

XRAY

1/10 LUXURY ELECTRIC FORMULA

MADE IN
EUROPE

119

INSTRUCTION MANUAL

20x
NATIONAL
CHAMPION
TITLES

ETIS
INTERNATIONAL INDOOR
CHAMPION

TITC
THAILAND INTERNATIONAL
WINNER

ITS 2x
SNOWBIRD
Nationals
WINNER

17x
ETIS
SERIES TUNING SERIES
WINNER

4x
ETIS
SERIES TUNING SERIES
CHAMPION

WORLD
CHAMPION

EUROPEAN
CHAMPION
2x
EFRA

5x
ASIAN
BROAD
WINNER

USA
CHAMPION
2x

BRCA
CHAMPION

INTRODUCTION

The X1 is a high-competition, high-quality, 1/10-scale Formula 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 X1, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get

CUSTOMER SUPPORT

We have made every effort to make these instructions as easy to understand as possible. However, if you have any difficulties, problems, or questions, please do not hesitate to contact the XRAY support team at info@teamxray.com. Also, please visit our Web site at 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

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

Make sure you review this entire manual, download and use set-up book from the web, and examine all details carefully. If for some reason you decide The X1 is not what you wanted or expected, do not continue any further. Your hobby dealer cannot accept your X1 kit for return or exchange after it has been partially or fully assembled.

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

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

SAFETY PRECAUTIONS

Contains:

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

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

CAUTION: CANCER HAZARD

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

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

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

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

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

IMPORTANT NOTES – GENERAL

- This product is not suitable for children under 16 years of age without the direct supervision of a responsible and knowledgeable adult.
- Carefully read all manufacturers warnings and cautions for any parts used in the construction and use of your model.
- Assemble this kit only in places away from the reach of very small children.
- First-time builders and users should seek advice from people who have building experience in order to assemble the model correctly and to allow the model to reach its performance potential.
- Exercise care when using tools and sharp instruments.
- Take care when building, as some parts may have sharp edges.
- Keep small parts out of reach of small children. Children must not be allowed to put any parts in their mouth, or pull vinyl bag over their head.
- Read and follow instructions supplied with paints and/or cement, if used (not included in kit).
- Immediately after using your model, do NOT touch equipment on the model such as the motor and speed controller, because they generate high temperatures. You may seriously burn yourself seriously touching them.
- Follow the operating instructions for the radio equipment at all times.
- Do not put fingers or any objects inside rotating and moving parts, as this may cause damage or serious injury as your finger, hair, clothes, etc. may get caught.
- Be sure that your operating frequency is clear before turning on or running your model, and never share the same frequency with somebody else at the same time. Ensure that others are aware of the operating frequency you are using and when you are using it.
- Use a transmitter designed for ground use with RC cars. Make sure that no one else is using the same frequency as yours in your operating area. Using the same frequency at the same time, whether it is driving, flying or sailing, can cause loss of control of the RC model, resulting in a serious accident.
- Always turn on your transmitter before you turn on the receiver in the car. Always turn off the receiver before turning your transmitter off.
- Keep the wheels of the model off the ground when checking the operation of the radio equipment.
- Disconnect the battery pack before storing your model.
- When learning to operate your model, go to an area that has no obstacles that can damage your

model if your model suffers a collision.

- Remove any sand, mud, dirt, grass or water before putting your model away.
- If the model behaves strangely, immediately stop the model, check and clear the problem.
- To prevent any serious personal injury and/or damage to property, be responsible when operating all remote controlled models.
- The model car is not intended for use on public places and roads or areas where its operation can conflict with or disrupt pedestrian or vehicular traffic.
- Because the model car is controlled by radio, it is subject to radio interference from many sources that are beyond your control. Since radio interference can cause momentary loss of control, always allow a safety margin in all directions around the model in order to prevent collisions.
- Do not use your model:
 - Near real cars, animals, or people that are unaware that an RC car is being driven.
 - In places where children and people gather
 - In residential districts and parks
 - In limited indoor spaces
 - In wet conditions
 - In the street
 - In areas where loud noises can disturb others, such as hospitals and residential areas.
 - At night or anytime your line of sight to the model may be obstructed or impaired in any way.

To prevent any serious personal injury and/or damage to property, please be responsible when operating all remote controlled models.



IMPORTANT NOTES – ELECTRICAL

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

correctly. Over-charging, incorrect charging, or using inferior chargers can cause the batteries to become dangerously hot. Recharge battery when necessary. Continual recharging may damage battery and, in the worst case, could build up heat leading to fire. If battery becomes extremely hot during recharging, please ask your local hobby shop for check and/or repair and/or replacement.

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

R/C & BUILDING TIPS

- Make sure all fasteners are properly tightened. Check them periodically.
- Make sure that chassis screws do not protrude from the chassis.
- For the best performance, it is very important that great care is taken to ensure the free movement of all parts.
- Clean all ball-bearings so they move very easily and freely.
- Tap or pre-thread the plastic parts when threading screws.

- Self-tapping screws cut threads into the parts when being tightened. Do not use excessive force when tightening the self-tapping screws because you may strip out the thread in the plastic. We recommended you stop tightening a screw when you feel some resistance.
- Ask your local hobby shop for any advice.

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

WARRANTY

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

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes but is not limited to damage from crashing, chemical and/or water damage, excessive moisture, improper or no

maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

Limitations of Liability

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

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

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

All rights reserved.

QUALITY CERTIFICATE

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

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

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

In line with our policy of continuous product development, the exact specifications of the kit may vary. In the unlikely event of any problems with your new kit, you should contact the model shop where you purchased it, quoting the part number. We do reserve all rights to change any specification without prior notice. All rights reserved.

SYMBOLS USED

Part bags used 	Assemble in the specified order 	Assemble left and right sides the same way 	Pay attention here 	Assemble as many times as specified (here twice) 	Cut off remaining material 	Apply CA glue 	Detail view
Apply oil 	Apply grease 	Use pliers 	Ensure smooth non-binding movement 	Tighten screw gently 	CORRECT WRONG Overtightened The threads are stripped.	Assembly view 	

TOOLS REQUIRED

HUDY TOOLS:

Allen: 1.5mm Allen: 2.0mm Allen: 2.5mm Allen: 3.0mm Phillips: 3.0mm Socket: 7.0mm Reamer (HUDY #107600) or (HUDY #107601)

Scissors (HUDY #188990) 	Combination Pliers (HUDY #189020) 	Side Cutters (HUDY #189010) 	Pocket Hobby Knife (HUDY #188981) 	Turnbuckle Wrench 4mm (HUDY #181040) 	RC Professional Multi Tool (HUDY #183011)
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EQUIPMENT INCLUDED

HUDY Premium Silicone Oils Oil 600cSt (#106360) Oil 10 000cSt (#106510) 	Diff Grease (HUDY #106211)
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NOT INCLUDED

SAMPLE OF OPTIONAL PARTS #37XXX OPTION 1 #37XXX OPTION 2 #37XXX 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 optional parts and must be purchased separately.
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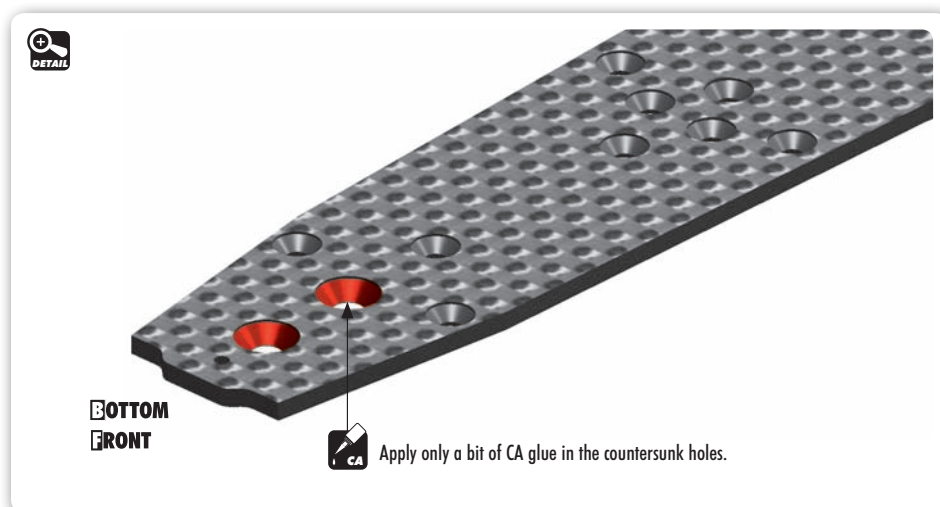
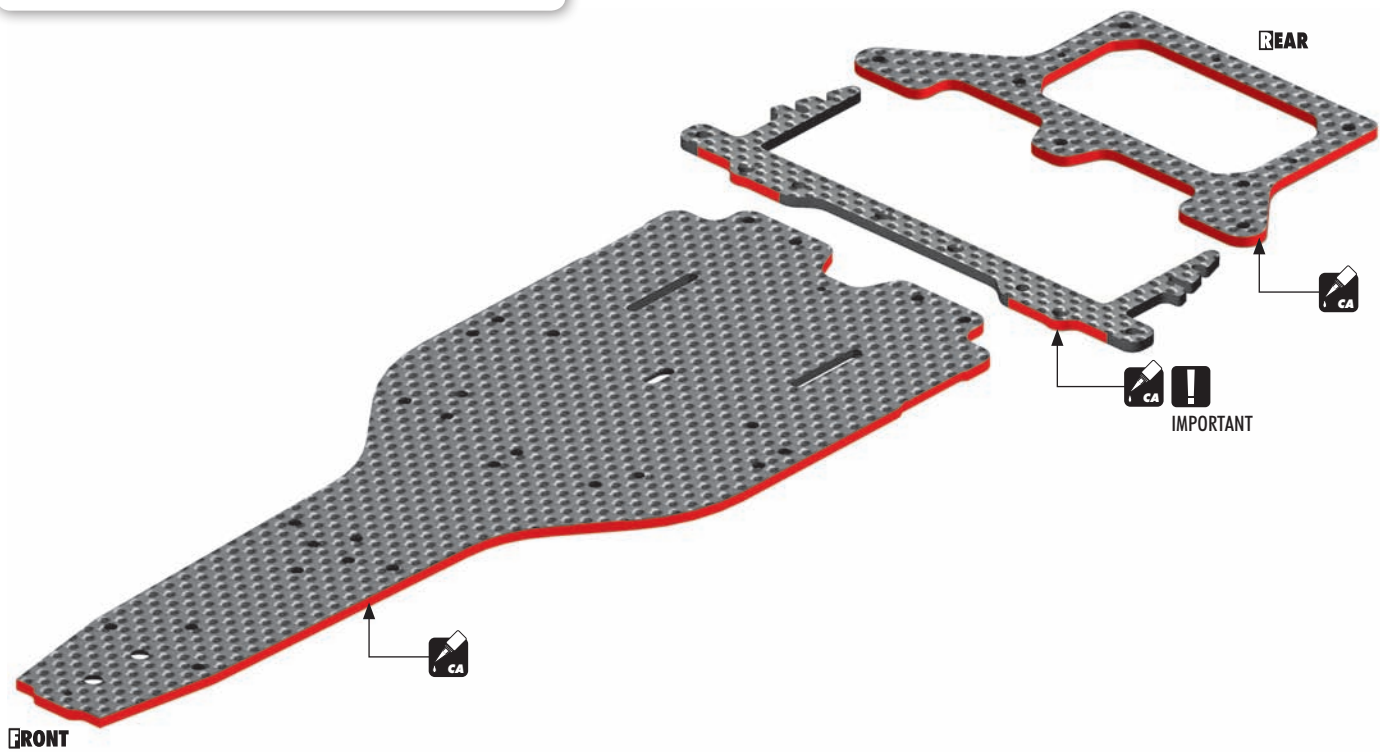
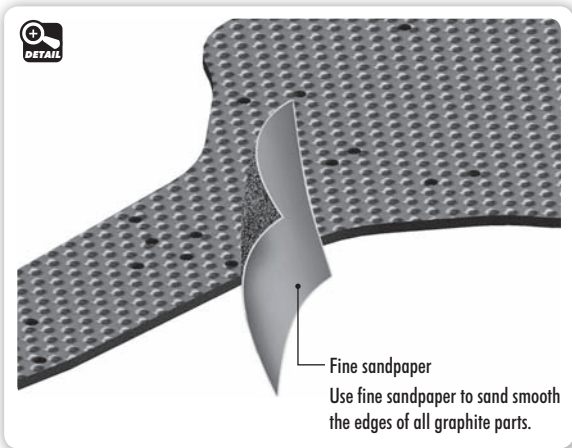
EQUIPMENT REQUIRED

Transmitter 	Receiver 	Steering Servo 	Electric Motor 	Pinion Gear and set-screw 	Bearing Oil (HUDY #106230)
Speed Controller 	LiPo Battery 	Lexan™ Paint 	Battery Charger 	Fibre Tape (HUDY #107870) Double-sided Tape (HUDY #107875) 	Wheels & Tires & Inserts (HUDY #803070 & #803080)

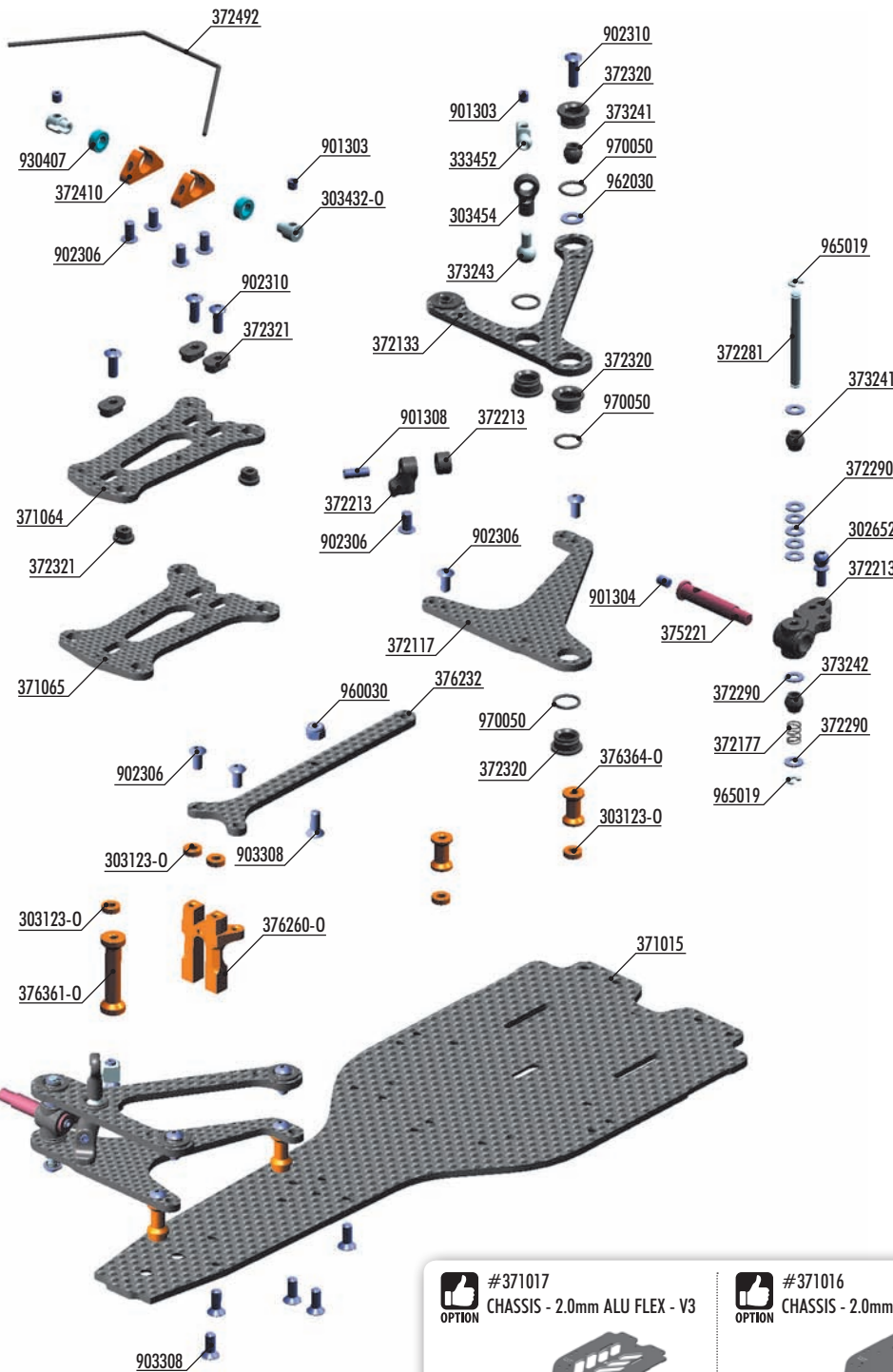
CHASSIS PREPARATION

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

Make it: this for chassis edges and countersunk holes.



1. FRONT SUSPENSION



FRONT COIL SPRINGS			
#372176	C=1.5 GOLD	OPTION	
#372177	C=2.0 SILVER	INCLUDED	
#372178	C=2.5 BLACK	OPTION	
#372179	C=3.0 GREY	OPTION	
#372180	C=3.5 GOLD	OPTION	
#372181	C=4.0 SILVER	OPTION	
#372182	C=5.0 BLACK	OPTION	
#372183	C=5.5 GREY	OPTION	

ANTI-ROLL BARS			
#372491	1.1mm	OPTION	
#372492	1.2mm	INCLUDED	
#372493	1.3mm	OPTION	
#372494	1.4mm	OPTION	

#372087
OPTION X1 GRAPHITE FRONT ARM BRACE 2.5mm

ALU CASTER BUSHINGS			
#372327	6°, 9° (3)	OPTION	
#372328	3°, 12° (3)	OPTION	
ALU CAMBER BUSHINGS			
#372325	1.5°, 2.0° (2)	OPTION	
#372326	1.0°, 2.5° (2)	OPTION	

ALU NUTS M3			
#296530-B	ALU BLUE	OPTION	
#296530-K	ALU BLACK	OPTION	
#296530-O	ALU ORANGE	OPTION	
#960030	STEEL SILVER	INCLUDED	
#960031	ALU SILVER	OPTION	

#372115
OPTION X1 GRAPHITE LOWER SUSPENSION ARM 2.5mm

#371017
OPTION CHASSIS - 2.0mm ALU FLEX - V3

#371016
OPTION CHASSIS - 2.0mm ALU - V3

#371019
OPTION CHASSIS - 2.5mm GRAPHITE - HARD

BAG
01

- 303123-0 ALU SHIM 3x6x2.0mm - ORANGE (10)
- 302652 BALL END 4.9mm WITH THREAD 4mm (2)
- 303432-0 ALU ANTI-ROLL BAR BUSHING - ORANGE (2)
- 303454 BALL JOINT 4.9mm - OPEN (4)
- 333452 ALU ANTI-ROLL BAR PIVOT BALL 4.9mm (2)
- 371015 CHASSIS - 2.5mm GRAPHITE - V3
- 371064 X1 ARM MOUNT PLATE - 2.5mm GRAPHITE
- 371065 X1'19 GRAPHITE ARM MOUNT PLATE - WIDE TRACK-WIDTH - 2.5mm
- 372117 X1'19 GRAPHITE LOWER SUSPENSION ARM 2.5mm
- 372133 X1 GRAPHITE UPPER SUSPENSION ARM 2.5mm
- 372177 FRONT COIL SPRING 3.6x6x0.5mm; C=3.5 - GOLD (2)
- 372213 X1 COMPOSITE STEERING BLOCK & BACKSTOPS
- 372281 X1 KING PIN (2)
- 372290 ALU SHIM 3.2x4.8x0.5 (4)
- 372320 X1 COMPOSITE ARM BUSHING (4)
- 372321 X1 COMPOSITE CASTER & CAMBER BUSHING (2+2+2+2)
- 372410 X1 ALU BALL-BEARING ANTI-ROLL BAR HOLDER - ORANGE
- 372492 ANTI-ROLL BAR - FRONT 1.2mm
- 373241 COMPOSITE PIVOTBALL UNIVERSAL 6.0mm (2)

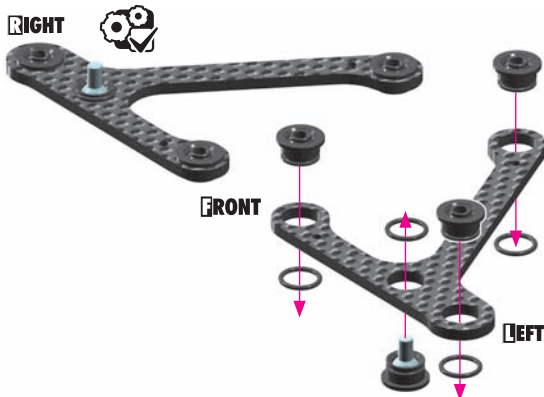
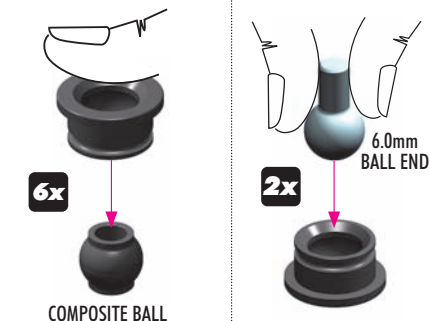
- 373242 COMPOSITE PIVOTBALL UNIVERSAL 6.0mm - SHORT (2)
- 373243 BALL END 6.0mm WITH THREAD 4mm (2)
- 375221 X1 FRONT WHEEL AXLE - HUDY SPRING STEEL™ (2)
- 376232 X1'19 GRAPHITE TOP DECK 2.5mm
- 376260-0 X1'18 ALU SERVO MOUNT - ORANGE
- 376361-0 ALU MOUNT 26.5mm - ORANGE (2)
- 376364-0 ALU MOUNT 10.8mm - ORANGE (2)
- 901303 HEX SCREW SB M3x3mm (10)
- 901304 HEX SCREW SB M3x4mm (10)
- 901308 HEX SCREW SB M3x8mm (10)
- 902306 HEX SCREW SH M3x6mm (10)
- 902310 HEX SCREW SH M3x10mm (10)
- 903308 HEX SCREW SFH M3x8mm (10)
- 930407 BALL-BEARING 4x7x2.5 STEEL SEALED - OIL (2)
- 960030 NUT M3 (10)
- 962030 WASHER S 3x6x0.3mm (10)
- 965019 E-CLIP 1.9 (10)
- 970050 O-RING 5x1mm (10)

1. FRONT SUSPENSION



970050
O 5x1

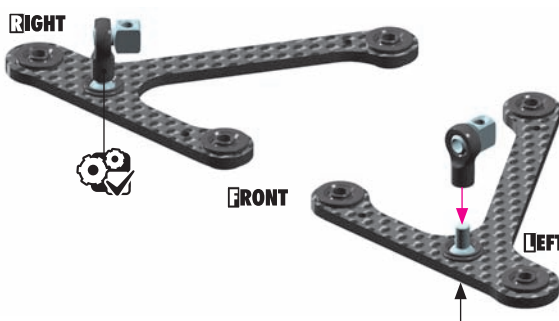
UPPER ARMS



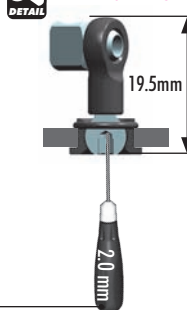
CUTAWAY VIEW



UPPER ARMS

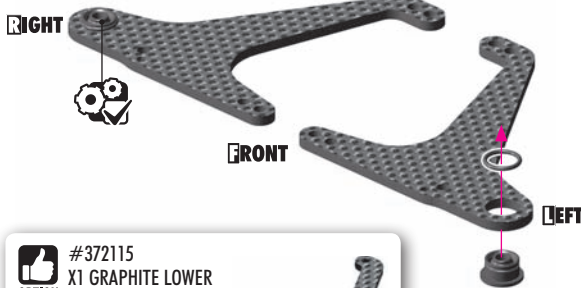
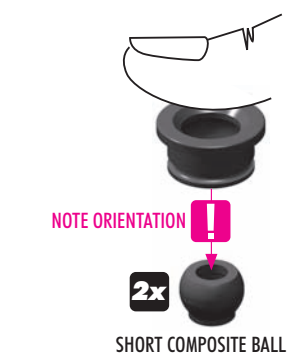


INITIAL SETTING



970050
O 5x1

LOWER ARMS

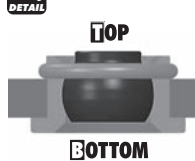


#372115
OPTION
X1 GRAPHITE LOWER
SUSPENSION ARM 2.5mm

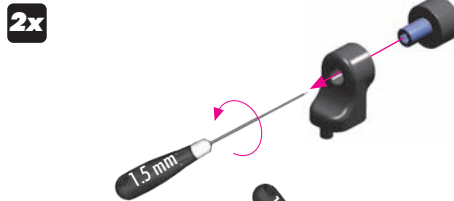
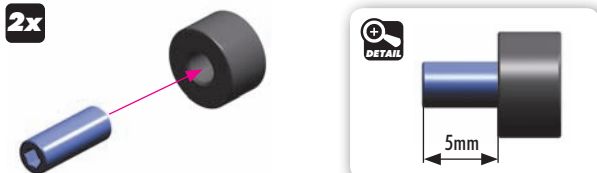
To improve steering in low-traction conditions with standard front F1 tires.



