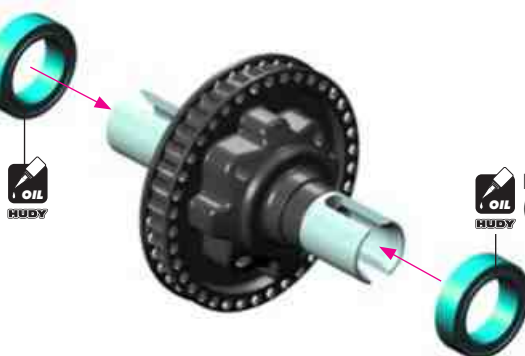
Tighten the screws equally but do NOT tighten them completely.

Finish tightening in this order.



941015  
BB 10x15x4

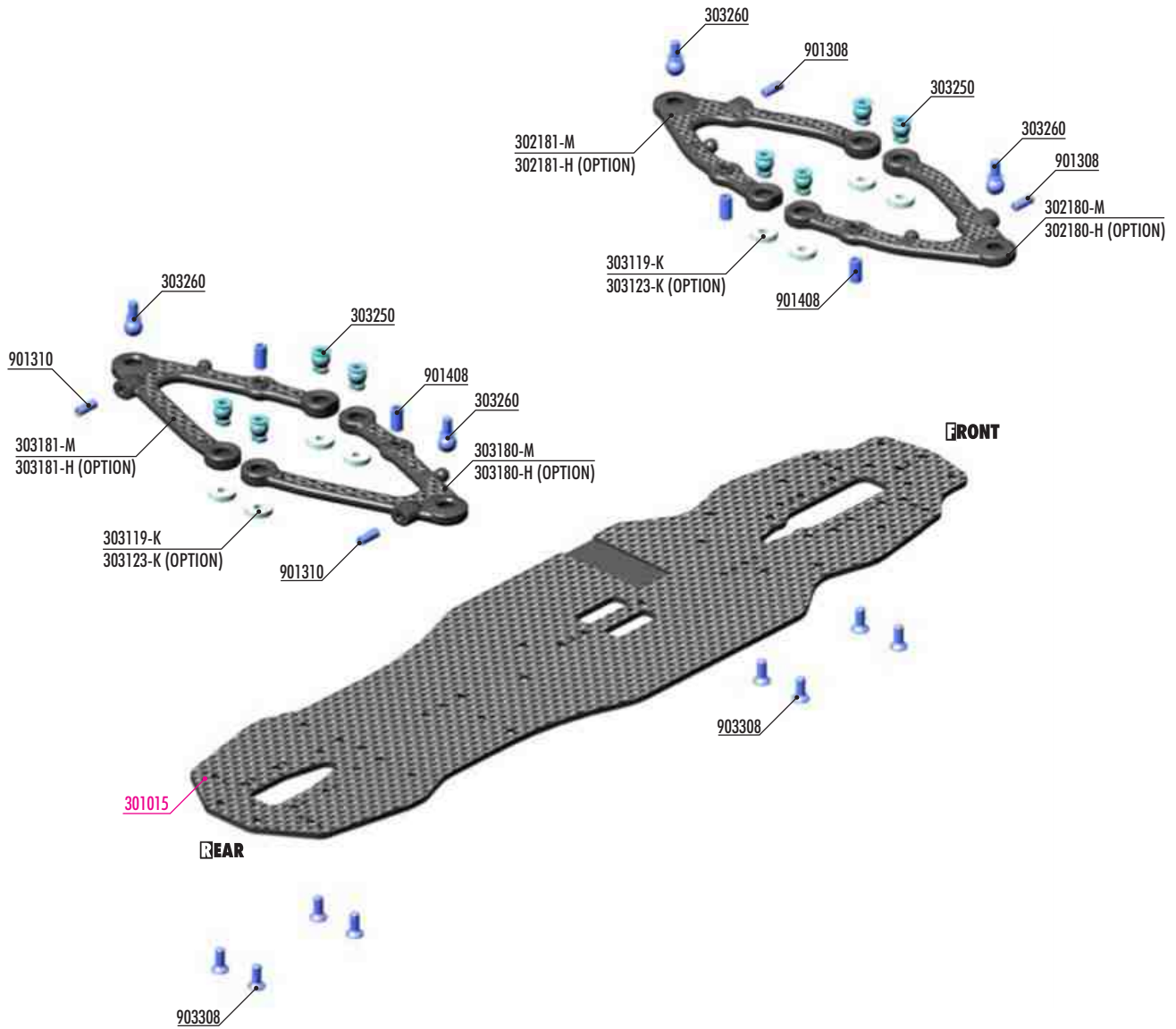
BEARING OIL  
(HUDY #106230)



BEARING OIL  
(HUDY #106230)



## 2. FRONT & REAR SUSPENSION



**#302121**  
**FRONT ROLL-CENTER SPACER (2)**



**#302122**  
**REAR ROLL-CENTER SPACER (2)**



FRONT LOWER ARMS			
#302181-M	LEFT	MEDIUM	INCLUDED
#302180-M	RIGHT	MEDIUM	INCLUDED
#302181-H	LEFT	HARD	OPTION
#302180-H	RIGHT	HARD	OPTION



REAR LOWER ARMS			
#303181-M	LEFT	MEDIUM	INCLUDED
#303180-M	RIGHT	MEDIUM	INCLUDED
#303181-H	LEFT	HARD	OPTION
#303180-H	RIGHT	HARD	OPTION



**BAG**

**02**

302180-M X4 COMPOSITE CFF™ CARBON-FIBER FUSION FRONT LOWER ARM - MEDIUM - RIGHT  
 302181-M X4 COMPOSITE CFF™ CARBON-FIBER FUSION FRONT LOWER ARM - MEDIUM - LEFT  
 303119-K ALU SHIM 3x9x2.0MM - BLACK (10)  
 303180-M X4 COMPOSITE CFF™ CARBON-FIBER FUSION REAR LOWER ARM - MEDIUM - RIGHT  
 303181-M X4 COMPOSITE CFF™ CARBON-FIBER FUSION REAR LOWER ARM - MEDIUM - LEFT  
 303250 X4 LOWER ARM BALL UNIVERSAL 6.0MM WITH HEX - HUDY SPRING STEEL™ (2)  
 303260 X4 PIVOT BALL 6.0MM WITH M3x5.5MM THREAD - HUDY SPRING STEEL™ (2)

901308 HEX SCREW SB M3x8 (10)  
 901310 HEX SCREW SB M3x10 (10)  
 901408 HEX SCREW SB M4x8 (10)  
 903308 HEX SCREW SFH M3x8 (10)

**301015 X4F GRAPHITE CHASSIS 2.2MM**

## 2. FRONT & REAR SUSPENSION

**REAR** SUSPENSION ARMS

**LEFT** **RIGHT**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

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

**Press straight**

901310  
SB M3x10

901408  
SB M4x8

**VIDEO TECH TIP**

**LOWER ARMS**

**REAR** SUSPENSION ARMS

**LEFT = RIGHT**

**DETAIL**

4x8mm

3x10mm

**Make sure to use 10mm set screw for rear arms.**

5.0mm

**Make sure to note overtighten this value.**

2.6mm

**FRONT** SUSPENSION ARMS

**LEFT** **RIGHT**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**NOTE ORIENTATION**

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

**Press straight**

## 2. FRONT & REAR SUSPENSION

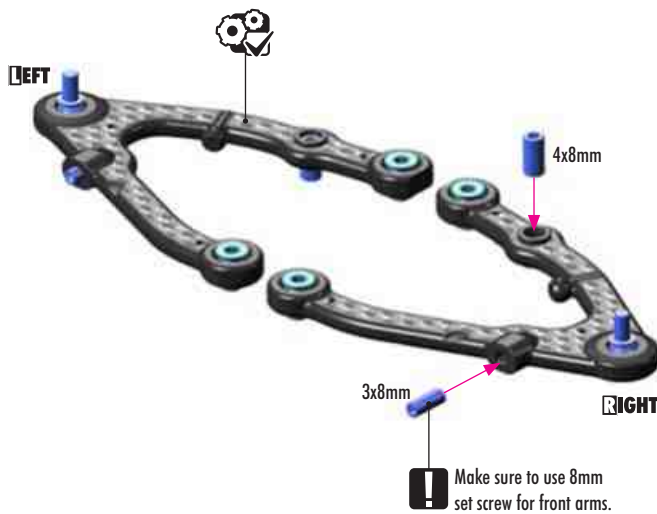


901308  
SB M3x8

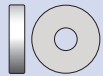
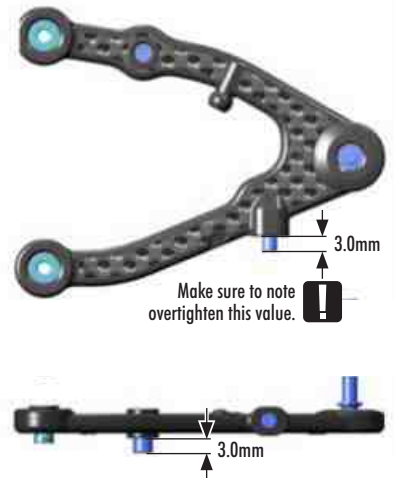


901408  
SB M4x8

### FRONT SUSPENSION ARMS



**L=R** LEFT = RIGHT



303119-K  
SHIM 3x9x2



903308  
SFH M3x8

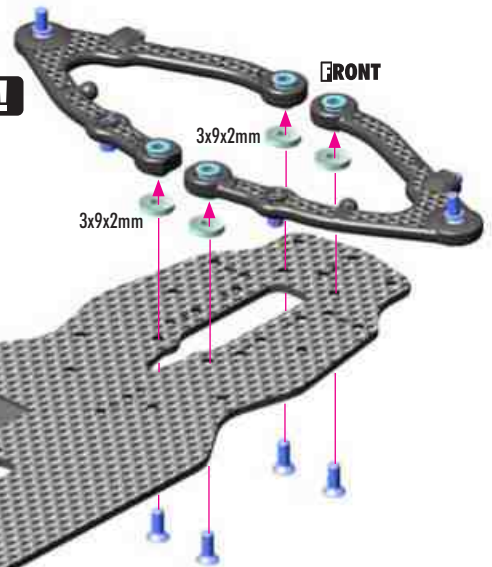
**#302121**  
FRONT ROLL-CENTER SPACER (2)



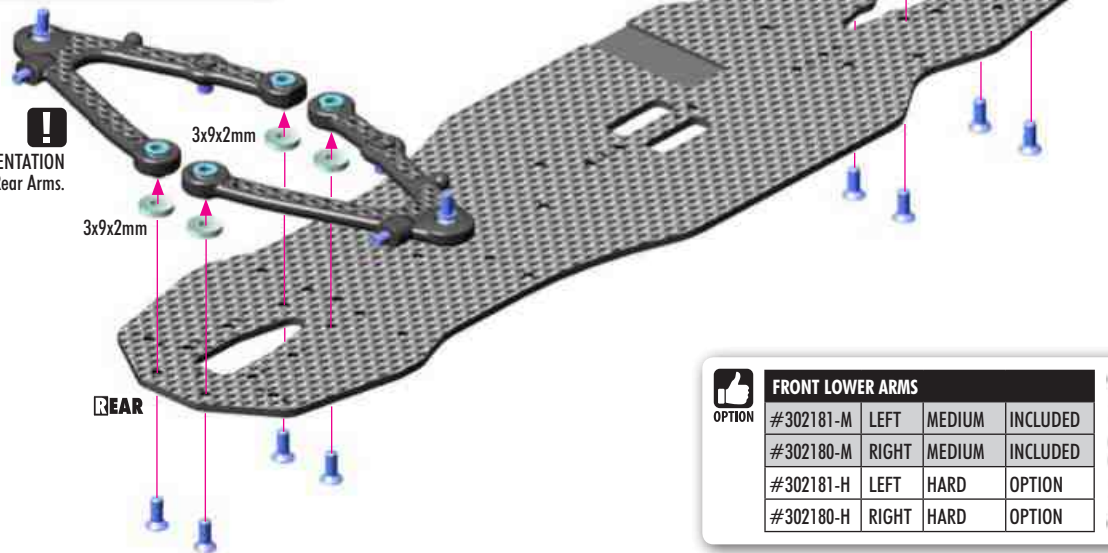
**#302122**  
REAR ROLL-CENTER SPACER (2)



NOTE ORIENTATION **!**  
Front Arms.



NOTE ORIENTATION **!**  
Rear Arms.



#### FRONT LOWER ARMS

#302181-M	LEFT	MEDIUM	INCLUDED
#302180-M	RIGHT	MEDIUM	INCLUDED
#302181-H	LEFT	HARD	OPTION
#302180-H	RIGHT	HARD	OPTION



#### REAR LOWER ARMS

#303181-M	LEFT	MEDIUM	INCLUDED
#303180-M	RIGHT	MEDIUM	INCLUDED
#303181-H	LEFT	HARD	OPTION
#303180-H	RIGHT	HARD	OPTION



### ROLL-CENTER ADJUSTMENT

**RAISING THE LOWER ARMS** will raise the car's roll center. Raising the lower arms both front and rear will free up the car, and will make it initially more responsive. Side bite will be decreased. A higher roll center is typically recommended for asphalt racing.

**LOWERING THE LOWER ARMS** will lower the car's roll center. Lowering both the front and rear arms will lock in the car more, and will make it initially less responsive. Side bite will be increased. A lower roll center is typically recommended for carpet racing.

We recommend the **MEDIUM** hardness of the lower suspension arms for asphalt. These arms are more flexible than the H (hard) arms.

For carpet racing and even some high-grip asphalt conditions, we recommend the **HARD** suspension arms.



VIDEO TECH TIP

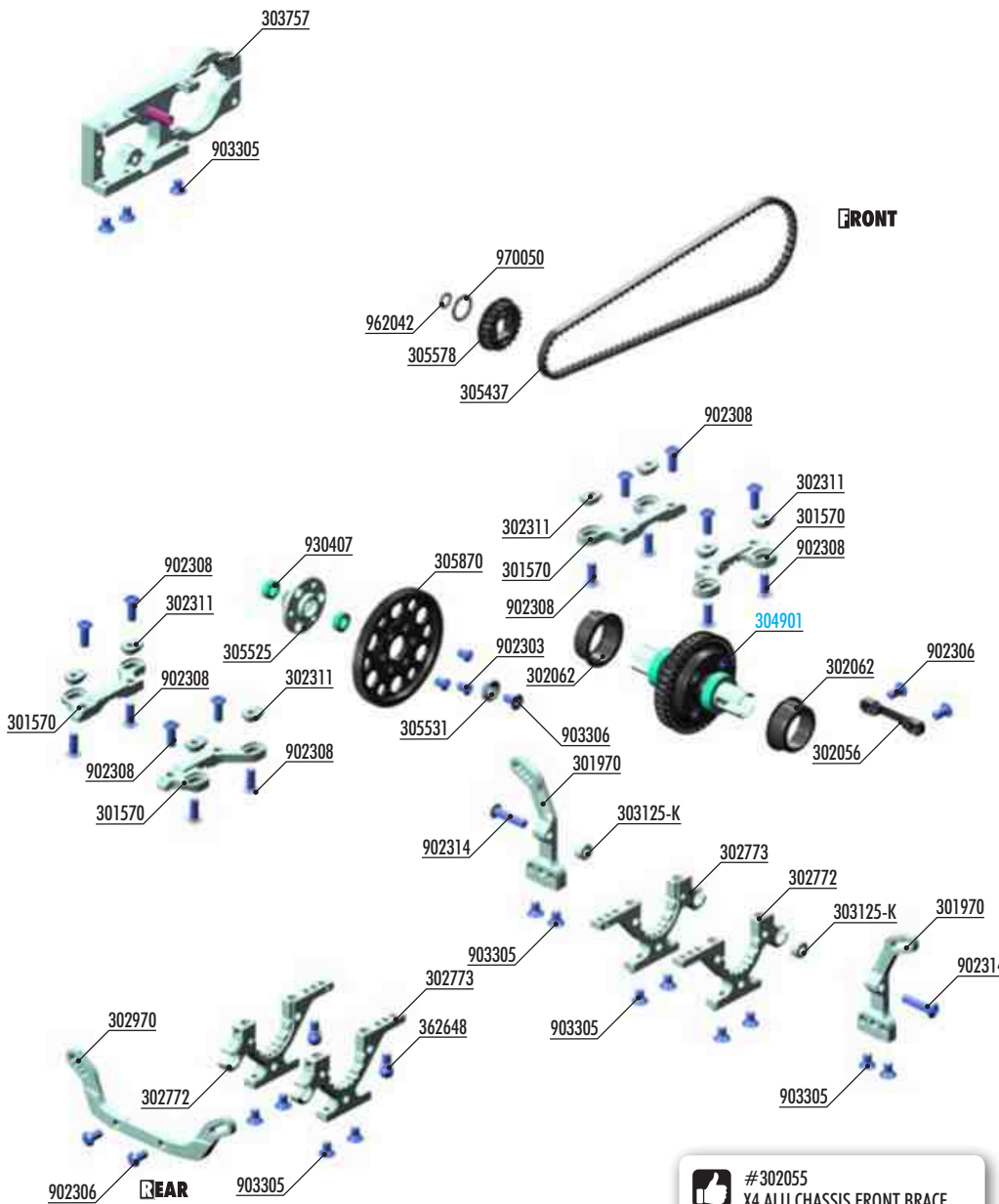


ROLL-CENTER



CHASSIS ALTERNATIVES

# 3. CENTRAL TRANSMISSION



#303768  
ALU CHASSIS T-BRACE - 7075 T6



#303767  
BRASS CHASSIS T-BRACE - 10g



#305772-0  
SPUR GEARS 48P

#305772	72T / 48P	OPTION
#305776	76T / 48P	OPTION
#305778	78T / 48P	OPTION
#305779	79T / 48P	OPTION
#305781	81T / 48P	OPTION
#305784	84T / 48P	OPTION
#305784-0	84T / 48P	OPTION

#305860-0  
OFFSET SPUR GEARS 64P

#305860	90T / 64P	OPTION
#305862	92T / 64P	OPTION
#305866	96T / 64P	OPTION
#305866-0	96T / 64P	OPTION
#305869	99T / 64P	OPTION
#305870	100T / 64P	INCLUDED
#305870-0	100T / 64P	OPTION
#305874	104T / 64P	OPTION
#305876	106T / 64P	OPTION
#305878	108T / 64P	OPTION
#305880	110T / 64P	OPTION
#305880-0	110T / 64P	OPTION
#305882	112T / 64P	OPTION
#305884	114T / 64P	OPTION

#302055  
X4 ALU CHASSIS FRONT BRACE



For more information see page 46 / STEP 2

#302310-0  
ALU CASTER BUSHINGS

#302310	FRONT 3° / REAR 5.5° or 0.5°	1 Dot	OPTION
#302311	FRONT 4° / REAR 4.5° or 1.5°	2 Dots	INCLUDED
#302312	FRONT 5° / REAR 3.5° or 2.5°	3 Dots	OPTION

#305578-0  
FIXED PULLEY FOR LAYSHAFT WITH BEARINGS 20T - GRAPHITE (2)



#302063-K  
ALU ADJUSTMENT BALL-BEARING HUB (2)



**BAG**  
03

- 301570 X4 ALU UPPER CLAMP - SWISS 7075 T6 (L + R)
- 301970 X4 ALU SHOCK TOWER FRONT - SWISS 7075 T6 (L + R)
- 302056 X4 GRAPHITE FRONT SUSPENSION BRACE
- 302062 COMPOSITE ADJUSTMENT BALL-BEARING HUB (4)
- 302311 X4 ALU CASTER BUSHING FRONT 4° / REAR 1.5° - 2 DOTS (4)
- 302772 X4 ALU LOWER BULKHEAD - FRONT R / REAR L - HD - 7075 T6
- 302773 X4 ALU LOWER BULKHEAD - FRONT L / REAR R - HD - 7075 T6
- 302970 X4 ALU SHOCK TOWER REAR - SWISS 7075 T6
- 303125-K ALU SHIM 3x6x3.0MM - BLACK (10)
- 303757 X4F ALU MOTOR MOUNT
- 305437 HIGH-PERFORMANCE DRIVE BELT 3x300MM
- 305525 X4F ALU SOLID LAYSHAFT & BEARINGS
- 305531 X4F ALU SOLID LAYSHAFT WASHER FOR BATTERY BACKSTOP
- 305578 FIXED PULLEY FOR LAYSHAFT WITH BEARINGS 20T (2)

- 305870 OFFSET SPUR GEAR 100T / 64
- 362648 BALL END 4.9MM WITH THREAD 4MM (2)
- 902303 HEX SCREW SH M3x4 SMALL HEAD - STAINLESS (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 903305 HEX SCREW SFH M3x5 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 930407 BALL-BEARING 4x7x2.5 STEEL SEALED - OIL (2)
- 962042 WASHER S 4x6x0.1 (10)
- 970050 O-RING 5x1 (10)
- 304901 X4 GEAR DIFFERENTIAL - SET



# 3. CENTRAL TRANSMISSION



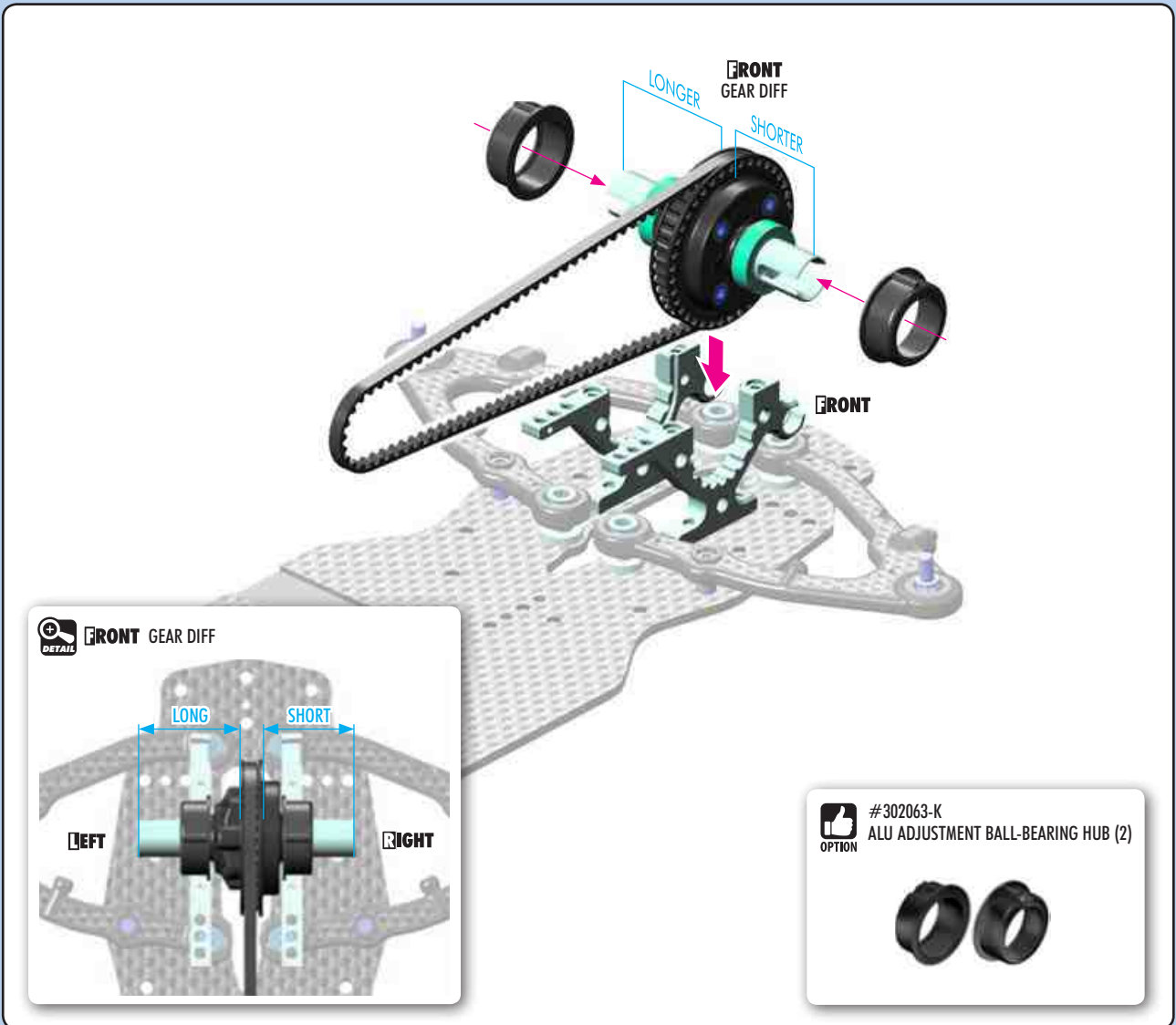
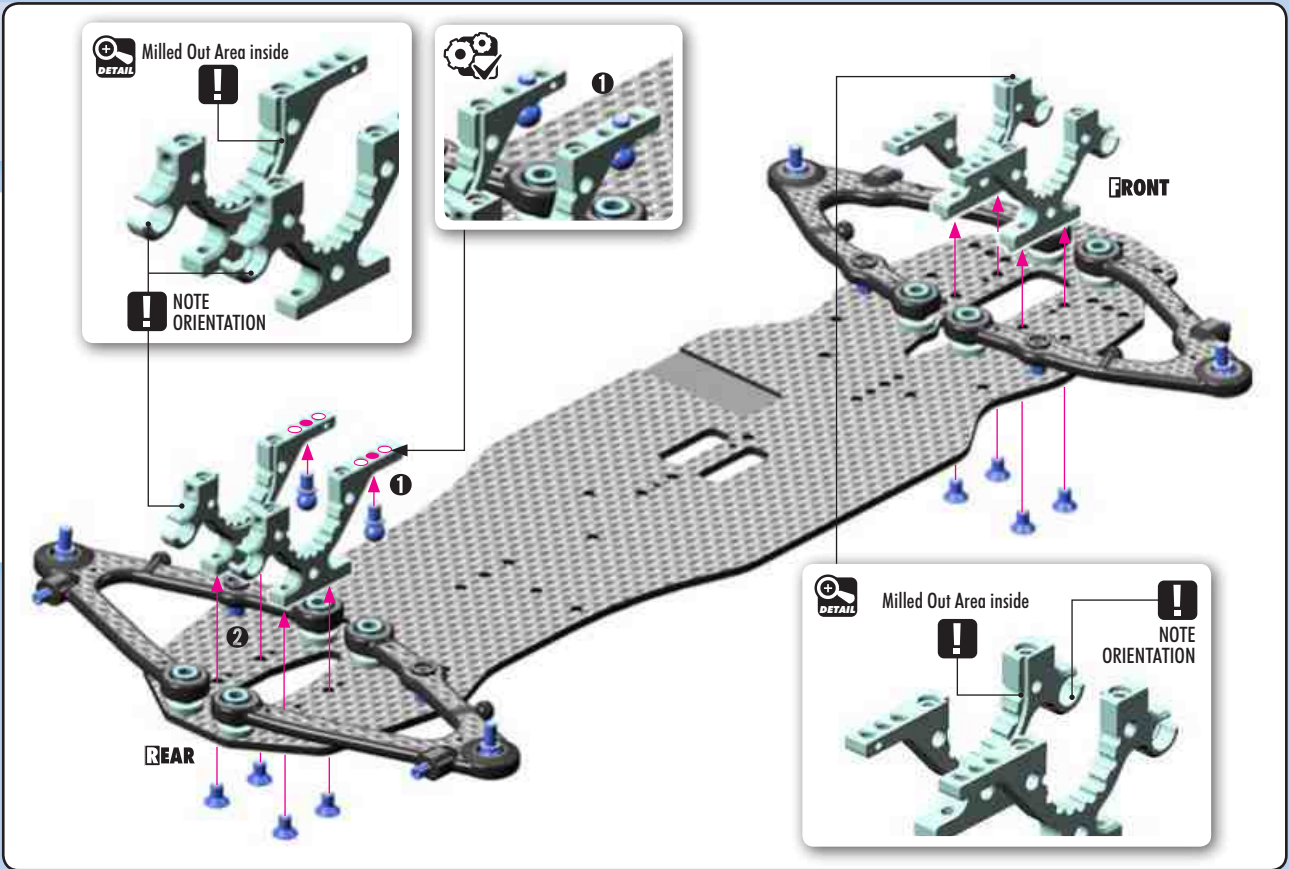
903305  
SFH M3x5



VIDEO TECH TIP



BUILDING THE BULKHEADS



# 3. CENTRAL TRANSMISSION



902308  
5H M3x8

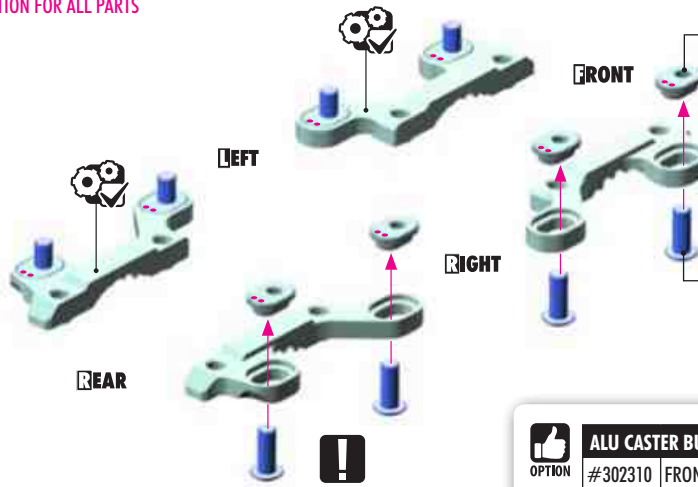


VIDEO TECH TIP



CASTER

## NOTE ORIENTATION FOR ALL PARTS



**IMPORTANT**  
All 4 bushings at one end of the car must be installed in the same orientation.

**!** Never use alu or titanium screws for the eccentric bushings.

**!** Never use alu or titanium screws for the eccentric bushings.

OPTION	ALU CASTER BUSHINGS		
#302310	FRONT 3° / REAR 5.5° or 0.5°	1 Dot	OPTION
#302311	FRONT 4° / REAR 4.5° or 1.5°	2 Dots	INCLUDED
#302312	FRONT 5° / REAR 3.5° or 2.5°	3 Dots	OPTION

## CASTER ADJUSTMENT

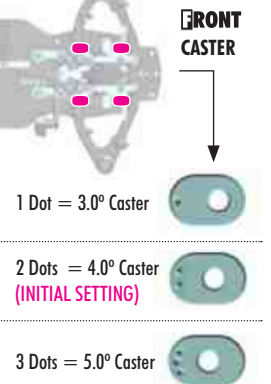
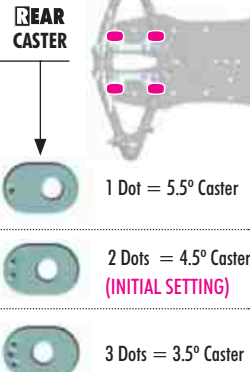
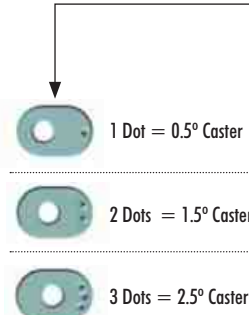
### FRONT CASTER

For most conditions, a good starting point for front caster set is 4.0°  
Increasing front caster will increase steering (mainly on-power), but it will also make the car more difficult to drive and more likely to traction roll.

