

1/8 LUXURY GT

# **XRAY GTX8**



**INSTRUCTION MANUAL**  
**FOR GTX8.3 & GTXE.3**

## BEFORE YOU START

This is a high-competition, high-quality RC car intended for persons aged 16 years and older with previous experience building and operating RC model racing cars. This is not a toy; it is a precision racing model. This model racing car is not intended for use by beginners, inexperienced customers, or by children without direct supervision of a responsible, knowledgeable adult. If you do not fulfill these requirements, please return the kit in unused and unassembled form back to the shop where you have purchased it.

Before building and operating your XRAY, **YOU MUST** read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage. Read

## CUSTOMER SUPPORT

We have made every effort to make these instructions as easy to understand as possible. However, if you have any difficulties, problems, or questions, please do not hesitate to contact the XRAY support team at [info@teamxray.com](mailto:info@teamxray.com). Also, please visit our Web site at [www.teamxray.com](http://www.teamxray.com) to find the latest updates, set-up information, option parts, and many other goodies. We pride ourselves on taking excellent care of our customers.

You can join thousands of XRAY fans and enthusiasts in our online community at: [www.teamxray.com](http://www.teamxray.com)

carefully and fully understand the instructions before beginning assembly.

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

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

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## 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 warranty immediately.

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

## IMPORTANT NOTES - GENERAL

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

## IMPORTANT NOTES - 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 flammable, 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](http://www.teamxray.com) to get advice, or contact us via email at [info@teamxray.com](mailto:info@teamxray.com), or contact the XRAY distributor in your country.

## **WARRANTY**

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

Due to the high performance level of this model car you will need to periodically maintain and replace consumable components. Any and all warranty coverage will not cover replacement of any part or component damaged by neglect, abuse, or improper or unreasonable use. This includes but is not limited to damage from

crashing, chemical and/or water damage, excessive moisture, improper or no maintenance, or user modifications which compromise the integrity of components. Warranty will not cover components that are considered consumable on RC vehicles. XRAY does not pay nor refund shipping on any component sent to XRAY or its distributors for warranty. XRAY reserves the right to make the final determination of the warranty status of any component or part.

### **Limitations of Liability**

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

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

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

## **QUALITY CERTIFICATE**

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

parts once you start racing the car. Products which have been worn out, abused, neglected or improperly operated will not be covered under warranty. We wish you enjoyment of this high-quality and high-performance RC car and wish you best success on the track!

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

## 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 or WD-40® 	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 1.5/2.0/2.5/3.0mm (HUDY TOOLS) Ball Allen 2.5mm (HUDY TOOLS) Arm Reamer 3mm/4mm (HUDY TOOLS) Socket 5.0/5.5mm (HUDY TOOLS)	Pinion Tool Set (XRAY #349901) 	17mm Wheel Nut Tool (HUDY #107570) 	Flywheel Tool (HUDY #182015) 	Special Tool for all turnbuckles, nuts (HUDY #181090)  Turnbuckle Wrench (HUDY #181040 4mm) (HUDY #181050 5mm)	Cross Wrench (HUDY #107581) 
Side Cutters (HUDY #189010) 	Pocket Hobby Knife (HUDY #188981) 	Needle Nose Pliers (HUDY #189020) 	Professional Multi Tool (HUDY #183011) 	Scissors (HUDY #188990) 	Body Reamer (HUDY #107600) or (HUDY #107601) 

## TOOLS & EQUIPMENT INCLUDED

Silicone Shock Oil (HUDY #106381 800cSt) 	Silicone Diff Oil (HUDY #106551 50.000cSt) (HUDY #106631 300.000cSt) 	Air Filter Oil (HUDY #106240) 	Graphite Grease (HUDY #106210) 
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## NOT INCLUDED

**SET-UP BOOK** To ensure that you always have access to the most up-to-date version of the XRAY Set-up Book, XRAY will now be offering only the digital online version at our website at [www.teamxray.com](http://www.teamxray.com). By offering this online version instead of including a hardcopy printed version in kits, you will always be assured of having the most current updated version.

