

1/10 LUXURY ELECTRIC TOURING CAR

# **XRAY T4**



**INSTRUCTION MANUAL**  
**FOR T4'21 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**  
K Vystavisku 6992  
91101 Trenčín  
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Phone: 421-32-7401100  
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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 NEGLECT.**

## SAFETY PRECAUTIONS

Contains:

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

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

CAUTION: CANCER HAZARD

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

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

Take appropriate safety precautions prior to operating this model. You are responsible for this model's assembly and safe operation! Please read the instruction manual before building and operating this model and follow all safety precautions. Always keep the instruction manual at hand for quick

reference, even after completing the assembly. Use only genuine and original authentic XRAY parts for maximum performance. Using any third party parts on this model will void 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



Combination Pliers  
(HUDY #189020)



Side Cutters  
(HUDY #189010)



Pocket Hobby Knife (HUDY #188981)



Special Tool for turnbuckles, nuts (HUDY #181090)



Turnbuckle Wrench 4mm (HUDY #181040)



Turnbuckle Wrench 3mm (HUDY #181030)



Allen 1.5mm (#111545 - HUDY EXCLUSIVE Limited Edition)



Allen 2.0mm (#112045 - HUDY EXCLUSIVE Limited Edition)



Allen 3.0mm (#113045 - HUDY EXCLUSIVE Limited Edition)



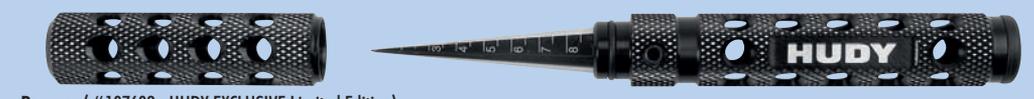
Arm Reamer 3.0mm (#107643 - HUDY EXCLUSIVE Limited Edition)



Socket 5.5mm (#175535 - HUDY EXCLUSIVE Limited Edition)



Socket 7.0mm (#177035 - HUDY EXCLUSIVE Limited Edition)



Reamer (#107602 - HUDY EXCLUSIVE Limited Edition)



Scissors (HUDY #188990)

Professional Multi Tool  
(HUDY #183011)

Tweezer

# INCLUDED

\* Kit includes smaller but sufficient amount of oil and grease to build the car.

450cSt (#106345)  
HUDY Premium Silicone Oils



5.000cSt (#106450)  
HUDY Premium Silicone Oils



(HUDY #106210)  
Premium Graphite Grease



# 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 #803053 C3-28) (HUDY #803062 A1-36)</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>

# NOT INCLUDED



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.



### 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:

- 305134** **STYLE A** - indicates parts that are included in the bag marked for the section.
- 301004** **STYLE B** - indicates parts that are included in the box.
- 304900** **STYLE C** - indicates parts that are already assembled from previous steps.

## CHASSIS PREPARATION



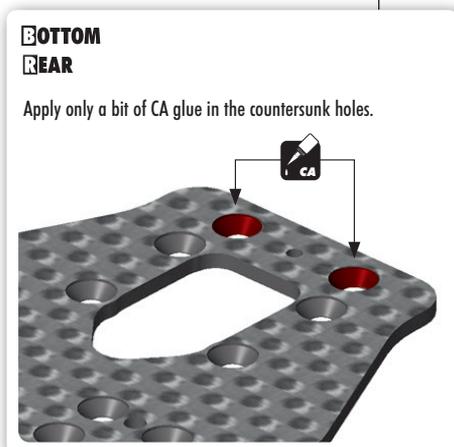
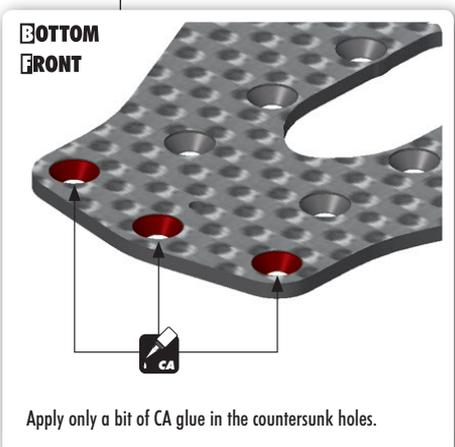
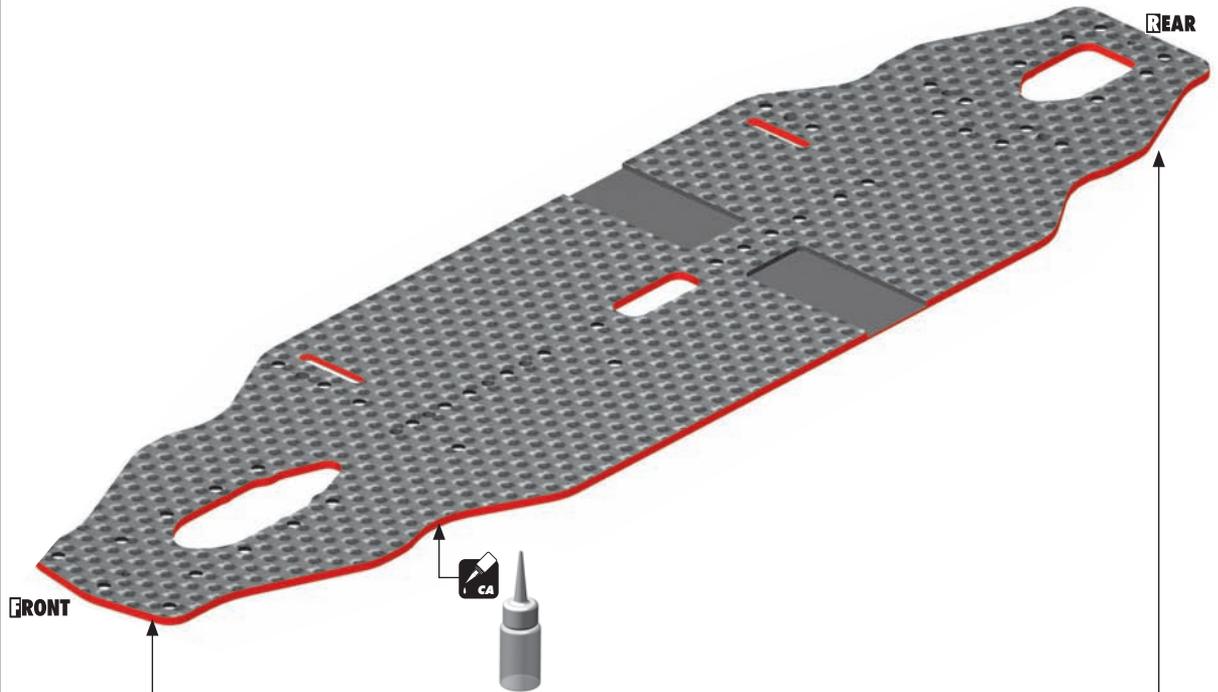
VIDEO TECH TIP



CHASSIS PREPARATION

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

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



# 1. GEAR DIFFERENTIAL & FRONT SOLID AXLE

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

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

**01.2**

**GEAR DIFFERENTIAL**

**#304971**  
OPTION HUDY SPRING STEEL™ OUTDRIVES

**#305136**  
OPTION ALU SOLID DRIVESHAFT ADAPTERS

**#305137**  
OPTION STEEL LIGHTWEIGHT SOLID AXLE DRIVESHAFT ADAPTERS HUDY SPRING STEEL™

**01.1**

**COMPOSITE SOLID AXLE**

<b>BAG</b>	<p><b>01.1</b></p> <p><b>01.2</b></p>	<table border="0"> <tr> <td>304900</td> <td>XRAY GEAR DIFFERENTIAL - SET</td> <td>902310</td> <td>HEX SCREW SH M3x10 (10)</td> </tr> <tr> <td>304910</td> <td>COMPOSITE GEAR DIFF. CASE &amp; COVER</td> <td>903256</td> <td>HEX SCREW SFH M2.5x6 (10)</td> </tr> <tr> <td>304930</td> <td>COMPOSITE GEAR DIFF BEVEL &amp; SATELLITE GEARS (2+4)</td> <td>941015</td> <td>BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2)</td> </tr> <tr> <td>304970</td> <td>ALU GEAR DIFF OUTDRIVE ADAPTER - 7075 T6 (2)</td> <td>964031</td> <td>WASHER S 3.5x10x0.2 (10)</td> </tr> <tr> <td>304980</td> <td>COMPOSITE GEAR DIFF CROSS PIN</td> <td>964050</td> <td>WASHER S 5x15x0.3 (10)</td> </tr> <tr> <td>304990</td> <td>DIFF GASKET (4)</td> <td>971240</td> <td>SILICONE O-RING 24x0.7 (10)</td> </tr> <tr> <td>305134</td> <td>STEEL SOLID AXLE DRIVESHAFT ADAPTER - HUDY SPRING STEEL™ (2)</td> <td>972050</td> <td>SILICONE O-RING 5x2 (10)</td> </tr> <tr> <td>305188</td> <td>COMPOSITE SOLID AXLE 38T - SET</td> <td>981210</td> <td>PIN 2x10 (10)</td> </tr> </table>	304900	XRAY GEAR DIFFERENTIAL - SET	902310	HEX SCREW SH M3x10 (10)	304910	COMPOSITE GEAR DIFF. CASE & COVER	903256	HEX SCREW SFH M2.5x6 (10)	304930	COMPOSITE GEAR DIFF BEVEL & SATELLITE GEARS (2+4)	941015	BALL-BEARING 10x15x4 RUBBER SEALED - OIL (2)	304970	ALU GEAR DIFF OUTDRIVE ADAPTER - 7075 T6 (2)	964031	WASHER S 3.5x10x0.2 (10)	304980	COMPOSITE GEAR DIFF CROSS PIN	964050	WASHER S 5x15x0.3 (10)	304990	DIFF GASKET (4)	971240	SILICONE O-RING 24x0.7 (10)	305134	STEEL SOLID AXLE DRIVESHAFT ADAPTER - HUDY SPRING STEEL™ (2)	972050	SILICONE O-RING 5x2 (10)	305188	COMPOSITE SOLID AXLE 38T - SET	981210	PIN 2x10 (10)
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**964050**  
5x15x0.3

**972050**  
0.5x2

**981210**  
P 2x10

**STEP 4 5 DETAIL**

**#304971**  
OPTION HUDY SPRING STEEL™ OUTDRIVES

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

**964050**  
5x15x0.3

**972050**  
0.5x2

**981210**  
P 2x10

**NOTE ORIENTATION**

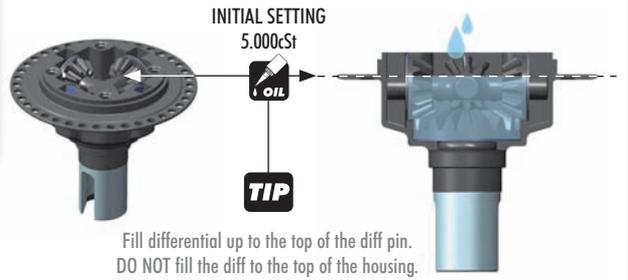
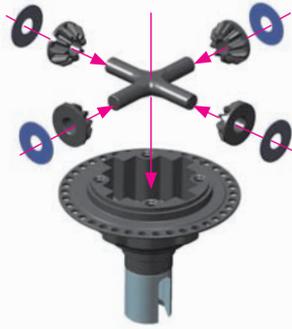
**STEP 4 DETAIL**  
Use tweezers to insert pin.

**CUTAWAY VIEW**

# 1. GEAR DIFFERENTIAL & FRONT SOLID AXLE



964031  
S 3.5x10x0.2



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



## TIP TIPS FOR DIFFERENTIALS TIP

### LOW TRACTION

1.000cSt (HUDY #106410)  
2.000cSt (HUDY #106420)

### MEDIUM TRACTION

2.000cSt (HUDY #106420)  
3.000cSt (HUDY #106430)  
4.000cSt (HUDY #106440)  
5.000cSt (HUDY #106450)

### HIGH TRACTION

5.000cSt (HUDY #106450)  
6.000cSt (HUDY #106460)  
7.000cSt (HUDY #106470)  
8.000cSt (HUDY #106480)  
9.000cSt (HUDY #106490)  
10.000cSt (HUDY #106510)

### SUPER-HIGH TRACTION

10.000cSt (HUDY #106510)  
11.000cSt (HUDY #106492)  
12.000cSt (HUDY #106512)  
15.000cSt (HUDY #106515)  
20.000cSt (HUDY #106520)

### NOTE

SOFTER oil increases rear traction, HARDER oil increases on-power steering and stability. It is important not to use soft oils in high-traction conditions as this would not increase traction, but would make the car loose as the car would become too twitchy.

However, if the oil is too soft, it could generate the same effect like the car has no traction. Therefore it is very important to choose the correct oil very carefully. We recommend using softer oil first, then try harder oil to better understand the effect on the car's behavior at the track. Choose the oil accordingly.

### TIP TIPS FOR FRONT DIFFERENTIAL

To increase on-power steering and cornering speed, the gear diff can also be used in the front. **NOTE:** If you use the gear diff in the front, we recommend using optional #304971 HUDY Spring Steel™ outdrives because the stress on the outdrives in the front is much higher than in the rear.

### USE THESE OILS FOR FRONT DIFFERENTIAL

500.000cSt (HUDY #106650)  
1 000.000cSt (HUDY #106692)  
2 000.000cSt (HUDY #106694)

To make the front differential tighter, you can use cleaning gum instead of oil.

### IMPORTANT!

Using cleaning gum instead of oil in the gear differential can lead to gear breakage because the gears are working under dry conditions.



VIDEO TECH TIP



HUDY AIR VAC DIFF BUILD

#104002  
HUDY AIR VAC – VACUUM PUMP

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



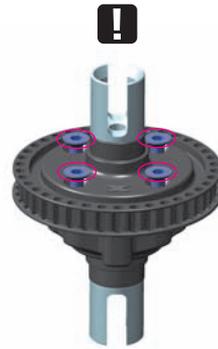
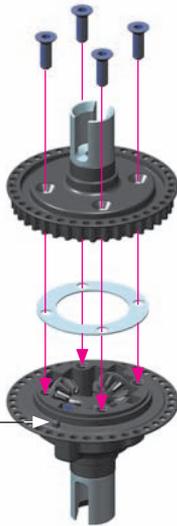
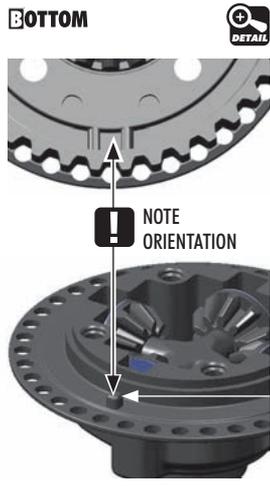
### IMPORTANT!

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.

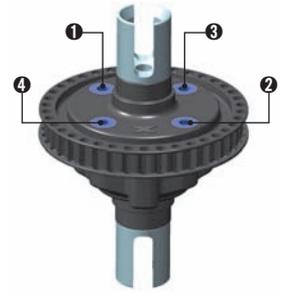
# 1. GEAR DIFFERENTIAL & FRONT SOLID AXLE



903256  
SFH M2.5x6



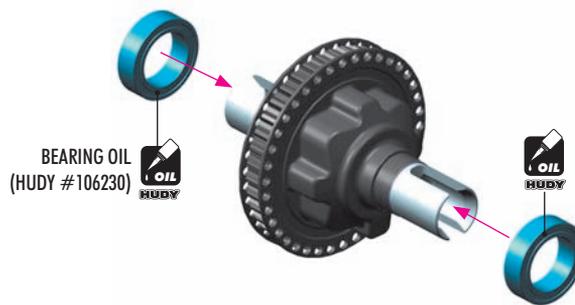
Tighten the screws equally but do NOT tighten them completely.



Finish tightening in this order.



941015  
BB 10x15x4



BEARING OIL  
(HUDY #106230)



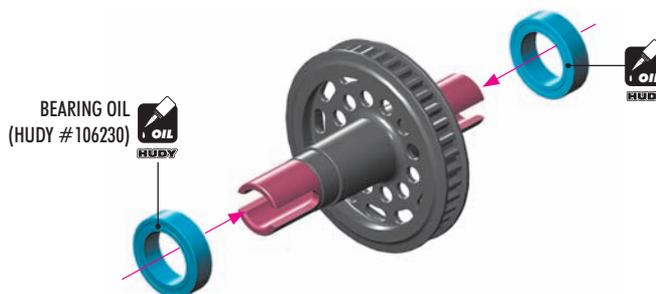
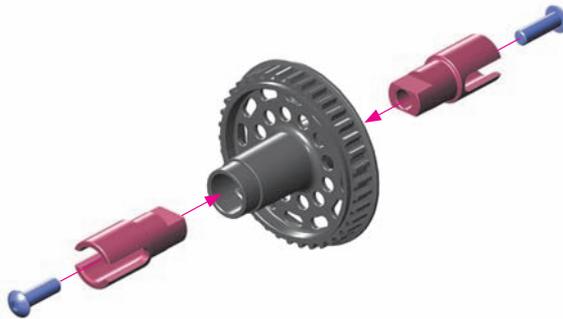
## FRONT SOLID AXLE



902310  
SH M3x10



941015  
BB 10x15x4



BEARING OIL  
(HUDY #106230)



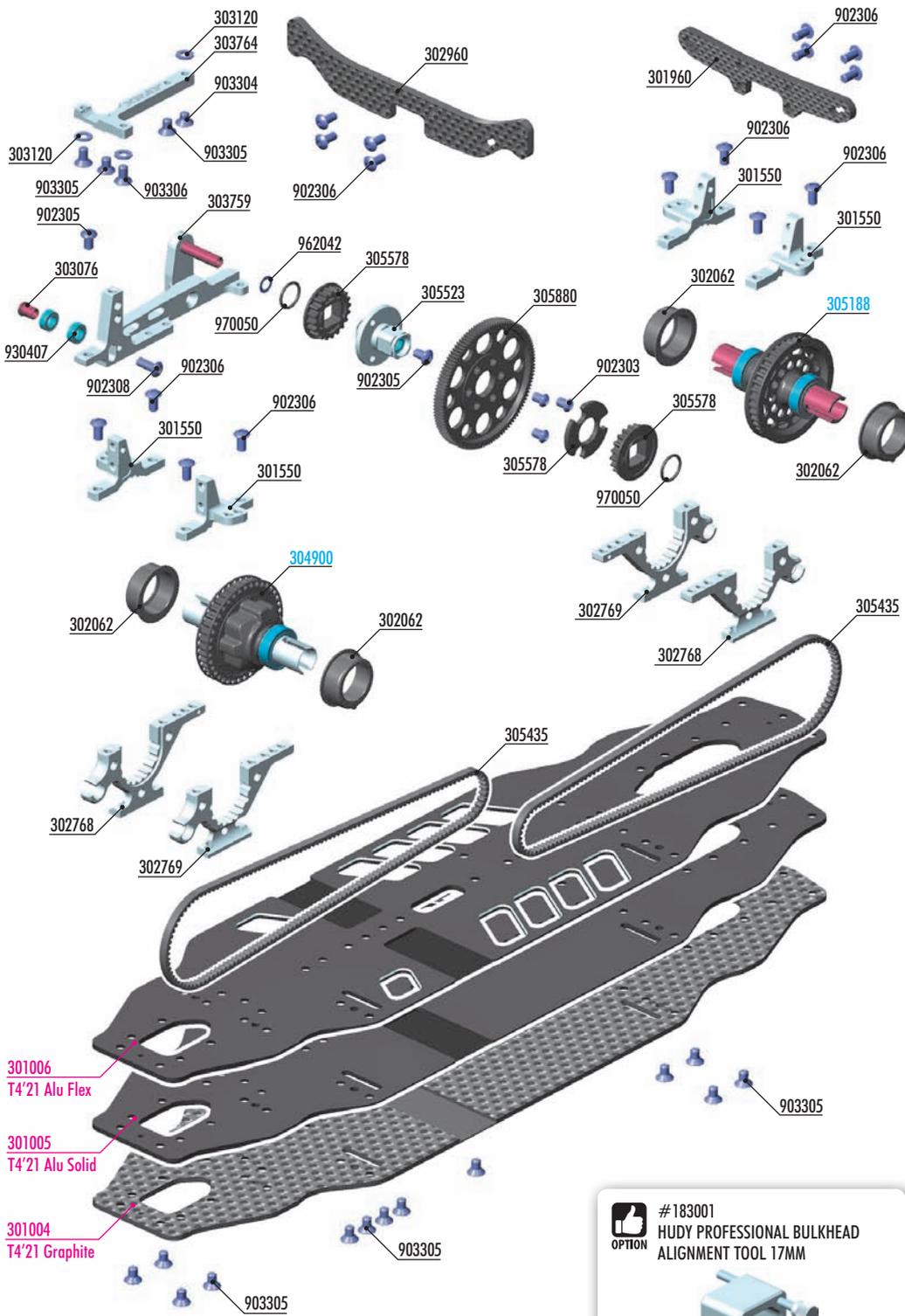
#305136  
ALU SOLID DRIVESHAFT ADAPTERS



#305137  
STEEL LIGHTWEIGHT SOLID AXLE DRIVESHAFT  
ADAPTERS HUDY SPRING STEEL™



# 2. CENTRAL TRANSMISSION



**OPTION**

OFFSET 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

**OPTION**

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	OPTION
#305870-0	100T / 64P	OPTION
#305874	104T / 64P	OPTION
#305876	106T / 64P	OPTION
#305878	108T / 64P	OPTION
#305880	110T / 64P	INCLUDED
#305880-0	110T / 64P	OPTION
#305882	112T / 64P	OPTION
#305884	114T / 64P	OPTION

**OPTION** #30578-0  
FIXED PULLEY 20T - GRAPHITE (2)

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

**OPTION** #301007  
T4'21 ALU EXTRA-FLEX CHASSIS 2.0MM - SWISS 7075 T6

**OPTION** #305436  
HIGH-PERFORMANCE DRIVE BELT LOW-FRICTION 3x351MM

**OPTION** #183001  
HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 17MM

- 301006 T4'21 Alu Flex
- 301005 T4'21 Alu Solid
- 301004 T4'21 Graphite

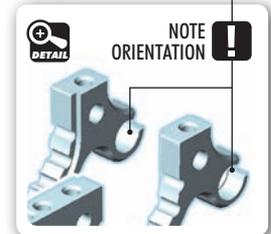
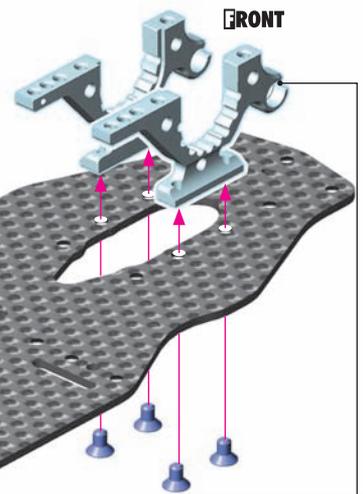
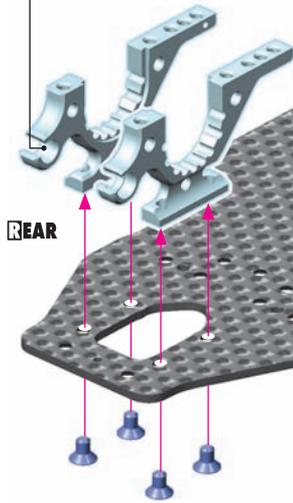


301550	ALU UPPER CLAMP WITH 2 ADJ. ROLL-CENTERS (L+R)	902305	HEX SCREW SH M3x5 (10)
301960	ULP GRAPHITE SHOCK TOWER FRONT 3.0MM	902306	HEX SCREW SH M3x6 (10)
302062	COMPOSITE ADJUSTMENT BALL-BEARING HUB (4)	902308	HEX SCREW SH M3x8 (10)
302768	ALU LOWER ADJUSTMENT BULKHEAD - FRONT R / REAR L	903304	HEX SCREW SFH M3x4 (10)
302769	ALU LOWER ADJUSTMENT BULKHEAD - FRONT L / REAR R	903305	HEX SCREW SFH M3x5 (10)
302960	ULP GRAPHITE SHOCK TOWER REAR 3.0MM	903306	HEX SCREW SFH M3x6 (10)
303076	ALU BELT TENSIONER BUSHING	930407	BALL-BEARING 4x7x2.5 STEEL SEALED - OIL (2)
303120	SET OF ALU SHIM (0.5MM, 1.5MM, 2.5MM)	962042	WASHER S 4x6x0.1 (10)
303759	ALU MOTOR MOUNT	970050	O-RING 5x1 (10)
303764	ALU CHASSIS BRACE - 7075 T6	304900	XRAY GEAR DIFFERENTIAL - SET
305435	HIGH-PERFORMANCE DRIVE BELT 3x351MM	305188	COMPOSITE SOLID AXLE 38T - SET
305523	ALU SOLID LAYSHAFT WITH BEARINGS	301004	T4'21 GRAPHITE CHASSIS 2.2MM
305578	FIXED PULLEY FOR LAYSHAFT WITH BEARINGS 20T (2)	301005	T4'21 ALU SOLID CHASSIS 2.0MM - SWISS 7075 T6
305880	OFFSET SPUR GEAR 110T / 64	301006	T4'21 ALU FLEX CHASSIS 2.0MM - SWISS 7075 T6
902303	HEX SCREW SH M3x4 SMALL HEAD - STAINLESS (10)		

## 2. CENTRAL TRANSMISSION



903305  
SFH M3x5



#183001  
HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 17MM



To align the bulkheads straight, we suggest using the HUDY Professional Bulkhead Alignment tool.

