INSTRUCTION MANUAL XRAY XB9

1/8 LUXURY OFF-ROAD BUGGY



DEVELOPED
DESIGNED
STYLED BY
JURAJ HUDY
CHIEF XRAY DESIGNER

MADE IN EUROPE

XRAY

WORLD CHAMPIONS

INTRODUCTION

The XRAY XB9 is a modern, high-competition premium luxury racing 1/8 nitro buggy that is the epitome of high-performance and fine distinctive design. Your XB9 offers highest performance, responsive handling, and traditionally exceptional XRAY quality, engineering, and design. The superb craftsmanship and attention to detail are clearly evident everywhere on the XRAY XB9.

XB9 was designed around a no compromise platform; the attention to detail creates a low maintenance, extra long life nitro buggy. The ultra-low center of gravity (CG) and optimized weight balance makes set-up, driving, and maintenance easy and quick.

The XRAY XB9 was created by blending highest-quality materials and excellent design. On high-speed flat tracks or bumpy tracks, whether driving for fun or racing to win, the XB9 delivers outstanding performance, speed, and precision handling.

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

CUSTOMER SUPPORT

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You can join thousands of XRAY fans and enthusiasts in our online community at:

www.teamxray.com

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Email: xray@rcamerica.com

Failure to follow these instructions will be considered as abuse and/or neglect.

SAFETY PRECAUTIONS

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
Wash thoroughly after using. DO NOT use product while eating, drinking or using tobacco products. May cause chronic effects to gastrointestinal tract, CNS, kidneys, and blood. MAY CAUSE BIRTH DEFECTS.

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

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

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

IMPORTANT NOTES – GENERAL

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

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

IMPORTANT NOTES – NITRO ENGINES

- Always test the brakes and the throttle before starting your engine to avoid losing control of the model.
- Make sure the air filter is clean and oiled.
- Never run your engine without an air filter. Your engine can be seriously damaged if dirt and debris get inside the engine.
- For proper engine break-in, please refer to the manual that came with the engine.
- Do not run near open flames or smoke while running your model or while handling fuel.
- Some parts will be hot after operation. Do not touch the exhaust or the engine until they have cooled. These parts may reach 275°F during operation!

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.

IMPORTANT NOTES – NITRO FUEL

- Handle fuel only outdoors. Never handle nitro fuel indoors, or mix nitro fuel in a place where ventilation is bad.
- Only use nitro fuel for R/C models. Do not use gasoline or kerosene in R/C models as it may cause a fire or explosion, and ruin your engine.
- Nitro fuel is highly inflammable, explosive, and poisonous. Never use fuel indoors or in places with open fires and sources of heat.
- Always keep the fuel container cap tightly shut.
- Always read the warning label on the fuel container for safety information.
- Nitro-powered model engines emit poisonous vapors and gasses. These vapors irritate eyes and can be highly dangerous to your health. We recommend wearing rubber or vinyl gloves to avoid direct contact with nitro fuel.
- Nitro fuel for RC model cars is made of the combination of the methyl alcohol, castor or synthetic oil, nitro methane etc. The flammability and volatility of these elements is very high, so be very careful during handling and storage of nitro fuel.
- Keep nitro fuel away from open flame, sources of heat, direct sunlight, high temperatures, or near batteries.
- Store fuel in a cool, dry, dark, well-ventilated place, away from heating devices, open flames, direct sunlight, or batteries. Keep nitro fuel away from children.
- Do not leave the fuel in the carburetor or fuel tank when the model is not in use. There is danger that the fuel may leak out.
- Wipe up any spilled fuel with a cloth.
- Be aware of spilled or leaking fuel. Fuel leaks can cause fires or explosions.
- Do not dispose of fuel or empty fuel containers in a fire. There is danger of explosion.

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 excess 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

Assemble front and rear the same way

Pay attention here

Assemble as many times as specified (here twice)

Apply instant glue

Apply oil

Apply grease

Apply threadlock

Cut off shaded portion

Use special tool

Cut off remaining material

Time

Use cleaner

Tighten screw gently

Ensure smooth non-binding movement

Use pliers

Follow tip here

Follow Set-Up Book

TOOLS REQUIRED

Phillips 5.0mm (HUDY TOOLS)

Allen 1.5 / 2.0 / 2.5mm (HUDY TOOLS)

ARM REAMER 3mm/4mm (HUDY TOOLS)

Socket 5.0 / 5.5mm (HUDY TOOLS)

17mm Wheel Nut Tool (HUDY #107570)



Flywheel Tool (HUDY #182015)



Special Tool for all turnbuckles, nuts (HUDY #108090)



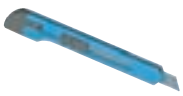
Cross wrench (HUDY #107581)



Side Cutters (HUDY #189010)



Hobby Knife



Needle Nose Pliers (HUDY #189020)



Snap Ring Pliers (HUDY #189040)



Scissors (HUDY #188990)



Body Reamer (HUDY #107600) or (HUDY #107601)



TOOLS & EQUIPMENT INCLUDED

Silicone Shock Oil



Silicone Diff Oil



Air Filter Oil



Graphite Grease (HUDY #106210)



EQUIPMENT REQUIRED

Transmitter

Receiver

Steering and Throttle Servos

.21 Engine



Manifold

Exhaust



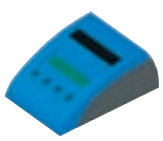
Starter Box & Battery Pack



Glow Plug Igniter



Battery Charger



Receiver Pack



Threadlock



CA Glue



Transmitter Batteries



Fuel



Lexan™ Paint



XB9 TECH TIPS

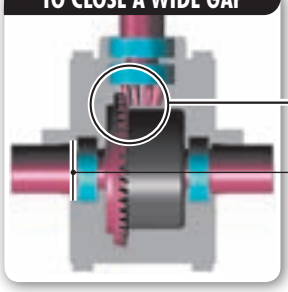
TIP FRONT & REAR DIFF GEAR MESH ADJUSTMENT

Before filling in the differentials with oil we suggest that you first check gear mesh as below. If there is too much or too little diff side play, this may create non-optimal gear mesh between the diff gear and the pinion drive gear. This is easily resolved by inserting 1 or 2 of the included thin shims behind a diff outdrive ball-bearing, depending on how much play there is.

THE LOCATION OF THE SHIM(S) DEPENDS ON WHETHER YOU ARE TRYING TO CLOSE OR OPEN THE GAP:

INCLUDED SHIM

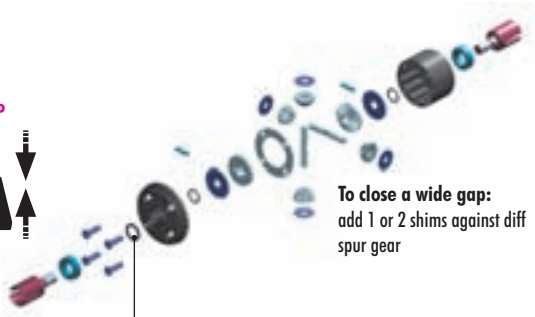
TO CLOSE A WIDE GAP



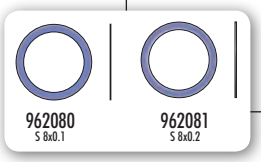
CLOSE A WIDE GAP



insert shim(s) here

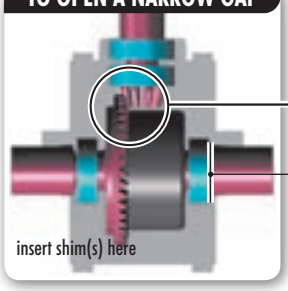


To close a wide gap:
add 1 or 2 shims against diff spur gear



#962080 WASHER S 8 x 0.1 mm (10)
#962081 WASHER S 8 x 0.2 mm (10)

TO OPEN A NARROW GAP



OPEN A NARROW GAP



insert shim(s) here

insert shim(s) here

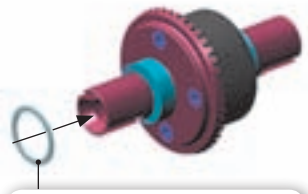


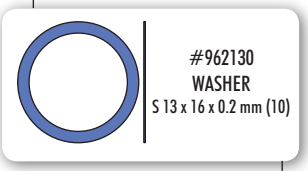
To open a narrow gap:
add 1 or 2 shims on the other side of the diff, away from spur gear

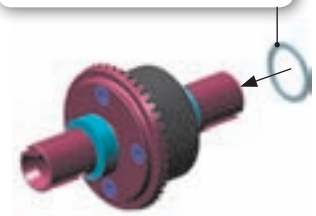
OPTIONAL SHIM

For easier gear mesh adjustments, optional S13 x 0.2 shims are used. These shims can be placed behind the bearing which is quicker.

To close a wide gap:
add 1 or 2 shims against diff spur gear



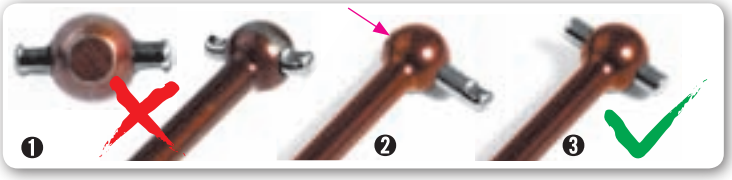




To open a narrow gap:
add 1 or 2 shims on the other side of the diff, away from spur gear

TIP DRIVE SHAFT PINS SERVICING

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



Do not use drive shafts when the pins are worn.

Press out the worn pins.

Press in new pins and regularly inspect for wear.



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



To replace the worn pins use only the premium HUDY drive pins #106050.

TIP GRAPHITE PARTS PROTECTION

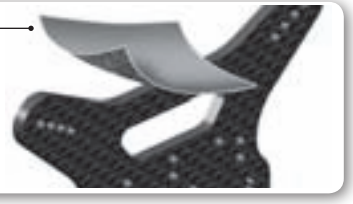
Follow this tech tip to protect the graphite parts.

Protect all XB9 Graphite Parts:

- Front shock tower
- Rear shock tower
- Steering plate

Fine sandpaper

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



CA

Apply CA glue to all edges of the graphite parts.



TIP INSTALLING PIVOT BALLS INTO COMPOSITE BALL-JOINTS



Place the pivot ball on the ball joint and use a screw to tighten it to an engine mount or some other part.



Tighten screw until pivot ball is tight against block.



Lift ball joint until it snaps into place over pivot ball. Ball joint should move freely.

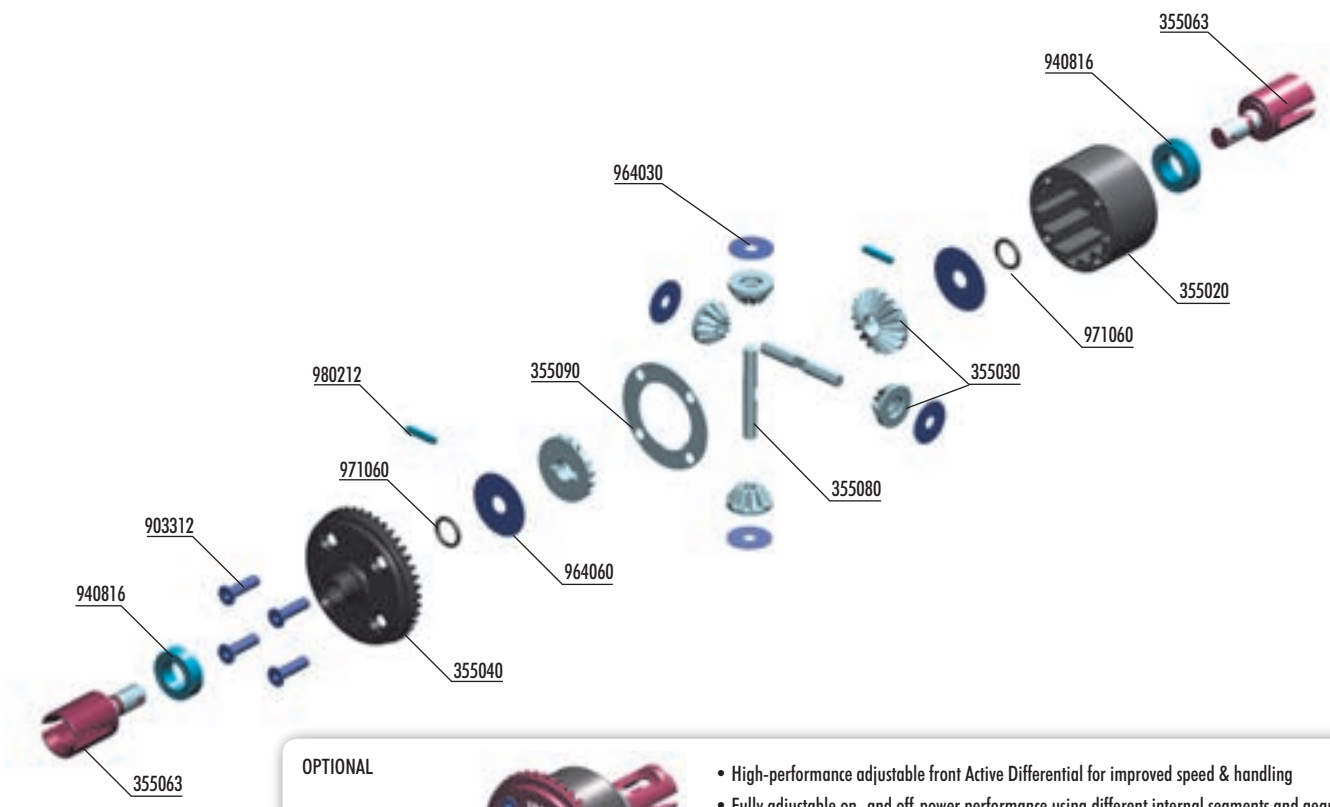


The finished joint.



Loosen and remove screw.

1. FRONT & REAR DIFFERENTIALS



OPTIONAL

ACTIVE FRONT DIFF
#355104



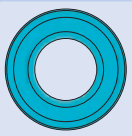
- High-performance adjustable front Active Differential for improved speed & handling
- Fully adjustable on- and off-power performance using different internal segments and gears
- Improves diff action and increases traction
- Easy and consistent steering

BAGS

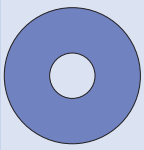
01.1

2x

35 5002	XB9 FRONT/REAR DIFFERENTIAL - SET	90 3312	HEX SCREW SFH M3x12 (10)
35 5020	DIFFERENTIAL CASE	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
35 5030	STEEL DIFF BEVEL & SATELLITE GEARS (2+4)	96 4030	WASHER S 3.5x12x0.2 (10)
35 5040	FRONT/REAR DIFF LARGE BEVEL GEAR 40T - HUDY STEEL	96 4060	WASHER S 6x18x0.2 (10)
35 5063	F/R DIFF OUTDRIVE ADAPTER - LIGHTW. - HUDY SPRING STEEL™ (2)	97 1060	SILICONE O-RING 6x1.5 (10)
35 5080	DIFF PIN (2)	98 0212	PIN 2x11.6 (10)
35 5090	DIFF GASKET (4)		



940816
BB 8x16x5



964060
S 6x18x0.2



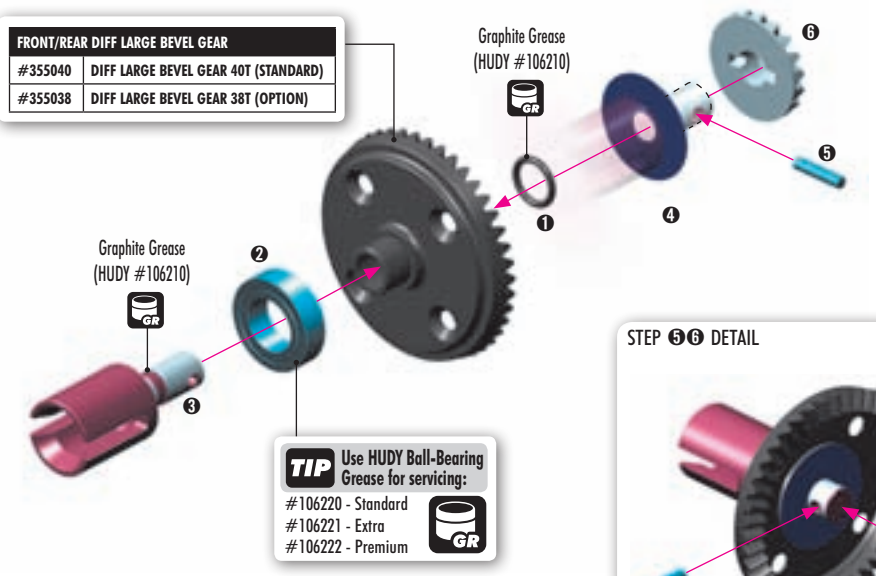
971060
O 6x1.5



980212
P 2x11.6

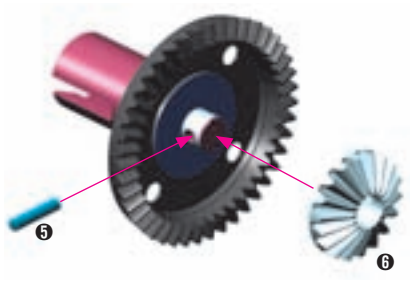
2x F=R

FRONT/REAR DIFF LARGE BEVEL GEAR	
#355040	DIFF LARGE BEVEL GEAR 40T (STANDARD)
#355038	DIFF LARGE BEVEL GEAR 38T (OPTION)



TIP Use HUDY Ball-Bearing Grease for servicing:
#106220 - Standard
#106221 - Extra
#106222 - Premium
GR

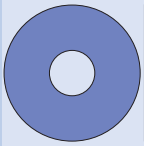
STEP 5 6 DETAIL



SET-UP BOOK
DIFFERENTIAL GEARS



940816
BB 8x16x5

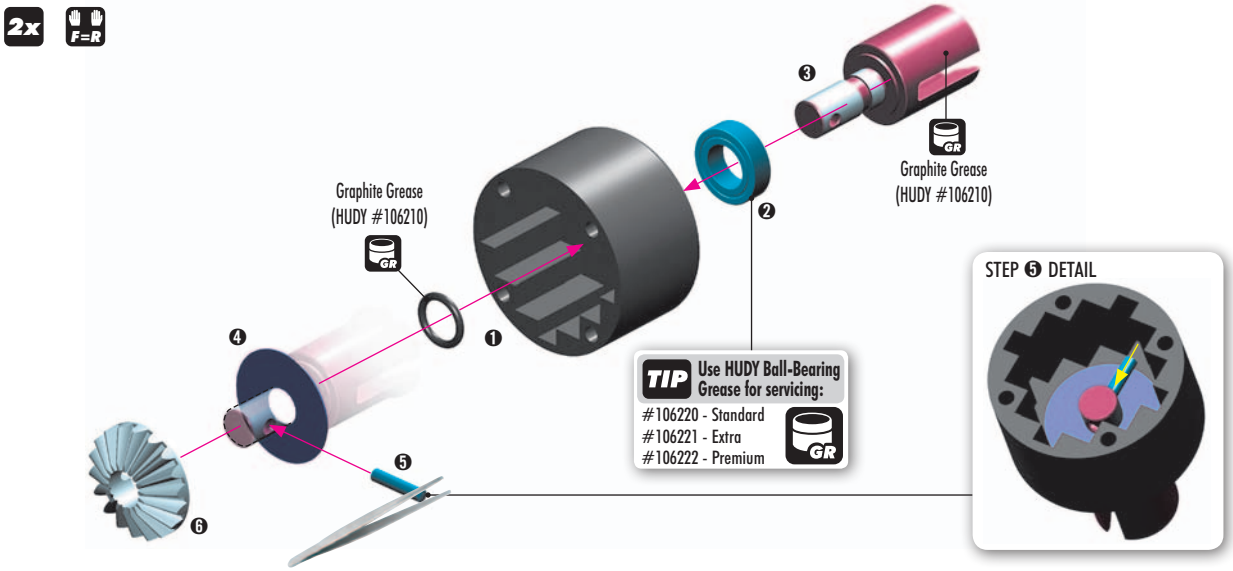


964060
S 6x18x0.2



971060
O 6x1.5

980212
P 2x11.6



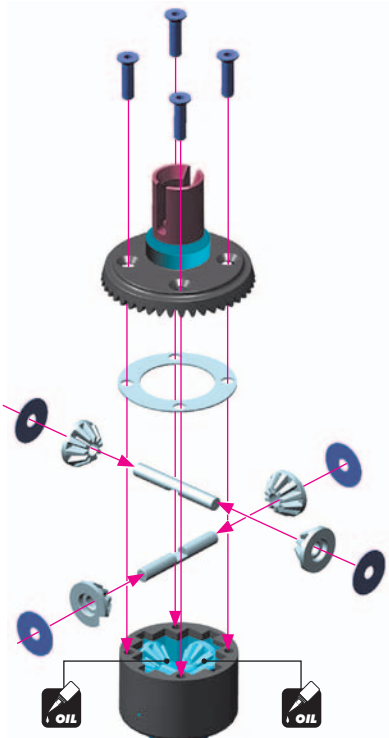


903312
SFH M3x12



964030
S 3.5x12x0.2

SET-UP BOOK
DIFFERENTIAL OIL

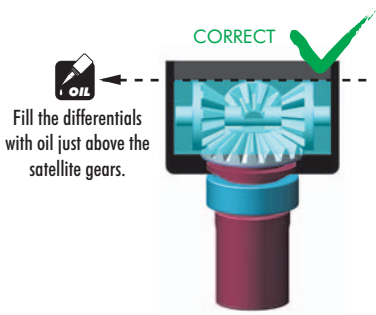


Front diff:
Silicone oil 5000cSt
Fill just above the satellite gears.

Rear diff:
Silicone oil 2000cSt
Fill just above the satellite gears.

VERY IMPORTANT!

Use these silicone oils included in the kit for initial settings:
Front diff: 5000cSt / Rear diff: 2000cSt



Fill the differentials with oil just above the satellite gears.

IMPORTANT!
Do not overfill the differential. If there is too much oil in the differential, it may leak after it cools down after use.

To enure you have the same amount of oil from rebuild to rebuild, do the following:



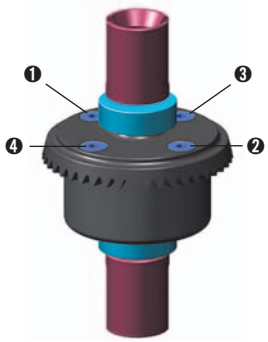
1. Put the diff (without oil) on the scale and check the weight (approximately 40g).

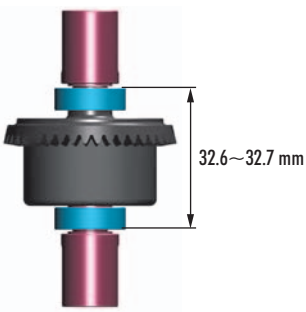
2. Slowly pour oil into the diff and watch the weight. Add 2.1g of oil into the diff. The approximate weight of the diff+oil is 42.1g.

Tighten the screws equally



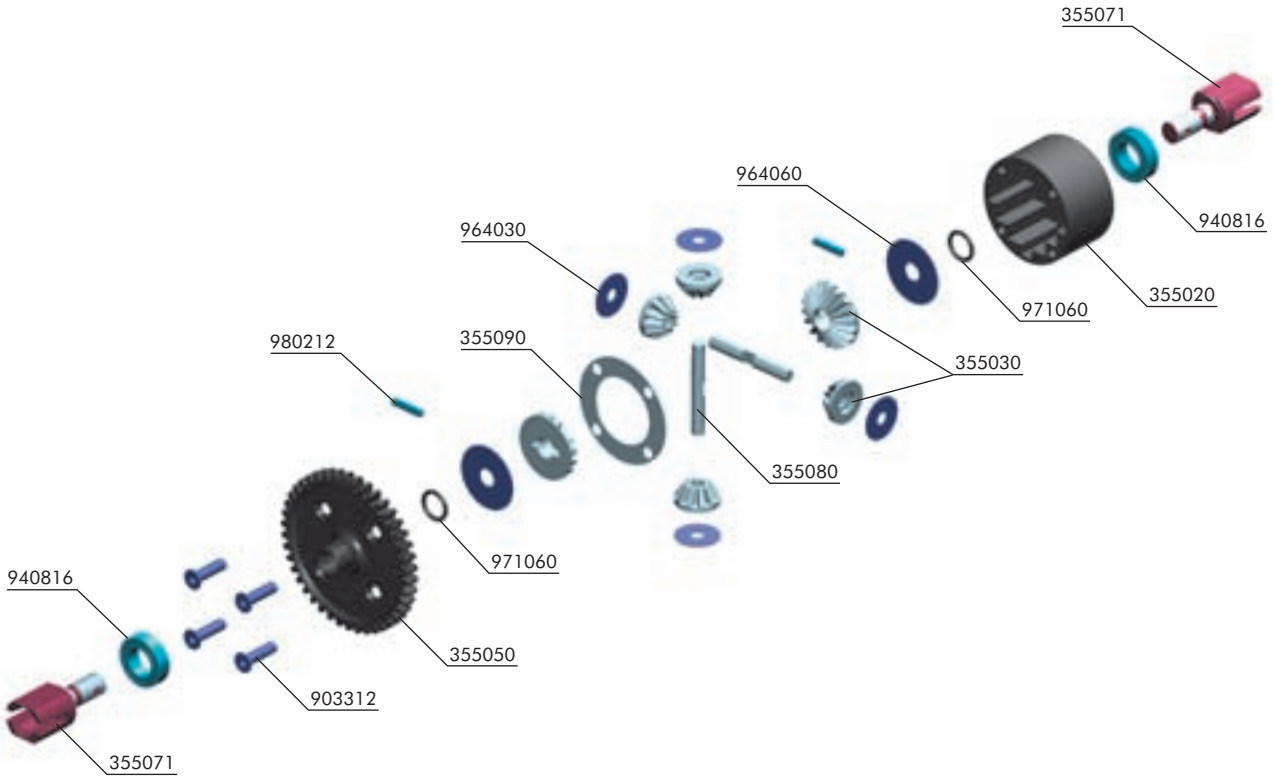
Finish tightening in this order





After assembly the differentials should have a length of 32.6~32.7 mm measured from the ends of the installed ball-bearings. If differentials are longer, retighten the 4 screws holding the crown gears.