## EQUIPMENT REQUIRED ■ Electric ■ Nitro

Transmitter 	Engine 	Electric Motor & Pinion Gear 	Manifold & Exhaust 	Starter Box & Battery Pack (HUDY #104500) 	Glow Plug Igniter 
Steering and Throttle Servos 	Receiver 	Speed Controller 	LiPo Battery Pack 	Double-sided Tape (HUDY #107875) 	Lexan™ Paint 
Battery Charger 	Receiver Pack 	Threadlock & CA Glue 	GT BODY (XRAY #359730) 	Wheels & Tires 	Fuel + Fuel Bottle (HUDY #104200) 

At the beginning of each section is an exploded view of the parts to be assembled. There is also a list of all the parts and part numbers that are related to the assembly of that section. The part descriptions are color-coded to make it easier for you to identify the source of a part. Here are what the different colors mean:

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

## GTX TECH TIPS

### TIP FRONT & REAR DIFF GEAR MESH ADJUSTMENT

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:

#### TO CLOSE A WIDE GAP

**CLOSE A WIDE GAP**

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

insert shim(s) here

WASHER #962131 S 13 x 16 x 0.1 mm (10)  
#962130 S 13 x 16 x 0.2 mm (10)

#### TO OPEN A NARROW GAP

**OPEN A NARROW GAP**

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

insert shim(s) here

WASHER #962131 S 13x16x0.1mm (10)  
#962130 S 13x16x0.2mm (10)

### 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 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.

### TIP DRIVE SHAFT PIN 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.

1 Do not use drive shafts when the pins are worn.

2 Press out the worn pins.

3 Press in new pins and regularly inspect for wear.

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

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

**9. FUEL TANK & ENGINE** **GTXB**

MANUAL STEPS ONLY FOR GTXB

BAG (2)

**12. FINAL ASSEMBLY** **GTXE**

MANUAL STEPS ONLY FOR GTXE

BAG (2)

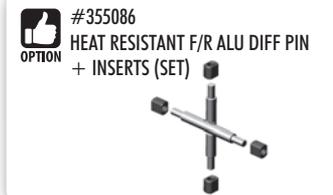
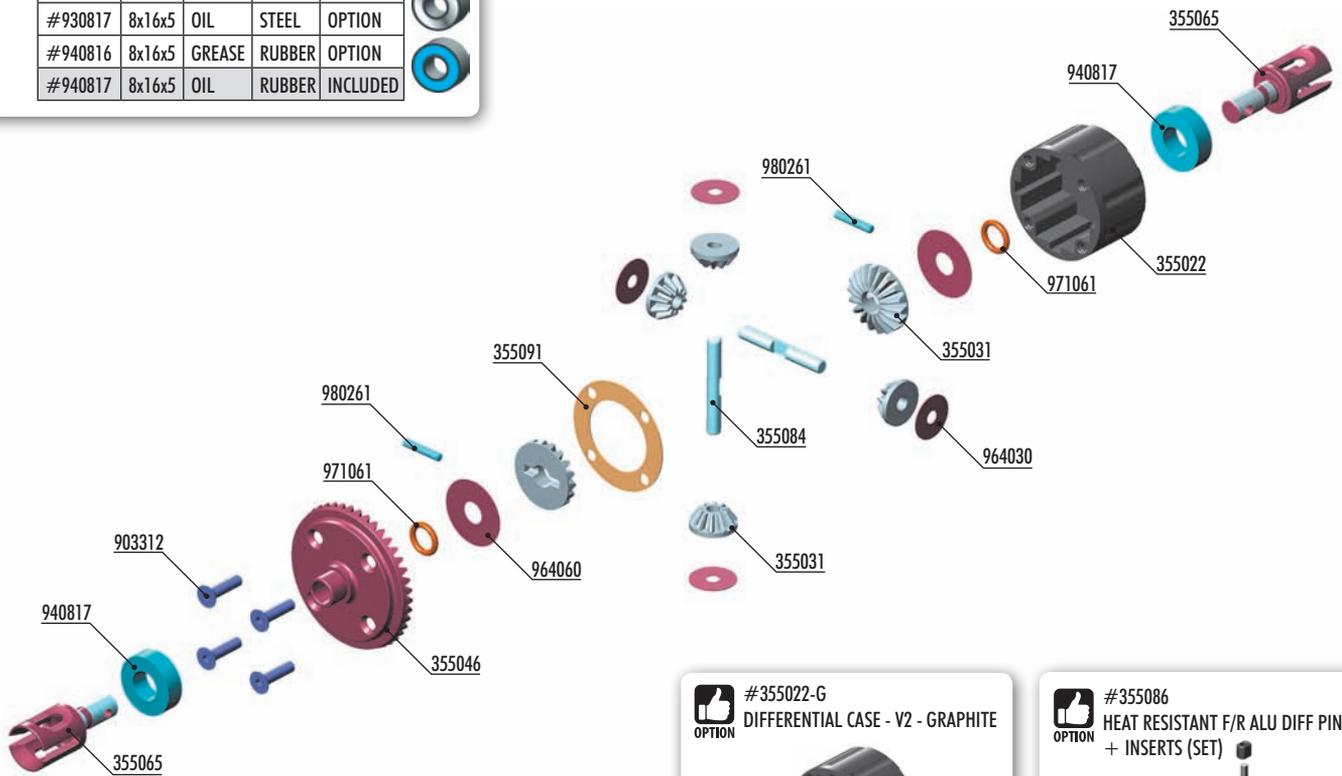
**1. DIFFERENTIAL** **GTXE** **GTXB**