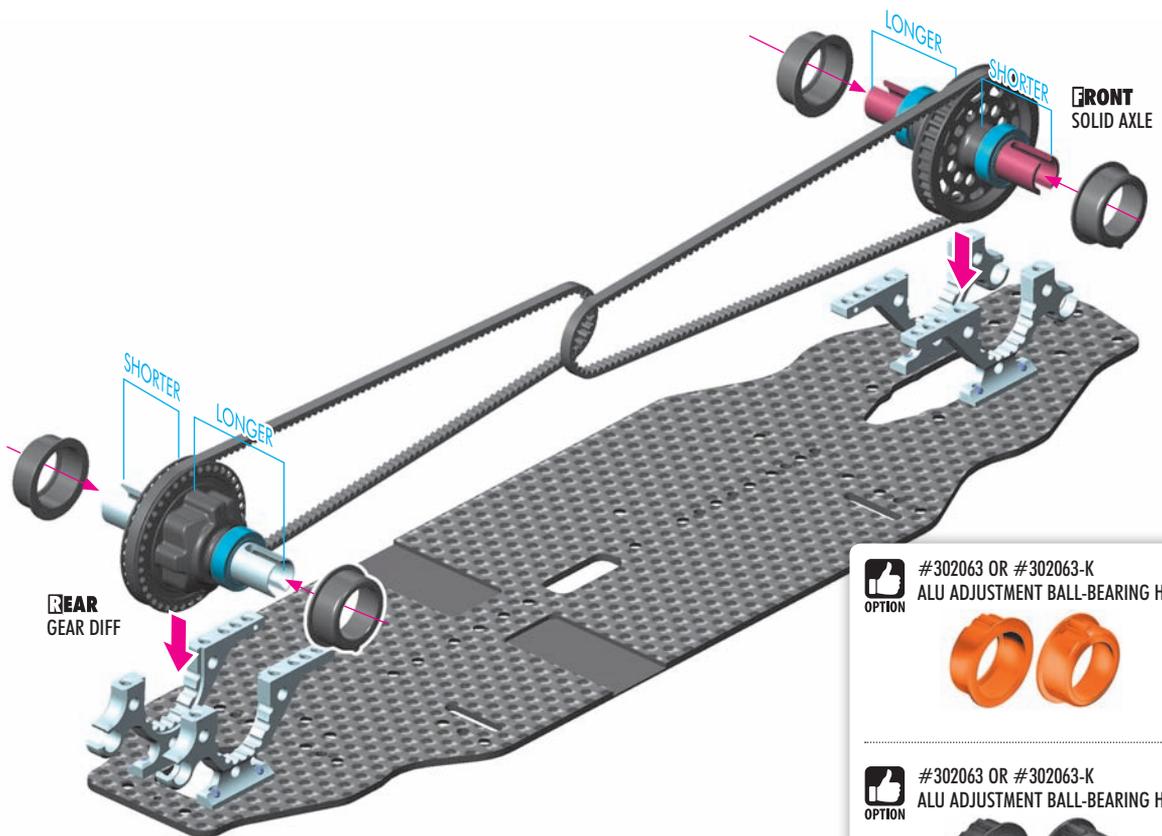
See page 13



VIDEO TECH TIP



T4 BELT TENSION



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



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



## 2. CENTRAL TRANSMISSION

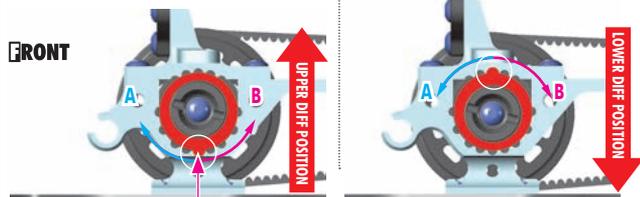
### FRONT BELT TENSION ADJUSTMENT

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

Front solid axle **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 FRONT BELT:

Rotate both front nylon hubs in arrow direction **A**

#### TO TIGHTEN FRONT BELT:

Rotate both front nylon hubs in arrow direction **B**

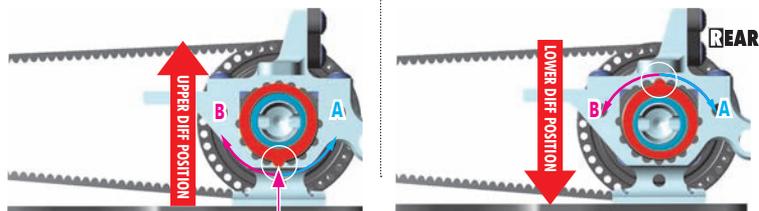
### REAR BELT TENSION ADJUSTMENT

Rear diff **UPPER** position - tab in bottom notch - provides **more on-power steering**, but makes the rear slightly **more loose**.

Rear diff **LOWER** position - tab in top notch - provides **more rear traction** (mainly on-power), makes the car **more stable in chicanes**, but makes the car **push on-power**.

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

Recommended for **low-medium** traction tracks.



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

#### TO LOOSEN REAR BELT:

Rotate both rear nylon hubs in arrow direction **A**

#### TO TIGHTEN REAR BELT:

Rotate both rear nylon hubs in arrow direction **B**



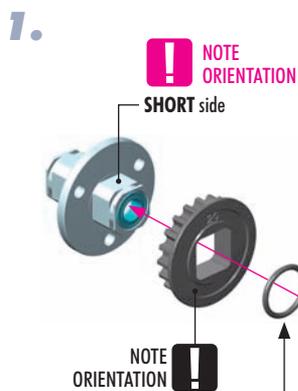
902303  
SH M3x4



970050  
O 5x1



966081  
CH-CLIP 8

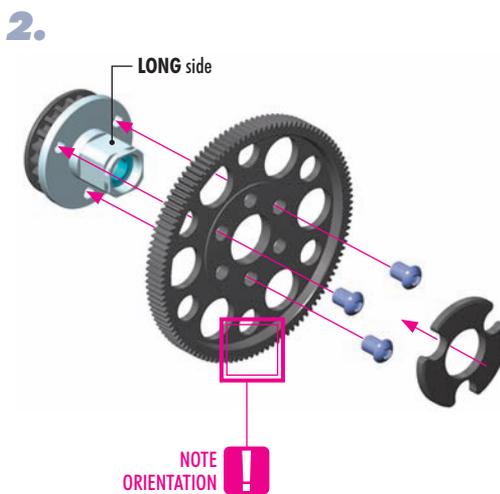


**#966081 CH-CLIP 8 (10)**  
**INCLUDED IN THE LAST AID BAG**

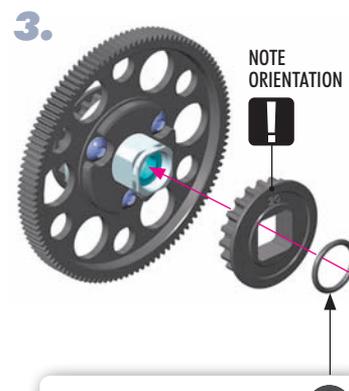
Another alternative to secure the pulley on the layshaft is to use the Clip which is included in the "Last Aid" Bag. To mount the clip on the layshaft, you have to use special Snap Ring Pliers.



Snap Ring Pliers



**NOTE ORIENTATION**



**NOTE ORIENTATION**

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

Another alternative to secure the pulley on the layshaft is to use the 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

**#305578-0**  
**FIXED PULLEY 20T**  
**GRAPHITE (2)**



OPTION

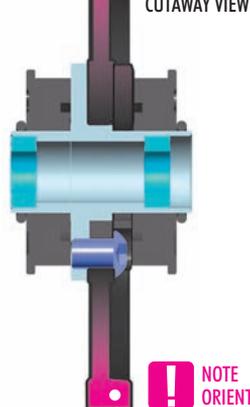
OFFSET SPUR GEARS 48P		
#305772	72T	OPTION
#305776	76T	OPTION
#305778	78T	OPTION
#305779	79T	OPTION
#305781	81T	OPTION
#305784	84T	OPTION
#305784-0	84T	OPTION



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



DETAIL



CUTAWAY VIEW

**NOTE ORIENTATION**

## 2. CENTRAL TRANSMISSION



902305  
SH M3x5



902308  
SH M3x8



930407  
BB 4x7x2.5



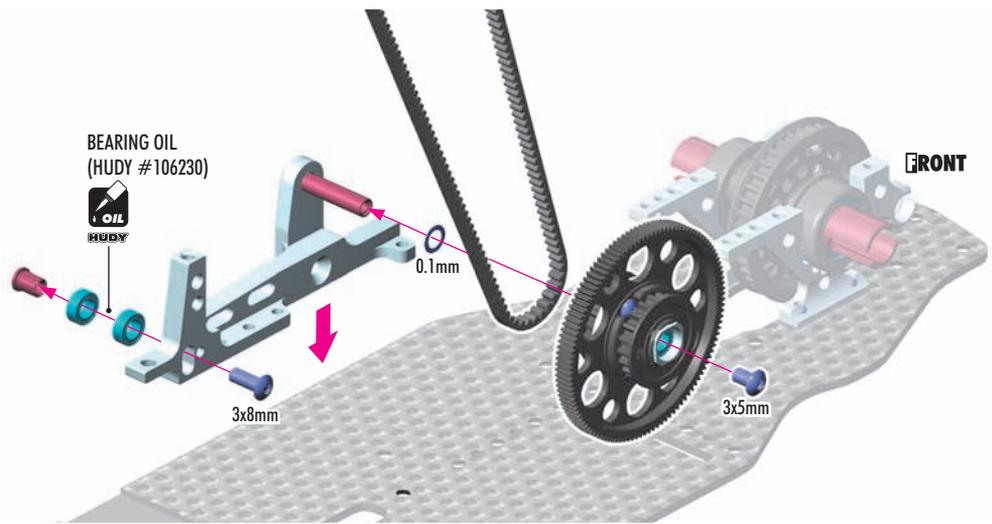
962042  
S 4x6x0.1



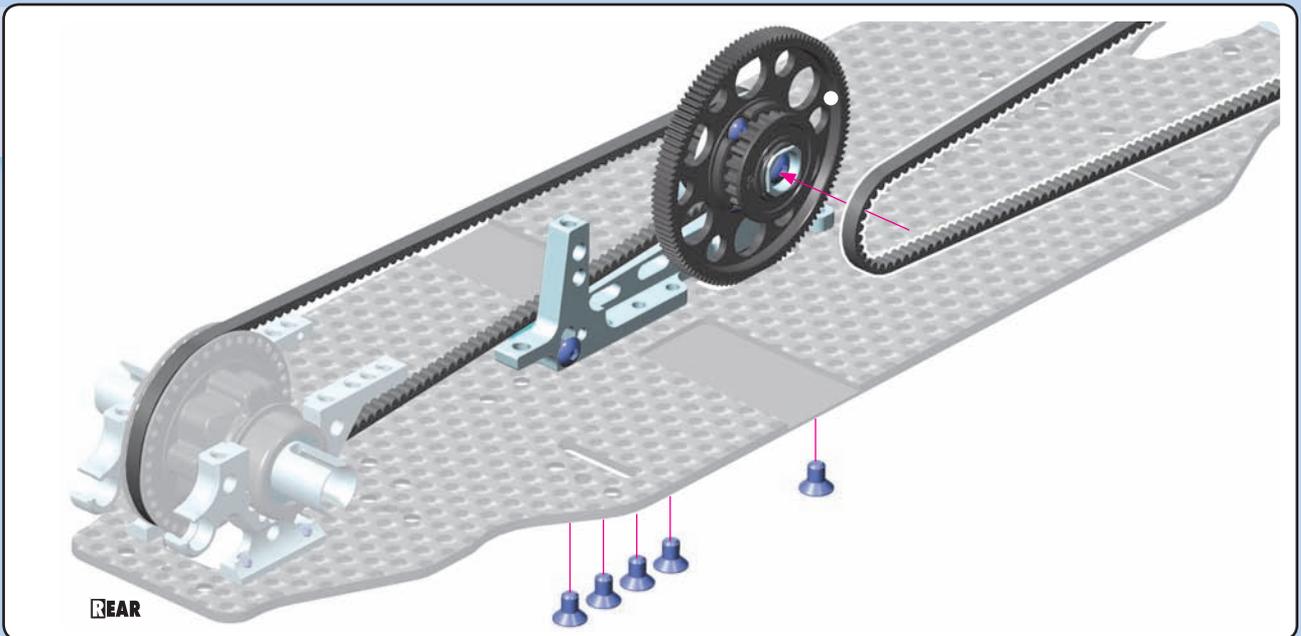
VIDEO TECH TIP



BELT TENSIONER



903305  
SFH M3x5



### MOTOR MOUNT FLEX ADJUSTMENT

The motor mount is part of the chassis flex adjustment. By adding and removing the screws from the motor mount you get different flex possibilities for different tracks and traction conditions.

**NOTE:** By removing screws from the motor mount, the spur gear becomes more susceptible to breakage in crashes.



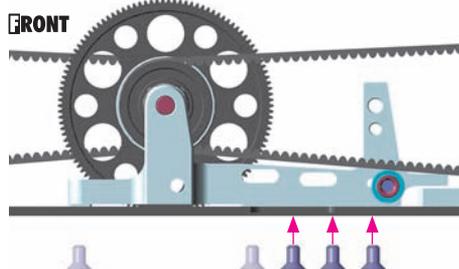
VIDEO TECH TIP



FLEX OPTIONS

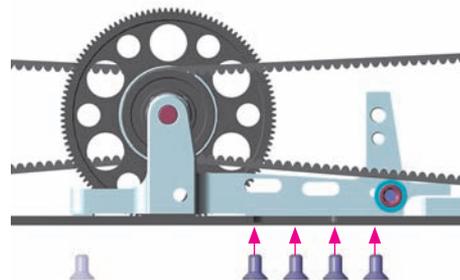
#### SOFT

Use only the 3 rearmost screws to attach the motor mount (as shown). Do not install the 2 screws immediately in front of & behind the spur gear. This allows the chassis to flex more in the central area, and will improve traction (especially on-power). Rear grip will be improved through the entire corner, but initial reaction will decrease. This setting is recommended for low- to medium-traction conditions, both on carpet and asphalt.



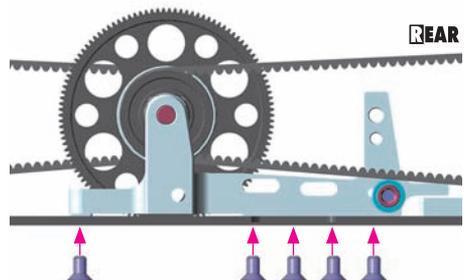
#### MEDIUM

Use only the 4 rearmost screws to attach the motor mount (as shown); do not install the very front screw. This gives a good compromise between stability and initial response. The car will have more rear grip than the full stiff setting, but will not be as stable as the soft setting.

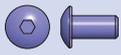


#### STIFF (INITIAL SETTING)

Using all screws to attach the motor mount (as shown) will give the best steering response, but with the least mechanical traction. The car will have more cornering speed, but will be more difficult to drive. Mainly recommended for high-traction carpet conditions.



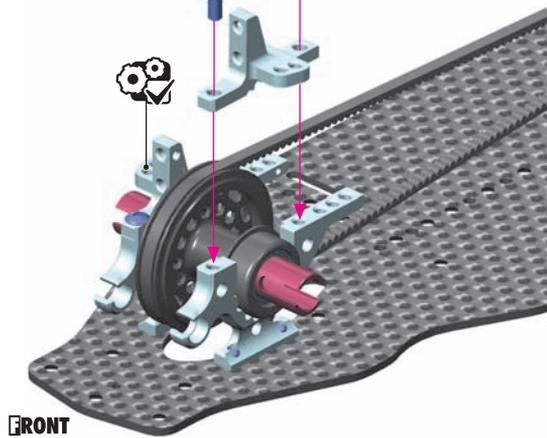
## 2. CENTRAL TRANSMISSION



902306  
SH M3x6



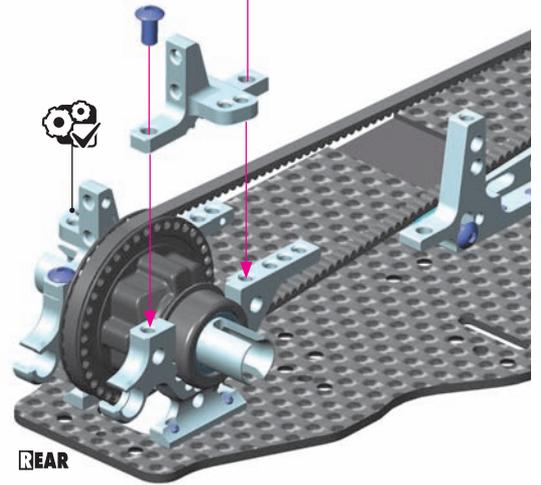
DO NOT TIGHTEN FULLY



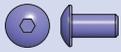
FRONT



DO NOT TIGHTEN FULLY

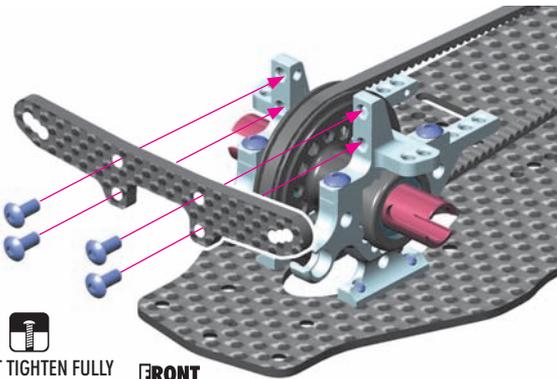


REAR



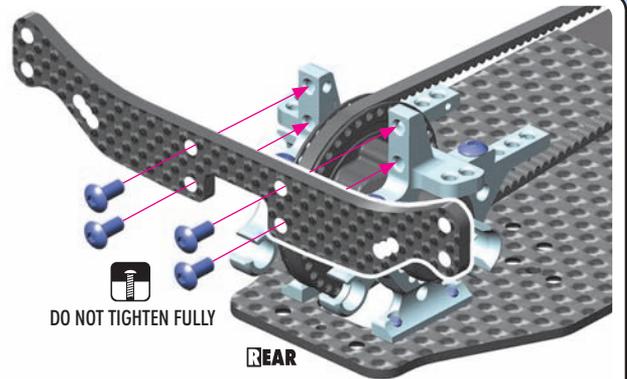
902306  
SH M3x6

DO NOT TIGHTEN FULLY



FRONT

DO NOT TIGHTEN FULLY



REAR

FINISH TIGHTENING IN THIS ORDER.

1 Bulkhead screws (4)  
FULLY TIGHTEN

2 Shock tower screws (4)  
FULLY TIGHTEN

FRONT

FINISH TIGHTENING IN THIS ORDER.

1 Bulkhead screws (4)  
FULLY TIGHTEN

2 Shock tower screws (4)  
FULLY TIGHTEN

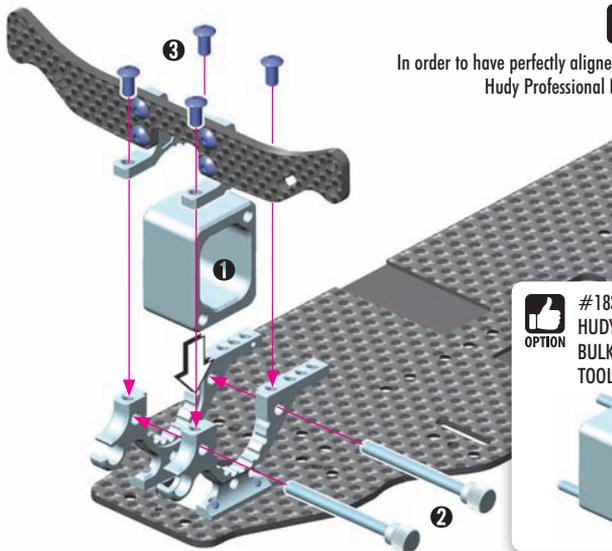
REAR



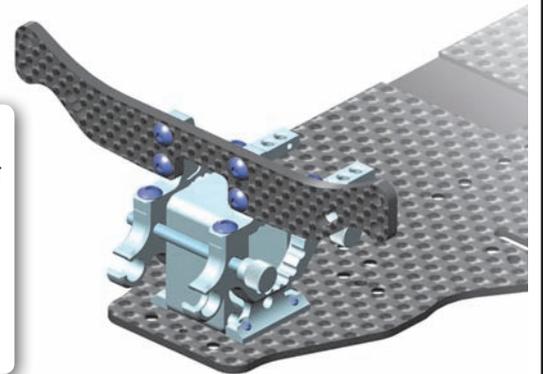
902306  
SH M3x6

**TIP**

In order to have perfectly aligned bulkheads, we recommend using the Hudy Professional Bulkhead Alignment tool.

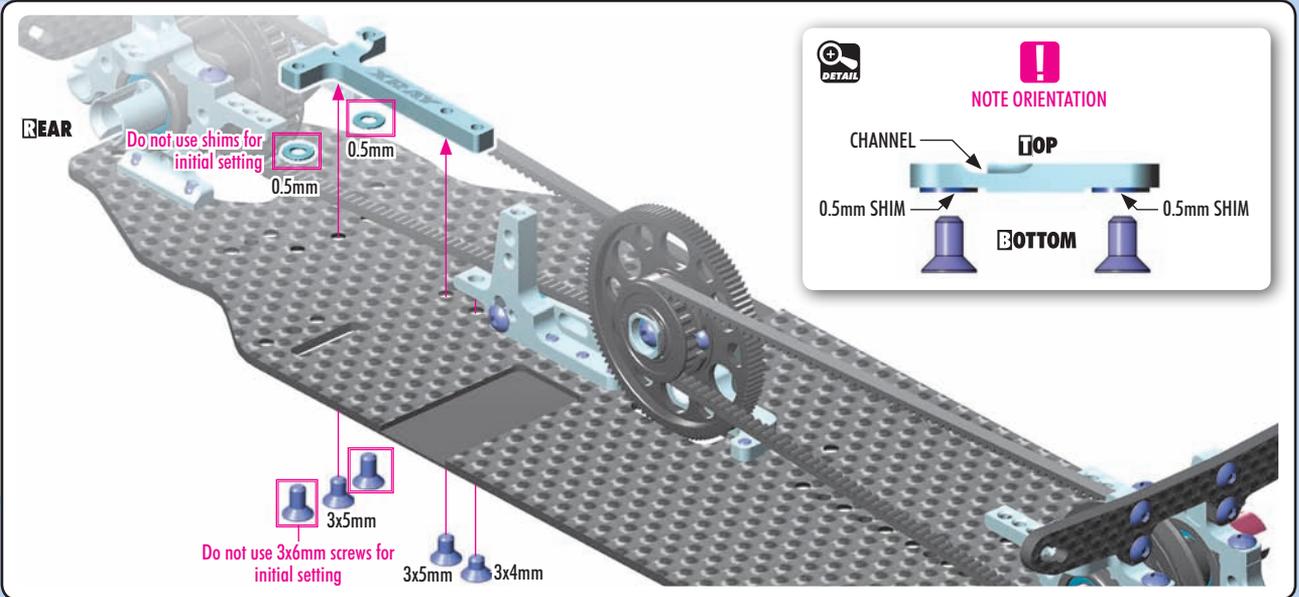


**OPTION**  
#183001  
HUDY PROFESSIONAL  
BULKHEAD ALIGNMENT  
TOOL 17MM



# 2. CENTRAL TRANSMISSION

-  303120  
SHIM 3x6x0.5
-  903304  
SFH M3x4
-  903305  
SFH M3x5
-  903306  
SFH M3x6




**VIDEO TECH TIP**



**FLEX OPTIONS**

### CHASSIS FLEX ADJUSTMENT

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

#### SOFT - WITHOUT BRACE

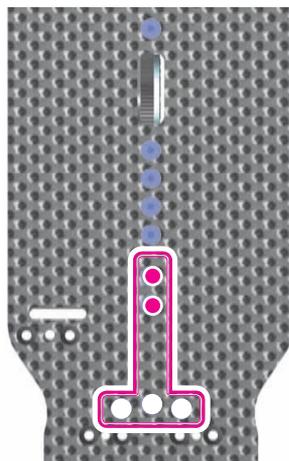
If the brace is not installed, the car will have the most steering and rotation. However, the car will be more difficult to drive as it is less stable. Recommended for medium-high traction conditions and for small, technical tracks with many hairpin corners.



REAR

#### SOFT - MEDIUM

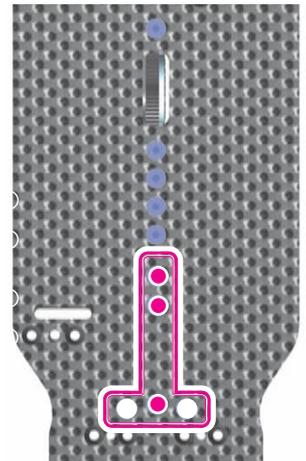
Install the brace using only the 2 forward bottom screws (as shown). This gives improved on-power stability but still offers great off-power steering and rotation. Recommended for medium-high traction conditions and for small, technical tracks with many hairpin corners.



REAR

#### MEDIUM (INITIAL SETTING)

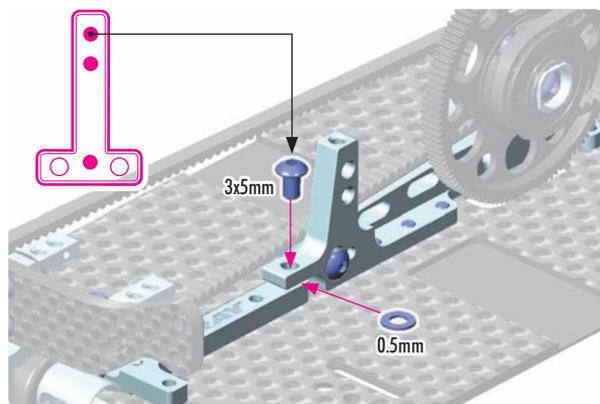
Install the brace using the 3 bottom centerline screws (as shown). This gives improved on-power stability and traction, but makes the car push more off-power. Recommended for low- or high-traction conditions where stability and traction is needed.



REAR

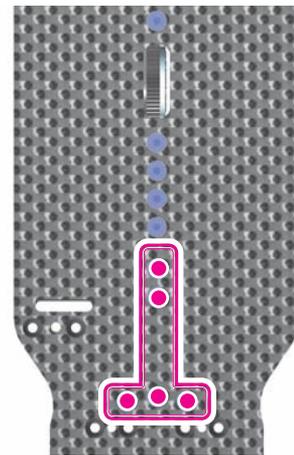
#### STIFF

In addition to all screws used for the "medium" setting, install a front screw at the top; ensure you insert a 0.5mm shim between the T-brace and the motor mount (as shown). This gives improved stability. Recommended for very-high-traction conditions to improve stability, and also for very-low-traction conditions to generate more traction and stability.



#### EXTRA STIFF

In addition to all screws used for the "stiff" setting, install the 2 rear side screws; ensure you insert 0.5mm shims between the T-brace and the chassis. This setting gives maximum stability.