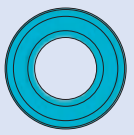
CENTER DIFFERENTIAL



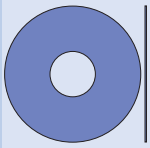
BAG

01.3

35 5012	XB9 CENTRAL DIFFERENTIAL - SET	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 BLUE COVERED (2)
35 5020	DIFFERENTIAL CASE	96 4030	WASHER S 3.5x12x0.2 (10)
35 5030	STEEL DIFF BEVEL & SATELLITE GEARS (2+4)	96 4060	WASHER S 6x18x0.2 (10)
35 5050	CENTER DIFF SPUR GEAR 46T	97 1060	SILICONE O-RING 6x1.5 (10)
35 5071	CENTER DIFF OUTDRIVE ADAPTER - LIGHTWEIGHT - HUDY STEEL (2)	98 0212	PIN 2x11.6 (10)
35 5080	DIFF PIN (2)		
35 5090	DIFF GASKET (4)		
90 3312	HEX SCREW SFH M3x12 (10)		



940816
BB 8x16x5



964060
S 6x18x0.2



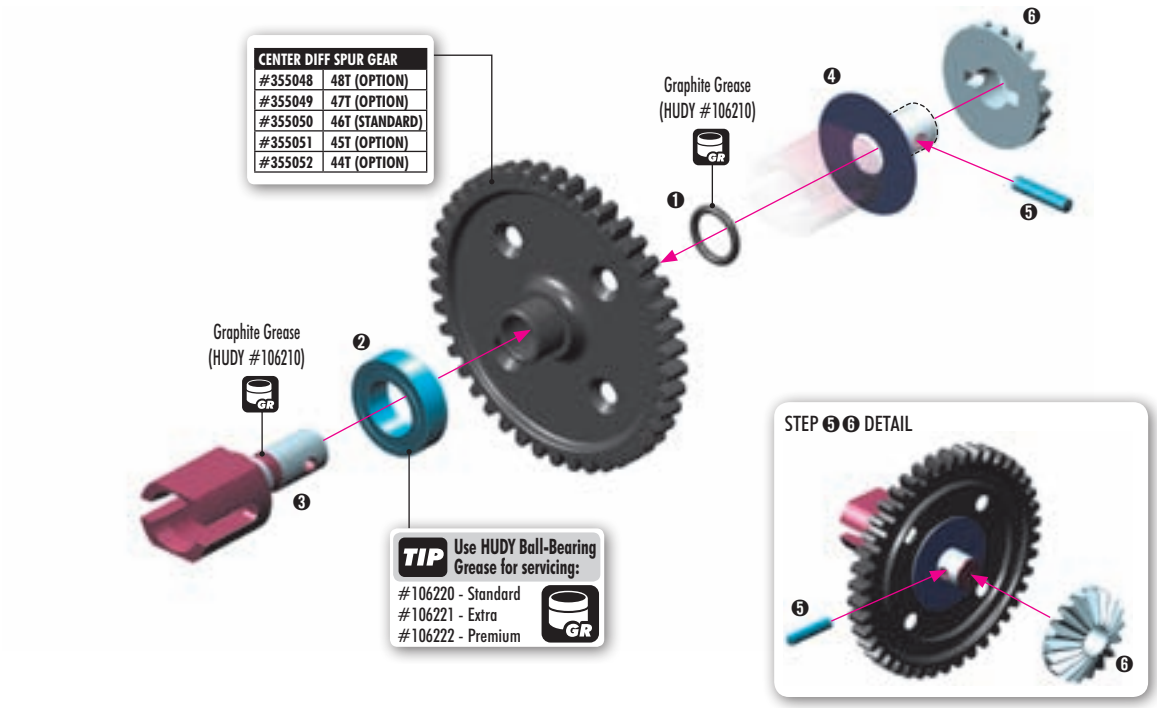
971060
O 6x1.5



980212
P 2x11.6

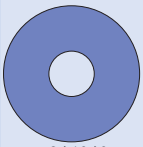
SET-UP BOOK

DIFFERENTIAL GEARS





940816
BB 8x16x5



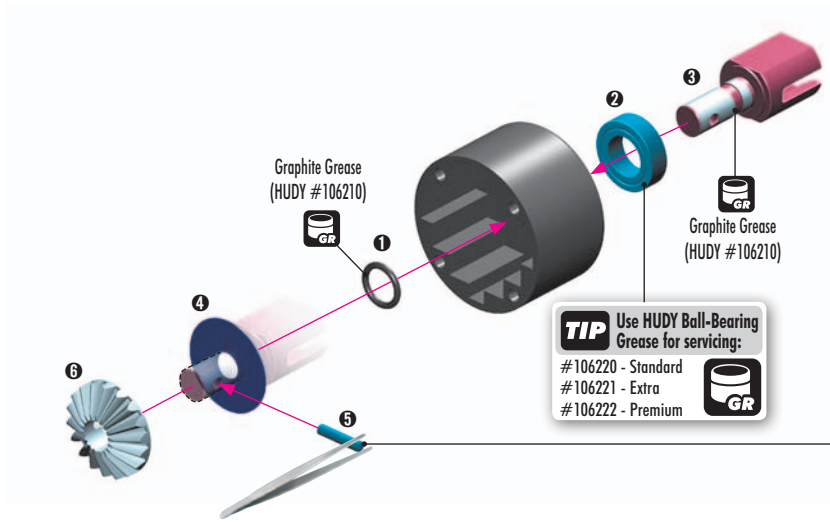
964060
S 6x18x0.2



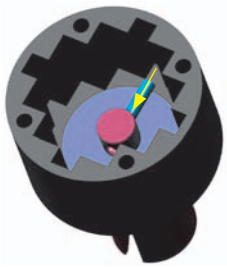
971060
O 6x1.5

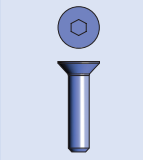


980212
P 2x11.6



STEP ❺ DETAIL



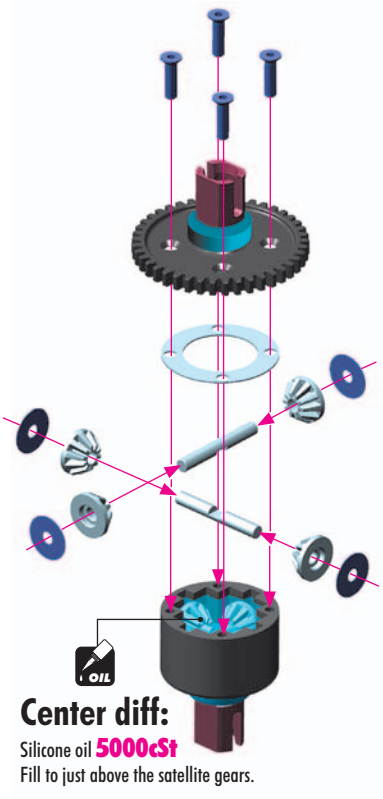


903312
SFH M3x12



964030
S 3.5x12x0.2

SET-UP BOOK
DIFFERENTIAL OIL

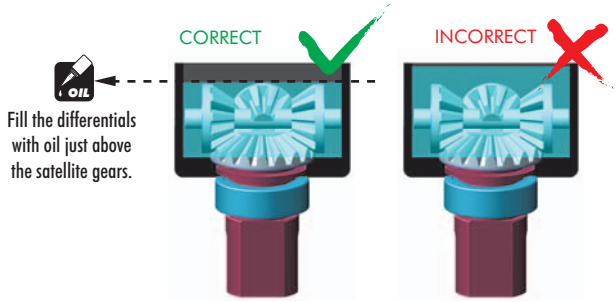


Center diff:

Silicone oil **5000cSt**
Fill to just above the satellite gears.

VERY IMPORTANT!

Use the following silicone oil included in the kit for initial setting:
Center diff: 5000cSt



Fill the differentials with oil just above the satellite gears.

IMPORTANT!
Do not overfill the differential. If there is too much oil in the differential, it may leak after it cools down after use.

To enure you have the same amount of oil from rebuild to rebuild, do the following:

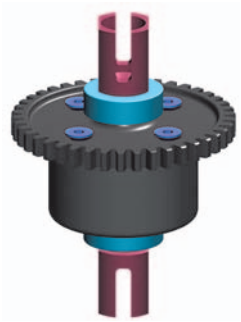
#107865 HUDY Ultimate Digital Pocket Scale 300g±0.01g



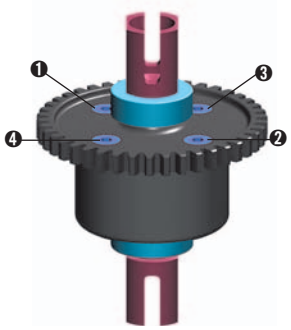
1. Put the diff (without oil) on the scale and check the weight (approximately 40g).

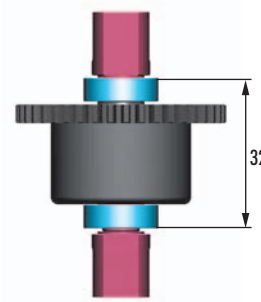
2. Slowly pour oil into the diff and watch the weight. Add 2.1g of oil into the diff. The approximate weight of the diff+oil is 42.1g.

Tighten the screws equally



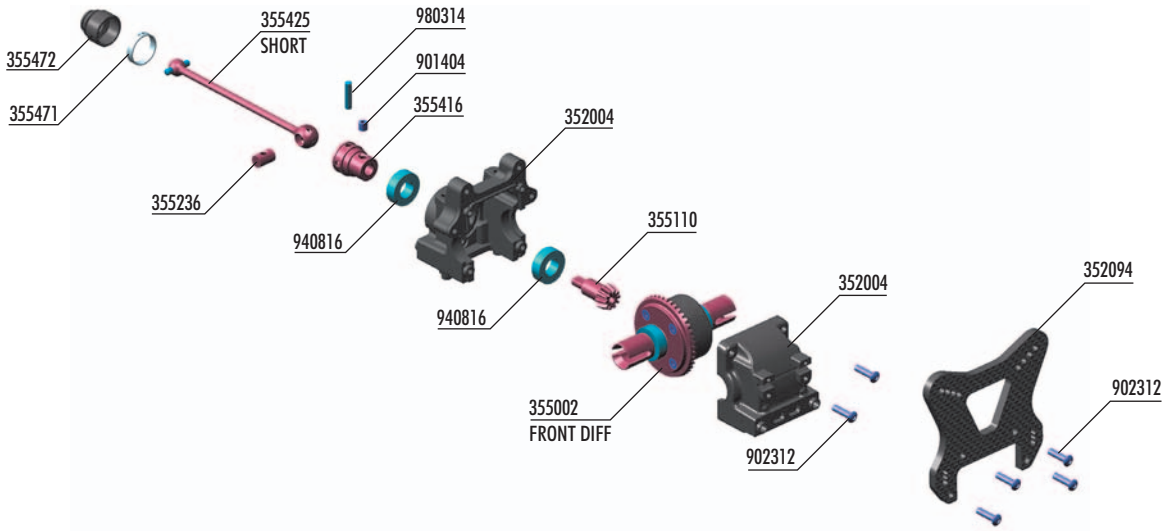
Finish tightening in this order





After assembly the differential should have a length of 32.6~32.7 mm measured from the ends of the installed ball-bearings. If differential is longer, retighten the 4 screws holding the spur gear.

2. FRONT TRANSMISSION



BAG 02

35 2004	DIFF BULKHEAD BLOCK SET FRONT/REAR	35 5472	XB9 DRIVE SHAFT BOOT (2)
35 2094	XB9 GRAPHITE FRONT SHOCK TOWER - CNC MACHINED 4MM		
35 5110	BEVEL DRIVE GEAR 12T	90 1404	HEX SCREW SB M4x4 (10)
35 5236	XB9 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	90 2312	HEX SCREW SH M3x12 (10)
35 5416	XB9 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
35 5425	XB9 FRONT CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™	98 0314	PIN 3x14 (10)
35 5471	XB9 DRIVE SHAFT LOCKING RING (2)		

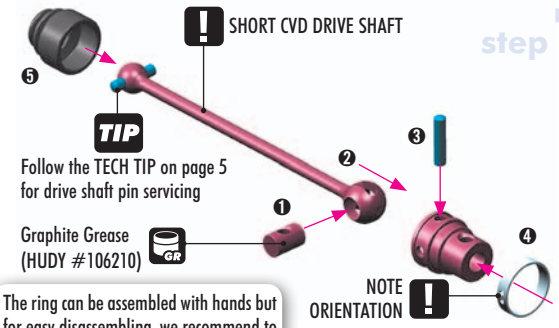

901404
SB 4x4


902312
SH 3x12

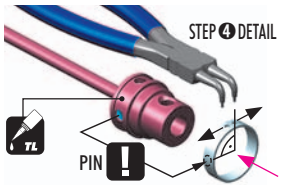

940816
BB 8x16x5

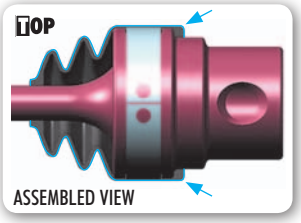

980314
P 3x14

step 1



The ring can be assembled with hands but for easy disassembling, we recommend to use snap ring pliers (HUDY #189040)

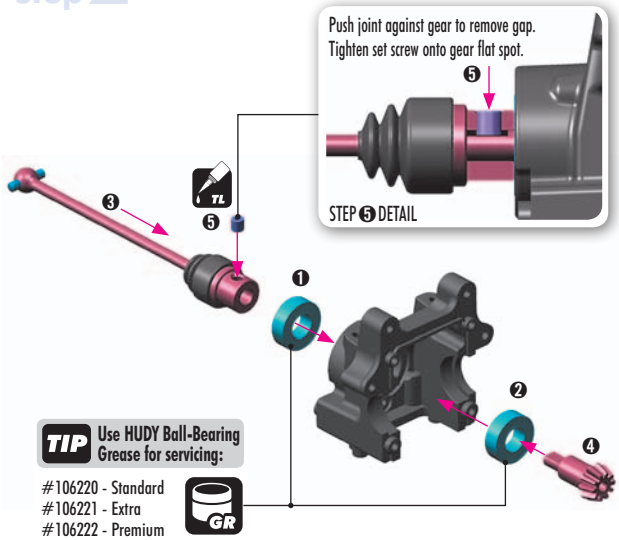




BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90°from the pin. This will prevent the pin from opening the clip.

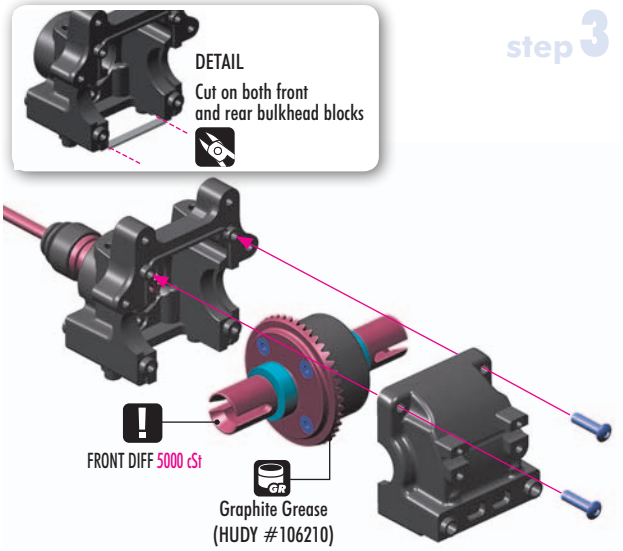
step 2



TIP Use HUDY Ball-Bearing Grease for servicing:

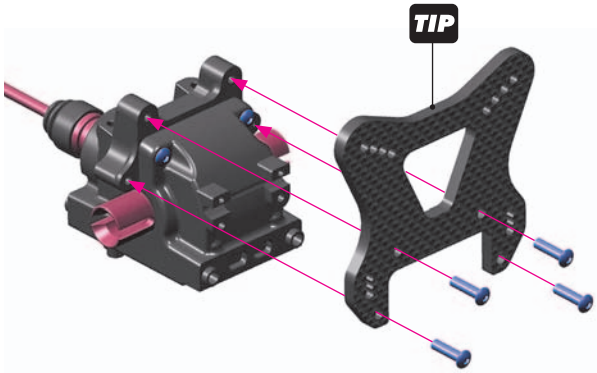
#106220 - Standard
#106221 - Extra
#106222 - Premium

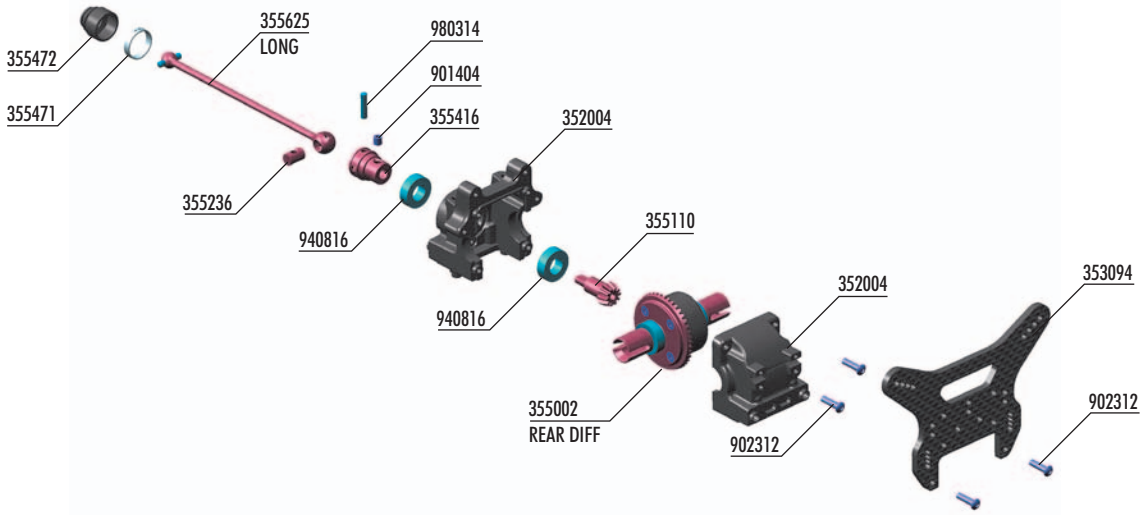
step 3



step 4

Follow the TECH TIP on page 5
to protect graphite parts





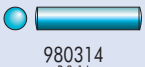
BAG 02

35 2004	DIFF BULKHEAD BLOCK SET FRONT/REAR	35 5472	XB9 DRIVE SHAFT BOOT (2)
35 3094	XB9 GRAPHITE REAR SHOCK TOWER - CNC MACHINED 3.5MM		
35 5110	BEVEL DRIVE GEAR 12T	90 1404	HEX SCREW SB M4x4 (10)
35 5236	XB9 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	90 2312	HEX SCREW SH M3x12 (10)
35 5416	XB9 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™	94 0816	HIGH-SPEED BALL-BEARING 8x16x5 RUBBER SEALED (2)
35 5625	XB9 REAR CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™	98 0314	PIN 3x14 (10)
35 5471	XB9 DRIVE SHAFT LOCKING RING (2)		

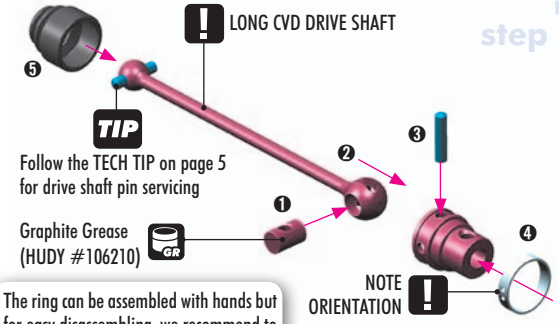

901404
SB 4x4


902312
SH 3x12

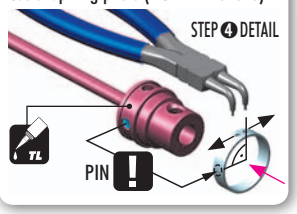

940816
BB 8x16x5

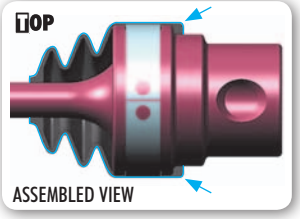

980314
P 3x14

step 1



The ring can be assembled with hands but for easy disassembling, we recommend to use snap ring pliers (HUDY #189040)

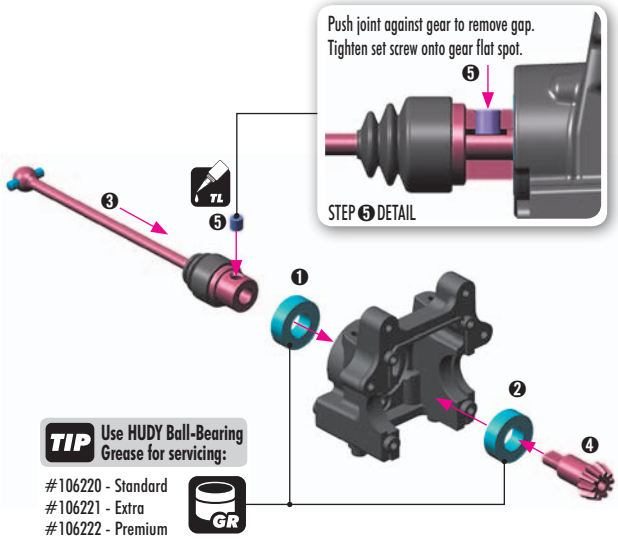




BEFORE inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

AFTER inserting the clip on the central CVD shaft joint, turn the clip so that the slot is 90°from the pin. This will prevent the pin from opening the clip.

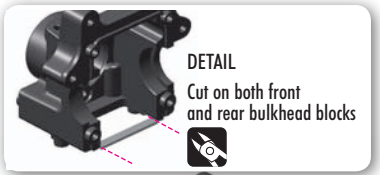
step 2

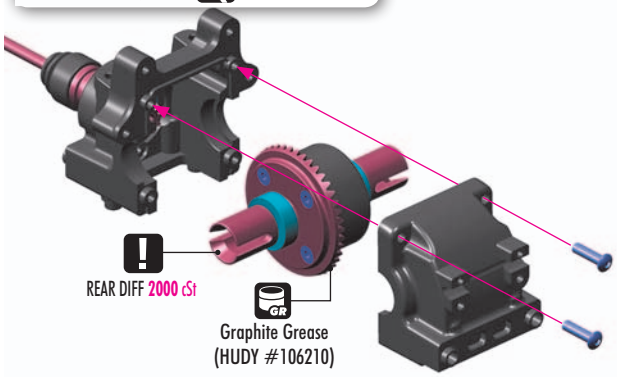


TIP Use HUDY Ball-Bearing Grease for servicing:

#106220 - Standard
#106221 - Extra
#106222 - Premium

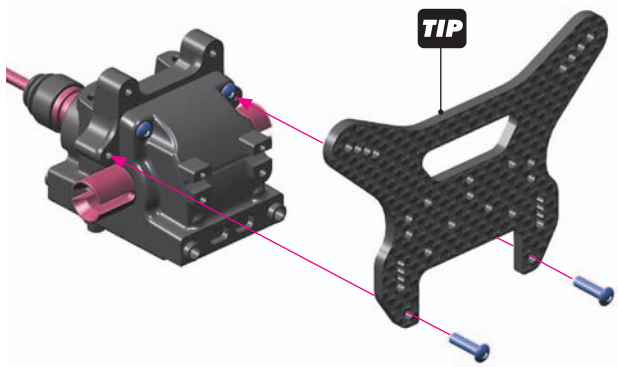
step 3



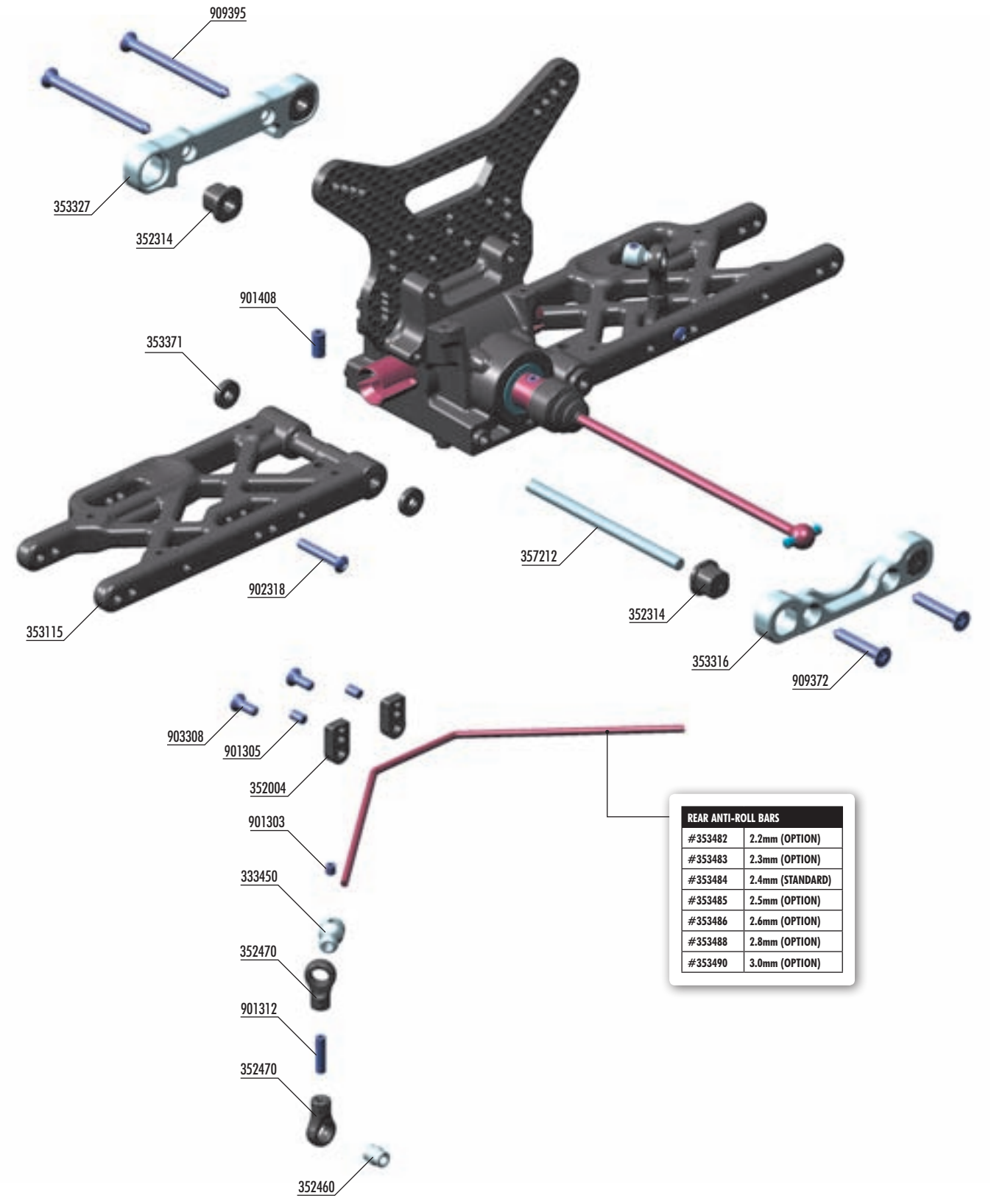


step 4

Follow the TECH TIP on page 5
to protect graphite parts



3. REAR SUSPENSION



REAR ANTI-ROLL BARS	
#353482	2.2mm (OPTION)
#353483	2.3mm (OPTION)
#353484	2.4mm (STANDARD)
#353485	2.5mm (OPTION)
#353486	2.6mm (OPTION)
#353488	2.8mm (OPTION)
#353490	3.0mm (OPTION)

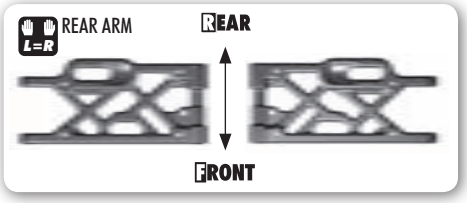
BAG 03

33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)	35 3484	REAR ANTI-ROLL BAR 2.4MM
35 2004	DIFF BULKHEAD BLOCK SET FRONT/REAR	35 7212	LOWER INNER PIVOT PIN F+R (2)
35 2314	COMPOSITE ECCENTRIC BUSHINGS (2)	90 1303	HEX SCREW SB M3x3 (10)
35 2460	PIVOT BALL 5.8 (10)	90 1305	HEX SCREW SB M3x5 (10)
35 2470	BALL JOINT 5.8 (8)	90 1312	HEX SCREW SB M3x12 (10)
35 3115	XB9 COMPOSITE REAR LOWER SUSPENSION ARM	90 1408	HEX SCREW SB M4x8 (10)
35 3304	ALU REAR LOWER SUSP. HOLDERS SET- SQUARE ADJ. ROLL-CENTER	90 2318	HEX SCREW SH M3x18 (10)
35 3316	ALU REAR LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER	90 3308	HEX SCREW SFH M3x8 (10))
35 3327	ALU REAR LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER	90 9372	SCREW PHILLIPS SS 3.5x22 (10)
35 3371	SET OF COMPOSITE LOWER ARM SHIMS	90 9395	SCREW PHILLIPS SS 3.5x45 (10)

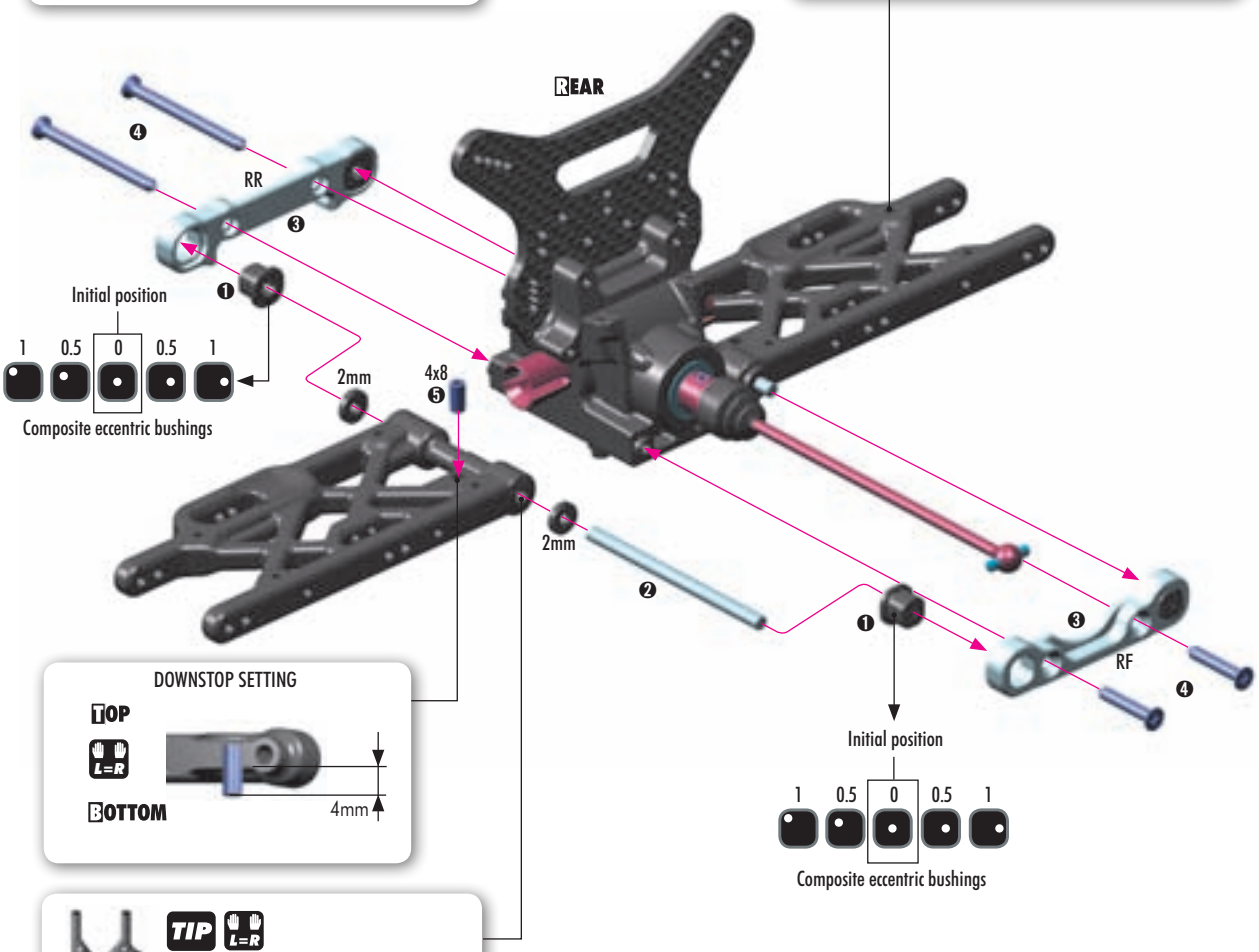


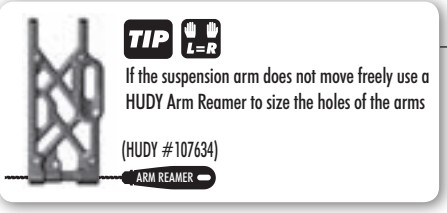




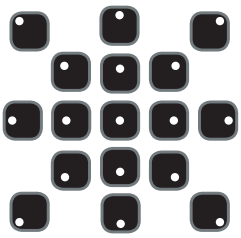








All possible mounting alternatives of eccentric bushings



SET-UP BOOK

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

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 new 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 anti-squat, rear toe-in, rear roll center, and rear track-width can be obtained. For more information about the influence of rear anti-squat, rear toe-in, rear roll center and rear track width on car handling, please refer to HUDY Off-Road Set-up Book (#209099).