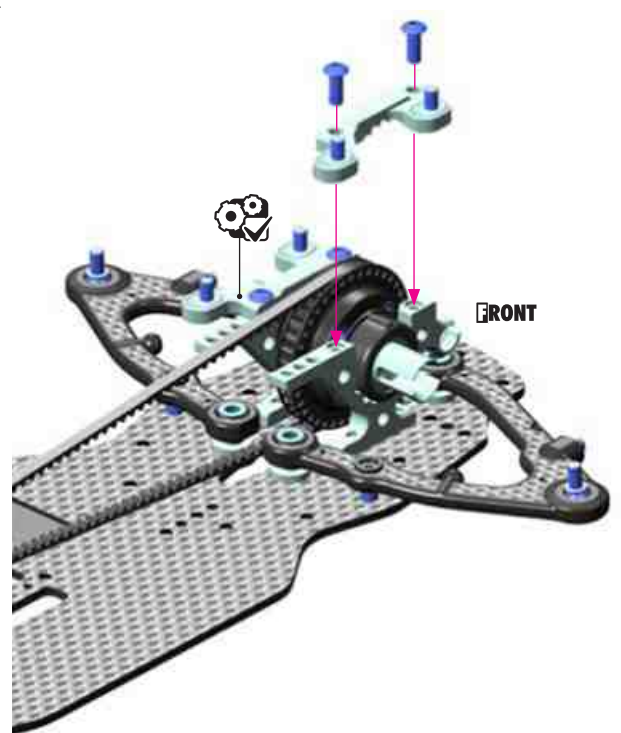
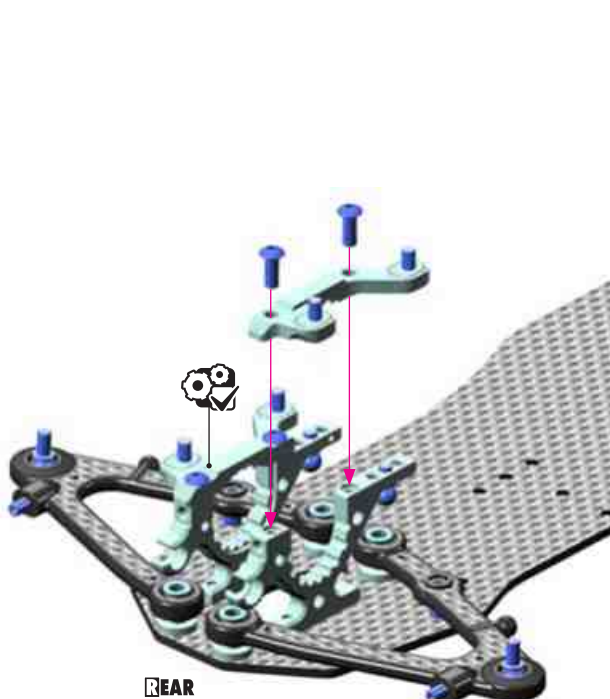
### REAR CASTER

A good starting point for rear caster is 4.5°  
More rear caster will increase traction and steering. Less rear caster will increase rotation of the car.

**IMPORTANT**  
All 4 bushings at one end of the car must be installed in the same orientation.



902308  
5H M3x8



# 3. CENTRAL TRANSMISSION

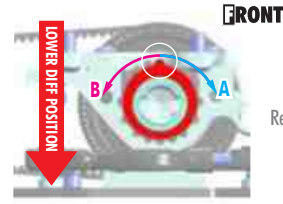
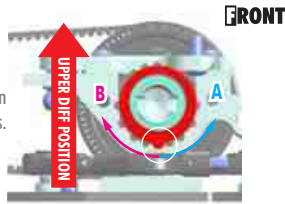


## FRONT BELT TENSION ADJUSTMENT

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

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

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



Recommended for **low-traction** tracks.

**INITIAL POSITION FOR CARPET/ASPHALT**  
Place tab in this **BOTTOM NOTCH**

**TO LOOSEN REAR BELT:** Rotate both front nylon hubs in arrow direction **A**

**TO TIGHTEN REAR BELT:** Rotate both front nylon hubs in arrow direction **B**



VIDEO TECH TIP



DIFF HEIGHT



BELT TENSION ADJUSTMENT



902303  
SH M3x4



930407  
BB 4x7x2.5

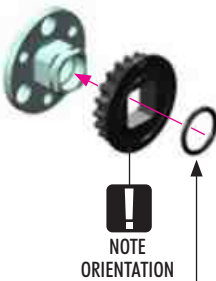


970050  
O 5x1



966081  
CH-CLIP 8

1.



#966081  
CH-CLIP 8 (10)  
INCLUDED IN THE  
LAST AID BAG

Another alternative to secure the pulley on the layshaft is to use the CH-clip which is included in the "Last Aid" Bag. To mount the clip on the layshaft, you have to use special Snap Ring Pliers.



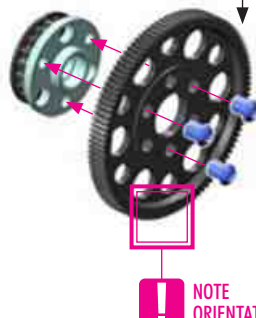
Snap Ring Pliers  
(HUDY #189040)



#305578-0  
FIXED PULLEY FOR  
LAYSHAFT WITH  
BEARINGS 20T  
GRAPHITE (2)



2. ALTERNATIVE  
64P OFFSET SPUR GEAR  
(INITIAL SETTING)



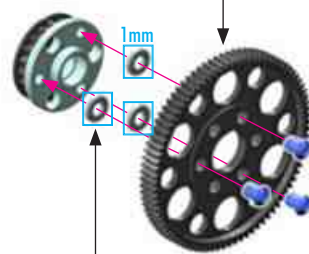
CUTAWAY VIEW



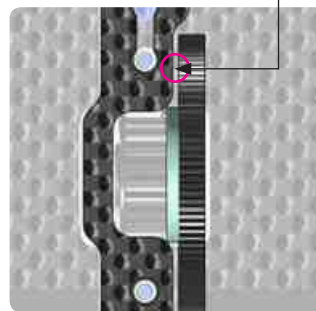
### OFFSET SPUR GEARS 64P

#305860	90T	OPTION
#305862	92T	OPTION
#305866	96T	OPTION
#305866-0	96T	OPTION
#305869	99T	OPTION
#305870	100T	INCLUDED
#305870-0	100T	OPTION
#305874	104T	OPTION
#305876	106T	OPTION
#305878	108T	OPTION
#305880	110T	OPTION
#305880-0	110T	OPTION
#305882	112T	OPTION
#305884	114T	OPTION

2. ALTERNATIVE  
48P SPUR GEAR



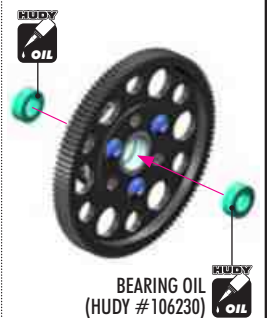
When using XRAY 48P spur gears or aftermarket spur gears without an offset, use the 3x5x1mm shims (#303141 not included) between the gear and layshaft to create the necessary clearance from the top deck.



### SPUR GEARS 48P

#305772	72T	OPTION
#305776	76T	OPTION
#305778	78T	OPTION
#305779	79T	OPTION
#305781	81T	OPTION
#305784	84T	OPTION
#305784-0	84T	OPTION

3.





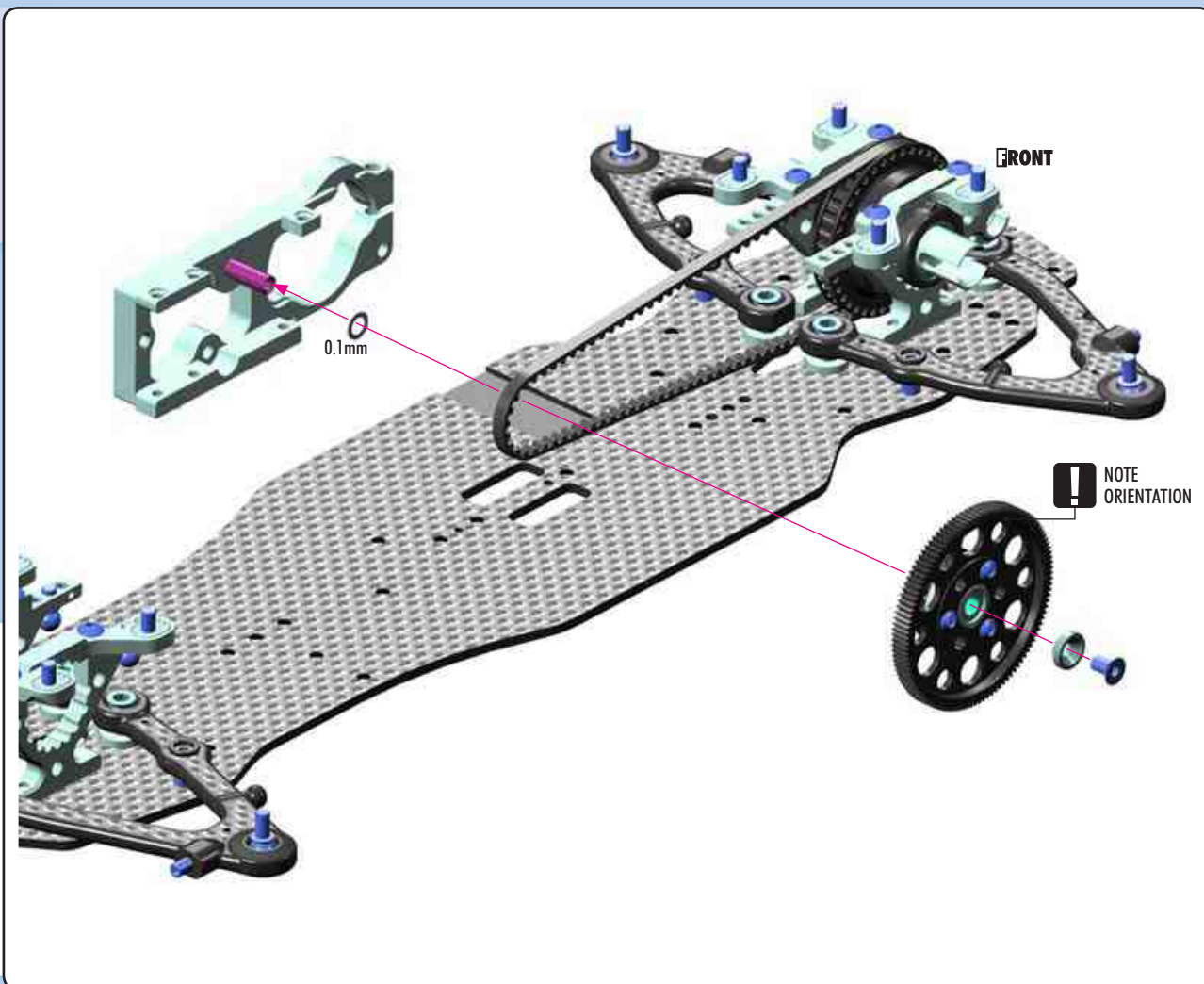
### 3. CENTRAL TRANSMISSION



903306  
SFH M3x6



962042  
S 4x6x0.1



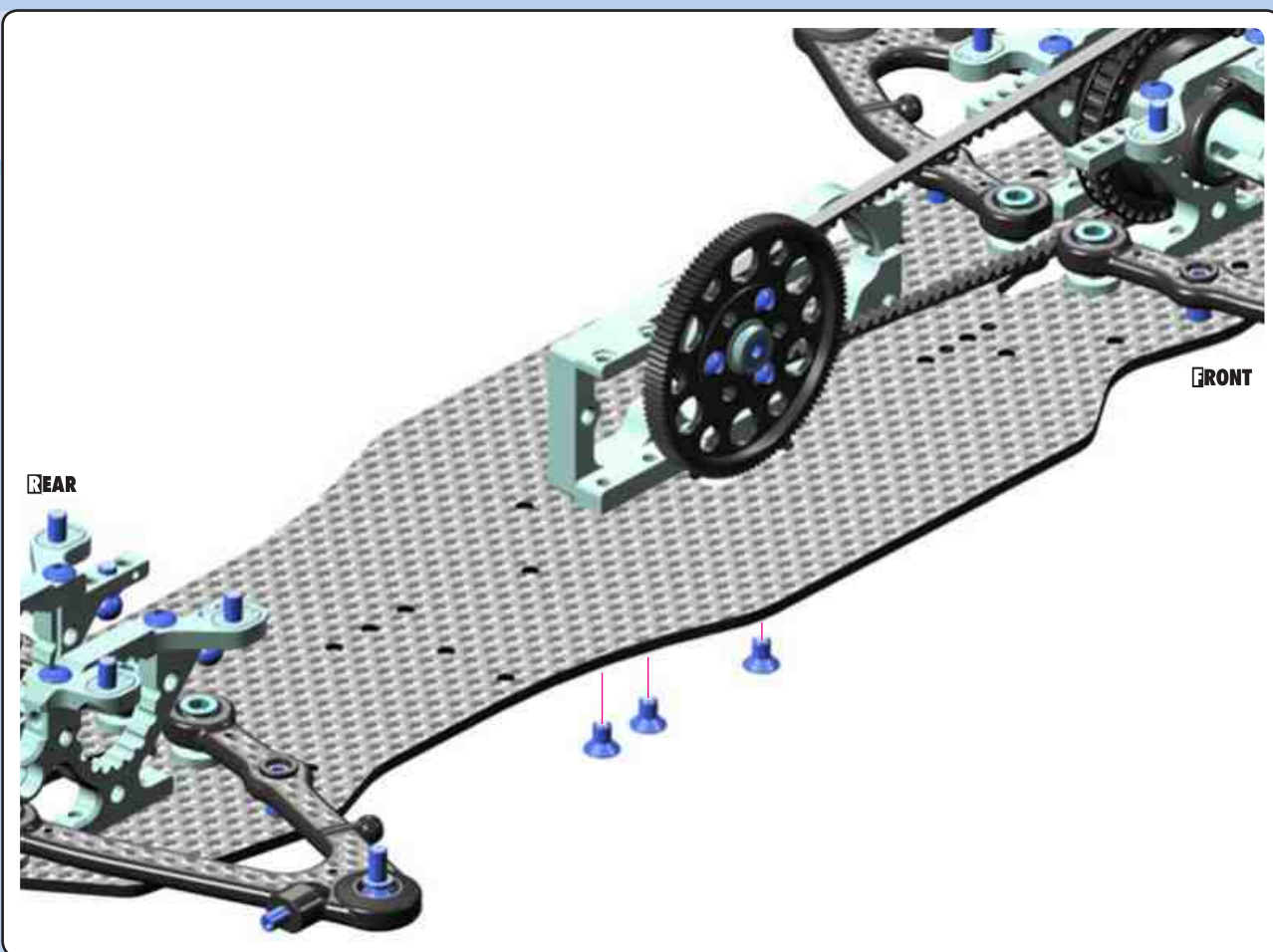
VIDEO TECH TIP



BELT TENSION  
ADJUSTMENT



903305  
SFH M3x5





# 3. CENTRAL TRANSMISSION

## OPTION



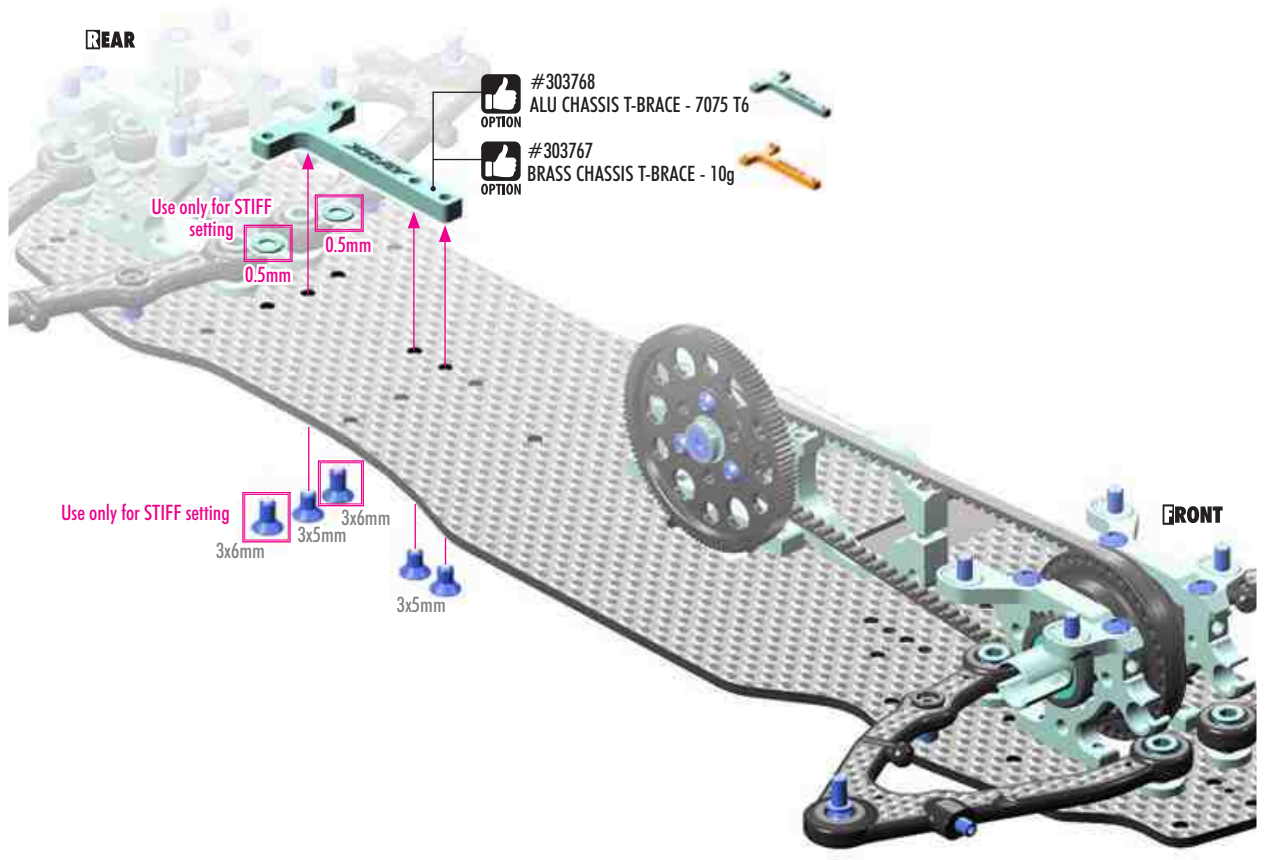
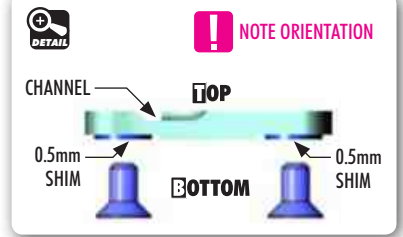
303121-K  
SHIM 3x6x0.5



903305  
SFH M3x5



903306  
SFH M3x6

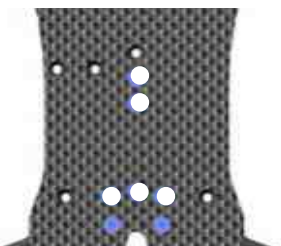


### CHASSIS FLEX ADJUSTMENT

The brace provides chassis flex adjustment possibilities depending on which screws are connected.

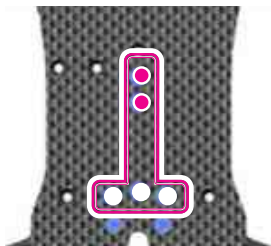
#### SOFT - NO BRACE

When the brace is not installed, the car will have the most steering and rotation. However, the car will be more difficult to drive as it is less stable. Recommended for medium-high traction conditions and for small, technical tracks with many hairpin corners.



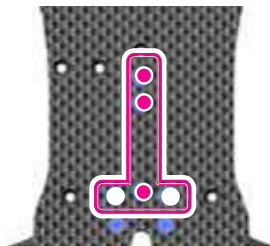
#### SOFT - MEDIUM

Install the brace using only the 2 forward bottom centerline screws (as shown). This gives improved on-power stability but still offers great off-power steering and rotation. Recommended for medium-high traction conditions and for small, technical tracks with many hairpin corners.



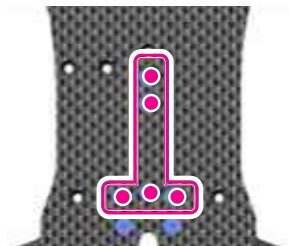
#### MEDIUM

Install the brace using all 3 bottom centerline screws (as shown). This gives improved on-power stability and traction, but makes the car push more off-power. Recommended for low- or high-traction conditions where stability and traction is needed.



#### STIFF

In addition to installing all 3 bottom centerline screws, also install the 2 rear side screws but with 0.5mm shims between the brace and the chassis. This setting gives maximum stability.