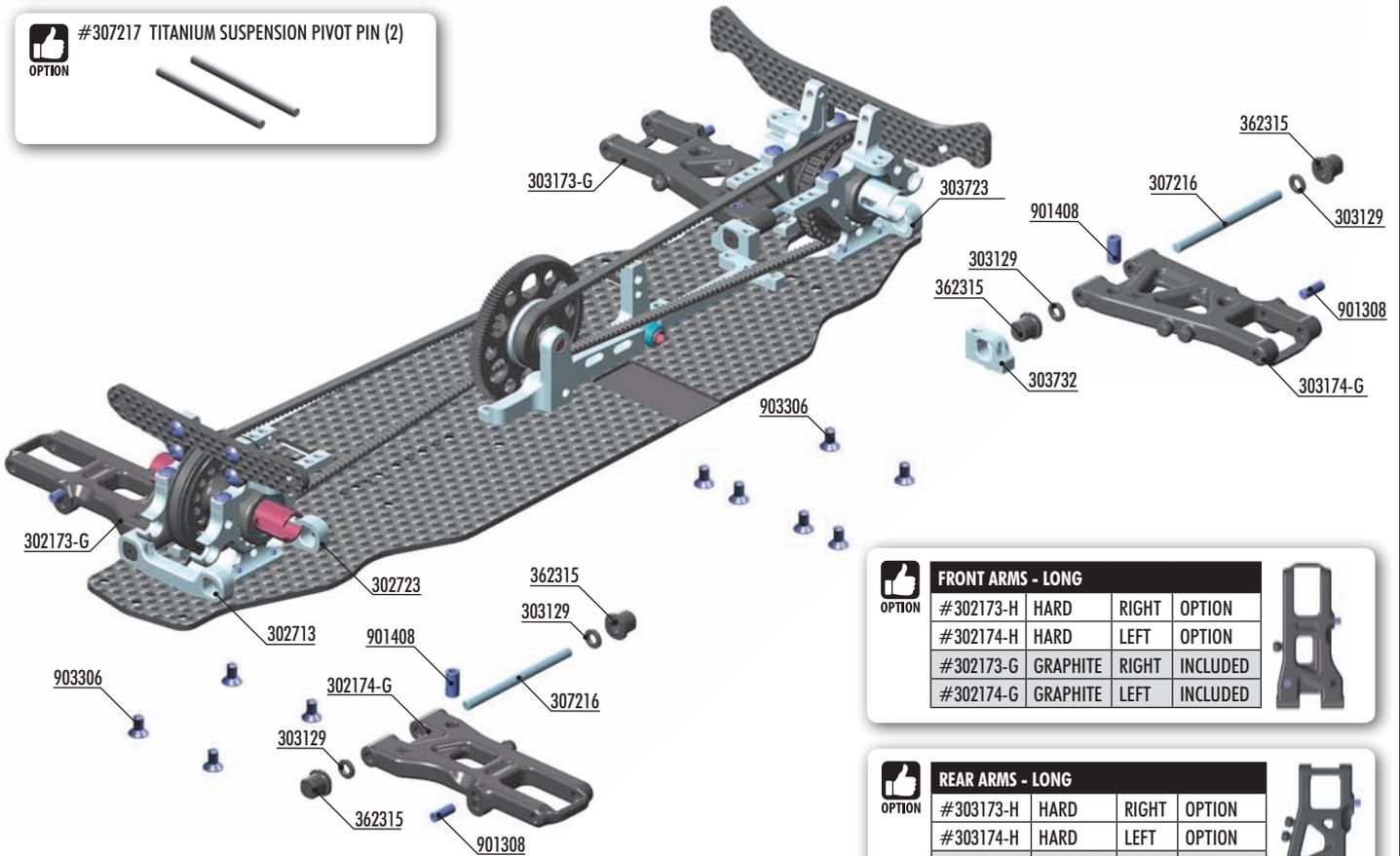


REAR

# 3. FRONT & REAR SUSPENSION

**OPTION** #303731 ALU LOWER 2-PIECE SUSPENSION 0.25 ECCENTRIC HOLDER STAND

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



**OPTION** **FRONT ARMS - LONG**

#302173-H	HARD	RIGHT	OPTION
#302174-H	HARD	LEFT	OPTION
#302173-G	GRAPHITE	RIGHT	INCLUDED
#302174-G	GRAPHITE	LEFT	INCLUDED

**OPTION** **REAR ARMS - LONG**

#303173-H	HARD	RIGHT	OPTION
#303174-H	HARD	LEFT	OPTION
#303173-G	GRAPHITE	RIGHT	INCLUDED
#303174-G	GRAPHITE	LEFT	INCLUDED

**BAG**

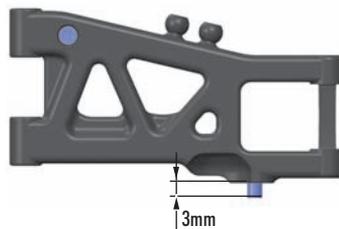
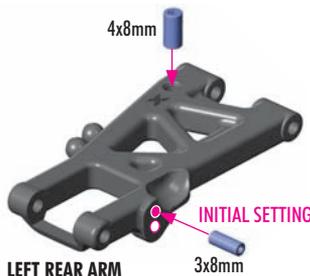


- 302173-G FRONT SUSPENSION ARM LONG RIGHT - GRAPHITE
- 302174-G FRONT SUSPENSION ARM LONG LEFT - GRAPHITE
- 302713 ALU FRONT LOWER 1-PIECE SUSPENSION HOLDER - FRONT - FF
- 302723 ALU FRONT LOWER 1-PIECE SUSPENSION HOLDER - REAR - FR
- 303129 COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)
- 303173-G REAR SUSPENSION ARM LONG RIGHT - GRAPHITE
- 303174-G REAR SUSPENSION ARM LONG LEFT - GRAPHITE
- 303723 ALU REAR LOWER 1-PIECE SUSPENSION HOLDER - REAR - RR

- 303732 ALU REAR SUSP. HOLDER WITH CENTERING PIN - FRONT (1)
- 307216 SUSPENSION PIVOT PIN (2)
- 362315 ECCENTRIC BUSHING SET (2)
- 901308 HEX SCREW SB M3x8 (10)
- 901408 HEX SCREW SB M4x8 (10)
- 903306 HEX SCREW SFH M3x6 (10)

- 901308 SB M3x8
- 901408 SB M4x8

**2x** **L=R** **REAR ARMS**



**OPTION** **REAR ARMS - LONG**

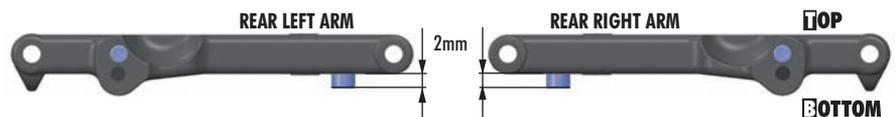
#303173-H	HARD	RIGHT	OPTION
#303174-H	HARD	LEFT	OPTION
#303173-G	GRAPHITE	RIGHT	INCLUDED
#303174-G	GRAPHITE	LEFT	INCLUDED



VIDEO TECH TIP



DOWNSTOPS



# 3. FRONT & REAR SUSPENSION



901308  
SB M3x8



901408  
SB M4x8

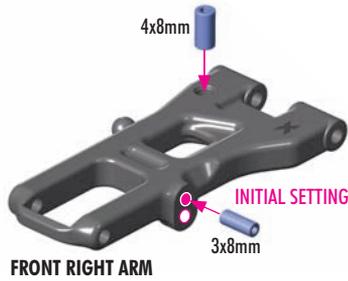


VIDEO TECH TIP



DOWNSTOPS

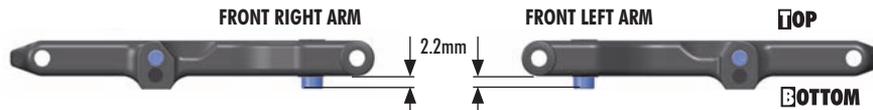
## 2x FRONT ARMS



FRONT RIGHT ARM



3mm



FRONT RIGHT ARM

FRONT LEFT ARM

TOP

BOTTOM



OPTION

### FRONT ARMS - LONG

#302173-H	HARD	RIGHT	OPTION
#302174-H	HARD	LEFT	OPTION
#302173-G	GRAPHITE	RIGHT	INCLUDED
#302174-G	GRAPHITE	LEFT	INCLUDED



## REAR SUSPENSION

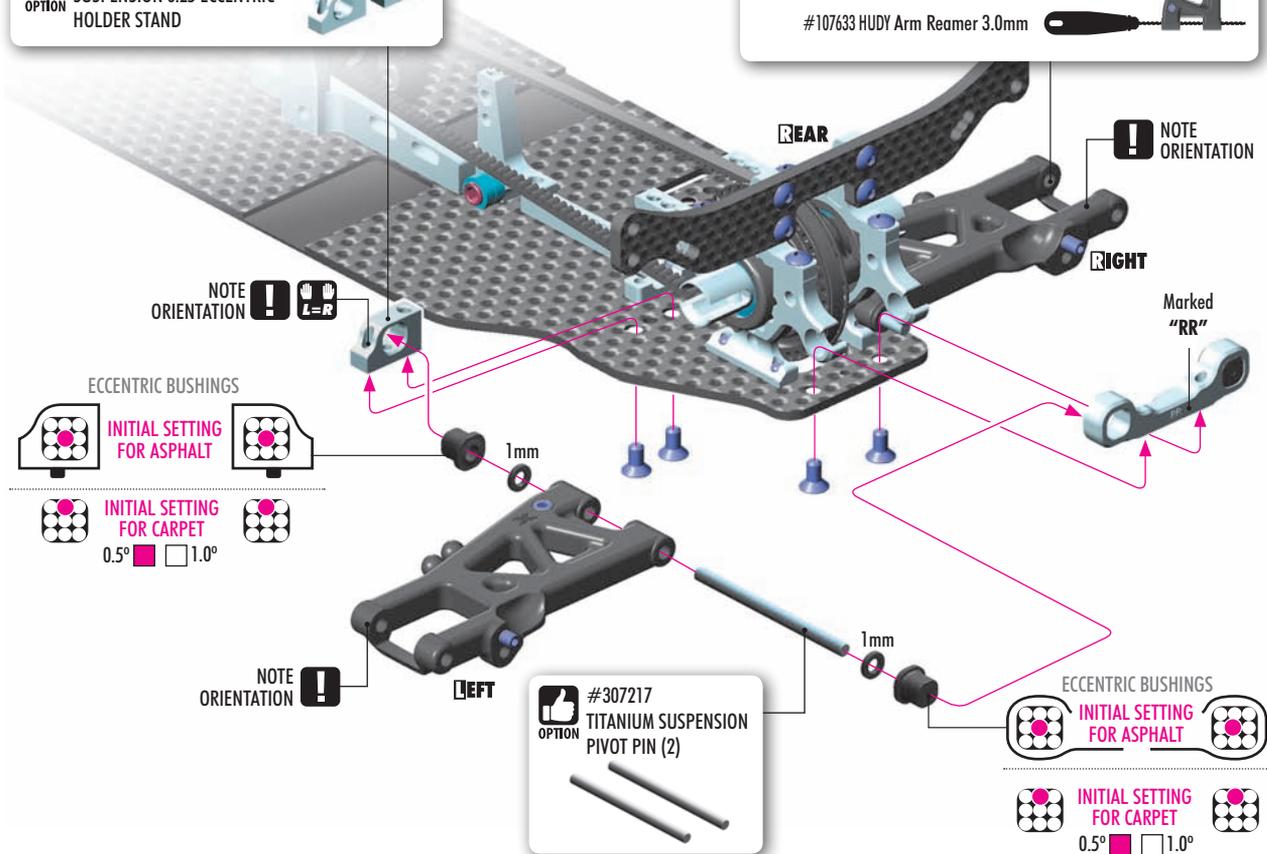
#303731 ALU LOWER 2-PIECE SUSPENSION 0.25 ECCENTRIC HOLDER STAND



OPTION

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

#107633 HUDY Arm Reamer 3.0mm



NOTE ORIENTATION ! L=R

NOTE ORIENTATION !

RIGHT

Marked "RR"

ECCENTRIC BUSHINGS



INITIAL SETTING FOR ASPHALT



INITIAL SETTING FOR CARPET

0.5° 1.0°

NOTE ORIENTATION !

LEFT



OPTION

#307217 TITANIUM SUSPENSION PIVOT PIN (2)



ECCENTRIC BUSHINGS



INITIAL SETTING FOR ASPHALT



INITIAL SETTING FOR CARPET

0.5° 1.0°

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

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

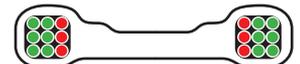
The XRAY rear alu lower suspension holders provide even greater range of adjustment for the rear suspension. Using different combinations of eccentric bushings, fine adjustment of rear squat, rear toe-in, rear roll center, and rear track-width can be obtained. For more information about the influence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



COMPOSITE ECCENTRIC BUSHINGS



Do not use INNER positions. Available positions

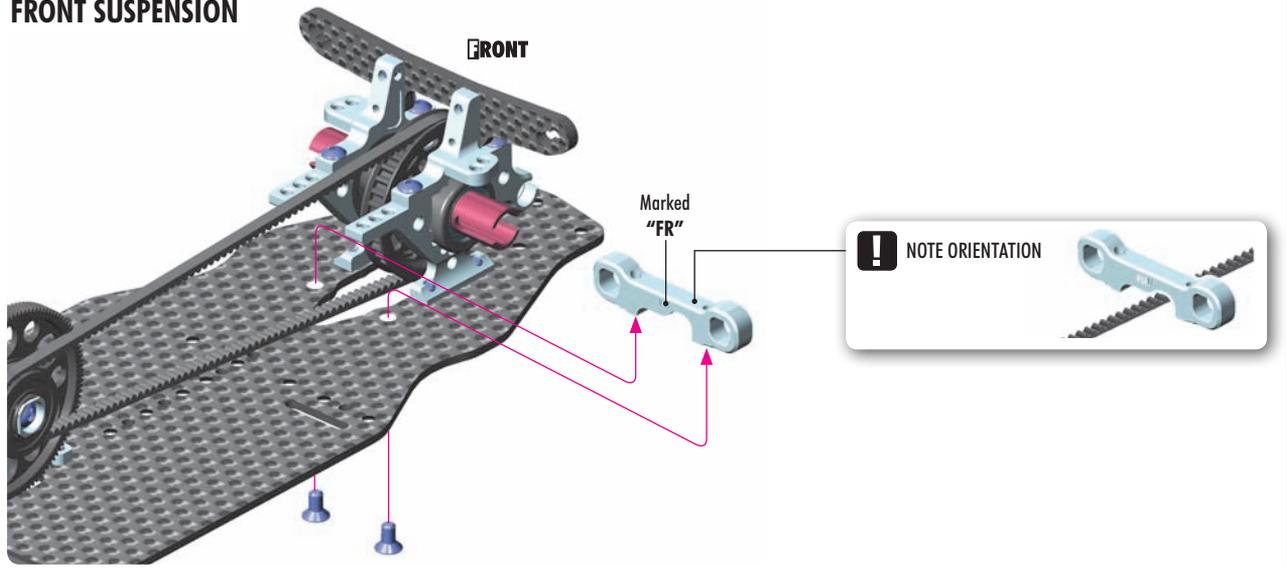


# 3. FRONT & REAR SUSPENSION

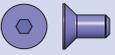


903306  
SFH M3x6

## FRONT SUSPENSION

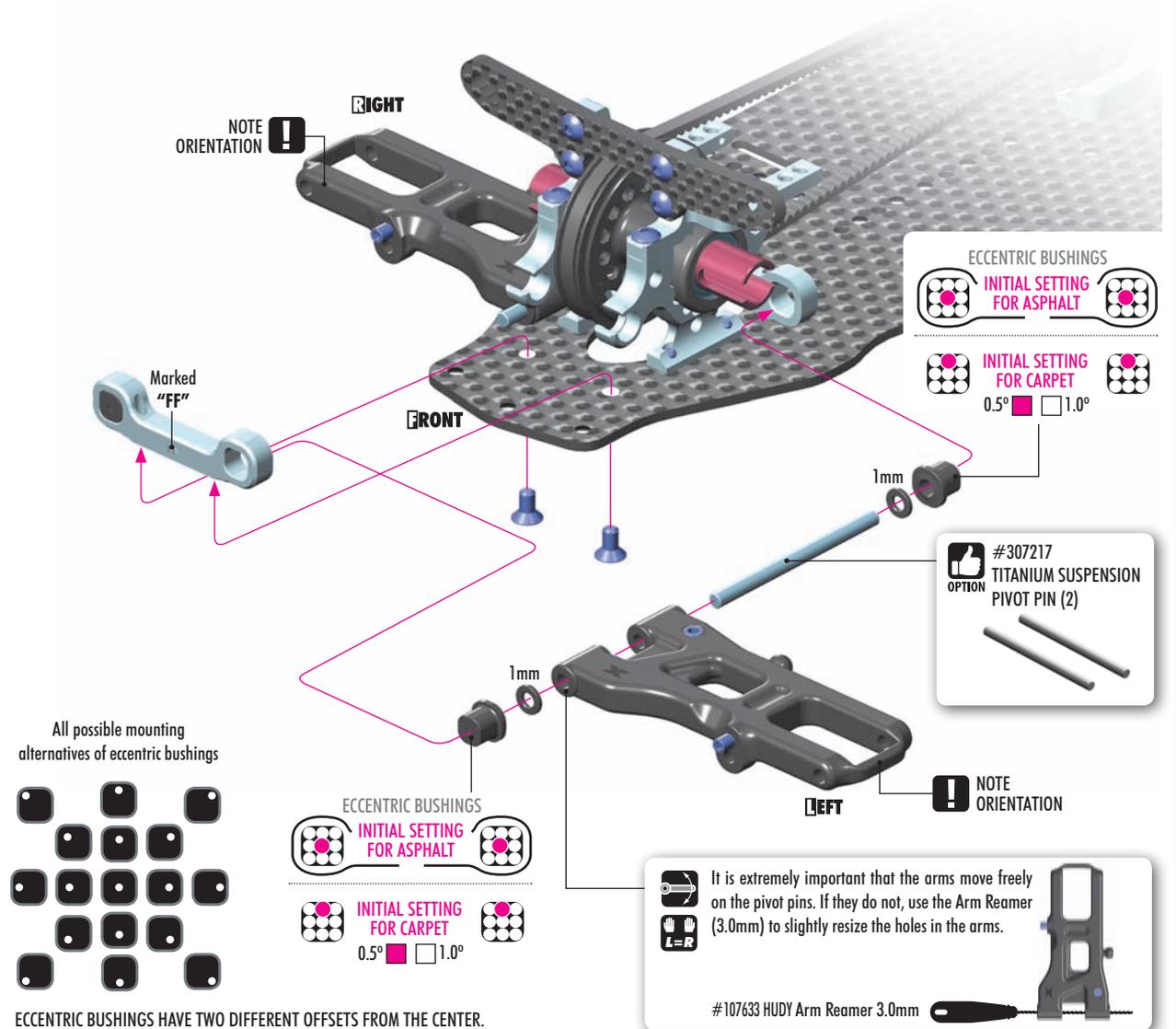


303129  
SHIM 3x6x1

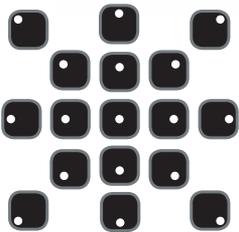


903306  
SFH M3x6

## FRONT SUSPENSION



All possible mounting alternatives of eccentric bushings



ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.

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

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

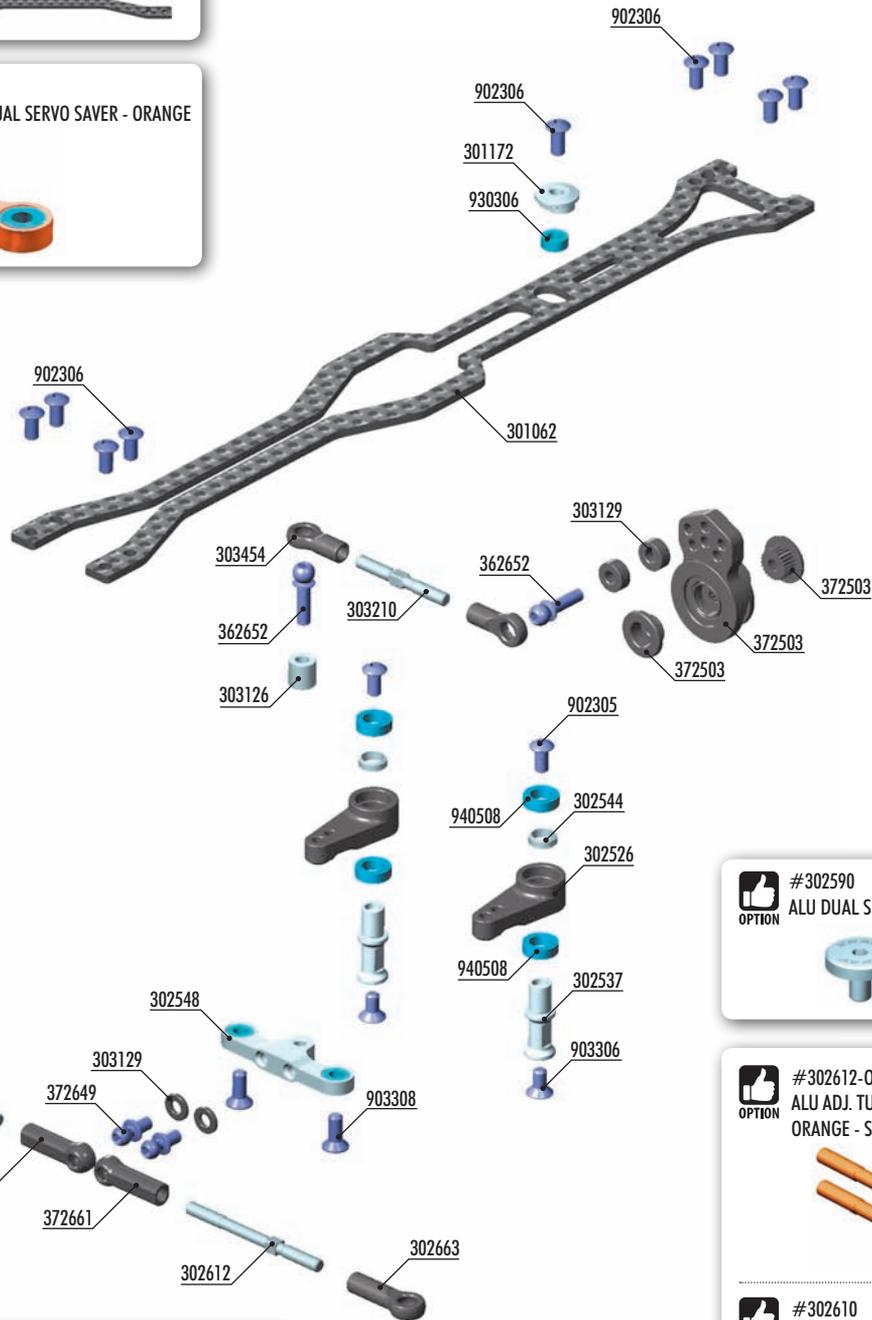
# 4. STEERING



#301063  
T4'21 GRAPHITE UPPER DECK 1.6MM



#302547  
ALU STEERING PLATE 8.5MM FOR DUAL SERVO SAVER - ORANGE



#302590  
ALU DUAL SERVO SAVER SCREW M3x7 (2)



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



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



#302525  
ALU DUAL-SERVO SAVER ARM



#302525-K  
ALU DUAL-SERVO SAVER ARM



BAG

04

- 301062 T4'21 GRAPHITE UPPER DECK 2.0MM
- 301172 ALU UPPER DECK COLLAR FOR FLEX ELIMINATION
- 302526 COMPOSITE DUAL SERVO SAVER ARM
- 302537 ALU STEERING POST FOR DUAL SERVO SAVER (2)
- 302544 ALU SHIM FOR RADIAL PLAY ADJUSTMENT OF STEERING ARM (2)
- 302548 ALU STEERING PLATE 8.0MM FOR DUAL SERVO SAVER
- 302612 ALU ADJ. TURNBUCKLE M3 L/R 39 MM - SWISS 7075 T6 (2)
- 302663 COMPOSITE BALL JOINT 5 MM - OPEN - V2 (8)
- 303126 ALU SHIM 3x6x5.0MM (10)
- 303129 COMPOSITE SET OF SHIMS (3x1MM; 1x2MM) (2)
- 303210 REAR TURNBUCKLE L/R 26 MM - HUDY SPRING STEEL (2)
- 303454 BALL JOINT 4.9MM - OPEN (4)

- 362652 BALL END 4.9MM WITH THREAD 10MM (2)
- 372503 COMPOSITE SERVO SAVER - X-STIFF - SET - V2
- 372649 BALL END 4.2MM WITH 4MM THREAD (2)
- 372661 COMPOSITE STEERING BALL-JOINT OPEN 4.2 MM (4)
- 902305 HEX SCREW SH M3x5 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 930306 BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)
- 940508 BALL-BEARING 5x8x2.5 RUBBER-SEALED - OILED (2)

# 4. STEERING

**NOTE ORIENTATION**  
Long side = Ball joint open

**2x STEERING LINKS**

**LEFT THREAD**      **RIGHT THREAD**

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

26mm

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

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

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

**LEFT THREAD**      **RIGHT THREAD**

approx. 17mm

- 903308  
SFH M3x8
- 930306  
BB 3x6x2.5
- 940508  
BB 5x8x2.5

5x8x2.5mm

BEARING OIL (HUDY #106230)

3x6x2.5mm

**NOTE ORIENTATION**

**OPTION** #302547  
ALU STEERING PLATE 8.5MM FOR DUAL SERVO SAVER - ORANGE

Optional 8.5mm alu steering plate improves steering response, but makes the car more difficult to drive in chicanes. Recommended for small, technical tracks, or tracks with many hairpin corners.