ANTI-SQUAT

RR	RF	(°)
		=3°
		=4°
		=2°
		=4°
		=3°
		=5°
		=2°
		=3°
		=1°

ROLL-CENTER

RR	RF	(mm)
		=0mm
		=1mm
		=-1mm

TRACK WIDTH

RR	RF	(mm)
		=308
		=306
		=310

TOE-IN

RR	RF	(°)
		=3°
		=4°
		=2°
		=2°
		=3°
		=1°
		=4°
		=5°
		=3°

The tables describe the amounts of rear anti-squat, rear toe-in, rear track-width change depending on the combinations of eccentric bushings used with 0 and 1mm, 1° off set. The 0.5mm, 0.5° represent the half change.

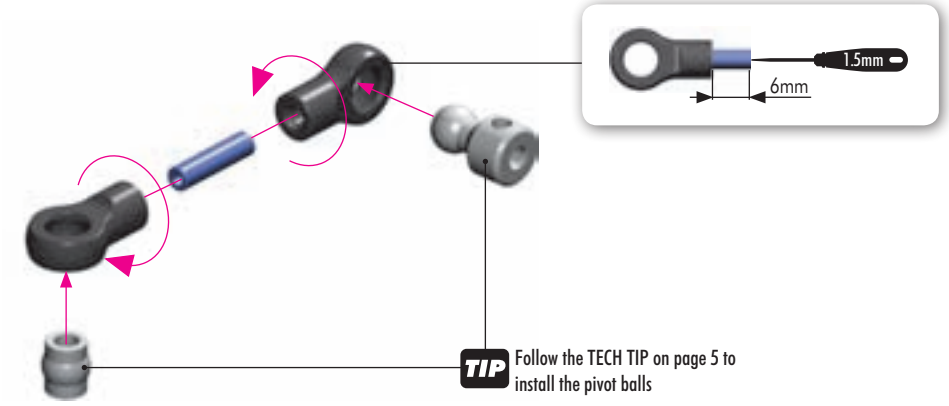
Example: 0(RR) - 0 (RF) = 3°  = 3°

0(RR) - 0.5 (RF) = 3.5°  = 3.5°

0(RR) - 1 (RF) = 4°  = 4°

901312
SB M3x12

2x L=R

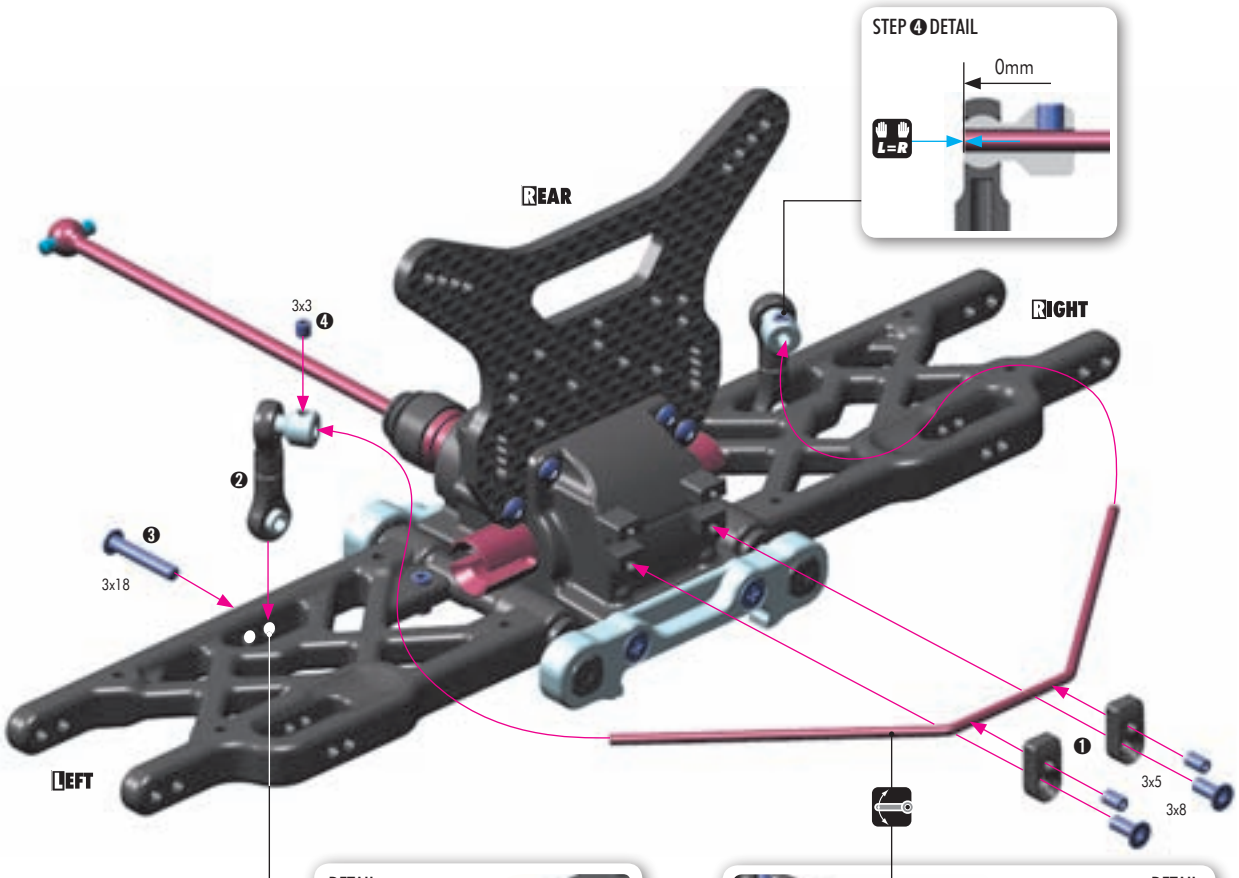


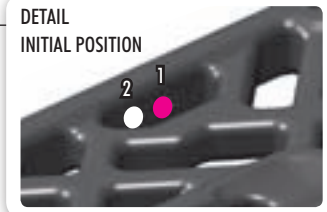
901303
SB M3x3

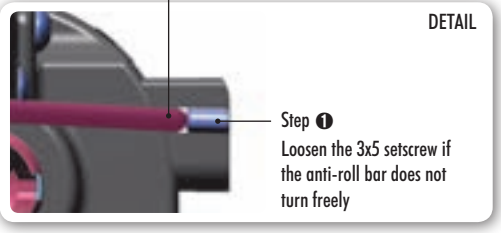
901305
SB M3x5

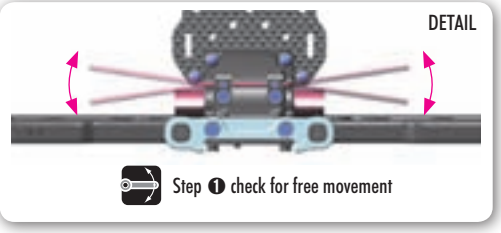
902318
SH M3x18

903308
SFH M3x8

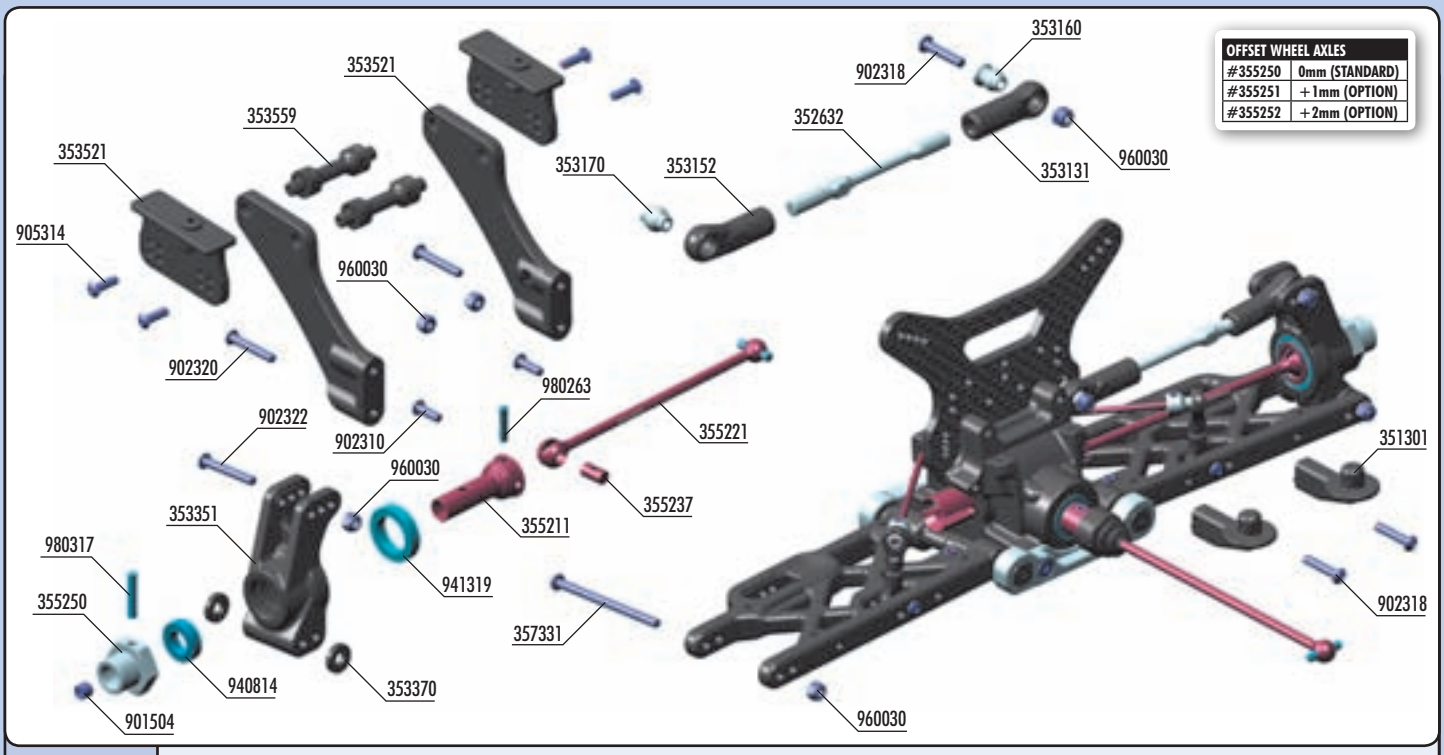








SET-UP BOOK
ANTI-ROLL BAR

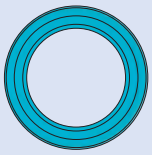


OFFSET WHEEL AXLES	
#355250	0mm (STANDARD)
#355251	+1mm (OPTION)
#355252	+2mm (OPTION)

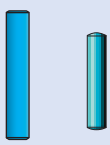
BAG 04

35 1301	BODY POSTS	35 5237	CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™	98 0263	PIN 2.5x13 (10)
35 2632	ALU ADJ. TURNBUCKLE 64MM M5 L/R - SWISS 7075 T6 (2)	35 5250	ALU WHEEL AXLE - HARD COATED (2)	98 0317	PIN 3x17 (10)
35 3131	REAR UPPERt INNER CAMBER LINK BALL JOINT (2)	35 7331	XB808 REAR LOWER OUTER PIVOT PIN SCREW 3MM (2)		
35 3152	REAR UPPER OUTER CAMBER LINK BALL JOINT (2)	90 1504	HEX SCREW SB M5x4 (10)		
35 3160	MOUNTING BALL 6.8 (4)	90 2310	HEX SCREW SH M3x10 (10)		
35 3170	PIVOT BALL 6.8 (4)	90 2318	HEX SCREW SH M3x18 (10)		
35 3351	XB808 COMPOSITE REAR HUB CARRIER - V2	90 2320	HEX SCREW SH M3x20 (10)		
35 3370	SET OF COMPOSITE REAR HUB CARRIER SHIMS	90 2322	HEX SCREW SH M3x22 (10)		
35 3521	XB9 REAR WING POSTS	90 5314	SCREW PHILLIPS 3.0x14 (10)		
35 3559	COMPOSITE REAR WING MOUNT BRACE (2)	94 0814	HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2)		
35 5211	CVD DRIVE AXLE - HUDY SPRING STEEL™	94 1319	HIGH-SPEED BALL-BEARING 13x19x4 BLUE COVERED (2)		
35 5221	CVD UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™	96 0030	NUT M3 (10)		


901504
SB M5x4


941319
BB 13x19x4


940814
BB 8x14x4

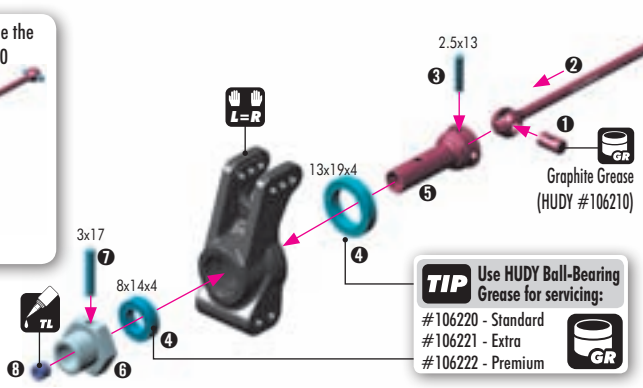

980317
P 3x17

980263
P 2.5x13

SET-UP BOOK
TRACK WIDTH
WHEELBASE

TIP To tighten the setscrew you can also use the HUDY 17mm Wheel Nut Tool #107570





TIP Follow the TECH TIP on page 5 for drive shaft pin servicing

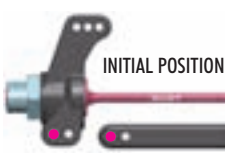
Graphite Grease (HUDY #106210)

TIP Use HUDY Ball-Bearing Grease for servicing:
#106220 - Standard
#106221 - Extra
#106222 - Premium
GR

ASSEMBLED VIEW



2x L=R



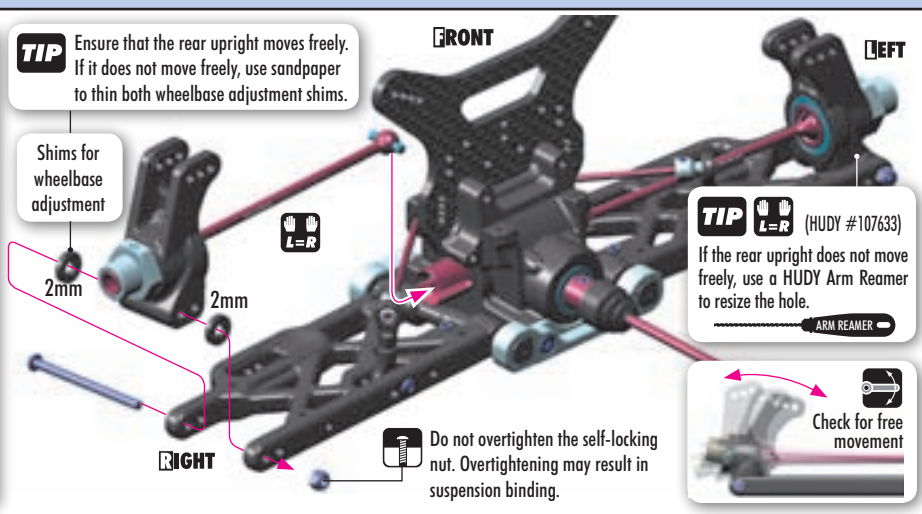
! IMPORTANT!

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

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

The outside hole offers great stability and is recommended for bumpy open tracks. Inside hole offers great amount of steering and is recommended for flat, technical tracks.

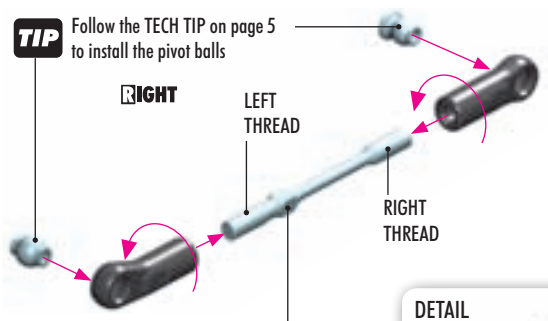
TIP Ensure that the rear upright moves freely. If it does not move freely, use sandpaper to thin both wheelbase adjustment shims.

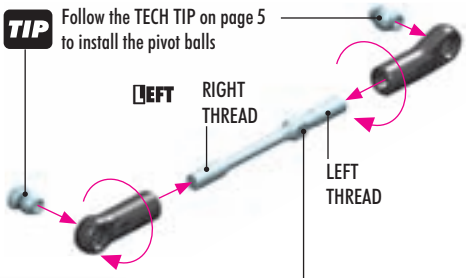


TIP L=R (HUDY #107633)
If the rear upright does not move freely, use a HUDY Arm Reamer to resize the hole.

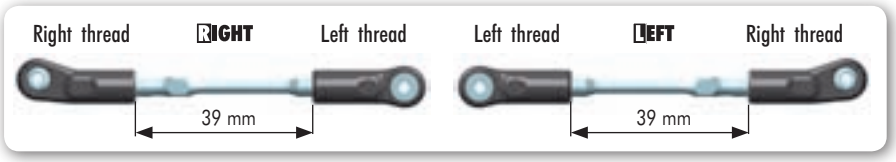
Do not overtighten the self-locking nut. Overtightening may result in suspension binding.

SET-UP BOOK
CAMBER





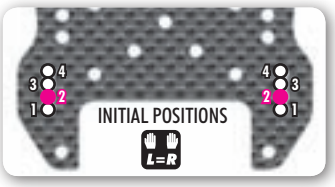


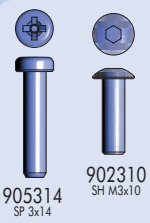


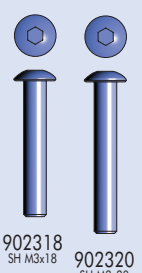


SET-UP BOOK
ROLL CENTER

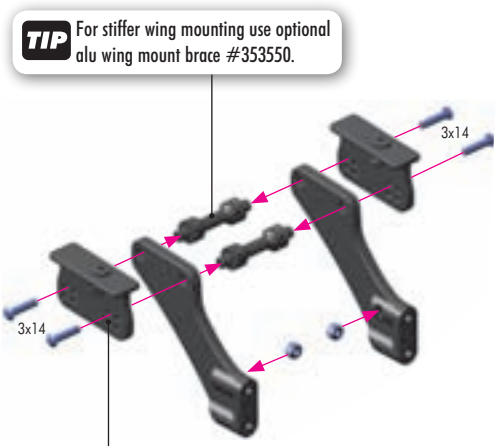


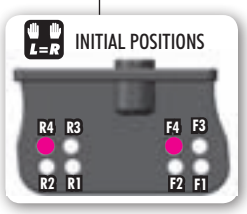


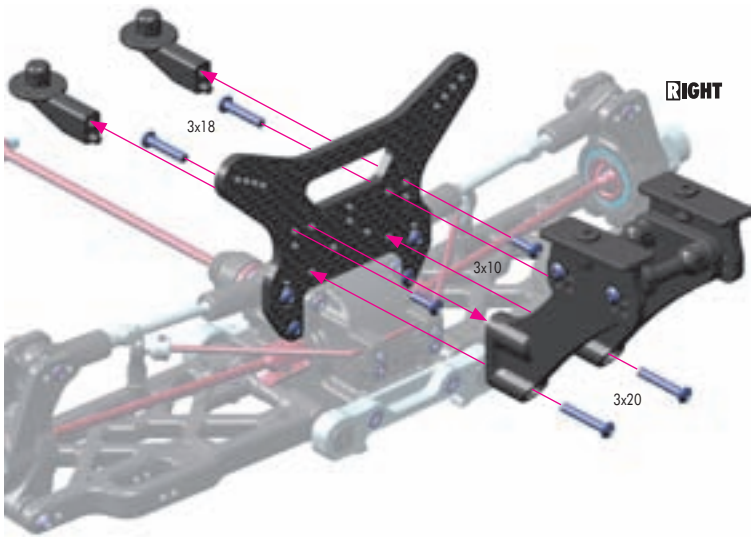


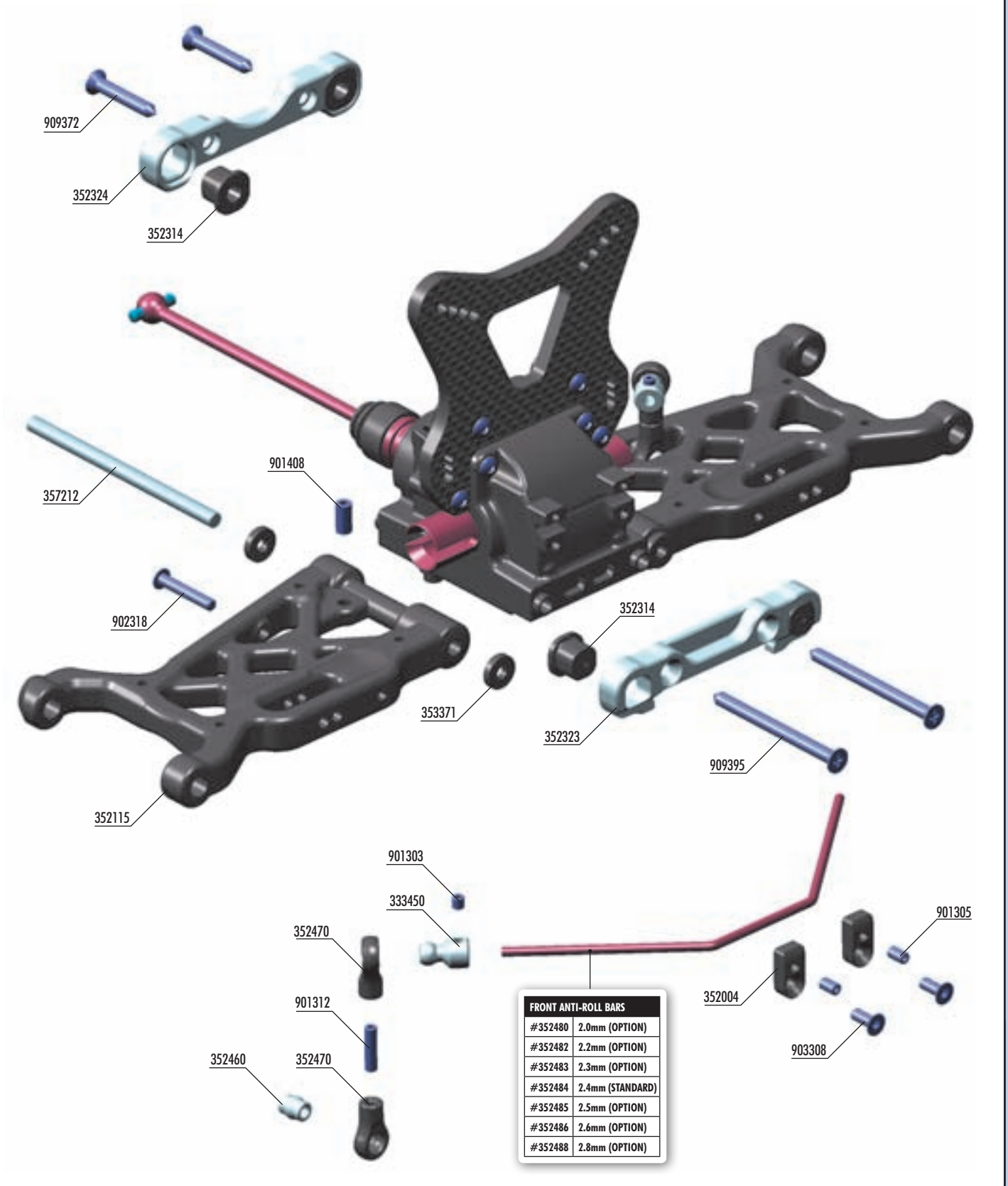


SET-UP BOOK
REAR WING









FRONT ANTI-ROLL BARS	
#352480	2.0mm (OPTION)
#352482	2.2mm (OPTION)
#352483	2.3mm (OPTION)
#352484	2.4mm (STANDARD)
#352485	2.5mm (OPTION)
#352486	2.6mm (OPTION)
#352488	2.8mm (OPTION)

BAG 05

33 3450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)	35 3371	SET OF COMPOSITE LOWER ARM SHIMS
35 2004	DIFF BULKHEAD BLOCK SET FRONT/REAR	35 7212	LOWER INNER PIVOT PIN F+R (2)
35 2115	XB9 COMPOSITE FRONT LOWER SUSPENSION ARM	90 1303	HEX SCREW SB M3x3 (10)
35 2304	ALU FRONT LOWER SUSP. HOLDERS SET - SQUARE ADJ. ROLL-CENTER	90 1305	HEX SCREW SB M3x5 (10)
35 2323	ALU FRONT LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL-CENTER	90 1312	HEX SCREW SB M3x12 (10)
35 2324	ALU FRONT LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL-CENTER	90 1408	HEX SCREW SB M4x8 (10)
35 2314	COMPOSITE SQUARE ADJ. ROLL-CENTER BUSHINGS (2)	90 2318	HEX SCREW SH M3x18 (10)
35 2460	PIVOT BALL 5.8 (10)	90 3308	HEX SCREW SFH M3x8 (10))
35 2470	BALL JOINT 5.8 (8)	90 9372	SCREW PHILLIPS SS 3.5x22 (10)
35 2484	FRONT ANTI-ROLL BAR 2.4MM	90 9395	SCREW PHILLIPS SS 3.5x45 (10)



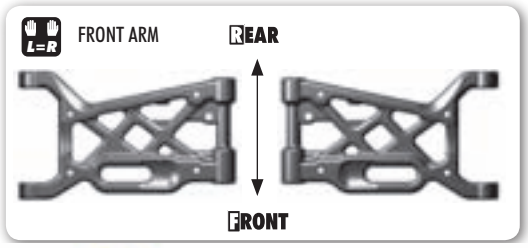
909395
SS 3.5x45

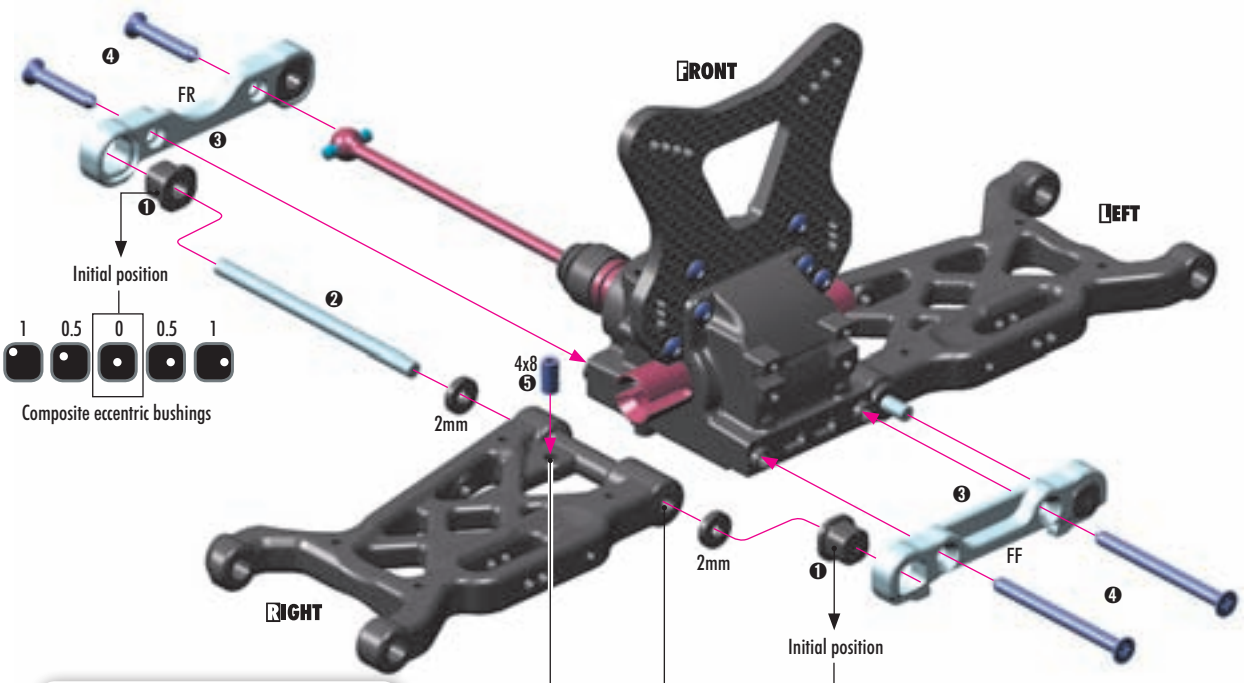


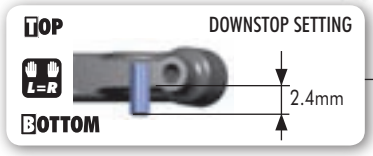
909372
SS 3.5x22

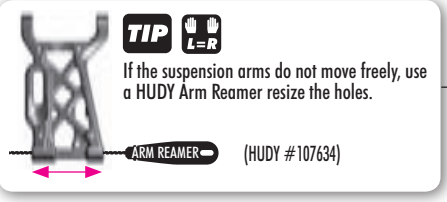


901408
SB M4x8

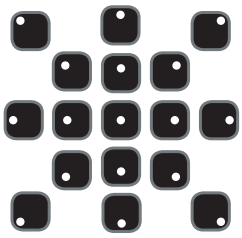








All possible mounting alternatives of eccentric bushings



SET-UP BOOK
KICK UP
ROLL CENTER
DOWNSTOP
WHEELBASE
TRACK WIDTH

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 new XRAY alu front lower suspension holders provide even greater range of adjustment for the front suspension. Using different combinations of eccentric bushings, fine adjustment of front kick-up, roll-center, and front track-width can be obtained. For more information about the influence of kick-up, front track-width, and roll centers on car handling, please refer to HUDY Off-Road Set-up Book (#209099).