CUTAWAY VIEW

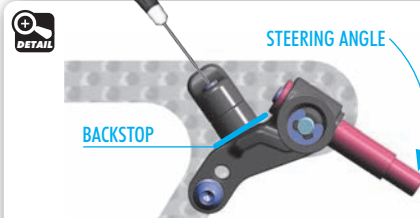
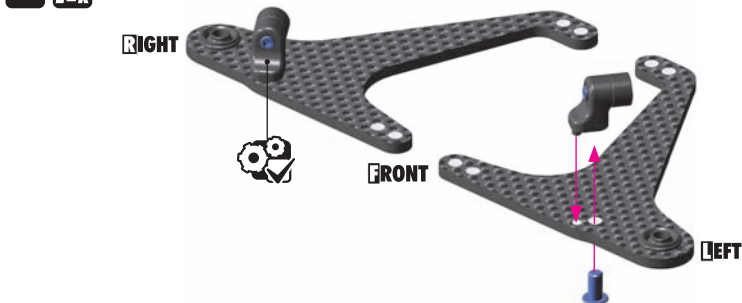


901308
SB M3x8



902306
SH M3x6

LOWER ARMS

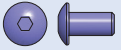


The adjustable backstops are used to limit the steering angle. Adjust the backstop with the set-screw to achieve the maximum steering angle needed. Adjust the steering angle on both L & R sides to the same amount.

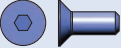
1. FRONT SUSPENSION



303123-0
SHIM 3x6x2



902306
SH M3x6



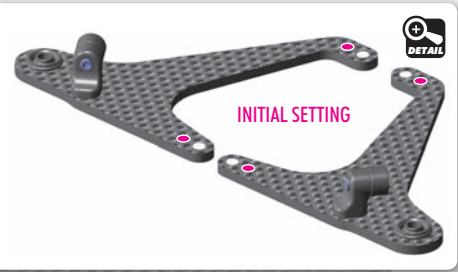
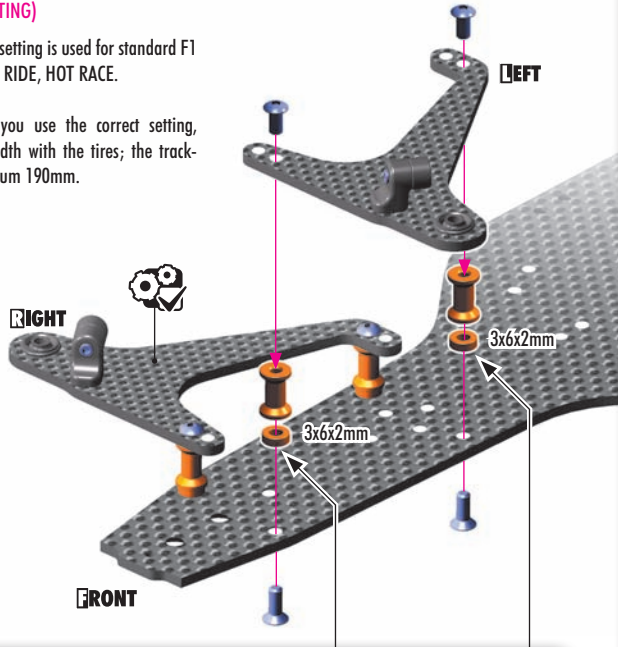
903308
SFH M3x8

2x ALTERNATIVE 1

STANDARD TRACK-WIDTH (INITIAL SETTING)

Standard track-width setting is used for standard F1 front tires such HUDY, RIDE, HOT RACE.

To make sure that you use the correct setting, measure the track-width with the tires; the track-width must be maximum 190mm.



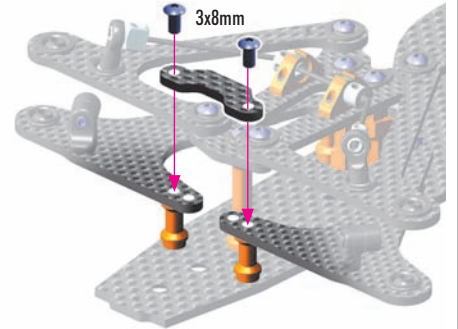
! These shims adjust the roll-center of the front bottom arm as well as the front ride height. The thickness of the shim depends on the tire diameter. For initial setting, use the 3x6x2mm shim.
IMPORTANT!
Use the same shim thickness under all 4 posts.



#372087

X1 GRAPHITE FRONT ARM BRACE 2.5mm

The brace makes the car easier to drive. Recommended for high-traction conditions.



#371017

CHASSIS - 2.0mm ALU FLEX - V3



#371016

CHASSIS - 2.0mm ALU - V3



#371019

CHASSIS - 2.5mm GRAPHITE - HARD



2.5mm CHASSIS HARD

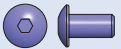
For low-traction conditions, as it improves overall traction.

ALU CHASSIS

Makes the car easier to drive and more stable in high-traction conditions or with tires that generate oversteering problems.



303123-0
SHIM 3x6x2



902306
SH M3x6



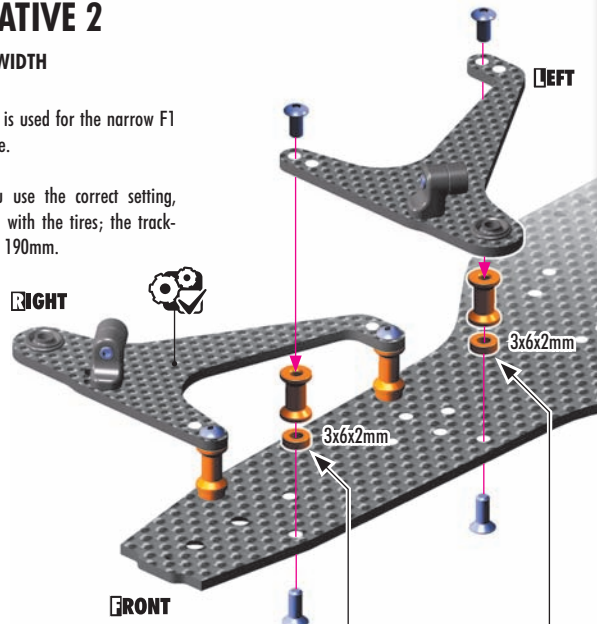
903308
SFH M3x8

2x ALTERNATIVE 2

WIDE TRACK-WIDTH

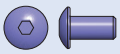
Wide track-width setting is used for the narrow F1 front tires such as Volante.

To make sure that you use the correct setting, measure the track-width with the tires; the track-width must be maximum 190mm.

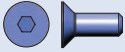


! These shims adjust the roll-center of the front bottom arm as well as the front ride height. The thickness of the shim depends on the tire diameter. For initial setting, use the 3x6x2mm shim.
IMPORTANT!
Use the same shim thickness under all 4 posts.

1. FRONT SUSPENSION



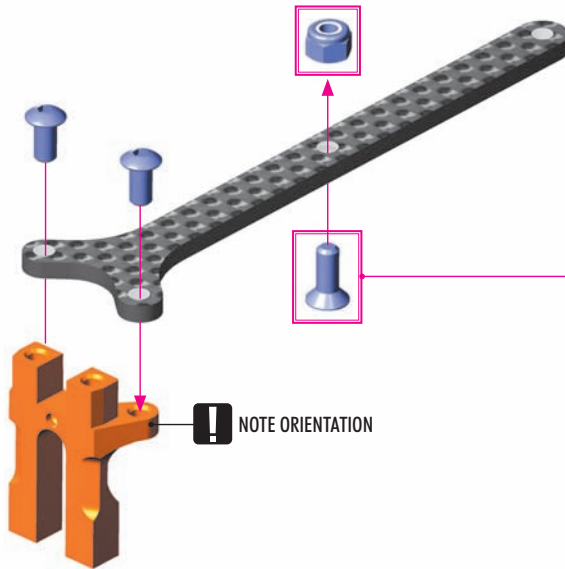
902306
SH M3x6



903308
SFH M3x8



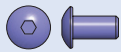
960030
N M3



**ALTERNATIVE 1
LONG SHOCK (FORWARD MOUNT POSITION)**
For the LONG shock alternative, mount the shock holder on the top deck.



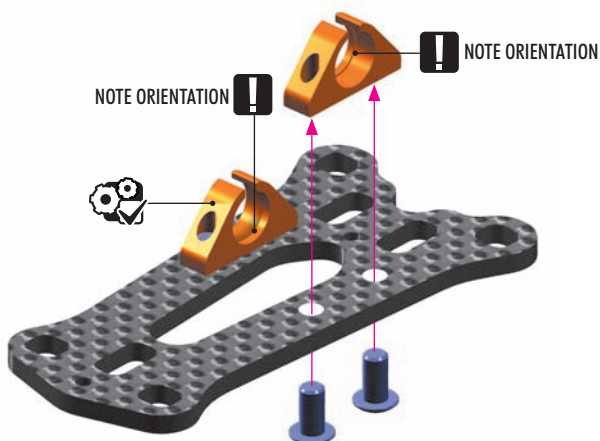
**ALTERNATIVE 2
SHORT SHOCK (REARWARD MOUNT POSITION)**
For the SHORT shock alternative, without the adaptor, mount the shock holder on the graphite plate for mounts (page 17/ step 2)



902306
SH M3x6

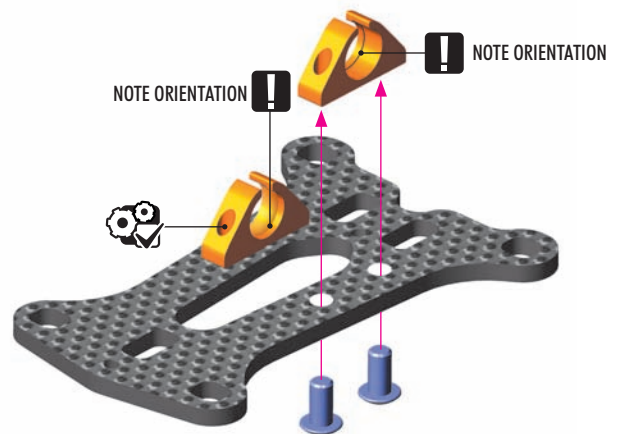
ALTERNATIVE 1 STANDARD TRACK-WIDTH (INITIAL SETTING)

IMPORTANT!
Use this standard track-width arm mount plate only with combination with standard track-width setting of the graphite lower suspension arm.



ALTERNATIVE 2 WIDE TRACK-WIDTH

IMPORTANT!
Use this wide track-width arm mount plate only with combination with wide track-width setting of the graphite lower suspension arm.



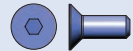
1. FRONT SUSPENSION



303123-0
SHIM 3x6x2



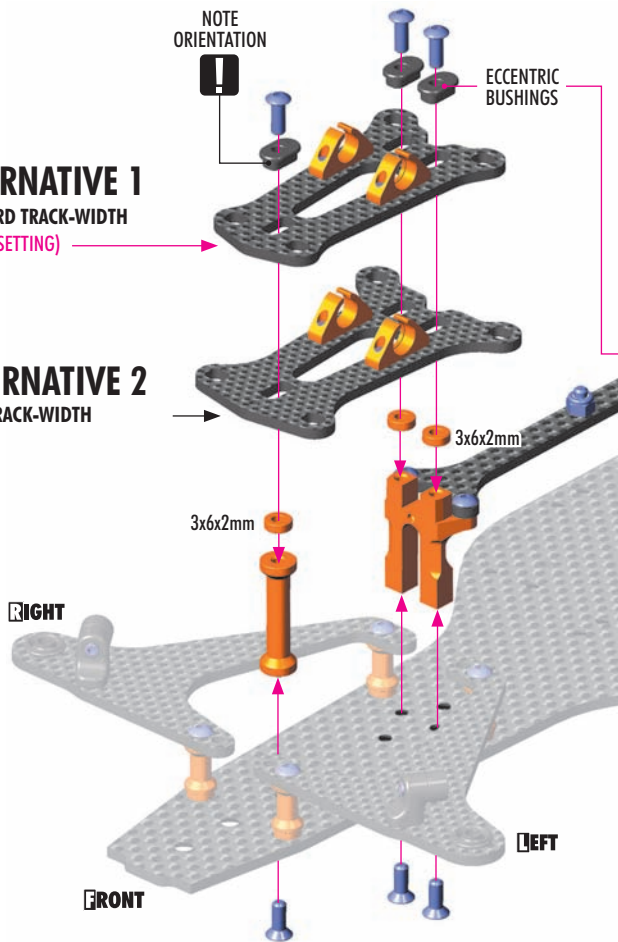
902310
SH M3x10



903308
SFH M3x8

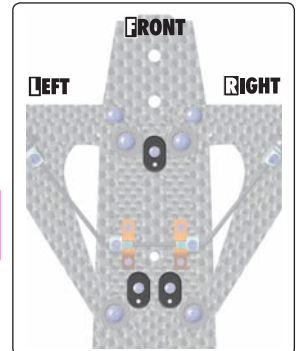
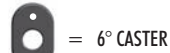
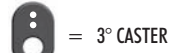
ALTERNATIVE 1 STANDARD TRACK-WIDTH (INITIAL SETTING)

ALTERNATIVE 2 WIDE TRACK-WIDTH



IMPORTANT!

All three bushings **MUST** have same orientation.
These bushings adjust the front **CASTER**:



These eccentric bushings adjust the front **CASTER**.

MORE caster angle = better cornering speed, increased traction rolling.
Use on large, open tracks where cornering speed is needed.

LESS caster angle = more reactive steering. Use on technical tracks where a lot of steering response is needed.



OPTION

ALU CASTER BUSHINGS

#372327	CASTER 6°, 9° (3)	ALU	OPTION
#372328	CASTER 3°, 12° (3)	ALU	OPTION

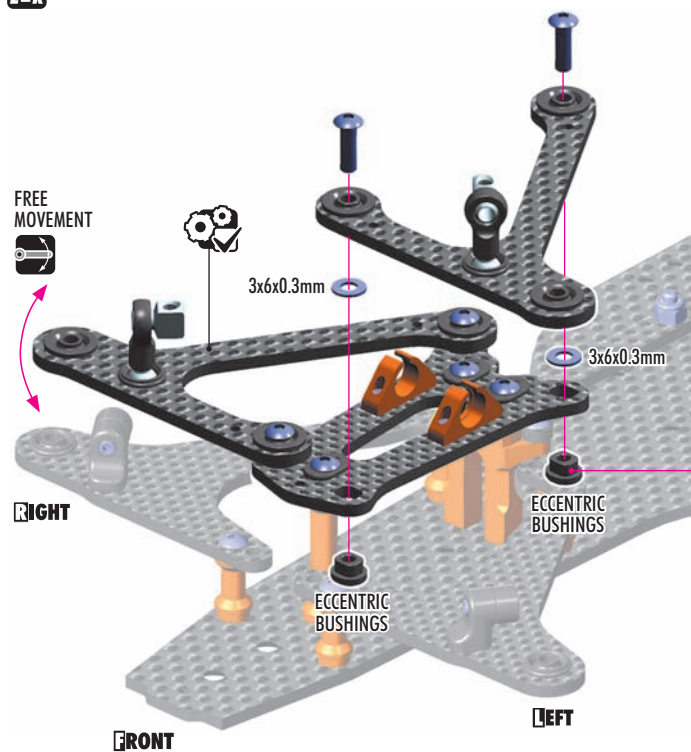


902310
SH M3x10



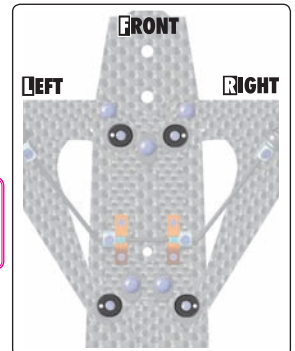
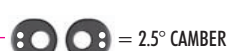
962030
S 3x6x0.3

FREE MOVEMENT



IMPORTANT!

All four bushings **MUST** have same orientation.
These bushings adjust the front **CAMBER**:



These eccentric bushings adjust the front **CAMBER**.

The more camber angle, the more steering there is. However, it makes the car more sensitive and more difficult to drive.

Use **LESS** camber angle for carpet and other high-traction tracks.
Use **MORE** camber on asphalt and low-traction tracks.



OPTION

ALU CAMBER BUSHINGS

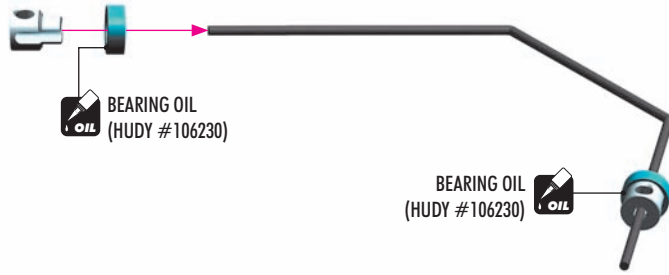
#372325	CAMBER 1.5°, 2.0° (2)	ALU	OPTION
#372326	CAMBER 1.0°, 2.5° (2)	ALU	OPTION



1. FRONT SUSPENSION

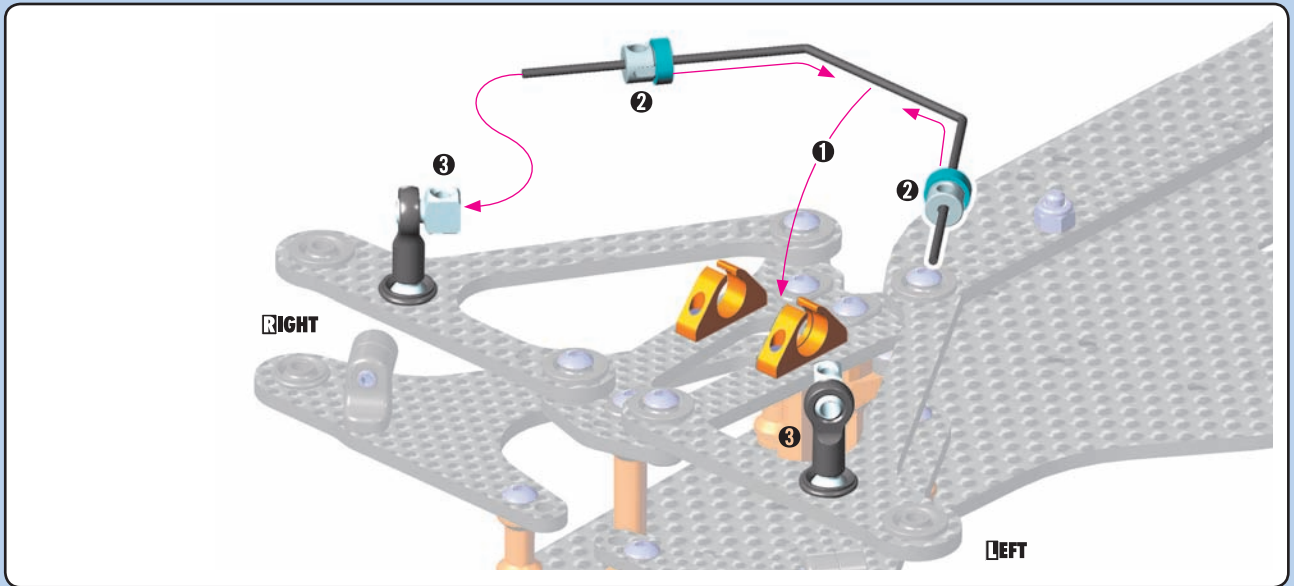


930407
BB 4x7x2.5

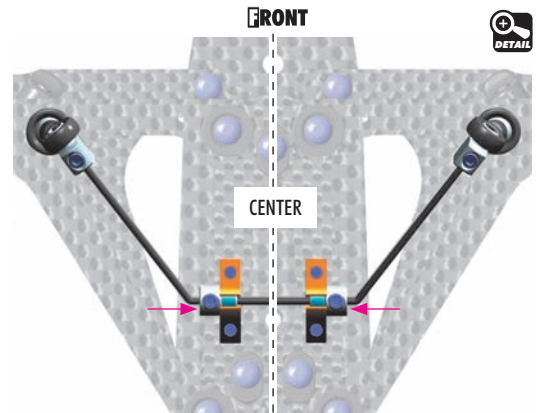
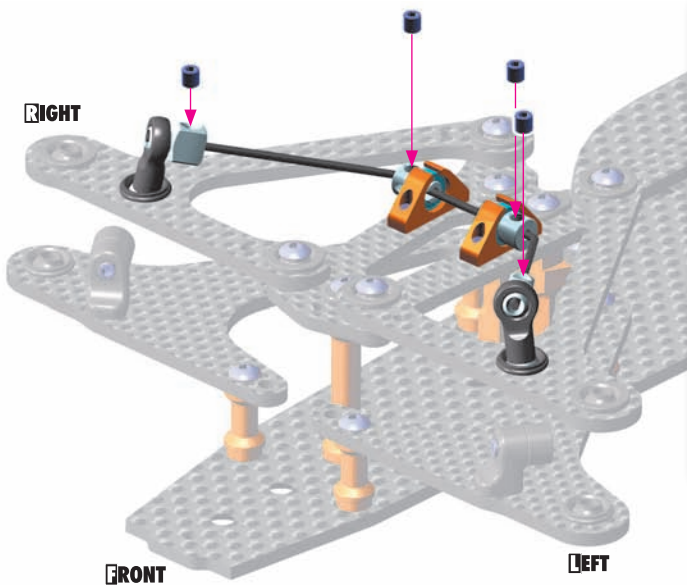


ANTI-ROLL BARS

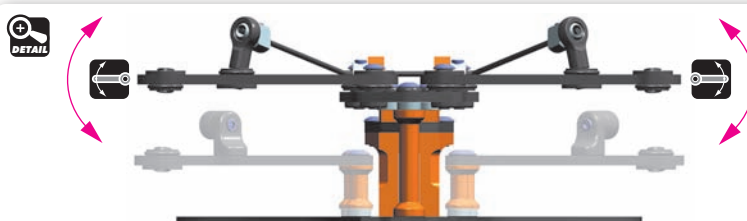
OPTION	Part Number	Thickness	Availability
	#372491	1.1mm	OPTION
	#372492	1.2mm	INCLUDED
	#372493	1.3mm	OPTION
	#372494	1.4mm	OPTION



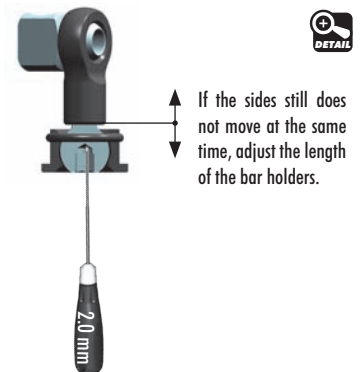
901303
SB M3x3



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



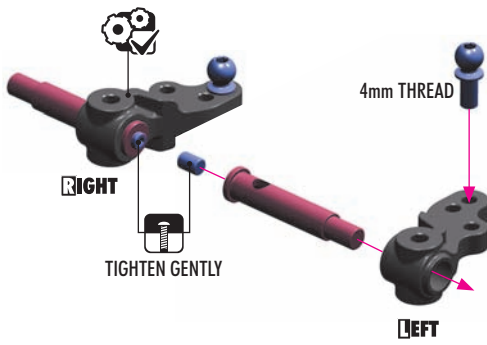
When the anti-roll bar is set, verify that both sides move at the same time. If they do, the bar is set up correctly. If not, adjust the wire so that it is flat.