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

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

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

**VIDEO TECH TIP**

HOW TO BUILD A PLAY FREE STEERING

**!** **!**

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

- 1 Tighten fully
- 2 Loosen 1/3 ccw
- 3 Check free movement

**1/3**  
(120° CCW)

**10**

303129  
SHIM 3x6x1

**VIDEO TECH TIP**

HUDY MULTI-TOOL USE

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

**NOTE ORIENTATION** Ball joint open

**NOTE ORIENTATION** (outside)

4mm THREAD

**INITIAL SETTING** (1mm shim)

**NOTE ORIENTATION** (outside)

**NOTE ORIENTATION** Ball joint open

**TIP**

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

1mm 1mm 1mm 2mm

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

# 4. STEERING

**IO**

303129  
SHIM 3x6x2



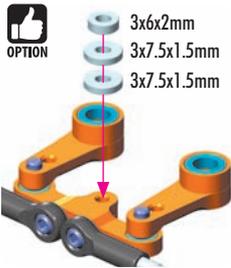
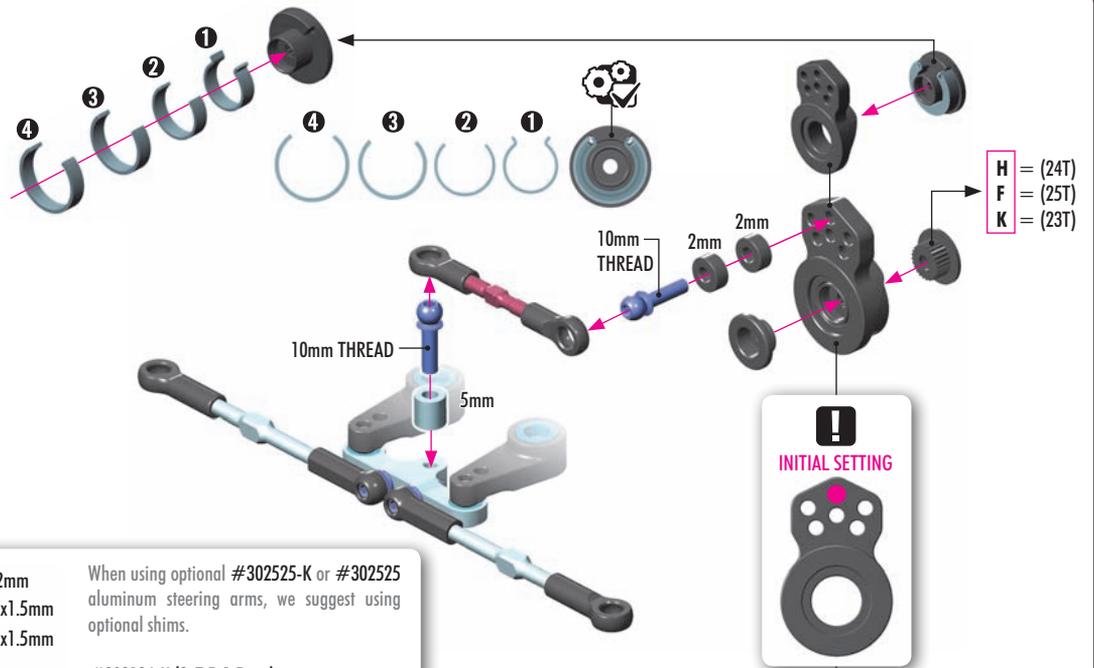
303126  
SHIM 3x6x5



▶ VIDEO TECH TIP



STEERING SYSTEM  
SET-UP



When using optional #302525-K or #302525 aluminum steering arms, we suggest using optional shims.

#303134-K (3x7.5x1.5mm)  
#303123-K (3x6x2mm)

When you want to eliminate steering lock in high-traction conditions.

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

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

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

OPTION	HUDY ALU SERVO HORNS
#293501	KO, Sanwa - 23T
#293502	Hitec - 24T
#293503	Futaba - 25T
OPTION	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



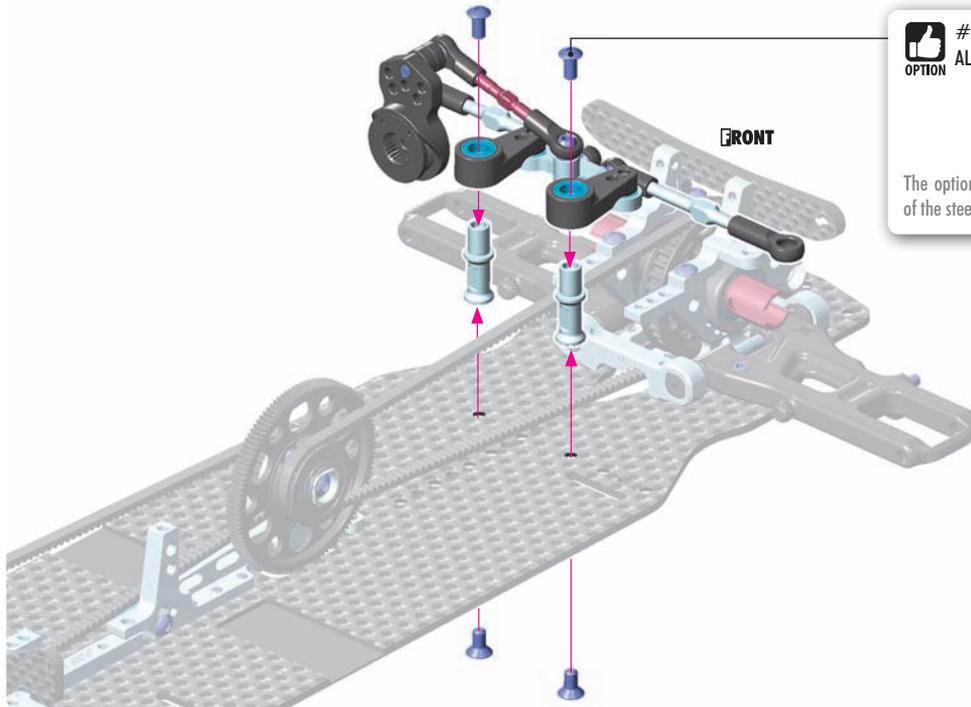
903306  
SFH M3x6



▶ VIDEO TECH TIP



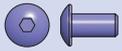
HOW TO BUILD A PLAY  
FREE STEERING



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



The optional screw removes excessive radial play of the steering.



902306  
SH M3x6



930306  
BB 3x6x2.5



VIDEO TECH TIP



FLEX OPTIONS

## TOP DECK FLEX SETTINGS

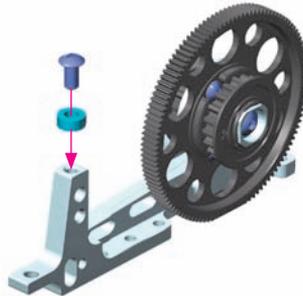
The new feature of the top deck is the flex setting adjustment. There are three different flex setting alternatives.

### SOFT



No bushing or bearing is used. This allows maximum flex and provides maximum steering. However, the car is less stable on-power.

### MEDIUM



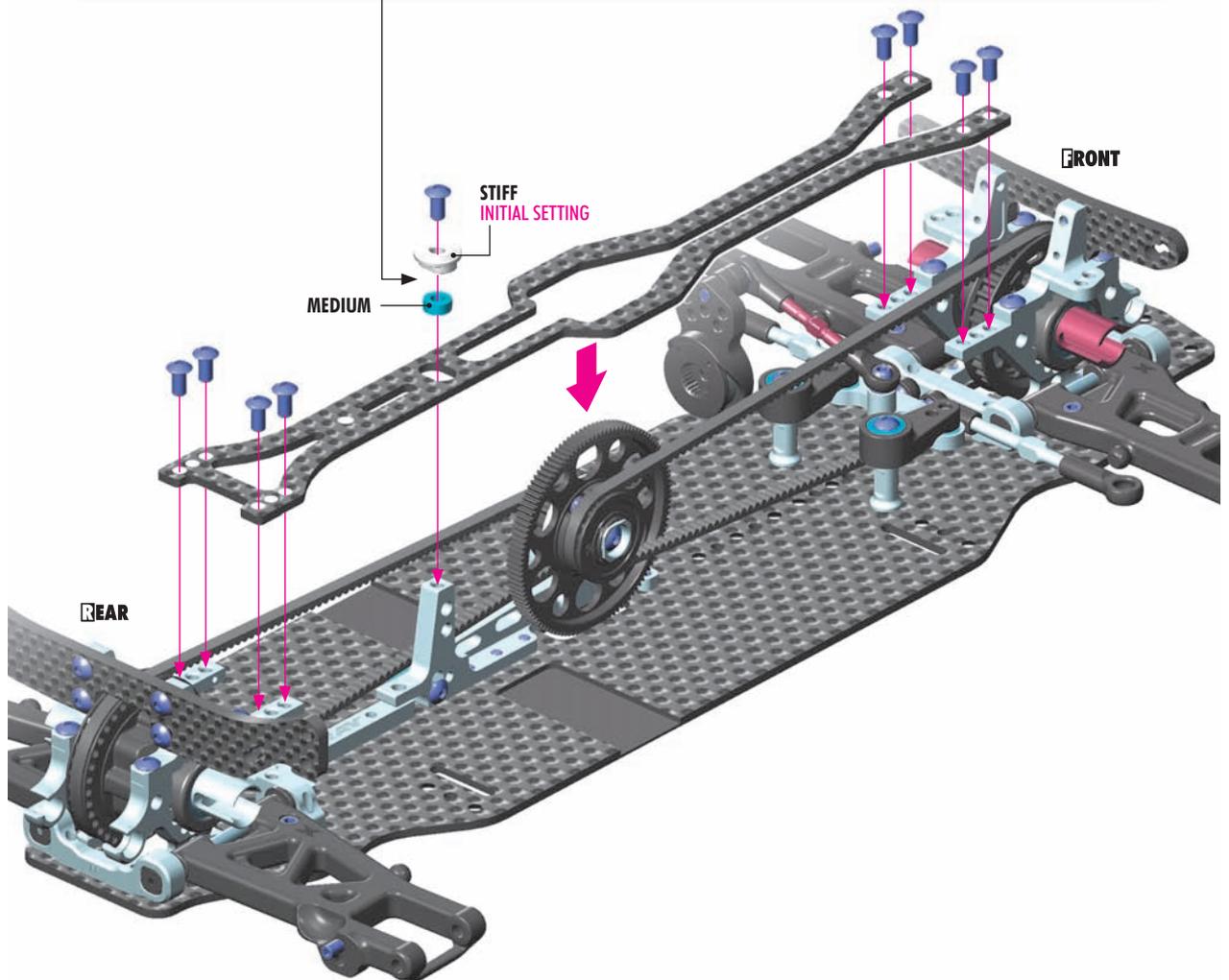
The top deck is connected to the motor mount via ball bearing. This setting eliminates a bit of steering but improves stability.

### STIFF

(INITIAL SETTING)



The top deck is connected to the motor mount via bushing. This setting provides maximum stability as it stiffens the entire car and eliminates flex to sides and front/rear.



#301063  
OPTION T4'21 GRAPHITE TOP DECK 1.6MM

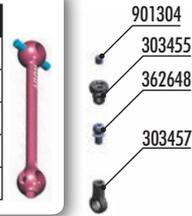


We recommend using optional 1.6mm top deck for super-low traction conditions or in combination with aluminum chassis as it provides more overall traction and steering.

# 5. FRONT & REAR TRANSMISSION



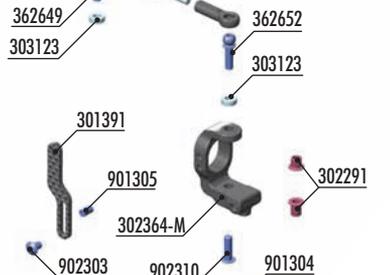
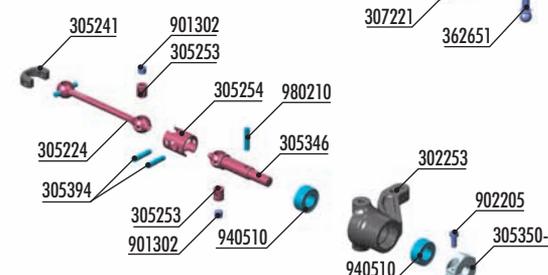
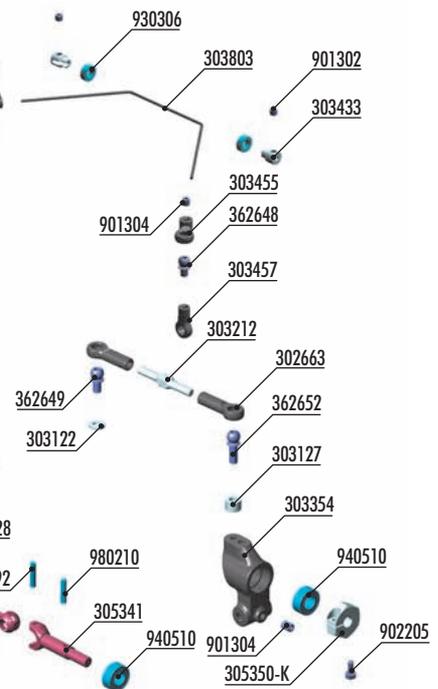
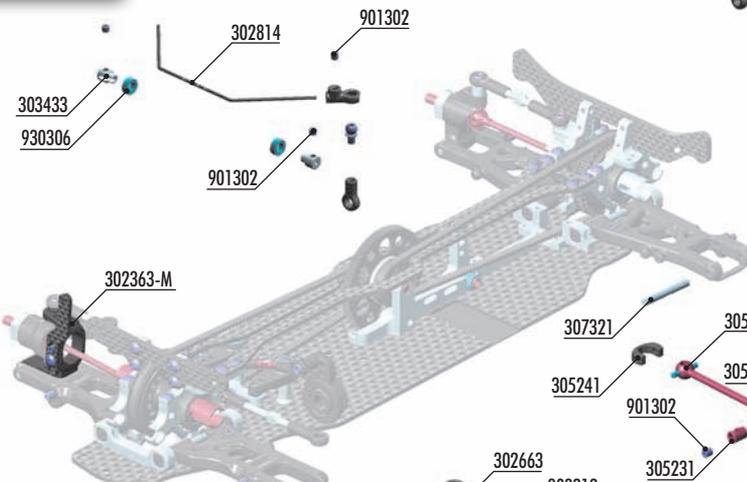
DRIVE SHAFTS		
#305323	50mm	STEEL
#305324	52mm	STEEL
#305326	52mm	ALU
#305332	52mm	ECS
#305333	50mm	ECS



STEERING BLOCKS		
#302252	MEDIUM	OPTION
#302253	HARD	INCLUDED
#302254	GRAPHITE	OPTION



#309002  
SET OF CERAMIC  
BALL-BEARINGS  
(14)



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

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

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

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

**#305409 CVD BB DRIVE SHAFT 50mm - SET - HUDY Spring Steel™**

**#305308 ECS BB DRIVE SHAFT 52mm - SET**  
**#305309 ECS BB DRIVE SHAFT 53mm - SET**

**#302202 ALU STEERING BLOCKS WITH GRAPHITE EXTENSION PLATES - SET**

UPRIGHTS			
#303352	0° 2-HOLE	MEDIUM	OPTION
#303354	0° 2-HOLE	HARD	INCLUDED
#303360	0° 2-HOLE	GRAPHITE	OPTION

C-HUBS			
#302363-M	4° RIGHT	MEDIUM	INCLUDED
#302364-M	4° LEFT	MEDIUM	INCLUDED
#302383-G	4° RIGHT	GRAPHITE	OPTION
#302384-G	4° LEFT	GRAPHITE	OPTION



- 301391 GRAPHITE BODY UPSTOP 2.0MM (2)
- 302253 COMPOSITE STEERING BLOCK - HARD
- 302291 STEEL STEERING BUSHING (2+2)
- 302363-M COMPOSITE C-HUB FOR BODY UPSTOP RIGHT - 4° DEG. - MEDIUM
- 302364-M COMPOSITE C-HUB FOR BODY UPSTOP LEFT - 4° DEG. - MEDIUM
- 302663 COMPOSITE BALL JOINT 4.9MM - OPEN - V2 (8)
- 302814 T4'20 ANTI-ROLL BAR FOR BALL-BEARINGS - FRONT 1.4 MM
- 303122 ALU SHIM 3x6x1.0MM (10)
- 303123 ALU SHIM 3x6x2.0MM (10)
- 303127 ALU SHIM 3x6x4.0MM (10)
- 303212 ALU ADJ. TURNBUCKLE M3 L/R 26 MM - SWISS 7075 T6 (2)
- 303354 COMPOSITE UPRIGHT 0° OUTBOARD TOE-IN - HARD
- 303433 ALU ANTI-ROLL BAR BUSHING - 6MM (2)
- 303455 COMPOSITE ANTI-ROLL BAR BALL JOINT 4.9 MM (4)
- 303457 BALL JOINT 4.9MM - EXTRA SHORT OPEN (4)
- 303803 ANTI-ROLL BAR FOR BALL BEARINGS - REAR 1.3 MM
- 305224 ECS (ES) DRIVE SHAFT 52MM FOR 2MM PIN - HUDY SPRING STEEL™ (1)
- 305231 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 305241 DRIVE SHAFT REPLACEMENT CAP 3.5 MM (4)
- 305253 ECS DRIVE SHAFT COUPLING FOR 2MM PIN - HUDY SPRING STEEL™
- 305254 ECS (ES) DRIVE SHAFT CASE FOR 2MM PIN - HUDY SPRING STEEL™
- 305328 ALU DRIVE SHAFT SWISS 7075 T6 - HARDCOATED - 50MM
- 305332 ECS ES (ES) DRIVE SHAFT 52MM - HUDY SPRING STEEL™ - SET
- 305341 DRIVE AXLE - LIGHTWEIGHT - HUDY SPRING STEEL™
- 305346 ECS DRIVE AXLE FOR 2MM PIN - HUDY SPRING STEEL™
- 305350-K ALU WHEEL HUB - BLACK (2)
- 305392 DRIVE SHAFT PIN 2 x 10 WITH FLAT SPOT (2)
- 305394 ECS DRIVE SHAFT PIN 2 x 9 WITH FLAT SPOT (2)
- 307221 FRONT ARM PIVOT PIN (2)
- 307321 REAR ARM PIVOT PIN (2)
- 362648 BALL END 4.9MM WITH THREAD 4MM (2)
- 362649 BALL END 4.9MM WITH THREAD 5MM (2)
- 362651 BALL END 4.9MM WITH THREAD 8MM (2)
- 362652 BALL END 4.9MM WITH THREAD 10MM (2)
- 901302 HEX SCREW SB M3x2.5 (10)
- 901304 HEX SCREW SB M3x4 (10)
- 901305 HEX SCREW SB M3x5 (10)
- 902205 HEX SCREW SH M2x5 (10)
- 902303 HEX SCREW SH M3x4 SMALL HEAD - STAINLESS (10)
- 902310 HEX SCREW SH M3x10 (10)
- 930306 BALL-BEARING 3x6x2.5 STEEL-SEALED - OILED (2)
- 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
- 980210 PIN 2x10 (10)

# 5. FRONT & REAR TRANSMISSION



901302  
SB M3x2.5



305392  
P 2x10



305394  
P 2x9



VIDEO TECH TIP



ECS DRIVE SHAFT  
MAINTENANCE

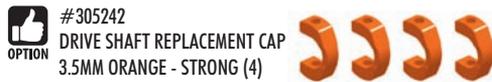
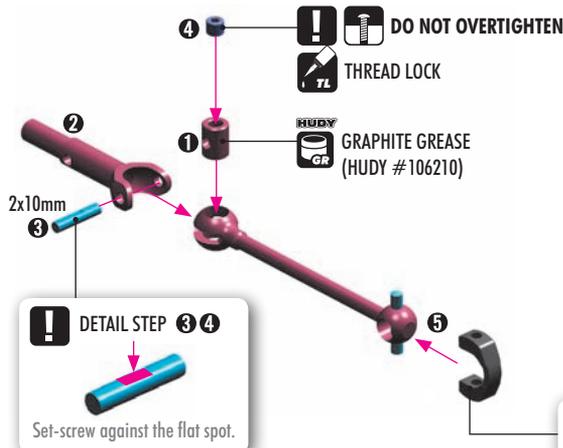


VIDEO TECH TIP

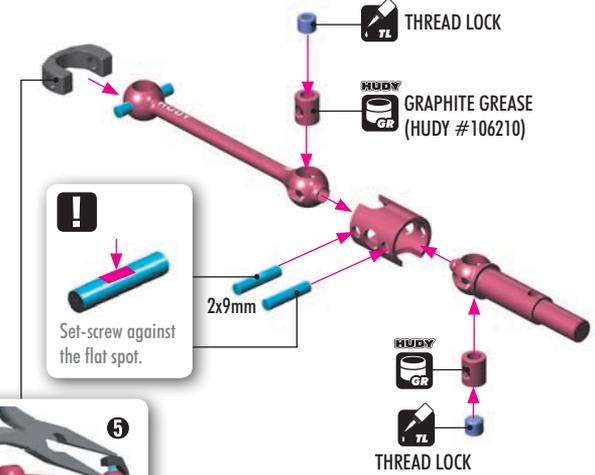


BEARING ECS DRIVE  
SHAFTS

## 2x REAR TRANSMISSION

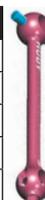


## 2x FRONT TRANSMISSION



**OPTION**

DRIVE SHAFTS	
#305323	50MM - STEEL
#305324	52MM - STEEL
#305326	52MM - ALU
#305334	51MM - ECS
#305333	50MM - ECS



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

52mm shafts are recommended for **carpet high-traction** tracks.  
51mm shafts are recommended for **carpet** tracks and **large asphalt** tracks.  
50mm shafts are recommended for **low-traction** or **tight asphalt** tracks.

**OPTION** #305409  
CVD BB DRIVE SHAFT 50mm - SET - HUDY Spring Steel™



The CVD bearing driveshafts improve off-power steering and rotation, but decrease rear traction and stability. Recommended for use in high-traction conditions, and for tracks with many hairpin corners.

The new ball-bearing driveshafts must be used with optional:  
#304972 GEAR DIFF CVD BB DRIVESHAFT OUTDRIVES

**OPTION** #305308 ECS BB DRIVE SHAFT 52mm - SET  
#305309 ECS BB DRIVE SHAFT 53mm - SET

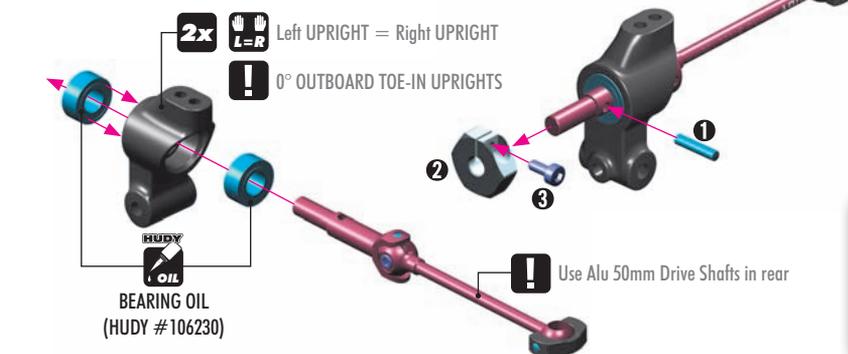


The optional ECS ball-bearing driveshafts feature a new ball-bearing assembly at the inner end of the driveshaft where it inserts into the outdrive. They offer a significant performance improvement over the standard blade-type driveshafts. The friction between the driveshaft and the outdrive is greatly reduced, which gives much 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 #305138 SOLID AXLE ECS BB DRIVESHAFT ADAPTERS.

We recommend the shorter 52mm shafts for smaller, more technical tracks, where more initial steering is needed.

The 53mm shafts are best suited for more open and flowing track layouts. They will provide slightly less initial steering, but better steering in the middle of the corner, as well as on power.

## REAR TRANSMISSION



**OPTION**

UPRIGHTS			
#303352	0° 2-HOLE	MEDIUM	OPTION
#303354	0° 2-HOLE	HARD	INCLUDED
#303360	0° 2-HOLE	GRAPHITE	OPTION

# 5. FRONT & REAR TRANSMISSION

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

### FRONT TRANSMISSION

Use Steel 51mm ECS Drive Shafts in front

BEARING OIL (HUDY #106230)

#302202 ALU STEERING BLOCKS WITH GRAPHITE EXTENSION PLATES - SET

**ALU OFFSET WHEEL HUBS**

#305350-K	0mm	INCLUDED
#305351	-0.75mm	OPTION
#305352	+0.75mm	OPTION
#305353	+1.5mm	OPTION

**STEERING BLOCKS**

#302252	MEDIUM	OPTION
#302253	HARD	INCLUDED
#302254	GRAPHITE	OPTION

- 309319 SHIM 3x7x3
- 901305 SB M3x5
- 902305 SH M3x5
- 902303 SH M3x4

The NEW FEATURE of the T4'21 car is the body upstops system.

CA Glue

3x7x3mm

3x5mm

3x4mm

**TIP**

We recommend using the composite shim to create a bigger surface that touches the body; this will help prevent paint from being removed from the inside of the bodyshell. Before inserting the screw, use CA glue to seal & strengthen the outside edges of the upstop. Insert the screw carefully.

The set-screw is used to help center the graphite upstop, whereas the button-head screw is used to adjust the height of the upstop. It is important to have both left & right upstops be the same height.

To check that both left & right upstop heights are the same, measure the distance between the top of the set-screw and the top of the slot in each graphite upstop.

**NOTE:** Before mounting the steering block, use the hobby knife to remove the excessive composite material from the inside window of the c-hub.

**IMPORTANT:** Make sure that neither the set-screw nor screw protrude into the open cavity in the C-hub. If either screws are protruding inside, the ECS drive shafts may touch them which could bind the entire suspension while turning.

**VIDEO TECH TIP**

BODY UPSTOPS

- 902310 SH M3x10

### FRONT TRANSMISSION

RIGHT C-HUB marked 4R

SHORT

LONG

**C-HUBS**

#302363-M	4° RIGHT	MEDIUM	INCLUDED
#302364-M	4° LEFT	MEDIUM	INCLUDED
#302383-G	4° RIGHT	GRAPHITE	OPTION
#302384-G	4° LEFT	GRAPHITE	OPTION

RIGHT THREAD

LEFT THREAD

FRONT LEFT = FRONT RIGHT

55.5mm

REAR LEFT = REAR RIGHT

53.5mm

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

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

# 5. FRONT & REAR TRANSMISSION



303122  
SHIM 3x6x1



303127  
SHIM 3x6x4



901304  
SB M3x4



VIDEO TECH TIP



HUDY MULTI-TOOL USE

## REAR SUSPENSION

The information about the optional Active Rear Suspension is at the end of the manual.