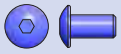


VIDEO TECH TIP

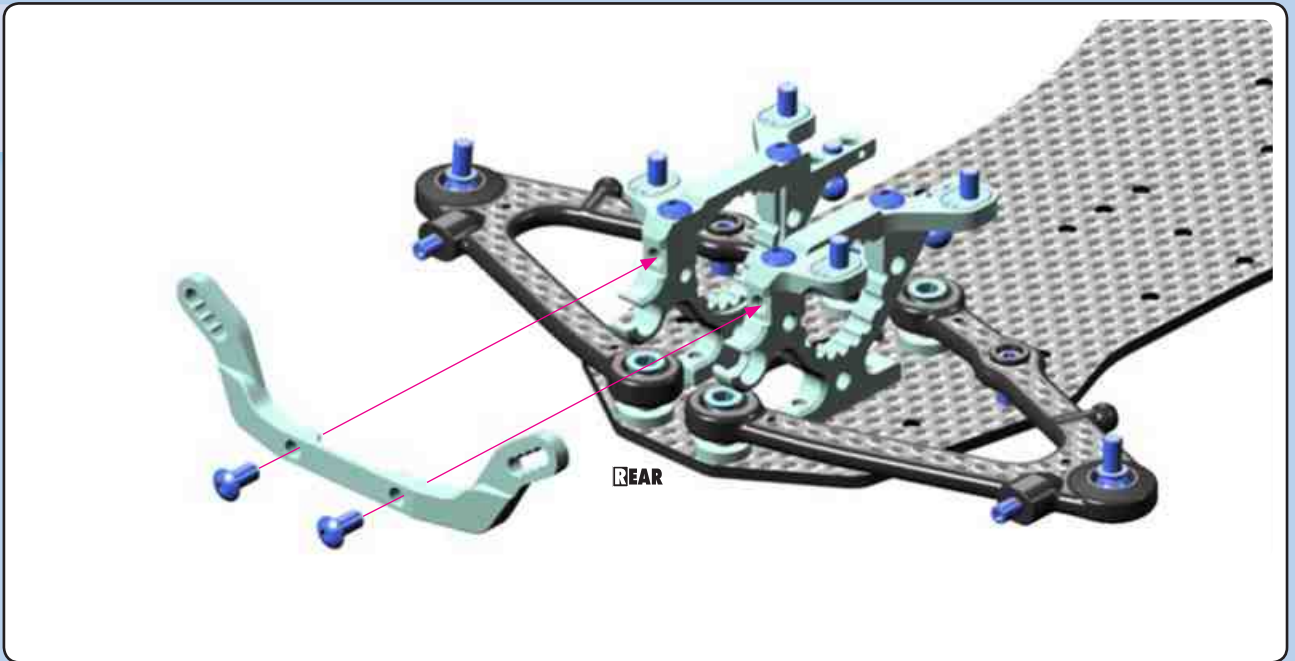


CHASSIS & TOP DECKS

### 3. CENTRAL TRANSMISSION



902306  
SH M3x6



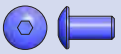
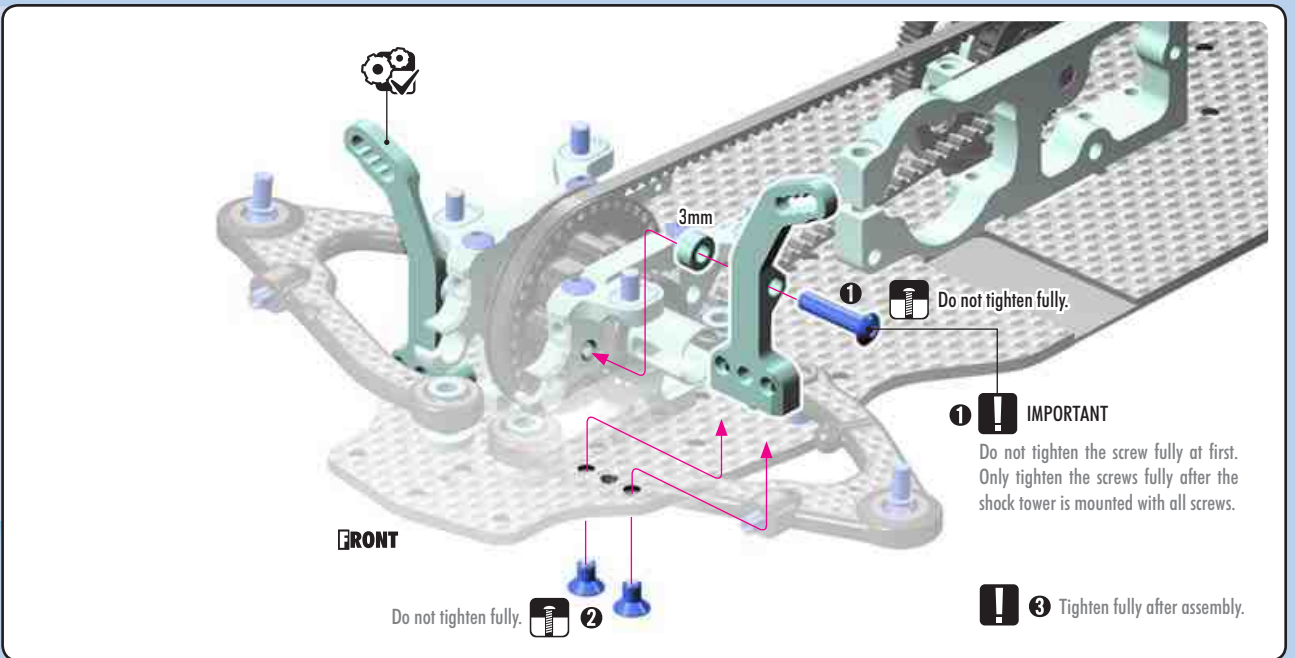
303125-K  
SHIM 3x6x3



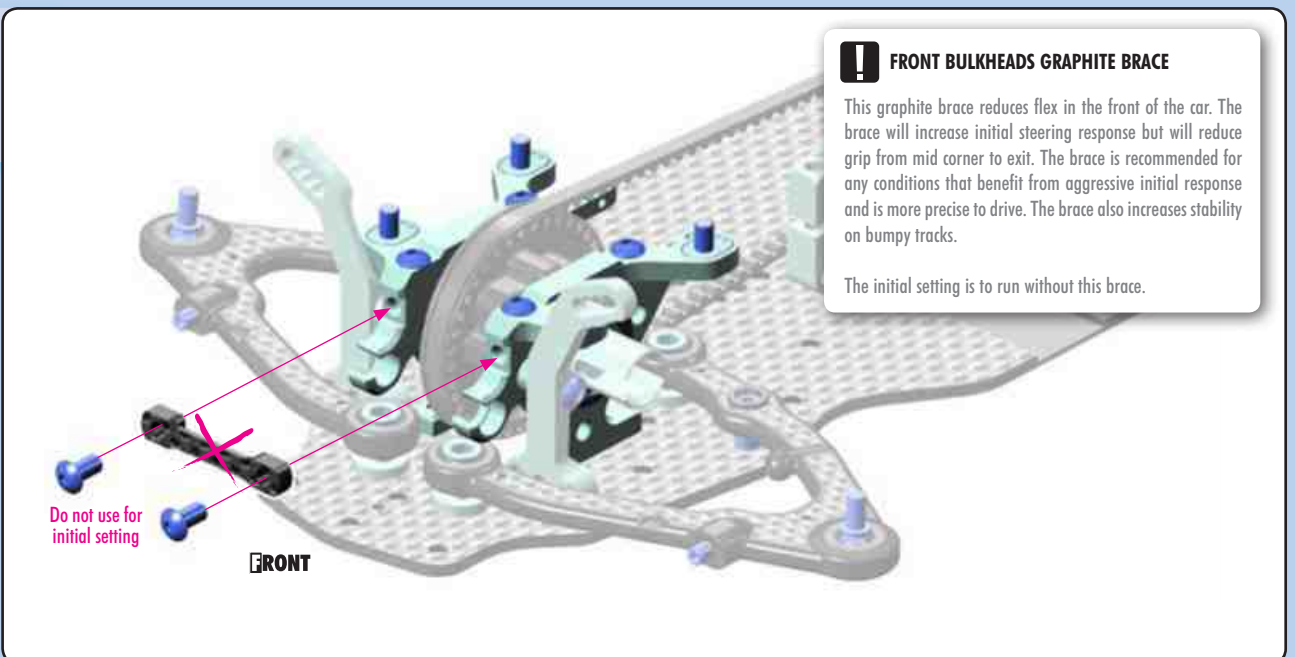
902314  
SH M3x14



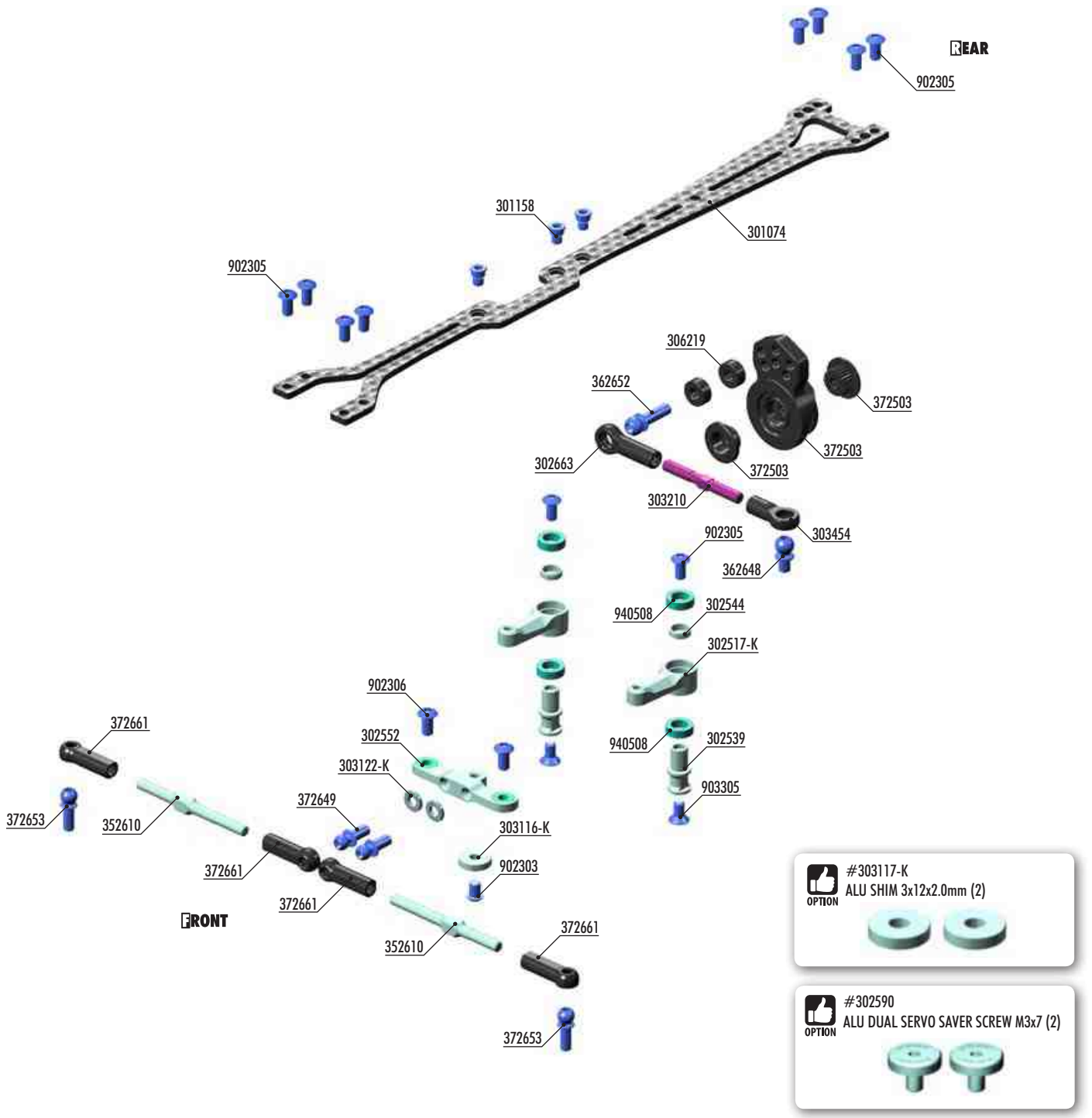
903305  
SFH M3x5



902306  
SH M3x6



# 4. STEERING



**#30317-K**  
 ALU SHIM 3x12x2.0mm (2)  
 OPTION

**#302590**  
 ALU DUAL SERVO SAVER SCREW M3x7 (2)  
 OPTION

**#302571**  
 X4 GRAPHITE STEERING PLATE SET  
 OPTION

**#301076**  
 GRAPHITE UPPER DECK - SPLIT REAR - 2.0mm  
 OPTION

**#301075**  
 GRAPHITE UPPER DECK - SPLIT FRONT - 2.0mm  
 OPTION

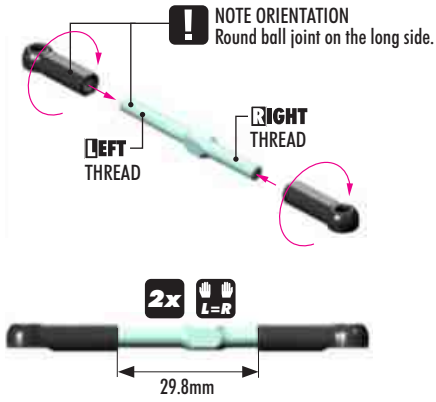
**BAG**  
**04**

301074	X4F GRAPHITE UPPER DECK 2.0MM	362648	BALL END 4.9MM WITH THREAD 4MM (2)
301158	TOP DECK HEX SCREW M3x5.5 - HUDY SPRING STEEL™ (2)	362652	BALL END 4.9MM WITH THREAD 10MM (2)
302517-K	X4 ALU DUAL STEERING ARM - BLACK + BALL-BEARINGS (2)	372503	COMPOSITE SERVO SAVER - X-STIFF - SET - V2
302539	X4 ALU STEERING POST FOR DUAL SERVO SAVER (2)	372649	BALL END 4.2MM WITH 4MM THREAD (2)
302544	ALU SHIM FOR RADIAL PLAY ADJUSTMENT OF STEERING ARM (2)	372653	BALL END 4.2MM WITH 8MM THREAD (2)
302552	ALU STEERING PLATE 8.0MM FOR DUAL SERVO SAVER	372661	COMPOSITE STEERING BALL-JOINT OPEN 4.2 MM (4)
302663	COMPOSITE BALL JOINT 5 MM - OPEN - V2 (8)		
303116-K	ALU SHIM 3x10x2.0MM - BLACK (2)	902303	HEX SCREW SH M3x4 SMALL HEAD - STAINLESS (10)
303122-K	ALU SHIM 3x6x1.0MM - BLACK (10)	902305	HEX SCREW SH M3x5 (10)
303210	REAR TURNBUCKLE L/R 26 MM - HUDY SPRING STEEL (2)	902306	HEX SCREW SH M3x6 (10)
303454	BALL JOINT 4.9MM - OPEN (4)	903305	HEX SCREW SFH M3x5 (10)
306219	COMPOSITE SET OF SERVO SHIMS (4)	940508	BALL-BEARING 5x8x2.5 RUBBER-SEALED - OILED (2)
352610	ADJ. TURNBUCKLE M3 L/R 45 MM - SPRING STEEL - V3 (2)		



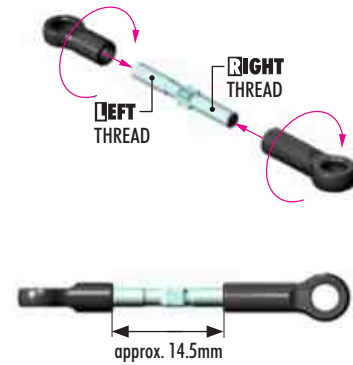
# 4. STEERING

## 2x STEERING LINKS



## SERVO LINK

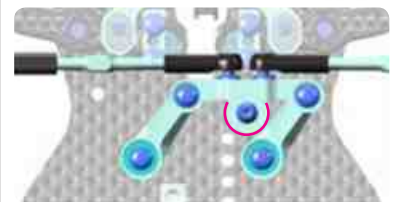
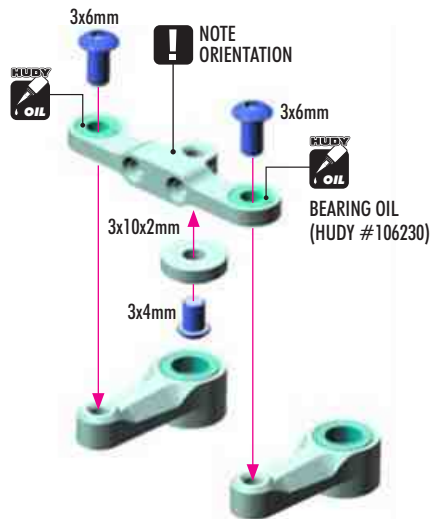
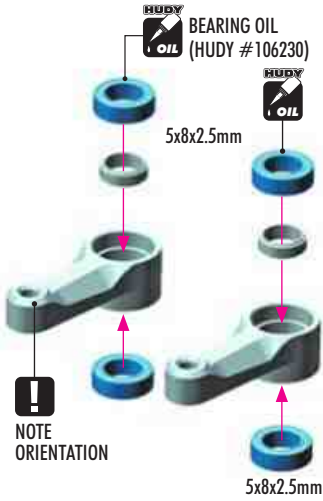
Adjust servo link to fit your servo.



VIDEO TECH TIP



STEERING SYSTEM



### STEERING LOCK ADJUSTMENT

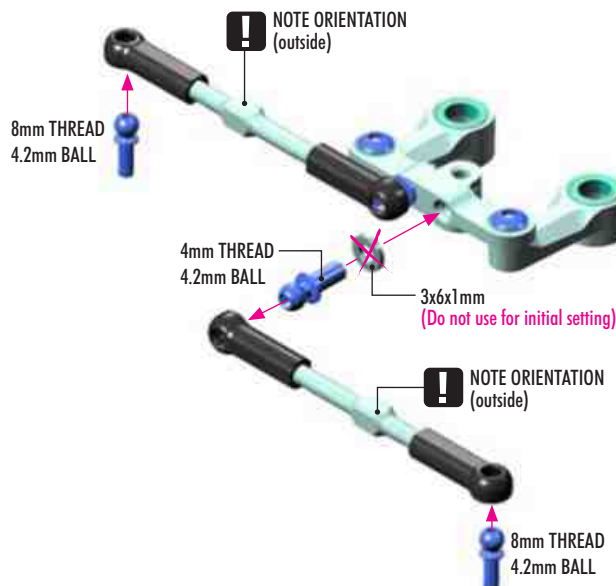
Steering lock angle is adjusted by the size of the shim which attaches to the bottom of the steering.

The kit includes a 10mm OD shim, which limits the physical steering lock to approx. 26°.

An optional 12mm shim is available, which will limit the physical steering lock to approx. 23°.

More steering lock will increase steering - especially in tight corners - but also reduces cornering speeds and makes the car more difficult to drive.

## 2x L=R



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





# 4. STEERING

**IO**

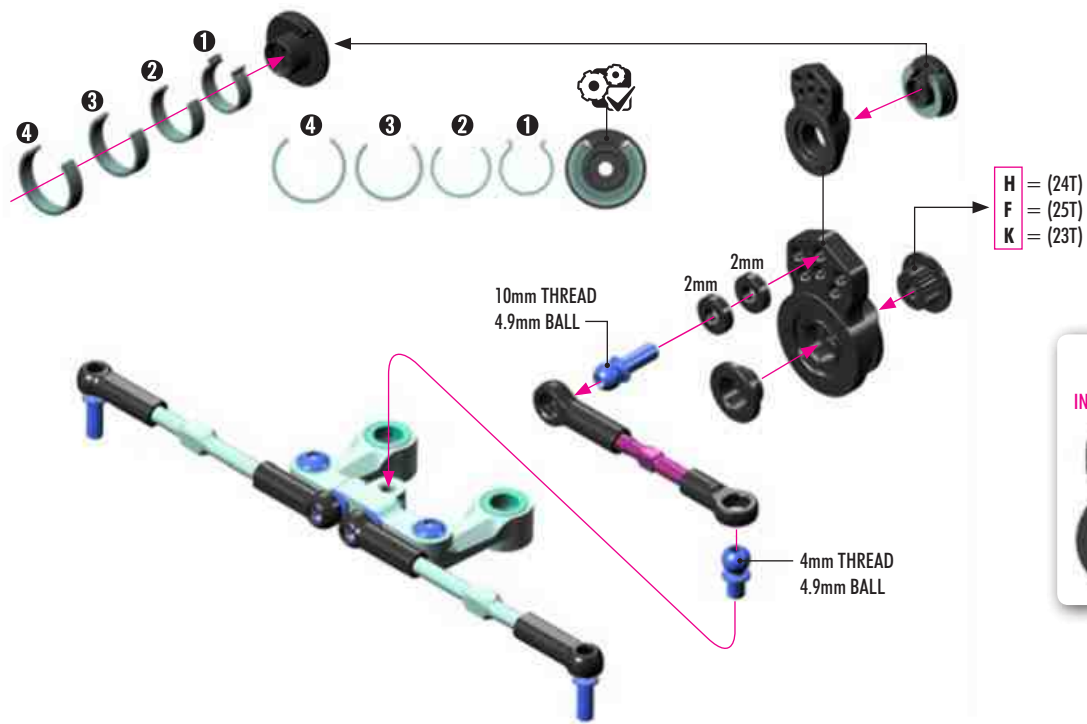
306219  
SHIM 3x6x2



VIDEO TECH TIP



STEERING SYSTEM



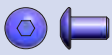
For more in-corner steering and better steering response, aluminum servo horns may be used.

ALU SERVO HORNS - OFFSET	
#293491	KO, Sanwa - 23T
#293492	Hitec - 24T
#293493	Futaba - 25T
CLAMP ALU SERVO HORNS - OFFSET	
#293401	KO, Sanwa - 23T
#293402	Hitec - 24T
#293403	Futaba - 25T

HUDY ALU SERVO HORNS	
#293497	KO, Sanwa - 23T
#293498	Hitec - 24T
#293499	Futaba - 25T
HUDY CLAMP ALU SERVO HORNS	
#293404	KO, Sanwa - 23T
#293405	Hitec - 24T
#293406	Futaba - 25T

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

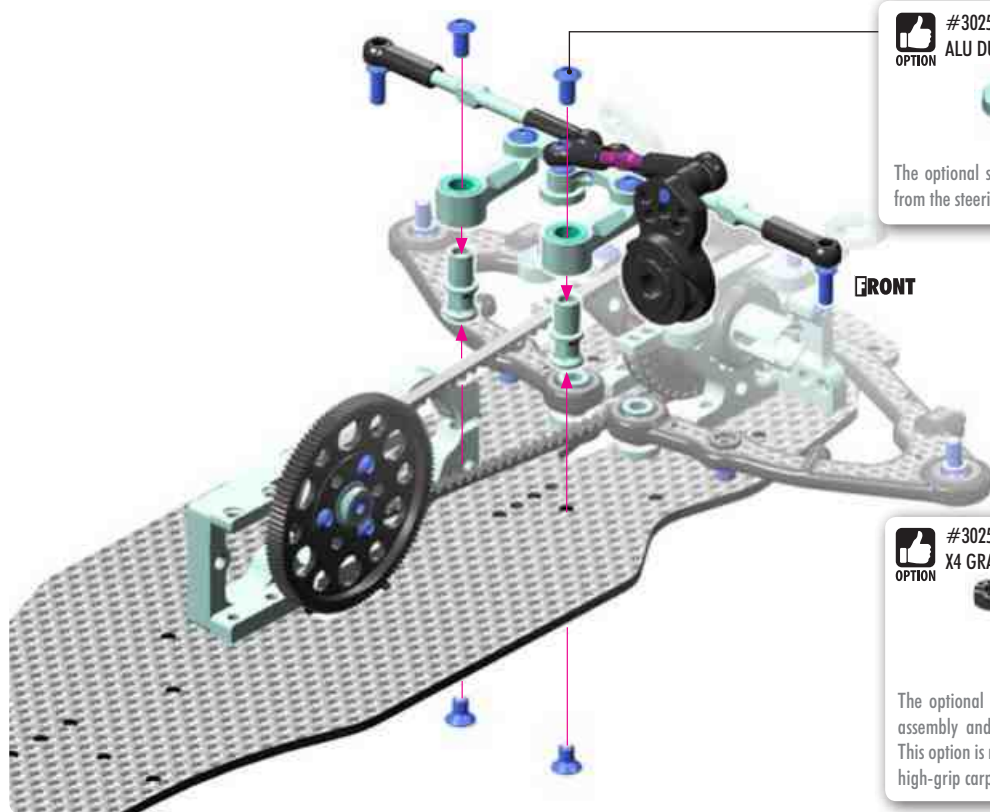
**IMPORTANT!** When an aluminum horn is used, the steering servo saver is not used. This increases the risk of breaking the servo in serious crashes.



902305  
SH M3x5



903305  
SFH M3x5



**OPTION** #302590  
ALU DUAL SERVO SAVER SCREW M3x7 (2)



The optional screw removes excessive radial play from the steering.

**OPTION** #302571  
X4 GRAPHITE STEERING PLATE SET



The optional graphite bridge stiffens the steering assembly and improves initial steering response. This option is mainly recommended for medium - to high-grip carpet racing.

# 4. STEERING



301158  
SCREW 3x5.5

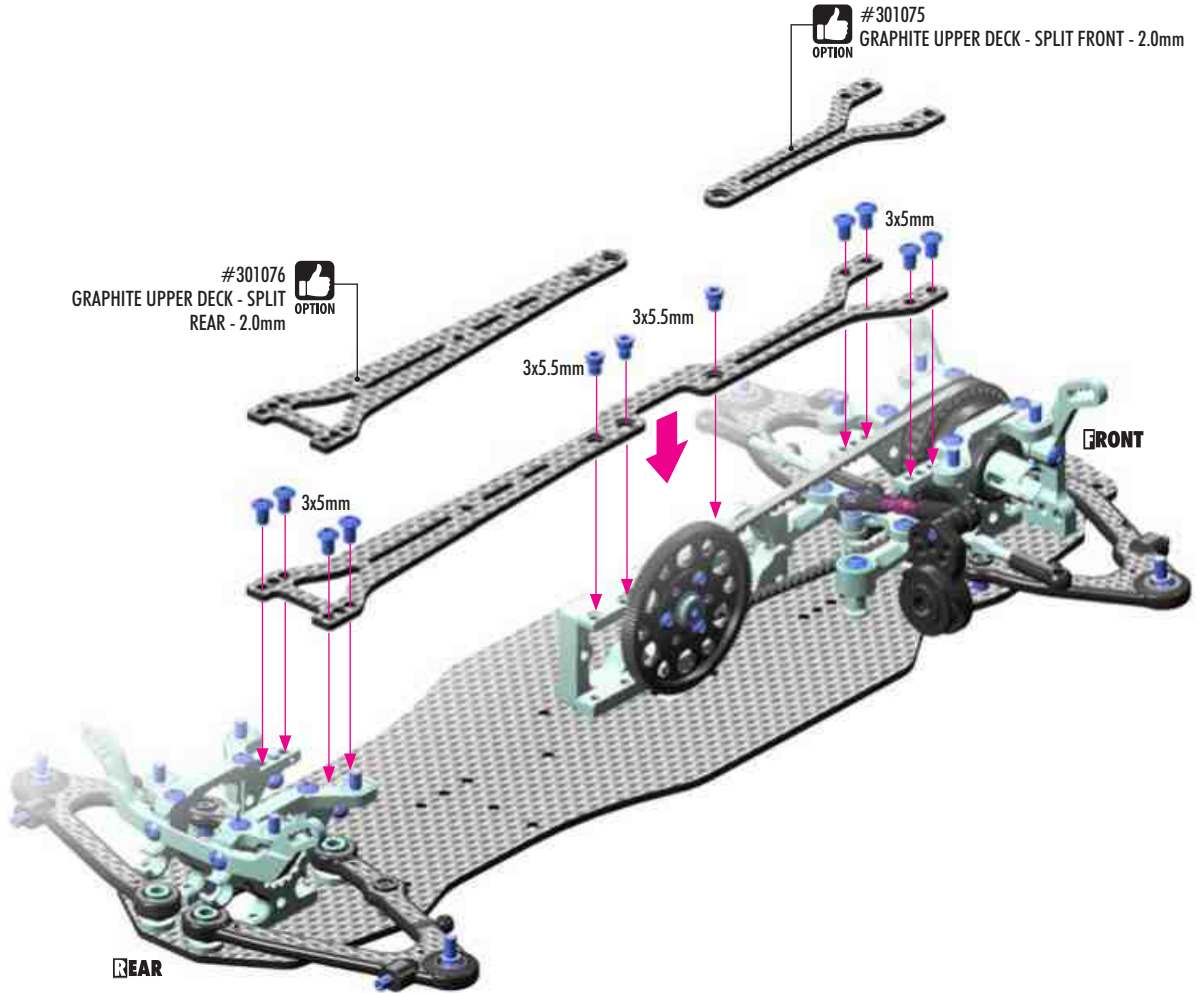


902305  
SH M3x5



#301075  
GRAPHITE UPPER DECK - SPLIT FRONT - 2.0mm

#301076  
GRAPHITE UPPER DECK - SPLIT  
REAR - 2.0mm



▶ VIDEO TECH TIP



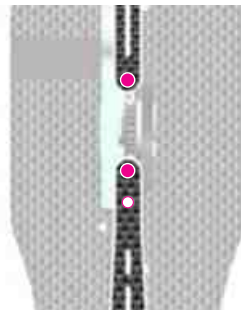
TOP DECK FLEX



## TOP DECK (SPLIT) FLEX SETTINGS

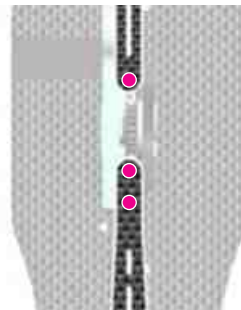
The new feature of the split top deck is the flex setting adjustment. There are two different flex setting alternatives.