MANUAL DUAL STEPS FOR GTXE & GTXB



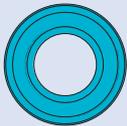
### XRAY BALL-BEARING

OPTION	#930816	8x16x5	GREASE	STEEL	OPTION
	#930817	8x16x5	OIL	STEEL	OPTION
	#940816	8x16x5	GREASE	RUBBER	OPTION
	#940817	8x16x5	OIL	RUBBER	INCLUDED



- 355005 DIFFERENTIAL 46T - V2 - SET
- 355022 DIFFERENTIAL CASE - V2
- 355031 STEEL DIFF BEVEL & SATELLITE GEARS - V2 (2+4)
- 355046 FRONT/REAR DIFF LARGE BEVEL GEAR 46T - HUDY STEEL
- 355065 DIFF OUTDRIVE ADAPTER - V2 - HUDY SPRING STEEL™ (2)
- 355084 F/R DIFF PIN (2)
- 355091 F/R DIFF GASKET (4)

- 903312 HEX SCREW SFH M3x12 (10)
- 940817 BALL-BEARING 8x16x5 RUBBER SEALED - OIL (2)
- 964030 WASHER S 3.5x12x0.2 (10)
- 964060 WASHER S 6x18x0.2 (10)
- 971061 SILICONE O-RING 6x1.55 (10)
- 980261 PIN 2.5x11.5 (10)



940817  
BB 8x16x5



964060  
S 6x18x0.2



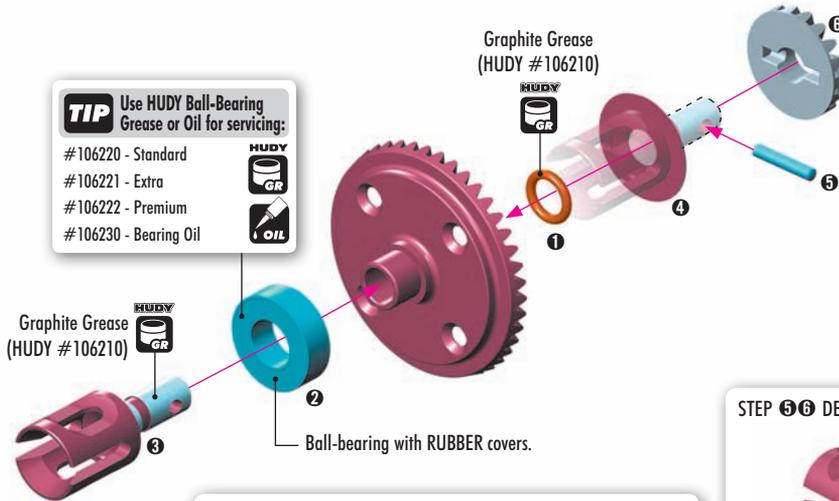
964030  
S 3.5x12x0.2



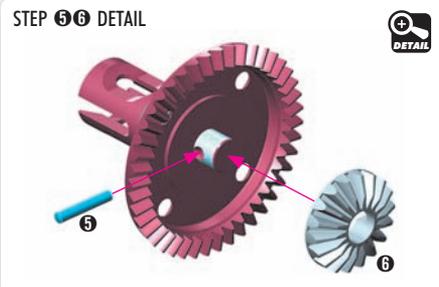
980261  
P 2x11.6

2x F=R

**TIP** Use HUDY Ball-Bearing Grease or Oil for servicing:  
 #106220 - Standard  
 #106221 - Extra  
 #106222 - Premium  
 #106230 - Bearing Oil



OPTION	#930816	8x16x5	GREASE	STEEL	OPTION
	#930817	8x16x5	OIL	STEEL	OPTION
	#940816	8x16x5	GREASE	RUBBER	OPTION
	#940817	8x16x5	OIL	RUBBER	INCLUDED