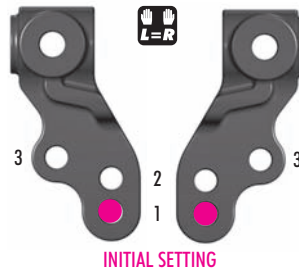
1. FRONT SUSPENSION

901304
SB M3x4

2x L=R



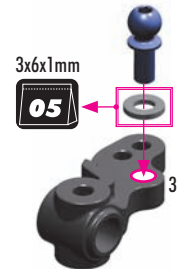
There are THREE Ackermann positions on the steering block:



- 1 - easier to drive
- 2 - improved steering response
- 3 - improved overall steering

! POSITION 3.

If using less bumpsteer shims on the steering plate and the steering linkage is touching the steering block, use 3x6x1mm composite shim (bag 5).

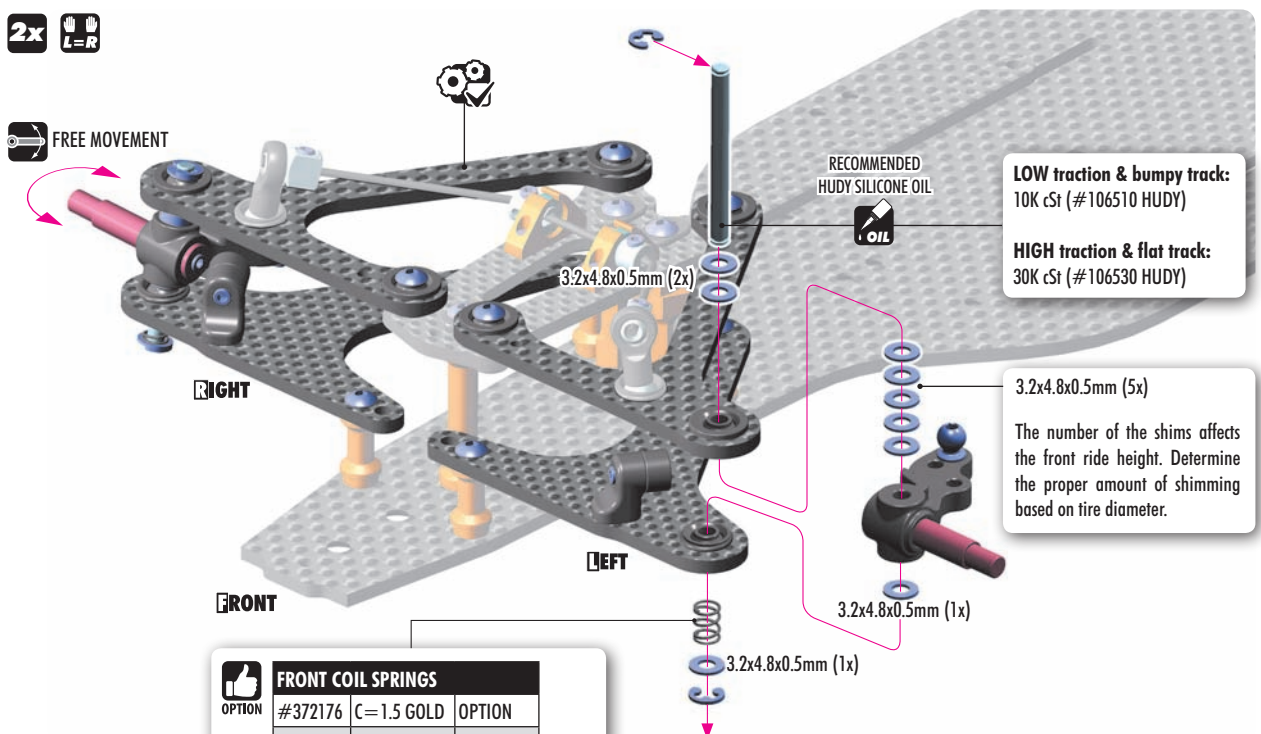


965019
C1.9

372290
SHIM 3.2x4.8x0.5

2x L=R

FREE MOVEMENT



LOW traction & bumpy track:
10K cSt (#106510 HUDY)

HIGH traction & flat track:
30K cSt (#106530 HUDY)

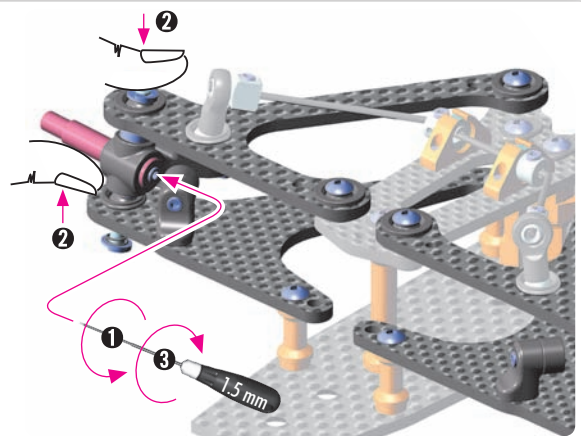
3.2x4.8x0.5mm (5x)

The number of the shims affects the front ride height. Determine the proper amount of shimming based on tire diameter.

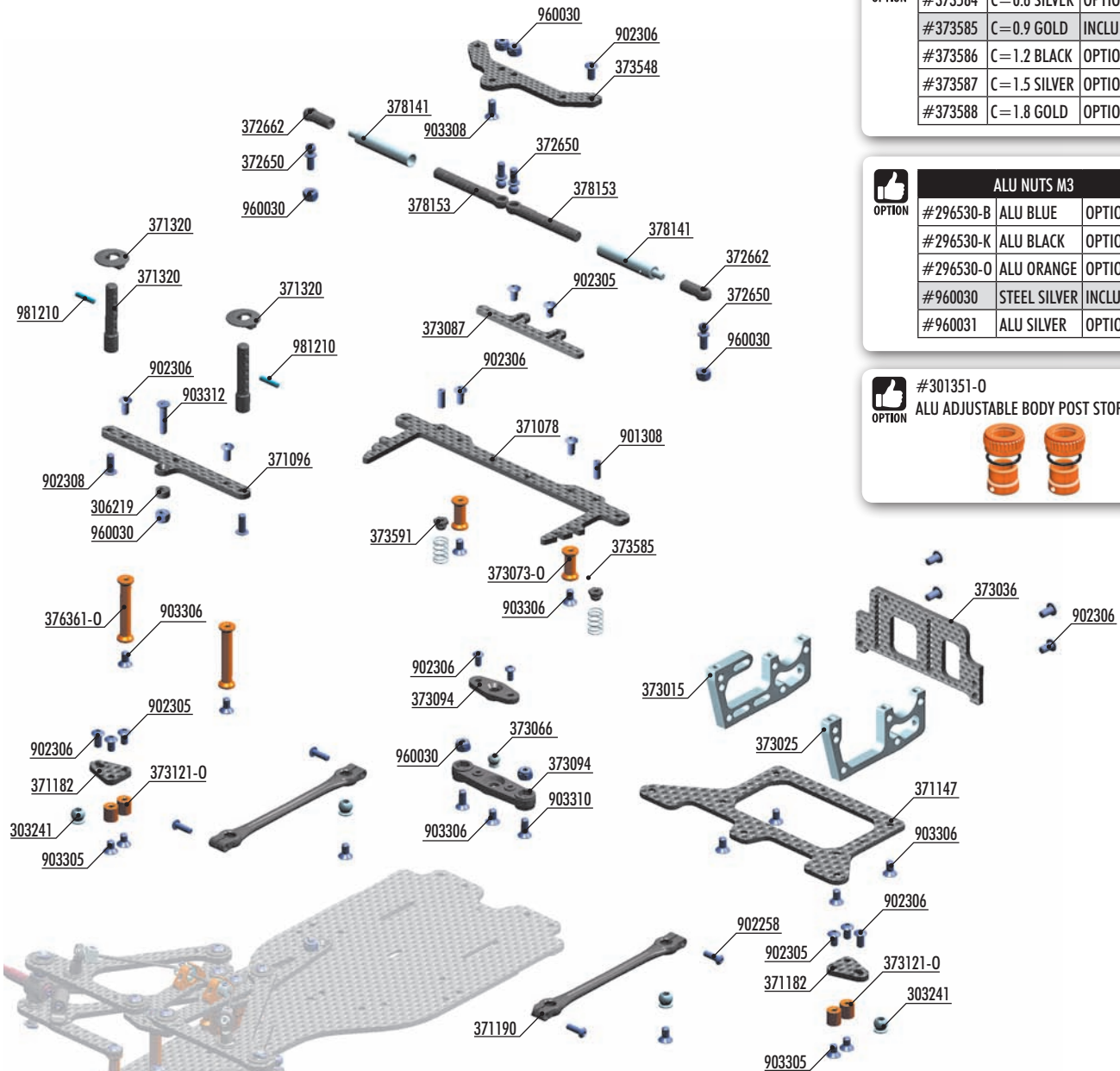
OPTION	FRONT COIL SPRINGS	OPTION
#372176	C=1.5 GOLD	OPTION
#372177	C=2.0 SILVER	INCLUDED
#372178	C=2.5 BLACK	OPTION
#372179	C=3.0 GREY	OPTION
#372180	C=3.5 GOLD	OPTION
#372181	C=4.0 SILVER	OPTION
#372182	C=5.0 BLACK	OPTION
#372183	C=5.5 GREY	OPTION

2x L=R

- After assembling the steering block, do the following:
1. Loosen the set-screw slightly.
 2. Use your thumb to press down on the top of the kingpin, while using your other fingers to pull up the steering block.
 3. Tighten the set-screw.



2. REAR SUSPENSION



OPTION	SIDE SPRINGS		
#373584	C=0.6 SILVER	OPTION	
#373585	C=0.9 GOLD	INCLUDED	
#373586	C=1.2 BLACK	OPTION	
#373587	C=1.5 SILVER	OPTION	
#373588	C=1.8 GOLD	OPTION	

OPTION	ALU NUTS M3		
#296530-B	ALU BLUE	OPTION	
#296530-K	ALU BLACK	OPTION	
#296530-O	ALU ORANGE	OPTION	
#960030	STEEL SILVER	INCLUDED	
#960031	ALU SILVER	OPTION	

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



	#371148	X1 ALU 2.0mm REAR POD LOWER PLATE
	#371149	X1 GRAPHITE 2.0mm REAR POD LOWER PLATE

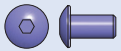
BAG

02

- 303241 PIVOT BALL UNIVERSAL 5.8 WITH HEX (4)
- 306219 COMPOSITE SET OF SERVO SHIMS (4)
- 371078 X1'19 GRAPHITE REAR BRACE 2.5mm
- 371096 X1'19 GRAPHITE PLATE FOR MOUNTS 2.5mm
- 371147 X1 GRAPHITE 2.5mm REAR POD LOWER PLATE
- 371182 X1 GRAPHITE POD LINK PLATE 2.5mm (2)
- 371190 COMPOSITE POD LINK (2)
- 371320 COMPOSITE BODY POST (2)
- 372650 BALL-END 4.2mm - THREADED - HUDY SPRING STEEL™ (2)
- 372662 COMPOSITE BALL-JOINT 4.2 mm (4)
- 373015 X1'19 ALU REAR BULKHEAD - MOTOR (RIGHT)
- 373025 X1'19 ALU REAR BULKHEAD - LEFT
- 373036 X1'19 GRAPHITE REAR WING MOUNT 2.5mm
- 373066 ALU PIVOT BALL
- 373073-0 ALU REAR BRACE MOUNT 13mm - ORANGE (2)
- 373087 GRAPHITE BATTERY BACKSTOP 2.0mm
- 373094 LOWER & UPPER PIVOT BRACE - LOW ROLL-CENTER - HARD - V3
- 373121-0 ALU STAND M3 6x6.4mm - ORANGE (4)

- 373548 X1 REAR POD UPPER PLATE - 2.5mm GRAPHITE
- 373585 SIDE SPRING C=0.9 - GOLD (2)
- 373591 COMPOSITE SIDE SPRING HOLDER (2)
- 376361-0 ALU MOUNT 26.5mm - ORANGE (2)
- 378141 X1 SIDE LINKAGE TUBE (2)
- 378153 COMPOSITE LINKAGE SHAFT (2)
- 901308 HEX SCREW SB M3x8 (10)
- 902258 HEX SCREW SH M2.5x8 (10)
- 902305 HEX SCREW SH M3x5 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 903305 HEX SCREW SFH M3x5 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 960030 NUT M3 (10)
- 981210 PIN 2x10 (10)

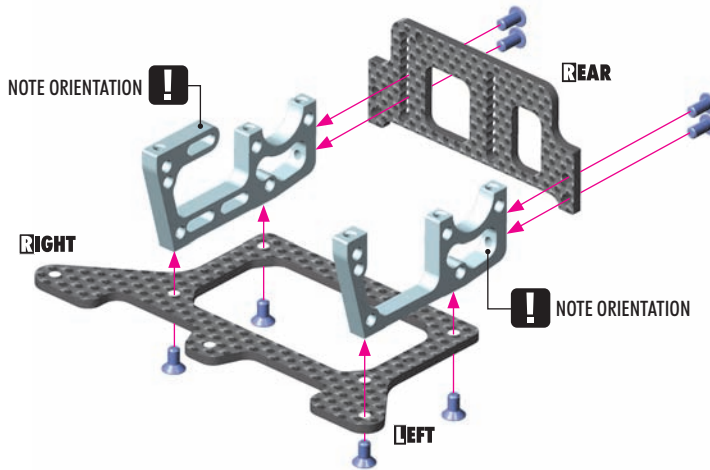
2. FRONT SUSPENSION



902306
SH M3x6



903306
SFH M3x6



#371148
X1 ALU 2.0mm REAR POD LOWER PLATE

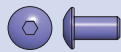


#371149
X1 GRAPHITE 2.0mm REAR POD LOWER PLATE



GRAPHITE PLATE is lighter weight, makes the car rotate faster.

ALUMINUM PLATE is heavier weight, makes the car more stable and easier to drive.



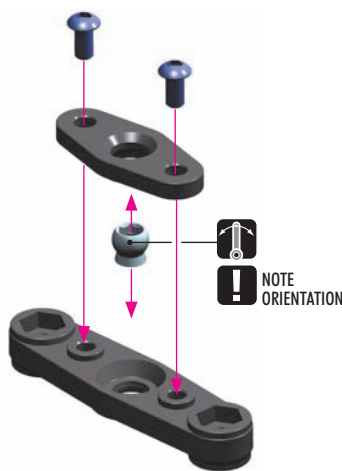
902306
SH M3x6



903310
SFH M3x10



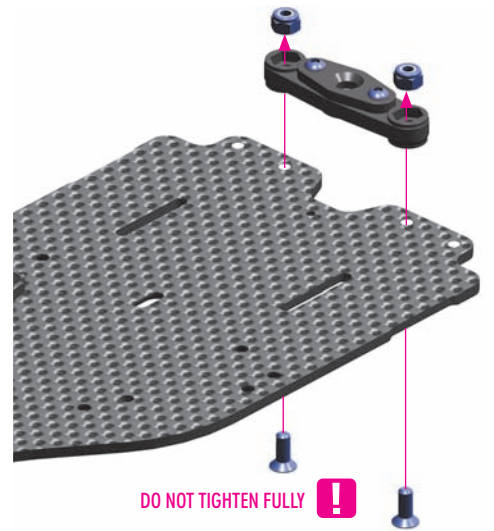
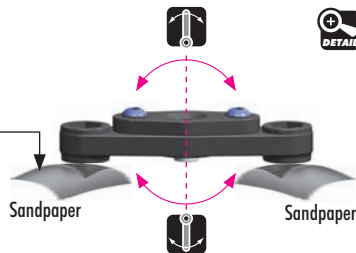
960030
N M3



Ensure free, smooth movement without excessive freeplay.

TIP

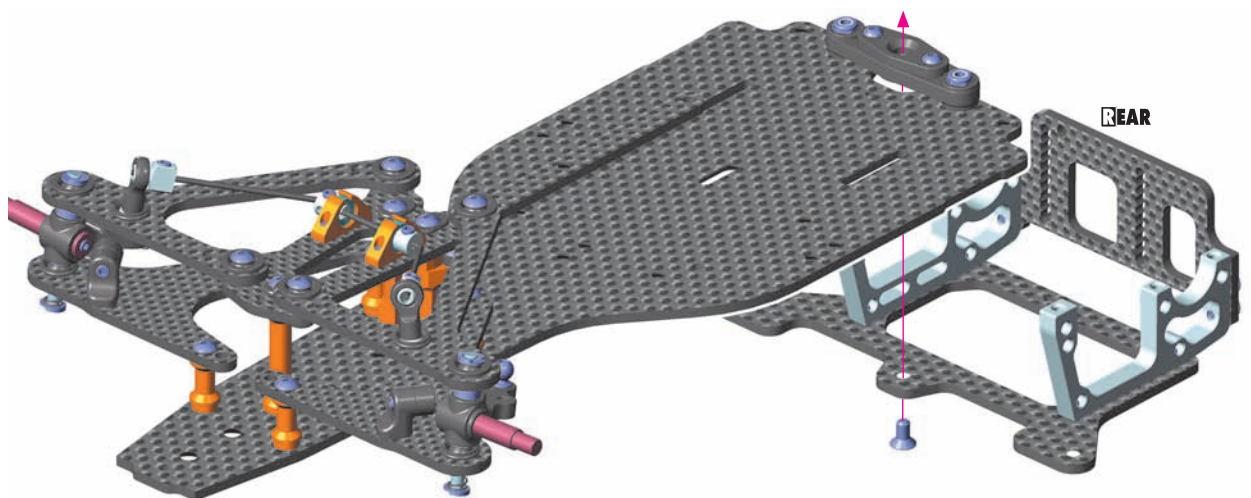
Gently scuff the bottom of the composite lower pivot brace on sandpaper to make the surface slightly rough. This will help the lower pivot brace to grip the chassis surface better.



ALU NUTS M3			
OPTION	#296530-B	ALU BLUE	OPTION
	#296530-K	ALU BLACK	OPTION
	#296530-O	ALU ORANGE	OPTION
	#960030	STEEL SILVER	INCLUDED
	#960031	ALU SILVER	OPTION



903306
SFH M3x6

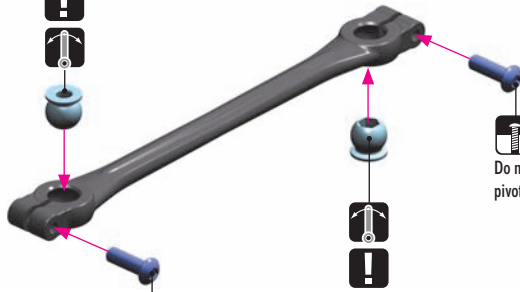


2. REAR SUSPENSION



2x

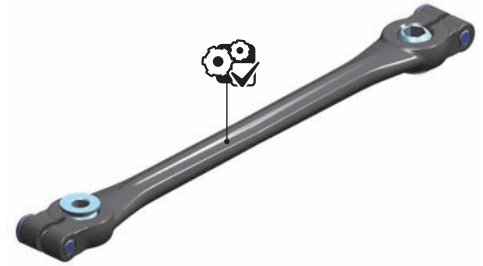
NOTE ORIENTATION



Do not tighten fully, pivotballs must turn freely.

NOTE ORIENTATION

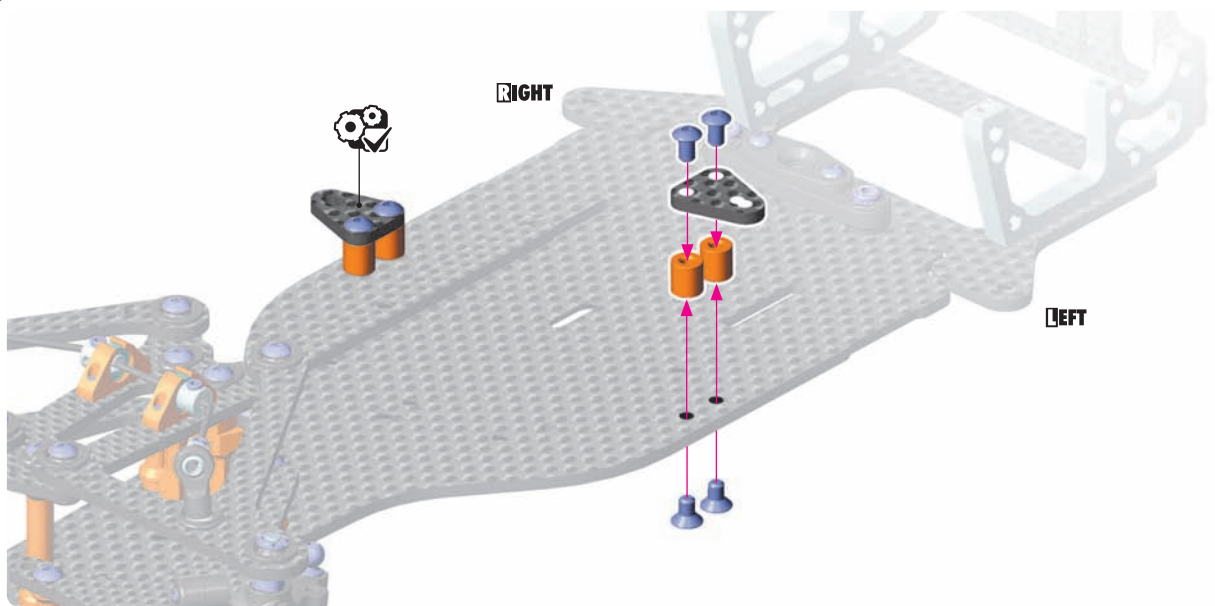
Do not tighten fully, pivotballs must turn freely.