SOFT



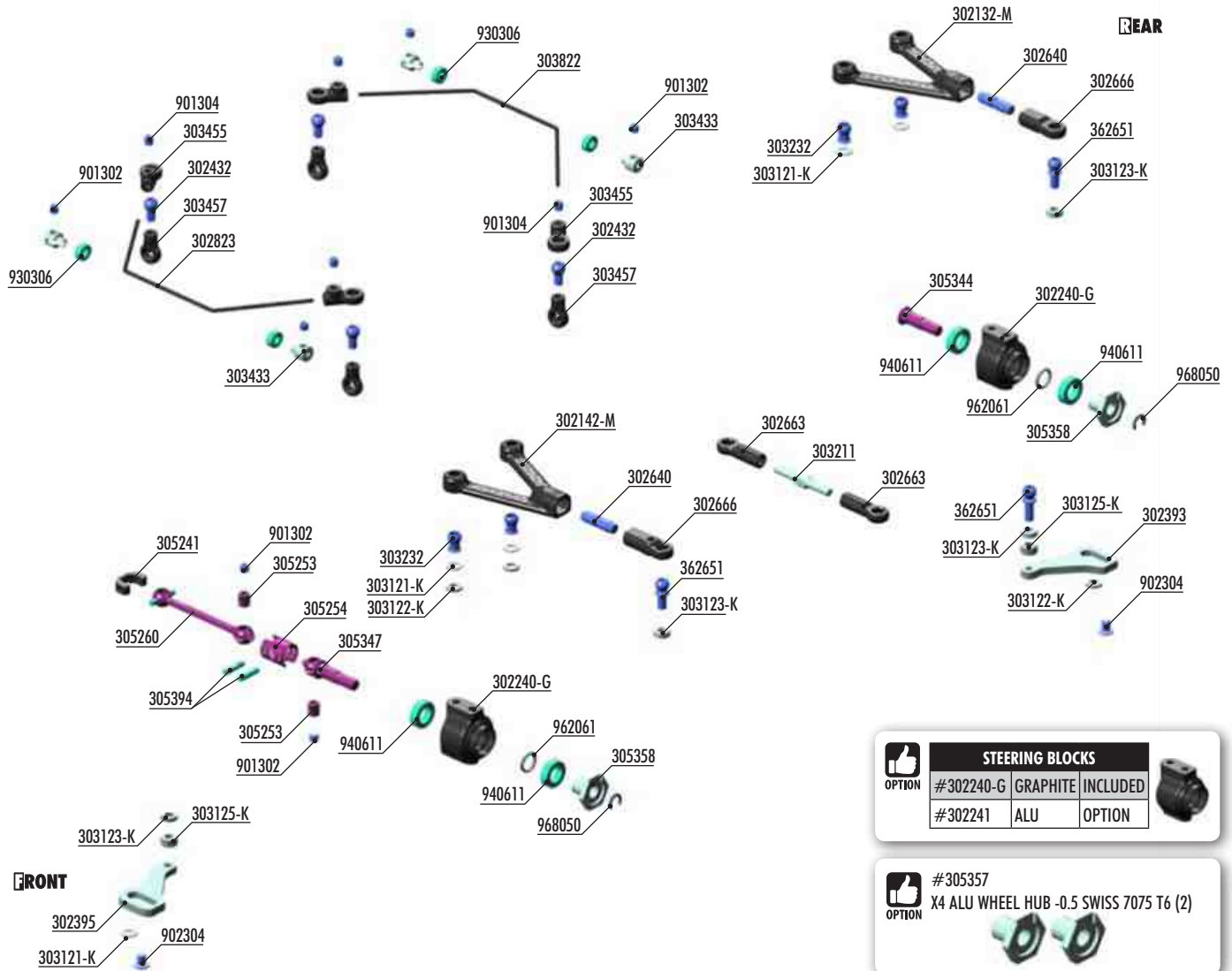
This allows maximum flex and provides maximum steering and rotation. However, the car is less stable on-power.

STIFF



This setting gives reduced flex in the rear which improves stability and on-power traction.

# 5. FRONT & REAR SUSPENSION



**FRONT**

**REAR**

**OPTION**

OFFSET WHEEL SHIMS		
#305380	0.75mm	OPTION
#305382	0.5mm	OPTION
#305381	1.0mm	OPTION

**OPTION** #303211-0 ALU TURNBUCKLE L/R 30mm ORANGE - SWISS 7075 T6 (2)

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

**OPTION**

STEERING BLOCKS		
#302240-G	GRAPHITE	INCLUDED
#302241	ALU	OPTION

**OPTION** #305357 X4 ALU WHEEL HUB -0.5 SWISS 7075 T6 (2)

**OPTION** #305306 ECS BB DRIVE SHAFT 58mm - SET  
#305307 ECS BB DRIVE SHAFT 59mm - SET

#304972 #305306 #305307

**BAG**  
**05**

- |          |  |        |  |
|----------|--|--------|--|
| 302132-M | X4 COMPOSITE CFF™ CARBON-FIBER FUSION UPPER ARM - MEDIUM - FR/RL | 305253 | ECS DRIVE SHAFT COUPLING FOR 2MM PIN - HUDY SPRING STEEL™    |
| 302142-M | X4 COMPOSITE CFF™ CARBON-FIBER FUSION UPPER ARM - MEDIUM - FL/RR | 305254 | ECS (ES) DRIVE SHAFT CASE FOR 2MM PIN - HUDY SPRING STEEL™   |
| 302240-G | X4 COMPOSITE STEERING BLOCK - GRAPHITE                           | 305260 | X4 ECS DRIVE SHAFT 58MM FOR 2MM PIN - HUDY SPRING STEEL™ (1) |
| 302393   | X4 ALU REAR ARS PLATE - SWISS 7075 T6 (2)                        | 305344 | X4F DRIVE AXLE - HUDY SPRING STEEL™                          |
| 302395   | X4F ALU FRONT STEERING PLATE - SWISS 7075 T6 (2)                 | 305347 | X4 ECS DRIVE AXLE FOR 2MM PIN - HUDY SPRING STEEL™           |
| 302432   | STEEL BALL END 4.9MM WITH 4MM THREAD (2)                         | 305358 | X4 ALU WHEEL HUB - SWISS 7075 T6 (2)                         |
| 302640   | ADJUSTABLE CAMBER SCREW 14MM M4 L/R - HUDY SPRING STEEL™ (2)     | 305360 | X4 ECS DRIVE SHAFT 58MM - HUDY SPRING STEEL™ - SET           |
| 302663   | COMPOSITE BALL JOINT 4.9MM - OPEN - V2 (8)                       | 305394 | ECS DRIVE SHAFT PIN 2 x 9 WITH FLAT SPOT (2)                 |
| 302666   | COMPOSITE BALL JOINT 4.9MM F + R - OPEN (2 + 2)                  | 362651 | BALL END 4.9MM WITH THREAD 8MM (2)                           |
| 302823   | X4 ANTI-ROLL BAR - FRONT 1.3 MM                                  |        |  |
| 303121-K | ALU SHIM 3x6x0.5MM - BLACK (10)                                  | 901302 | HEX SCREW SB M3x2.5 (10)                                     |
| 303122-K | ALU SHIM 3x6x1.0MM - BLACK (10)                                  | 901304 | HEX SCREW SB M3x4 (10)                                       |
| 303123-K | ALU SHIM 3x6x2.0MM - BLACK (10)                                  | 902304 | HEX SCREW SH M3x4 - STAINLESS (10)                           |
| 303125-K | ALU SHIM 3x6x3.0MM - BLACK (10)                                  | 302306 | BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)                |
| 303211   | ALU ADJUSTABLE TURNBUCKLE L/R 30 MM - SWISS 7075 T6 (2)          | 930306 | BALL-BEARING 6x10x3 RUBBER SEALED - OIL (2)                  |
| 303232   | X4 UPPER ARM BALL UNIVERSAL 4.9MM - HUDY SPRING STEEL™ (2)       | 940611 | WASHER S 6x7.5x1.0 (10)                                      |
| 303433   | ALU ANTI-ROLL BAR BUSHING - 6MM (2)                              | 962061 | C-CLIP 5 (10)  |
| 303455   | COMPOSITE ANTI-ROLL BAR BALL JOINT 4.9 MM (4)                    | 968050 |  |
| 303457   | BALL JOINT 4.9MM - EXTRA SHORT OPEN (4)                          |        |  |
| 303822   | X4 ANTI-ROLL BAR - REAR 1.2 MM                                   |        |  |
| 305241   | DRIVE SHAFT REPLACEMENT CAP 3.5 MM (4)                           |        |  |

# 5. FRONT & REAR SUSPENSION



901302  
SB M3x2.5



305394  
P 2x9

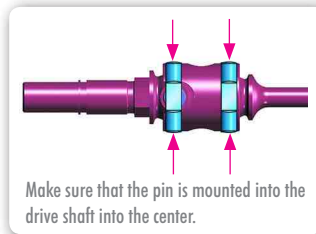
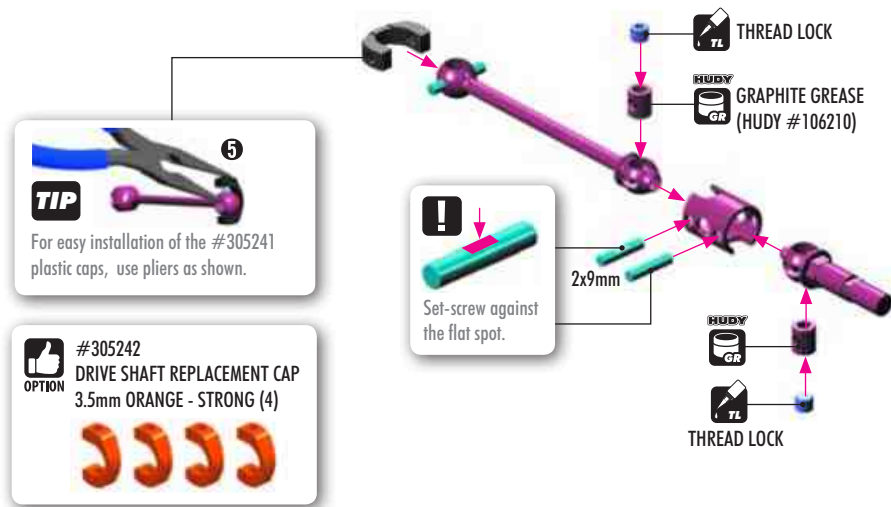


VIDEO TECH TIP



DRIVE SHAFTS

## 2x FRONT TRANSMISSION - ECS DRIVE SHAFT



### FRONT ECS DRIVE SHAFTS

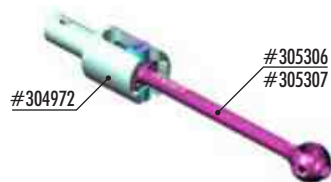
#305360	58mm - ECS	INCLUDED
#305306	58mm - BB ECS	OPTION
#305307	59mm - BB ECS	OPTION

Longer driveshafts **59mm Front** make the car easier to drive by creating more traction and better stability, felt mostly in chicanes. However, the car will also understeer more than when using the shorter **58mm Front** driveshafts that create more steering and make the car more aggressive. Both left and right should **ALWAYS** be the same length at each end of the car (FL = FR).

59mm Front shafts are recommended for **carpet tracks** and **large asphalt** tracks.  
58mm Front shafts are recommended for **low-traction** or **tight asphalt** tracks.



#305306 ECS BB DRIVE SHAFT 58mm - SET  
#305307 ECS BB DRIVE SHAFT 59mm - SET



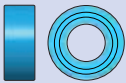
The optional ECS ball-bearing driveshafts feature a new ball-bearing assembly at the inner end of the driveshaft where it inserts into the outdrive. The friction between the driveshaft and the outdrive is greatly reduced, which gives smoother handling especially on fast direction changes such as chicanes. The reduced friction also helps to increase cornering speeds.

The new ball-bearing driveshafts must be used with optional:  
#304972 ALU GEAR DIFF CVD BB DRIVESHAFT ADAPTER - SWISS 7075 T6 (2)



# 5. FRONT & REAR SUSPENSION

## 2x REAR TRANSMISSION



940611  
BB 6x1.0x3



962061  
S 6x7.5x1



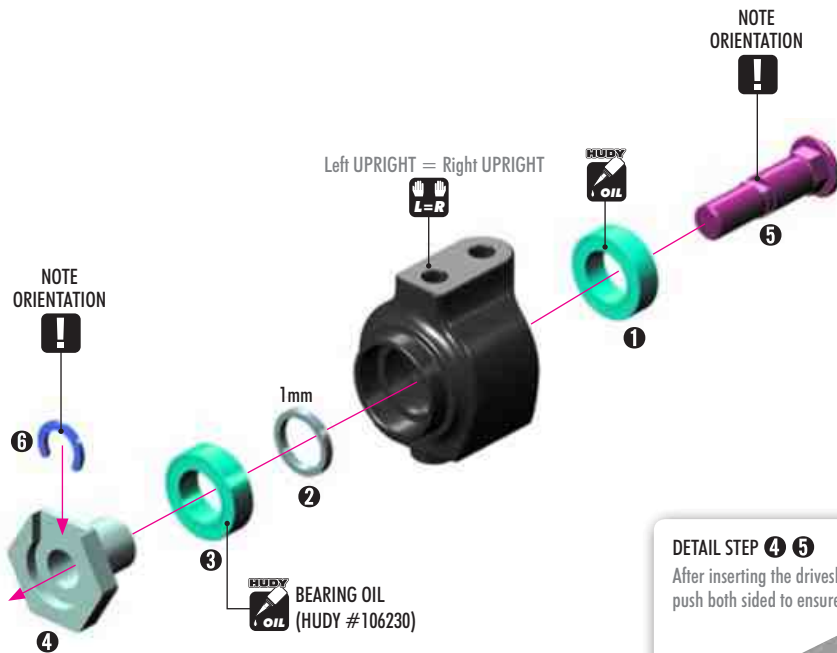
968050  
C5



VIDEO TECH TIP



FRONT & REAR  
UPRIGHTS



### DETAIL STEP 4 5

After inserting the driveshaft through the wheel hub, push both sides to ensure they are properly aligned.



### DETAIL STEP 6

**INSTALL** the C-CLIP with Combination pliers Tool (HUDY #189020).

Before installing the C-clip, make sure that the slot on the axle is in the line with the cut out on the hex.

**REMOVE** the C-CLIP with Screwdriver Tool 3.0mm (HUDY #153055).



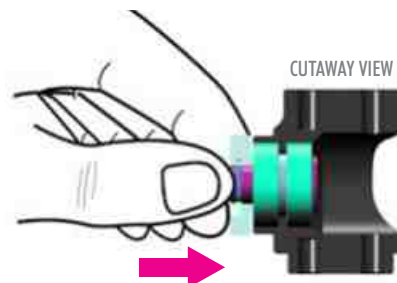
OFFSET WHEEL SHIMS			
	#305380	0.75mm	OPTION
	#305382	0.5mm	OPTION
	#305381	1.0mm	OPTION

To adjust the width of the car, optional wheel shims can be quickly added or removed.

#305357  
X4 ALU WHEEL HUB -0.5mm SWISS 7075 T6 (2)

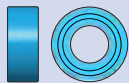


STEERING BLOCKS			
	#302240-G	GRAPHITE	INCLUDED
	#302241	ALU	OPTION



After inserting the clip, push both sides again to ensure that there is sufficient axial play.

# 5. FRONT & REAR SUSPENSION



940611  
BB 6x10x3

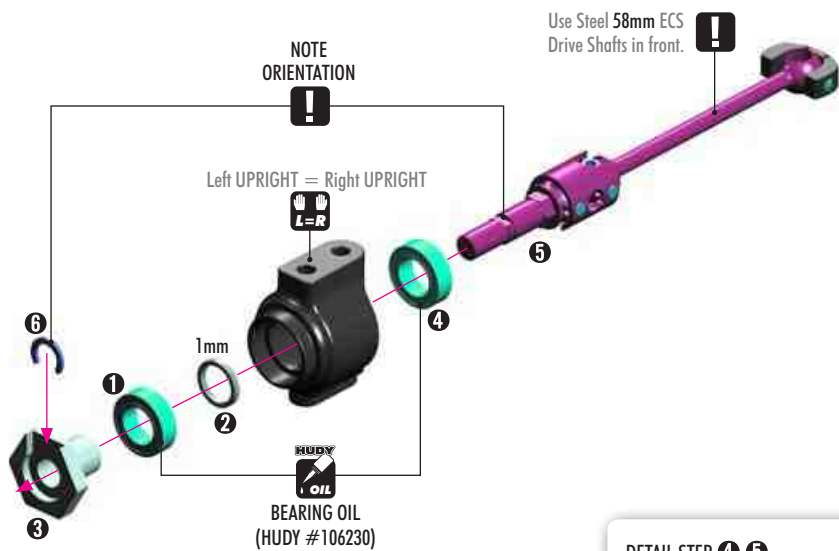


962061  
S 6x7.5x1



968050  
C5

## FRONT TRANSMISSION



**DETAIL STEP 4 5**  
After inserting the driveshaft through the wheel hub, push both sides to ensure they are properly aligned.

**DETAIL STEP 6**

**INSTALL** the C-clip with Combination pliers Tool (HUDY #189020).

Before installing the C-clip, make sure that the slot on the axle is in the line with the cut out on the hex.

**REMOVE** the C-clip with Screwdriver Tool 3.0mm (HUDY #153055).

**NOTE ORIENTATION**

**OFFSET WHEEL SHIMS**

#305380	0.75mm	OPTION
#305382	0.5mm	OPTION
#305381	1.0mm	OPTION

To adjust the width of the car, optional wheel shims can be quickly added or removed.

**#305357**  
X4 ALU WHEEL HUB -0.5mm SWISS 7075 T6 (2)

**STEERING BLOCKS**

#302240-G	GRAPHITE	INCLUDED
#302241	ALU	OPTION

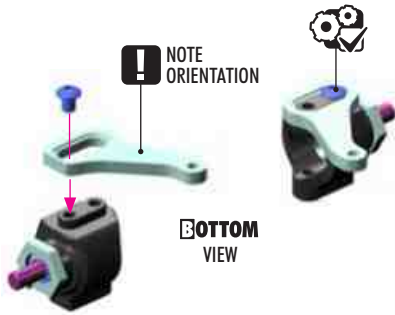
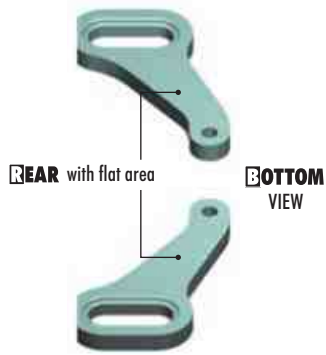
**CUTAWAY VIEW**

After inserting the clip, push both sides again to ensure that there is sufficient axial play.

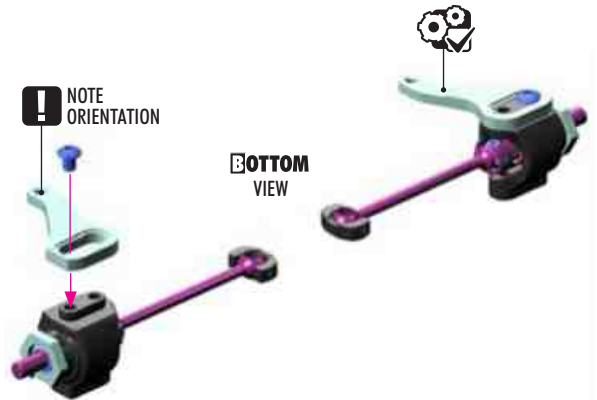
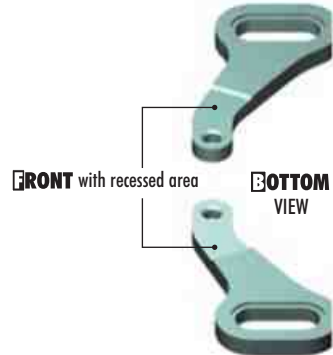
# 5. FRONT & REAR SUSPENSION



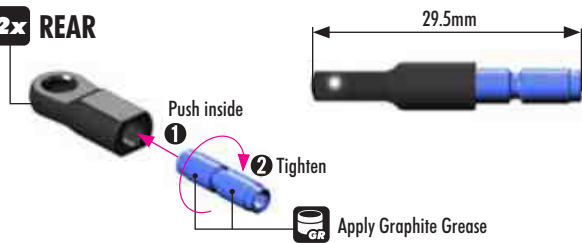
## 2x REAR TRANSMISSION



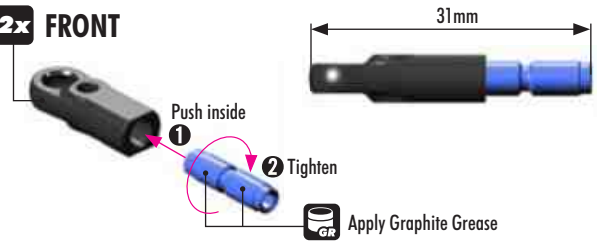
## 2x FRONT TRANSMISSION



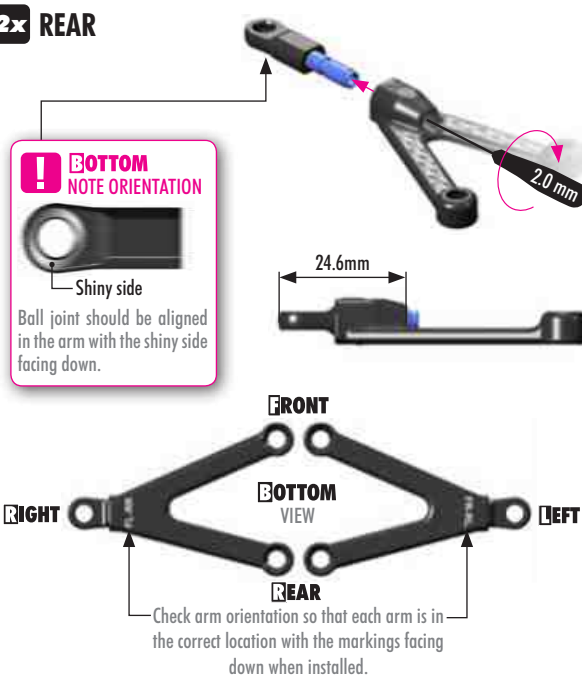
## 2x REAR



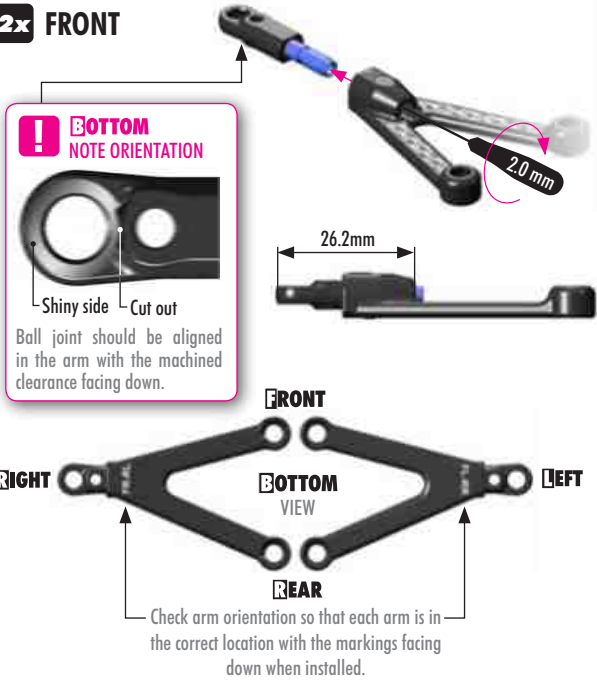
## 2x FRONT



## 2x REAR



## 2x FRONT



VIDEO TECH TIP

CAMBER & UPPER ARMS

# 5. FRONT & REAR SUSPENSION



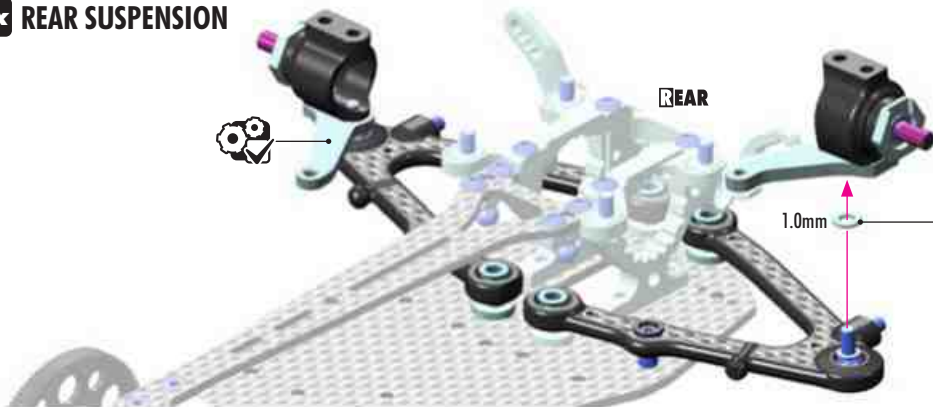
303122-K  
SHIM 3x6x1

VIDEO TECH TIP



ROLL-CENTER

## 2x REAR SUSPENSION



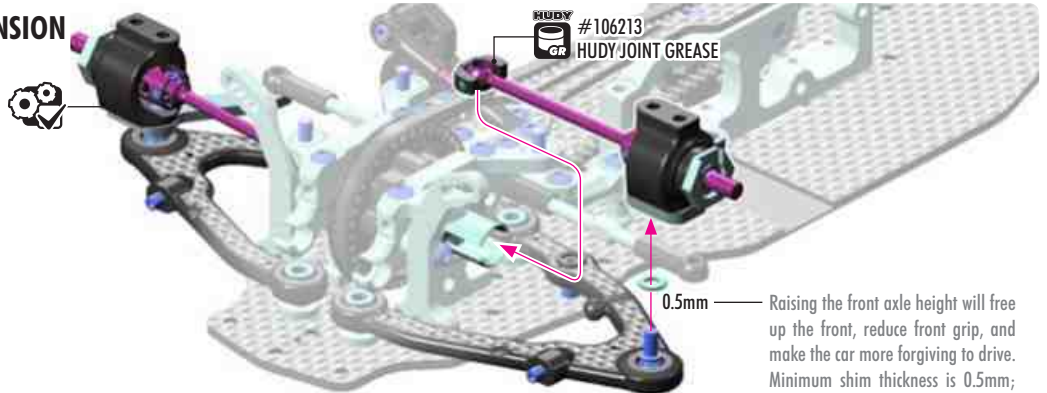
1.0mm

Raising the rear axle height will free up the rear and improve rotation and off-power steering. Mainly recommended for medium- to high-traction asphalt surfaces. Minimum shim thickness is 0.5mm; do not use thinner.



303121-K  
SHIM 3x6x0.5

## 2x FRONT SUSPENSION



HUDY #106213  
GR HUDY JOINT GREASE

0.5mm

Raising the front axle height will free up the front, reduce front grip, and make the car more forgiving to drive. Minimum shim thickness is 0.5mm; do not use thinner.



303121-K  
SHIM 3x6x0.5



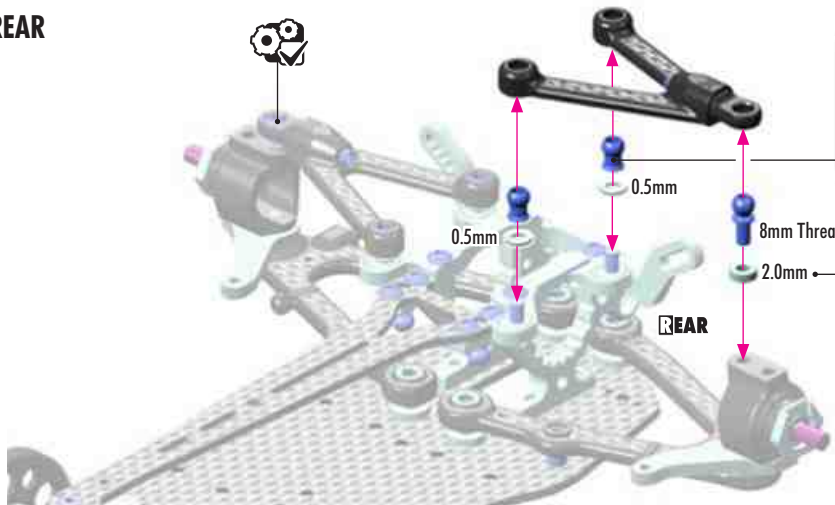
303123-K  
SHIM 3x6x2

VIDEO TECH TIP



ROLL-CENTER

## 2x REAR



0.5mm

0.5mm

8mm Thread

2.0mm

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



Rear upper arm location affects the rear roll-center and camber gain. Raising the arm with thicker shims on the upper clamps will lower the rear roll-center and decrease camber gain. Reducing the shim height on the upper clamps has the same effect as increasing the shim height on the outside.