**SET-UP BOOK**  
DIFFERENTIAL GEARS



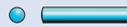
940817  
BB 8x16x5



964060  
S 6x18x0.2

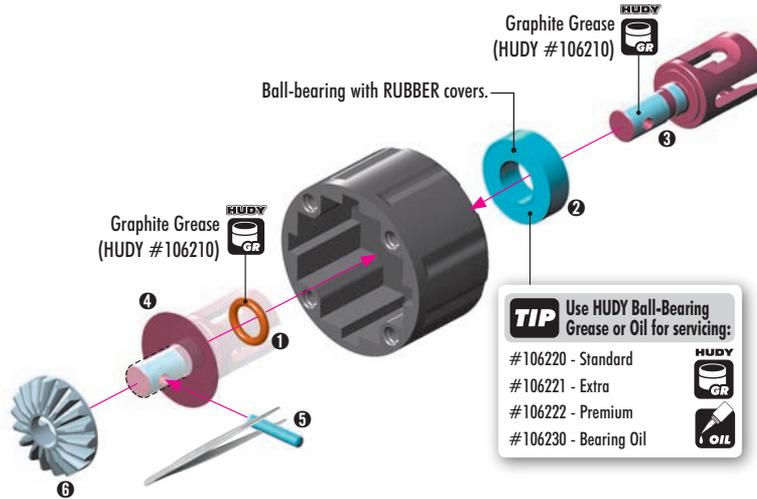


971061  
O 6x1.55



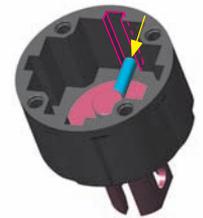
980212  
P 2x11.6

2x F=R



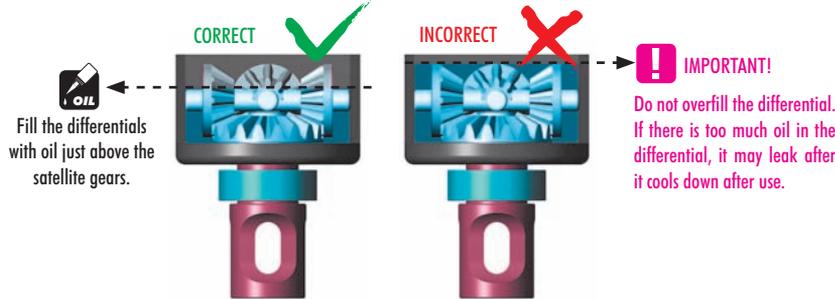
**TIP** Use HUDY Ball-Bearing Grease or Oil for servicing:  
#106220 - Standard  
#106221 - Extra  
#106222 - Premium  
#106230 - Bearing Oil

STEP 6 DETAIL



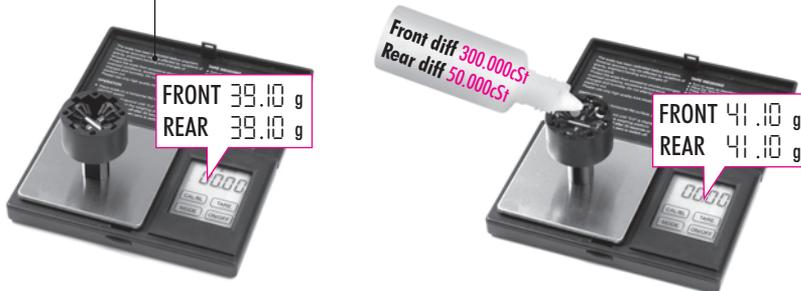
## VERY IMPORTANT!

Use the following silicone oils included in the kit for initial settings:  
FRONT diff: 300.000cSt / REAR diff: 50.000cSt



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

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



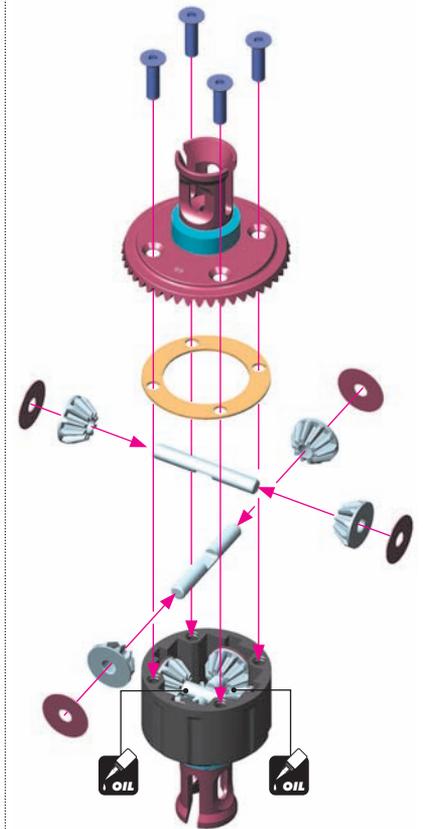
1. Put the diff (without oil) on the scale and check the weight:

- FRONT DIFF approx. 39.10g
- REAR DIFF approx. 39.10g

2. Slowly pour oil into the diff and watch the weight.

- The approximate weight of the diff+oil is REAR DIFF approx. 41.10g and FRONT DIFF approx. 41.10g

REAR DIFF	39.10g + 2.0g	= 41.10g
FRONT DIFF	39.10g + 2.0g	= 41.10g



**Front diff:**

Silicone oil 300.000cSt  
Fill just above the satellite gears.