902305 SH M3x5



903305 SFH M3x5



RIGHT

LEFT



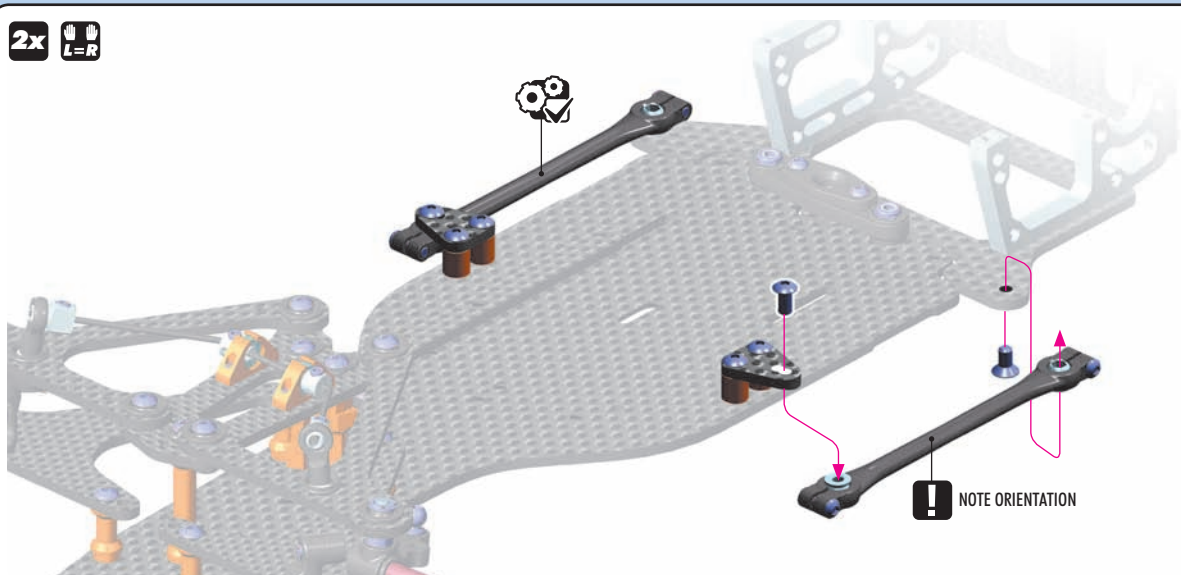
903306 SFH M3x6



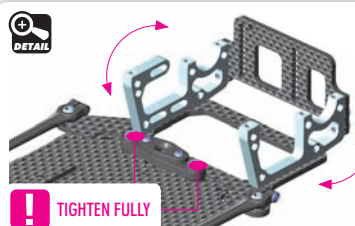
902306 SH M3x6

2x

L=R



NOTE ORIENTATION



TIGHTEN FULLY



Ensure free, smooth movement. If the pod plate does not move freely, loosen the nuts of composite pivot brace and tighten again.

• **OUTER POSITION (INITIAL SETTING)**
Straight link.
Easier to drive.

• **INNER POSITION**
Angled link.
Increased in-corner steering.



POD LINKAGE POSITION (INITIAL SETTING)

L=R

2. REAR SUSPENSION



901308
SB M3x8



960030
N M3

DETAIL

NOTE ORIENTATION

DETAIL

2.0mm

"CLICK"

NOTE ORIENTATION

DETAIL

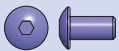
CA **IMPORTANT**

Make sure both side springs are tightened equally, to avoid unwanted tweak.

SIDE SPRINGS			
OPTION	#373584	C=0.6 - SILVER	OPTION
	#373585	C=0.9 - GOLD	INCLUDED
	#373586	C=1.2 - BLACK	OPTION
	#373587	C=1.5 - SILVER	OPTION
	#373588	C=1.8 - GOLD	OPTION

SOFTER SPRINGS:
Makes the car easier to drive on low-traction tracks but more difficult to drive on high-traction tracks.

HARDER SPRINGS:
Improves steering response, but also increases traction rolling.

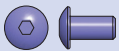


902306
SH M3x6

NOTE ORIENTATION

INITIAL SETTING

! For battery backstop adjustment check page 34 / step 1.



902306
SH M3x6



903306
SFH M3x6

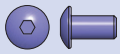
NOTE ORIENTATION

RIGHT

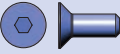
LEFT

REAR

2. REAR SUSPENSION



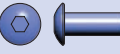
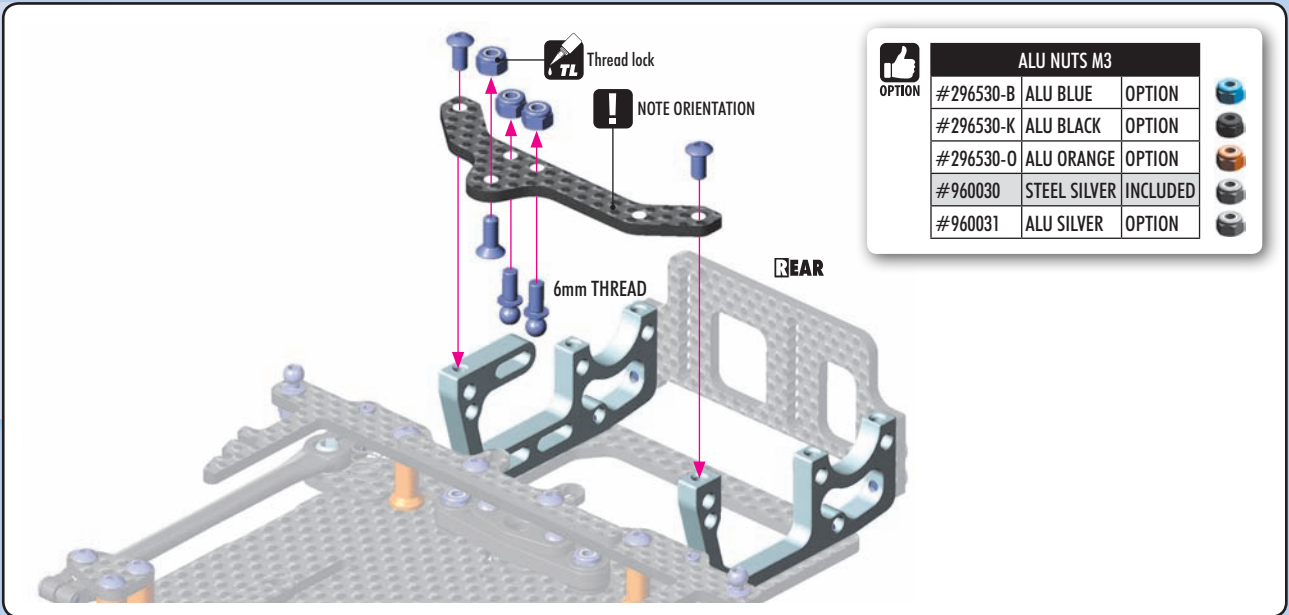
902306
SH M3x6



903308
SFH M3x8



960030
N M3



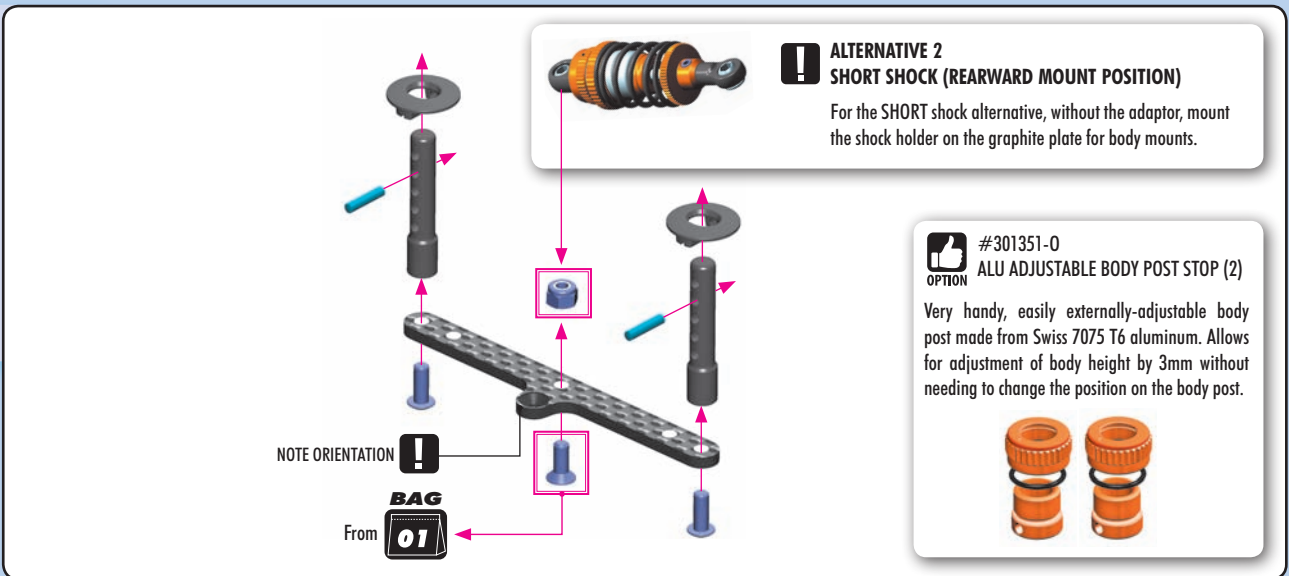
902308
SH M3x8



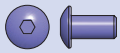
981210
P 2x10



960030
N M3



306219
SHIM 3x6x3



902306
SH M3x6



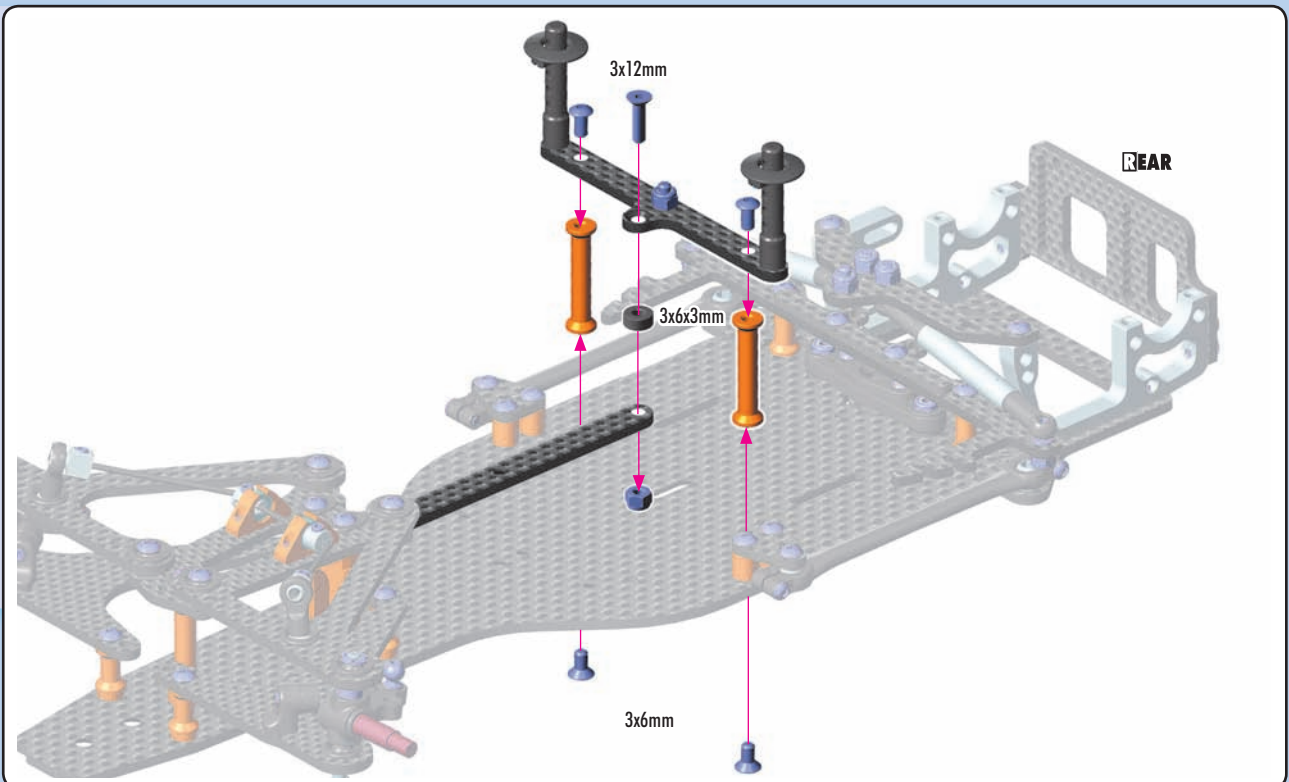
903306
SFH M3x6



903312
SFH M3x12

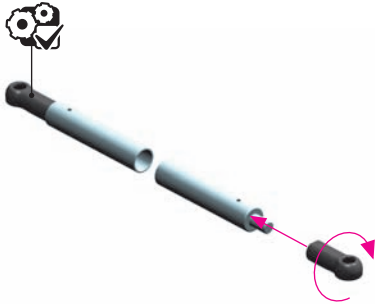


960030
N M3

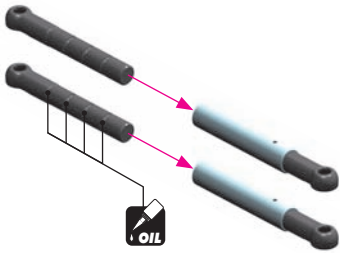


2. REAR SUSPENSION

2x



2x



Add oil in each slot of the COMPOSITE side shock tubes.

NOTE:
Add oil only in the slots, not on the whole tube.
After assembling the side tubes, check for smooth operation.
It is very important to re-oil the side tubes, at least once per race day.
You may use different oil thicknesses depending on track conditions.

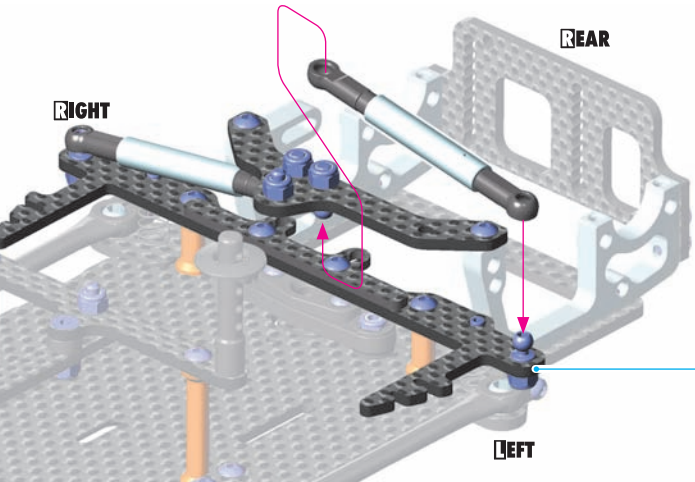
TIP

For HIGH grip	use SOFTER oils
For LOW grip or ASPHALT	use HARDER oils

OPTION

HUDY OILS

#106510	10 000:cSt	INCLUDED
#106515	15 000:cSt	OPTION
#106520	20 000:cSt	OPTION
#106530	30 000:cSt	OPTION
#106540	40 000:cSt	OPTION
#106550	50 000:cSt	OPTION

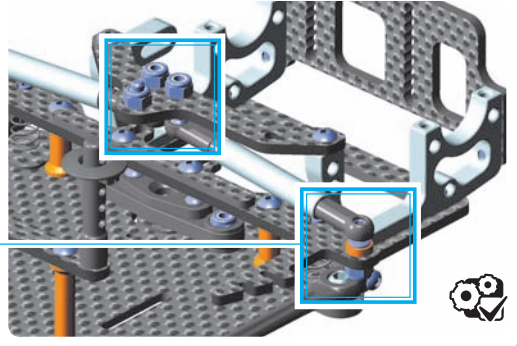


RIGHT

LEFT

REAR

TIP The angle of the side tubes has a fine effect on car performance. The angle is adjusted with shims between the pivot ball and the rear brace and/or upper plate. The **HIGHER** the angle, the stiffer it feels and the less it rolls. The **LESS** (flatter) the angle, the softer it feels and the more it rolls.

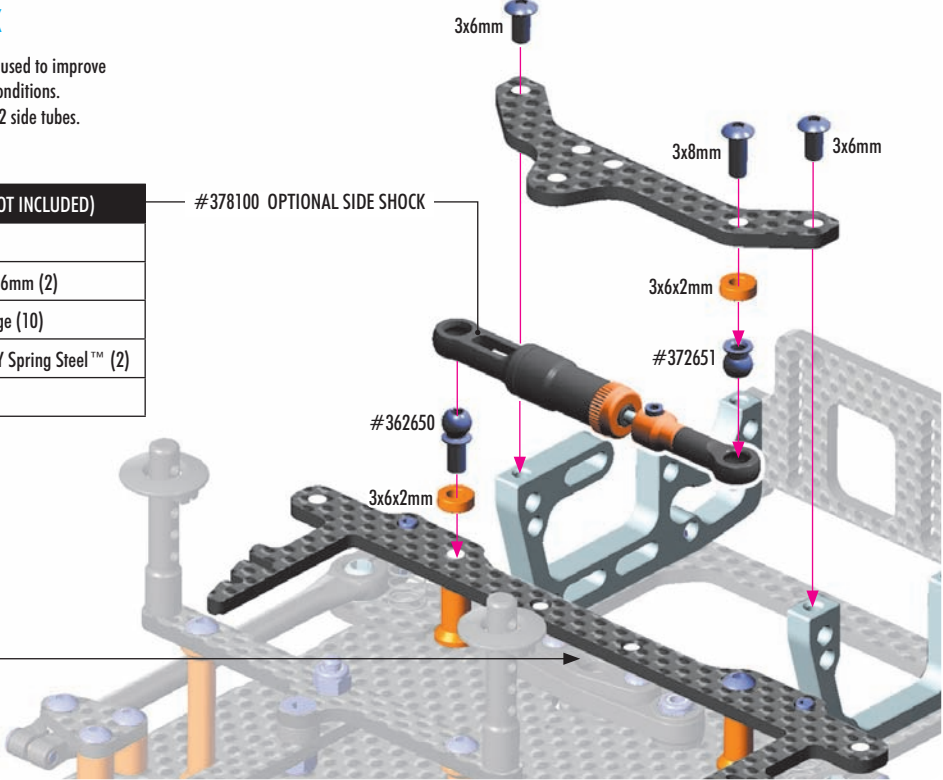


OPTION

OPTIONAL SIDE SHOCK

#378100 - Optional side shock can be used to improve traction in low- and medium-traction conditions. The optional side shock REPLACES the 2 side tubes.

SIDE SHOCK - OPTIONAL PARTS (NOT INCLUDED)	
#378100	Side Shock Absorber - SET
#362650	Ball End 4.9mm with Thread 6mm (2)
#303123-0	Alu Shim 3x6x2.0mm - Orange (10)
#372651	Ball Universal 4.9mm - HUDY Spring Steel™ (2)
#902308	Hex Screw SH M3x8 (10)



3x6mm

3x8mm

3x6mm

3x6x2mm

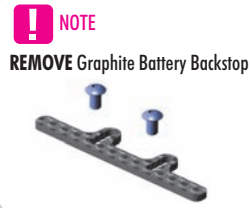
#372651

#362650

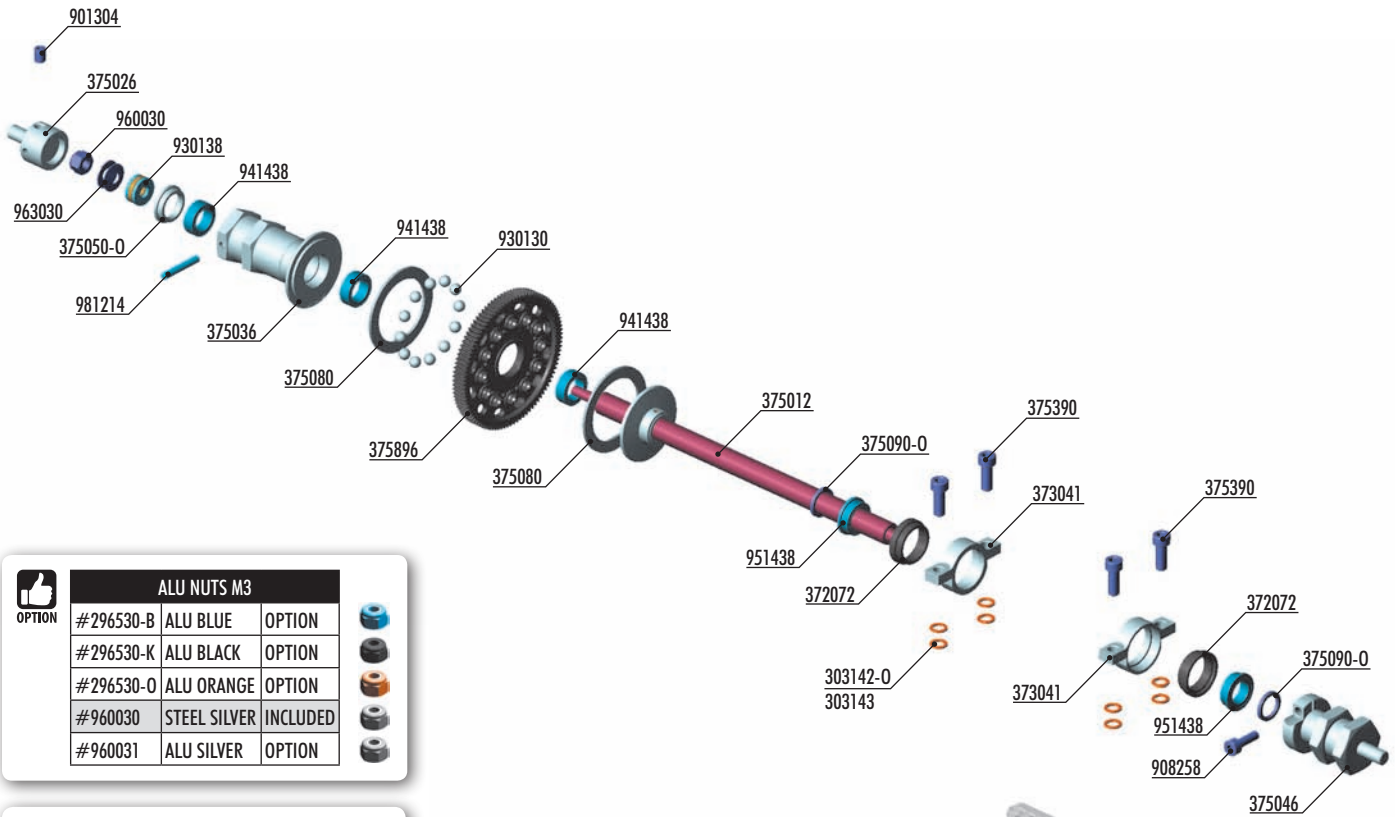
3x6x2mm

NOTE

REMOVE Graphite Battery Backstop



3. BALL DIFFERENTIAL



ALU NUTS M3

#296530-B	ALU BLUE	OPTION	
#296530-K	ALU BLACK	OPTION	
#296530-O	ALU ORANGE	OPTION	
#960030	STEEL SILVER	INCLUDED	
#960031	ALU SILVER	OPTION	

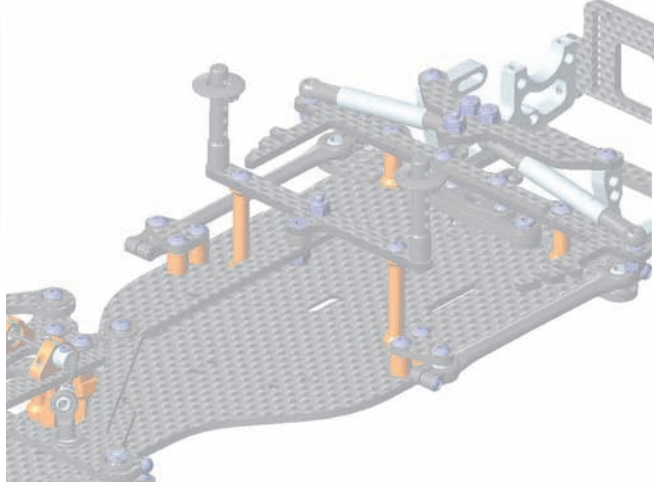
#375010
GRAPHITE REAR AXLE SHAFT

9g lighter for great weight savings and improved acceleration, but more fragile.