303121-K  
SHIM 3x6x0.5

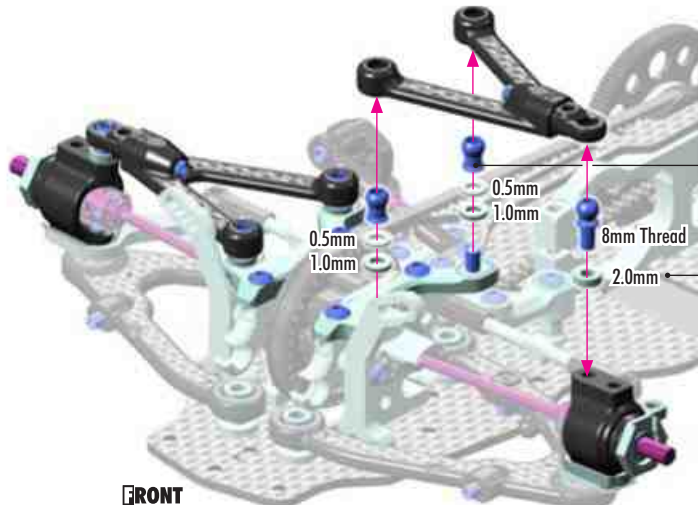


303122-K  
SHIM 3x6x1



303123-K  
SHIM 3x6x2

## 2x FRONT



0.5mm

0.5mm

1.0mm

8mm Thread

2.0mm

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



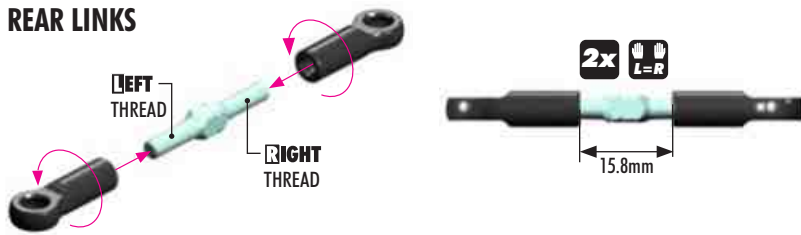
Front upper arm location affects the front roll-center and camber gain. Raising the arms with thicker shims on the upper clamps will lower the front roll-center and decrease camber gain. Reducing the shim height on the upper clamps has the same effect as increasing the shim height on the outside.

FRONT



# 5. FRONT & REAR SUSPENSION

## 2x REAR LINKS



**OPTION** #303211-O ALU TURNBUCKLE L/R 30mm ORANGE - SWISS 7075 T6 (2)



303123-K SHIM 3x6x2



303125-K SHIM 3x6x3

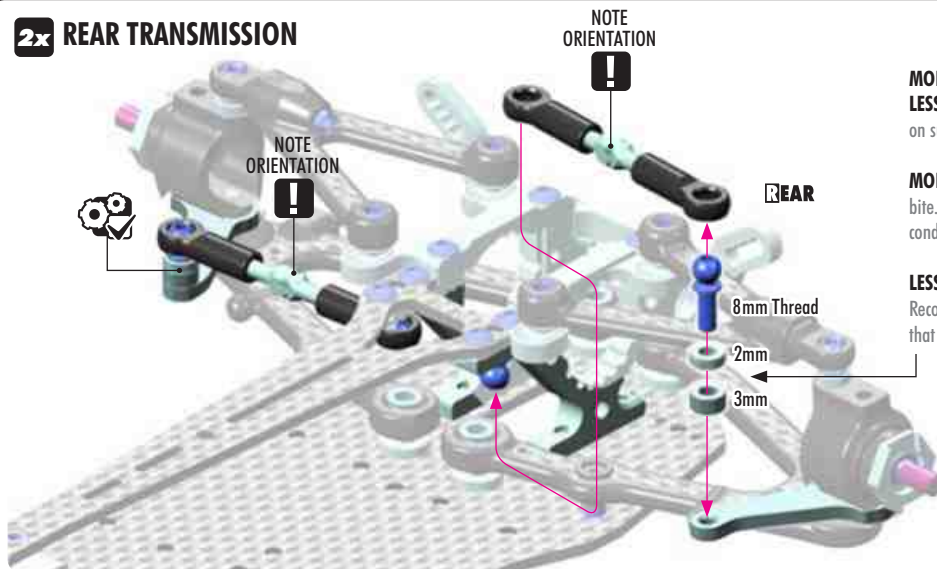


VIDEO TECH TIP



REAR TOE-GAIN

## 2x REAR TRANSMISSION



**MORE SHIMS** gives more toe-gain on compression. **LESS SHIMS** gives less toe-gain (or even toe loss), on suspension compression.

**MORE TOE-GAIN** improves rear grip and side bite. Mainly recommended for low- to medium-grip conditions.

**LESS TOE-GAIN** reduces rear grip and side bite. Recommended for higher- grip conditions or tracks that require more steering.

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



303123-K SHIM 3x6x2



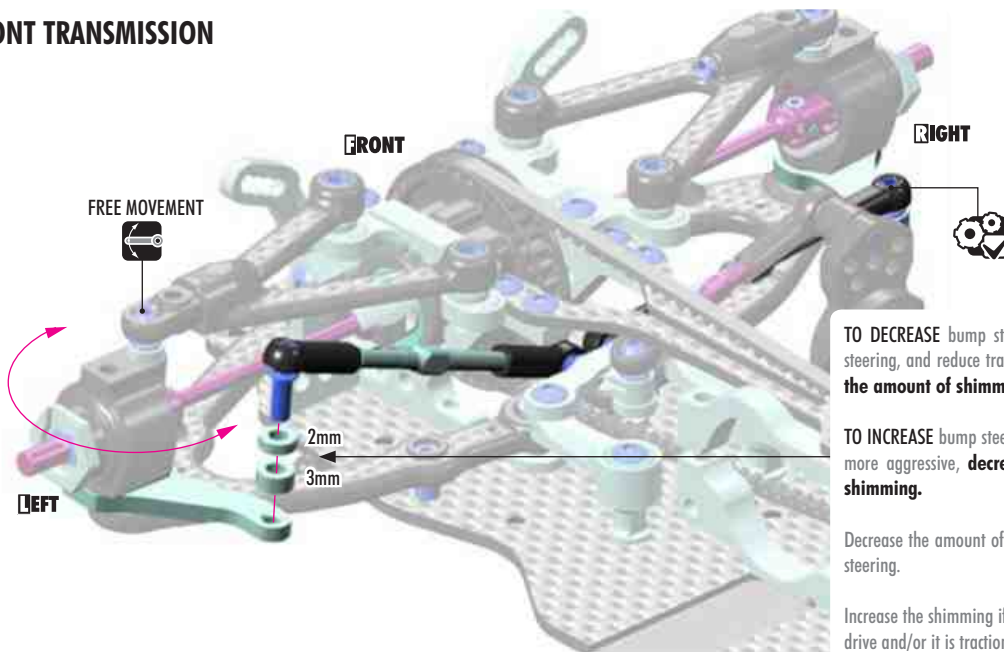
303125-K SHIM 3x6x3

VIDEO TECH TIP



STEERING SYSTEM

## 2x FRONT TRANSMISSION



**TO DECREASE** bump steer, smoothen out the steering, and reduce traction rolling: **increase the amount of shimming.**

**TO INCREASE** bump steer, to make the steering more aggressive, **decrease the amount of shimming.**

Decrease the amount of shimming to get more steering.

Increase the shimming if the car is difficult to drive and/or it is traction rolling.



930306 BB 3x6x2.5

VIDEO TECH TIP



ANTI-ROLL BARS

## 2x FRONT & REAR ANTI-ROLL BARS



REAR ANTI-ROLL BARS			
<b>OPTION</b>	#303821	1.1mm	OPTION
	#303822	1.2mm	INCLUDED
	#303823	1.3mm	OPTION
	#303824	1.4mm	OPTION

FRONT ANTI-ROLL BARS			
<b>OPTION</b>	#302821	1.1mm	OPTION
	#302822	1.2mm	OPTION
	#302823	1.3mm	INCLUDED
	#302824	1.4mm	OPTION
	#302825	1.5mm	OPTION

BEARING OIL (HUDY #106230)



# 5. FRONT & REAR SUSPENSION

**4x**

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

4mm Thread

2.0 mm

17mm

**2x REAR TRANSMISSION**

REAR

- 

901302  
SB M3x2.5
- 

901304  
SB M3x4

**REAR TRANSMISSION**

**DETAIL**

CENTER

TOP

REAR

3x4mm 4

3x2.5mm 4

3x4mm 4

3x2.5mm 4

REAR

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


**SOFTER** rear anti-roll bar:  
Generates more side traction. Mainly recommended for low-grip asphalt tracks.

**STIFFER** rear anti-roll bar:  
Helps the car stay flatter and reduces traction rolling on high-grip surfaces.

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.

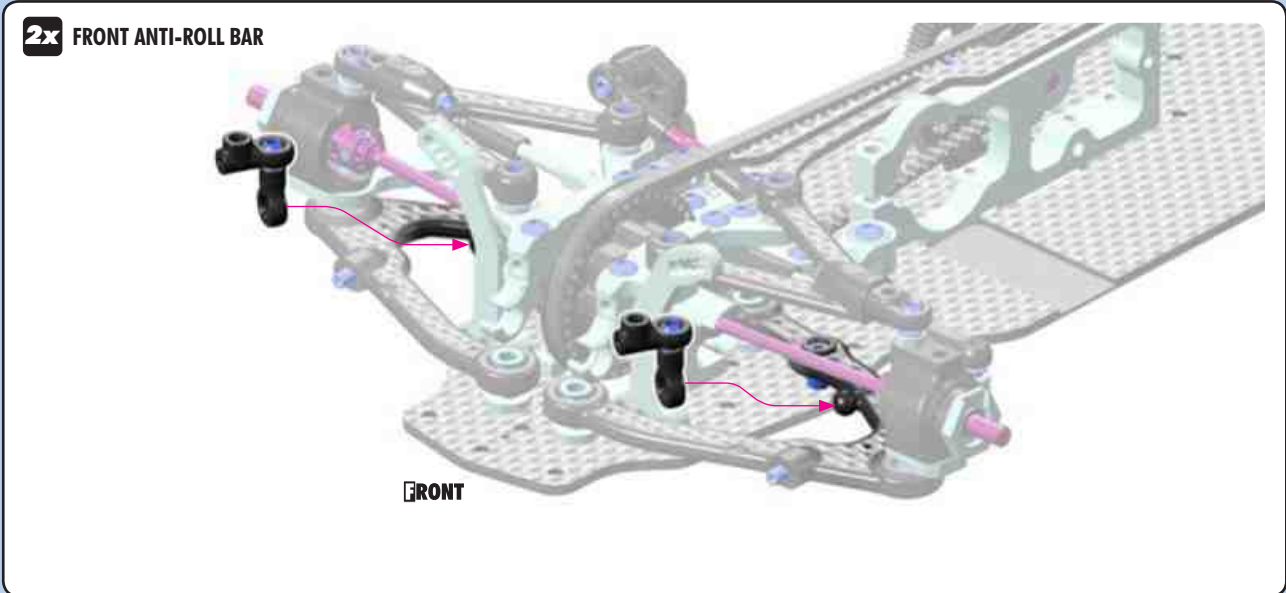
If both sides still do not move at the same time, adjust the length of the bar holders.

**VIDEO TECH TIP**

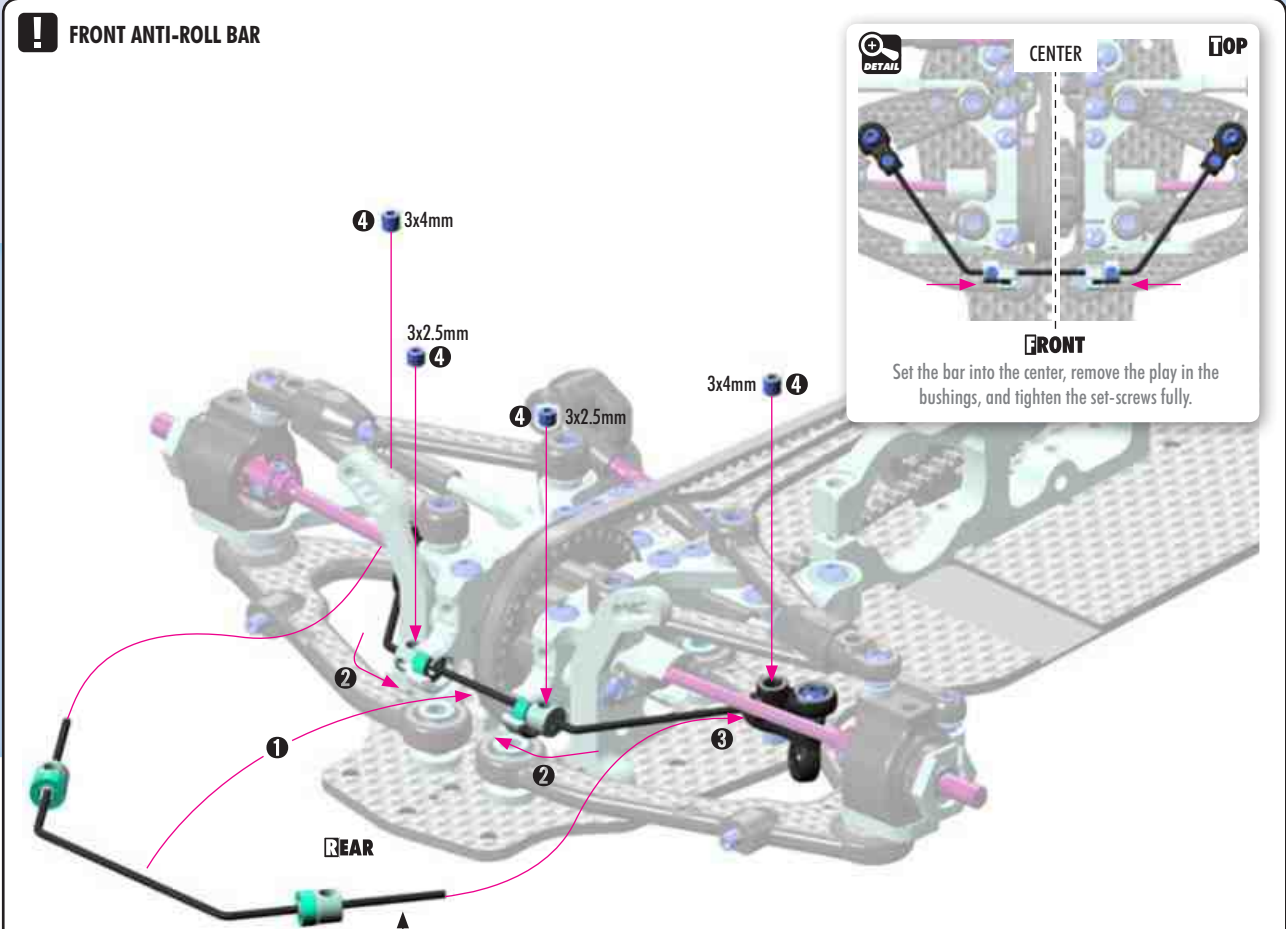


ANTI-ROLL BARS

# 5. FRONT & REAR SUSPENSION



-  901302  
SB M3x2.5
-  901304  
SB M3x4



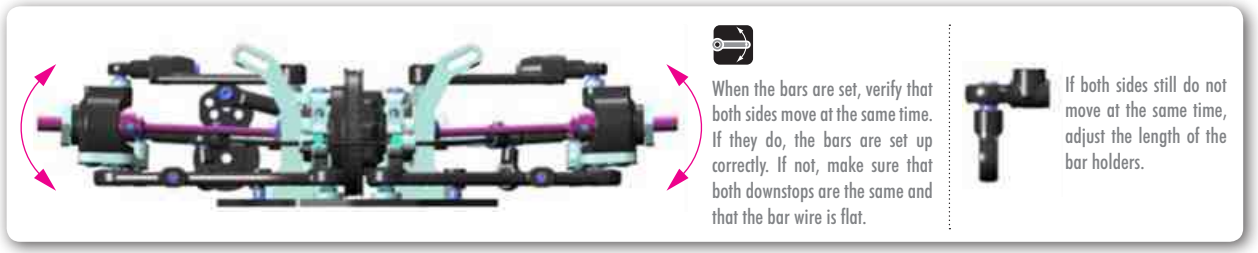
VIDEO TECH TIP



ANTI-ROLL BARS

**SOFTER front anti-roll bar:**  
Allows the front to roll more which gives more front grip and improves on-power steering.

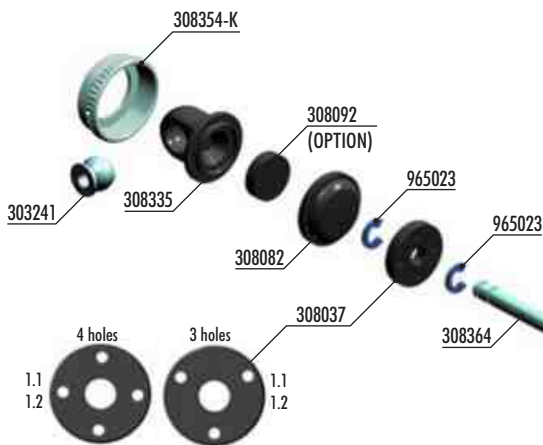
**STIFFER front anti-roll bar:**  
Makes the car initially more responsive, and helps the car stay flatter on fast direction changes. Reduces steering from mid-corner to corner exit. Mainly recommended for high-grip carpet.





# 6. SHOCK ABSORBERS

4x



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



OPTION

XRAY SPRINGS		
#308263	C = 2.3-2.6	OPTION
#308264	C = 2.5-2.8	INCLUDED
#308274	C = 2.3	OPTION
#308275	C = 2.5	INCLUDED
#308286	C = 2.6	OPTION
#308276	C = 2.7	OPTION
#308288	C = 2.8	OPTION
#308277	C = 2.9	OPTION
#308290	C = 3.0	OPTION



#308308-0  
ULP ALU SHOCK ABSORBER-SET - ORANGE (2)



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



#308031-K  
ALU XRAY SHOCK SPRING RETAINING COLLAR - BLACK (4)



VIDEO TECH TIP



SHOCKS & SPRINGS

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

Progressive shock system for touring cars 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

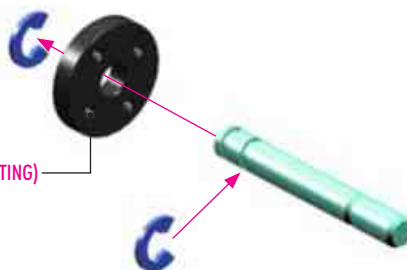
06

- 303241 BALL UNIVERSAL 5.8 MM HEX (4)
- 308037 COMPOSITE PISTONS 4-HOLE 1.0-1.2MM, 3-HOLE 1.0-1.2MM
- 308044-K ULP ALU SHOCK ADJUSTABLE NUT - BLACK (2)
- 308082 SHOCK ABSORBER MEMBRANE (4)
- 308092 SHOCK FOAM INSERTS (4) (OPTION)
- 308308-K ULP ALU SHOCK ABSORBER-SET - BLACK (2)
- 308316 SHOCK BALL JOINT - OPEN (4)
- 308324 ULP ALU SHOCK BODY (2)
- 308327-K ALU CAP FOR XRAY SHOCK BODY - BLACK
- 308335 ULP COMPOSITE SHOCK PARTS WITH 2 HOLES

- 308354-K ULP ALU SHOCK CAP-NUT WITH VENT HOLE - BLACK (2)
- 308364 HARDENED SHOCK SHAFT FOR ALU SHOCKS (2)
- 965023 E-CLIP 2.3 (10)
- 970131 O-RING 13 x 1.0 (10)
- 972030 SILICONE O-RING 3 x 2 (10)
- 308264 XRAY 4S SPRING-SET PROGRESSIVE C=2.5-2.8 (2)
- 308275 XRAY 4S SPRING-SET C=2.5 (2)

965023  
C 2.3

4x





# 6. SHOCK ABSORBERS

**OIL**  
972030  
0 3x2

**4x**

SHOCK OIL

SHOCK OIL

NOTE ORIENTATION

**OIL**  
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 pivot balls with Professional Multi Tool (HUDY #183011).

**NOTE!** Set this distance to 8.5mm when using PSS system in front shocks.

9mm INITIAL SETTING

**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.

VIDEO TECH TIP

HUDY AIR-VAC SHOCK BUILD

**OIL 350cSt**

**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** **OPTION** #104002 HUDY AIR VAC – VACUUM PUMP

OPTION	SHOCK OILS (50ml)	OPTION	OPTION
#106325	250cSt	OPTION	#106352 525cSt OPTION
#106330	300cSt	OPTION	#106355 550cSt OPTION
#106335	350cSt	INCLUDED	#106357 575cSt OPTION
#106337	375cSt	OPTION	#106360 600cSt OPTION
#106340	400cSt	OPTION	#106362 625cSt OPTION
#106342	425cSt	OPTION	#106365 650cSt OPTION
#106345	450cSt	OPTION	#106367 675cSt OPTION
#106347	475cSt	OPTION	#106370 700cSt OPTION
#106350	500cSt	OPTION	#106375 750cSt OPTION
			#106380 800cSt OPTION

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

**4x**

Foam insert (OPTION)

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

CUTAWAY VIEW

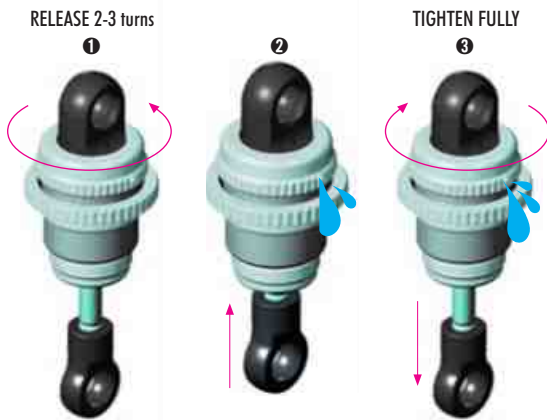
# 6. SHOCK ABSORBERS

- 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

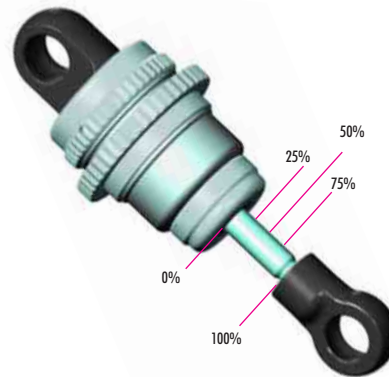


#### AFTER THE SHOCK IS ASSEMBLED YOU HAVE TO SET THE SHOCK REBOUND:

- 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 pivot balls with Professional Multi Tool (HUDY #183011).



#308031-0

ALU XRAY SHOCK SPRING RETAINING COLLAR - ORANGE (4)



#308031-K

ALU XRAY SHOCK SPRING RETAINING COLLAR - BLACK (4)



ASSEMBLY VIEW

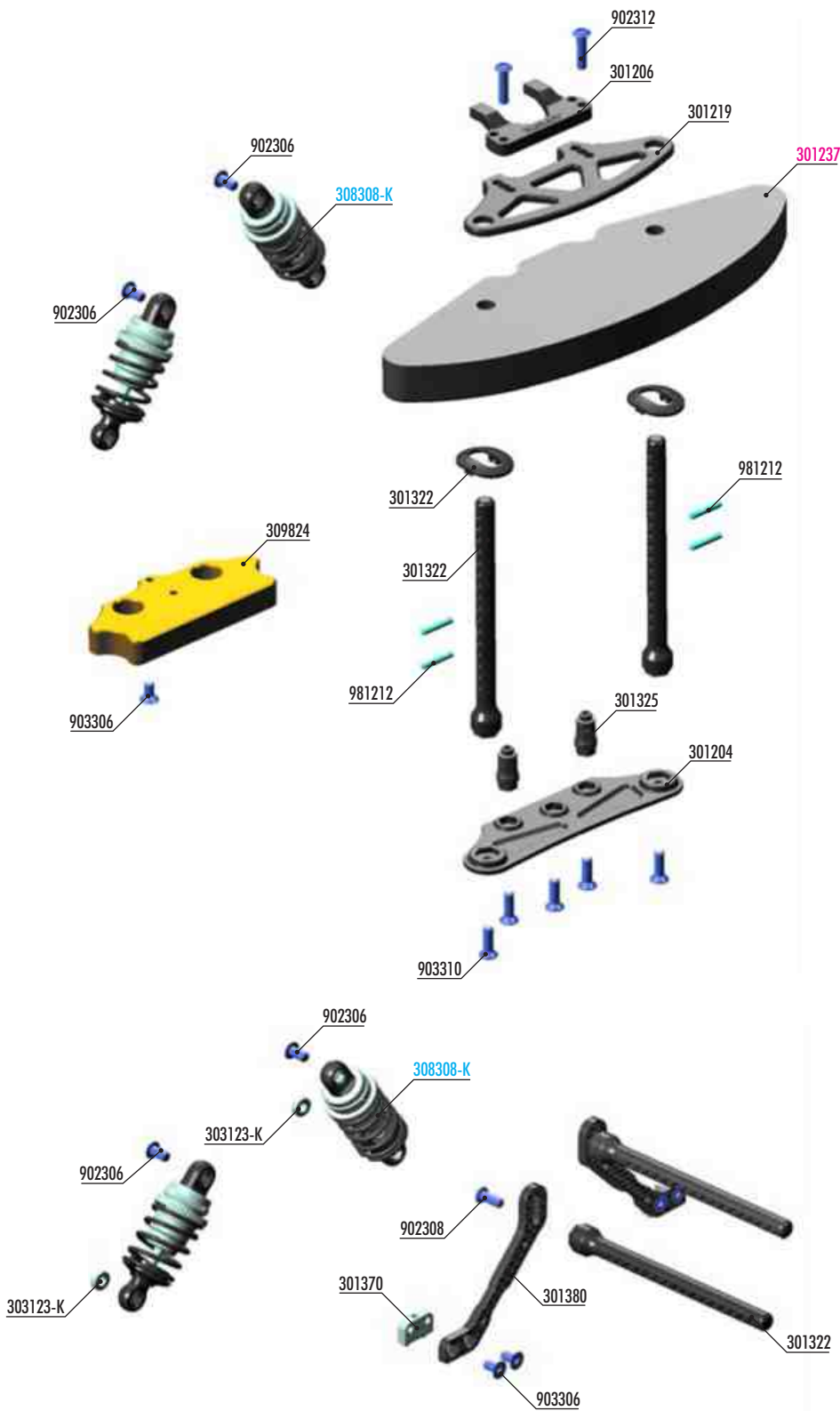


VIDEO TECH TIP



SHOCKS & SPRINGS

# 7. FRONT & REAR ASSEMBLY



FRONT BODY MOUNT SET			
#301322	0mm	INCLUDED	
#301323	+ 1mm	OPTION	
#301324	+ 2mm	OPTION	

FRONT ECC. BODY MOUNT SET			
#301326	0mm	OPTION	
#301327	+ 1mm	OPTION	
#301328	+ 2mm	OPTION	

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

**#301210**  
GRAPHITE UPPER HOLDER FOR BUMPER 2.5mm

**BAG**

**07**

- 301204 COMPOSITE BUMPER
- 301206 X4 COMPOSITE BUMPER UPPER HOLDER BRACE
- 301219 COMPOSITE UPPER HOLDER FOR BUMPER
- 301322 FRONT BODY MOUNT SET
- 301325 COMPOSITE BRACE FOR BUMPER - LOW (2)
- 301370 X4 ALU PLATE FOR REAR GRAPHITE BODY POST HOLDER
- 301380 GRAPHITE BODY POST HOLDER (L+R)
- 303123-K ALU SHIM 3x6x2.0MM - BLACK (10)
- 309824 X4F BUMPER WEIGHT FRONT 100g

- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)

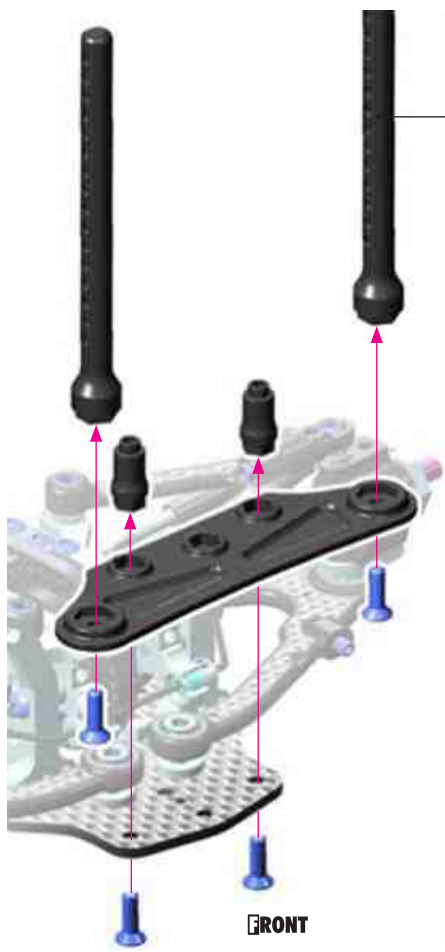
- 902312 HEX SCREW SH M3x12 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 981212 PIN 2x12 (10)

- 301237 X4F FOAM BUMPER FOR 100g WEIGHT - HARD**
- 308308-K ULP ALU SHOCK ABSORBER-SET - BLACK (2)**

# 7. FRONT & REAR ASSEMBLY



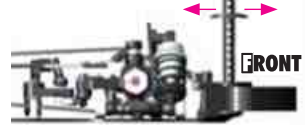
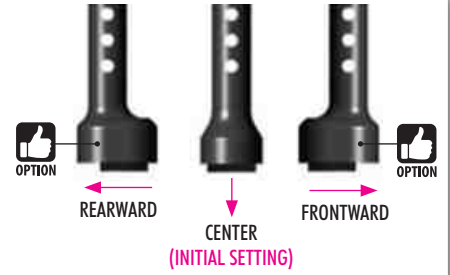
903310  
SFH M3x10



## FRONT BODY POST ORIENTATION

This new, innovative feature allows the adjustment of body position for all kind of surfaces, traction conditions, touring classes, using only one body. There are THREE different body positions possible; rearward, center, and forward. Depending on conditions, the body post positions can be easily changed which allows the body to be moved.