LEFT UPRIGHT = RIGHT UPRIGHT

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

**OPTION** #307322 TITANIUM REAR ARM PIVOT PIN (2)

**INITIAL SETTING**

**TIGHTEN GENTLY**

**2x**

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

**25mm**

**53.5mm**

**5mm THREAD**

**1mm**

**10mm THREAD**

**4mm**

**INITIAL SETTING**

**TIGHTEN GENTLY**

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

**OPTION**

## FRONT SUSPENSION

The information about the optional Active Front Suspension is at the end of the manual.

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

**OPTION** #307222 TITANIUM FRONT ARM PIVOT PIN (2)

**INITIAL SETTING**

**TIGHTEN GENTLY**

**2x**

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

**23mm**

**55.5mm**

**5mm THREAD**

**2mm**

**10mm THREAD**

**2mm**

**INITIAL SETTING**

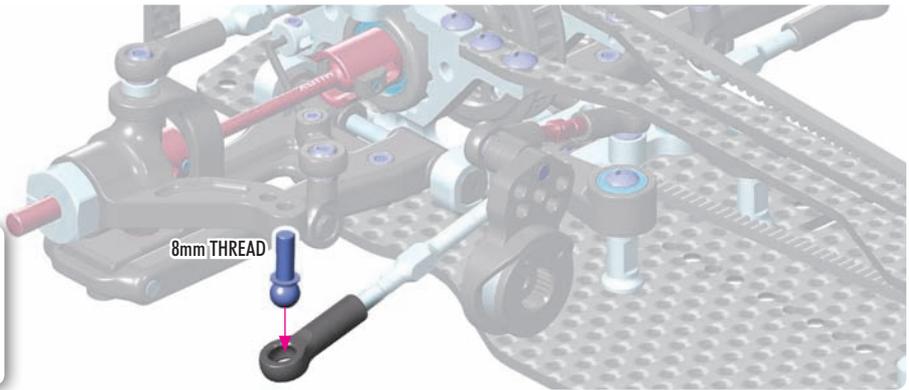
**TIGHTEN GENTLY**

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

**OPTION**

# 5. FRONT & REAR TRANSMISSION

**2x** 

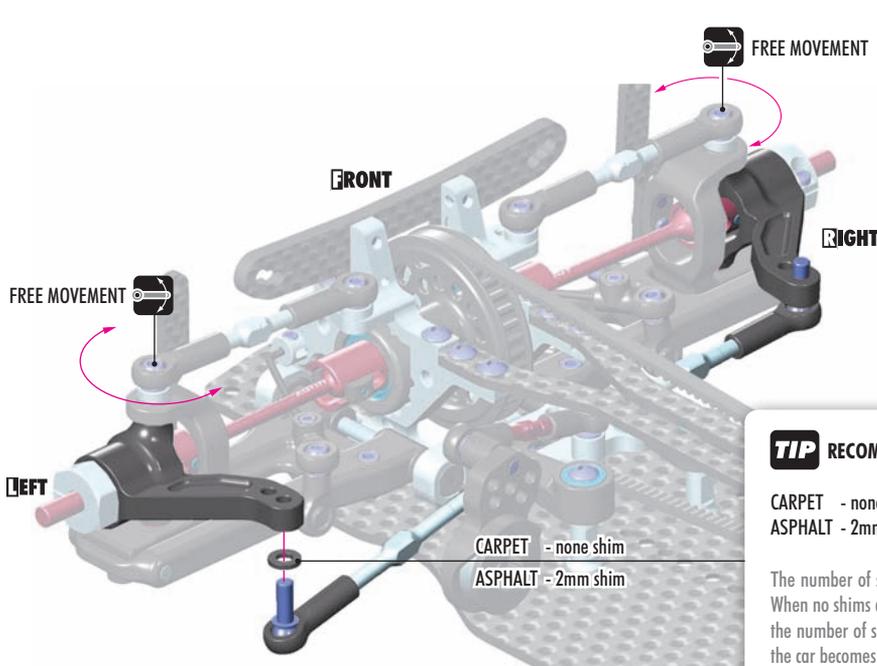


**TIP** Install the pivot balls with Professional Multi Tool (HUDY #183011)



8mm THREAD

**L-R** **FRONT TRANSMISSION**



**INITIAL SETTING**

**TIP** RECOMMENDED BUMPSTEER SETTINGS:

CARPET - none shim  
 ASPHALT - 2mm thick shim

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

**4x** 



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

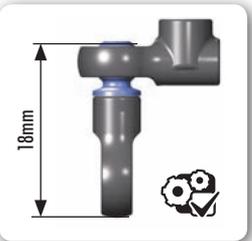


4mm THREAD

**4x** 



2.0 mm



18mm

  
 930306  
 BB 3x6x2.5

**2x**

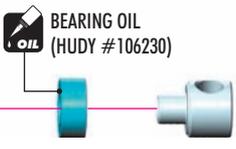
 BEARING OIL (HUDY #106230)



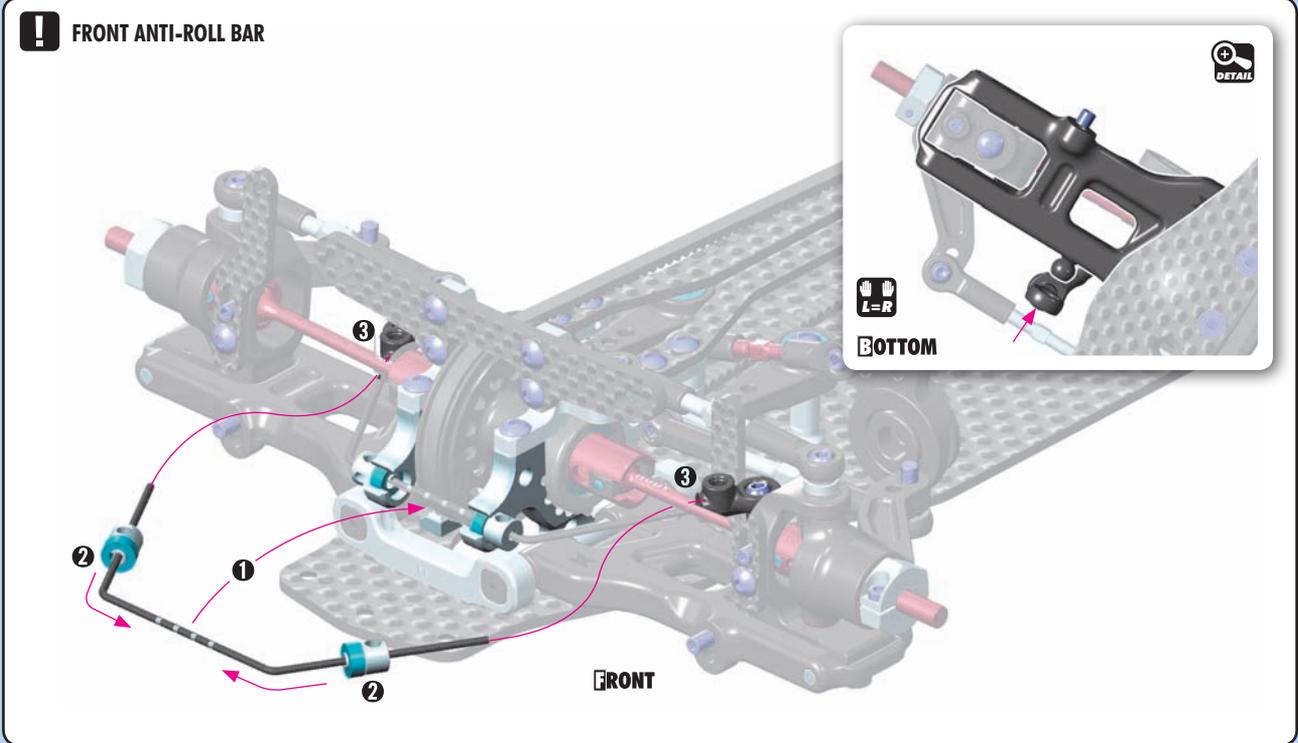
		REAR ANTI-ROLL BARS	
OPTION	#303801	REAR	1.1mm
	#303802	REAR	1.2mm
INCLUDED	#303803	REAR	1.3mm
	#303804	REAR	1.4mm
	#303805	REAR	1.5mm
	#303806	REAR	1.6mm

		FRONT ANTI-ROLL BARS	
OPTION	#302812	FRONT	1.2mm
	#302813	FRONT	1.3mm
INCLUDED	#302814	FRONT	1.4mm
	#302815	FRONT	1.5mm

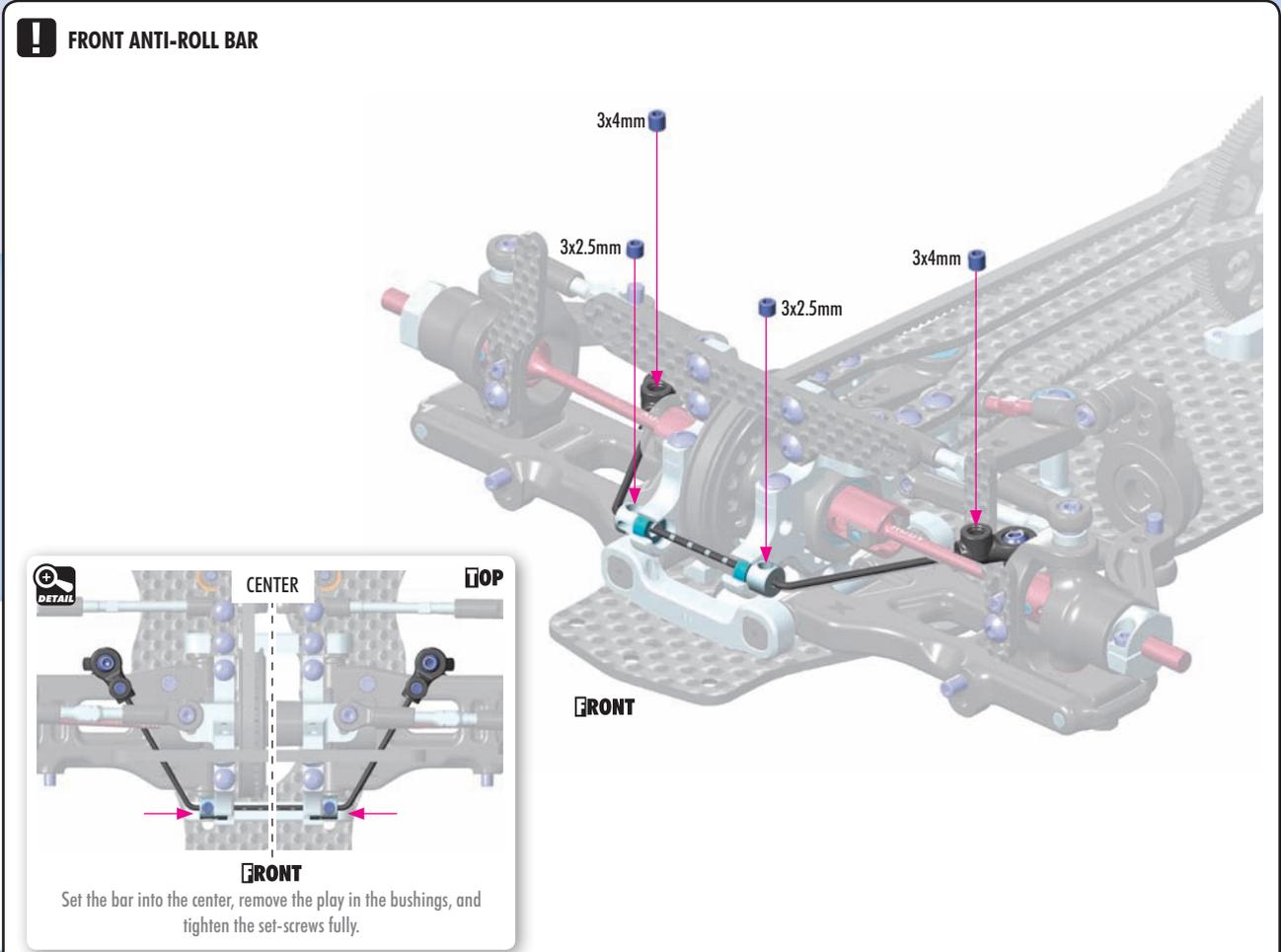
 BEARING OIL (HUDY #106230)



# 5. FRONT & REAR TRANSMISSION



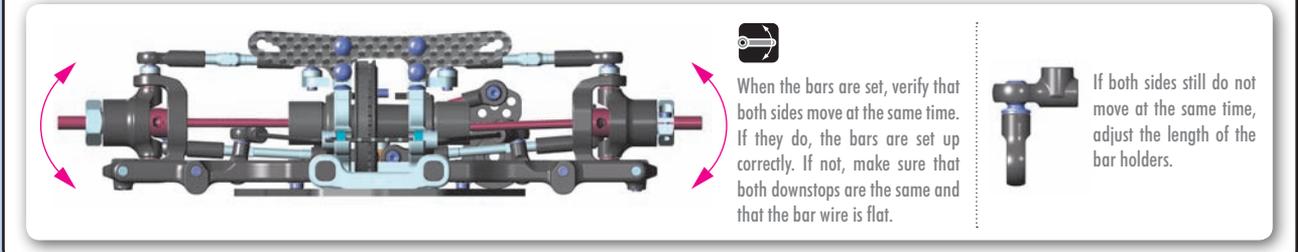
-  901302  
SB M3x2.5
-  901304  
SB M3x4



 VIDEO TECH TIP

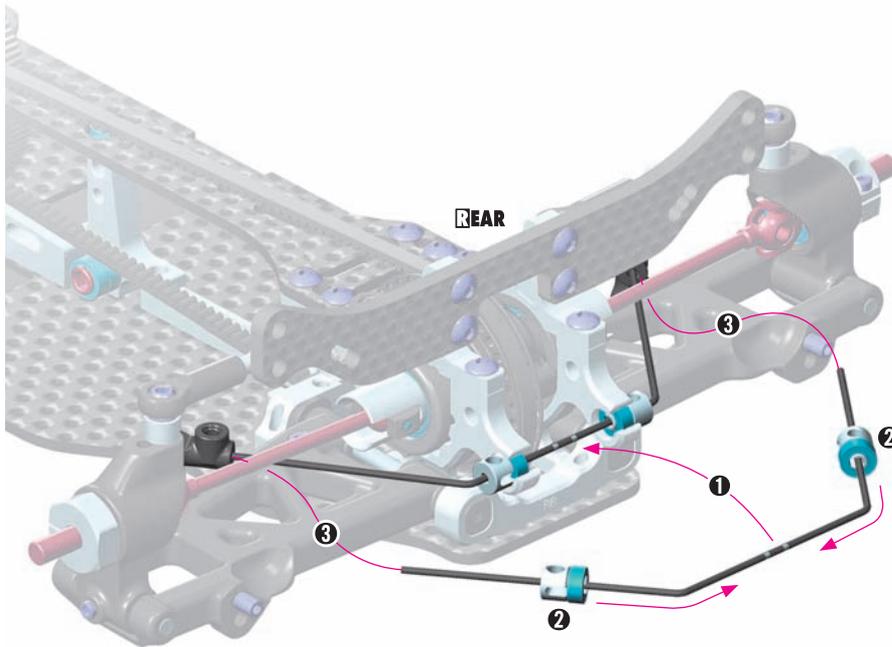


ANTI-ROLL BARS

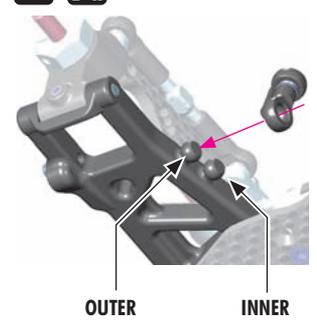


# 5. FRONT & REAR TRANSMISSION

## REAR ANTI-ROLL BAR



2x INITIAL POSITION



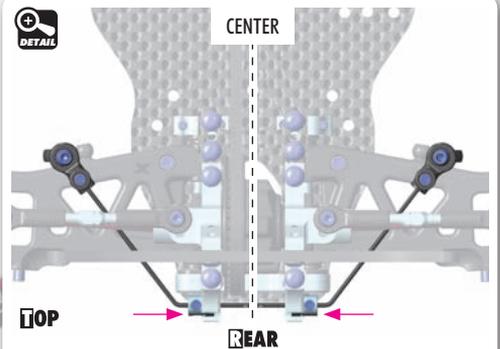
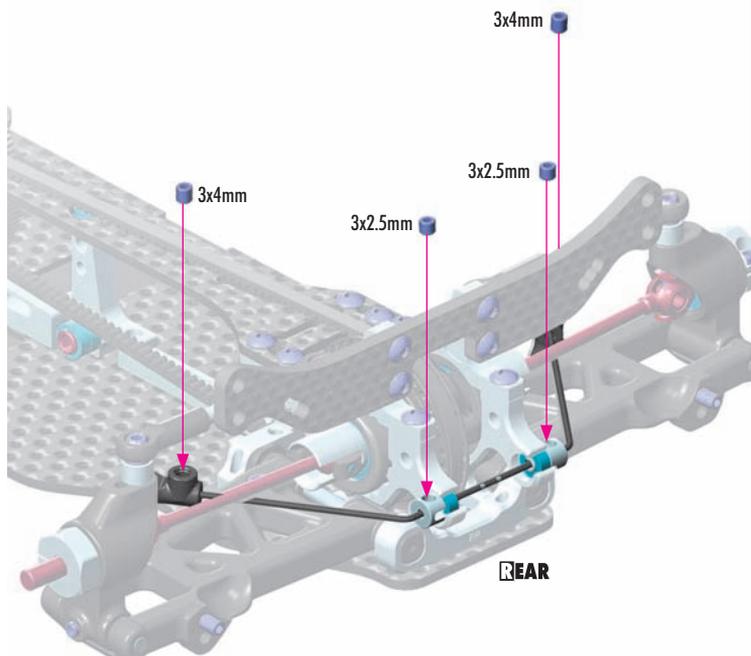
### ANTI-ROLL BAR POSITION

INITIAL SETTING = OUTER BALL

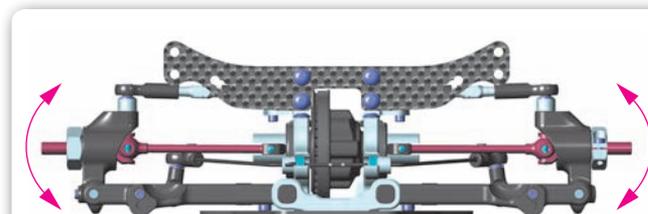
Use the **OUTER** ball on medium-high traction tracks. The car will roll less which will make it easier to drive with more cornering speed.

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

## REAR ANTI-ROLL BAR



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



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



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

901302  
SB M3x2.5

901304  
SB M3x4



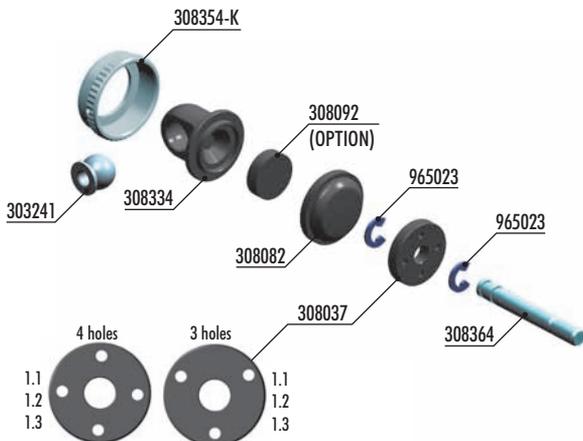
VIDEO TECH TIP



ANTI-ROLL BARS

# 6. SHOCK ABSORBERS

4x



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



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	OPTION
#308286	C = 2.6	INCLUDED
#308276	C = 2.7	OPTION
#308288	C = 2.8	OPTION
#308277	C = 2.9	OPTION
#308290	C = 3.0	OPTION



OPTION

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



OPTION

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



OPTION

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



OPTION

#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.



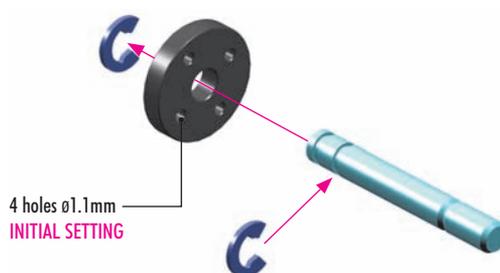
BAG  
06

- 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 T4 SHOCK ABSORBER MEMBRANE (4)
- 308092 T4 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
- 308334 ULP COMPOSITE SHOCK PARTS

- 308354-K ULP ALU SHOCK CAP-NUT WITH VENT HOLE - BLACK (2)
- 308364 T4 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)
- 308286 XRAY 4S SPRING-SET C=2.6 (2)

965023  
C 2.3

4x



# 6. SHOCK ABSORBERS



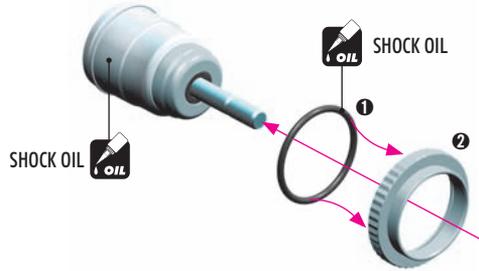
972030  
0 3x2

4x



970131  
0 13x1.0

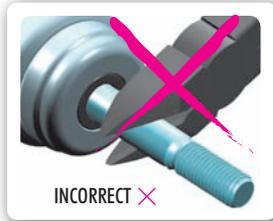
4x



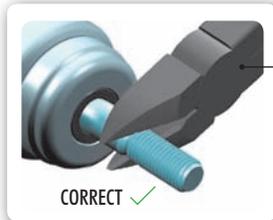
CUTAWAY VIEW

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

4x

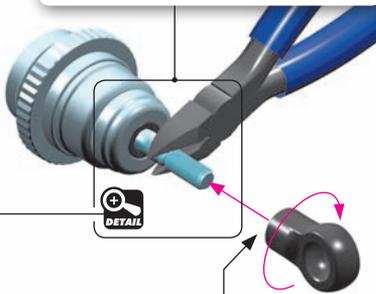


INCORRECT ✗



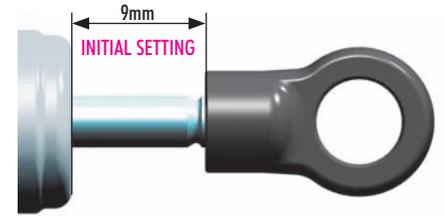
CORRECT ✓

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



4x

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



**! 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 450cSt

**SHOCK FILLING**

4x



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

**TIP**



#104002  
HUDY AIR VAC – VACUUM PUMP



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



OPTION



SHOCK OILS (50ml)



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

4x



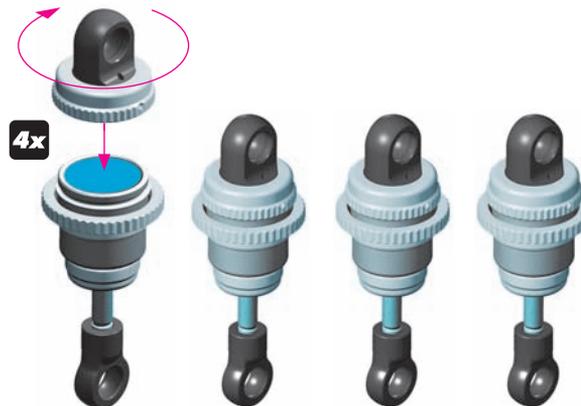
After you insert the membrane, ensure that it is fully seated inside the alu cap.

CUTAWAY VIEW



# 6. SHOCK ABSORBERS

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



4x

## REBOUND ADJUSTMENT

RELEASE 2-3 turns

1



2



TIGHTEN FULLY

3

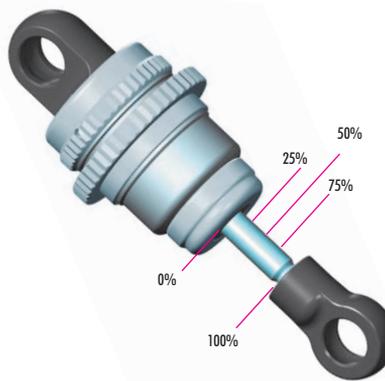


### AFTER THE SHOCK IS ASSEMBLED YOU HAVE TO SET THE SHOCK REBOUND:

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

4x

## REBOUND CHECK



### REBOUND CHECK:

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

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

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

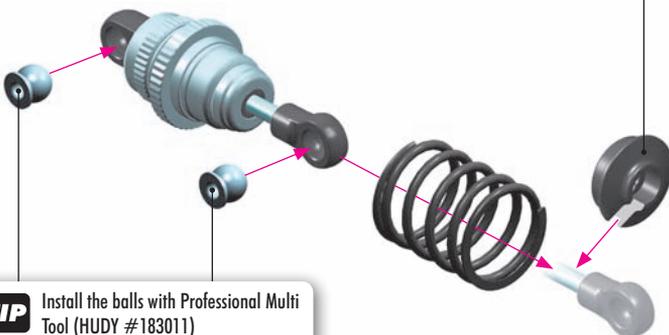
4x

## SHOCK LENGTH ADJUSTMENT:



It is VERY IMPORTANT that all shocks are equal length.