**Rear diff:**

Silicone oil 50.000cSt  
Fill just above the satellite gears.

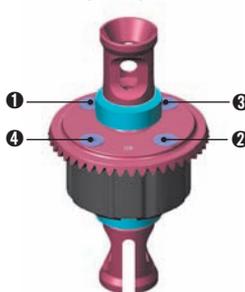
**SET-UP BOOK**

DIFFERENTIAL OIL

Tighten the screws equally



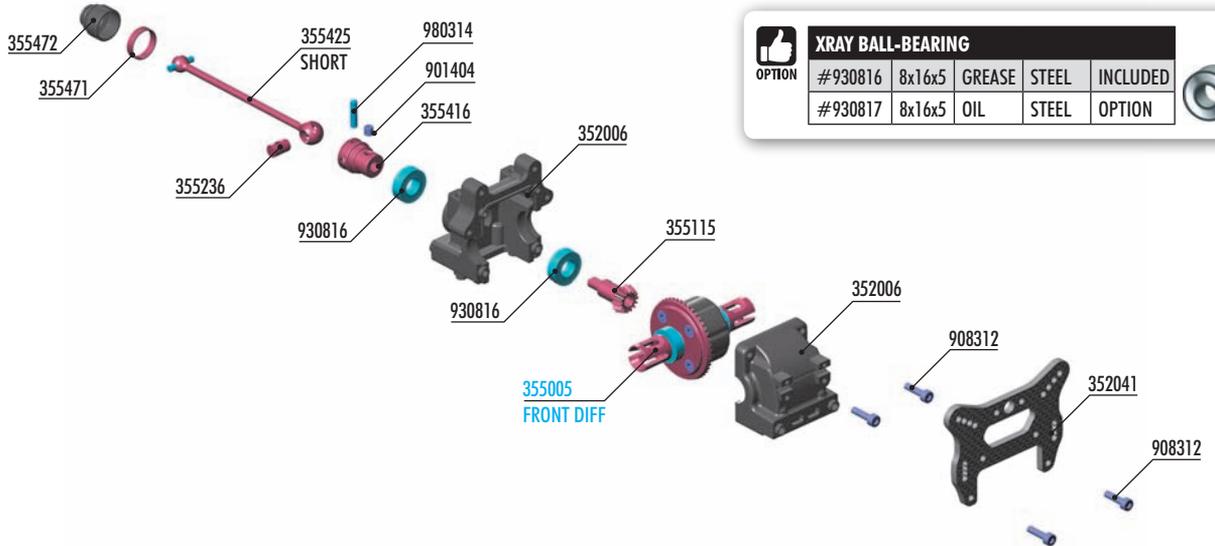
Finish tightening in this order



After assembly the differentials should have a length of 32.3~32.5 mm measured from the ends of the installed ball-bearings. If differentials are longer, retighten the 4 screws holding the crown gears.



32.3~32.5 mm



XRAY BALL-BEARING				
OPTION	#930816	8x16x5	GREASE	STEEL INCLUDED
	#930817	8x16x5	OIL	STEEL OPTION

**BAG**  
02

- 352006 DIFF BULKHEAD BLOCK SET FRONT/REAR
- 352041 GTX8.3 GRAPHITE FRONT SHOCK TOWER - CNC MACHINED 3.5MM
- 355115 BEVEL DRIVE GEAR 13T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355416 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355425 FRONT CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

- 901404 HEX SCREW SB M4x4 (10)
- 908312 HEX SCREW SOCKET HEAD CAP SCH M3x12 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)