- The body in the **REARWARD POSITION** makes the car super stable and very easy to drive. It makes the car easier to drive in chicanes and more predictable in high-traction conditions.
- The body in the **CENTER POSITION** makes the car more aggressive and steer faster, but is a slightly more difficult to drive in low-grip conditions.
- The body in the **FORWARD POSITION** is the most aggressive. It makes the car steer a lot, but is more difficult to drive when the traction is high or when the track has a lot of chicanes.



It is important to use the same body setting (rearward and center) on both front and rear body posts at the same time.



### FRONT BODY MOUNT SET

#301322	0mm	INCLUDED
#301323	+1mm	OPTION
#301324	+2mm	OPTION



### FRONT ECC. BODY MOUNT SET

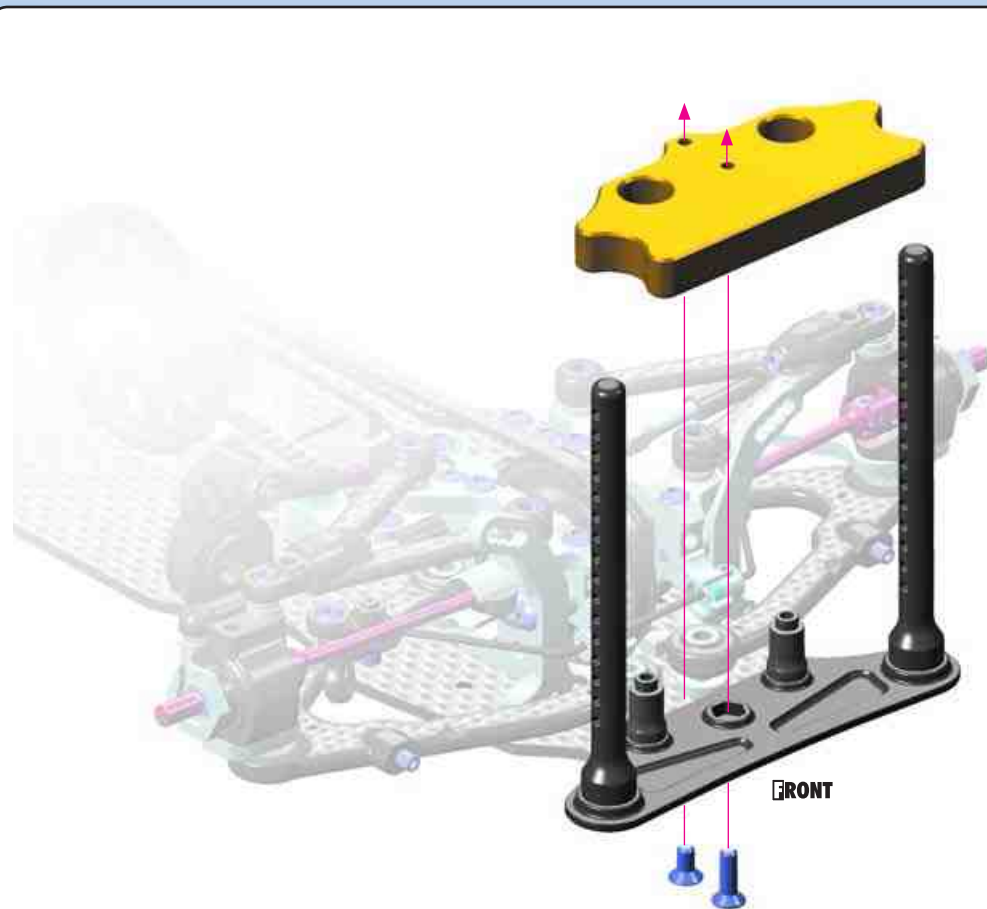
#301326	0mm	OPTION
#301327	+1mm	OPTION
#301328	+2mm	OPTION



903306  
SFH M3x6



903310  
SFH M3x10

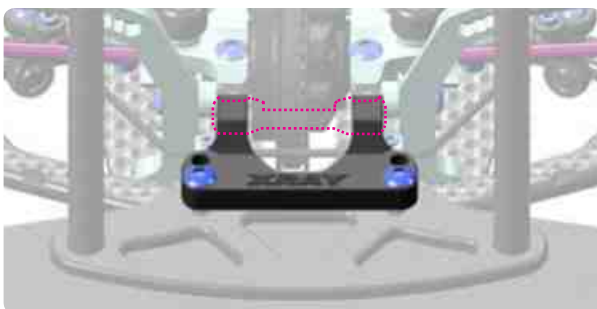
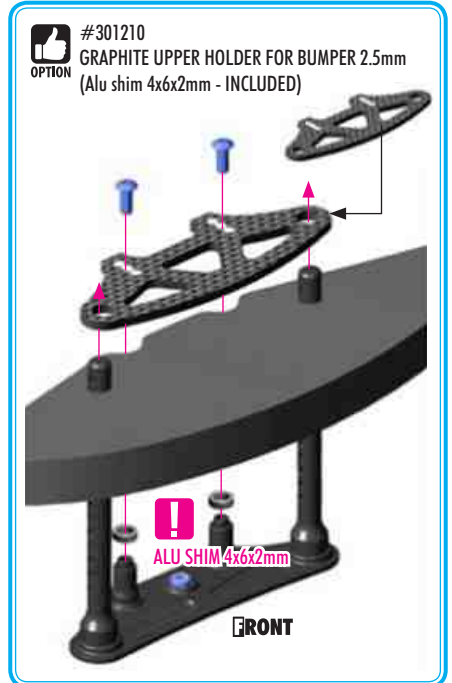
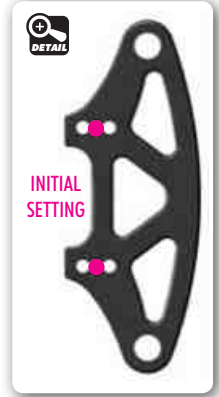
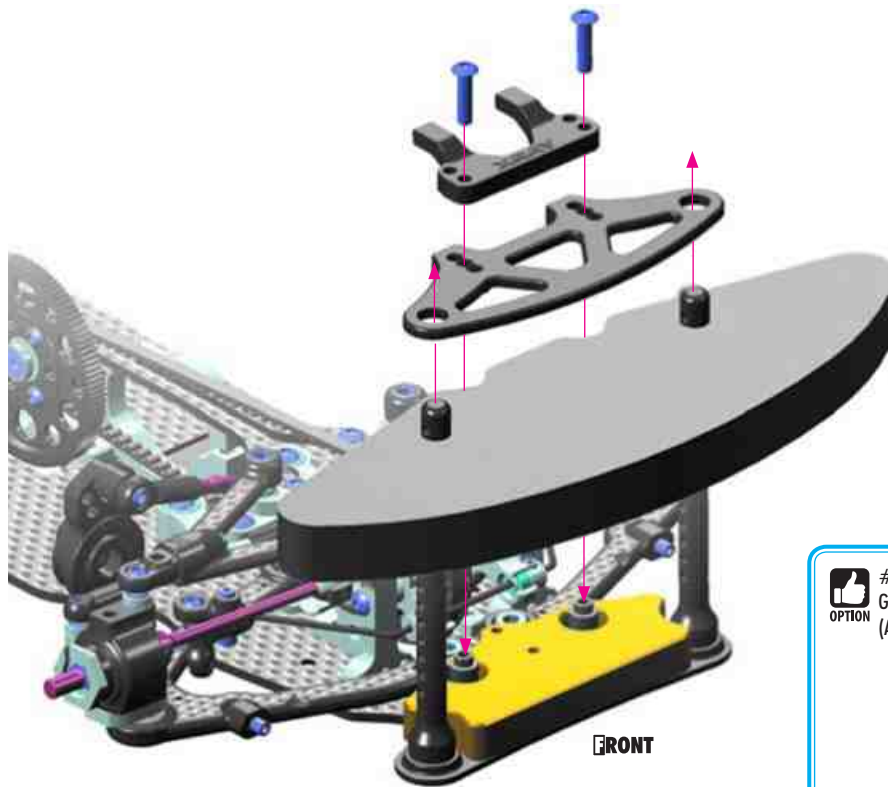




# 7. FRONT & REAR ASSEMBLY



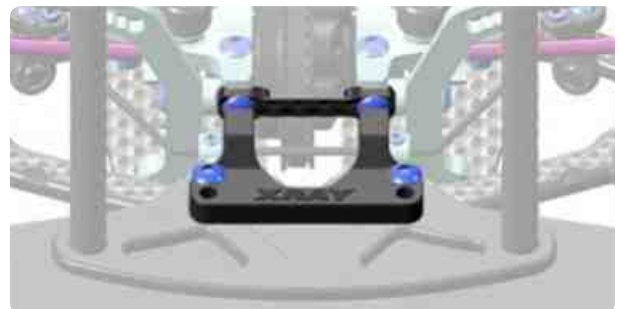
902312  
SH M3x12



Position WITHOUT graphite brace



INITIAL SETTING

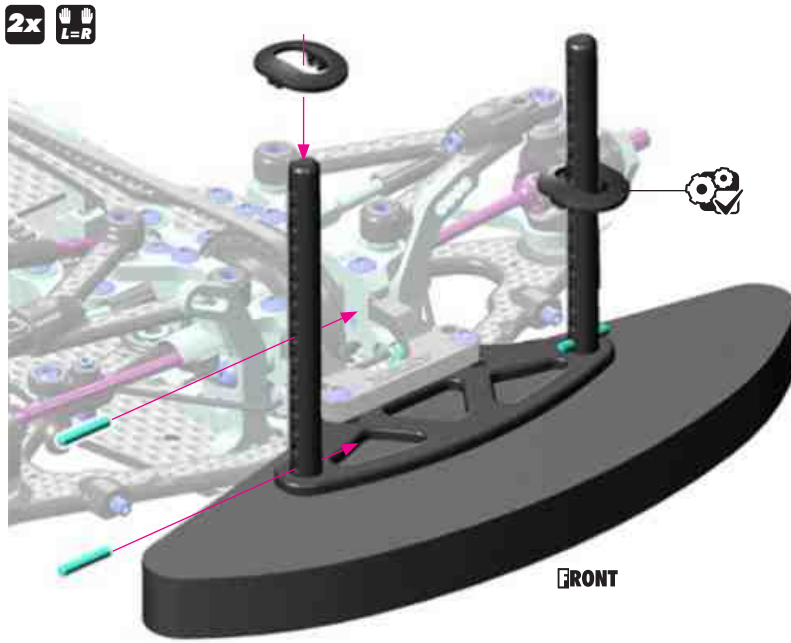


Position WITH graphite brace



# 7. FRONT & REAR ASSEMBLY

981212  
P 2x/2



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



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

**FRONT ECC. BODY MOUNT SET**

#301326	0mm	OPTION
#301327	+1mm	OPTION
#301328	+2mm	OPTION

**FRONT BODY MOUNT SET**

#301322	0mm	INCLUDED
#301323	+1mm	OPTION
#301324	+2mm	OPTION



VIDEO TECH TIP



FRONT BODY UPSTOP SYSTEM

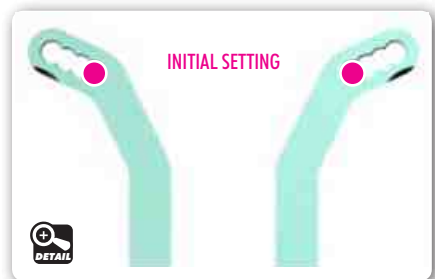
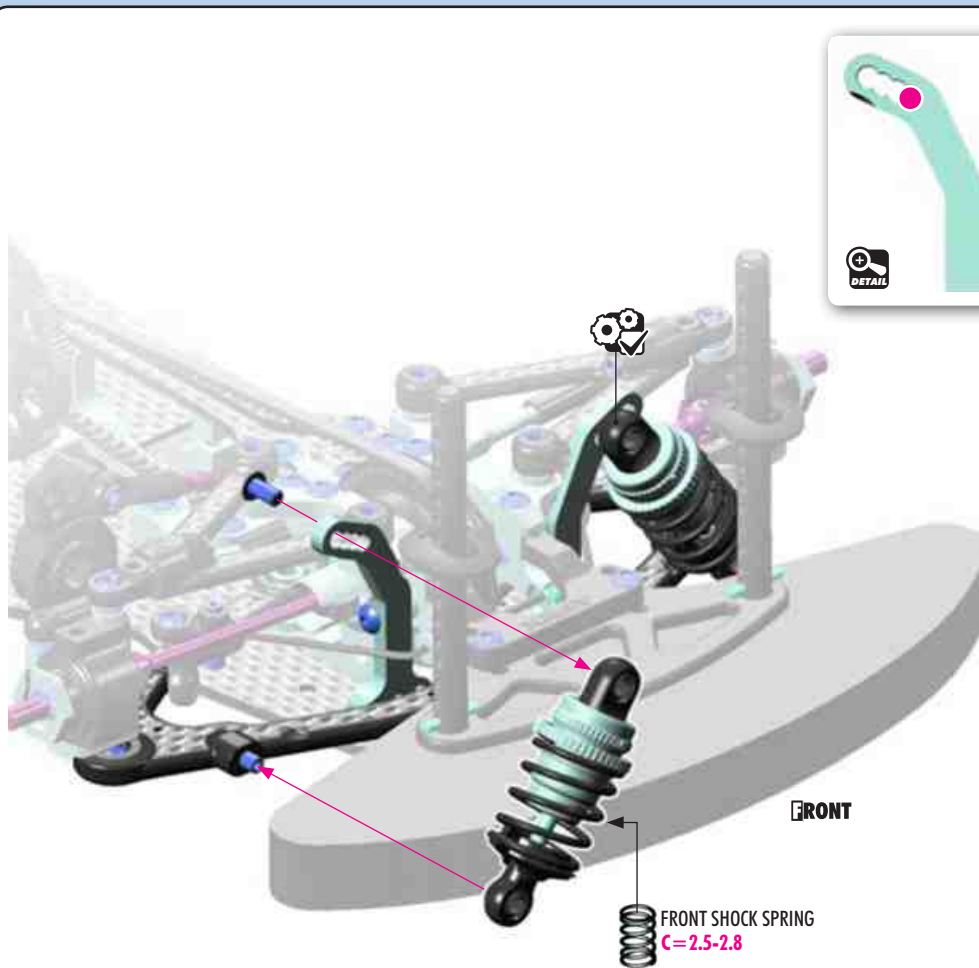
902306  
SH M3x6



VIDEO TECH TIP



SHOCKS & SPRINGS

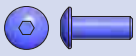


**#308029**  
ULP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)



The progressive shock inserts can improve traction and steering characteristics. The ULP PSS set fits the stock ULP shock bodies included in the kit.

# 7. FRONT & REAR ASSEMBLY



902308  
SH M3x8



903306  
SFH M3x6



VIDEO TECH TIP



REAR BODY POST MOUNTING

## 2x REAR HORIZONTAL BODY MOUNTING

(INITIAL SETTING)



OPTION	BODY MOUNT SET		
#301322	0mm	INCLUDED	
#301323	+1mm	OPTION	
#301324	+2mm	OPTION	



903306  
SFH M3x6

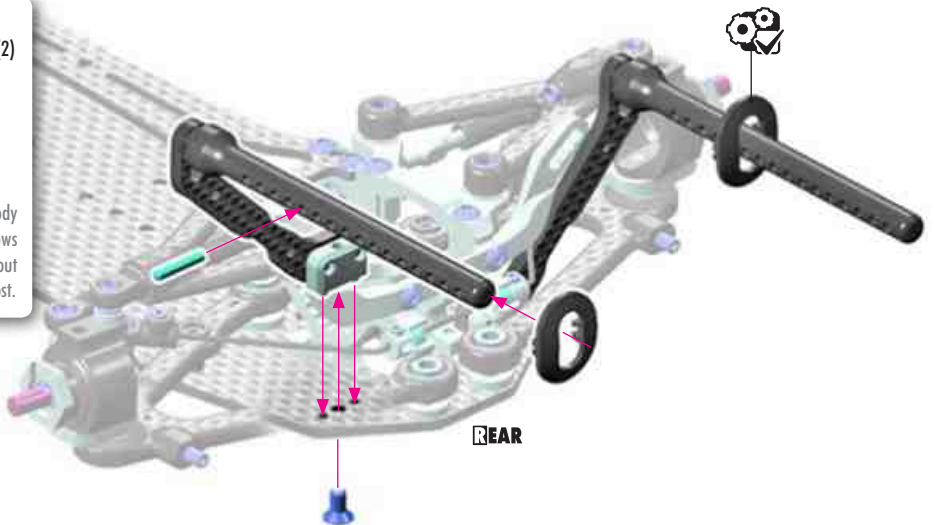


981212  
P 2x12

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



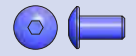
Very handy, easily externally adjustable body post made from Swiss 7075 T6 aluminum. Allows for adjustment of body height by 3mm without needing to change the position on the body post.



REAR



303123-K  
SHIM 3x6x2



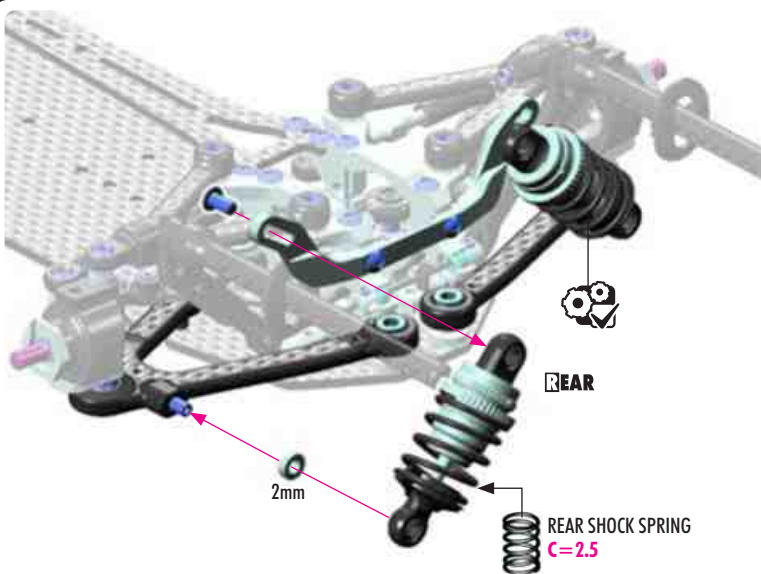
902306  
SH M3x6



VIDEO TECH TIP



SHOCK SHIMMING TUTORIAL



REAR

2mm

REAR SHOCK SPRING  
C=2.5



INITIAL SETTING



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



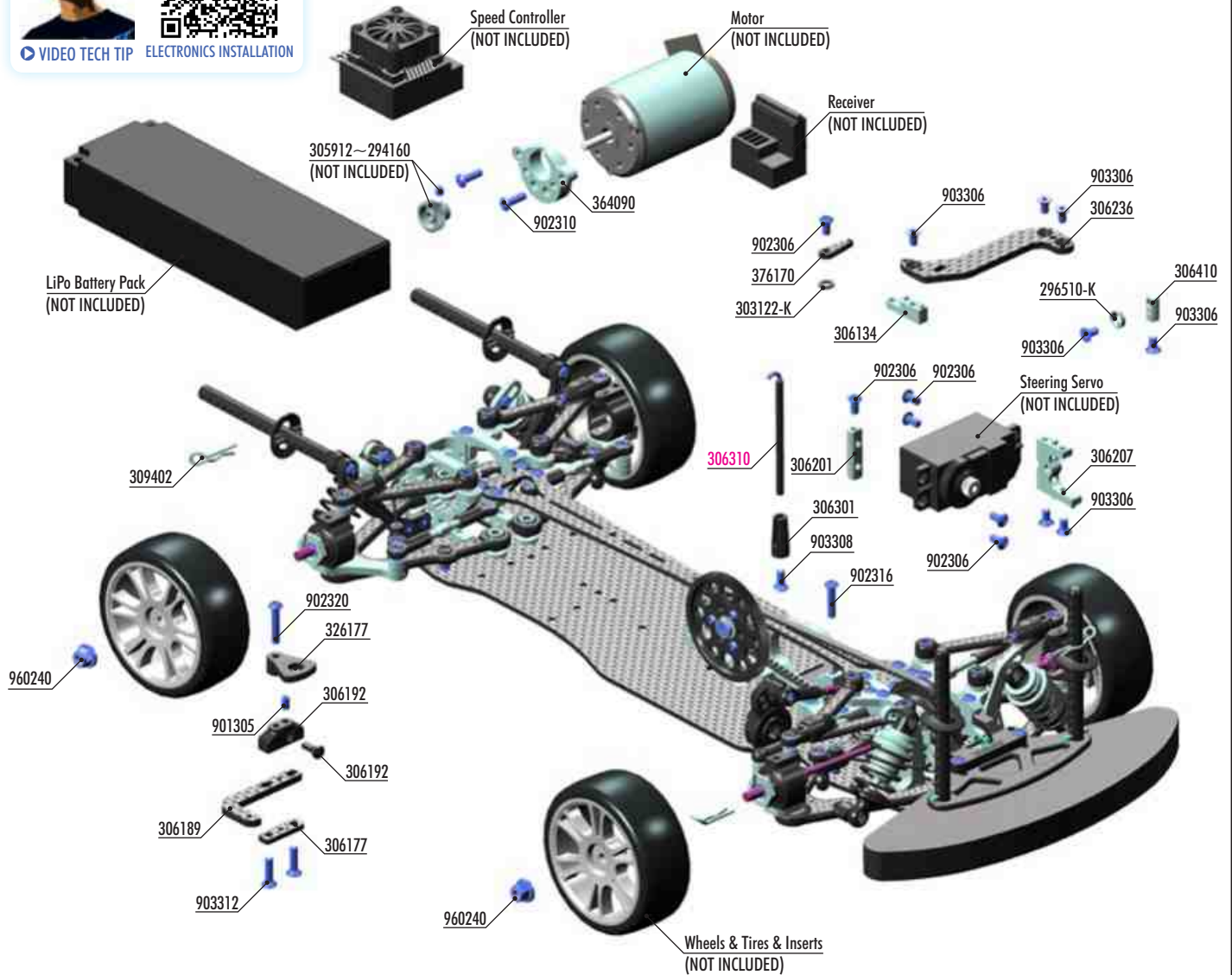
The progressive shocks improve traction and steering characteristics. This ULP progressive system directly fits the ULP shocks in the kit.