#375014
GRAPHITE REAR GEAR DIFF AXLE SHAFT

BALL DIFF - SPUR GEARS

#375872	72T / 64P	OPTION	
#375875	75T / 64P	OPTION	
#375876	76T / 64P	OPTION	
#375878	78T / 64P	OPTION	
#375880	80T / 64P	OPTION	
#375896	96T / 64P	INCLUDED	



#930238
CERAMIC AXIAL THRUSTBEARING F3-8 3x8x3.5mm

#930230
CERAMIC BALL 3.175mm (12)

#374901
XRAY GEAR DIFFERENTIAL 1/10 FORMULA - SET

Included in set #374901

GEAR DIFF - SPUR GEARS

#375776	76T / 64P	OPTION	
#375780	80T / 64P	OPTION	
#375784	84T / 64P	OPTION	
#375788	88T / 64P	OPTION	
#375792	92T / 64P	OPTION	

#373042
ALU UPPER ECCENTRIC CLAMP

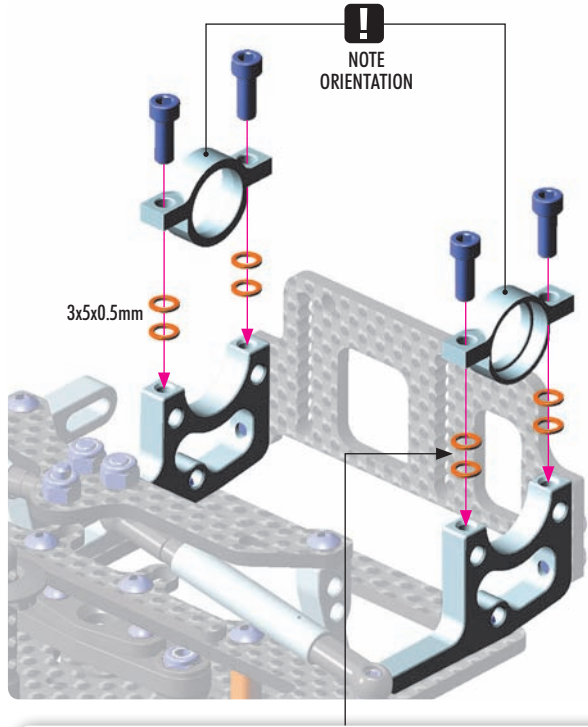


303142-0	ALU SHIM 3x5x0.5mm - ORANGE (10)
303143	ALU SHIM 3x5x0.25mm (10)
372072	COMPOSITE BALL-BEARING HUB (2)
373041	ALU UPPER CLAMP FOR BALL-BEARING
375012	STEEL REAR AXLE SHAFT - HUDY SPRING STEEL™
375026	X1 ALU REAR DRIVE AXLE - RIGHT
375036	X1 ALU REAR WHEEL HUB - RIGHT
375046	X1 ALU REAR WHEEL HUB - LEFT
375050-0	ALU DIFF HUB - ORANGE
375080	D-LOCK DIFF PLATE (2)
375090-0	SET OF ALU SHIMS 6.37x8.4mm (0.5mm, 1.0mm, 2.0mm) - ORANGE
375896	COMPOSITE SPUR GEAR - 96T / 64P

375390	ALU 7075 HEX SCREW M3x8 (6)
901304	HEX SCREW SB M3x4 (10)
908258	HEX SCREW SOCKET HEAD CAP M2.5x8 (10)
930130	CARBIDE BALL 3.175mm (12)
930138	CARBIDE BALL-BEARING AXIAL F3-8 3x8x3.5 - V2
941438	BALL-BEARING 1/4"x3/8"x1/8" RUBBER SEALED - OIL (2)
951438	BALL-BEARING 1/4" x 3/8" x 1/8" FLANGED - STEEL SEALED - OIL (2)
960030	NUT M3 (10)
963030	CONE WASHER ST 3x8x0.5 (10)
981214	PIN 2x14 (10)

3. BALL DIFFERENTIAL

-  303142-0
SHIM 3x5x0.5
-  303143
SHIM 3x5x0.25
-  375390
ALU SCH M3x8

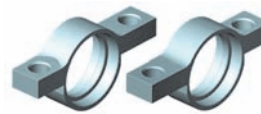


The thickness of these shims affects rear ride height, so determine the proper amount of shimming based on tire diameter.

IMPORTANT: Always use the same thickness of shims on both left & right sides.

For **INITIAL SETTING**, use (2x) 3x5x0.5mm on both left & right sides.
Optionally included: (4x) 3x5x0.25mm shims for fine tuning.

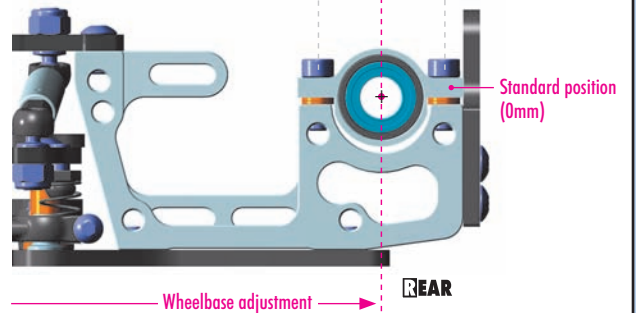
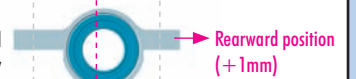
 #373042
ALU UPPER ECCENTRIC CLAMP



A **SHORTER** car rotates harder in slow corners and has improved forward traction.



A **LONGER** car is more free in high-speed corners and will feel more linear, especially during fast direction changes.



-  375090-0
6.4x8.4x0.5
-  375090-0
6.4x8.4x1.0
-  375090-0
6.4x8.4x2.0
-  908258
SCH M2.5x8
-  951438
BB 1/4"x3/8"x1/8"

 #375014
GRAPHITE REAR GEAR DIFF AXLE SHAFT



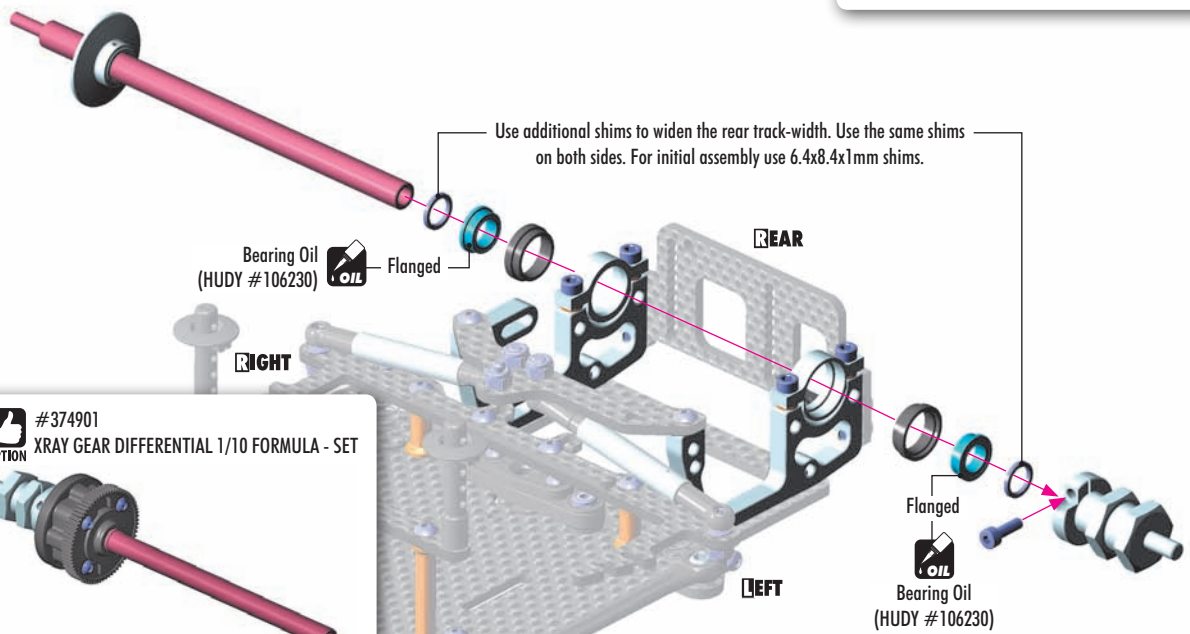
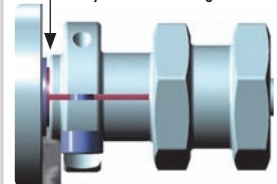
 #375010
GRAPHITE REAR AXLE SHAFT



9g lighter for great weight savings and improved acceleration, but more fragile.

 **IMPORTANT**

The axle must have a **VERY** small amount of side play. If there is no side play, the axle may bind and damage the ball-bearings.



 #374901
XRAY GEAR DIFFERENTIAL 1/10 FORMULA - SET



3. BALL DIFFERENTIAL

930130 B 3.1
 930138 BA 3x8
 941438 BB 1/4"x3/8"x1/8"
 960030 N M3
 963030 ST 3x8

REAR

DIFF GREASE (HUDY #106211)

NOTE ORIENTATION

DIFF GREASE (HUDY #106211)

NOTE ORIENTATION

BEARING OIL (HUDY #106230)

3.2mm 3.0mm
 8.0mm 7.8mm
 DIFF GREASE NOTE ORIENTATION

NOTE ORIENTATION

#930230
OPTION CERAMIC BALL 3.175mm (12)

#930238
OPTION CERAMIC AXIAL THRUSTBEARING F3-8 3X8X3.5

This nut affects the tightness and stiffness of the rear differential. Tighten the nut gently so the diff does not slip under power, but do not overtighten or the diff balls and/or plates may be damaged.

901304 SB M3x4
 981214 P 2x14

REAR

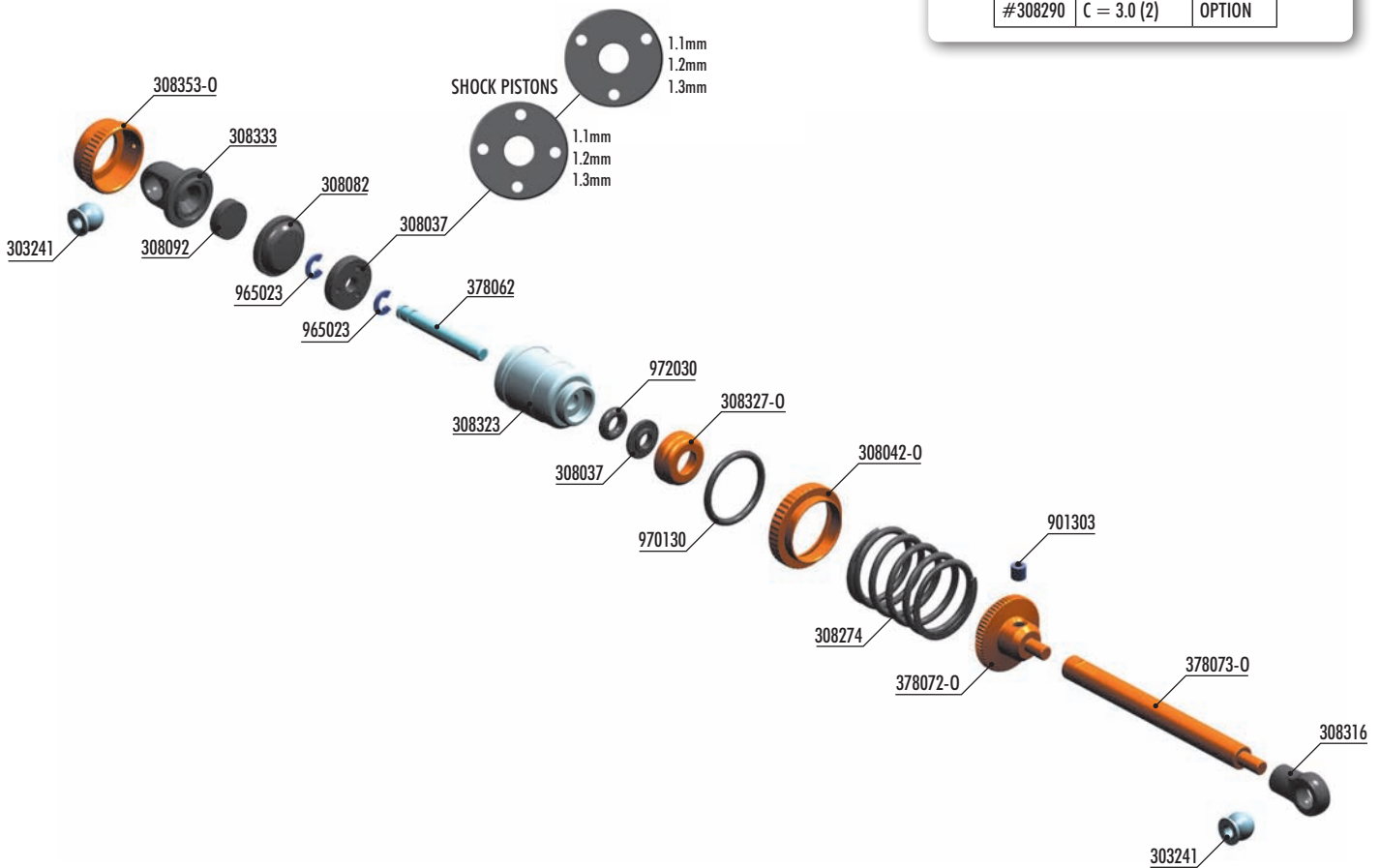
1 Thread the set-screw deep enough into the wheel adaptor so it does not protrude.
 4 Tighten fully.

NOTE ORIENTATION

DETAIL

DETAIL STEP 4 1.5mm **CUTAWAY VIEW** **DETAIL**

4. CENTER SHOCK



XRAY SPRINGS		
#308263	C = 2.3-2.6 (2)	OPTION
#308264	C = 2.5-2.8 (2)	OPTION
#308274	C = 2.3 (2)	INCLUDED
#308275	C = 2.5 (2)	OPTION
#308286	C = 2.6 (2)	OPTION
#308276	C = 2.7 (2)	OPTION
#308288	C = 2.8 (2)	OPTION
#308277	C = 2.9 (2)	OPTION
#308290	C = 3.0 (2)	OPTION



#308039
OPTION ALU PROGRESSIVE SHOCK SYSTEM - SET (2)

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

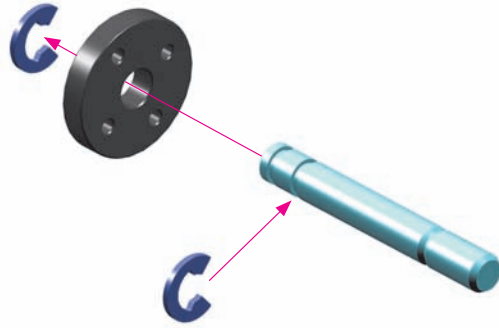


- | | | | |
|----------|--|----------|-------------------------------------|
| 303241 | BALL UNIVERSAL 5.8mm HEX (4) | 378062 | X1 SHOCK SHAFT |
| 308037 | COMPOSITE PISTONS 4-HOLE 1.0-1.2mm, 3-HOLE 1.0-1.2mm | 378072-0 | X1 ALU SHOCK SPRING COLLAR - ORANGE |
| 308042-0 | ALU SHOCK ADJUSTABLE NUT - ORANGE (2) | 378073-0 | X1 1/8 ALU SHOCK ADAPTER - ORANGE |
| 308082 | SHOCK ABSORBER MEMBRANE (4) | | |
| 308092 | SHOCK FOAM INSERTS (4) | 901303 | HEX SCREW SB M3x3 (10) |
| 308316 | SHOCK BALL JOINT - OPEN (4) | 965023 | E-CLIP 2.3 (10) |
| 308323 | ALU XRAY SHOCK BODY (2) | 970130 | O-RING 13 x 1.5 (10) |
| 308327-0 | ALU CAP FOR XRAY SHOCK BODY - ORANGE | 972030 | SILICONE O-RING 3 x 2 (10) |
| 308333 | COMPOSITE SHOCK PARTS FOR ALU SHOCKS | | |
| 308353-0 | ALU SHOCK CAP-NUT WITH VENT HOLE - ORANGE (2) | | |
| 308274 | XRAY SPRING-SET C=2.3 | | |

4. CENTER SHOCK



965023
C 2.3



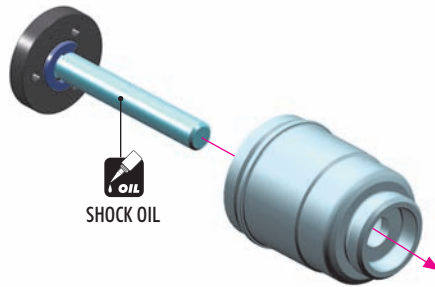
DETAIL SHOCK PISTON ADJUSTMENT

3 HOLES

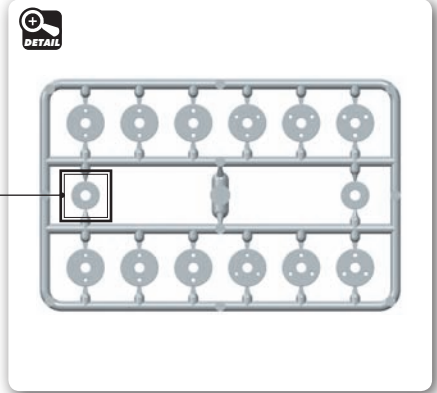
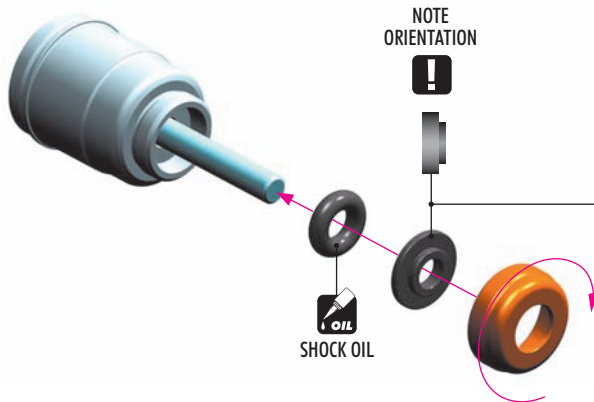
- 1.1mm
- 1.2mm
- 1.3mm

4 HOLES

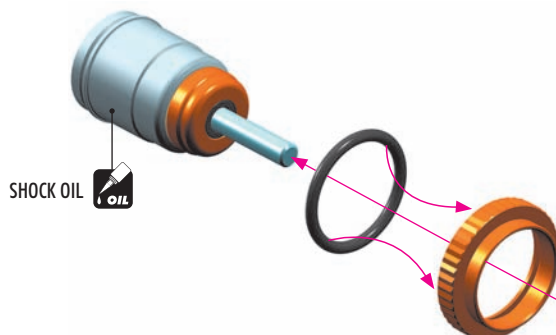
- 1.1mm **INITIAL SETTING**
- 1.2mm
- 1.3mm



972030
0 3x2



970130
0 13x1.5



DETAIL CUTAWAY VIEW

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

4. CENTER SHOCK

SHOCK FILLING

SOFTER OIL

Recommended for bumpy and low-traction tracks, generates more traction.

HARDER OIL

Recommend for flat and high-traction tracks, improves steering response.



HUDY SHOCK OILS

#106310	100cSt
#106315	150cSt
#106320	200cSt
#106325	250cSt
#106330	300cSt
#106335	350cSt
#106340	400cSt
#106345	450cSt
#106350	500cSt
#106355	550cSt
#106360	600cSt
#106365	650cSt
#106370	700cSt
#106375	750cSt
#106380	800cSt
#106390	900cSt
#106410	1000cSt
#106420	2000cSt

INITIAL SETTING

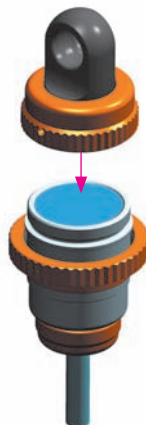
- 1 Fully extend the piston rod so the piston is at the bottom of the shock body.
- 2 Hold the shock upright and slightly overfill the shock body with shock oil.
- 3 Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down to allow oil into all cavities within the 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.



CUTAWAY VIEW



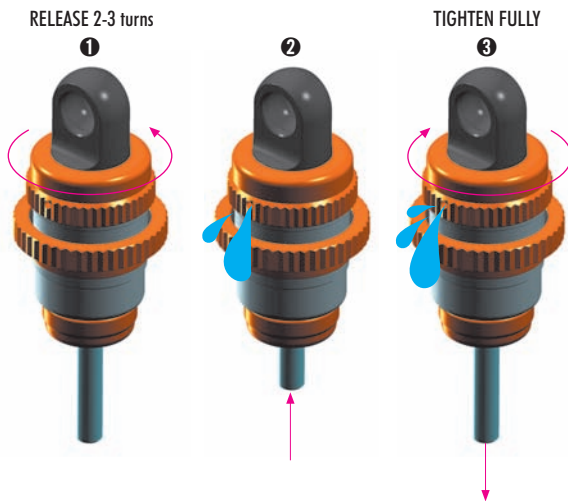
After you insert the membrane, ensure that it is fully seated inside the alu cap.