KICK-UP

FF	FR	(°)
		=10°
		=9°
		=11°
		=9°
		=8°
		=10°
		=11°
		=10°
		=12°

TRACK WIDTH

FF	FR	(mm)
		=308
		=306
		=310

ROLL-CENTER

FF	FR	(mm)
		=1
		=0
		=-1

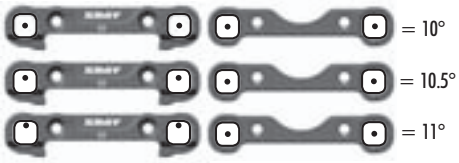
The tables below describe the amounts of kick-up, front track-width change depending on the combinations of eccentric bushings used with 0 and 1mm, 1° off set. The 0.5mm, 0.5° represent the half change.

Example:

0(FF) - 0(FR) = 10°

0.5(FF) - 0(FR) = 10.5°

1(FF) - 0(FR) = 11°



TOTAL CASTER = C-HUB CASTER + KICK UP

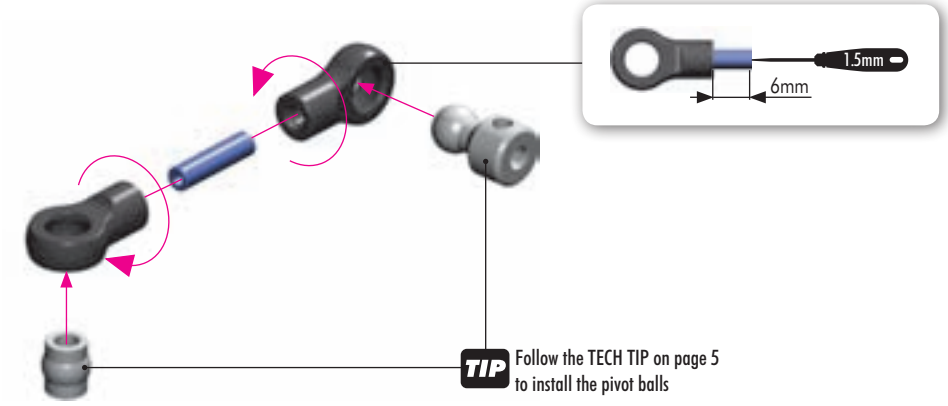
C-Hub Caster	KICK-UP 8°	9°	10°	11°	12°
10°	18°	19°	20°	21°	22°
12°	20°	21°	22°	23°	24°
14°	22°	23°	24°	25°	26°

Total caster is the angle that the C-hub is to the flat chassis bottom. Caster is affected not only by front kick-up but also by the C-hub caster. The combination of both represents the total caster angle. The XRAY XB9 includes a 10° caster block as stock, but 12° and 14° C-hub caster blocks can be purchased as options.



901312
SB M3x12

2x L=R





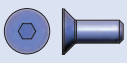
901303
SB M3x3



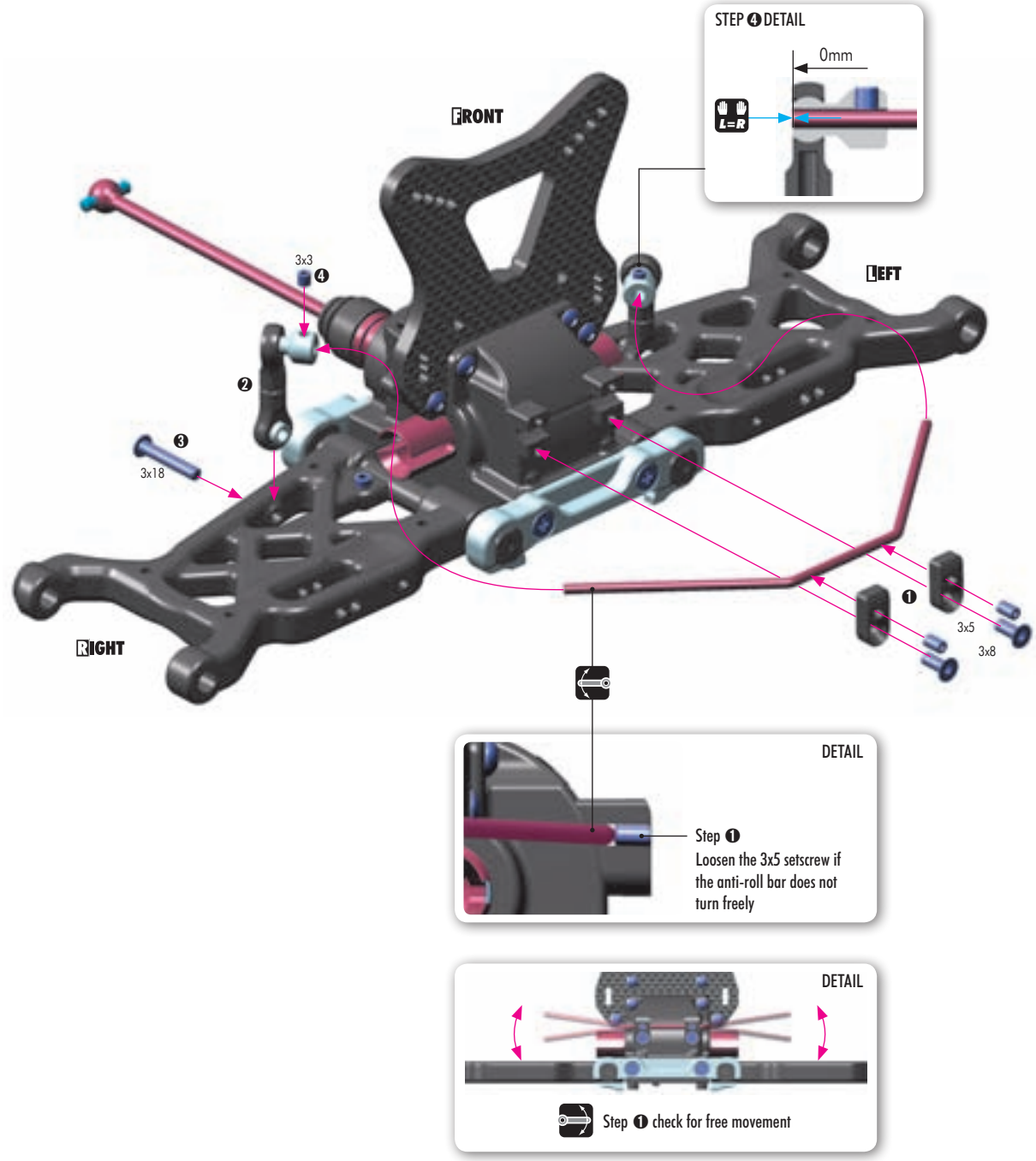
901305
SB M3x5



902318
SH M3x18

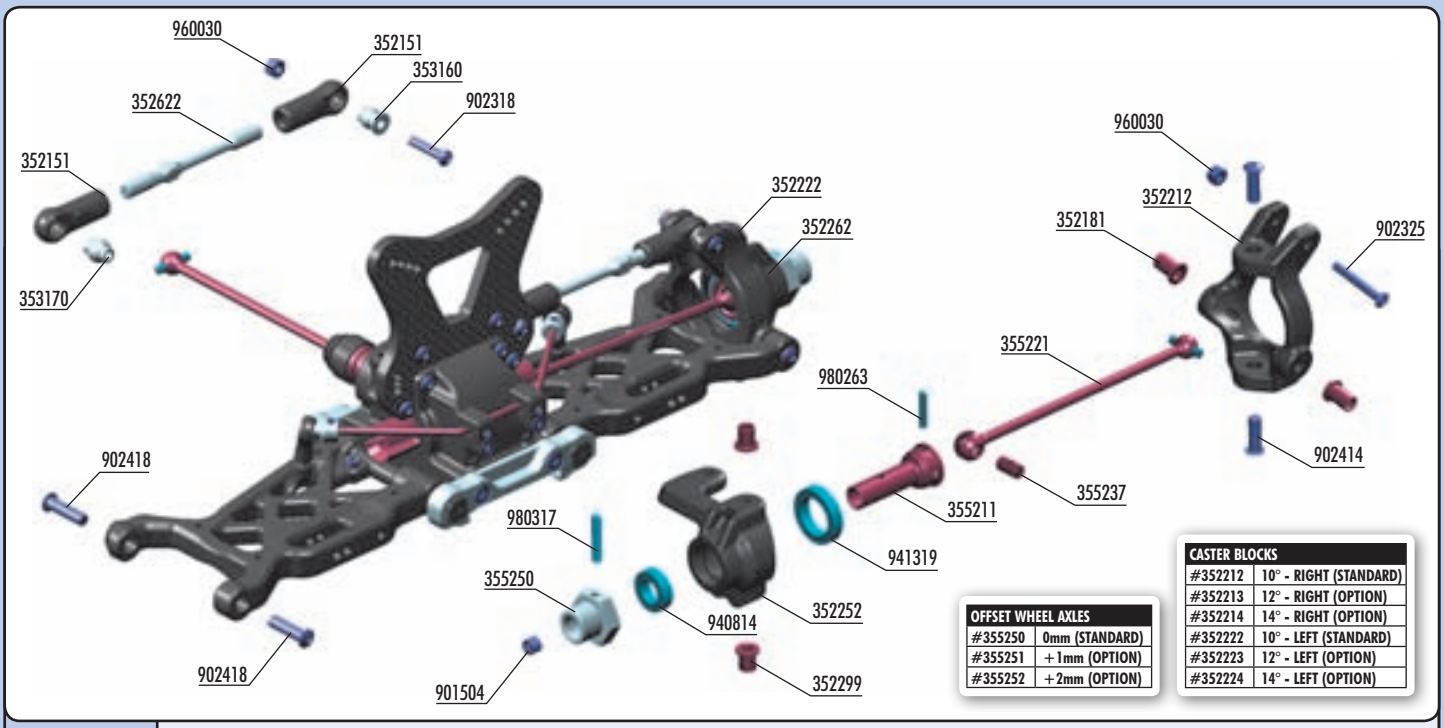


903308
SFH M3x8



SET-UP BOOK
ANTI-ROLL BAR

6. FRONT SUSPENSION



OFFSET WHEEL AXLES	
#355250	0mm (STANDARD)
#355251	+1mm (OPTION)
#355252	+2mm (OPTION)

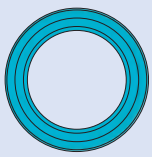
CASTER BLOCKS	
#352212	10° - RIGHT (STANDARD)
#352213	12° - RIGHT (OPTION)
#352214	14° - RIGHT (OPTION)
#352222	10° - LEFT (STANDARD)
#352223	12° - LEFT (OPTION)
#352224	14° - LEFT (OPTION)

BAG 06

35 2151	FRONT UPPER ARM BALL JOINT (2)	35 5237	CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
35 2181	STEEL ARM BUSHING (2)	35 5250	ALU WHEEL AXLE - HARD COATED (2)
35 2212	COMPOSITE CASTER BLOCK 10° RIGHT	90 1504	HEX SCREW SB M5x4 (10)
35 2222	COMPOSITE CASTER BLOCK 10° LEFT	90 2318	HEX SCREW SH M3x18 (10)
35 2252	COMPOSITE STEERING BLOCK RIGHT	90 2325	HEX SCREW SH M3x25 (10)
35 2262	COMPOSITE STEERING BLOCK LEFT	90 2414	HEX SCREW SH M4x14 (10)
35 2299	STEEL STEERING BUSHING (2)	90 2418	HEX SCREW SH M4x18 (10)
35 2622	ALU ADJ. TURNBUCKLE M5 L/R 58 MM - SWISS 7075 T6 (2)	94 0814	HIGH-SPEED BALL-BEARING 8x14x4 BLUE COVERED (2)
35 3160	MOUNTING BALL 6.8 (4)	94 1319	HIGH-SPEED BALL-BEARING 13x19x4 BLUE COVERED (2)
35 3170	PIVOT BALL 6.8 (4)	96 0030	NUT M3 (10)
35 5211	CVD DRIVE AXLE - HUDY SPRING STEEL™	98 0263	PIN 2.5x13 (10)
35 5221	CVD UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™	98 0317	PIN 3x17 (10)


901504
SB M5x4


980263
P 2.5x13


941319
BB 13x19x4


940814
BB 8x14x4



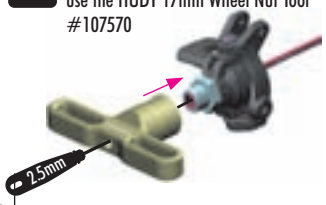
902414
SH M4x14

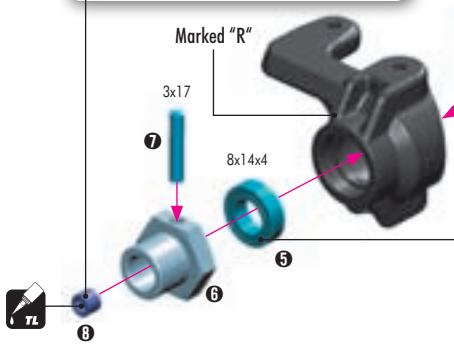

980317
P 3x17

SET-UP BOOK
CASTER
TRACK WIDTH

2x

TIP To tighten the setscrew you can also use the HUDY 17mm Wheel Nut Tool #107570





TIP Use HUDY Ball-Bearing Grease for servicing:
#106220 - Standard
#106221 - Extra
#106222 - Premium
GR

TIP Follow the TECH TIP on page 5 for drive shaft pin servicing

GR Graphite Grease (HUDY #106210)

DO NOT OVERTIGHTEN

Marked "R"

DO NOT OVERTIGHTEN

Marked "R"

Check for free movement

ASSEMBLED VIEW

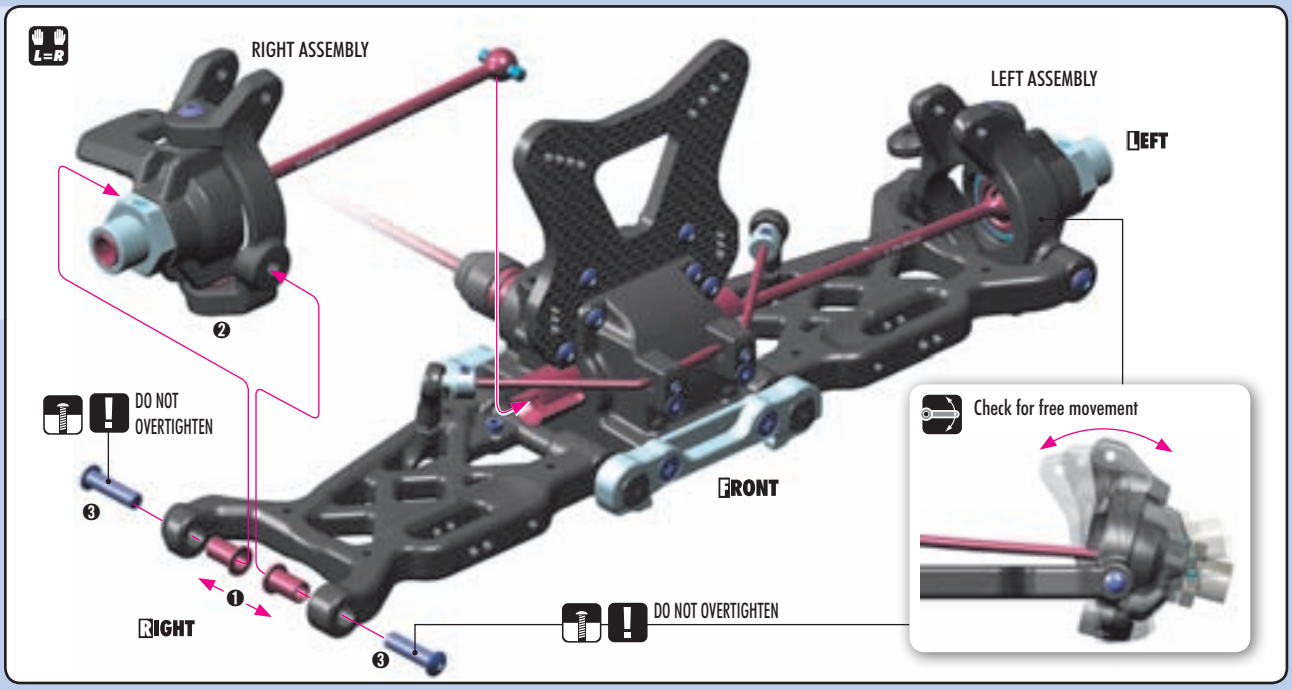
Marked "L"

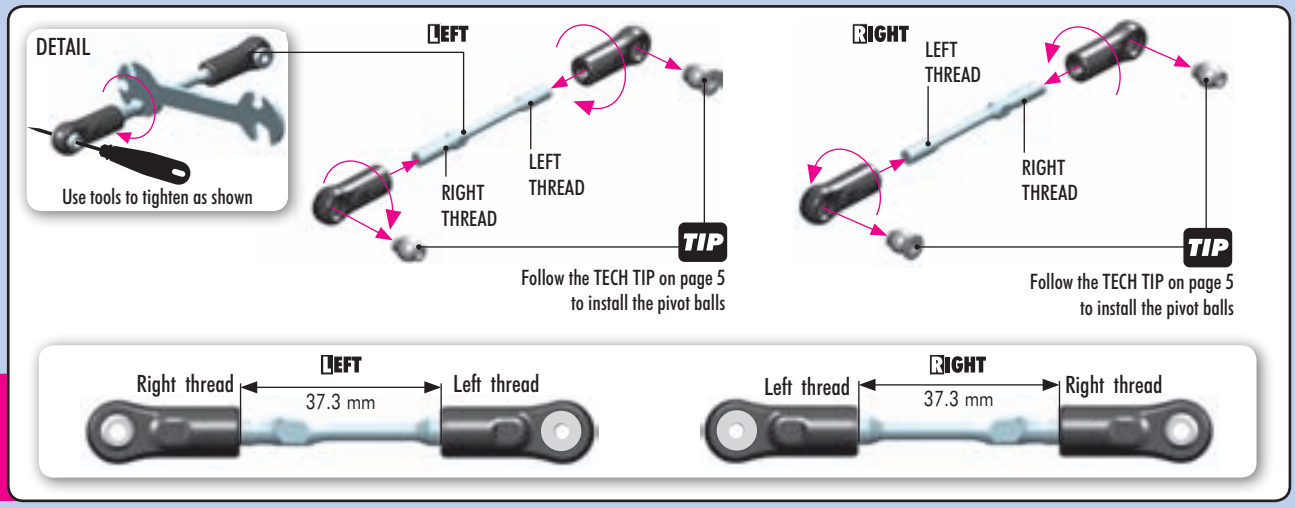
LEFT

The standard caster block features 10° caster angle and together with the 10° angle of the chassis creates a total 20° caster.

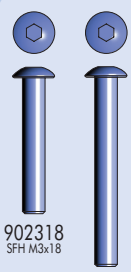


902418
SH M4x18





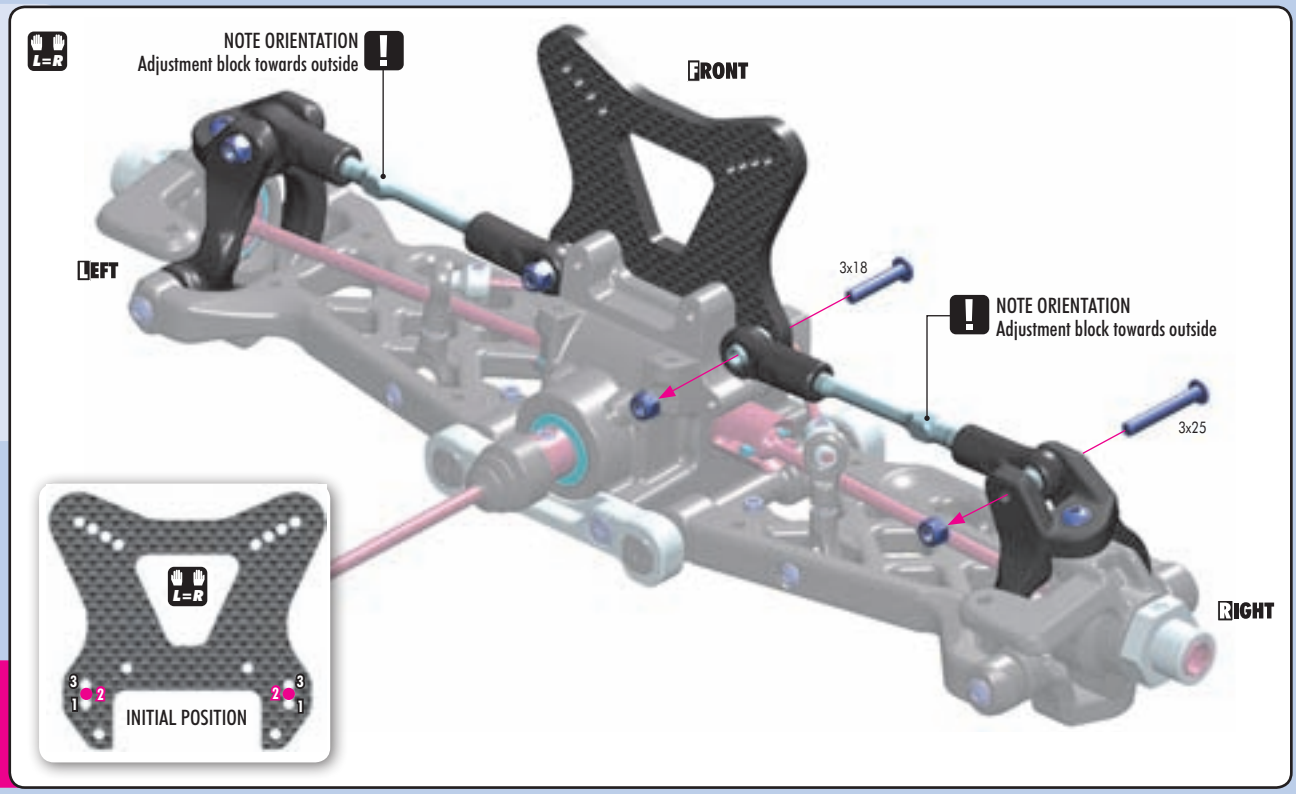
SET-UP BOOK
CAMBER



902318
SFH M3x18

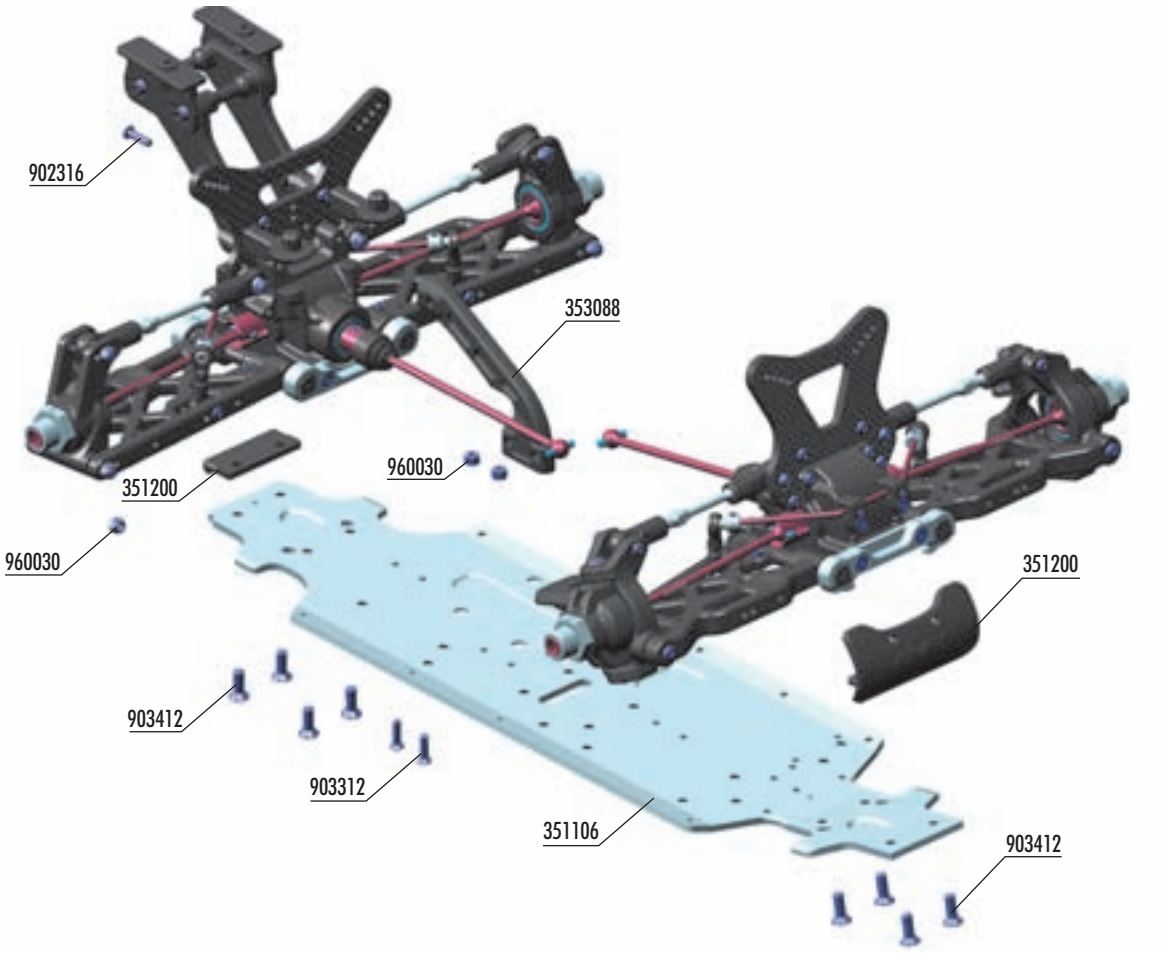
902325
SH M3x25

960030
N M3



SET-UP BOOK
ROLL CENTER

FRONT & REAR ASSEMBLY

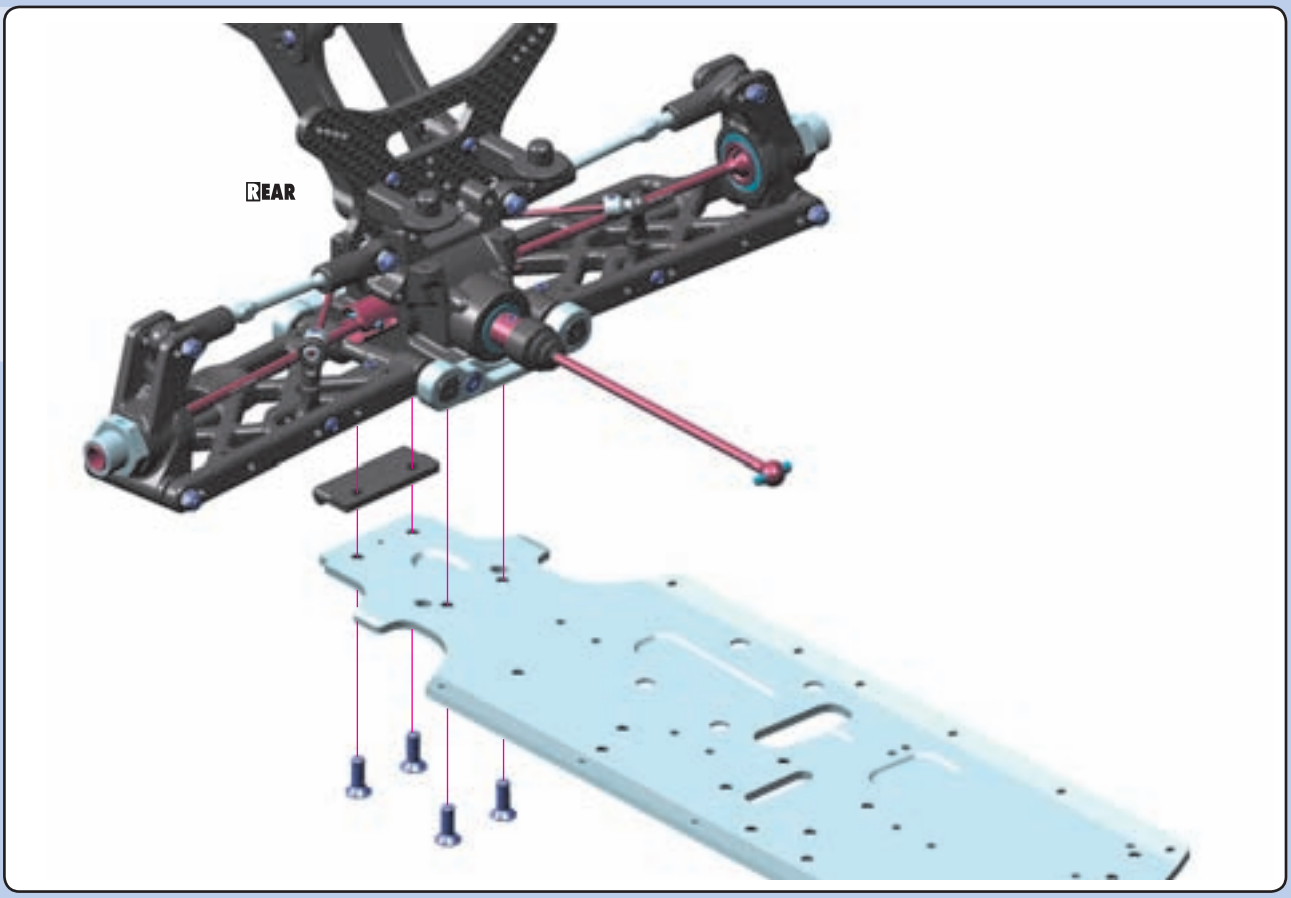


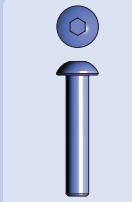
BAG 06

35 1106	XB9 ALU CHASSIS - HARDCOATED SWISS 7075 T6 (3MM)	90 2316	HEX SCREW SH M3x16 (10)
35 1200	FRONT & REAR BUMPER - V2	90 3312	HEX SCREW SFH M3x12 (10)
35 3088	COMPOSITE REAR BRACE - V2	90 3412	HEX SCREW SFH M4x12 (10)
		96 0030	NUT M3 (10)