355005 DIFFERENTIAL 46T - V2 - SET



901404  
SB M4x4



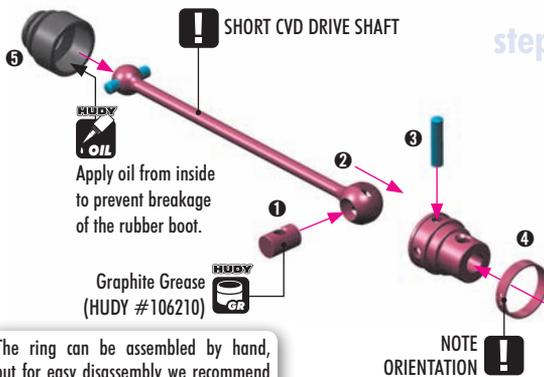
908312  
SCH M3x12



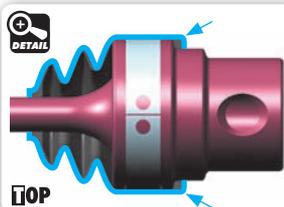
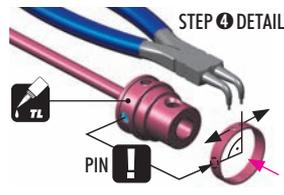
930816  
BB 8x16x5



980314  
P 3x14

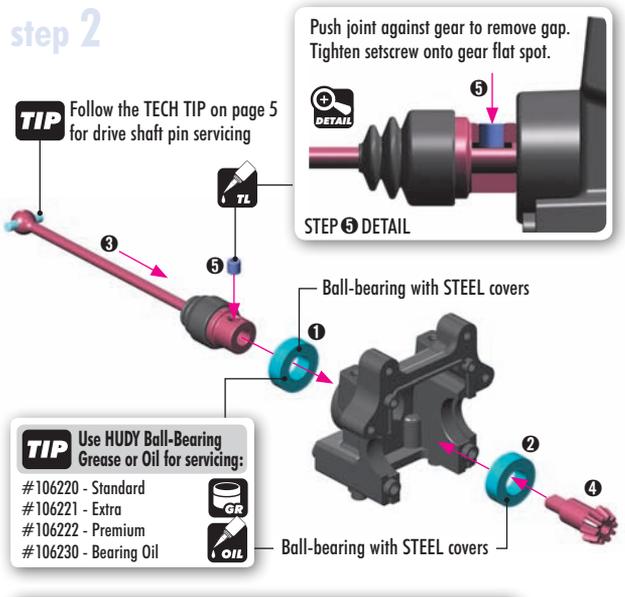


The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040)



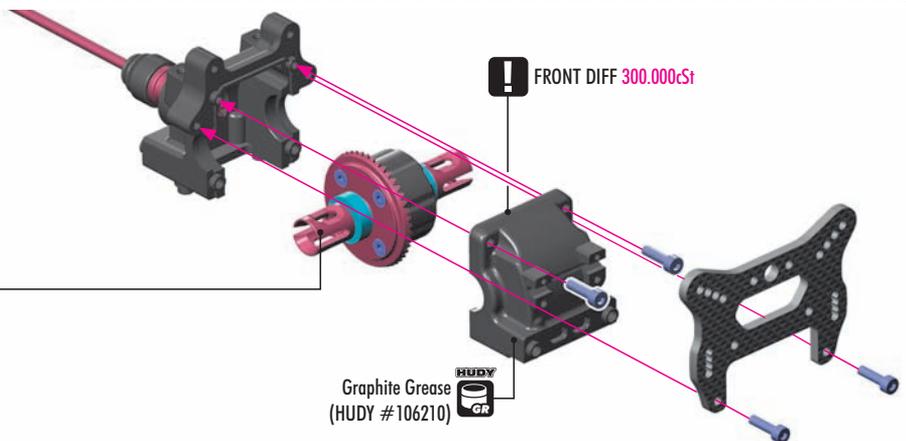
**BEFORE** inserting the clip on the central CVD shaft joint, apply a small amount of threadlock on the area where the clip goes.