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



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



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



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



ASSEMBLY VIEW

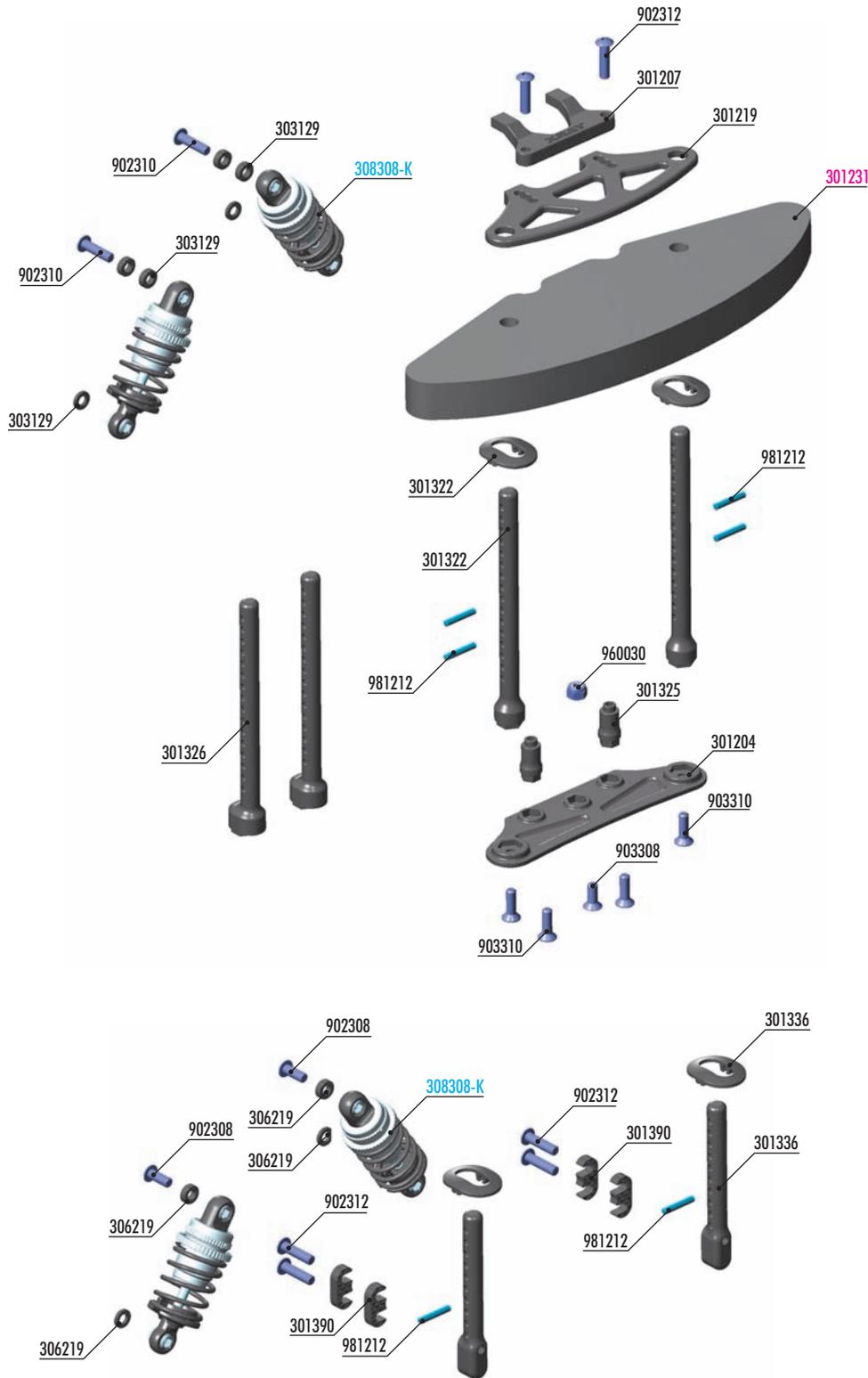


VIDEO TECH TIP



SHOCK & SPRINGS CHOICES

# 7. FRONT & REAR ASSEMBLY



**OPTION** **REAR BODY MOUNT SET**

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



**OPTION** **FRONT BODY MOUNT SET**

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



**OPTION** **FRONT ECC. BODY MOUNT SET**

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



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



**OPTION** #301210  
GRAPHITE UPPER HOLDER FOR BUMPER 2.5MM



**OPTION** #301232  
T4 FOAM BUMPER WIDE - HARD



**BAG**

**07**

- 301204 COMPOSITE BUMPER
- 301207 COMPOSITE BUMPER UPPER HOLDER BRACE
- 301219 COMPOSITE UPPER HOLDER FOR BUMPER
- 301322 FRONT BODY MOUNT SET
- 301326 FRONT ECCENTRIC BODY MOUNT SET
- 301325 T4 COMPOSITE BRACE FOR BUMPER - LOW (2)
- 301336 REAR BODY MOUNT SET
- 301390 GRAPHITE ADJ. SHIM FOR REAR BODY POST 3.0MM (2)
- 303129 COMPOSITE SET OF WHEELBASE SHIMS (3x1MM; 1x2MM) (2)
- 306219 COMPOSITE SET OF SERVO SHIMS (4)

- 902308 HEX SCREW SH M3x8 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 960030 NUT M3 (10)
- 981212 PIN 2x12 (10)

- 301231 T4 FOAM BUMPER - LIGHT & STRONG**
- 308308-K ULP ALU SHOCK ABSORBER-SET - BLACK (2)**

# 7. FRONT & REAR ASSEMBLY



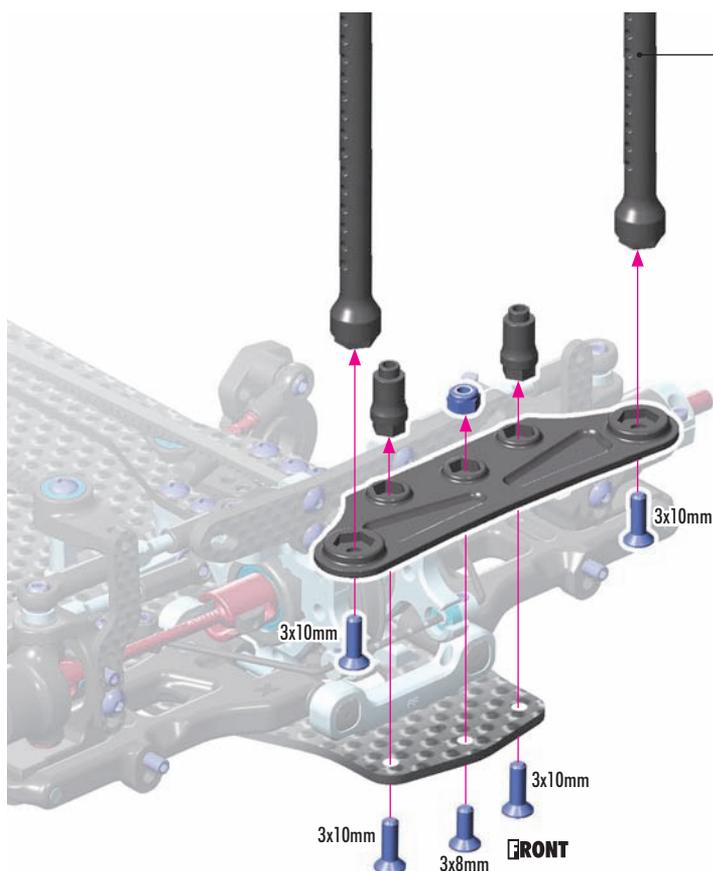
903308  
SFH M3x8



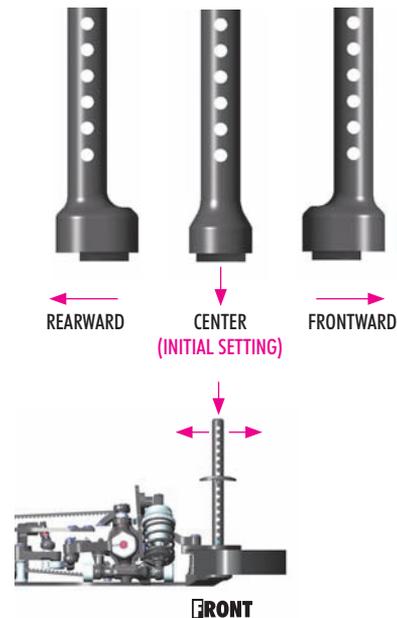
903310  
SFH M3x10



960030  
N M3



## FRONT BODY POST ORIENTATION



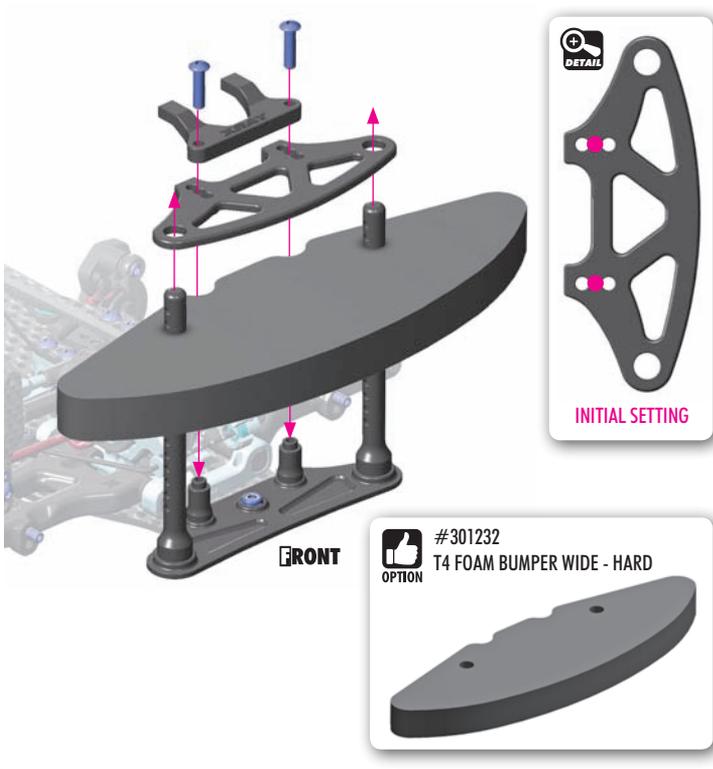
It is important to use the same body setting (rearward, center, forward) on both front and rear body posts at the same time.

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

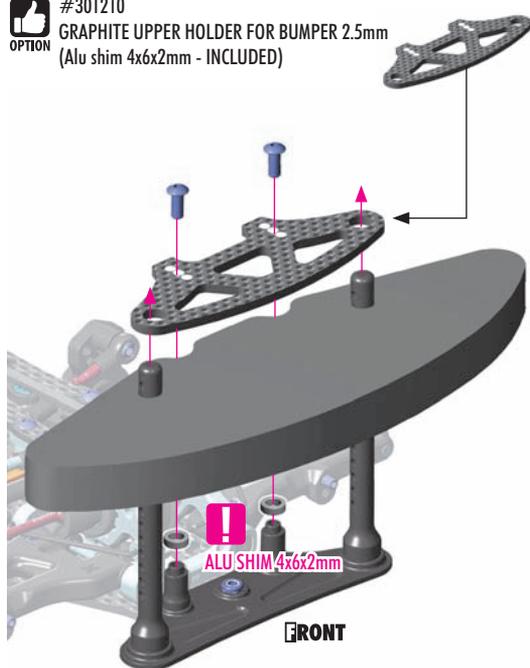
- The body in the **REARWARD POSITION** makes the car super stable and very easy to drive. It makes the car easier to drive in chicanes and more predictable in high-traction conditions.
- The body in the **CENTER POSITION** makes the car more aggressive and steer faster, but is a bit more difficult to 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.



902312  
SH M3x12

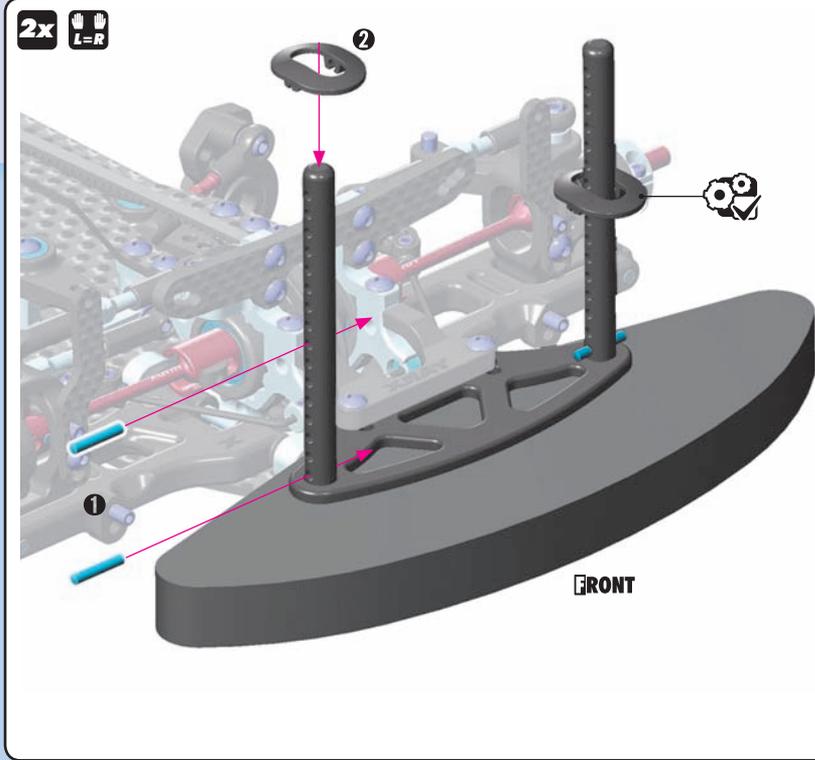


**#301210**  
OPTION GRAPHITE UPPER HOLDER FOR BUMPER 2.5mm  
(Alu shim 4x6x2mm - INCLUDED)



# 7. FRONT & REAR ASSEMBLY

981212  
P 2x12



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

Very handy, easily externally adjustable body post stop 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	INCLUDED
#301327	+1mm	OPTION
#301328	+2mm	OPTION

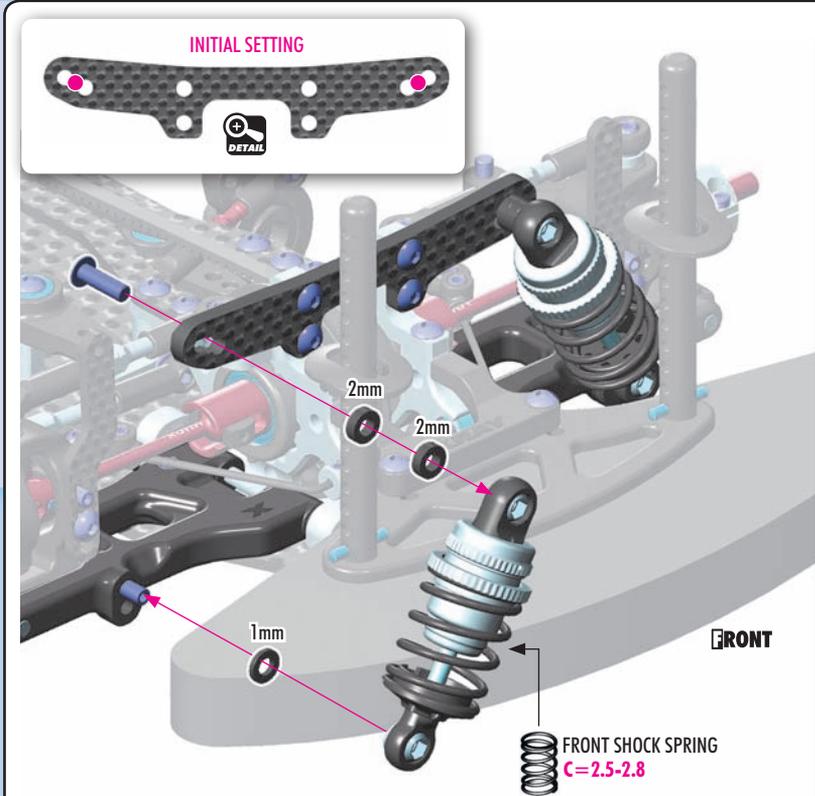
**FRONT BODY MOUNT SET**

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

902310  
SH M3x10

303129  
SHIM 3x6x1

303129  
SHIM 3x6x2



**SLP SHOCK ABSORBER PARTS**

For some very specific racing conditions like extremely-low traction, these SLP shocks with SLP Shock Tower are available. Also optional SLP Alu Progressive Shock System Set for improved traction is available. Please note that all these part are only for optional SLP shock absorbers and cannot be combined with ULP shock absorber parts.

**#301962**  
SLP SHOCK TOWER FRONT 3.0MM GRAPHITE

**#308307-0 or #308307-K**  
SLP ALU SHOCK ABSORBER - SET (2)

**#308039**  
SLP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

**VIDEO TECH TIP**

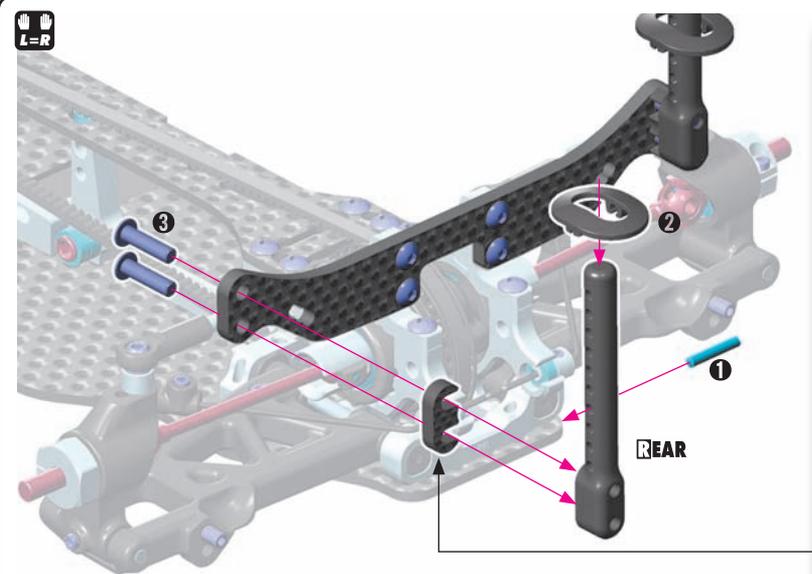
SHOCK SHIMMING TUTORIAL

**OPTION** More information about optional lower shock tower is at the end of the manual.

**#308029**  
**OPTION** 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. FRONT & REAR ASSEMBLY



**#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.

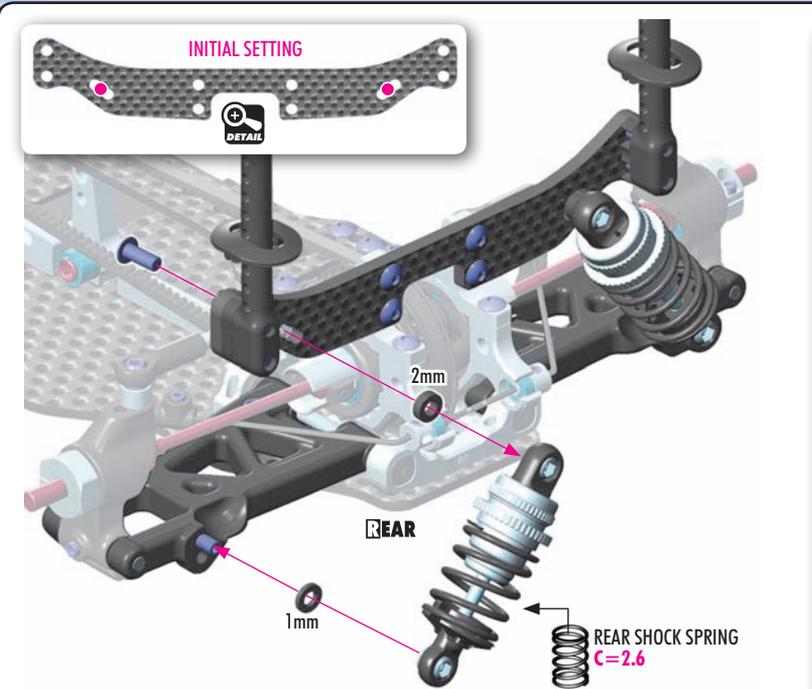
**REAR BODY POST POSITION**

FRONTWARD      CENTER (INITIAL SETTING)      REARWARD

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

**REAR BODY MOUNT SET**

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



**SLP SHOCK ABSORBER PARTS**

For some very specific racing conditions like extremely-low traction, these SLP shocks with SLP Shock Tower are available. Also optional SLP Alu Progressive Shock System Set for improved traction is available. Please note that all these part are only for optional SLP shock absorbers and can not be combined with ULP shock absorber parts.

**#302962**  
**SLP SHOCK TOWER REAR 3.0MM GRAPHITE**

**#308307-0 or #308307-K**  
**SLP ALU SHOCK ABSORBER - SET (2)**

**#308039**  
**SLP ALU PROGRESSIVE SHOCK SYSTEM - SET (2)**

The information about optional lower shock tower is at the end of the manual.

**#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.



VIDEO TECH TIP



SHOCK SHIMMING TUTORIAL

# 7. FINAL ASSEMBLY

**Motor (NOT INCLUDED)**

**Receiver (NOT INCLUDED)**

**Speed Controller (NOT INCLUDED)**

**Steering Servo (NOT INCLUDED)**

**Servo Screw (NOT INCLUDED)**

**LiPo Battery Pack (NOT INCLUDED)**

**Wheels & Tires & Inserts (NOT INCLUDED)**

**#306410 ALU FAN MOUNT (OPTION)**

**#306195 ALU FULLY ADJ. BATTERY HOLDER + WEIGHT FOR SHORT BATTERIES (OPTION)**

**#306165 GRAPHITE BATTERY STRAP (OPTION)**

**#306551 XRAY PURE TUNGSTEN CHASSIS WEIGHT 11g (OPTION)**

ALU REAR WING SHIM (OPTION)			
#353561	SILVER	XRAY	OPTION
#293561	SILVER	HUDY	OPTION
#293561-0	ORANGE	HUDY	OPTION

<b>BAG</b> <b>07</b>	296510	ALU COUNTERSUNK SHIM (10)	901305	HEX SCREW SB M3x5 (10)
	303126	ALU SHIM 3x6x5.0MM (10)	902306	HEX SCREW SH M3x6 (10)
	305912~306000	NARROW PINION GEAR ALU HARD COATED (OPTION)	902308	HEX SCREW SH M3x8 (10)
	306190	GRAPHITE BATTERY ADJ. WIDTH PLATE (2)	902320	HEX SCREW SH M3x20 (10)
	306192	COMPOSITE ADJUSTABLE BATTERY HOLDER & BACKSTOP (2+2)	903306	HEX SCREW SFH M3x6 (10)
	306201	ALU SERVO MOUNT - LONG	903308	HEX SCREW SFH M3x8 (10)
	306204	ALU SERVO MOUNT - BLACK	903310	HEX SCREW SFH M3x10 (10)
	306234	GRAPHITE FLOATING SERVO HOLDER NARROW 3.0MM	960140	NUT M4 WITH FLANGE (10)
	306301	ANTENNA MOUNT - THIN		
	309402	BODY CLIP FOR 6MM BODY POST (4)		
	326176	COMPOSITE LIPO BATTERY BACKSTOP (2+2)		
			306310	ANTENNA (2)

# 7. FINAL ASSEMBLY



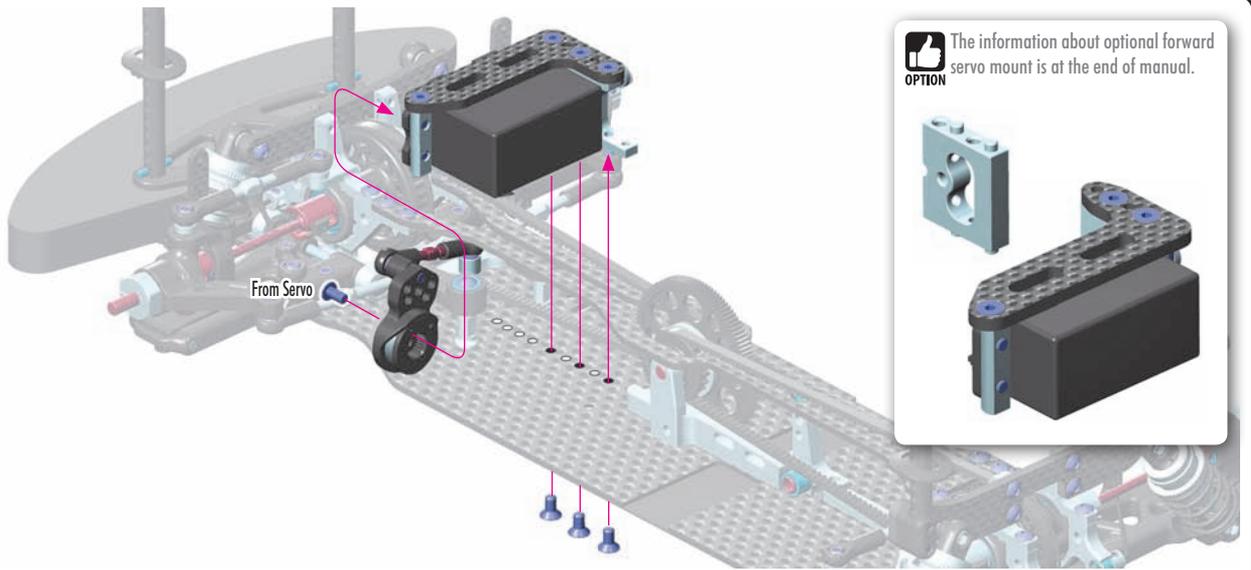
903306  
SFH M3x6



VIDEO TECH TIP



STEERING SYSTEM  
SET-UP



The information about optional forward servo mount is at the end of manual.  
OPTION



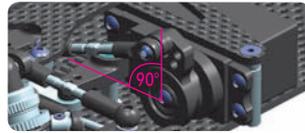
For improved weight balance and for more space for electronics, we recommend using a narrow, light servo.



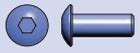
IMPORTANT!



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



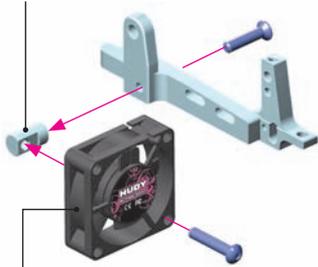
Attach servo arm to servo output shaft using screw from servo. Servo saver must be perpendicular to chassis when servo is in neutral.