903412
SFH M4x12





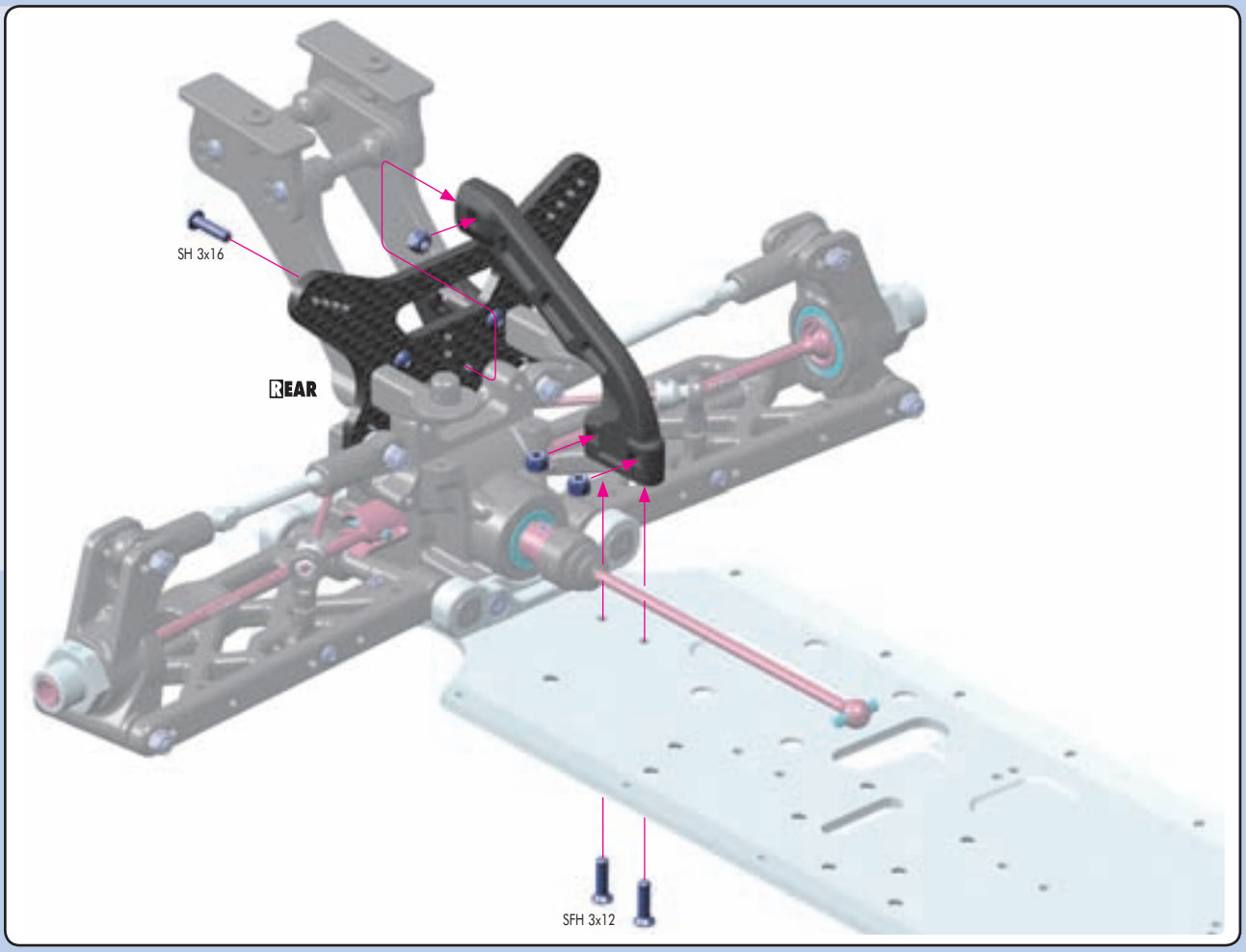
902316
SH M3x16



903312
SFH M3x12

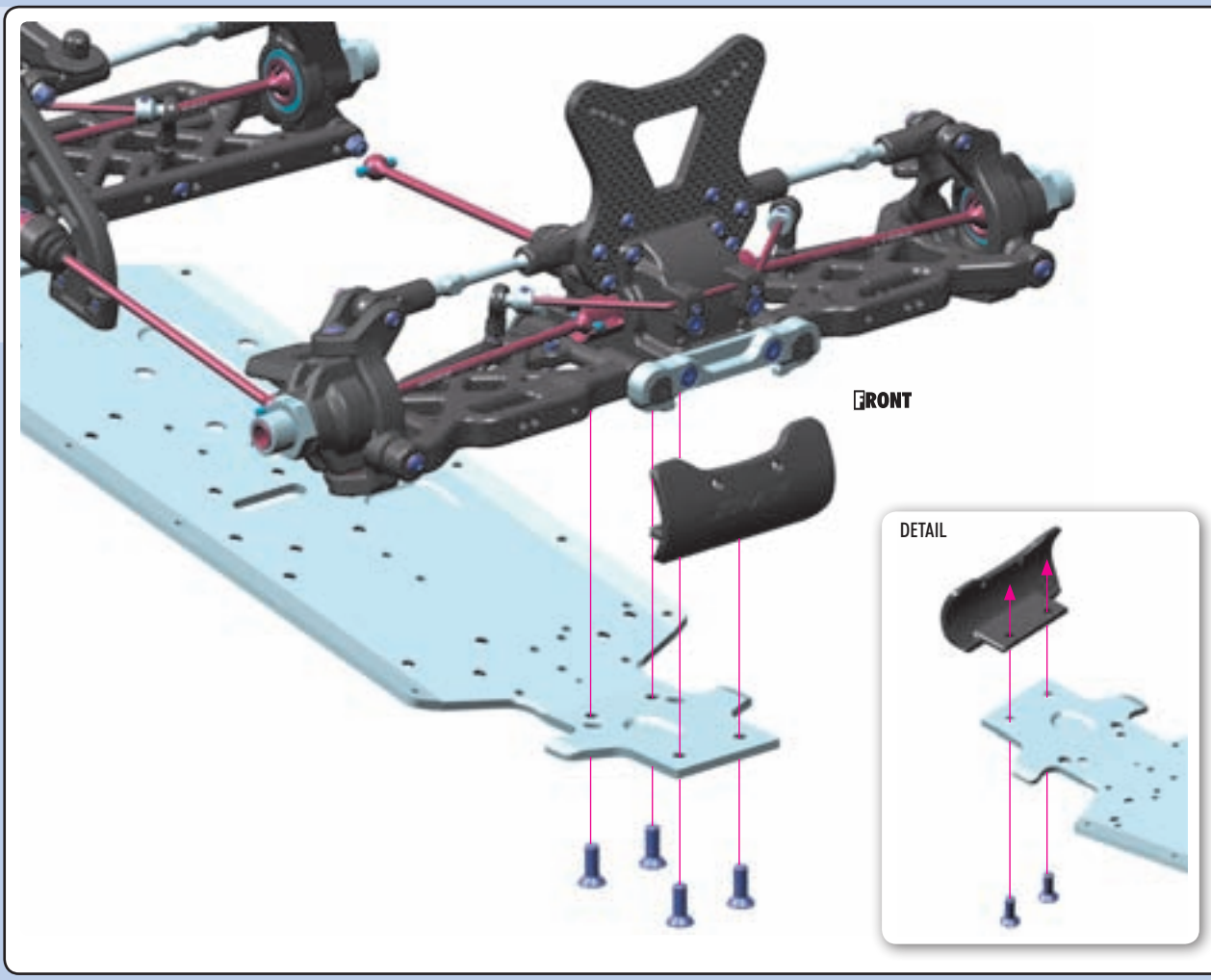


960030
N M3

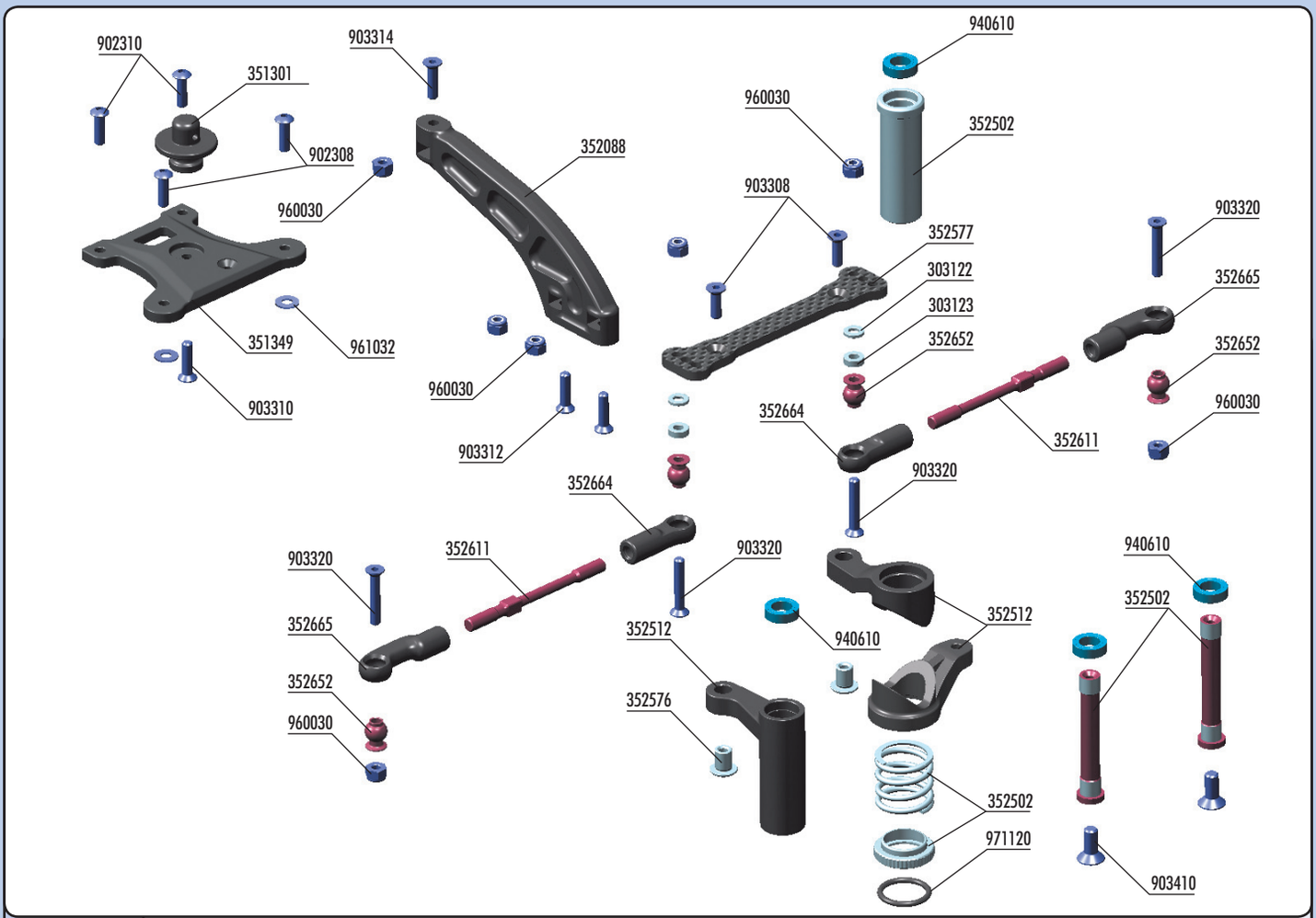




903412
SFH M4x12

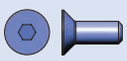


7. STEERING



BAG 07

30 3122	ALU SHIM 3x6x1.0MM (10)	90 2308	HEX SCREW SH M3x8 (10)
30 3123	ALU SHIM 3x6x2.0MM (10)	90 2310	HEX SCREW SH M3x10 (10)
35 1301	BODY POSTS	90 3308	HEX SCREW SFH M3x8 (10)
35 1349	COMPOSITE UPPER PLATE	90 3310	HEX SCREW SFH M3x10 (10)
35 2088	XB9 COMPOSITE FRONT BRACE	90 3312	HEX SCREW SFH M3x12 (10)
35 2502	XB9 SERVO SAVER COMPLETE SET	90 3314	HEX SCREW SFH M3x14 (10)
35 2512	XB9 COMPOSITE SERVO SAVER	90 3320	HEX SCREW SFH M3x20 (10)
35 2577	XB9 GRAPHITE STEERING PLATE	90 3410	HEX SCREW SFH M4x10 (10)
35 2576	STEERING PLATE BUSHING (2)	94 0610	HIGH-SPEED BALL-BEARING 6x10x3 BLUE COVERED (2)
35 2611	ADJ. TURNBUCKLE M4 L/R 51 MM - HUDY SPRING STEEL (2)	96 0030	NUT M3 (10)
35 2652	BALL STUD 6.8MM (4)	96 1032	WASHER S 3.2 (10)
35 2664	COMPOSITE STEERING BALL JOINT 6.8MM (2)	97 1120	SILICONE O-RING 12x1.6 (10)
35 2665	COMPOSITE RELIEF STEERING BALL JOINT 6.8MM (2)		



903308
SFH M3x8



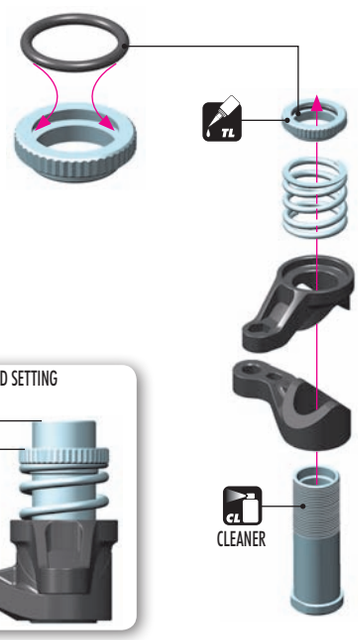
940610
BB 6x10x3

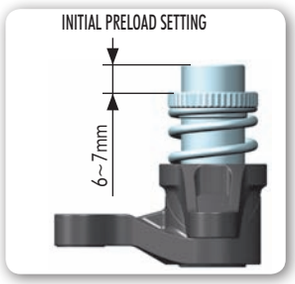


971120
O 12x1.6

SET-UP BOOK
SERVO SAVER

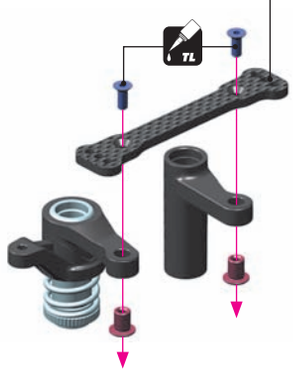
step 1





step 2

Follow the TECH TIP on page 5 to protect graphite parts



step 3

For servicing use Bearing Oil (HUDY #106230)



903310
SFH M3x10

903312
SFH M3x12

903314
SFH M3x14

903410
SFH M4x10

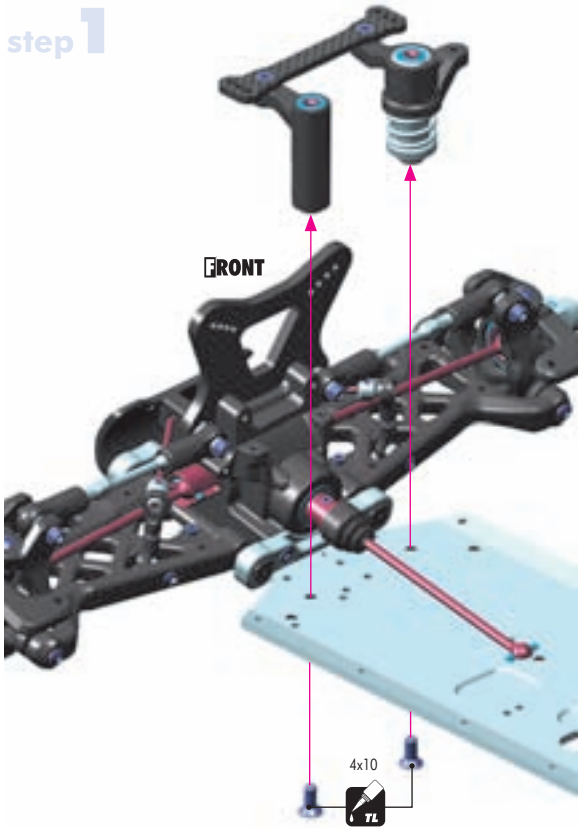
902310
SH M3x10

902308
SH M3x8

960030
N M3

961032
S 3.2

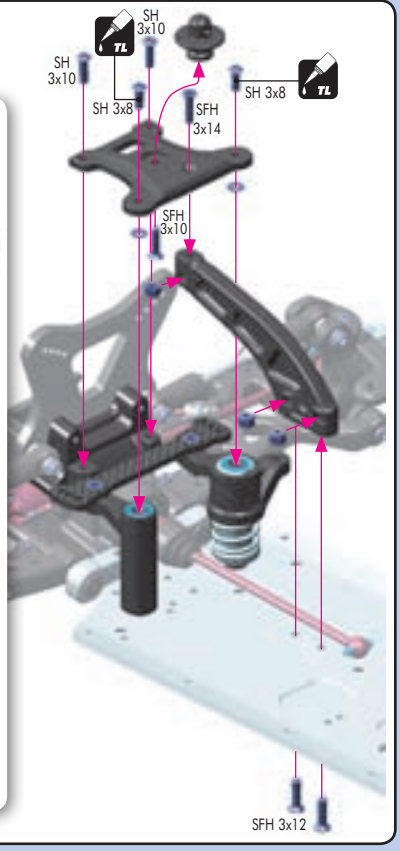
step 1



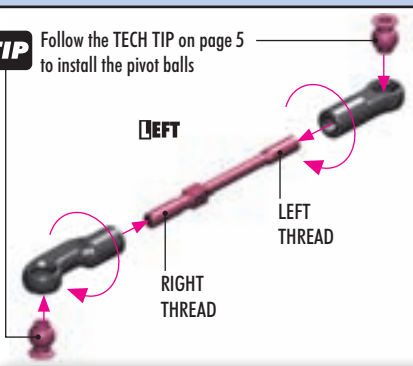
step 2

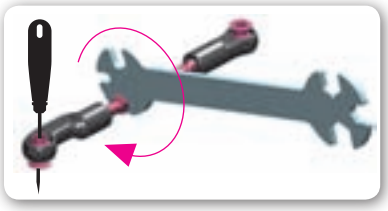
OPTIONAL
XB9 GRAPHITE UPPER PLATE WITH
ALU REINFORCEMENT STAND
#351343





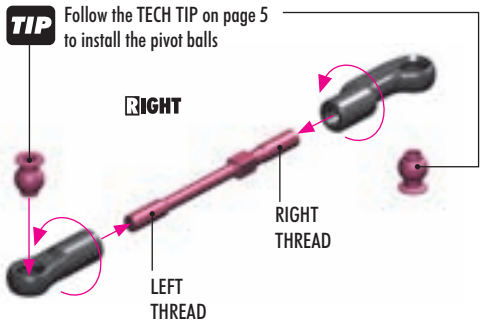
TIP Follow the TECH TIP on page 5 to install the pivot balls







TIP Follow the TECH TIP on page 5 to install the pivot balls





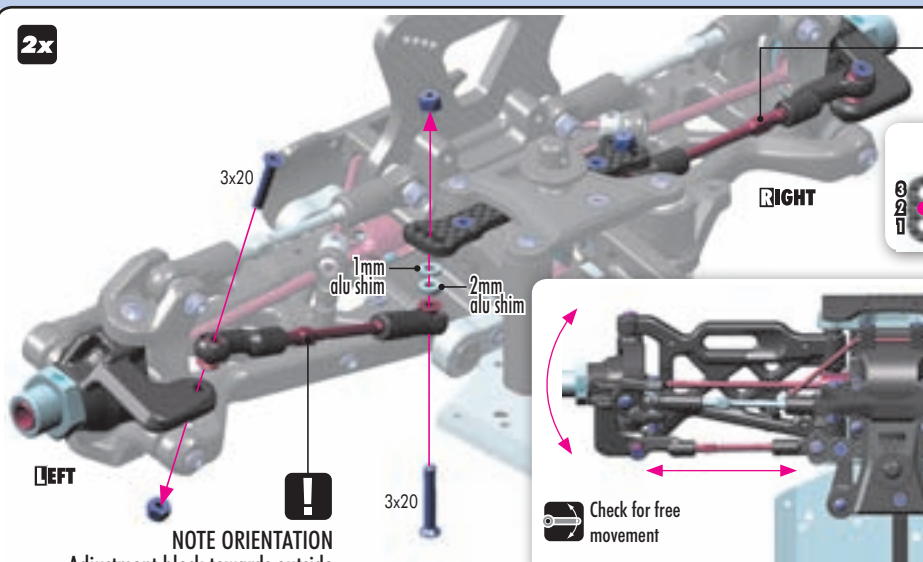
303122
SHIM 3x6x1

303123
SHIM 3x6x2

903320
SFH M3x20

960030
N M3

2x



NOTE ORIENTATION
Adjustment block towards outside

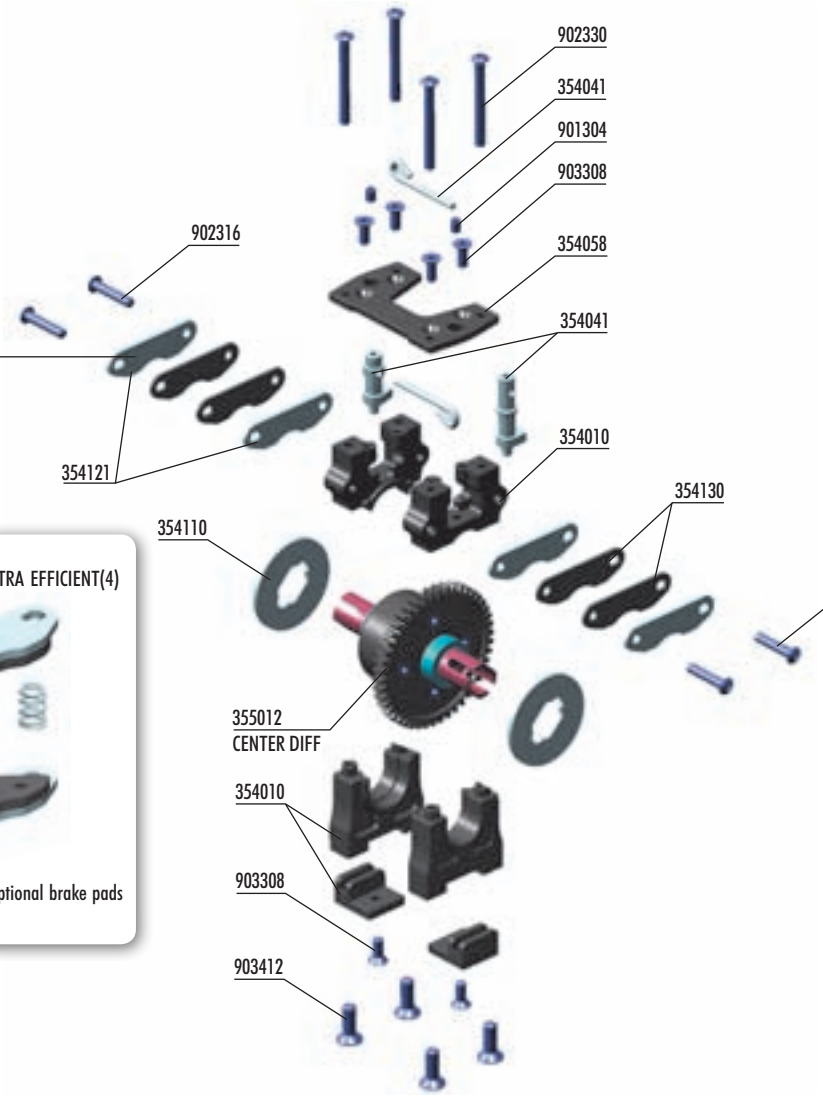
NOTE ORIENTATION
Adjustment block towards outside

INITIAL POSITION



SET-UP BOOK
ACKERMANN
BUMP STEER
TOE-IN

8. CENTER DIFF & BRAKE



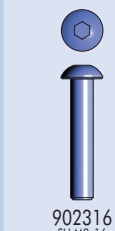
OPTIONAL
GLUED BRAKE PADS SET - ULTRA EFFICIENT(4)
#354131



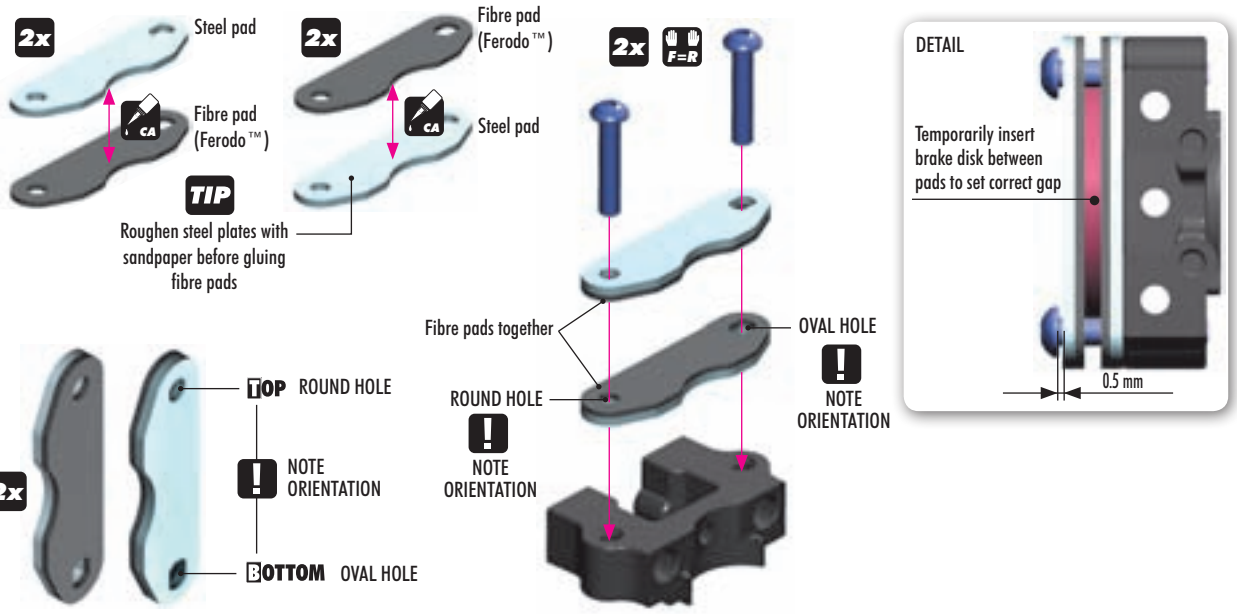
For less wear of break pads, optional brake pads with springs can be used.