- 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.

4. CENTER SHOCK

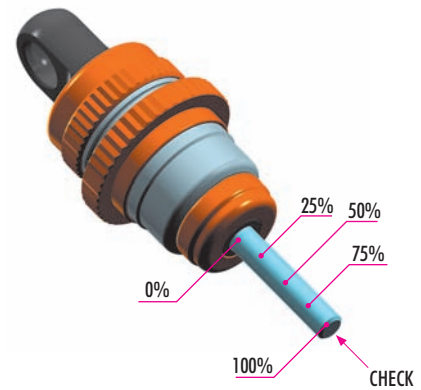
REBOUND ADJUSTMENT



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 cup. 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.

REBOUND CHECK



REBOUND CHECK:

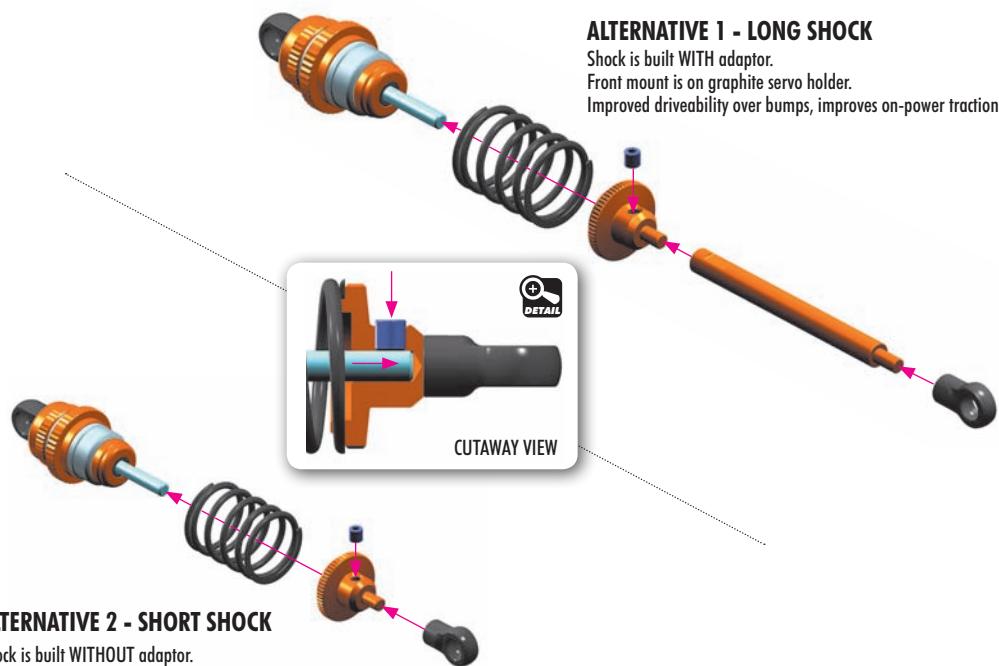
It is very important to push the shock shaft into the shock body slowly otherwise air can come into the shock body which would create bubbles.

- 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.

901303
SB M3x3

! An innovative new feature is to change the center shock length (and front mounting position). By using longer or shorter shock, the damping and steering can be changed.



ALTERNATIVE 1 - LONG SHOCK

Shock is built WITH adaptor.
Front mount is on graphite servo holder.
Improved driveability over bumps, improves on-power traction.

ALTERNATIVE 2 - SHORT SHOCK

Shock is built WITHOUT adaptor.
Front mount is on graphite plate for mounts.
Improved steering response, quicker direction changes.

4. CENTER SHOCK

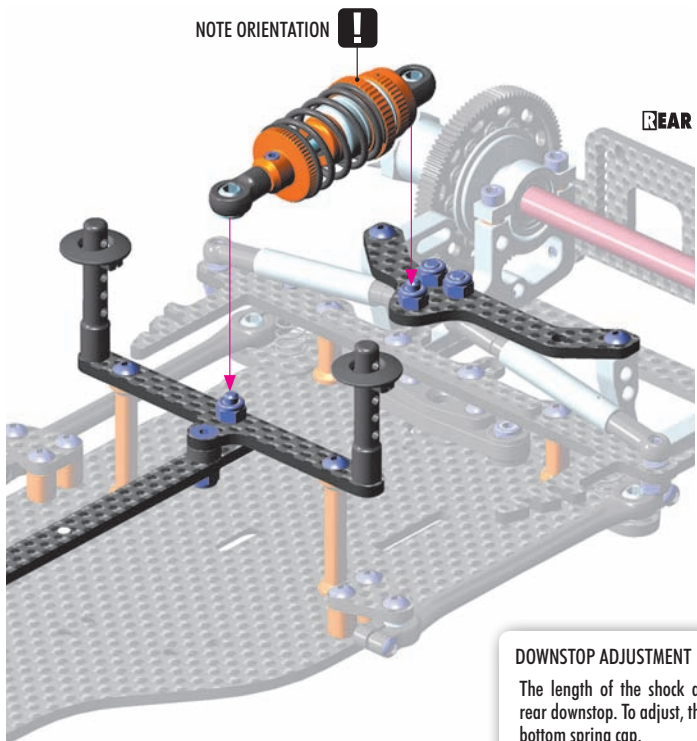
NOTE ORIENTATION
(Shiny finish side) 

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

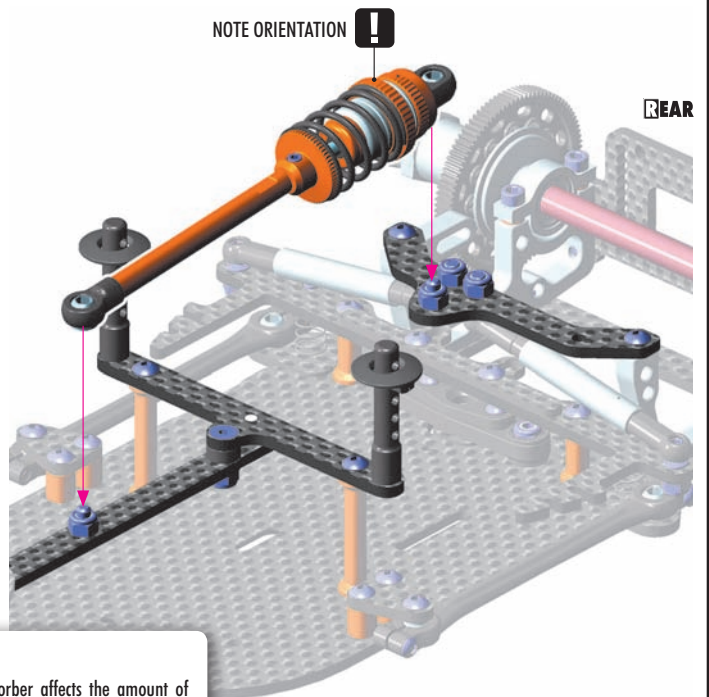


 NOTE ORIENTATION
(Shiny finish side)

ALTERNATIVE 1 - SHORT SHOCK

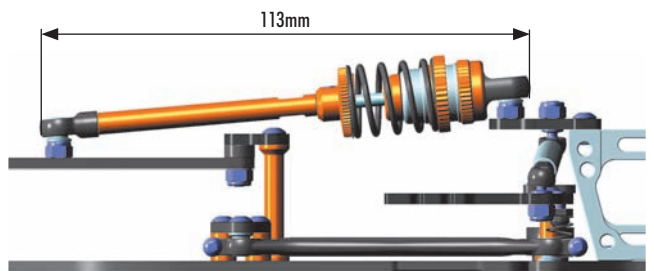
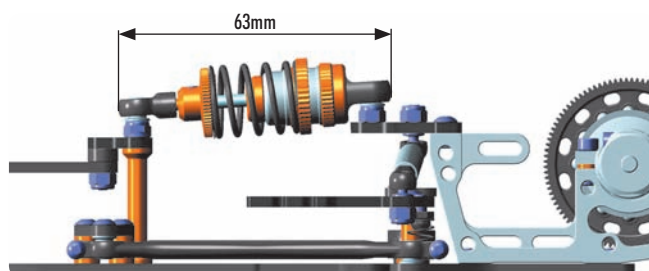
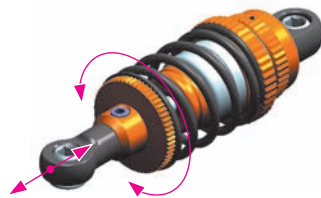


ALTERNATIVE 2 - LONG SHOCK

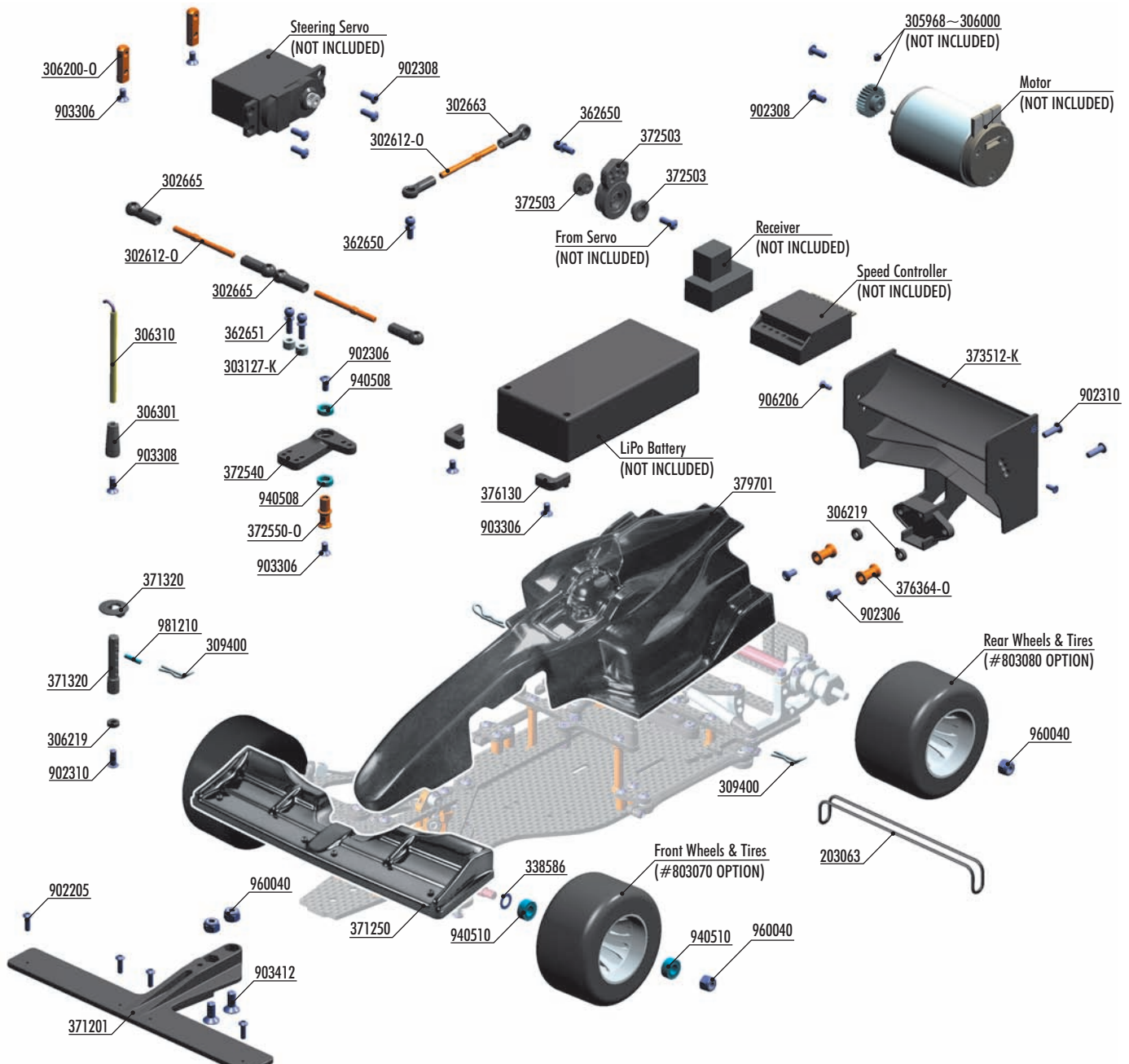


DOWNSTOP ADJUSTMENT

The length of the shock absorber affects the amount of rear downstop. To adjust, thread the ball-joint on or off the bottom spring cap.



5. FINAL ASSEMBLY



- #305968~306000 PINION GEAR HARDCOATED 18~50T/64P
- #372541 ALU ADJUSTABLE SERVO SAVER SET
- #371202 X1 COMPOSITE ADJUSTABLE FRONT AERO WING - ETS APPROVED
- #371203-K X1 COMPOSITE ADJUSTABLE FRONT WING - BLACK - ETS APPROVED
- #371203 X1 COMPOSITE ADJUSTABLE FRONT WING - WHITE - ETS APPROVED
- #371290 X1 ALU BODY POST PLATE
- #373511-K X1 COMPOSITE REAR WING - BLACK
- #373513-K X1 COMPOSITE ADJUSTABLE REAR WING - BLACK - ETS APPROVED
- #379702 XRAY X1 1/10 FORMULA BODY - WORLD CHAMPION EDITION
- #803070 HUDY 1/10 FORMULA RUBBER TIRE - FRONT (2)
- #803080 HUDY 1/10 FORMULA RUBBER TIRE - REAR (2)



- 302612-0 ALU ADJ. TURNBUCKLE M3 L/R 39 mm - ORANGE - SWISS 7075 T6 (2)
- 302663 COMPOSITE BALL JOINT 4.9mm - OPEN - V2 (8)
- 302665 COMPOSITE BALL JOINT 4.9mm - CLOSED WITH HOLE (4)
- 303127-K ALU SHIM 3x6x4.0mm - BLACK (10)
- 306200-0 ALU SERVO MOUNT - ORANGE (2)
- 306219 COMPOSITE SET OF SERVO SHIMS (4)
- 306301 ANTENNA MOUNT - THIN
- 306310 ANTENNA (2)
- 309400 BODY CLIP (8)
- 338586 SHIM 5x7x0.5 (10)
- 362650 BALL END 4.9mm WITH THREAD 6mm (2)
- 362651 BALL END 4.9mm WITH THREAD 8mm (2)
- 371201 X1 COMPOSITE FRONT BUMPER
- 371250 X1 LEXAN FRONT SPOILER (2)
- 371320 COMPOSITE BODY POST (2)
- 372503 COMPOSITE SERVO SAVER - X-STIFF - SET - V2
- 372540 X1 COMPOSITE STEERING ARM
- 372550-0 X1 ALU STEERING PIVOT SHAFT
- 373512-K X1 COMPOSITE ADJUSTABLE REAR WING - BLACK
- 376130 COMPOSITE LiPo BATTERY BACKSTOP (2)
- 376364-0 ALU MOUNT 10.8mm - ORANGE (2)
- 379701 XRAY X1 1/10 FORMULA BODY
- 203063 O-RING FOR 1/8 ON-ROAD SET-UP WHEEL (4)
- 902205 HEX SCREW SH M2x5 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 902308 HEX SCREW SH M3x8 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903412 HEX SCREW SFH M4x12 (10)
- 906206 SCREW PHILLIPS FH 2.2x6 (10)
- 940508 BALL-BEARING 5x8x2.5 RUBBER SEALED - OIL (2)
- 940510 BALL-BEARING 5x10x4 RUBBER SEALED - OIL (2)
- 960040 NUT M4 (10)
- 981210 PIN 2x10 (10)

5. FINAL ASSEMBLY



303127-K
SHIM 3x6x4



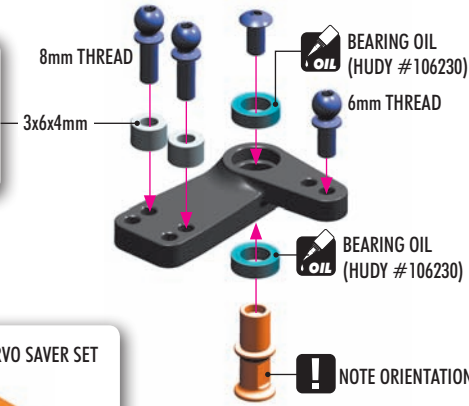
902306
SFH M3x6



940508
BB 5x8x2.5

These shims adjust the bumpsteer.

When thicker shims are used here, in-corner steering increases, but the car becomes more difficult to drive.



#372541 ALU ADJUSTABLE SERVO SAVER SET
OPTION



The steering arm has two positions for servo linkage mounting.



Always use this position



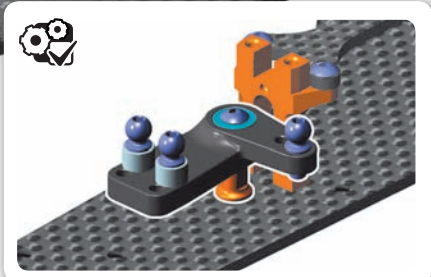
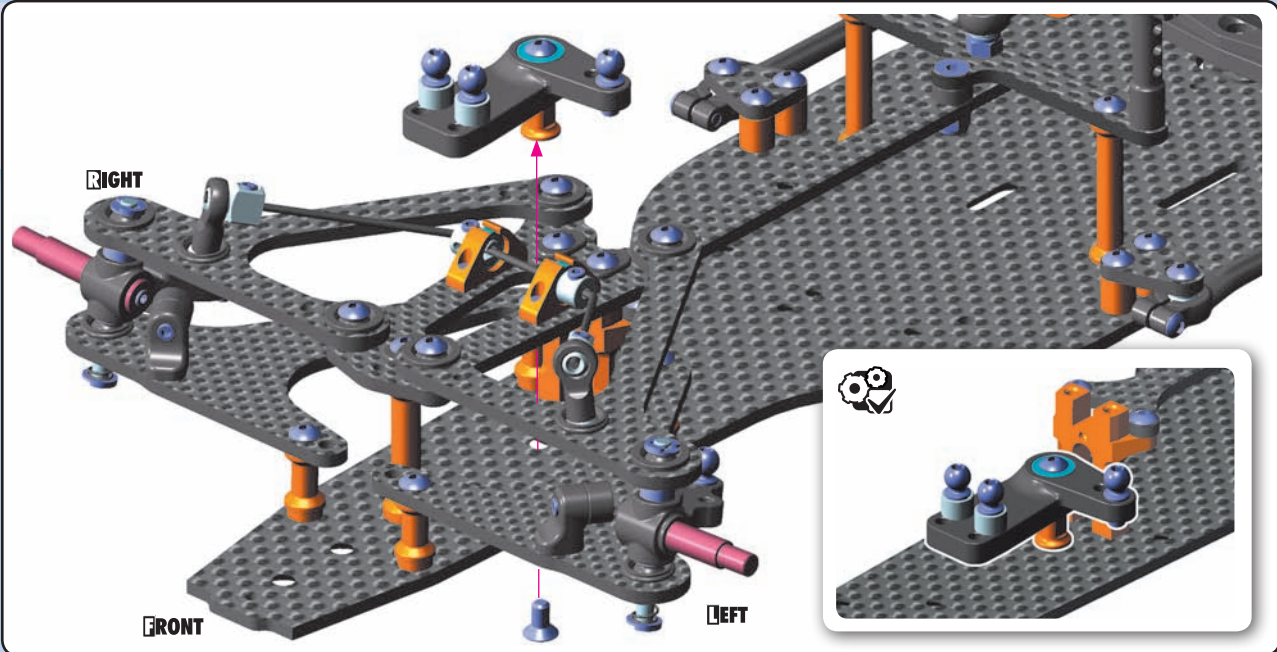
There are two Ackermann positions on the steering arm.

INNER position: More Ackermann, makes the car easier to drive, improves cornering speed (INITIAL SETTING).

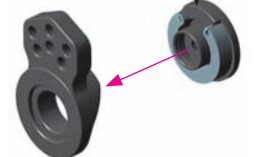
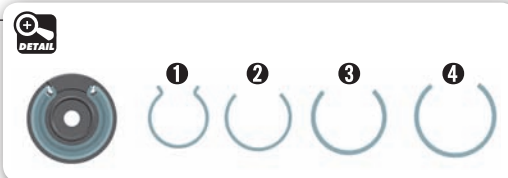
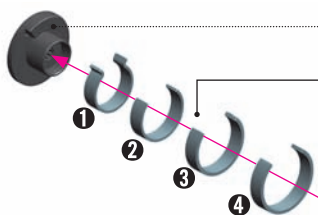
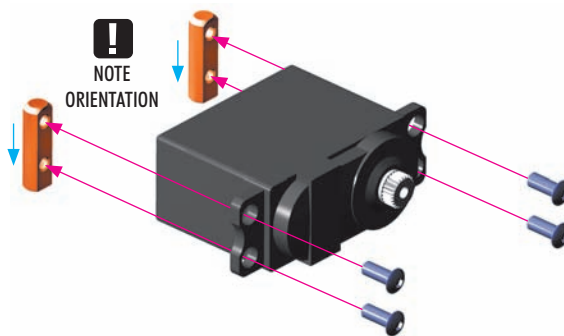
OUTER position: Less Ackermann, makes the car more responsive, improves in-corner steering.