# 7. FINAL ASSEMBLY



VIDEO TECH TIP ELECTRONICS INSTALLATION



**TUNGSTEN & STAINLESS STEEL WEIGHTS** (on page 42 and 45)



**#306410 ALU FAN MOUNT**



**ALU REAR WING SHIM**

#	COLOR	BRAND	OPTION
#353561	SILVER	XRAY	OPTION
#293561	SILVER	HUDY	OPTION
#293561-K	BLACK	HUDY	OPTION
#293561-O	ORANGE	HUDY	OPTION



**BAG**

**07**

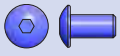
- 305912~294160 NARROW ALU PINION GEAR 12T~60T (OPTION)
- 296510-K ALU COUNTERSUNK SHIM - BLACK (10)
- 303122-K ALU SHIM 3x6x1.0MM - BLACK (10)
- 306134 X4F ALU BATTERY HOLDER BACKSTOP
- 306177 GRAPHITE BATTERY PLATE SHIM (2)
- 306189 X4F GRAPHITE BATTERY ADJUSTABLE WIDTH PLATE
- 306192 COMPOSITE ADJUSTABLE BATTERY HOLDER & BACKSTOP (2+2)
- 306201 ALU SERVO MOUNT - LONG
- 306207 X4F ALU SERVO MOUNT - BLACK
- 306236 X4F GRAPHITE FLOATING SERVO HOLDER 3.0MM
- 306301 ANTENNA MOUNT - THIN
- 306410 ALU UNIVERSAL MOUNT
- 309402 BODY CLIP FOR 6MM BODY POST (4)
- 326177 COMPOSITE BATTERY CLAMP (2)

- 364090 ALU ECCENTRIC MOTOR BULKHEAD INSERT
- 376170 GRAPHITE BATTERY CLAMP 2.2MM (2)
- 901305 HEX SCREW SB M3x5 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902316 HEX SCREW SH M3x16 (10)
- 902320 HEX SCREW SH M3x20 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 960240 NUT M4 WITH SERRATED FLANGE (10)

**306310 ANTENNA (2)**



# 7. FINAL ASSEMBLY



902306  
SH M3x6



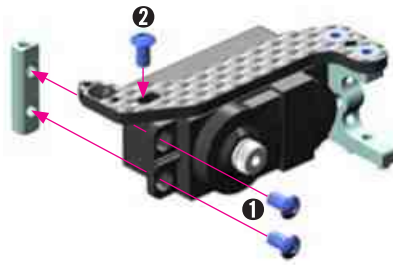
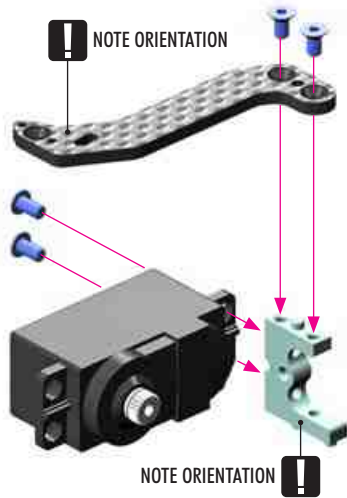
903306  
SFH M3x6



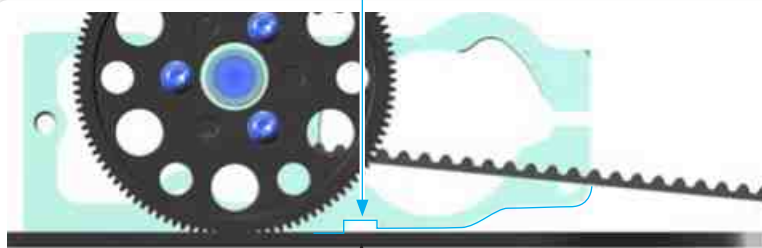
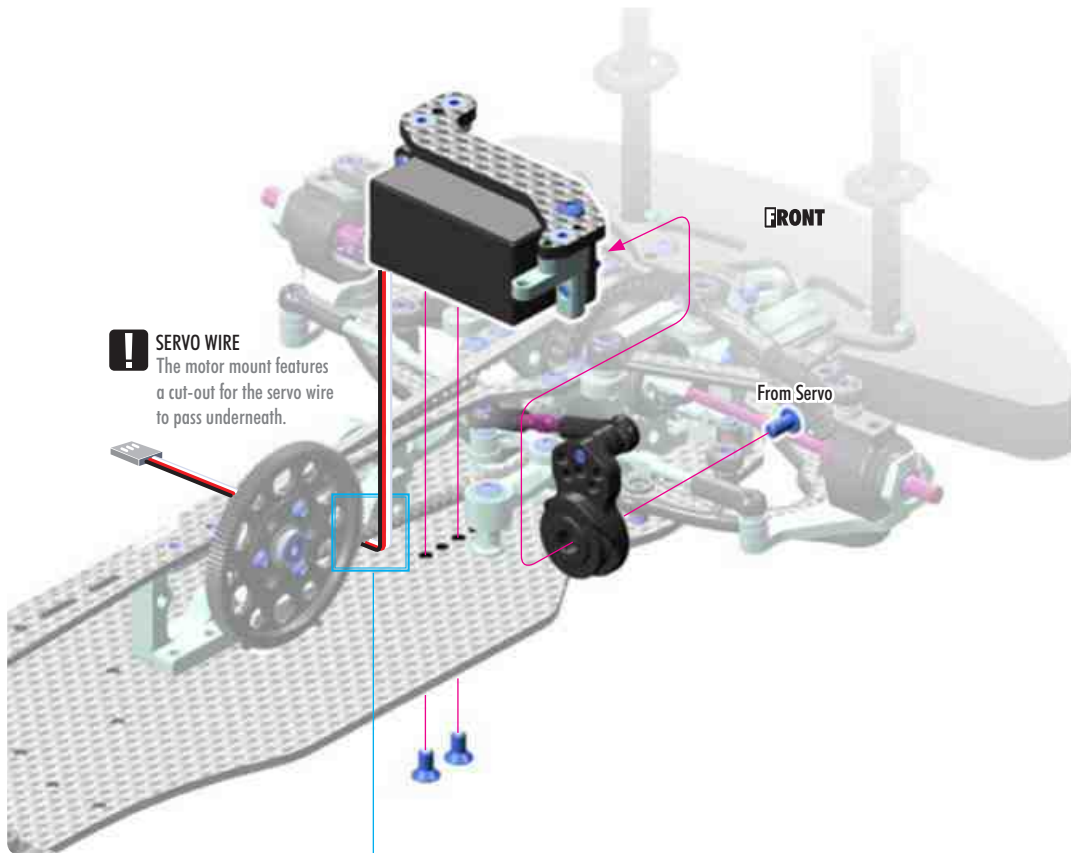
VIDEO TECH TIP



STEERING SYSTEM

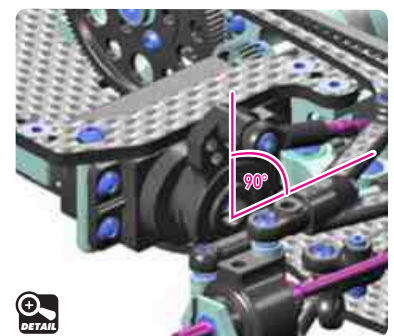


903306  
SFH M3x6



(untight the motor mount screws)

**SERVO WIRE**  
The motor mount features a cut-out for the servo wire to pass underneath. When installing servo, loosen the motor mount, place the servo wire in the groove, and then tighten the motor mount and top deck.

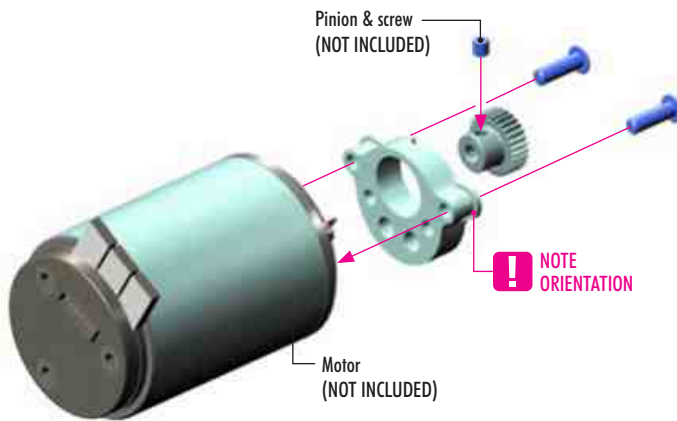


Attach servo arm to servo output shaft using screw from servo. Servo saver must be perpendicular to chassis when servo is in neutral.

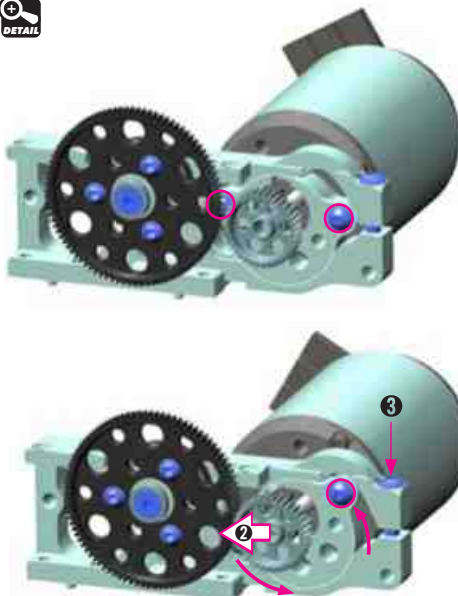
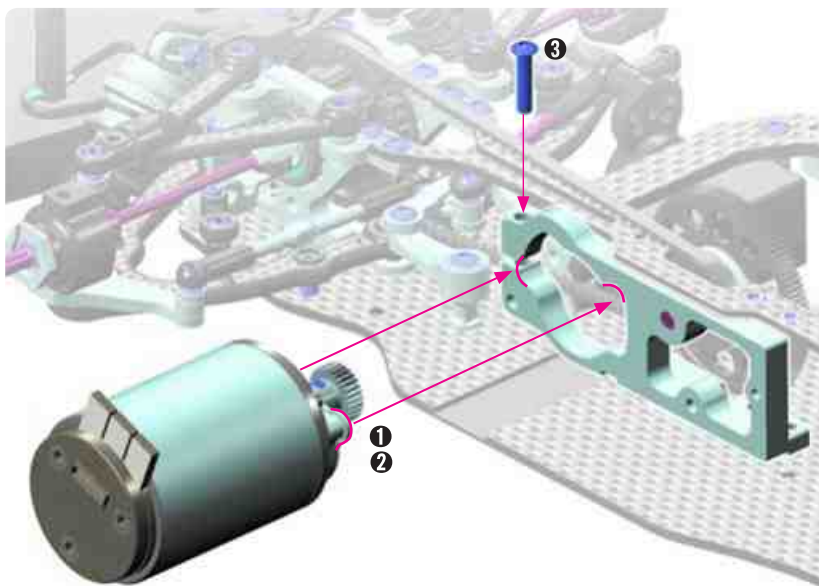
# 7. FINAL ASSEMBLY



902310  
SH M3x10



902316  
SH M3x16



1 Attach the motor to the eccentric motor holder in the indicated orientation. Tighten the mounting screws.

2 Adjust the gear mesh by rotating the eccentric motor holder.

3 Tighten the clamp screw.

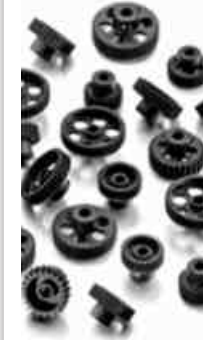
2 Adjust the motor so the pinion meshes with the spur gear properly. Make sure the gear mesh is not too tight.

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



## ALU PINION GEARS (OPTION)

#305912 12T / 48P	#305968 18T / 64P
#305913 13T / 48P	#305969 19T / 64P
#305914 14T / 48P	#305970 20T / 64P
#305915 15T / 48P	#305971 21T / 64P
#305916 16T / 48P	#305972 22T / 64P
#294017 17T / 48P	#305973 23T / 64P
#305918 18T / 48P	#305974 24T / 64P
#305919 19T / 48P	#305975 25T / 64P
#305920 20T / 48P	#305976 26T / 64P
#294021 21T / 48P	#305977 27T / 64P
#294022 22T / 48P	#294128 28T / 64P
#294023 23T / 48P	#294129 29T / 64P
#305924 24T / 48P	#294130 30T / 64P
#305925 25T / 48P	#294131 31T / 64P
#305926 26T / 48P	#305982 32T / 64P
#305927 27T / 48P	#294133 33T / 64P
#305928 28T / 48P	#305984 34T / 64P
#305929 29T / 48P	#305985 35T / 64P
#294030 30T / 48P	#294136 36T / 64P
#305931 31T / 48P	#294137 37T / 64P
#305932 32T / 48P	#294138 38T / 64P
#294033 33T / 48P	#294139 39T / 64P
#305934 34T / 48P	#294140 40T / 64P
#294035 35T / 48P	#294141 41T / 64P
	#294142 42T / 64P
	#294143 43T / 64P
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	#294148 48T / 64P
	#294149 49T / 64P
	#294150 50T / 64P
	#294152 52T / 64P
	#294154 54T / 64P
	#294156 56T / 64P
	#294158 58T / 64P
	#294160 60T / 64P



## NOTE

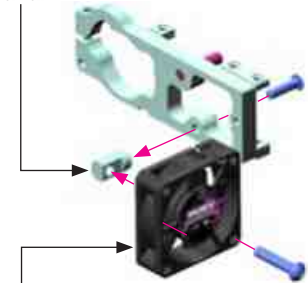
The most-used FWD ratios are 4.5 and 5. Use these recommended spur gears and pinions to achieve the desired ratio.

4.5 ratio - 90T spur / 38T pinion

5 ratio - 100T spur / 38T pinion



## #306410 ALU FAN MOUNT



#293110 HUDY BRUSHLESS RC FAN 30MM WITH EXTERNAL SOLDERING TABS  
#293111 HUDY BRUSHLESS RC FAN 40MM WITH EXTERNAL SOLDERING TABS  
#293112 HUDY BRUSHLESS RC FAN 30MM WITH INTERNAL SOLDERING TABS  
#293113 HUDY BRUSHLESS RC FAN 40MM WITH INTERNAL SOLDERING TABS