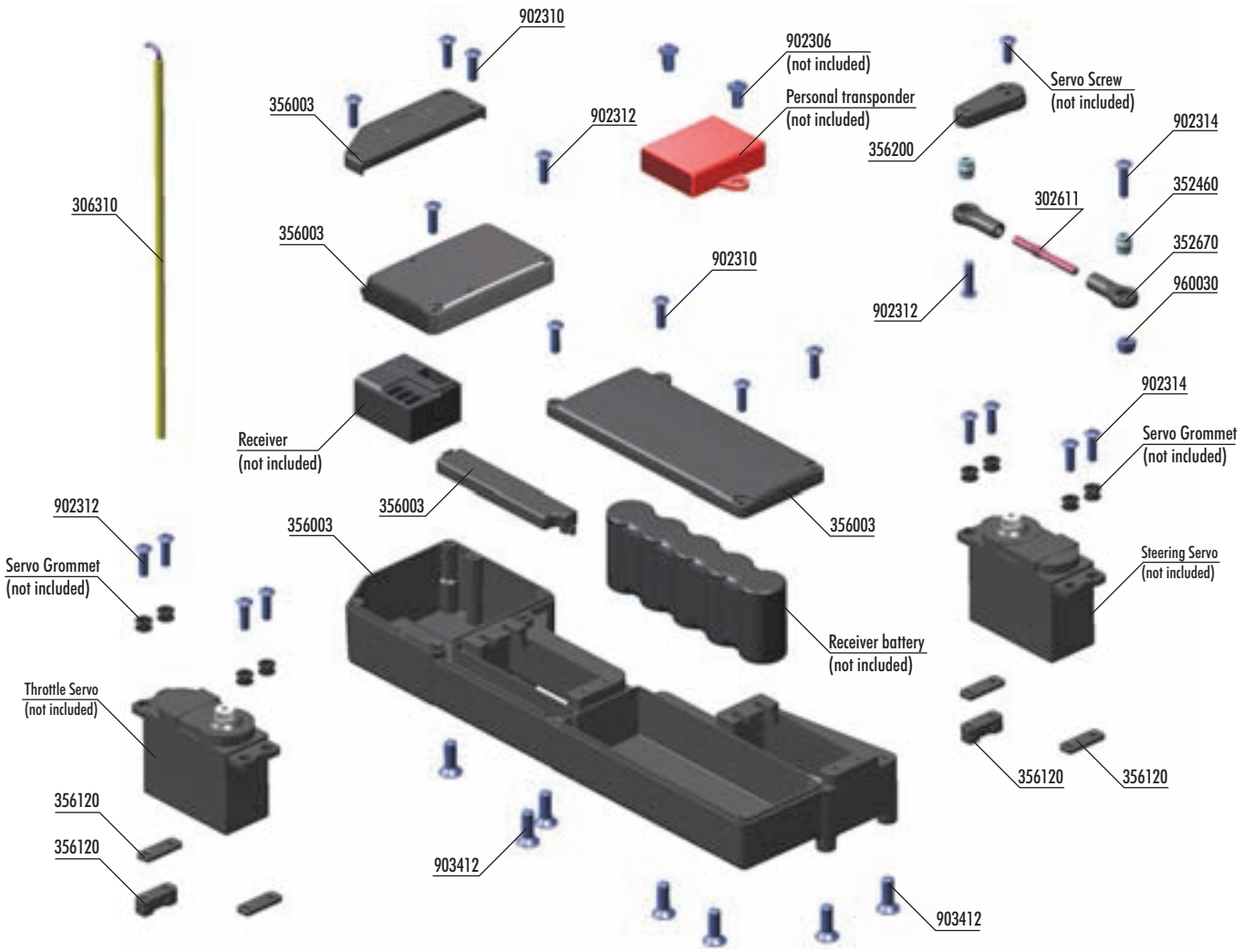
BAG 08

35 4010	CENTER DIFF MOUNTING PLATE - SET	90 1304	HEX SCREW SB M3x4 (10)
35 4041	ALU BRAKE CAM POST & ROD (2+2) HARD COATED	90 2316	HEX SCREW SH M3x16 (10)
35 4058	COMPOSITE CENTER DIFF MOUNTING PLATE	90 2330	HEX SCREW SH M3x30 (10)
35 4110	VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND	90 3308	HEX SCREW SFH M3x8 (10)
35 4121	STEEL BRAKE PAD - LASER CUT (4)	90 3412	HEX SCREW SFH M4x12 (10)
35 4130	BRAKE PAD FERODO (4)		



902316
SH M3x16





BAG

10

30 2611	ADJ. TURNBUCKLE L/R 35 MM - HUDY SPRING STEEL (2)	38 9135	CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
30 6310	ANTENNA TUBE (2)	90 2310	HEX SCREW SH M3x10 (10)
33 6120	COMPOSITE STEERING SERVO HOLDER - SET - V2	90 2312	HEX SCREW SH M3x12 (10)
35 2460	PIVOT BALL 5.8 (10)	90 2314	HEX SCREW SH M3x14 (10)
35 2670	SERVO BALL JOINT 5.8MM (4)	90 3412	HEX SCREW SFH M4x12 (10)
35 6003	XB9 RADIO CASE SET	96 0030	NUT M3 (10)
35 6050	BATTERY CABLE WITH SWITCH (OPTION)		
35 6120	STEERING SERVO MOUNT - SET		
35 6200	BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET		

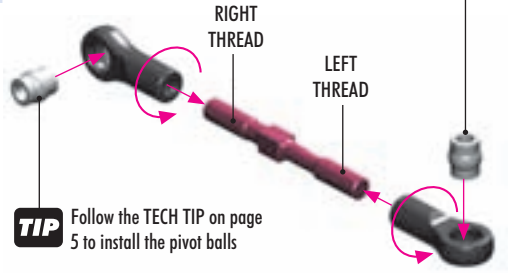


902312
SH M3x12

step 1

Follow the TECH TIP on page 5 to install the pivot balls

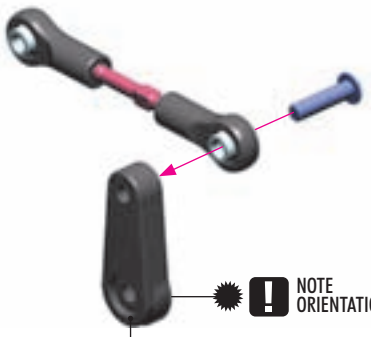
TIP





The length of the linkages varies according to the type of servo.

step 2

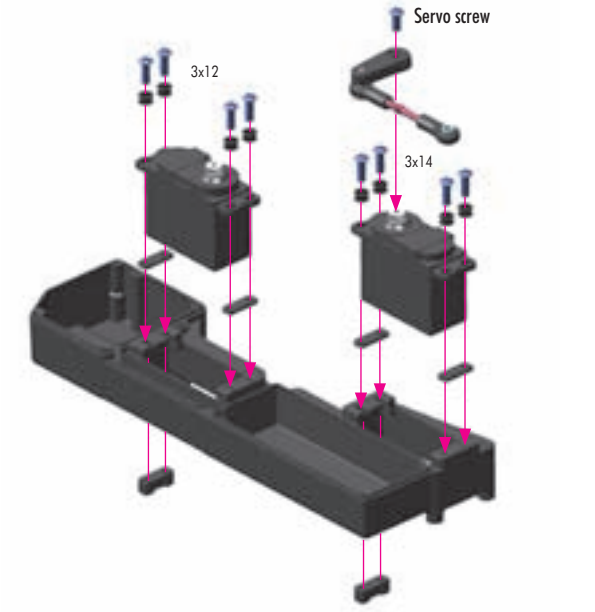


USE APPROPRIATE SERVO ARM:

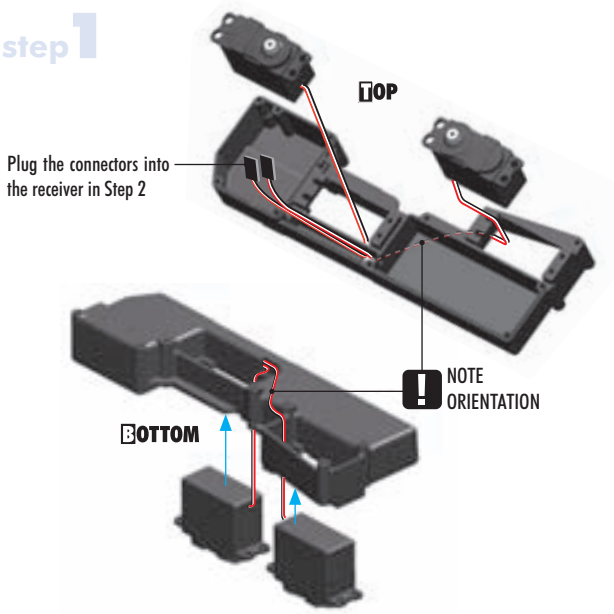
K - KO Propo, JR, Sanwa, Multiplex
H - Hitec
F - Futaba

902312
SH M3x12

902314
SH M3x14



step 1



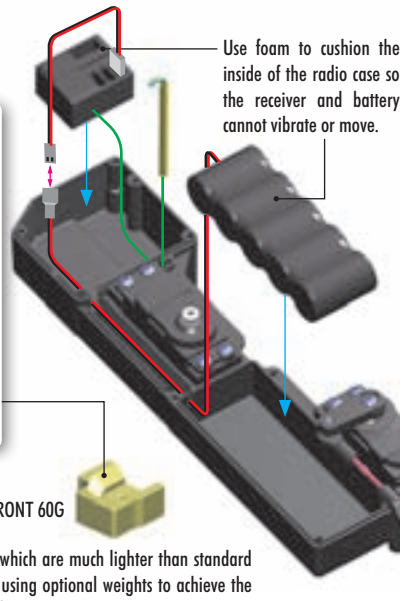
902310
SH M3x10

902312
SH M3x12

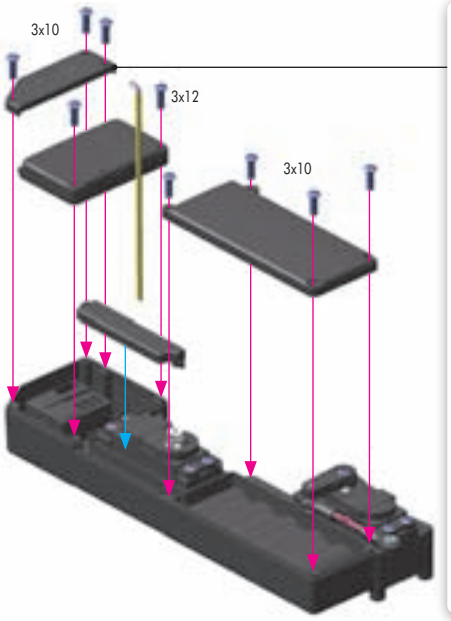
907206
SP M2x6

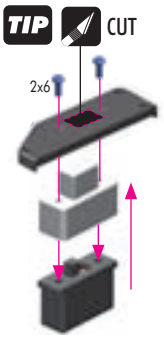
step 2





OPTIONAL
BRASS CHASSIS WEIGHT FRONT 60G
351180
If you use LiPo batteries - which are much lighter than standard batteries - we recommend using optional weights to achieve the proper weight balance for the car.





OPTIONAL
SWITCH #356050

When receiver switch is used, use hobby knife to CAREFULLY remove the material from the cover and mount the swith.

903412
SFH M4x12

902314
SH M3x14

960030
N M3

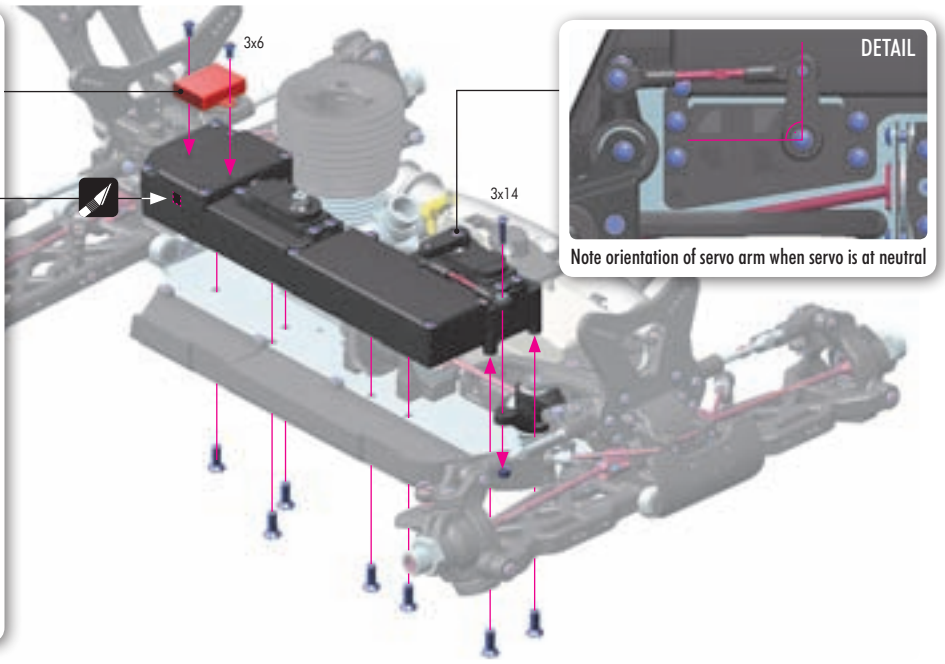
Personal transponder (not included)
902306 Screws (not included)

Personal transponder can be placed on the top od the radio box or inside of the radio box

ALTERNATIVE 1
When the transponder is placed at the top of the radio box, cut out some material from the radio box in order to allow the transponder wire to come inside.

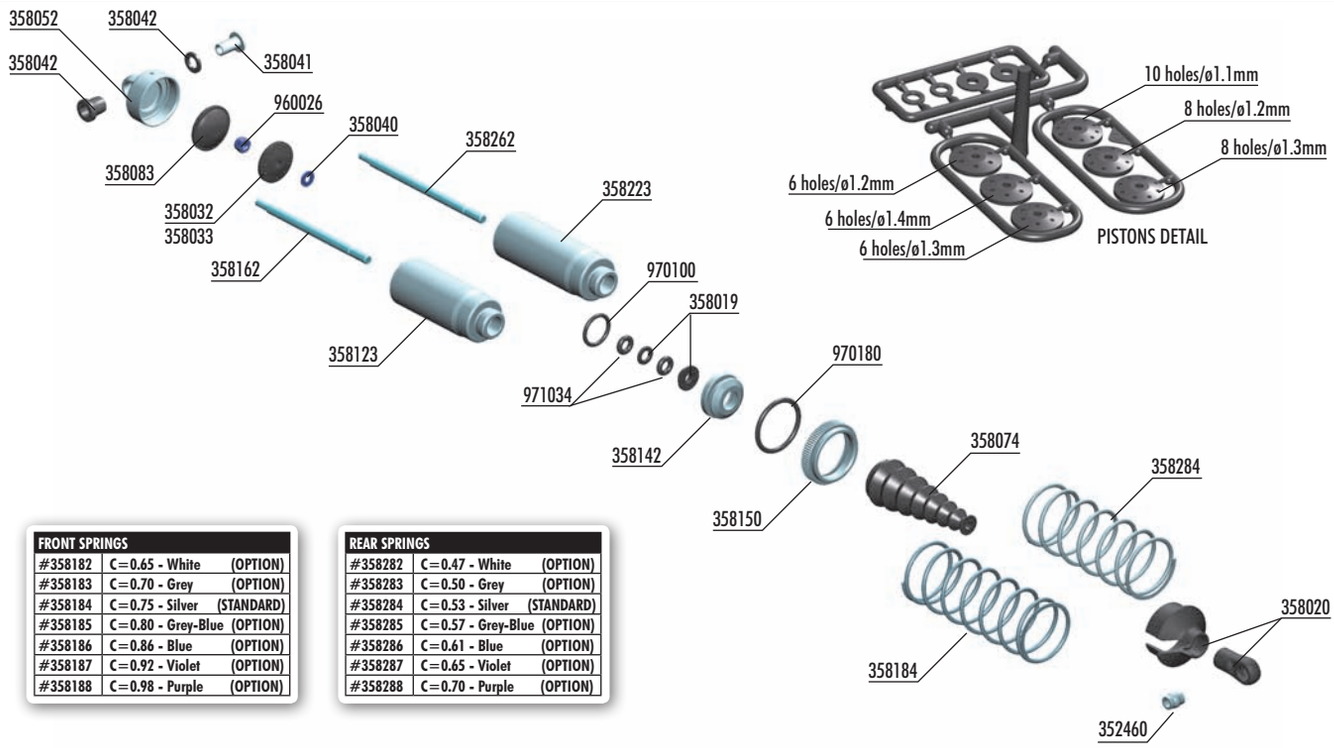
ALTERNATIVE 2
Place the transponder inside of the radio box by using double side tape.





Note orientation of servo arm when servo is at neutral

11. SHOCK ABSORBERS



FRONT SPRINGS		
#358182	C=0.65 - White	(OPTION)
#358183	C=0.70 - Grey	(OPTION)
#358184	C=0.75 - Silver	(STANDARD)
#358185	C=0.80 - Grey-Blue	(OPTION)
#358186	C=0.86 - Blue	(OPTION)
#358187	C=0.92 - Violet	(OPTION)
#358188	C=0.98 - Purple	(OPTION)

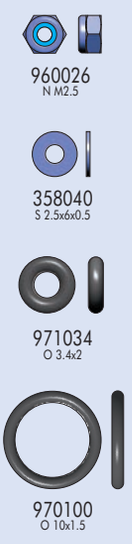
REAR SPRINGS		
#358282	C=0.47 - White	(OPTION)
#358283	C=0.50 - Grey	(OPTION)
#358284	C=0.53 - Silver	(STANDARD)
#358285	C=0.57 - Grey-Blue	(OPTION)
#358286	C=0.61 - Blue	(OPTION)
#358287	C=0.65 - Violet	(OPTION)
#358288	C=0.70 - Purple	(OPTION)

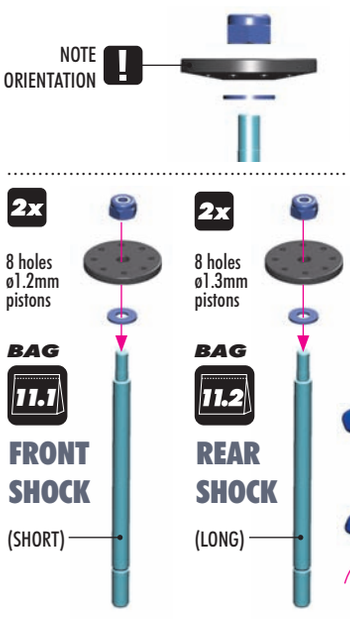
BAGS

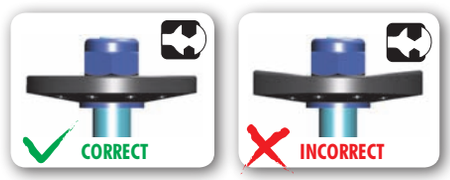
11.1

11.2

35 2460 PIVOT BALL 5.8 - V3 (10)
35 8019 XB9 COMPOSITE SET OF SHIMS FOR SHOCKS (2)
35 8020 XB9 COMPOSITE SHOCK PARTS
35 8032 XB9 SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1MM)
35 8033 XB9 COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4MM)
35 8040 HARDENED SHOCK SHIMS (4)
35 8041 STEEL SHOCK BUSHING (2)
35 8042 COMPOSITE SHOCK BUSHING & SHIM (2+2)
35 8052 ALU SHOCK CAP NUT - HARD COATED (2)
35 8074 XB9 FOLDING SHOCK BOOT (4)
35 8083 SHOCK RUBBER MEMBRANE RIBBED (4)
35 8123 XB9 ALU FRONT SHOCK BODY - HARD COATED (2)
35 8142 XB9 ALU SHOCK BODY NUT FOR SHOCK BOOT (2)
35 8150 ALU SHOCK BODY ADJ. NUT (2)
35 8162 XB9 FRONT SHOCK SHAFT (2)
35 8184 XRAY FRONT SPRING SET C=0.75 - SILVER (2)
35 8223 XB9 ALU REAR SHOCK BODY - HARD COATED (2)
35 8262 XB9 REAR SHOCK SHAFT (2)
35 8284 XRAY REAR SPRING SET C=0.53 - SILVER (2)
96 0026 NUT M2.5 - SHORT (10)
97 0100 O-RING 10 x 1.5 (10)
97 0180 O-RING 18 x 1.8 (10)
97 1034 SILICONE O-RING 3.5x2 (10)







TIGHTEN GENTLY

The self-locking nut is gently tightened. The piston remains undistorted and fits inside the shock body perfectly, ensuring smooth movement of the piston.

DO NOT OVERTIGHTEN

The self-locking nut is overtightened, causing distortion of the piston. This will negatively affect the free movement of the piston in the shock body.



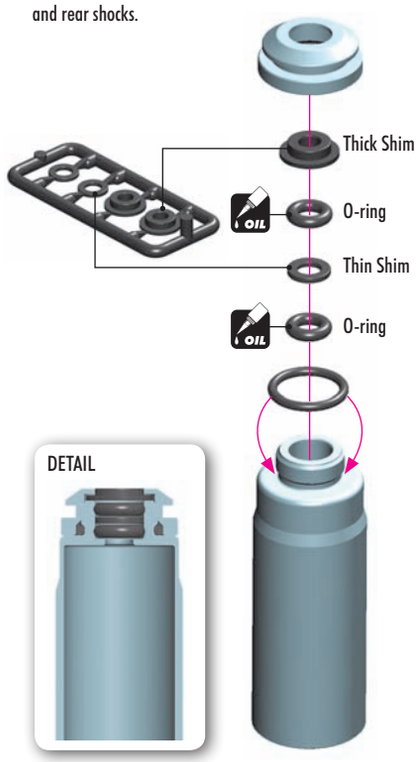
Grip the shock rod at top of exposed threads with side cutting pliers. Be careful not to damage the shock rod.



2x FRONT SHOCKS (SHORT)

2x REAR SHOCKS (LONG)

There are two different thickness shims, use them as shown. Use the same procedure when building both front and rear shocks.

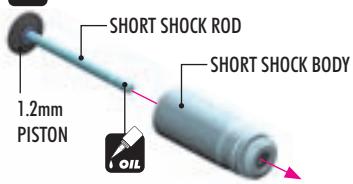


SET-UP BOOK
SHOCK DAMPING
SHOCK PISTONS

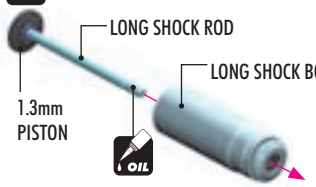


970180
O 18x1.8

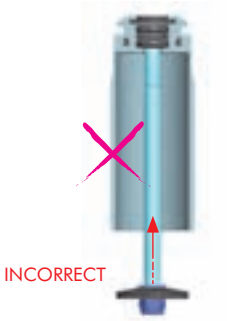
2x FRONT SHOCKS



2x REAR SHOCKS

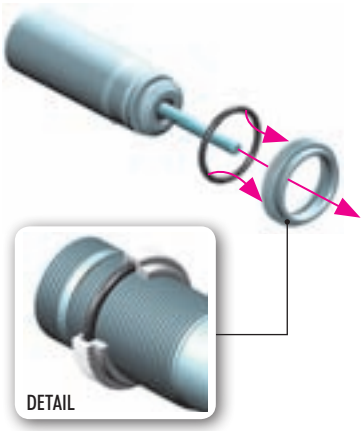


EXTREMELY IMPORTANT

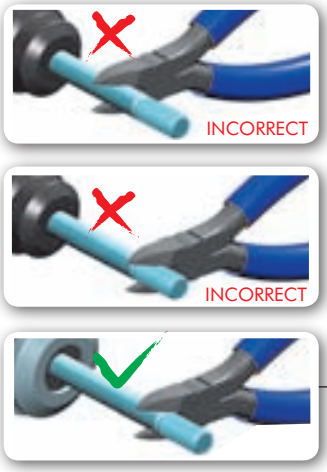


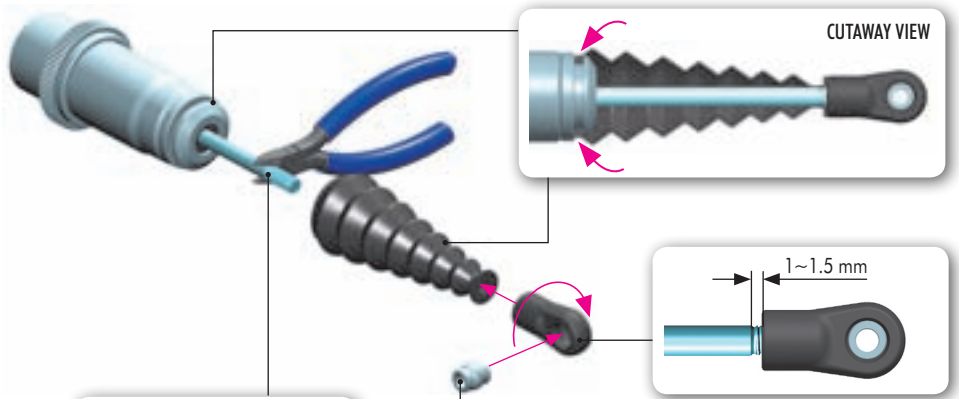
Do not push the shock rod straight through the lower shock body assembly; O-ring damage may result.

Twist the shock rod through the lower shock body assembly.



2x FRONT SHOCKS 2x REAR SHOCKS





Grip the shock rod at top of exposed threads with side cutting pliers. Be careful not to damage the shock rod.

TIP Follow the TECH TIP on page 5 to install the pivot balls

DEFAULT SHOCK REBOUND SETTING 0% (LOW REBOUND)

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

2x FRONT (SHORT) Oil 500cSt
2x REAR (LONG) Oil 600cSt

SET-UP BOOK SHOCK OIL



❶ Extend the shock shaft completely. Fill the shock body with the shock oil. For the FRONT shocks (short) use 500cSt oil. For the REAR shocks (long) use 600cSt oil.



❷ Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.



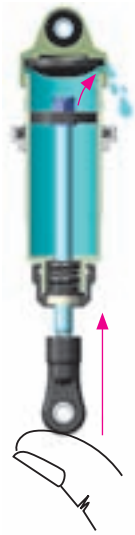
❸ Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.



❹ Install the shock membrane into the groove in the upper shock cap.



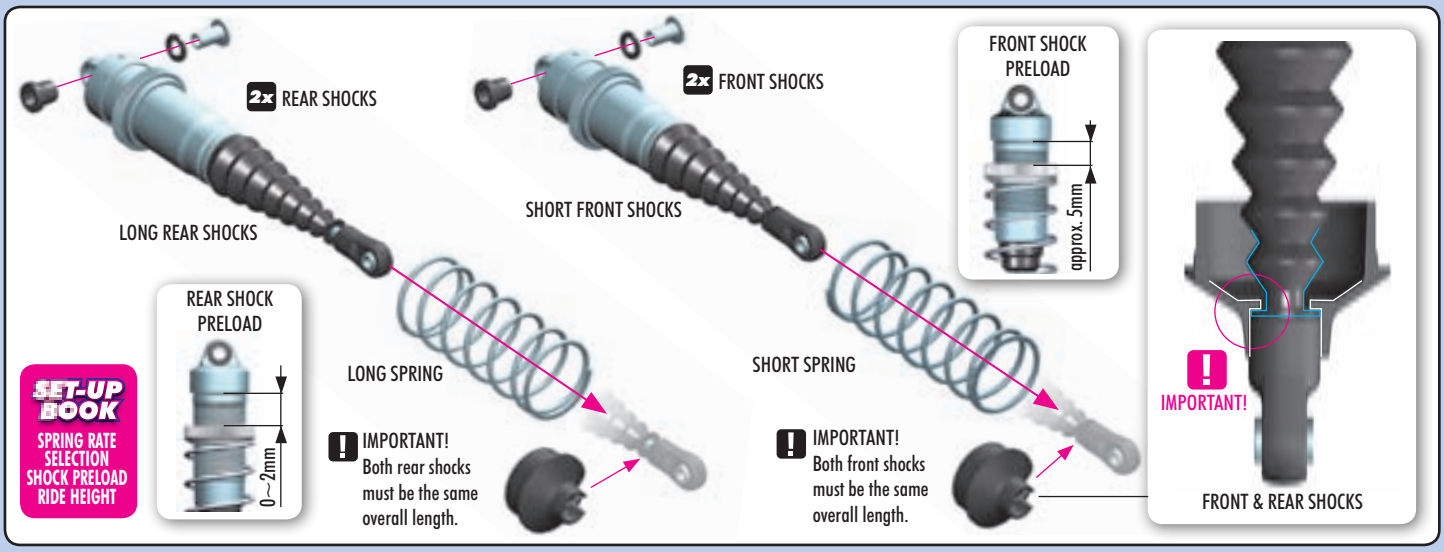
❺ Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock. Screw the shock cap onto the body by only a few turns.



❻ Gently push the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.