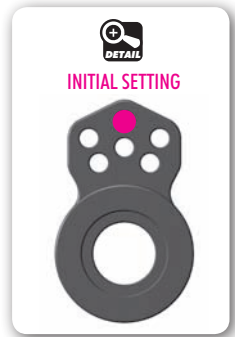
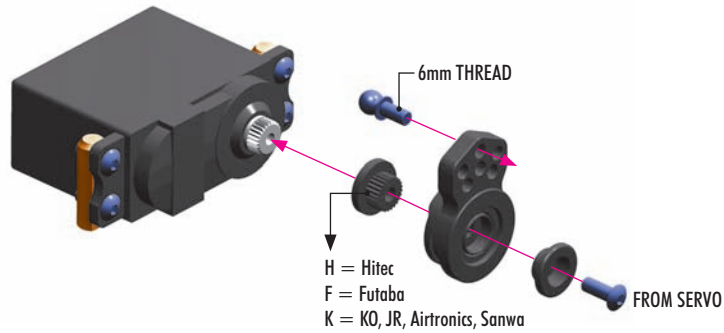
903306
SFH M3x6



902308
SFH M3x8



5. FINAL ASSEMBLY



ALU SERVO HORNS - OFFSET

#293491	KO, Sanwa - 23T
#293492	Hitec - 24T
#293493	Futaba - 25T

CLAMP ALU SERVO HORNS - OFFSET

#293401	KO, Sanwa - 23T
#293402	Hitec - 24T
#293403	Futaba - 25T

HUDY ALU SERVO HORNS

#293501	KO, Sanwa - 23T
#293502	Hitec - 24T
#293503	Futaba - 25T

HUDY CLAMP ALU SERVO HORNS

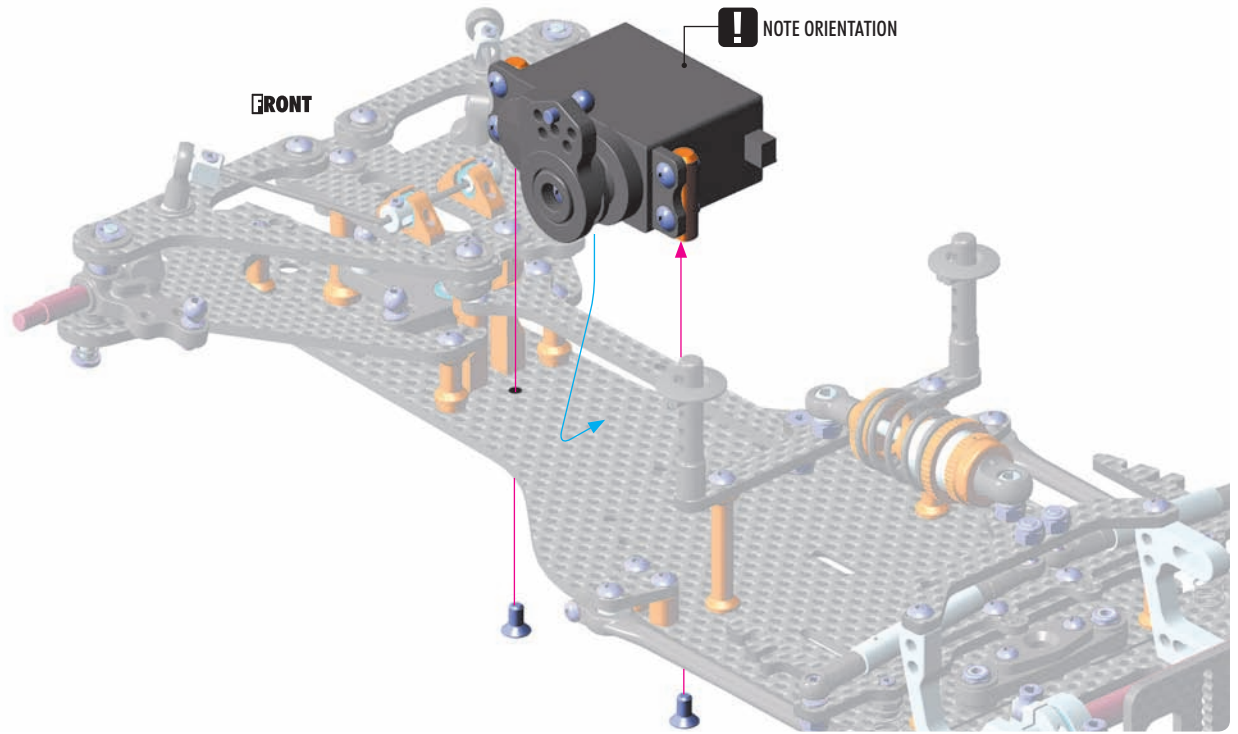
#293407	KO, Sanwa - 23T
#293408	Hitec - 24T
#293409	Futaba - 25T

For more in-corner steering and better steering response, an aluminum servo horn may be used. In this situation, the steering servo saver is NOT used.

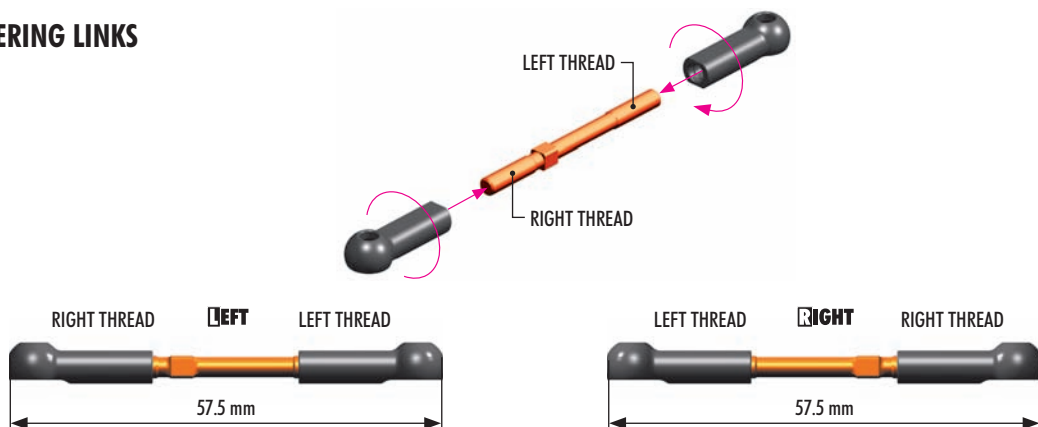
IMPORTANT!
When the aluminum horn is used, the steering servo saver is not used. This increases the risk of breaking the servo in serious crashes.



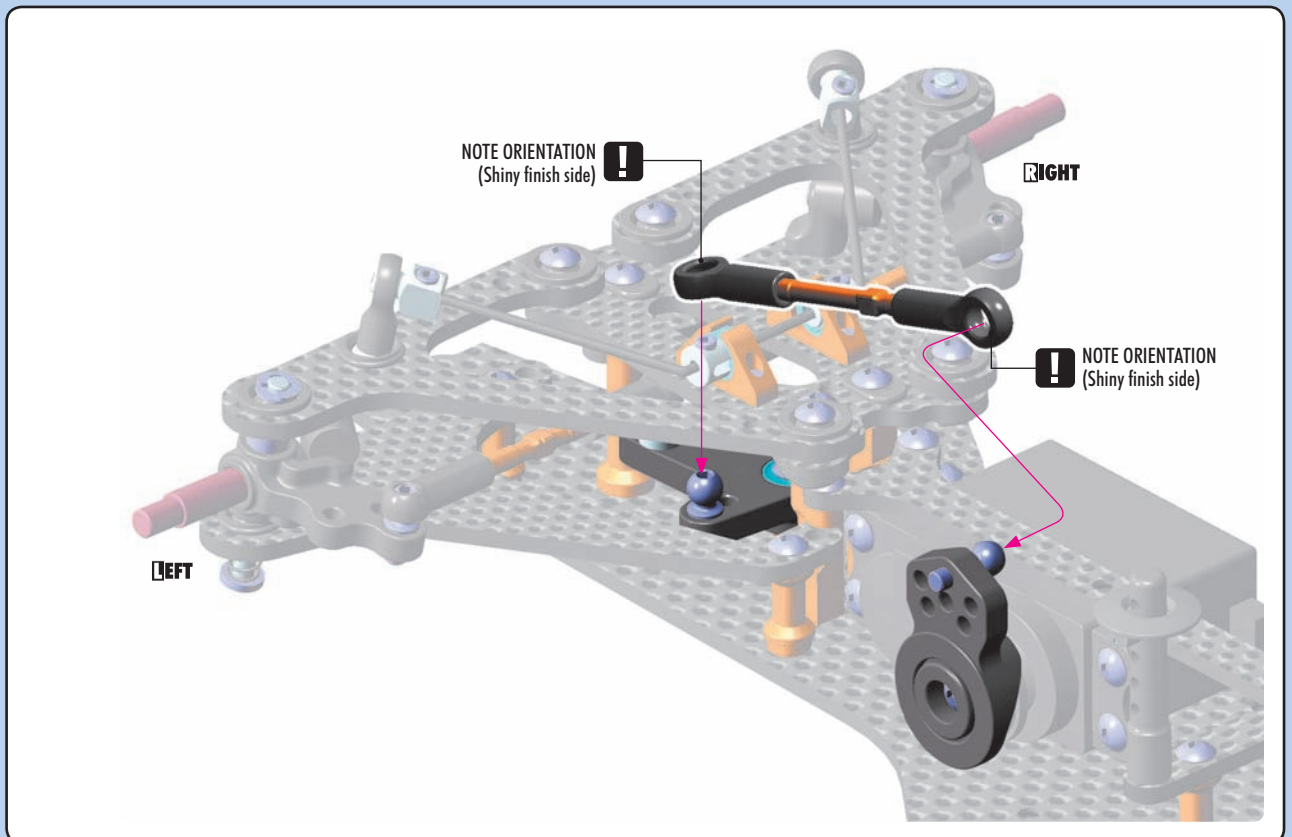
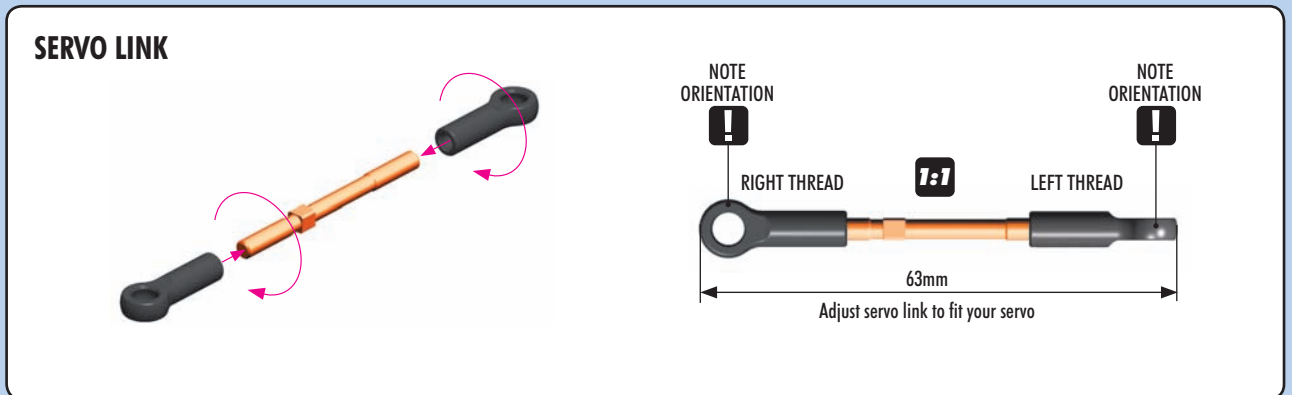
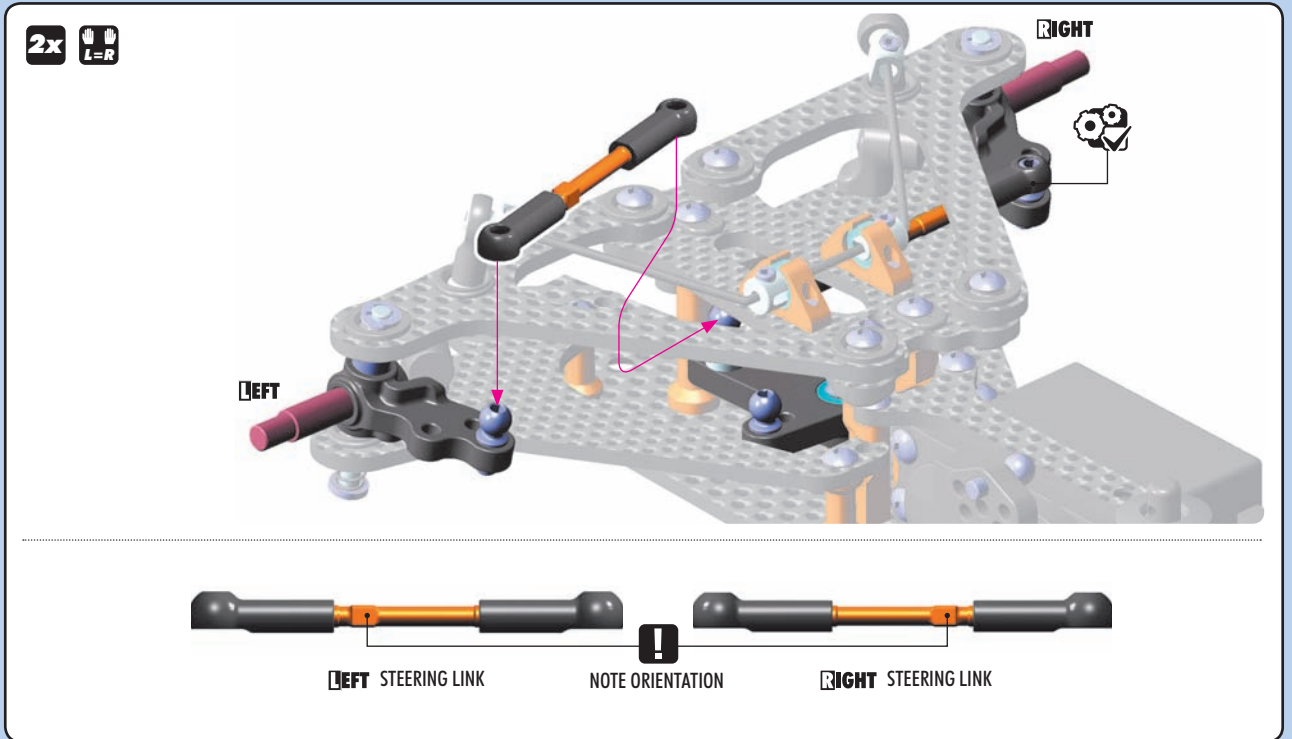
903306
SFH M3x6



2x STEERING LINKS



5. FINAL ASSEMBLY



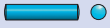
5. FINAL ASSEMBLY

IO

306219
SHIM 3x6x2



902310
SH M3x10



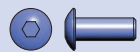
981210
P 2x10



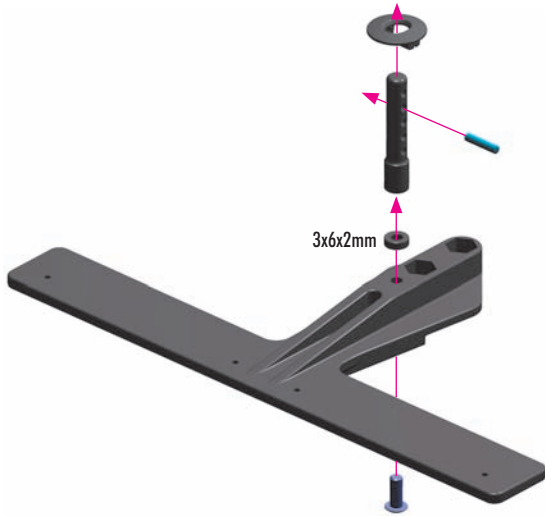
903412
SFH M4x12



960040
N M4



902308
SH M3x8



3x6x2mm

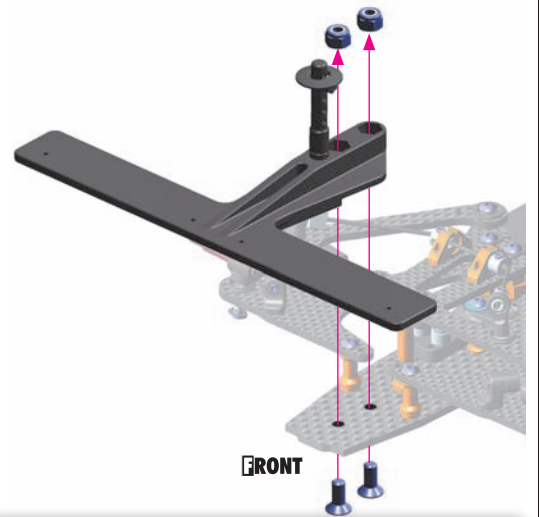
#371290
X1 ALU BODY POST PLATE
OPTION



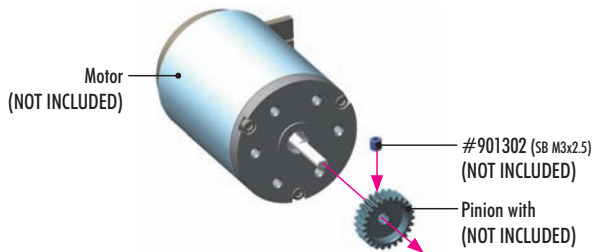
#371202
X1 COMPOSITE ADJUSTABLE FRONT AERO WING - ETS APPROVED
OPTION



#371203 & 371203-K
X1 COMPOSITE ADJUSTABLE FRONT WING (BLACK or WHITE) - ETS APPROVED
OPTION



FRONT



Motor
(NOT INCLUDED)

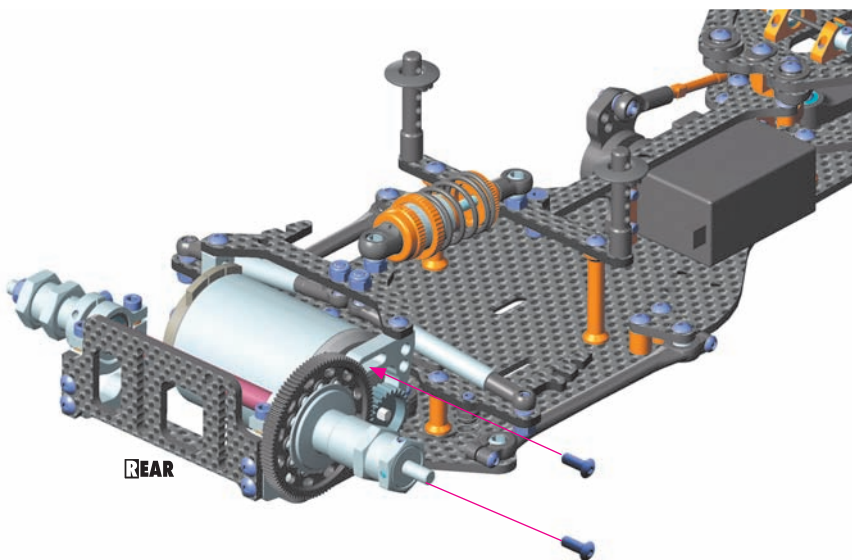
#901302 (SB M3x2.5)
(NOT INCLUDED)

Pinion with
(NOT INCLUDED)



PINION GEARS ALU HARDCOATED

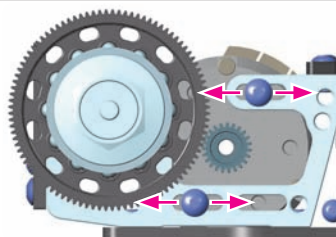
#305968	18T / 64P	OPTION
#305969	19T / 64P	OPTION
#305970	20T / 64P	OPTION
#305971	21T / 64P	OPTION
#305972	22T / 64P	OPTION
#305973	23T / 64P	OPTION
#305974	24T / 64P	OPTION
#305975	25T / 64P	OPTION
#305976	26T / 64P	OPTION
#305977	27T / 64P	OPTION
#305978	28T / 64P	OPTION
#305979	29T / 64P	OPTION
#305980	30T / 64P	OPTION
#305981	31T / 64P	OPTION
#305982	32T / 64P	OPTION
#305983	33T / 64P	OPTION
#305984	34T / 64P	OPTION
#305985	35T / 64P	OPTION
#305986	36T / 64P	OPTION
#305987	37T / 64P	OPTION
#305988	38T / 64P	OPTION
#305990	40T / 64P	OPTION
#305991	41T / 64P	OPTION
#305992	42T / 64P	OPTION
#305994	44T / 64P	OPTION
#305996	46T / 64P	OPTION
#305997	47T / 64P	OPTION
#305998	48T / 64P	OPTION
#306000	50T / 64P	OPTION



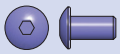
REAR



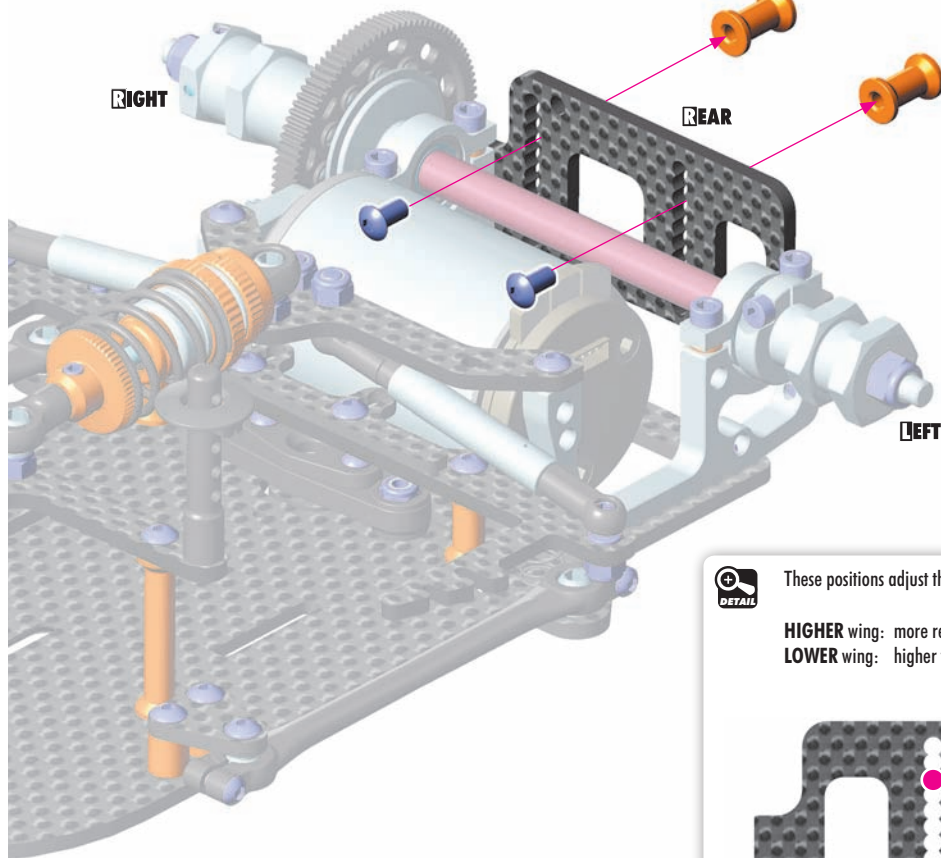
Adjust the gear mesh so there is appropriate space between the spur gear and pinion teeth. There should be a very small amount of freeplay.



5. FINAL ASSEMBLY



902306
SH M3x6

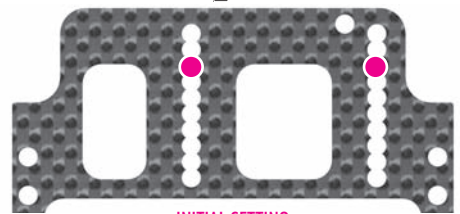


These positions adjust the **HEIGHT** of the rear wing.