# 7. FINAL ASSEMBLY



903308  
SFH M3x8



VIDEO TECH TIP



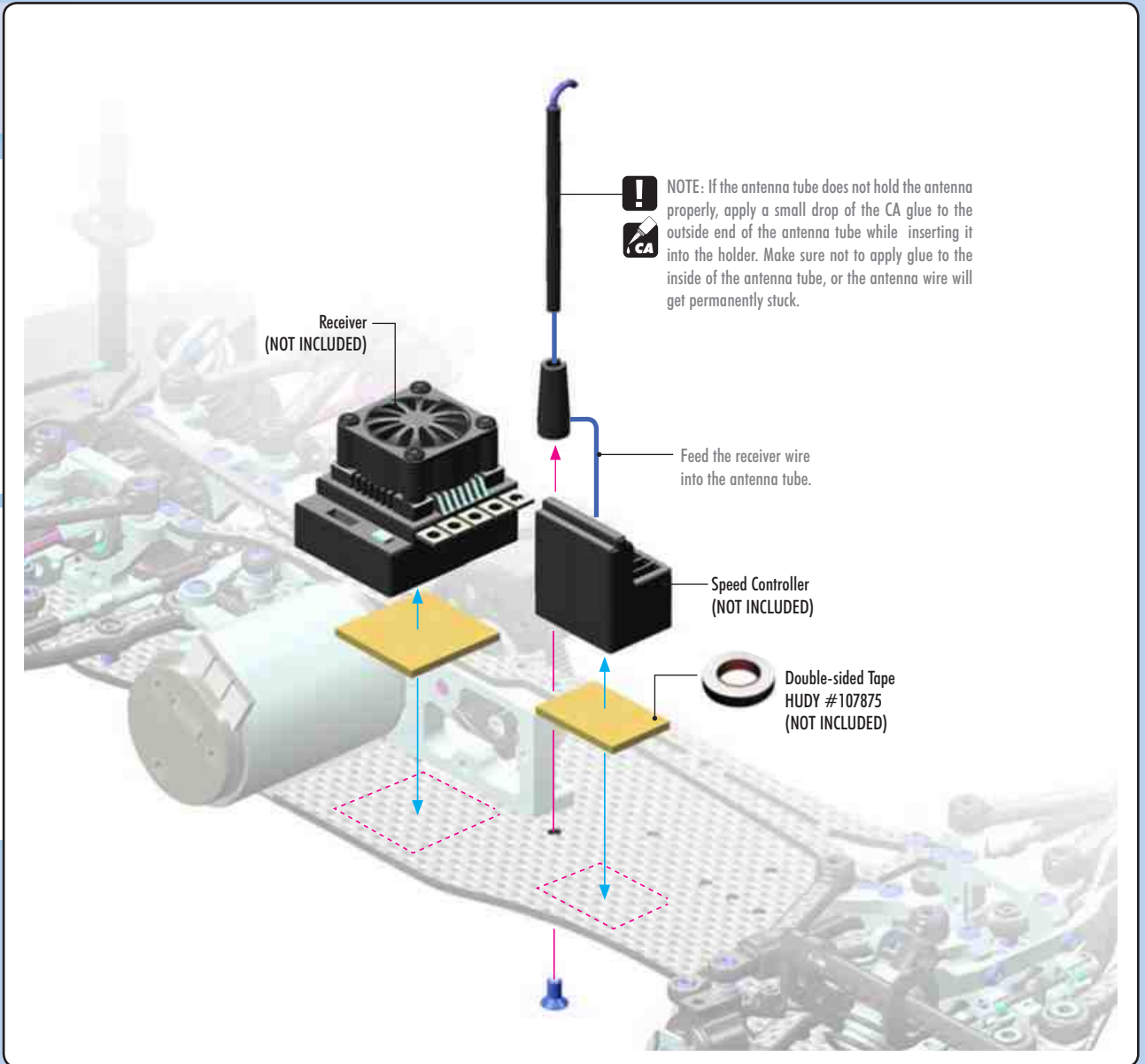
WEIGHT BALANCE



VIDEO TECH TIP



ELECTRONICS  
INSTALLATION



901305  
SB M3x5



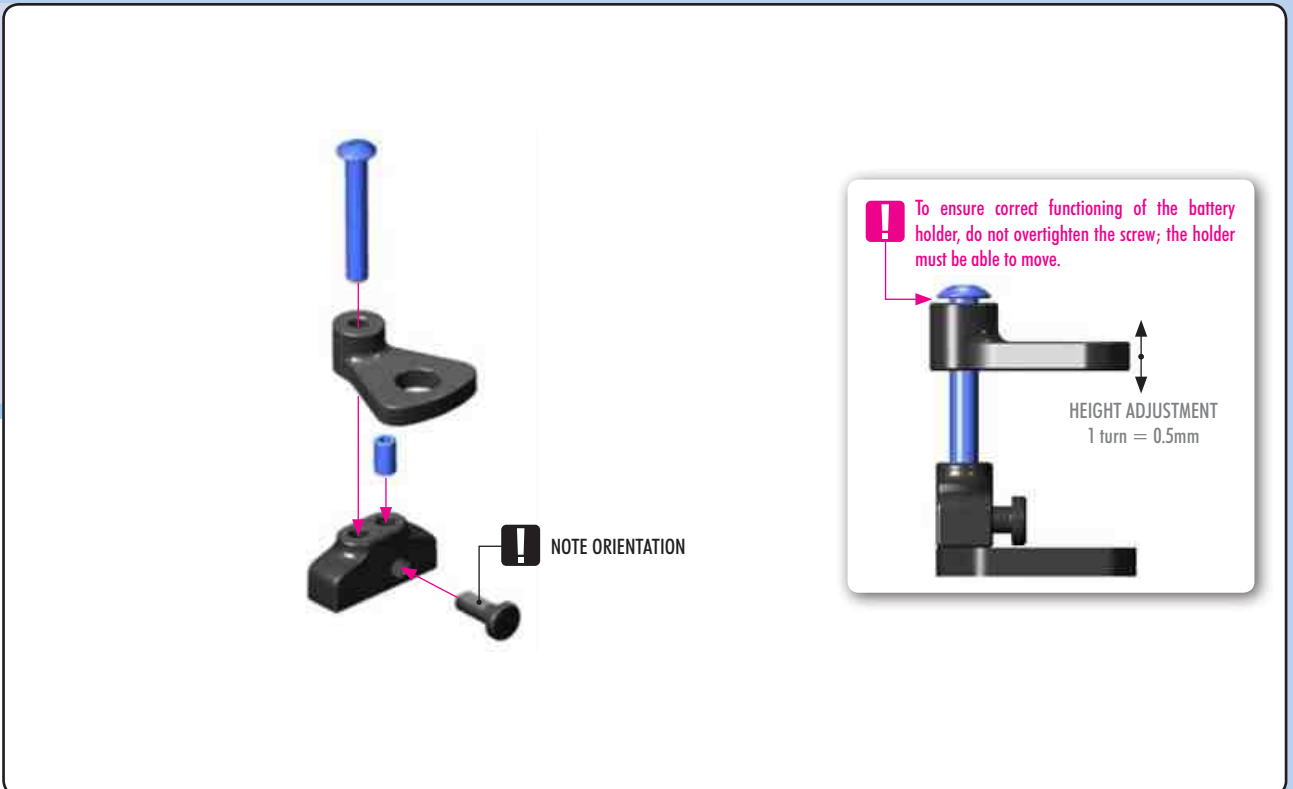
902320  
SH M3x20



VIDEO TECH TIP



BATTERY MOUNTING  
SYSTEM





# 7. FINAL ASSEMBLY



303122-K  
SHIM 3x6x1



902306  
SFH M3x6

903306  
SFH M3x6



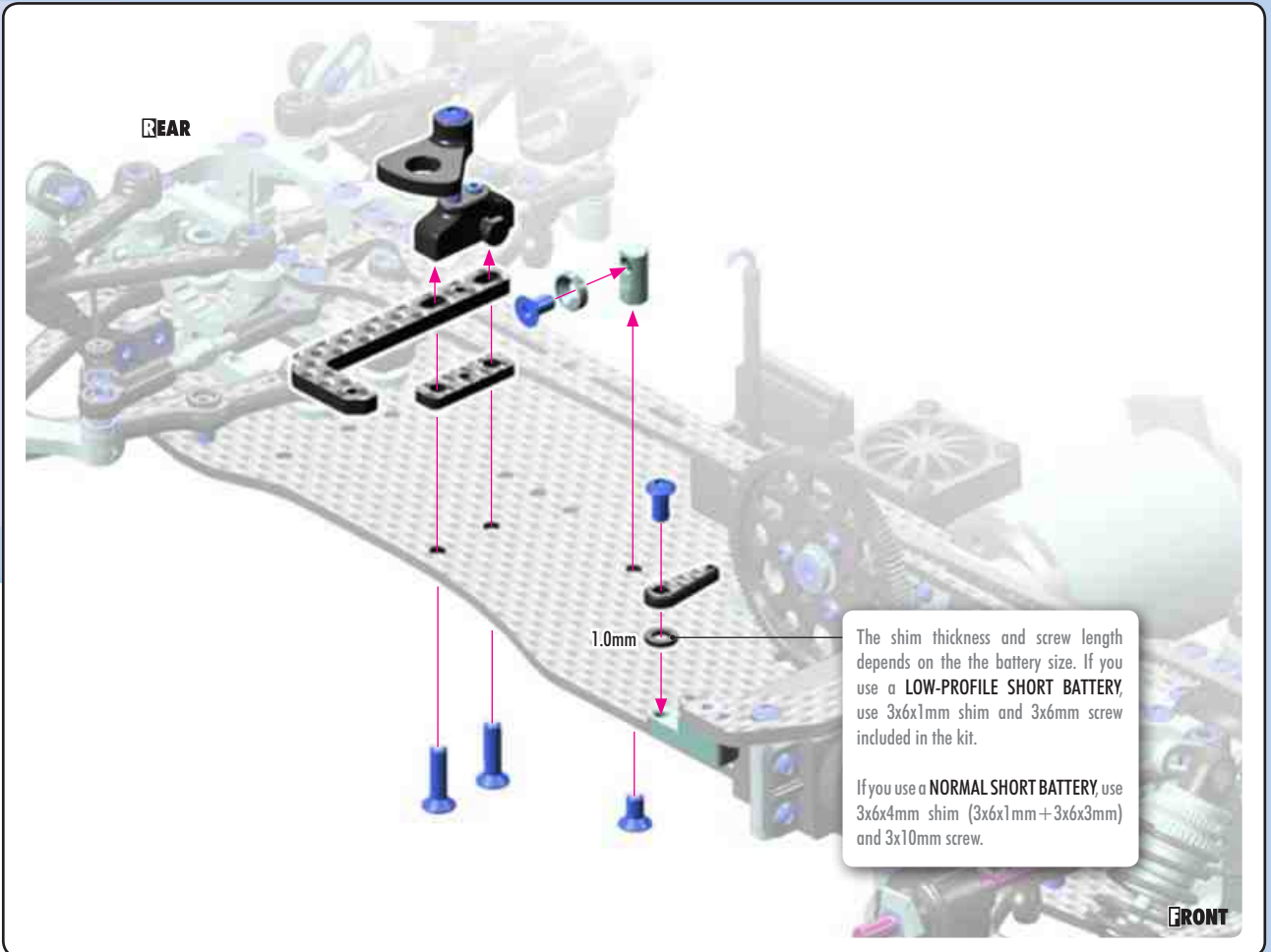
903312  
SFH M3x12



VIDEO TECH TIP



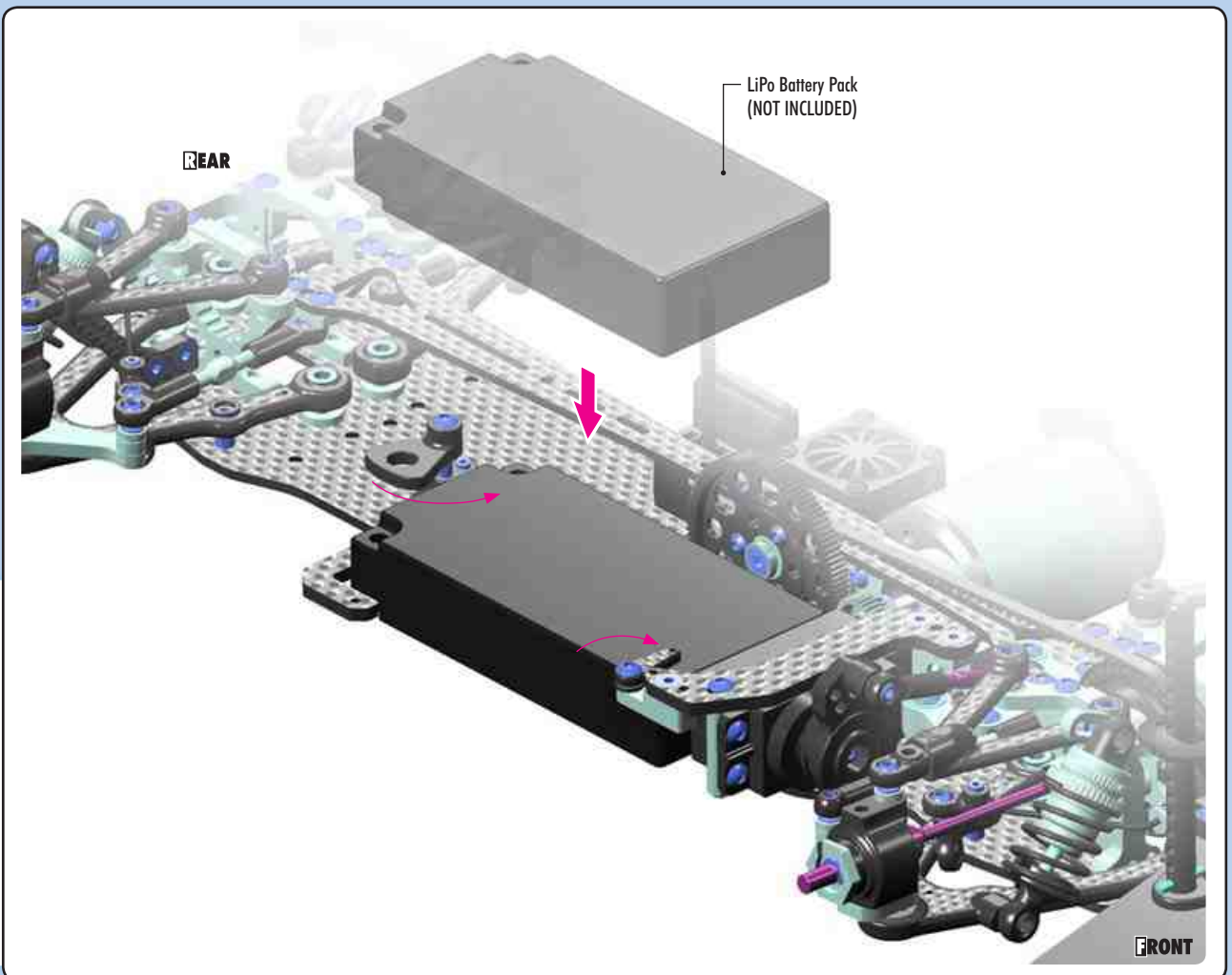
WEIGHT BALANCE



VIDEO TECH TIP

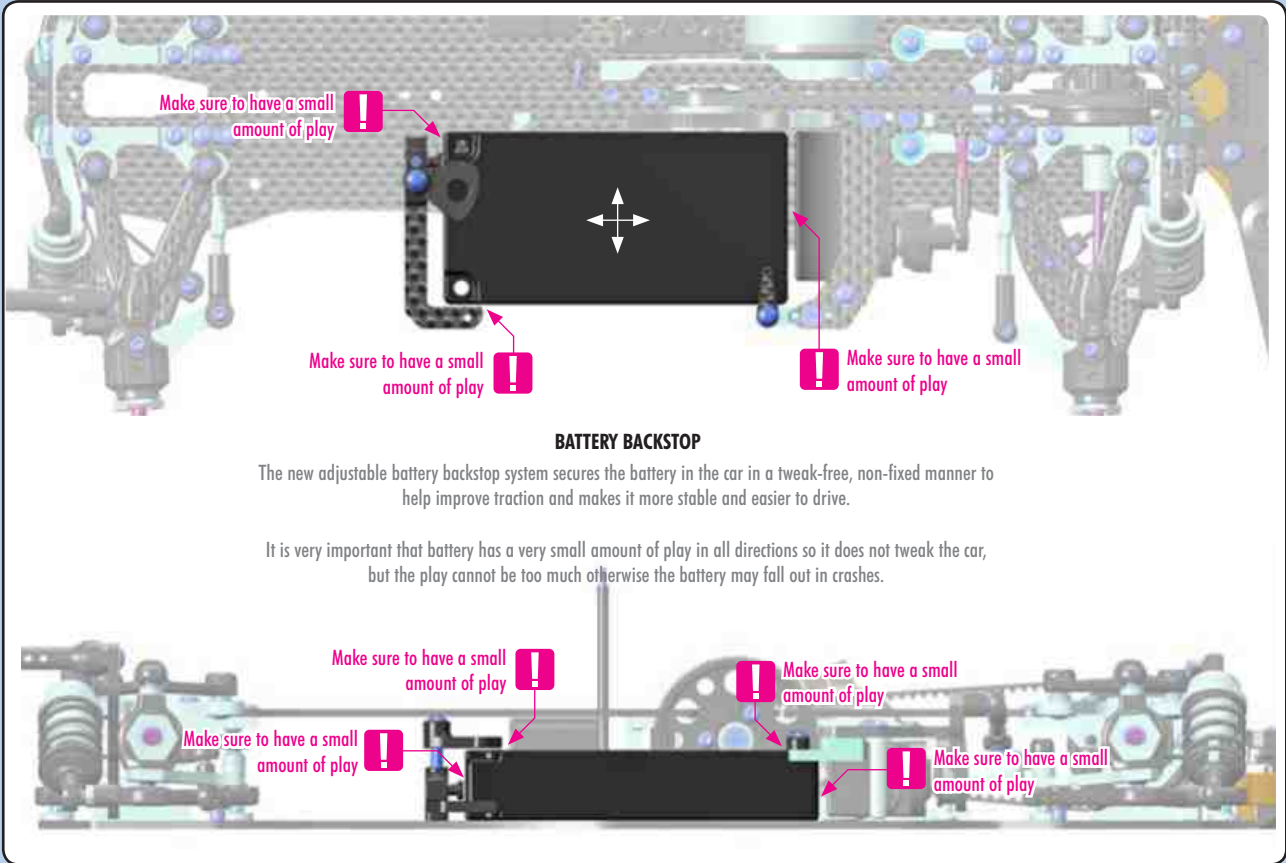


BATTERY MOUNTING SYSTEM





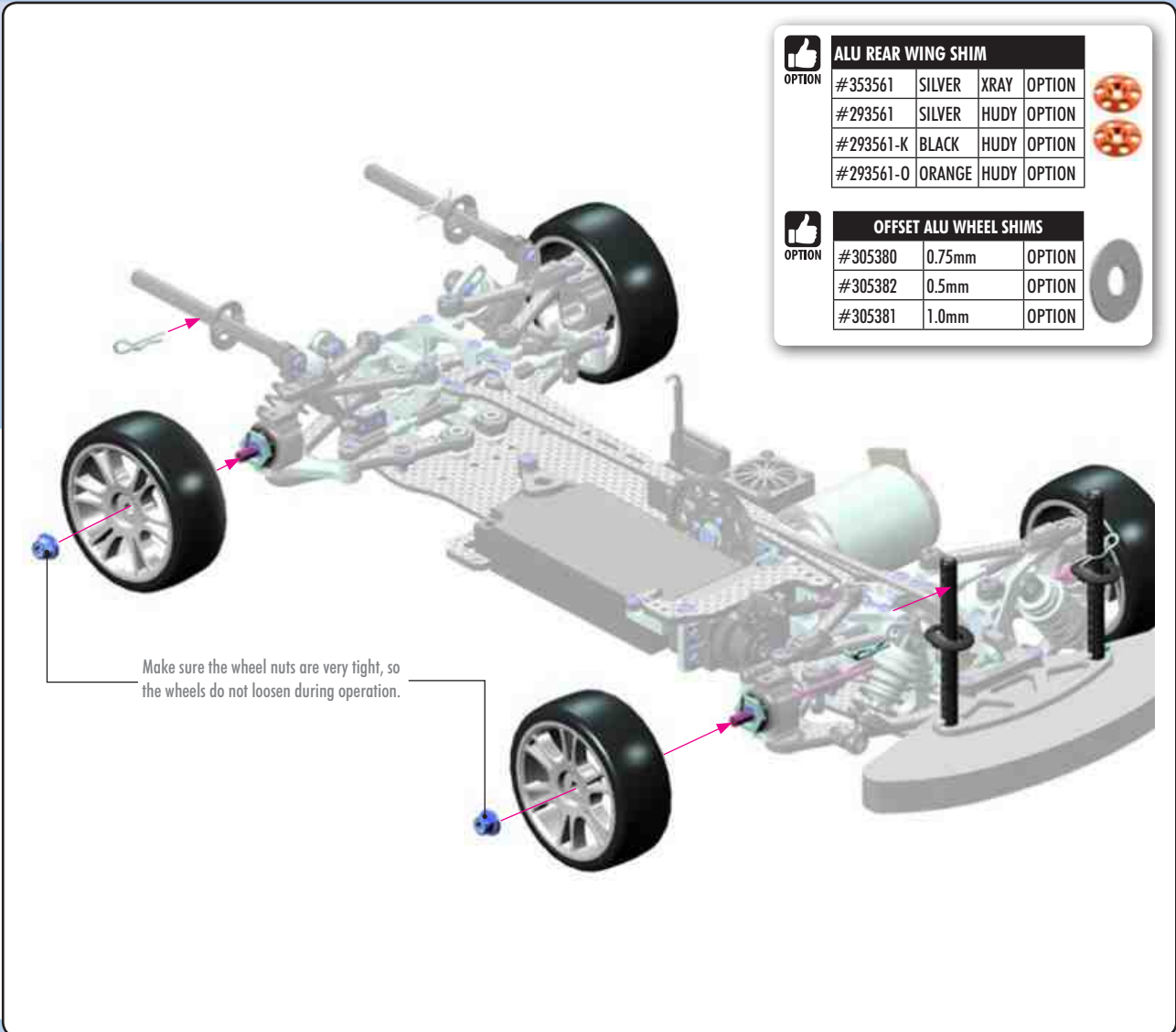
# 7. FINAL ASSEMBLY



## BATTERY BACKSTOP

The new adjustable battery backstop system secures the battery in the car in a tweak-free, non-fixed manner to help improve traction and makes it more stable and easier to drive.

It is very important that battery has a very small amount of play in all directions so it does not tweak the car, but the play cannot be too much otherwise the battery may fall out in crashes.



ALU REAR WING SHIM					
OPTION	#353561	SILVER	XRAY	OPTION	
	#293561	SILVER	HUDY	OPTION	
	#293561-K	BLACK	HUDY	OPTION	
	#293561-O	ORANGE	HUDY	OPTION	

OFFSET ALU WHEEL SHIMS				
OPTION	#305380	0.75mm	OPTION	
	#305382	0.5mm	OPTION	
	#305381	1.0mm	OPTION	



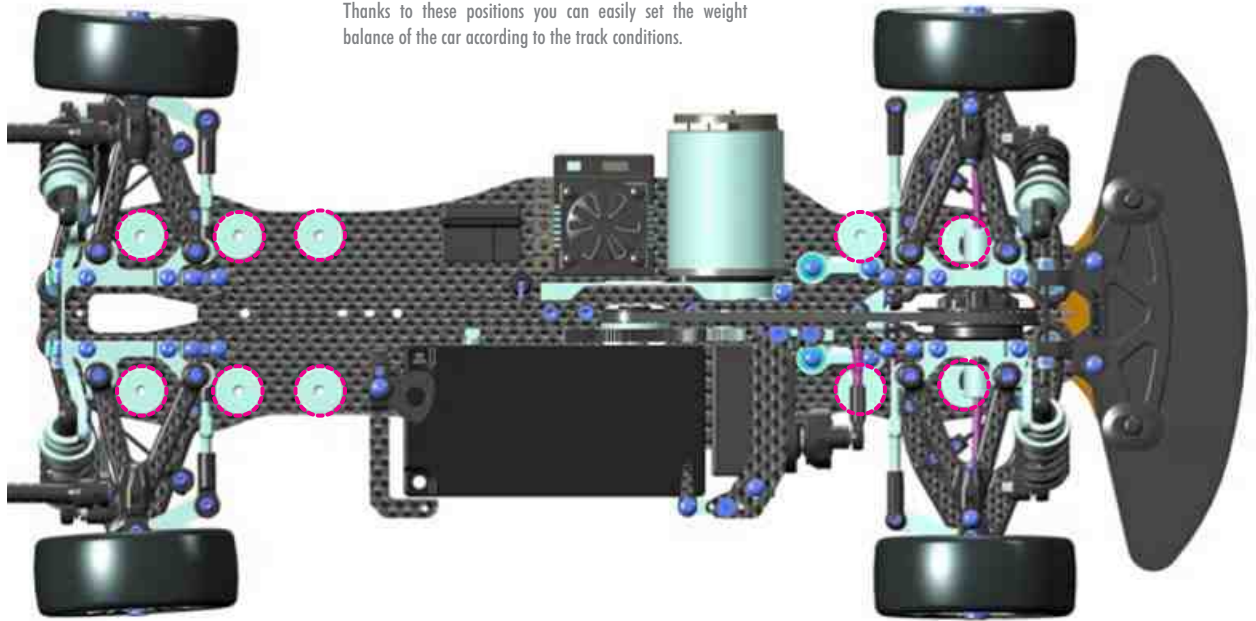
VIDEO TECH TIP



CHASSIS TWEAK

**OPTION**

The chassis features holes for mounting the #293085 - HUDY PURE TUNGSTEN WEIGHT THIN ROUND. Thanks to these positions you can easily set the weight balance of the car according to the track conditions.



**OPTION** #326181  
STAINLESS STEEL  
BATTERY WEIGHT 35g



**OPTION** #293083  
HUDY PURE TUNGSTEN  
WEIGHT 15g



**OPTION** #293085  
HUDY PURE TUNGSTEN  
WEIGHT THIN ROUND  
WITH M3 - 10g



**OPTION** #293081  
HUDY PURE TUNGSTEN  
WEIGHT 5g



**OPTION** #293082  
HUDY PURE TUNGSTEN  
WEIGHT 10g

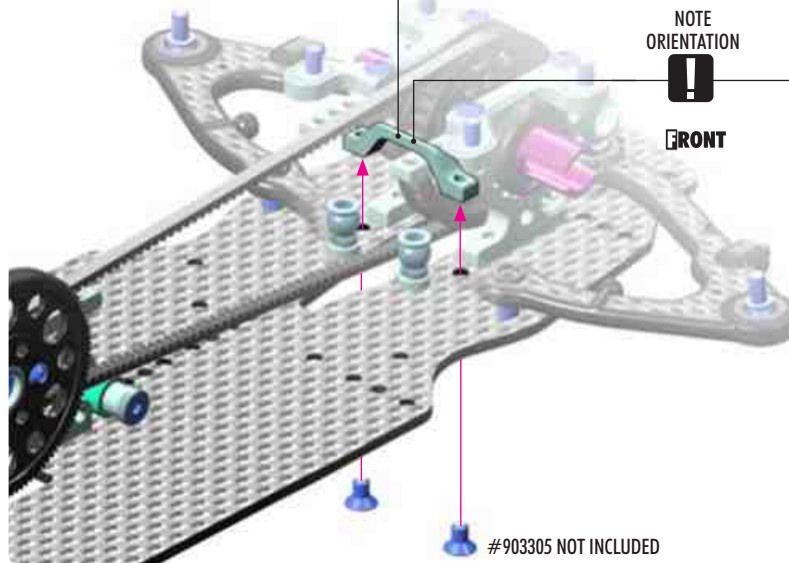
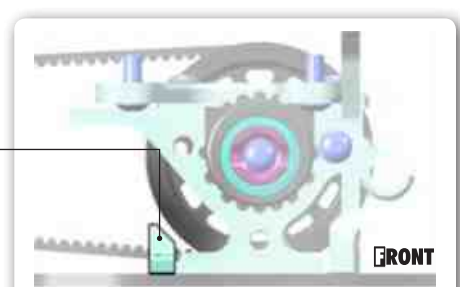



903305  
SFH M3x5

**OPTION**

**OPTION** #302055  
X4 ALU CHASSIS FRONT BRACE

NOTE  
ORIENTATION  
**FRONT**

**FRONT CROSS BRACE**

The front cross brace reduces front chassis flex and improves steering response. Recommended for small technical tracks with low traction.



VIDEO TECH TIP



CHASSIS & TOP DECKS

#903305 NOT INCLUDED

**OPTION**

**BODY STOP SYSTEM**

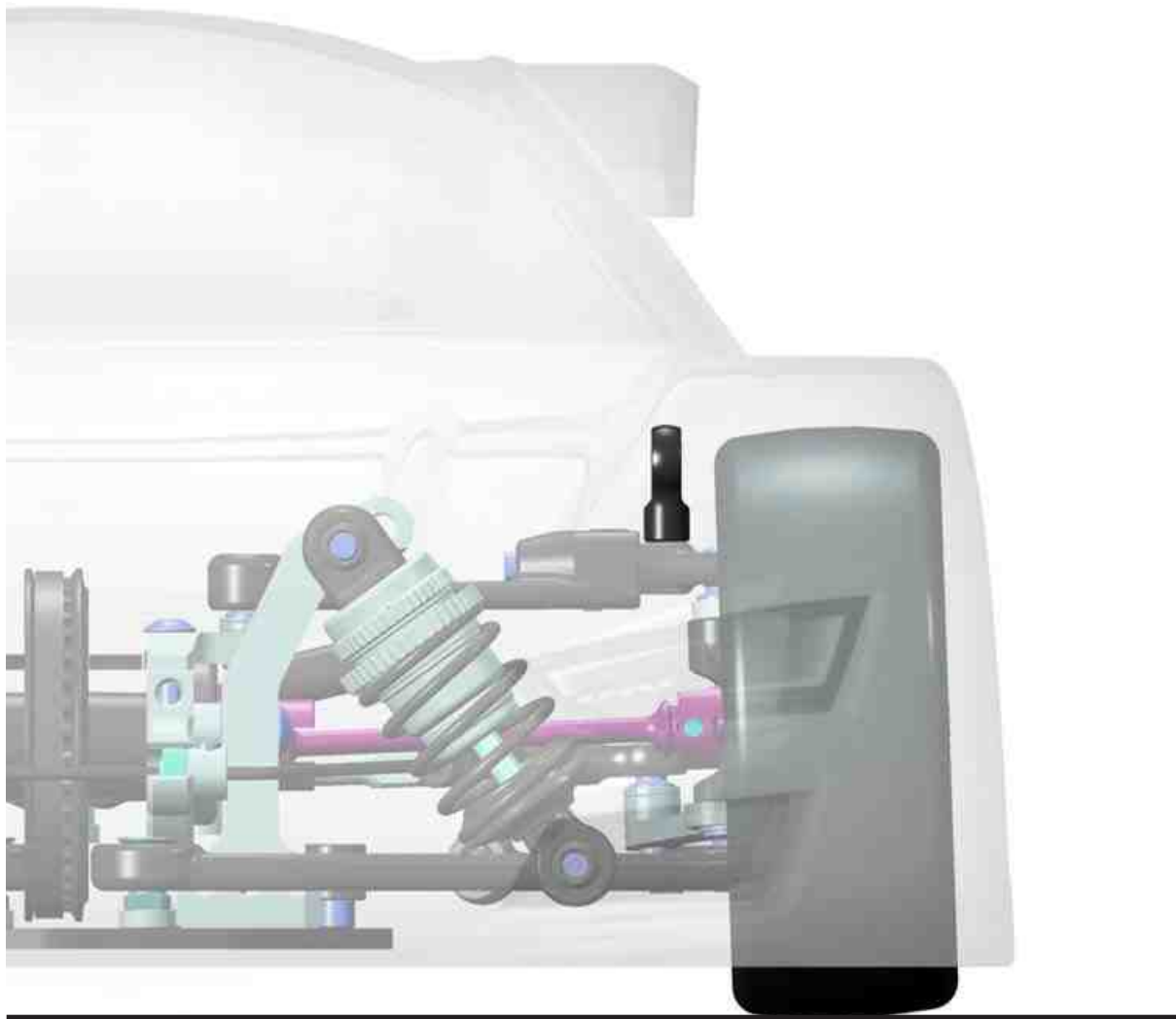
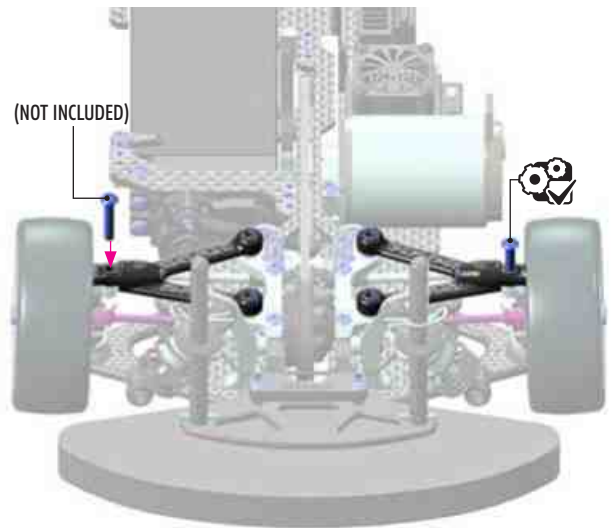
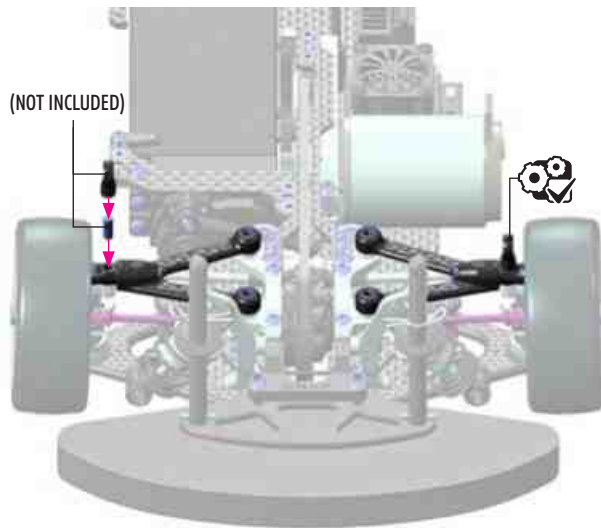
The X4F features an adjustable front body upstop system incorporated into the new upper arm to prevent the body shell from bottoming out and hitting the ground during cornering. When the system is set correctly, it allows the body to be run lower without dragging on the ground to improve aerodynamic efficiency.



**BODY STOP ALTERNATIVE**  
with screw and ball joint  
(#901308 SB M3x8mm / #303457 Ball Joint)



**BODY STOP ALTERNATIVE**  
with screw  
(#902316 SH M3x16mm)



VIDEO TECH TIP

REAR BODY POST MOUNTING



EXCLUSIVE PROFESSIONAL

# HUDY



- 108301
- 108302
- 108303
- 108304
- 108305

107905

199181

104002

199911

109820

109800

107865

107771

107712

181040

107714

107702

181030

107719

181110

107715

293110

107713

293112

107716

293111

293113

107880

- 104002 HUDY AIR VAC - VACUUM PUMP - ON-ROAD
- 106260 HUDY TIRE ADDITIVE - TIRE GRIPPER - 50ML - V2
- 107090 HUDY BEARING CHECKING TOOL
- 107601 LIMITED EDITION - REAMER FOR BODY 0-9MM + COVER - SMALL
- 107643 LIMITED EDITION - ARM REAMER # 3.0MM
- 107702 CHASSIS DROOP GAUGE SUPPORT BLOCKS FOR 1/10 (2)
- 107712 CHASSIS DROOP GAUGE -3.0-10MM FOR 1/10 CARS (10MM)
- 107713 CHASSIS RIDE HEIGHT GAUGE STEPPED 2.0-15.0MM
- 107714 ULTRA-FINE CHASSIS DROOP GAUGE 4.0-6.6MM
- 107715 CHASSIS RIDE HEIGHT GAUGE 1.0-15.0MM (BEVELED)
- 107716 ULTRA-FINE CHASSIS RIDE HEIGHT GAUGE 3.8-8.0MM
- 107719 QUICK DOWNSTOP GAUGE TOOL 1.0-6.5MM
- 107720 CHASSIS RIDE HEIGHT GAUGE 30-17MM FOR 1/8 & 1/10 OFF-ROAD

- 107750 HUDY GRAPHITE QUICK CAMBER GAUGE 1.5°, 2°, 2.5° FOR 1/10 TC
- 107771 HUDY BODY GAUGE 1/10 ELECTRIC TOURING CARS
- 107855 HUDY PIT LED
- 107865 HUDY PROFESSIONAL DIGITAL POCKET SCALE 300G/0.01G
- 107870 HUDY FIBRE-REINFORCED TAPE - BLACK
- 107875 HUDY ULTRA DOUBLE-SIDED TAPE
- 107880 CHASSIS BALANCING TOOL (2)
- 107904 HUDY QUICK-TWEAK STATION 1/10 & 1/12 ON-ROAD
- 107905 HUDY TWEAK BOARD SET
- 108150 HUDY 1/10 TOURING CAR STAND - V3
- 108190 HUDY ALU TRAY FOR PARTS
- 108301 FLAT SET-UP BOARD 1/10 & 1/12 - LIGHTWEIGHT - GREY
- 108302 FLAT SET-UP BOARD 1/10 & 1/12 - LIGHTWEIGHT - SILVER GREY

- 108303 FLAT SET-UP BOARD 1/10 & 1/12 - LIGHTWEIGHT - BLACK
- 108304 FLAT SET-UP BOARD 1/10 & 1/12 - LIGHTWEIGHT - SILVER GREY
- 108305 FLAT SET-UP BOARD 1/10 & 1/12 - LIGHTWEIGHT - GREY
- 109301 HUDY SET-UP STATION FOR 1/10 & 1/12 ON-ROAD
- 109360 ALU NUT FOR 1/10 TOURING CARS
- 109370 ALU SET-UP WHEEL FOR 1/10 & 1/12 ON-ROAD
- 109800 HUDY ALU TRAY FOR ON-ROAD
- 109840 HUDY ALU TRAY FOR 1/10 & 1/12 ON-ROAD
- 109860 HUDY ALU TRAY FOR SET-UP
- 109880 HUDY ALU TRAY FOR ACCESSORIES
- 111545 LIMITED EDITION - ALLEN YOUNG
- 112045 LIMITED EDITION - ALLEN YOUNG
- 113045 LIMITED EDITION - ALLEN YOUNG





& 1/12 - LIGHTWEIGHT - DARK GREY  
 & 1/12 - LIGHTWEIGHT - TITAN  
 & 1/12 - LIGHTWEIGHT - BLACK  
 R 1/10 TOURING CARS  
 GING SET-UP SYSTEM (4)  
 R 1/10 RUBBER TIRES (4)  
 ROAD DIFF & SHOCKS  
 OFF-ROAD DIFF ASSEMBLY  
 UP SYSTEM  
 SSORIES & PIT LED  
 WRENCH # 1.5MM  
 WRENCH # 2.0MM  
 WRENCH # 3.0MM

132045 LIMITED EDITION - ALLEN WRENCH + BALL REPL. TIP # 2.0MM  
 175535 LIMITED EDITION - SOCKET DRIVER # 5.5MM  
 177035 LIMITED EDITION - SOCKET DRIVER # 7.0MM  
 181030 HUDY SPRING STEEL TURNBUCKLE WRENCH 3 MM  
 181034 TURNBUCKLE WRENCH 3 & 4MM - HUDY SPRING STEEL™  
 181040 TURNBUCKLE WRENCH 4MM - HUDY SPRING STEEL™  
 181110 HUDY BALL JOINT WRENCH  
 183000 HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 19MM  
 183011 HUDY PROFESSIONAL MULTI TOOL  
 188981 HUDY POCKET HOBBY KNIFE  
 188990 HUDY PROFESSIONAL BODY SCISSORS  
 199060 HUDY ALU TOOL STAND  
 199181 HUDY CAR BAG - 1/10 ON-ROAD - TC - PAN CAR - CUSTOM NAME

199270 HUDY LIPO SAFETY BAG - CUSTOM NAME  
 199911 HUDY PIT MAT ROLL 750X1200MM WITH PRINTING  
 293110 HUDY BRUSHLESS RC FAN 30MM  
 293111 HUDY BRUSHLESS RC FAN 40MM  
 298100 HUDY TIN ROUND BOX 80X30MM

For more information about tools, set-up equipment and accessories suitable for your car please visit:

[www.hudy.net](http://www.hudy.net)





EXCLUSIVE PROFESSIONAL

# HUDY

# HUDY

199295-H

199290-H

106261

106200

803040

107861

107840

107761

105590

107846

106290

293080

HUDY  
SOLDER TIN

293012

293011

293083

293082

293081

293084

294017~294035

294127~294160

- 107761 HUDY ADJUSTABLE CAMBER GAUGE 80MM
- 107772 HUDY PROFESSIONAL 1/10 TC WHEEL ARCH MARKER + WHEEL ADAPTER & NUT
- 106210 HUDY GRAPHITE GREASE
- 106230 HUDY BEARING OIL
- 106200 HUDY MAGIC CLEANING GUM
- 106261 HUDY TIRE ADDITIVE - TIRE GRIPPER RED - 50ML
- 106350 HUDY PREMIUM SILICONE OIL 500 CST - 50ML
- 107861 HUDY PROFESSIONAL RACING STOPWATCH XL DISPLAY
- 106290 HUDY PROFESSIONAL SOLDER 3M LENGTH
- 107840 CLEANING BRUSH LARGE - SOFT
- 107846 CLEANING BRUSH SMALL - SOFT
- 105520 WHEEL ADAPTER FOR 1/10 ON-ROAD & 1/10 OFF-ROAD - 12MM

- 105590 HUDY WHEEL BALANCING PUTTY
- 181090 HUDY SPECIAL TOOL FOR TURNBUCKLES & NUTS
- 181091 HUDY TURNBUCKLE WRENCH 3 & 4MM - V2
- 803040 HUDY 1/10 PRE-CUT SLICK TIRES RIGHT & LEFT (2+2)
- 293011 HUDY STAINLESS STEEL BATTERY WEIGHT 35G
- 293012 HUDY STAINLESS STEEL BATTERY WEIGHT FOR NARROW BATTERY PACK 35G
- 293080 LEAD WEIGHTS 4X5G & 4X10G WITH 3M GLUE
- 293081 HUDY PURE TUNGSTEN WEIGHT 5G
- 293082 HUDY PURE TUNGSTEN WEIGHT 10G
- 293083 HUDY PURE TUNGSTEN WEIGHT 15G
- 293084 PRECISION BALANCING CHASSIS WEIGHT 10G (4)
- 293311 GRAPHITE REAR WING SIDE PLATE 0.5MM - 1/10 ELECTRIC (2)





199280M-H



199296-H



298015



105520



298012



298016



298018

298019



107772



181090



298017



293311

106310~106694



298014



298013



106210



106230



293491~293493

293401~293403

293497~293499

293404~293406

293501~293503

293407~293409



181091



- 293403 ALU CLAMP SERVO HORN - FUTABA, SAVÖX - OFFSET 1-HOLE M3 - 25T
- 293493 ALU SERVO HORN - FUTABA, SAVÖX - OFFSET 1-HOLE M3 - 25T - V2
- 294023 HUDY ALU ULTRA-LIGHT PINION GEAR - HARD COATED - 23T / 48
- 294140 HUDY ALU ULTRA-LIGHT PINION GEAR - HARD COATED - 40T / 64
- 294156 HUDY ALU ULTRA-LIGHT PINION GEAR - HARD COATED - 56T / 64
- 298012 HUDY PARTS BOX - 10-COMPARTMENTS
- 298013 HUDY SPRINGS BOX - 10-COMPARTMENTS
- 298014 HUDY PARTS BOX - 8-COMPARTMENTS
- 298015 HUDY PARTS CASE - 290 X 195MM
- 298016 HUDY TINY HARDWARE BOX - 4-COMPARTMENTS
- 298017 HUDY TINY ONE-PIECE HARDWARE BOX - 8-COMPARTMENTS
- 298018 HUDY TINY HARDWARE BOX - 8-COMPARTMENTS

- 298019 HUDY DIFF BOX - 8-COMPARTMENTS
- 199280M-H HUDY HARD CASE - 140X110X95MM - OIL BAG MEDIUM
- 199290-H HUDY HARD CASE - 235X190X75MM - ACCESSORIES / ENGINE BAG
- 199295-H HUDY HARD CASE - 280X150X85MM - ACCESSORIES BAG LARGE
- 199296-H HUDY HARD CASE - 120X85X46MM - ACCESSORIES / STOP WATCH

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[www.teamxray.com](http://www.teamxray.com)

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