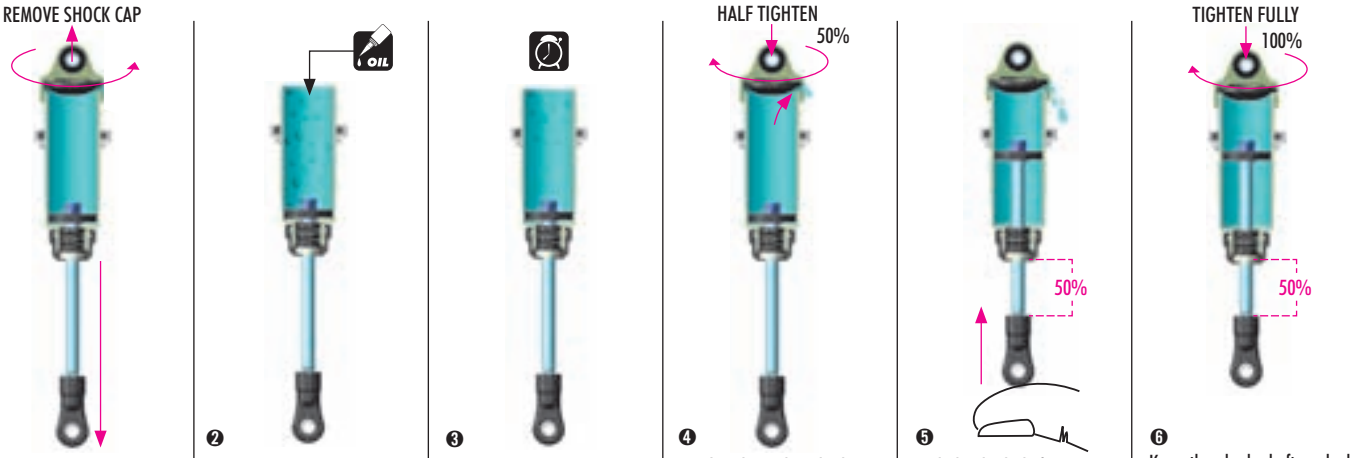
❼ Keep the shock shaft pushed in the shock body and tighten the shock cap completely.
The rebound will be at approximately 0%.



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

The default shock rebound setting is 0% (as described on page 34).
Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

SETTING THE SHOCK REBOUND TO 50% (MEDIUM REBOUND)



❶ Extend the shock shaft completely and remove the shock cap.

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

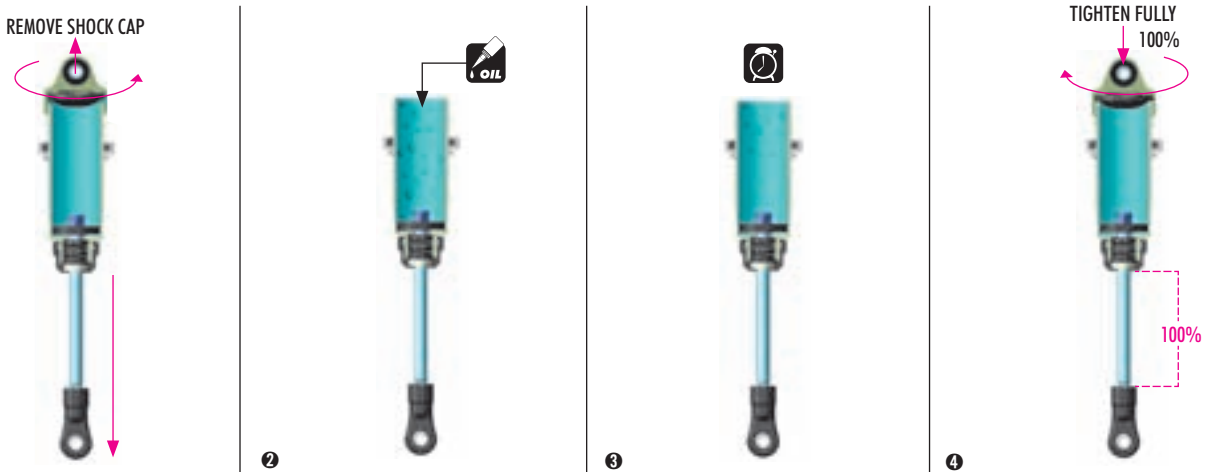
❸ Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

❹ Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock.

❺ Push the shock shaft 50% into the shock body. Excess oil will bleed thgrough the hole in the shock cap.

❻ Keep the shock shaft pushed 50% into the shock body and tighten the shock cap completely.
The rebound will be at approximately 50%.

SETTING THE SHOCK REBOUND TO 100% (HIGH REBOUND)



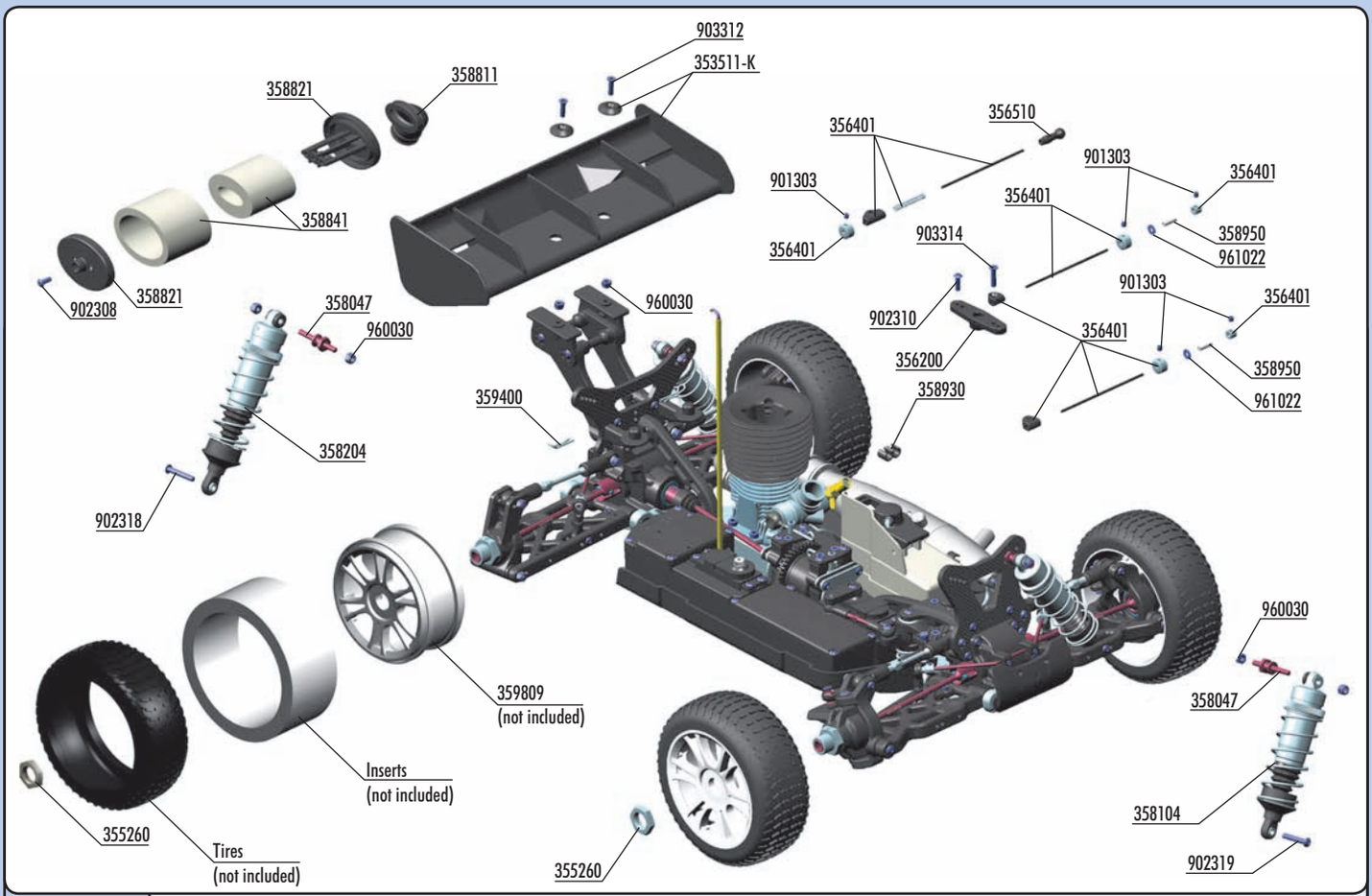
❶ Extend the shock shaft completely and remove the shock cap.

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

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

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

12. FINAL ASSEMBLY



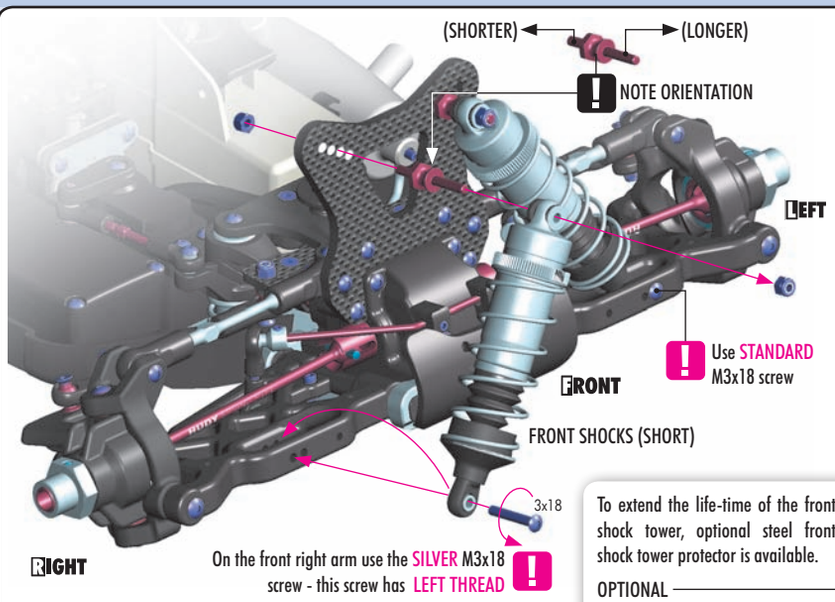
BAG 12

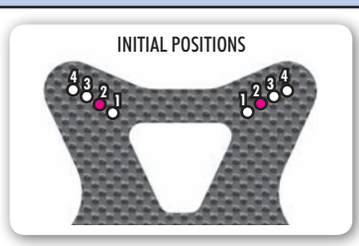
35 3511-K	XB9 REAR WING - BLACK	35 8950	SILICONE TUBING 1M (2.4 x 5.5MM)
35 3511	XB9 REAR WING - WHITE (OPTION)	35 9400	BODY CLIP (10)
35 3511-Y	XB9 REAR WING - YELLOW (OPTION)	35 9707	XRAY XB9 BODY FOR 1/8 OFF ROAD BUGGY
35 5260	WHEEL NUT - HARD COATED (2)	35 9809	WHEELS STARBURST - YELLOW (4) (OPTION)
35 6200	BRAKE/THROTTLE ARMS & SERVO ARMS - SET		
35 6401	BRAKE/THROTTLE SYSTEM - SET	90 1303	HEX SCREW SB M3x3 (10)
35 6510	CLOSED BALL JOINT 3.9 (4)	90 2308	HEX SCREW SH M3x8 (10)
35 8047	STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)	90 2310	HEX SCREW SH M3x10 (10)
35 8104	XB9 FRONT SHOCK ABSORBERS + BOOTS COMPLETE SET (2)	90 2318	HEX SCREW SH M3x18 (10)
35 8204	XB9 REAR SHOCK ABSORBERS + BOOTS COMPLETE SET (2)	90 2319	HEX SCREW SH M3x18 - LEFT THREAD (10)
35 8811	AIR FILTER ELBOW - LOW PROFILE	90 3312	HEX SCREW SFH M3x12 (10)
35 8821	AIR FILTER BODY & CAP - LOW PROFILE	90 3314	HEX SCREW SFH M3x14 (10)
35 8841	AIR FILTER FOAM & OIL - LOW PROFILE	96 0030	NUT M3 (10)
35 8930	FUEL FILTER MOUNT & TUBING HOLDERS	96 1022	WASHER S 2.2 (10)

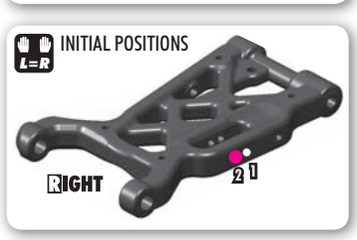
902318
SH M3x18

902319
SH M3x18
LEFT thread

960030
N M3

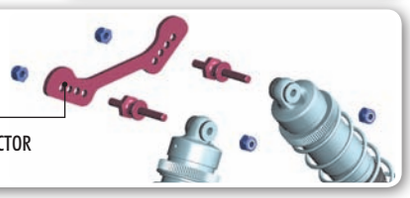






To extend the life-time of the front shock tower, optional steel front shock tower protector is available.

OPTIONAL
FRONT SHOCK TOWER STELL PROTECTOR
#352099



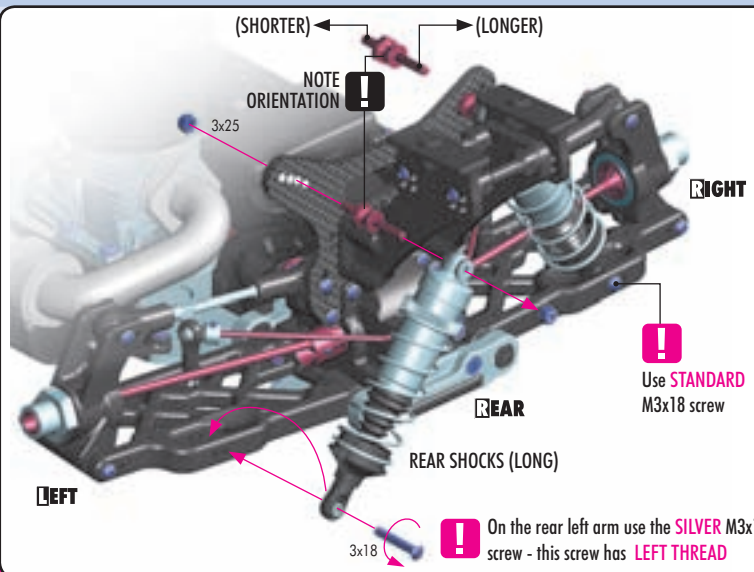
SET-UP BOOK
SHOCK ABSORBERS

902318
M3x18

902319
SH M3x18
LEFT thread

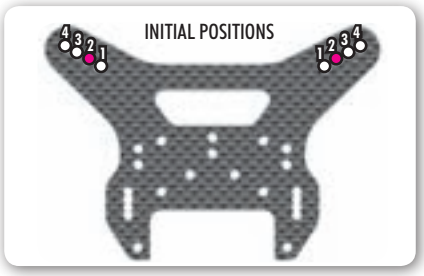
960030
N M3

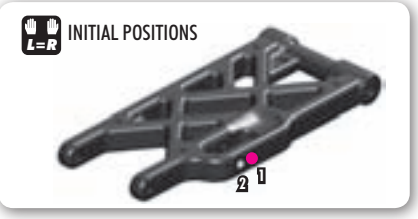
SET-UP BOOK
SHOCK ABSORBERS



Use STANDARD M3x18 screw

On the rear left arm use the SILVER M3x18 screw - this screw has LEFT THREAD

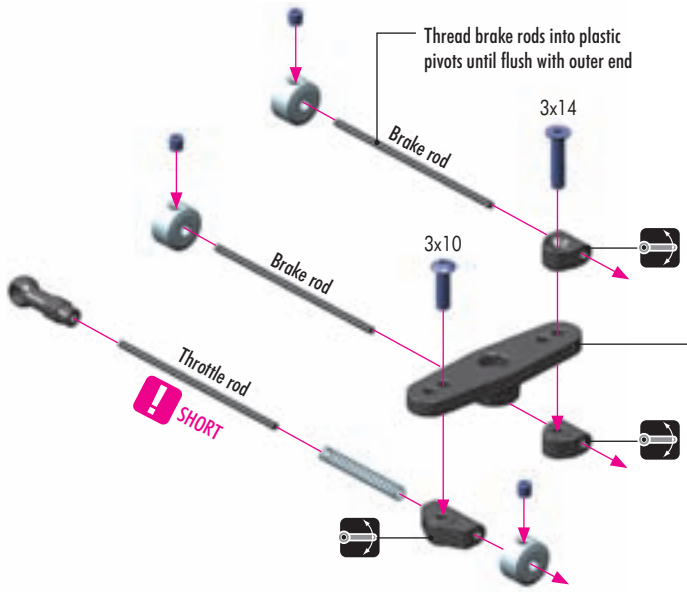


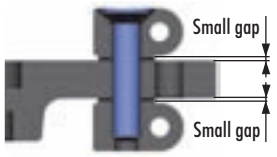


901303
SB M3x3

902310
SH M3x10

903314
SFH M3x14





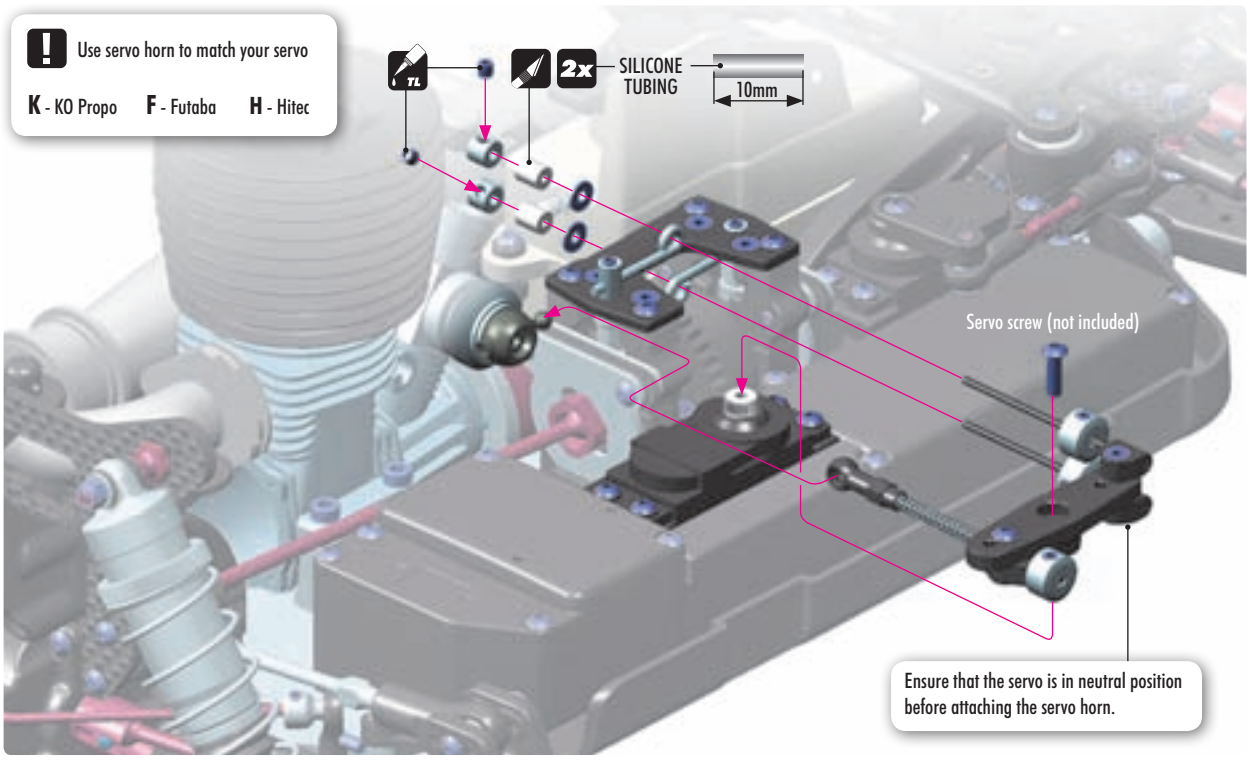
Tighten screw until snug.
Pivots should move freely.

961022
S 2.2

901303
SB M3x3

Use servo horn to match your servo

K - KO Propo **F** - Futaba **H** - Hitec



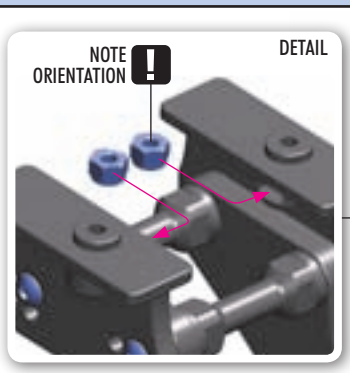
Ensure that the servo is in neutral position before attaching the servo horn.



903312
SFH M3x12



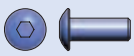
960030
N M3



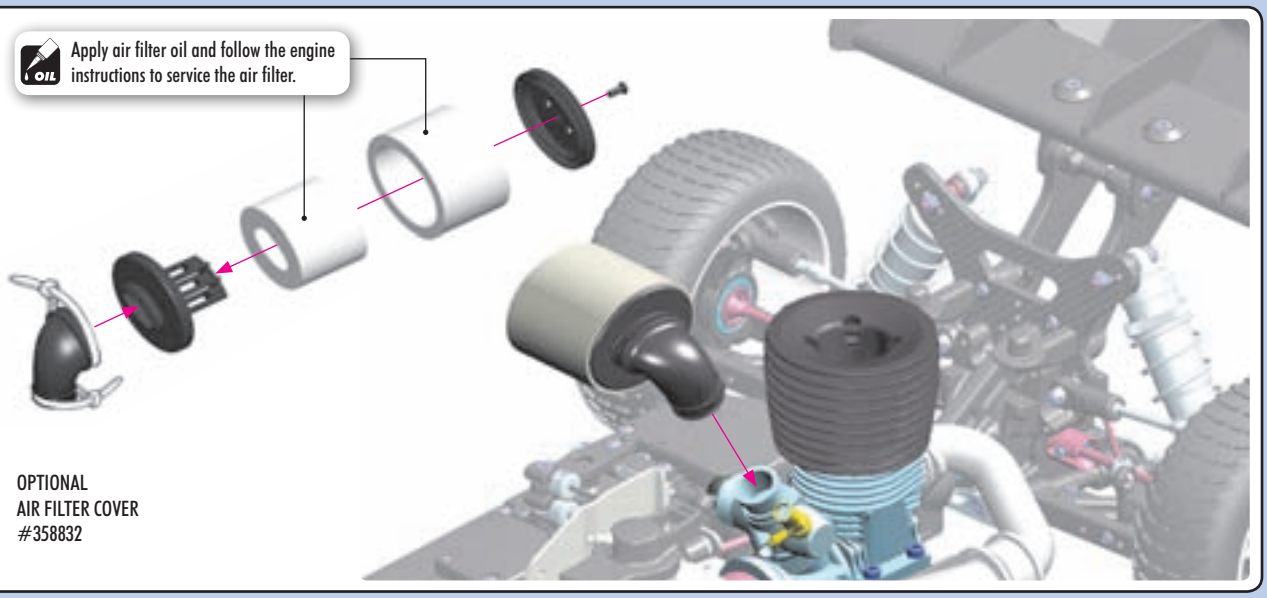
XRAY STARBURST WHEELS	
#359808	Pink (OPTION)
#359809	Yellow (OPTION)

TIP 4x

To tighten the setscrew you can also use the HUDY 17mm Wheel Nut Tool #107570



902308
SH M3x8



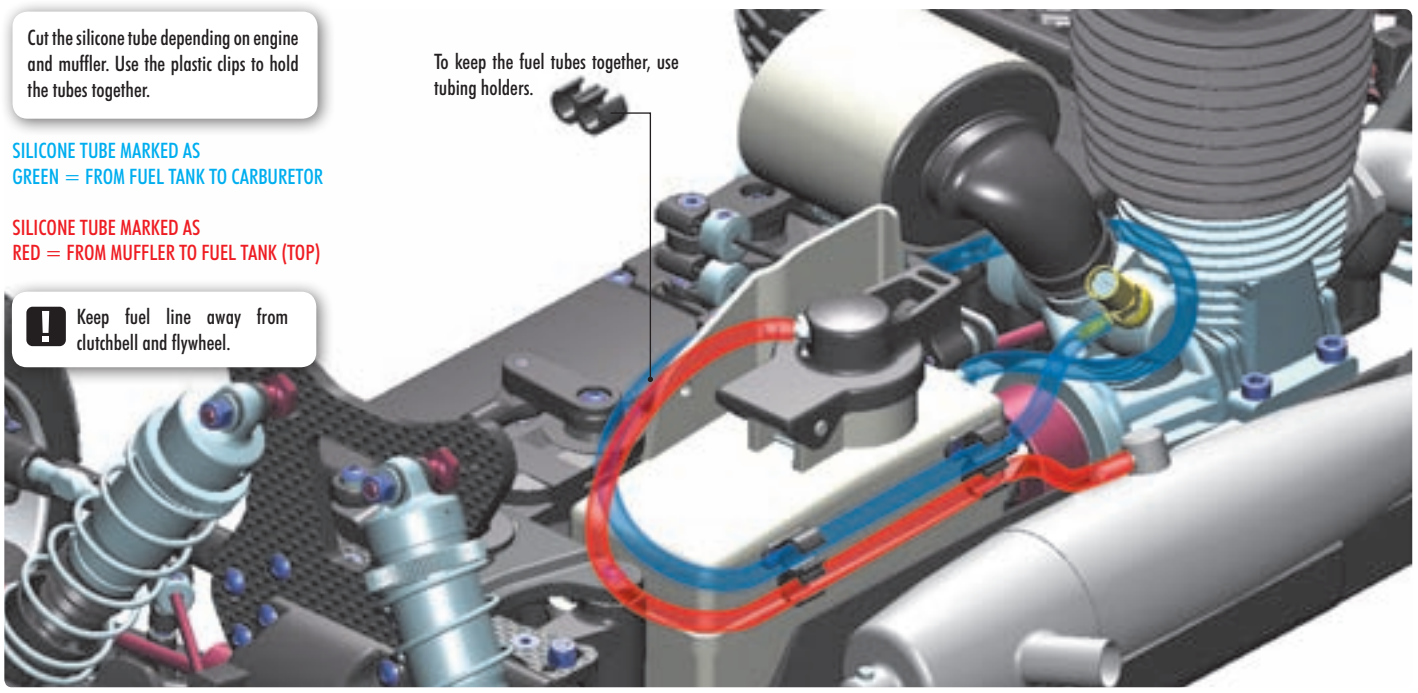
OPTIONAL
AIR FILTER COVER
#358832

Cut the silicone tube depending on engine and muffler. Use the plastic clips to hold the tubes together.

SILICONE TUBE MARKED AS
GREEN = FROM FUEL TANK TO CARBURETOR

SILICONE TUBE MARKED AS
RED = FROM MUFFLER TO FUEL TANK (TOP)

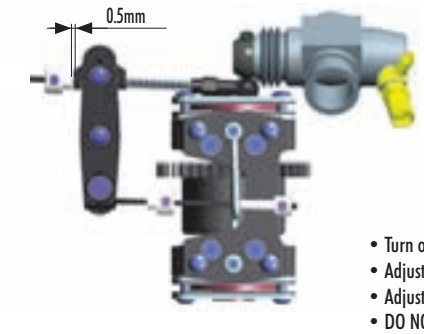
Keep fuel line away from clutchbell and flywheel.

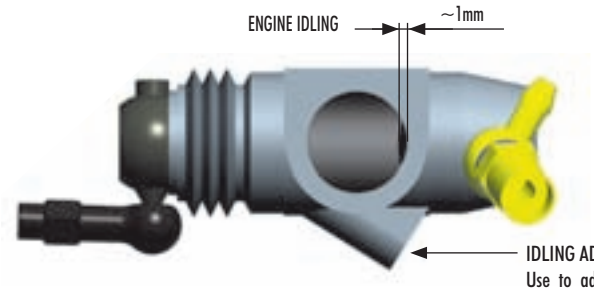


THROTTLE LINKAGE ADJUSTMENT

NEUTRAL (IDLE)

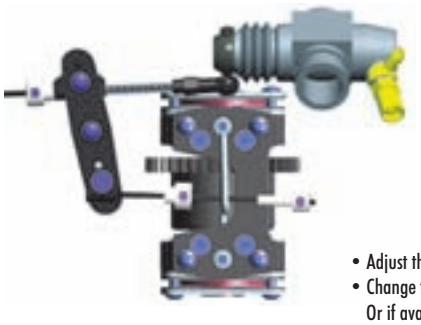
ADJUST INDIVIDUAL LINKAGES SEPARATELY TO AVOID INTERFERING WITH THE OPERATION OF THE OTHERS

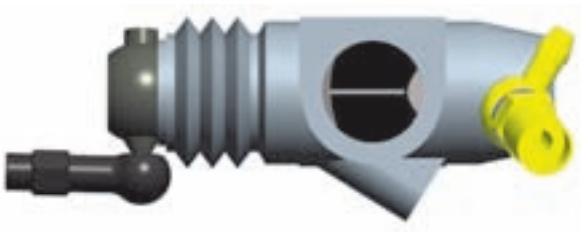




- Turn on the transmitter and receiver and set the engine control servo trim to the neutral position.
- Adjust the idle adjustment screw on the carburetor to open approx. 1mm.
- Adjust both the throttle linkage and brake linkages accordingly.
- DO NOT adjust the linkage with the engine running.

FULL THROTTLE



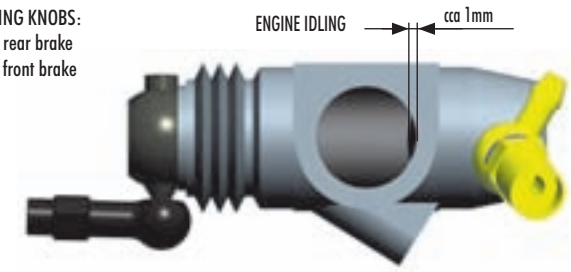


- Adjust the servo-horn mounting position for the carburetor to open fully.
- Change the pivot mounting position on the servo horn in case the carburetor is not opening fully or if it is opening excessively. Or if available on the transmitter, adjust the throttle high end point.