**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.



XRAY BALL-BEARING				
OPTION	#930816	8x16x5	GREASE	STEEL INCLUDED
	#930817	8x16x5	OIL	STEEL OPTION

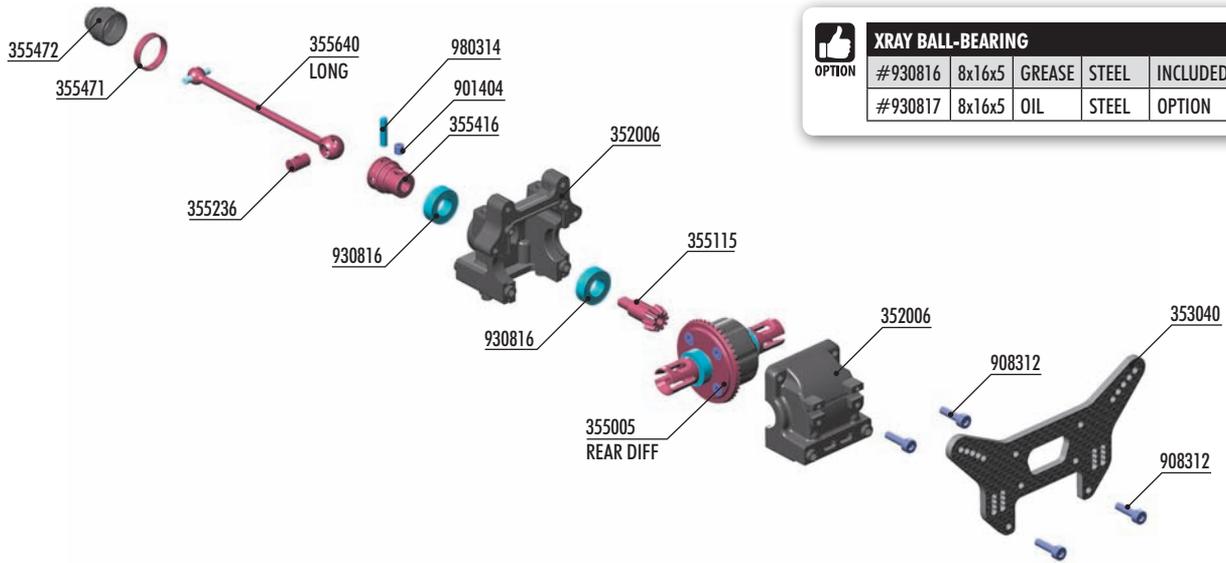
**step 3**



# 2. REAR TRANSMISSION

GTXE

GTX8



### XRAY BALL-BEARING

OPTION	Part #	Size	Lubricant	Material	Status
	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION



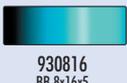
BAG

02

- 352006 DIFF BULKHEAD BLOCK SET FRONT/REAR
- 353040 GRAPHITE REAR SHOCK TOWER - CNC MACHINED 3.5MM
- 355115 BEVEL DRIVE GEAR 13T
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355416 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355640 REAR CENTRAL CVD DRIVE SHAFT - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

- 901404 HEX SCREW SB M4x4 (10)
- 908312 HEX SCREW SOCKET HEAD CAP SCH M3x12 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)

355005 DIFFERENTIAL 46T - V2 - SET



### step 1

**LONG CVD DRIVE SHAFT**

Apply oil from inside to prevent breakage of the rubber boot.

Graphite Grease (HUDY #106210)

**NOTE ORIENTATION**

The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040)

**STEP 4 DETAIL**

**TIP** Apply a small amount of threadlock on the area where the clip goes.

**TIP** Use a small amount of threadlock on the area where the clip goes.

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

Push joint against gear to remove gap. Tighten setscrew onto gear flat spot.

**STEP 5 DETAIL**

**TIP** Use HUDY Ball-Bearing Grease or Oil for servicing:

- #106220 - Standard
- #106221 - Extra
- #106222 - Premium
- #106230 - Bearing Oil

Ball-bearing with STEEL covers



### XRAY BALL-BEARING

OPTION	Part #	Size	Lubricant	Material	Status
	#930816	8x16x5	GREASE	STEEL	INCLUDED
	#930817	8x16x5	OIL	STEEL	OPTION



### step 3

Cut on both front and rear bulkhead blocks

**REAR DIFF 50.000cSi**

Graphite Grease (HUDY #106210)