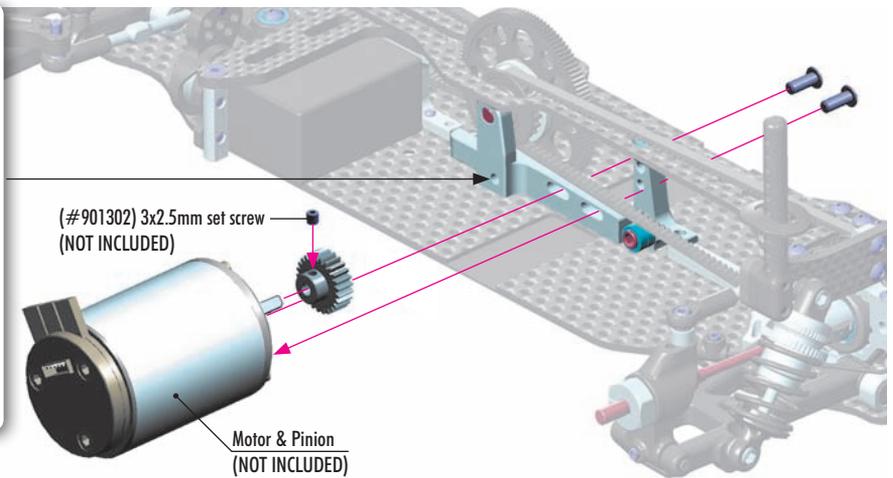
902308  
SH M3x8



#306410  
ALU FAN MOUNT  
OPTION



#293110 HUDY BRUSHLESS RC FAN 30MM  
#293111 HUDY BRUSHLESS RC FAN 40MM  
OPTION

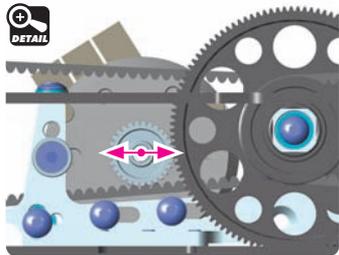


(#901302) 3x2.5mm set screw  
(NOT INCLUDED)

Motor & Pinion  
(NOT INCLUDED)

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

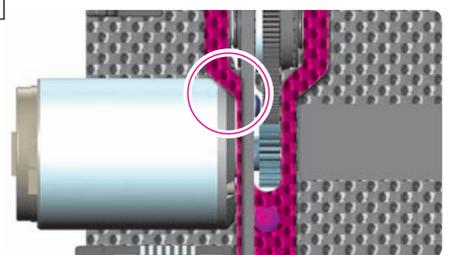
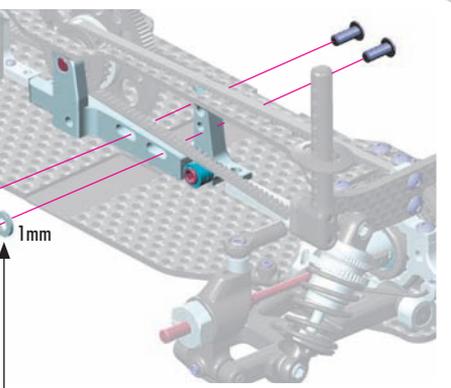
There should be a small amount of play between the teeth of the pinion gear and the spur gear.



TIP



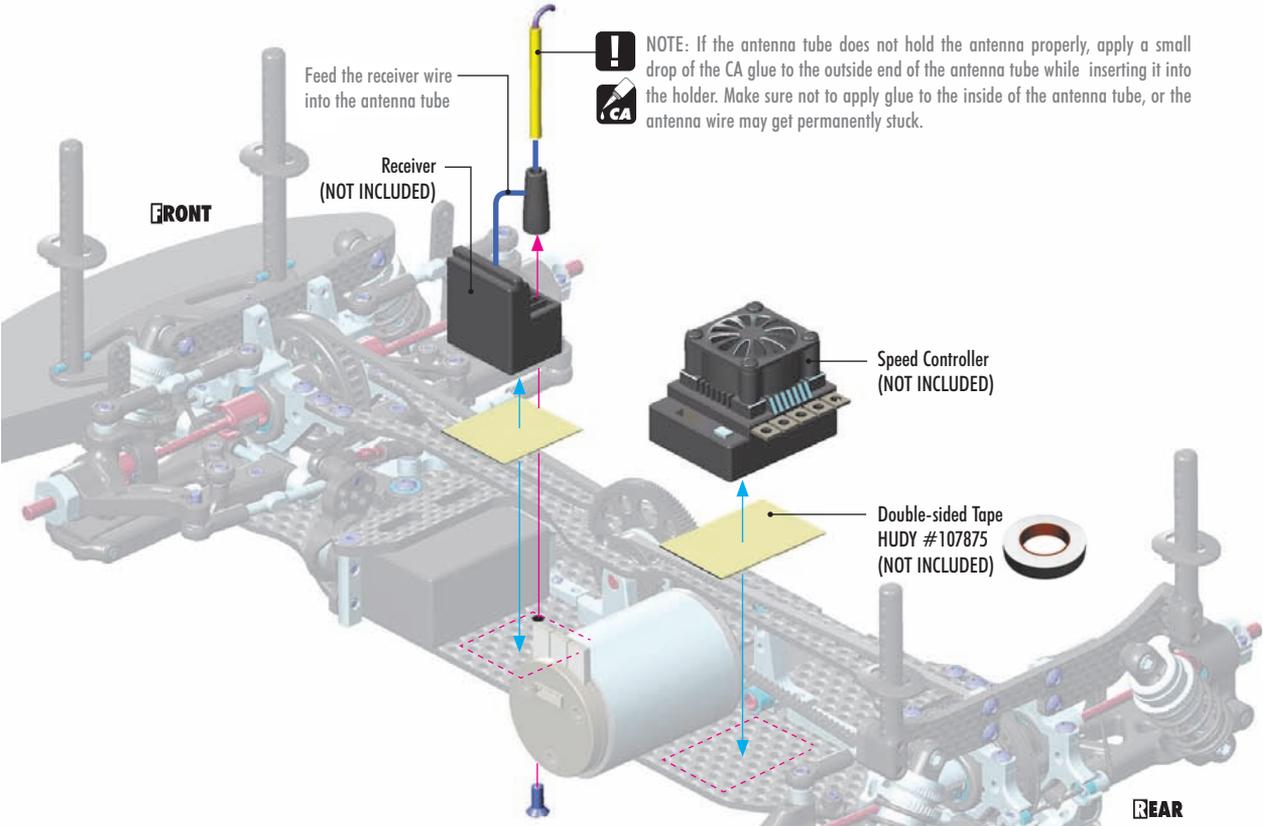
Some motors do not have a chamfer on the motor housing. If your motor does not have a chamfer on the housing and you want to use a small pinion, the motor may touch the top deck. Use a moto-tool with grinding bit or file to remove material from the top deck; this will allow the motor to be moved closer to the spur gear or you can shim out the motor by using #303122 (3x6x1mm) shims.



# 7. FINAL ASSEMBLY



**903308**  
SFH M3x8



FRONT

FEED THE RECEIVER WIRE INTO THE ANTENNA TUBE

RECEIVER (NOT INCLUDED)

NOTE: If the antenna tube does not hold the antenna properly, apply a small drop of the CA glue to the outside end of the antenna tube while inserting it into the holder. Make sure not to apply glue to the inside of the antenna tube, or the antenna wire may get permanently stuck.

CA

SPEED CONTROLLER (NOT INCLUDED)

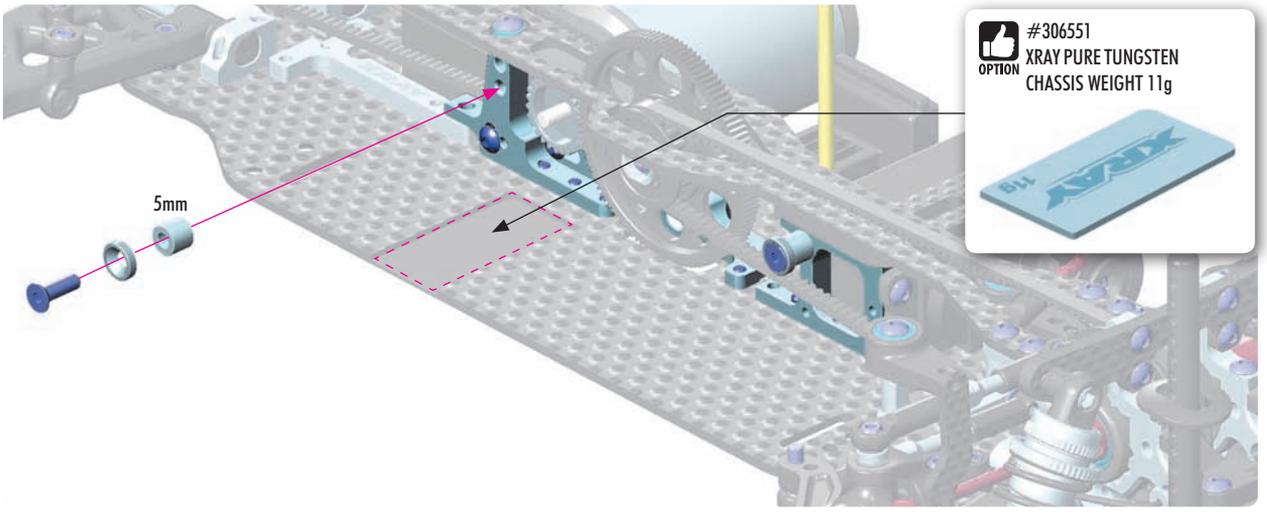
DOUBLE-SIDED TAPE HUDY #107875 (NOT INCLUDED)

REAR



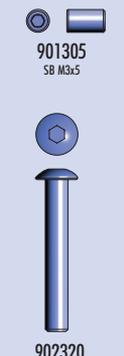
**303126**  
SHIM 3x6x5

**903310**  
SFH M3x10



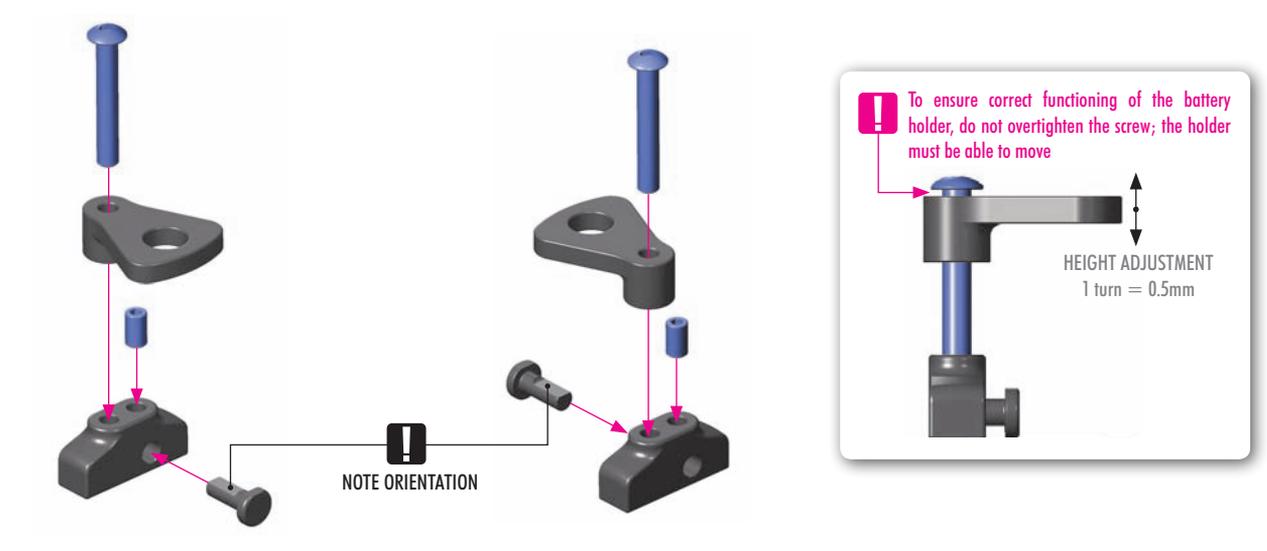
5mm

**#306551**  
OPTION XRAY PURE TUNGSTEN CHASSIS WEIGHT 11g



**901305**  
SB M3x5

**902320**  
SFH M3x20



NOTE ORIENTATION

To ensure correct functioning of the battery holder, do not overtighten the screw; the holder must be able to move

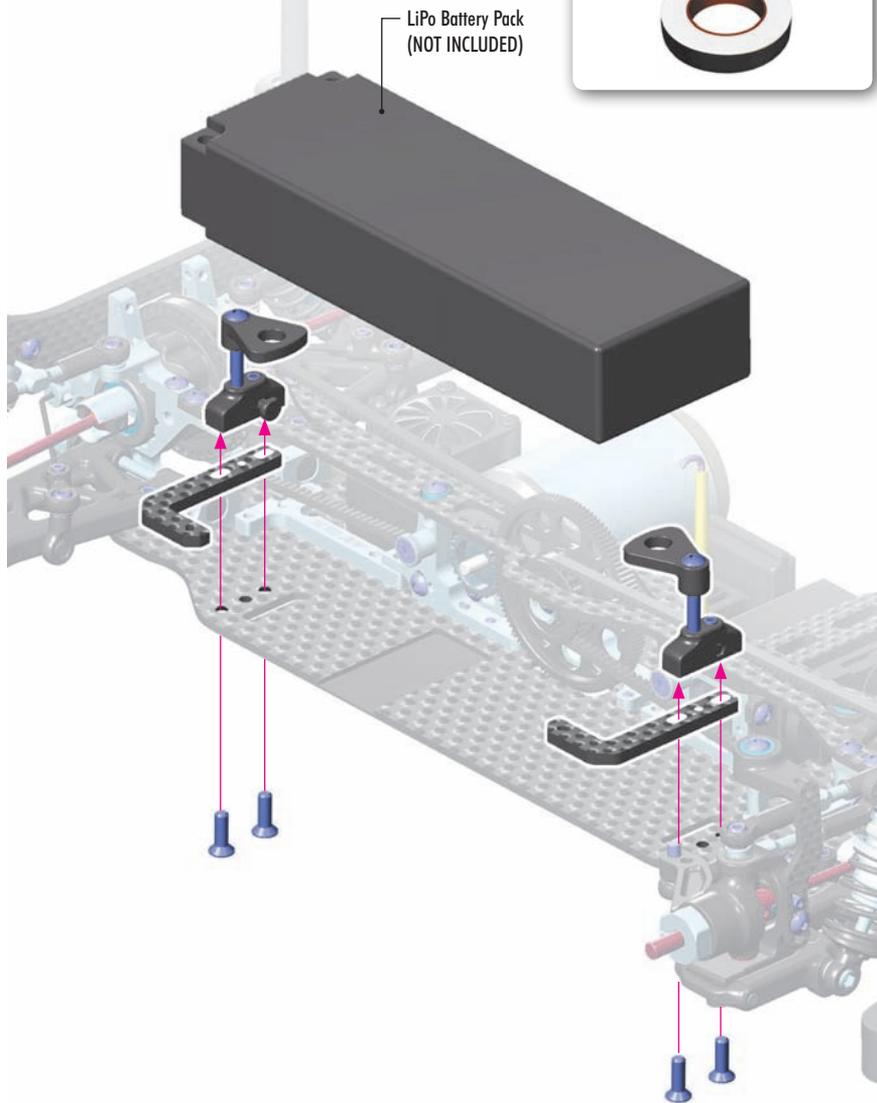
HEIGHT ADJUSTMENT  
1 turn = 0.5mm

# 7. FINAL ASSEMBLY



VIDEO TECH TIP

WEIGHT BALANCE



**#107870**  
HUDY FIBRE-REINFORCED TAPE

**#306195**  
ALU FULLY ADJ. BATTERY HOLDER + WEIGHT FOR SHORT BATTERIES

**#306199**  
GRAPHITE HOLDER FOR ADJ. BATTERY HOLDER FOR NARROW BATTERIES (2)

**#309862**  
XRAY STAINLESS STEEL WEIGHT FOR NARROW BATTERY PACK 35G

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

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

VIDEO TECH TIP

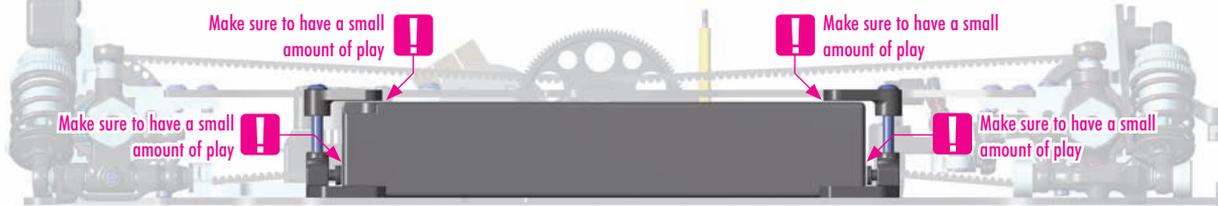
BATTERY MOUNTING SYSTEM



## 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.



# 7. FINAL ASSEMBLY



960140  
N.M4



VIDEO TECH TIP



HOW TO TWEAK  
YOUR T4



BODY UPSTOPS

Make sure the wheel nuts are very tight, so the wheels do not loosen during operation.

ALU REAR WING SHIM				
OPTION	#353561	SILVER	XRAY	OPTION
	#293561	SILVER	HUDY	OPTION
	#293561-0	ORANGE	HUDY	OPTION

## EXTRA INFORMATION ABOUT OPTIONAL PARTS FOR T4'21



VIDEO TECH TIP



ARS

**#300902 ACTIVE REAR SUSPENSION™ SET**

OPTION

302350

REAR

ALU C-HUB ACTIVE REAR SUSP.				
OPTION	#302350	0°	-	INCLUDED
	#302351	2°	RIGHT	OPTION
	#302352	2°	LEFT	OPTION
	#302353	4°	RIGHT	OPTION
	#302354	4°	LEFT	OPTION



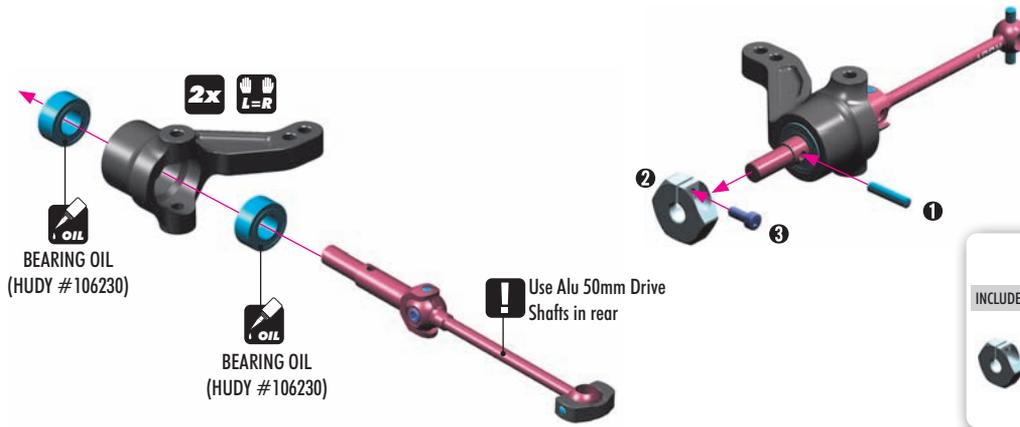
902205  
SH M2x5



940510  
BB 5x10x4



980210  
P 2x10



BEARING OIL  
(HUDY #106230)

2x L=R

BEARING OIL  
(HUDY #106230)

Use Alu 50mm Drive Shafts in rear

ALU WHEEL HUBS - OFFSET

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



DRIVE SHAFTS

#305323	50MM - STEEL
#305333	50MM - ECS



STEERING BLOCKS

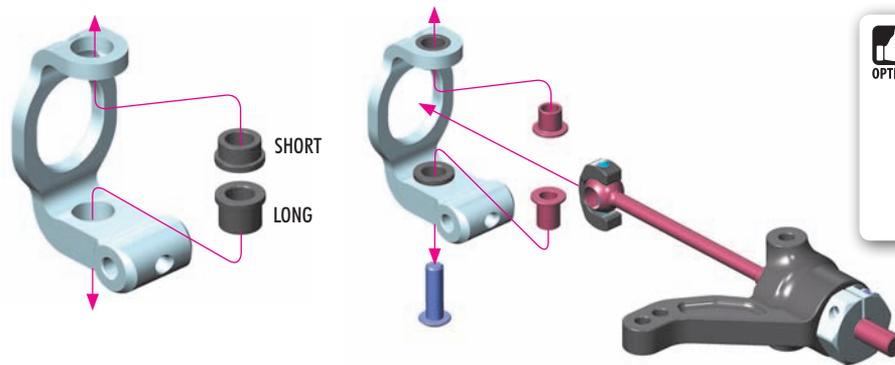
#302252	MEDIUM
#302253	HARD
#302254	GRAPHITE



#302202  
ALU STEERING BLOCKS  
WITH GRAPHITE  
EXTENSION PLATES - SET



902310  
SH M3x10



SHORT

LONG



ALU C-HUB ACTIVE REAR SUSP.

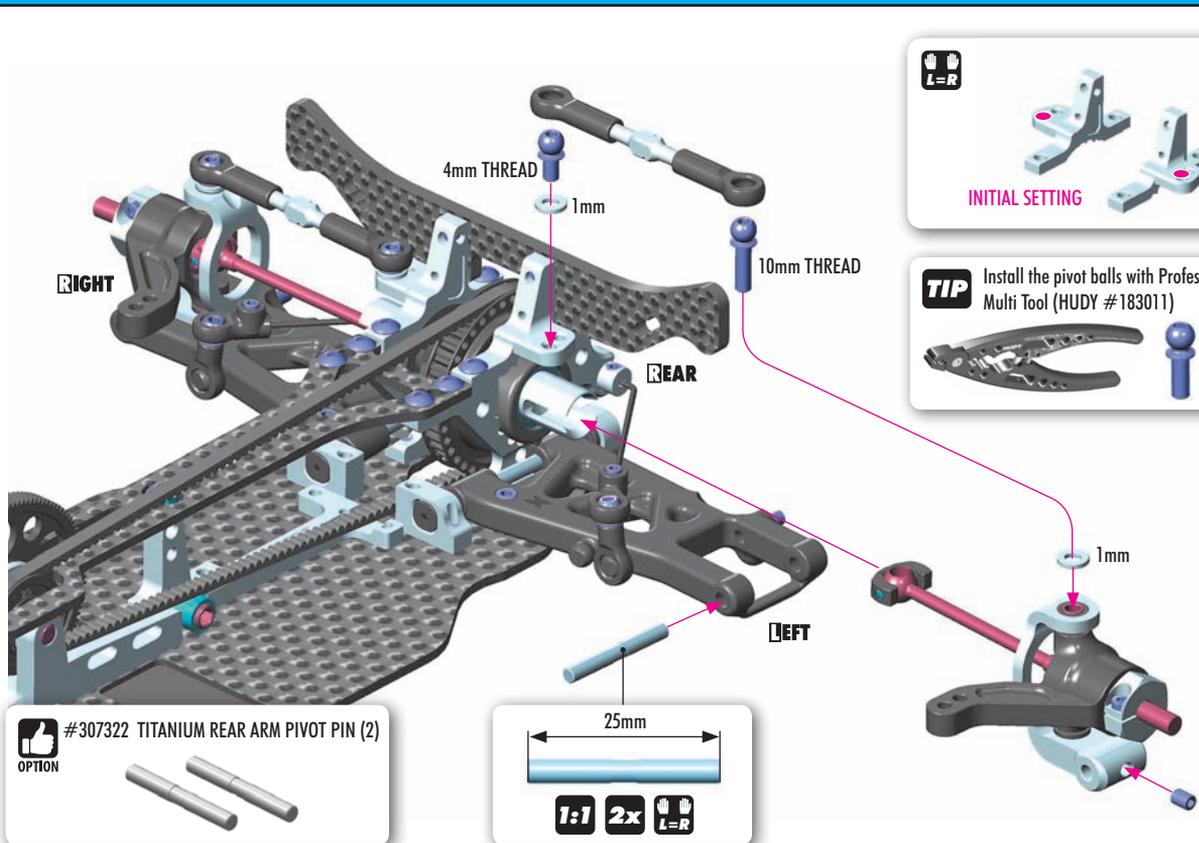
#302350	0°	-	INCLUDED
#302351	2°	RIGHT	OPTION
#302352	2°	LEFT	OPTION
#302353	4°	RIGHT	OPTION
#302354	4°	LEFT	OPTION



303122  
SHIM 3x6x1



901304  
SB M3x4



RIGHT

4mm THREAD

1mm

10mm THREAD

REAR

LEFT

25mm

1:1 2x L=R



INITIAL SETTING



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



#307322 TITANIUM REAR ARM PIVOT PIN (2)



303122  
SHIM 3x6x1



VIDEO TECH TIP

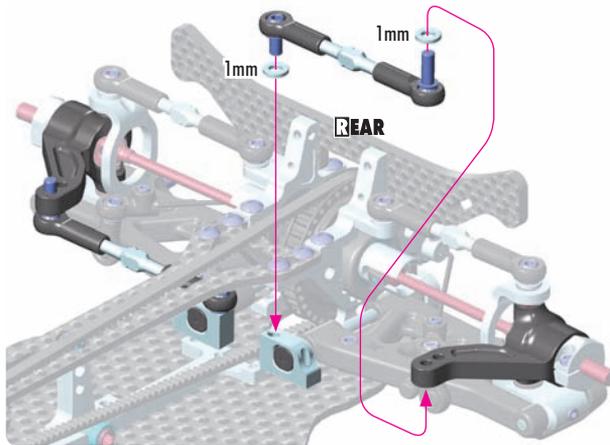


ARS

## ARS™ MOUNTING ALTERNATIVES

There are two alternatives how to mount ARS linkage. Depending if you want to have increased or decreased toe-in when the car is pressed

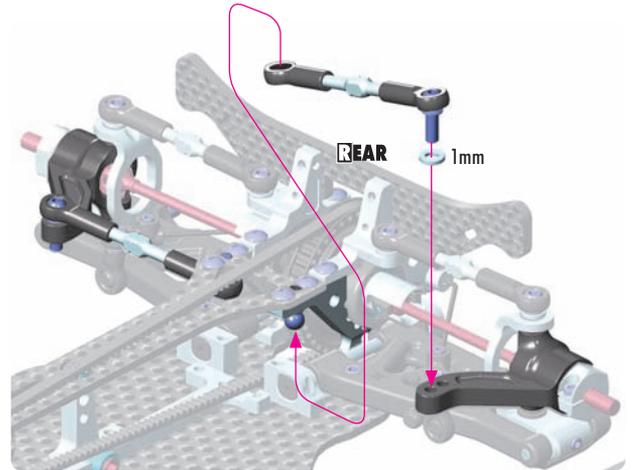
### ALTERNATIVE DECREASING TOE-IN



The link is mounted from the bottom of the steering block to the RF suspension holder. With this setting, the toe-in decreases when the car is pressed. This means that if you set the toe-in to 3°, then when the car enters the corner, the toe-in decreases which increases cornering speed but decreases rear traction. Recommended for medium-high traction conditions.

By adding more shims under steering block, the toe-in is more decreasing under pressing the car.