BRAKE

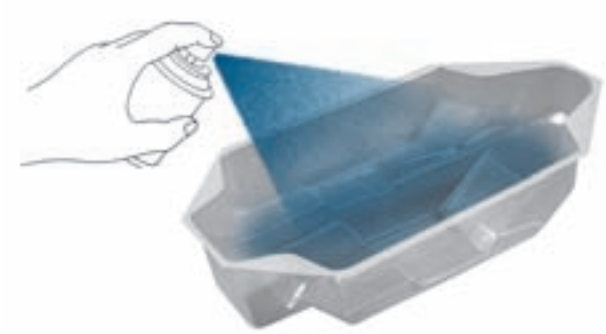


BRAKE ADJUSTING KNOBS:
Upper linkage - rear brake
Lower linkage - front brake

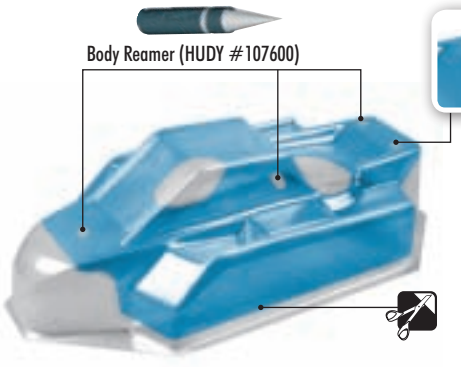


- Adjust the adjustable collars so the brakes work smoothly.
- If the brakes apply too much or not enough, adjust the adjustable collars accordingly. Or if available on the transmitter, adjust the brake endpoint.
- To tighten brakes, turn collar to thread brake rod INTO pivot.
- To loosen brakes, turn collar to thread brake rod OUT of pivot.

❶ Before cutting and making holes on the body, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts.
❷ Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
❸ Mask all windows.
❹ Apply paint masks as appropriate.



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



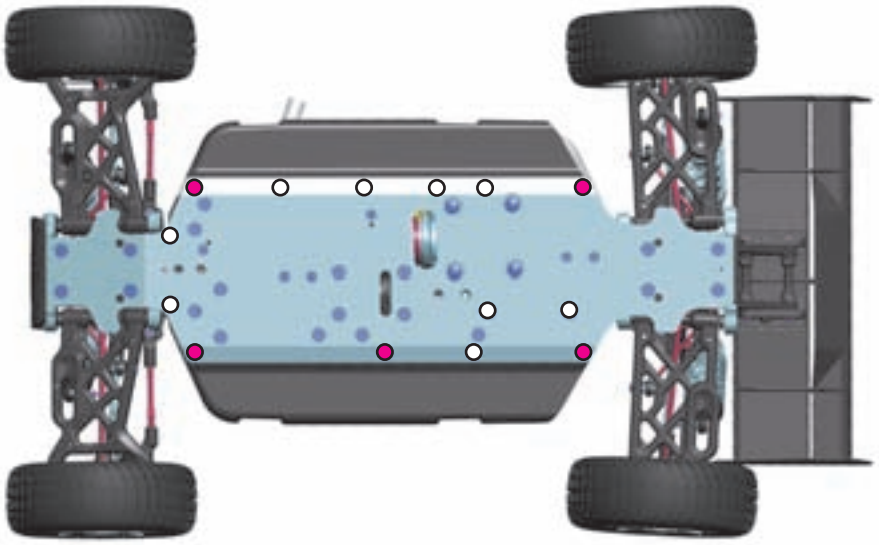
Ensure to make this rear body mount hole oval so in the case of chassis flex after a big jump the body mount will not tear up the hole.

XB9 offers revolutionary flex setting possibilities. Depending on the traction, surface, track layout, you can change the flex setting as you need. XB9 has 3 main Multi-Flex™ settings: soft, medium, stiff

SOFT

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

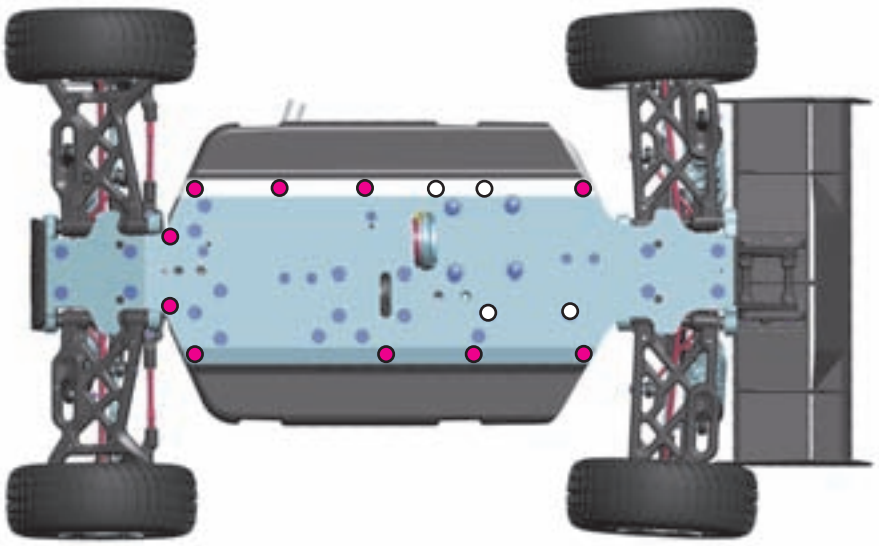
- Screw used
- Screw not used



MEDIUM

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

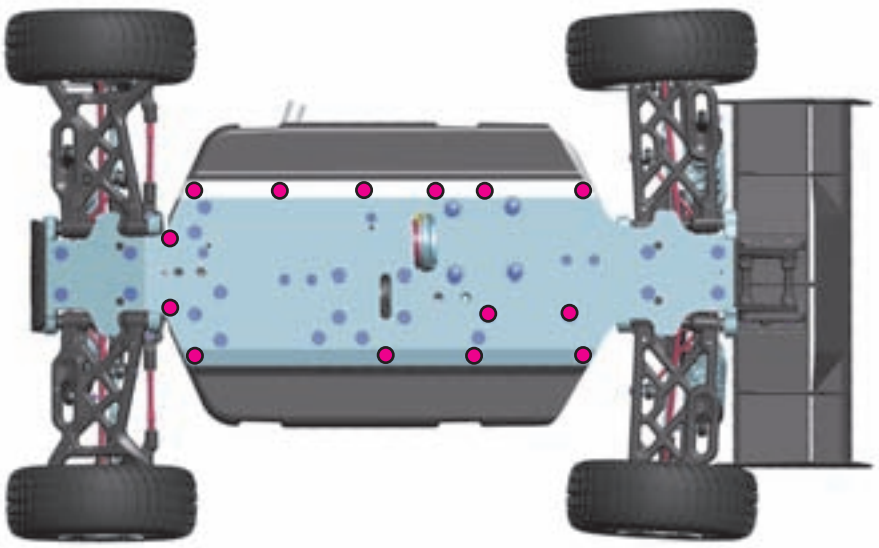
- Screw used
- Screw not used



STIFF

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

- Screw used
- Screw not used



ENGINE OPERATION

PREPARING TO OPERATE THE ENGINE

- Never modify the engine or muffler.
- Confirm the position of needle and idling before running. Be sure to run a new engine smoothly.
- Make sure the air filter is clean and oiled.
- Never run your engine without an air filter. Your engine can be seriously damaged if dirt and debris get inside the engine.
- For proper engine break-in, please refer to the manual that came with the engine.
- The engine may not start or run properly if the air filter is dirty, or choked with sand and dust.
- If the fuel pipe is choked or deteriorates, the engine may not start, and there is danger that fuel will leak out.

STARTING AND RUNNING THE ENGINE

Be sure to observe the following starting process. Failure to do so may cause the model car to start suddenly, which may lead to damage or unexpected accidents.

1. Make sure the transmitter and receiver batteries are fully charged.
2. Make sure that your transmitter and receiver are both on the same frequency. If you have a transmitter with multiple model memory, make sure you have selected the proper profile for your car.
3. Put the car on the starter box and keep the tires from touching the ground.
4. Turn on the transmitter.
5. Turn on the receiver in the car.
6. Make sure the steering servo and engine servos work normally and adjust them correctly.
7. Put fuel in the fuel tank, and close the cap securely.
8. Apply the glow igniter to the engine glowplug.
9. Push the model car onto the starter box to start the engine. (If the engine is new, follow the instruction manual and be sure to break in the new engine properly).
10. When the engine has started, remove the glow igniter.
11. Follow your engine break-in procedure and tune the engine as appropriate.

STOPPING THE ENGINE

Before you stop the engine, try to make sure the engine is at idle first. There are several ways to stop the engine:

- Use a rag to cover the exhaust tip. Be careful! The exhaust is extremely hot so use a thick rag and gloves.
- Pinch the fuel tubing to stop the flow of fuel to the carb. Be careful, this can make the motor run lean which can damage the motor.
- Put your hand over the air filter, or squeeze the air filter element to block the airflow.
- Press an object (such as a screwdriver handle or shoe) against the rotating flywheel to stop its rotation. Be very careful, and do not stick your hand or fingers near the rotating flywheel.

FINISHING OPERATIONS

1. Stop the engine.
2. Turn off the receiver in the car
3. Turn off the transmitter.

MAINTENANCE AFTER RUNNING

Take proper care of your car after running to keep it performing well, and take notice of any damage and wear.

1. Do not leave fuel in the tank.
2. Go outside to drain any residual fuel from the exhaust pipe.
3. Clean the car and remove all sand, mud, and other debris.
4. Use after-run oil in your engine after you have finished running for the day.

SHOCK MAINTENANCE

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

- For club racing, it is recommended to check the shocks for air inside before each race and only re-fill and bleed them if necessary. Before each race day, make sure you take the spring off of each shock, hold it up to your ear, and quickly compress the shock rod fully into the body while listening for any air making a "whistling" or "squishy" sound as it passes through the piston holes. If you hear any air, refill and bleed your shocks. For high-competition racing, it is recommended that the shocks be re-filled and bled before a large event.
- If building or pairing new shocks, always make sure they are the same length using a shock length measuring tool and adjust the lower ball joints as needed.
- If installing new rubber bladders, carefully trim the thin excess rubber from the edges of their lips. Curved body scissors work the best.
- Regularly inspect the amount of dirt on the felt protector in the shocks (if present) and regularly replace with a new one.
- During regular shock operation, oil naturally gets on the shock shaft and drop-by-drop slightly gets out of the shock body. Shocks should be inspected regularly after each race, and oil replaced as required.

BEARING MAINTENANCE

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

Typically, the ball-bearings included in new cars are greased for highest lifespan and as such the drivetrain may not seem to be as free as with lightly-oiled ball-bearings. However, when the car is run the ball-bearings will become more free and the drivetrain will become very efficient.

There are several types of bearings discussed here: bearings which already come greased from the factory, bearings which must be lubricated using the HUDY Bearing Grease, and then there are also bearings in the steering system which need to be lubricated with HUDY Bearing Oil.

The following procedures are recommended to clean all of the bearings in your off-road car or truggy. For high-competition racing, we recommended doing this every 3-4 weeks, or before a major race.

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

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

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

CLUTCH BEARINGS
To prolong the lifespan of the clutch bearings, they must be regularly cleaned and lubricated (preferably after each run) using a high-quality grease such as HUDY Bearing Grease. However, after some time the clutch bearings must be replaced with new ones.

RECOMMENDED PRODUCTS

- Use HUDY Bearing Grease to regularly lubricate grease-bearing ball-bearings.
- Use HUDY Bearing Oil to lubricate the bearings of the steering system.
- Use HUDY Bearing Grease to regularly lubricate the clutch bearings.

HUDY #106230



HUDY #106220



HUDY #106222



HUDY #106221



SUSPENSION & DRIVETRAIN MAINTENANCE

- Check suspension for free movement during building and operation, and especially after running and if you have crashed the car. If the suspension does not move freely, use the appropriate HUDY Arm Reamer to clean and resize the holes of the suspension arms.
- Regularly check the drive shaft pins (both side and center) and if they show any wear must be immediately replaced by new pins. If the car is run with worn pins, excessive wear on the diff outdrives will result. The 106000 HUDY Drive Pin Replacement Tool (for 3mm Pins) is a compact, rugged multi-use tool set for replacing 3mm drive pins in drive shafts. Use the HUDY replacement drive shaft pins 3x14 (#106050).
- Regularly inspect and replace the connecting pins which connect the center drive shafts with the pinion gear, and also the pins that connect the wheel drive shafts with wheel axles. Use HUDY Graphite Grease to lubricate the drive shaft connecting joints and the diff gears.
- Pivot balls and ball-joints will naturally wear for some time and will generate play. If there is too much play the pivot balls and ball joints need to be replaced.
- If the car is run in wet conditions, apply WD-40® on all drivetrain parts before the run. After the run, clean and dry the parts again.

HUDY #106210



HUDY SPRING STEEL™

The HUDY Spring Steel™ used in the car is the strongest and most durable steel material on the RC market. While items made from HUDY Spring Steel™ are still subject to wear, the lifespan is considerably longer than any other material. As parts made from HUDY Spring Steel™ wear, the brown color will after some time "go down" but it will not affect the strength of the material. The brown color is only a surface treatment and if the brown color will wear the durability of the part will be still strong.

TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
ENGINE DOES NOT START	• Fuel tank is empty or carburetor is not primed • Bad glowplug or dead glowdriver battery • Fuel lines, fuel filter, air cleaner, or muffler is clogged • Engine is flooded due to over-priming • Carburetor is not adjusted properly • Throttle servo linkage not adjusted properly	• Fill fuel tank with fuel and prime • Replace glowplug or recharge/replace glowdriver battery • Clean or replace clogged part(s) • Remove glowplug, turn car over to discharge fuel from cylinder. Test glowplug and replace if defective • Set idle and main/slow needle adjusting screw to standard starting position • Move throttle servo to neutral position and re-adjust linkage(s)
ENGINE STARTS BUT THEN STALLS	• Fuel tank is empty • Fuel lines, fuel filter, air cleaner, or muffler is clogged • Carburetor is not adjusted properly • Engine has overheated	• Fill fuel tank with fuel • Clean or replace clogged part(s) • Re-adjust idle and main/slow needle adjusting screw • Allow engine to thoroughly cool down and open main needle adjusting screw 30° turn richer (CCW)
BAD REACTION AND RESPONSE FROM ENGINE	• Carburetor is not adjusted properly • Fuel lines, fuel filter, air cleaner, or muffler is clogged • Low fuel pressure from muffler	• Re-adjust main/slow needle adjusting screw • Clean or replace clogged part(s) • Properly install pressure line between muffler and fuel tank
CAR IS HARD TO CONTROL	• Weak transmitter and/or receiver batteries • Low reception from radio antennas • Servo linkages not adjusted properly	• Recharge or replace batteries • Fully extend transmitter and receiver antennas • Move servo to neutral then re-adjust linkage(s)
STEERING DOES NOT WORK PROPERLY	• Weak transmitter and/or receiver batteries • Bent linkages or driveshafts • Loose steering components • Drivetrain damage	• Recharge or replace batteries • Check tightness of steering components and tighten if necessary • Replace damaged parts
HANDLING PROBLEMS	• Shocks are not working properly • Suspension is binding • Improper tires	• Rebuild the shocks and replace worn or broken parts • Make sure suspension moves freely. Replace worn or broken parts • Use different tires
STEERING FEELS SLUGGISH OR VAGUE	• Suspension is binding • Damaged steering servo	• Make sure suspension moves freely, and replace worn or broken parts • Check the steering servo for damage and wear, and replace/repair if necessary
THE CAR DOES NOT DRIVE STRAIGHT	• Suspension is binding • Steering trim is off-center • Wheels are loose • Damaged steering servo	• Make sure suspension moves freely, and replace worn or broken parts • Adjust steering trim until car drives straight • Check the make sure the wheel nuts are properly tightened • Check the steering servo for damage and wear, and replace/repair if necessary

SET-UP SHEET

XRAY XB9

RACE	
TRACK	
NAME	
CITY / COUNTRY	
CONTACT	
DATE	

TEMPERATURE / °F or °C	AIR	TRACK

LAPS	FINAL POSITION	BEST LAPTIME/sec	RACE LENGTH/min.

TRACK SIZE	☐ OPEN	☐ MEDIUM	☐ TIGHT
TRACK TRACTION	☐ HIGH	☐ MEDIUM	☐ LOW
TRACK SURFACE	☐ SMOOTH	☐ MEDIUM	☐ BUMPY
TRACK TYPE	☐ HARD PACKED	☐ SOFT DIRT	☐ CLAY
	☐ BLUE GROOVE	☐ ASTRO TURF	☐ GRASS
TRACK CONDITION	☐ DRY	☐ DUSTY	☐ WET ☐ MUD

DIFFERENTIALS

TYPE		
FRONT	CENTER	REAR
DIFFERRENTIAL - OIL		

GEARING

CLUTCH BELL	T	SPUR GEAR	T
PINION	T	CROWN GEAR	T
SPRING		SHOE	

SHOCKS

FRONT		REAR
#358182 C = 0.65 ☐	WHITE	☐ #358282 C = 0.47
#358183 C = 0.70 ☐	GREY	☐ #358283 C = 0.50
#358184 C = 0.75 ☐	SILVER	☐ #358284 C = 0.53
#358185 C = 0.80 ☐	GREY-BLUE	☐ #358285 C = 0.57
#358186 C = 0.86 ☐	BLUE	☐ #358286 C = 0.61
#358187 C = 0.92 ☐	VIOLET	☐ #358287 C = 0.65
#358188 C = 0.98 ☐	PURPLE	☐ #358288 C = 0.70
	OTHER	
	OIL / cST	
	REBOUND /%	
☐ 6 HOLES	PISTONS	6 HOLES ☐
	☐ 1.1mm ☐	
☐ 8 HOLES	☐ 1.2mm ☐	8 HOLES ☐
	☐ 1.3mm ☐	
☐ 10 HOLES	☐ 1.4mm ☐	10 HOLES ☐
	OTHERS	

ANTI ROLL BAR

FRONT		REAR
	THICKNESS / mm	

TIRES

FRONT		REAR
	TYPE	
	INSERTS	
	WHEELS	

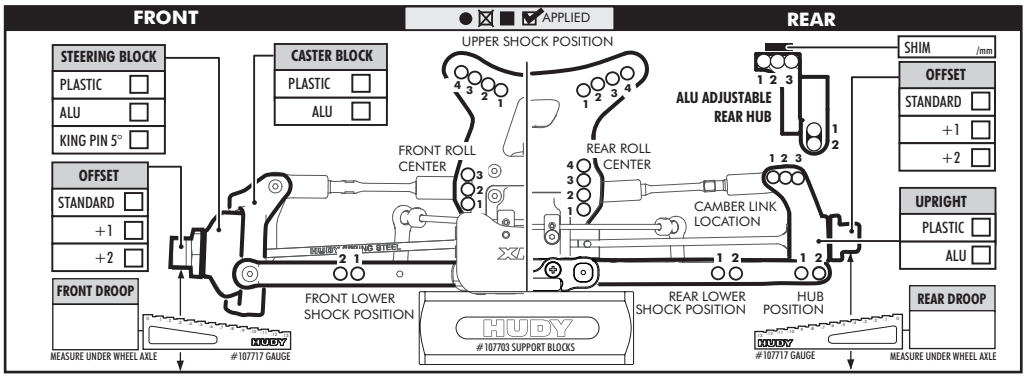
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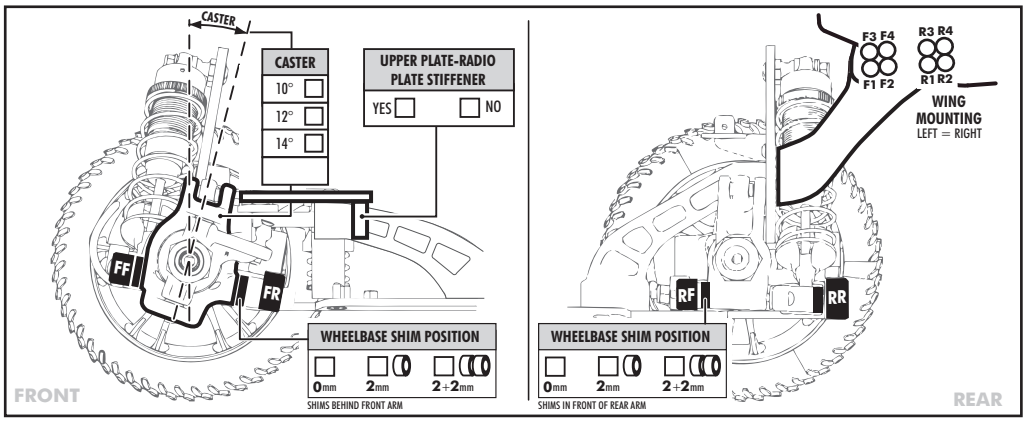
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MANIFOLD	
MUFFLER	
PLUG	
FUEL	

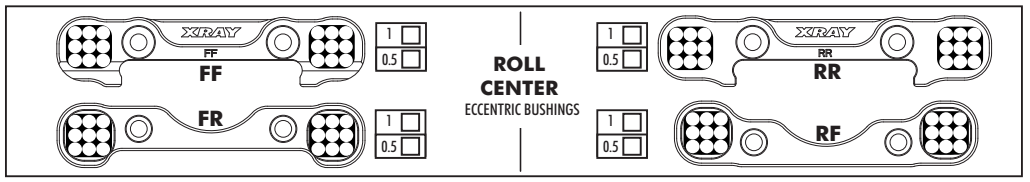
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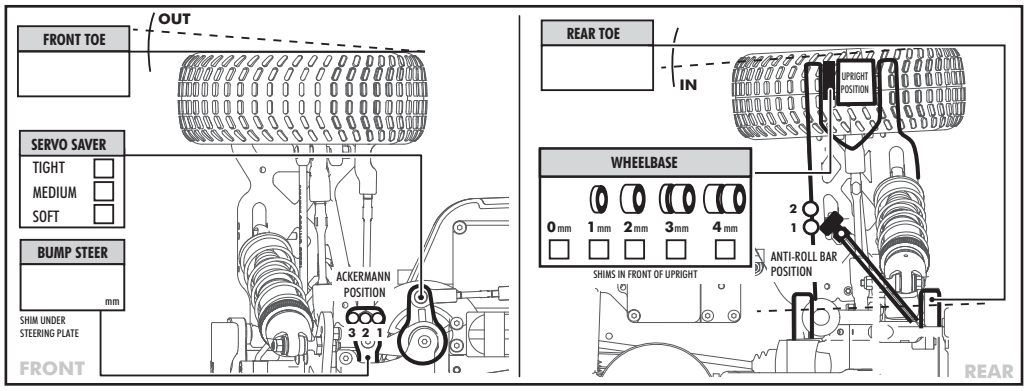
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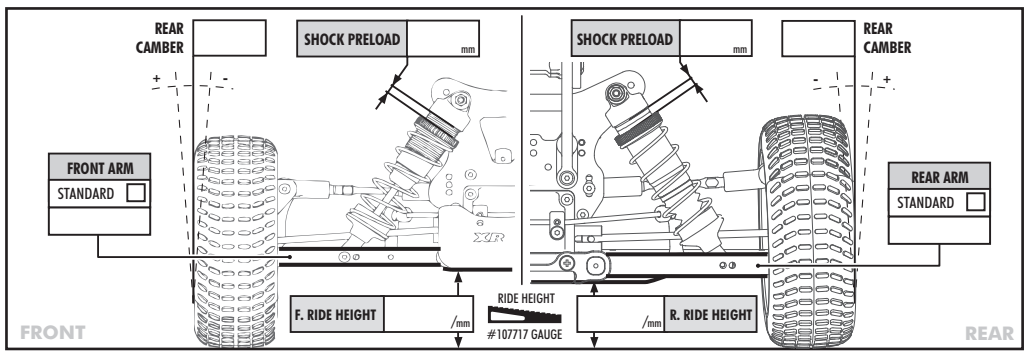
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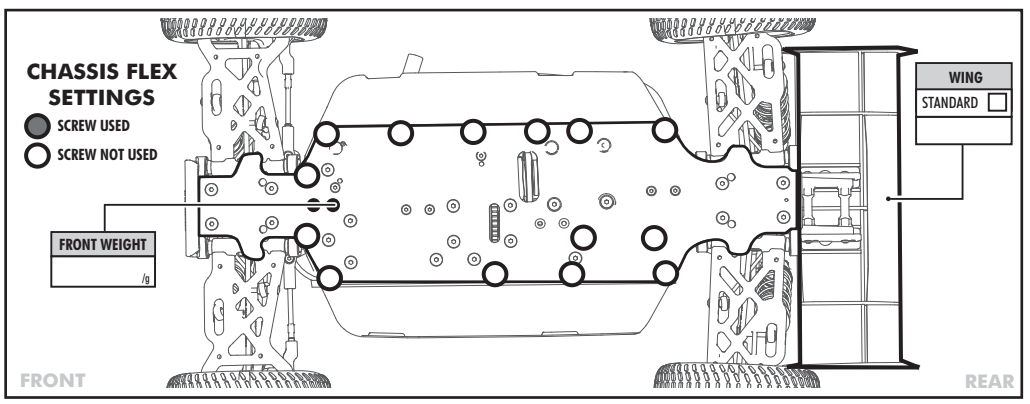












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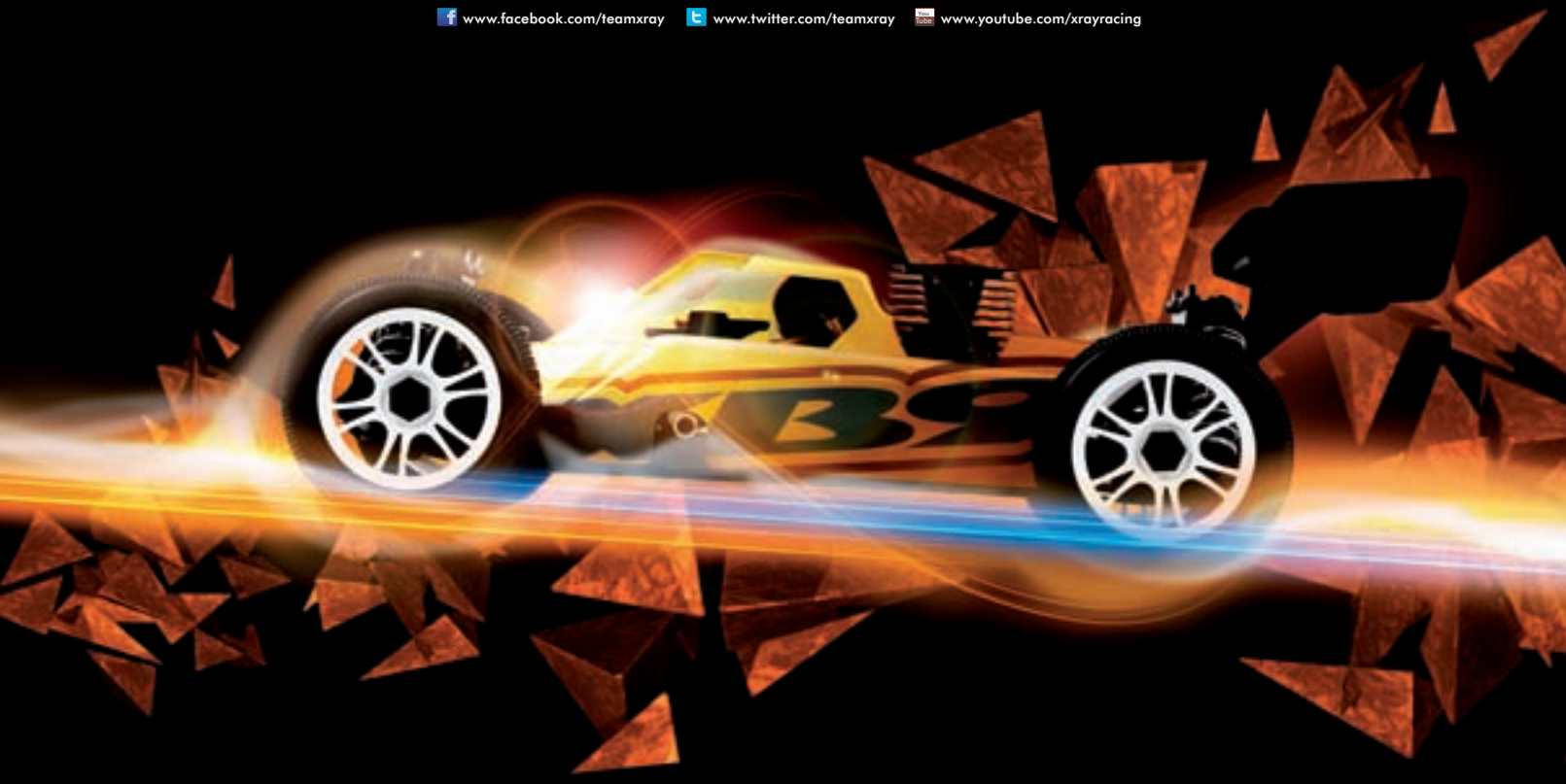
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