HIGHER wing: more rear traction, more stability

LOWER wing: higher top speed, improved steering response

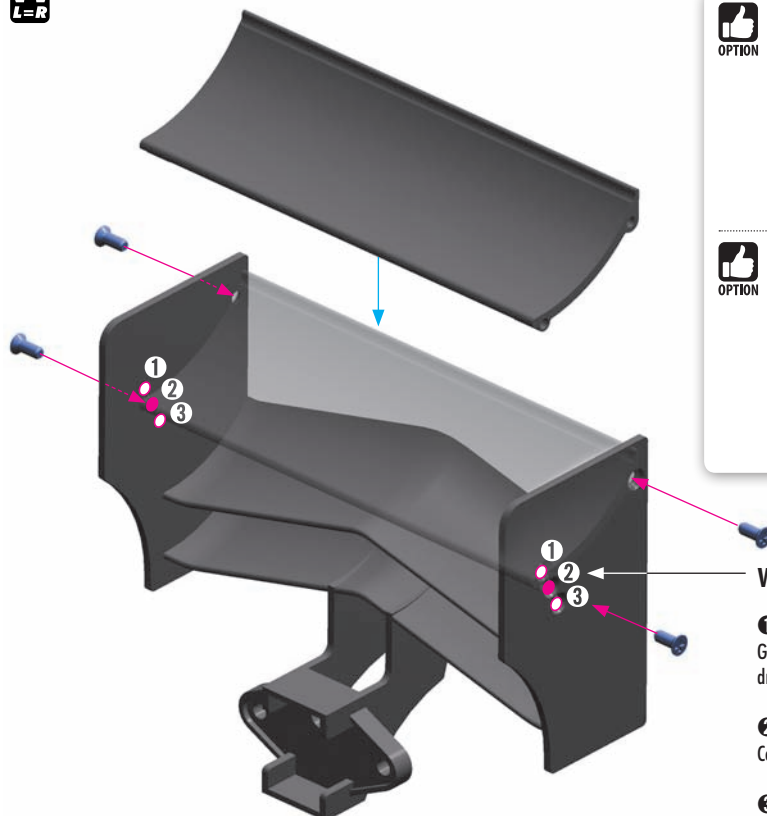
TOP



INITIAL SETTING



906206
SFP 2.2x6



#373511-K
X1 COMPOSITE REAR WING - BLACK



#373513-K
X1 COMPOSITE ADJUSTABLE REAR WING - BLACK - ETS APPROVED



WING POSITION

❶ **LOW DOWNFORCE:**

Generates more steering but makes the car less stable and more difficult to drive. Recommended for large tracks with long sweepers.

❷ **MIDDLE:**

Compromise between high and low downforce (**INITIAL SETTING**).

❸ **HIGH DOWNFORCE:**

Higher stability, easier to drive with less initial steering.

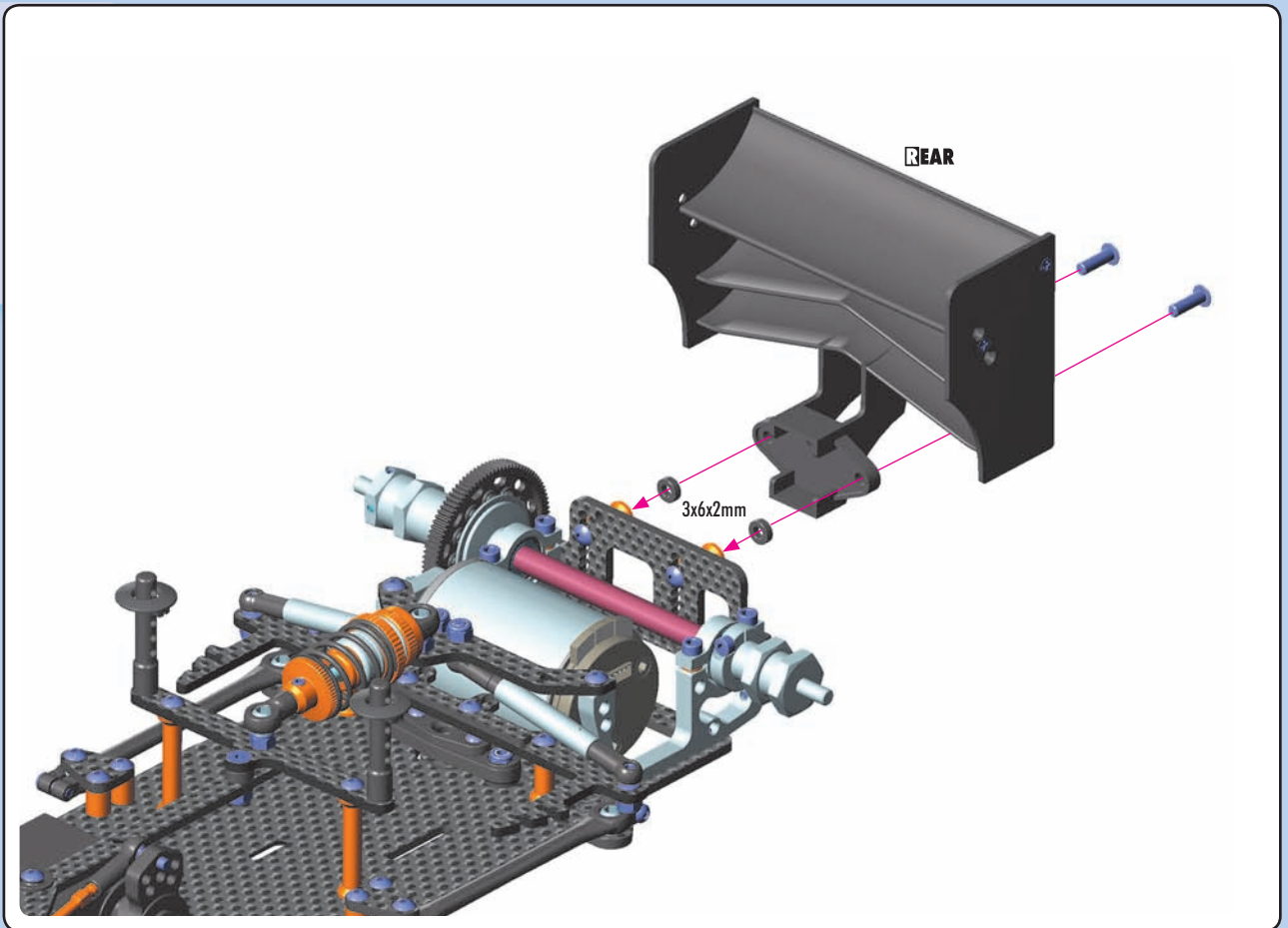
5. FINAL ASSEMBLY



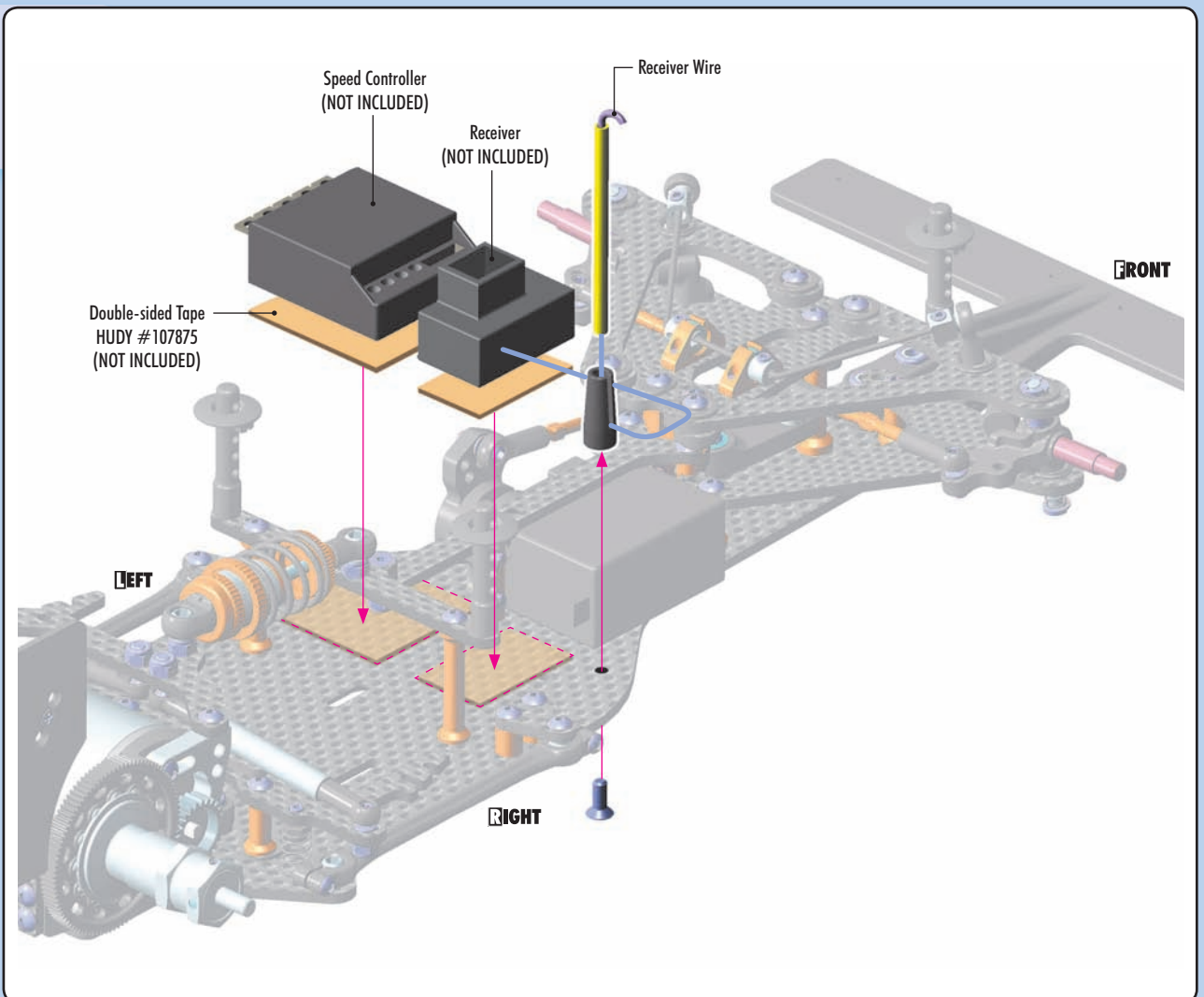
902310
SH M3x10



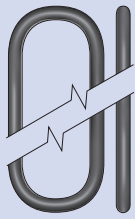
306219
SHIM 3x6x2



903308
SFH M3x8



5. FINAL ASSEMBLY



203063
Ø 63x1.8



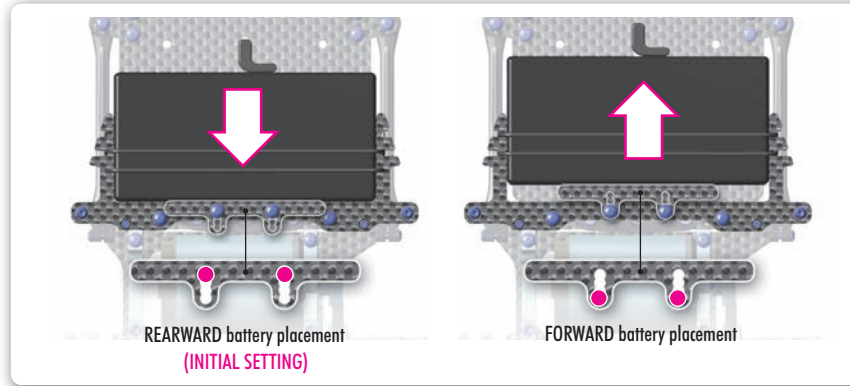
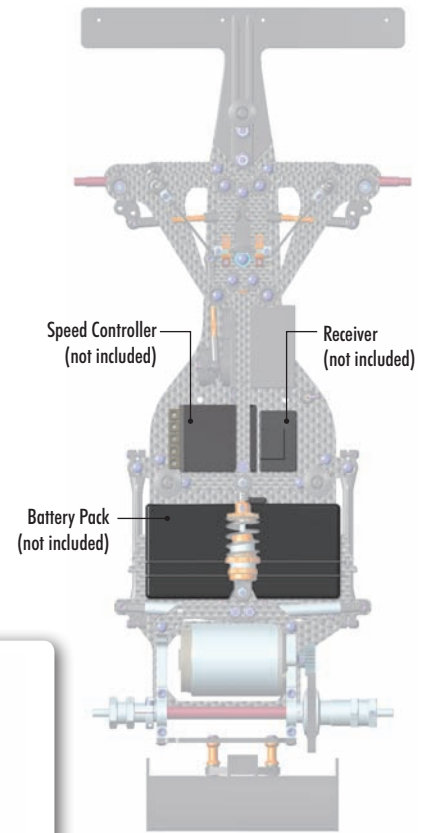
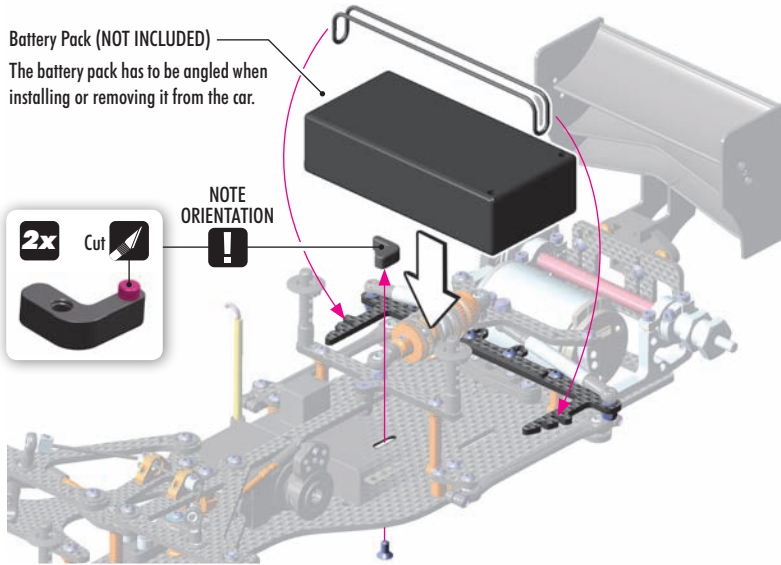
903306
SFH M3x6

LiPo BATTERY CONFIGURATION 1

CROSS-CHASSIS ALIGNMENT

INITIAL ASSEMBLY

Easier to drive, decreases traction rolling. Recommended for high-traction carpet tracks.

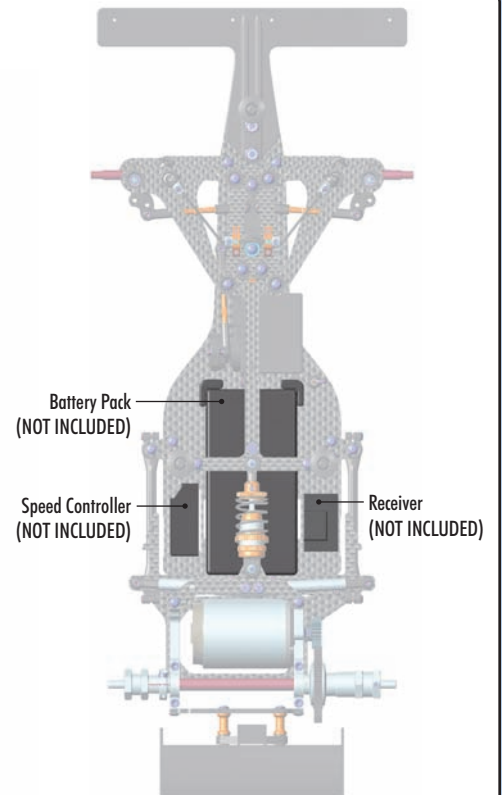
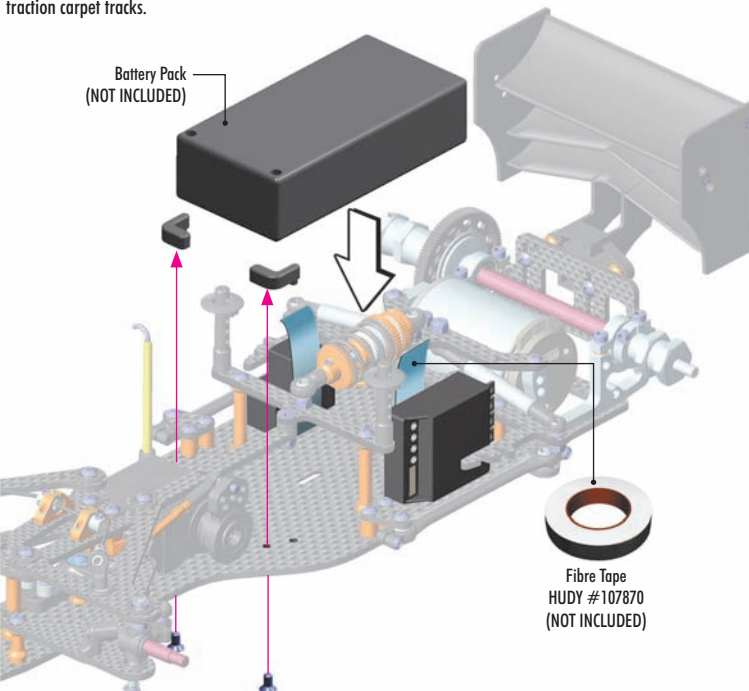


903306
SFH M3x6

LiPo BATTERY CONFIGURATION 2

INLINE BATTERY ALIGNMENT

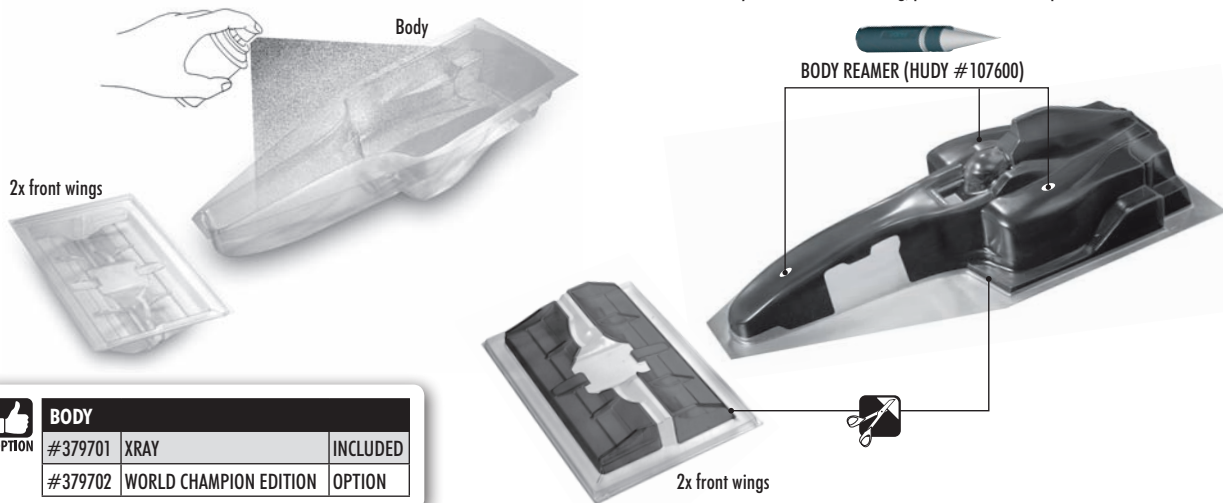
Improves the roll of the car and gives improved steering. Recommended for asphalt and low-medium traction carpet tracks.



5. FINAL ASSEMBLY

- 1 Before cutting and making holes on the body, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts. Before cutting and making holes on the front wing, put the unpainted wing on the front bumper to confirm the mounting position and location for holes and cutouts.
- 2 Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- 3 Mask the helmet shield if you wish.

- 4 Apply paint masks as appropriate.
- 5 Paint the body using paints formulated for polycarbonate bodies.
- 6 When the paint is dry, remove the masking.
- 7 Carefully cut out the body using appropriate scissors or cutting tools.
- 8 When you have finished cutting, peel off the external protective films.



338586
SHIM 5x7x0.5



902205
SH M2x5



960040
N M4

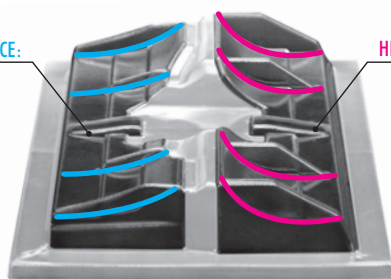


94 0510
BB 5x10x4

FRONT WING

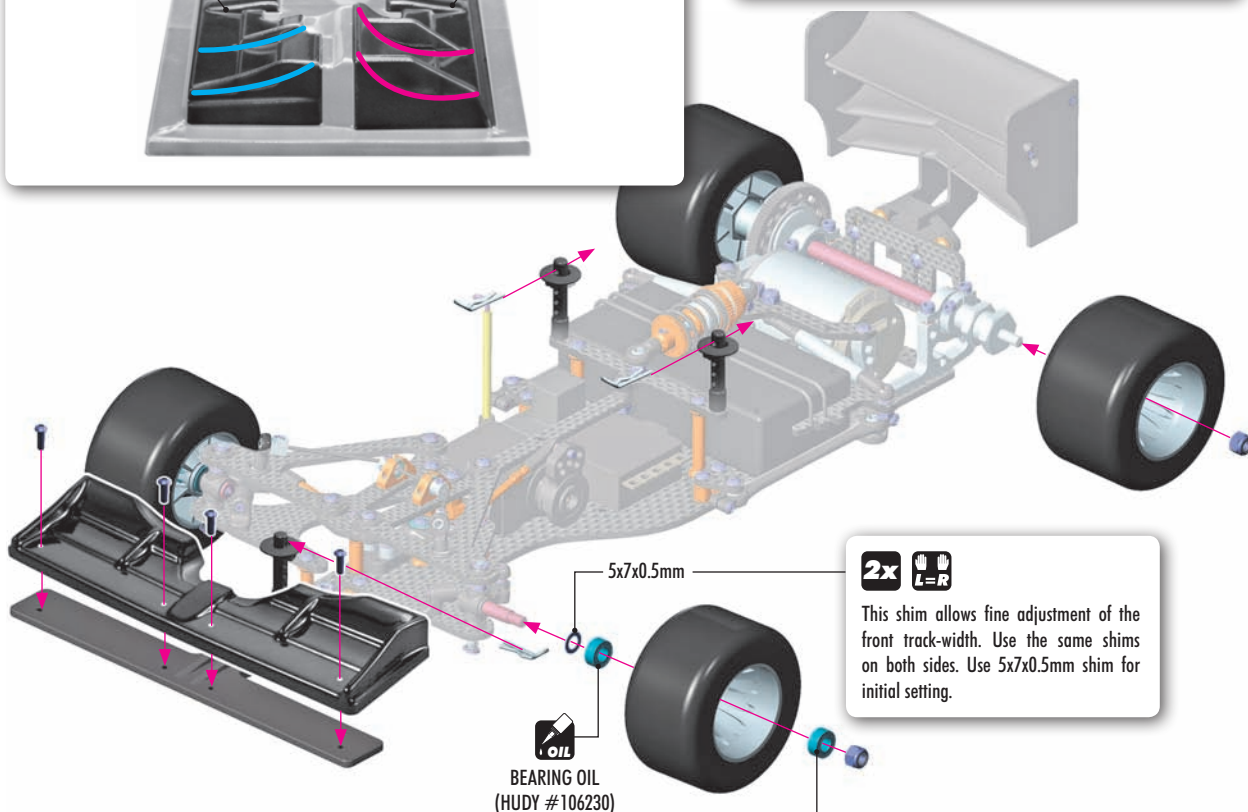
LOW DOWNFORCE:
Less steering

HIGH DOWNFORCE:
More steering



TRACK-WIDTH ADJUSTMENT SHIMS

OPTION	#338584	5x7x0.2mm	OPTION
	#338585	5x7x0.3mm	OPTION
	#338586	5x7x0.5mm	INCLUDED



#803070 HUDY 1/10 FORMULA RUBBER TIRE - FRONT (2)
#803080 HUDY 1/10 FORMULA RUBBER TIRE - REAR (2)



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