### ALTERNATIVE INCREASING TOE-IN

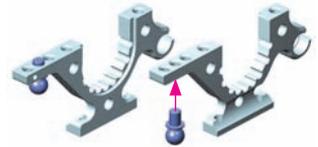


The link is mounted from the top of the steering block to the bulkhead. With this setting, the toe-in increases when the car is pressed. This means that if you set the toe-in to 3°, then when the car enters the corner, the toe-in increases which increases rear traction and stability but generates more push. Recommended for low-medium traction conditions.

By adding more shims on the top of the steering block, the toe-in is more increasing under pressing the car.



When using the ARS mounting alternative, mount the ball joints to the bulkheads before mounting the bulkheads to the chassis.

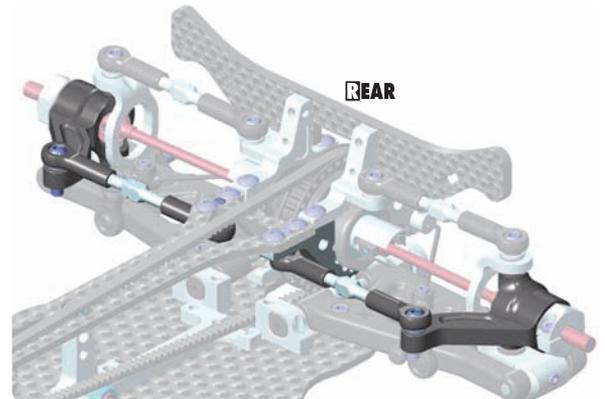
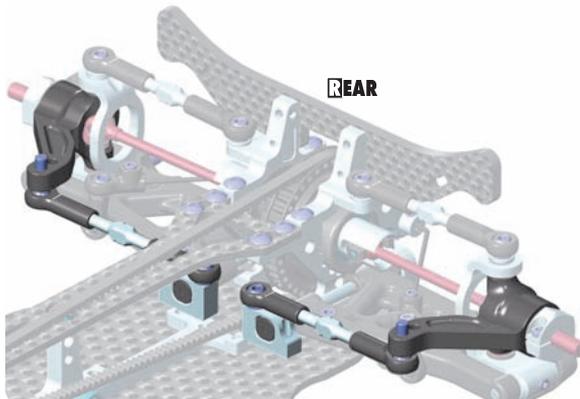


The optional ARS aluminum C-hubs were redesigned to work with the new T4'21 rear suspension geometry and are available in 0° | 2° | 4° caster.

#### ALU C-HUB ACTIVE REAR SUSPENSION™

 <p>0°</p>	C-hub is recommended for high-traction conditions as it generates greater off-power steering, rotation, and cornering speed.
 <p>2°</p>	C-hub angled toward the front of the car helps to generate more traction but also generates more off-power steering and cornering speed compared to standard rear suspension. Recommended for medium-traction conditions.
 <p>4°</p>	C-hub angled toward the front of the car generates maximum traction. Recommended for very-low-traction conditions. As the wheelbase will be shortened a lot with this setting, it is recommended to lengthen the rear wheelbase by moving the rear arms fully back.

The effect of the toe-in change can be checked on a set-up station. Set the desired toe-in, then press the car to the ground and check how much the toe-in changes and in which direction.





303126  
SHIM 3x6x5



902306  
SH M3x6



903306  
SFH M3x6



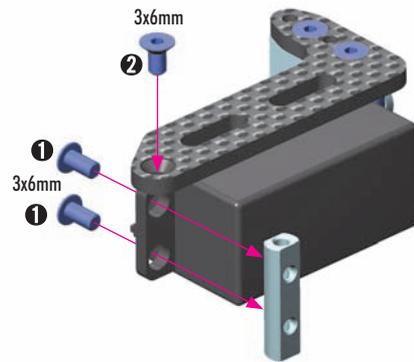
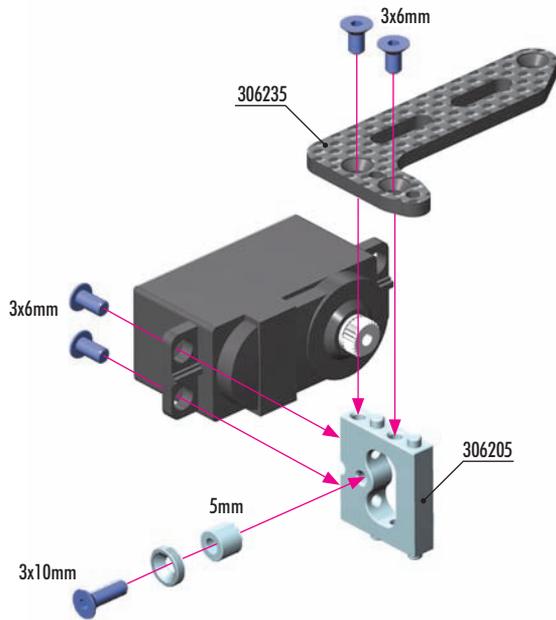
903310  
SFH M3x10



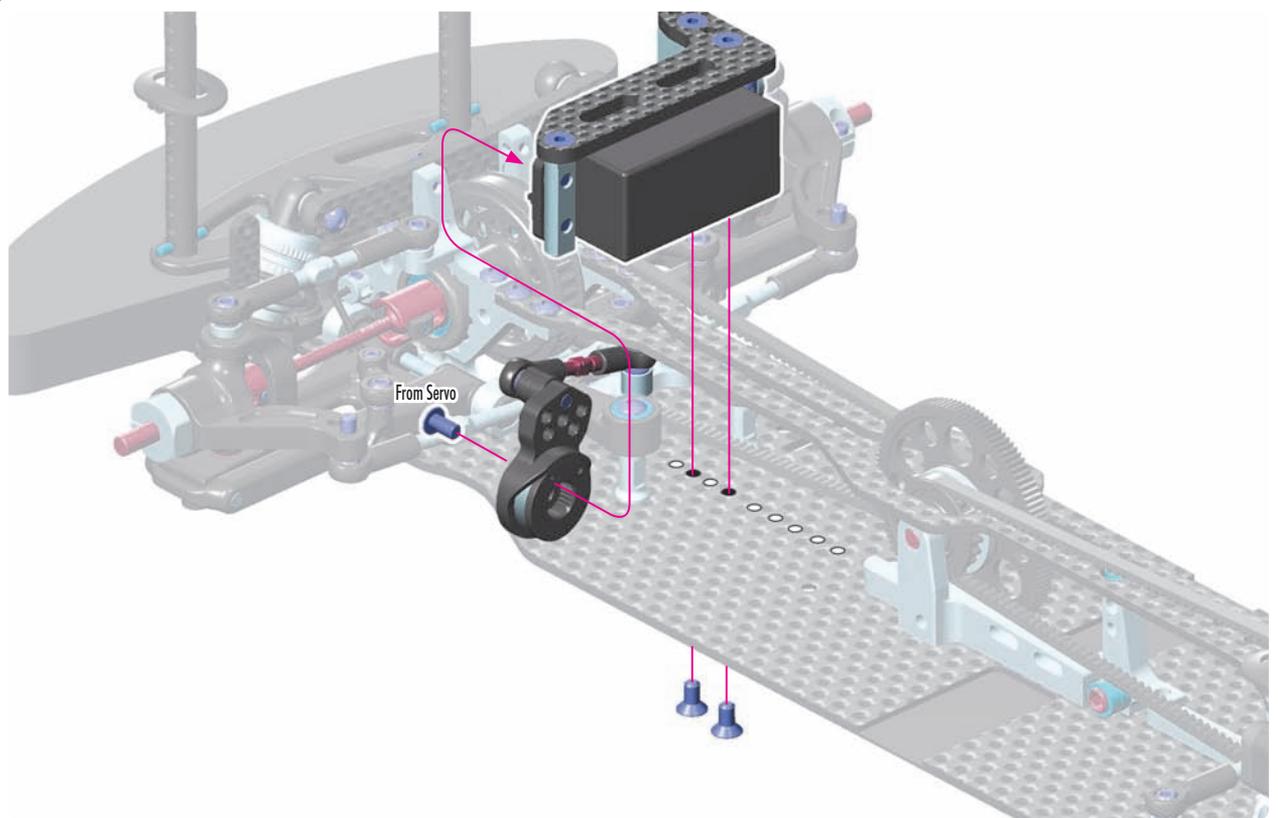
### FLOATING FORWARD MOUNT SERVO HOLDER

Optional floating forward mount servo holder set allows mounting of the servo holder to the chassis more forward which leads to increased steering and steering response.

Recommended for conditions where better steering response is needed. Makes the car more reactive but less stable.



903306  
SFH M3x6





306219  
SHIM 3x6x1



306219  
SHIM 3x6x2



902306  
SH M3x6



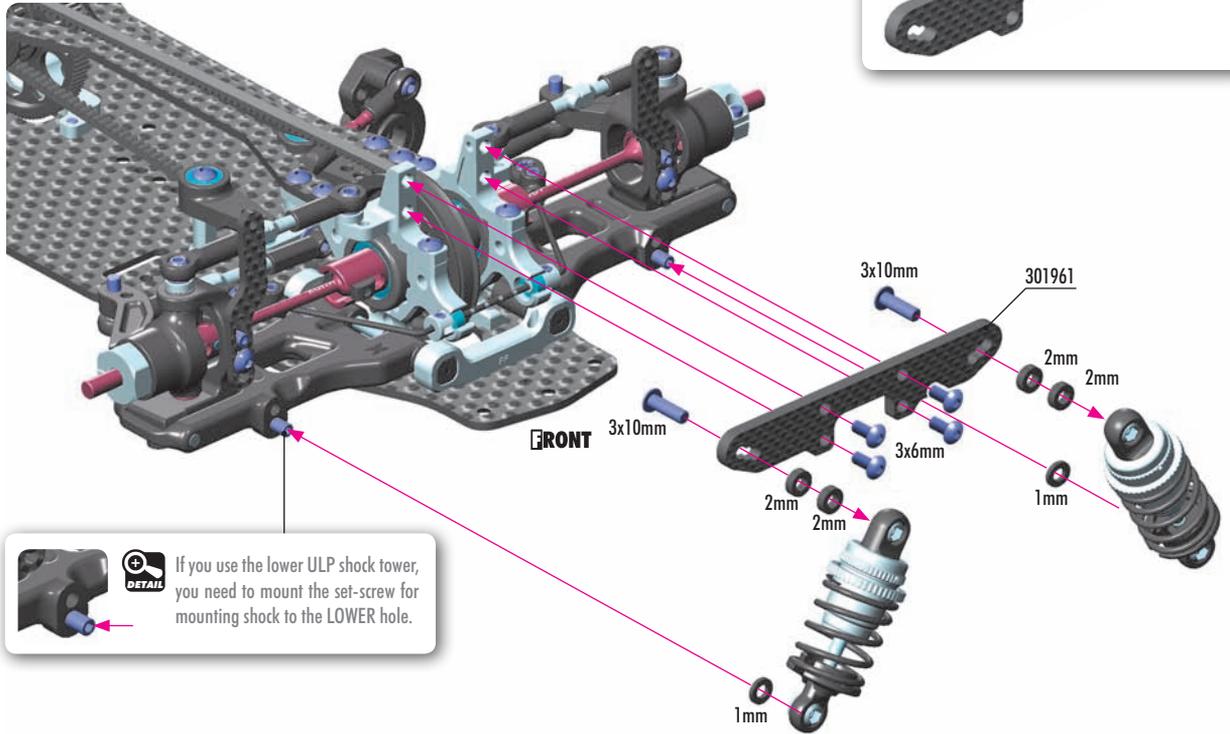
902310  
SH M3x10



**ULP LOWER SHOCK TOWER FOR LOWER SHOCK MOUNTING – FRONT**

The new feature of the arms is to mount the shocks lower. To use this option you need to use optional low ULP shock towers which allows you to mount shocks 4mm lower to lower the CG.

With the lower shock mounting, the car is more stable as it rolls less, is easier to drive in chicanes, and has improved steering response. Recommended for medium-high technical tracks, especially for carpet.



#301961  
**ULP GRAPHITE SHOCK TOWER FRONT  
3.0MM - LOWER**



306219  
SHIM 3x6x1



306219  
SHIM 3x6x2



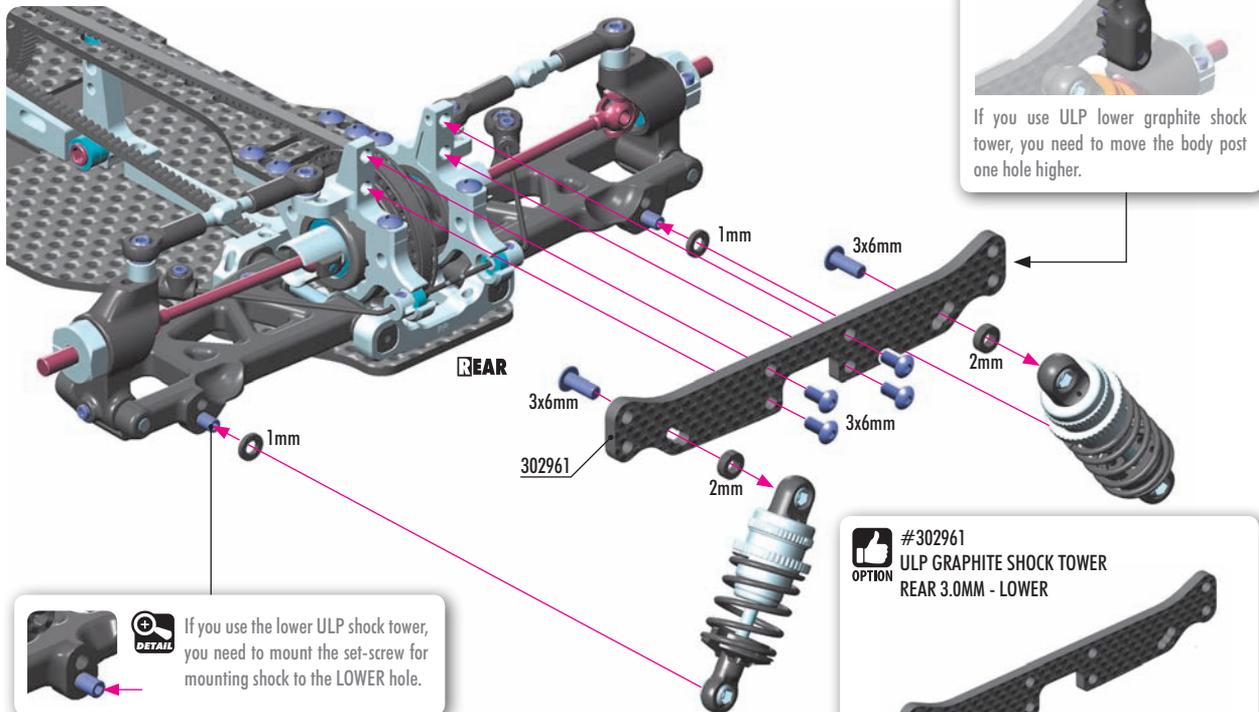
902306  
SH M3x6



**ULP LOWER SHOCK TOWER FOR LOWER SHOCK MOUNTING – REAR**

The new feature of the arms is to mount the shocks lower. To use this option you need to use optional low ULP shock towers which allows you to mount shocks 4mm lower to lower the CG.

With the lower shock mounting, the car is more stable as it rolls less, is easier to drive in chicanes, and has improved steering response. Recommended for medium-high technical tracks, especially for carpet.

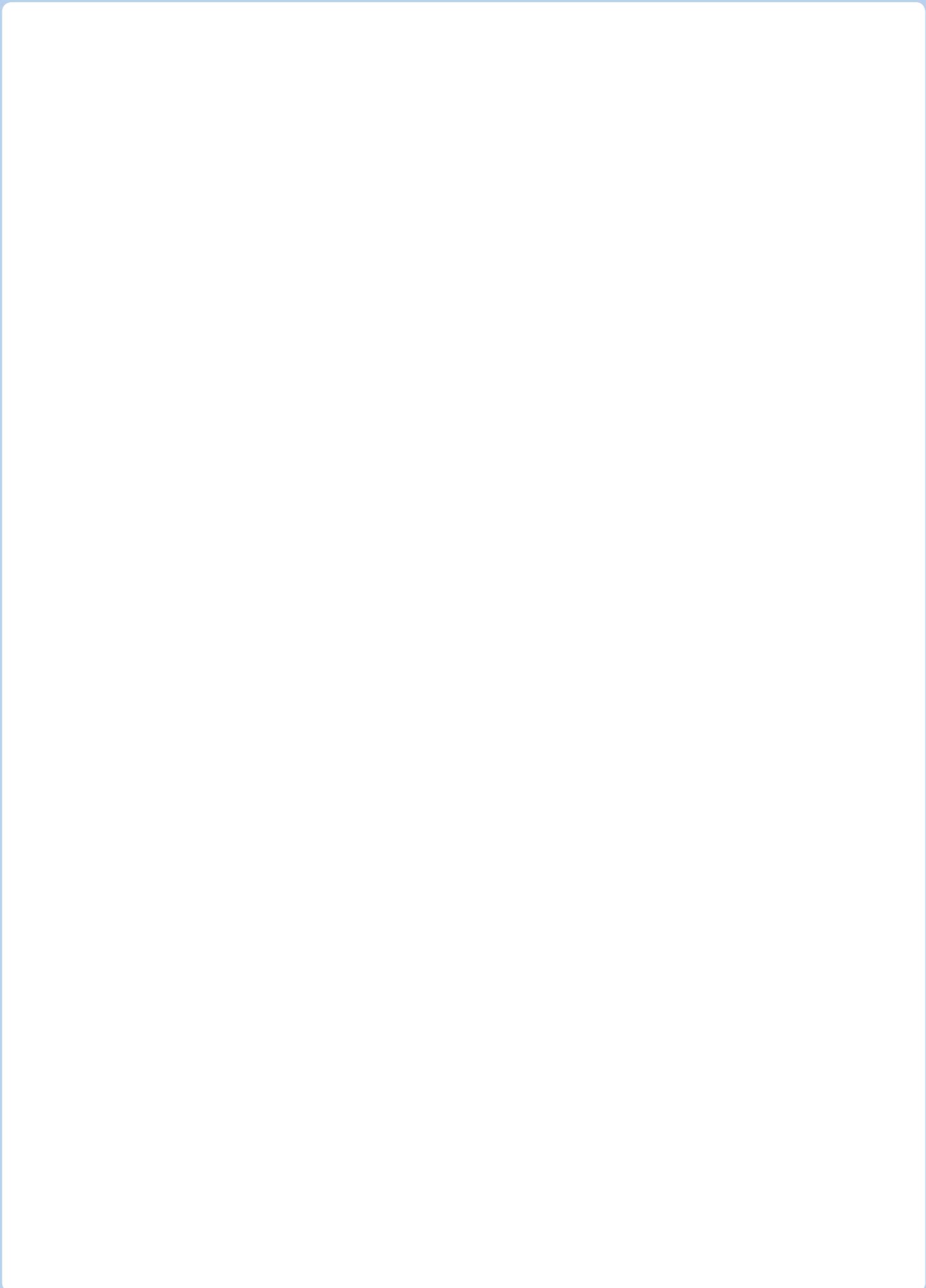


If you use ULP lower graphite shock tower, you need to move the body post one hole higher.



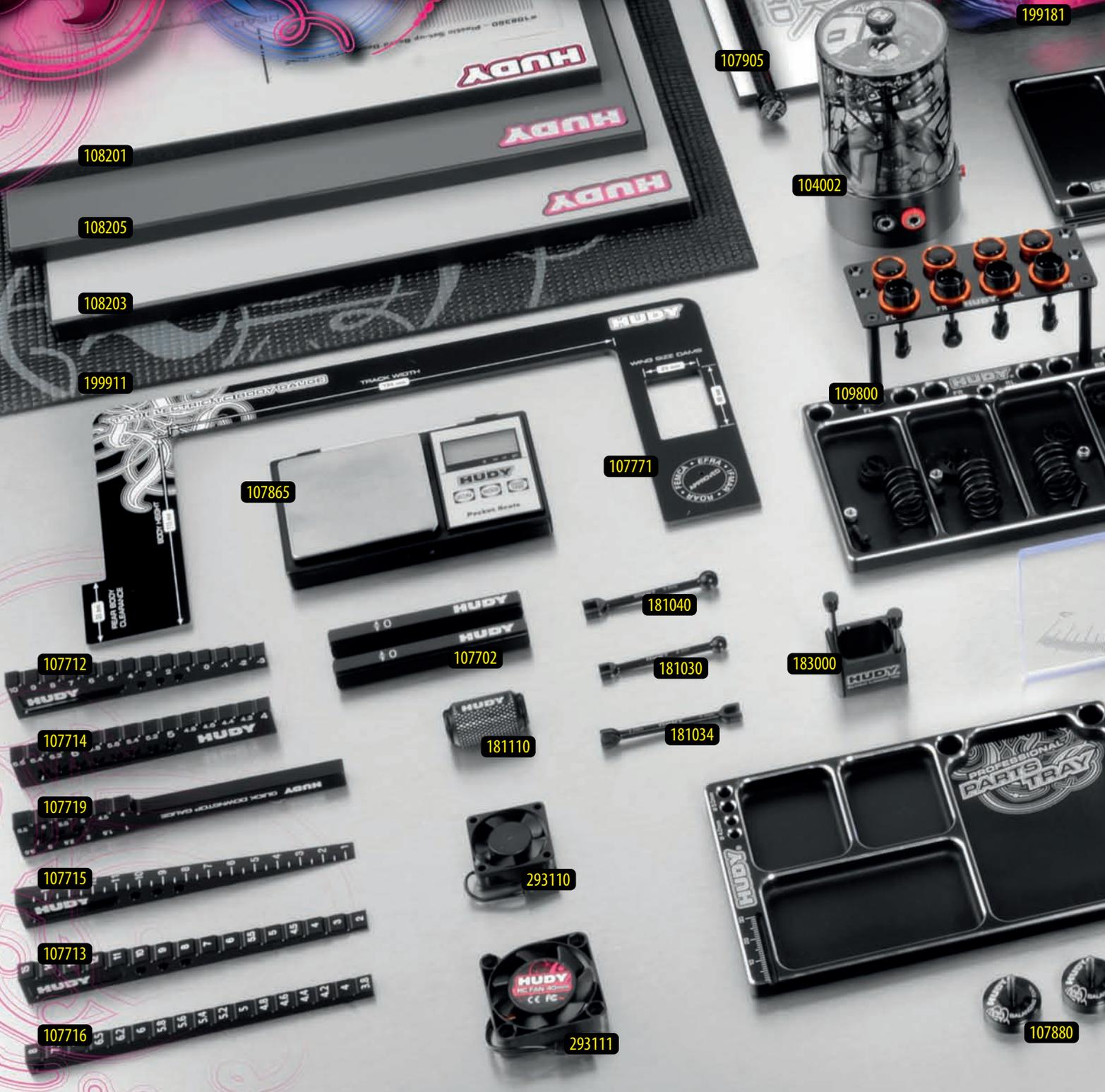
#302961  
**ULP GRAPHITE SHOCK TOWER  
REAR 3.0MM - LOWER**





EXCLUSIVE PROFESSIONAL

# HUDY



- 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

- 108201 FLAT SET-UP BOARD FOR 1/10
- 108203 FLAT SET-UP BOARD FOR 1/10
- 108205 FLAT SET-UP BOARD FOR 1/10
- 109305 UNIVERSAL EXCLUSIVE SET-UP
- 109360 ALU NUT FOR 1/10 TOURING
- 109370 ALU SET-UP WHEEL FOR 1/10
- 109800 HUDY ALU TRAY FOR ON-ROAD
- 109840 HUDY ALU TRAY FOR 1/10
- 109860 HUDY ALU TRAY FOR SET-UP
- 109880 HUDY ALU TRAY FOR ACCESSORIES
- 111545 LIMITED EDITION - ALLEN KEYS
- 112045 LIMITED EDITION - ALLEN KEYS



- |                                     |        |                                                         |        |                                                          |
|-------------------------------------|--------|---------------------------------------------------------|--------|----------------------------------------------------------|
| 1/10 TOURING CARS                   | 113045 | LIMITED EDITION - ALLEN WRENCH # 3.0MM                  | 199060 | HUDY ALU TOOL STAND                                      |
| 1/10 TOURING CARS - SILVER GREY     | 132045 | LIMITED EDITION - ALLEN WRENCH + BALL REPL. TIP # 2.0MM | 199181 | HUDY CAR BAG - 1/10 ON-ROAD - TC - PAN CAR - CUSTOM NAME |
| 1/10 TOURING CARS - DARK GREY       | 175535 | LIMITED EDITION - SOCKET DRIVER # 5.5MM                 | 199270 | HUDY LIPO SAFETY BAG - CUSTOM NAME                       |
| SET-UP SYSTEM FOR 1/10 TOURING CARS | 177035 | LIMITED EDITION - SOCKET DRIVER # 7.0MM                 | 199911 | HUDY PIT MAT ROLL 750X1200MM WITH PRINTING               |
| SET-UP SYSTEM (4)                   | 181030 | HUDY SPRING STEEL TURNBUCKLE WRENCH 3 MM                | 293110 | HUDY BRUSHLESS RC FAN 30MM                               |
| 1/10 RUBBER TIRES (4)               | 181034 | TURNBUCKLE WRENCH 3 & 4MM - HUDY SPRING STEEL™          | 293111 | HUDY BRUSHLESS RC FAN 40MM                               |
| ROAD DIFF & SHOCKS                  | 181040 | TURNBUCKLE WRENCH 4MM - HUDY SPRING STEEL™              | 298100 | HUDY TIN ROUND BOX 80X30MM                               |
| OFF-ROAD DIFF ASSEMBLY              | 181110 | HUDY BALL JOINT WRENCH                                  |        |                                                          |
| SET-UP SYSTEM                       | 183000 | HUDY PROFESSIONAL BULKHEAD ALIGNMENT TOOL 19MM          |        |                                                          |
| ACCESSORIES & PIT LED               | 183011 | HUDY PROFESSIONAL MULTI TOOL                            |        |                                                          |
| ALLEN WRENCH # 1.5MM                | 188981 | HUDY POCKET HOBBY KNIFE                                 |        |                                                          |
| ALLEN WRENCH # 2.0MM                | 188990 | HUDY PROFESSIONAL BODY SCISSORS                         |        |                                                          |

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

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