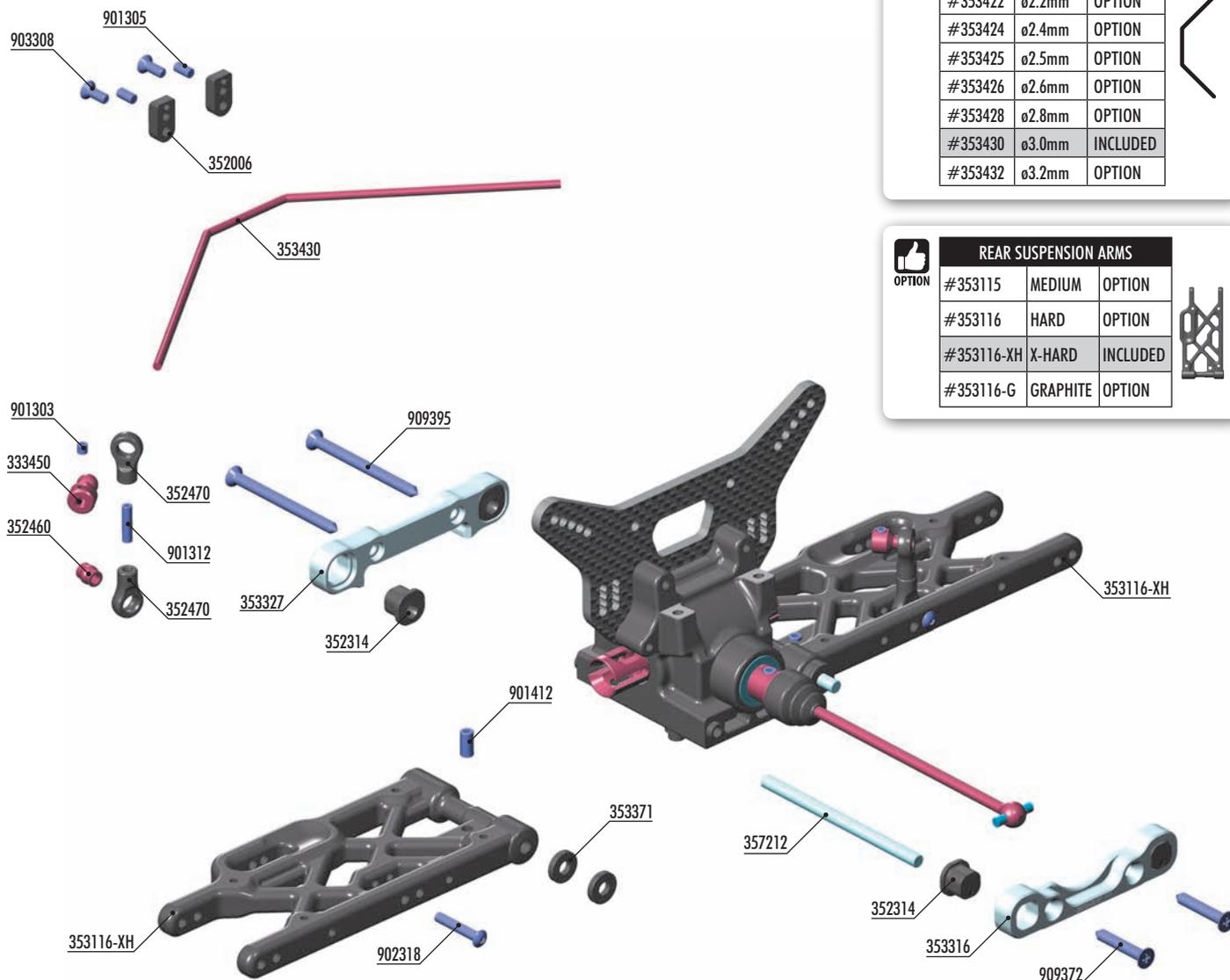
### step 4

**REAR**

### 3. REAR SUSPENSION

GTXE

GTX8



#### REAR ANTI-ROLL BARS

#353418	ø1.8mm	OPTION
#353420	ø2.0mm	OPTION
#353422	ø2.2mm	OPTION
#353424	ø2.4mm	OPTION
#353425	ø2.5mm	OPTION
#353426	ø2.6mm	OPTION
#353428	ø2.8mm	OPTION
#353430	ø3.0mm	INCLUDED
#353432	ø3.2mm	OPTION



#### REAR SUSPENSION ARMS

#353115	MEDIUM	OPTION
#353116	HARD	OPTION
#353116-XH	X-HARD	INCLUDED
#353116-G	GRAPHITE	OPTION



#333451  
ALU ANTI-ROLL BAR PIVOT BALL 5.8 MM  
- SWISS 7075 T6 - HARDCOATED (2)



BAG

03

333450	ANTI-ROLL BAR BALL JOINT 5.8 MM (2)
352006	DIFF BULKHEAD BLOCK SET FRONT/REAR
352314	COMPOSITE ECCENTRIC BUSHINGS - V2 (2)
352460	PIVOT BALL 5.8 (10)
352470	BALL JOINT 5.8 (8)
353116-XH	COMPOSITE REAR LOWER SUSPENSION ARM - X-HARD
353316	ALU REAR LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL CENTER
353327	ALU REAR LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL CENTER
353371	SET OF COMPOSITE LOWER ARM SHIMS
353430	REAR ANTI-ROLL BAR 3.0MM
357212	LOWER INNER PIVOT PIN F+R (2)

901303	HEX SCREW SB M3x3 (10)
901305	HEX SCREW SB M3x5 (10)
901312	HEX SCREW SB M3x12 (10)
901412	HEX SCREW SB M4x12 (10)
902318	HEX SCREW SH M3x18 (10)
903308	HEX SCREW SFH M3x8 (10)
909372	SCREW PHILLIPS SS 3.5x22 (10)
909395	SCREW PHILLIPS SS 3.5x45 (10)



353371  
SHIM 4x10x2



901412  
SB M4x12



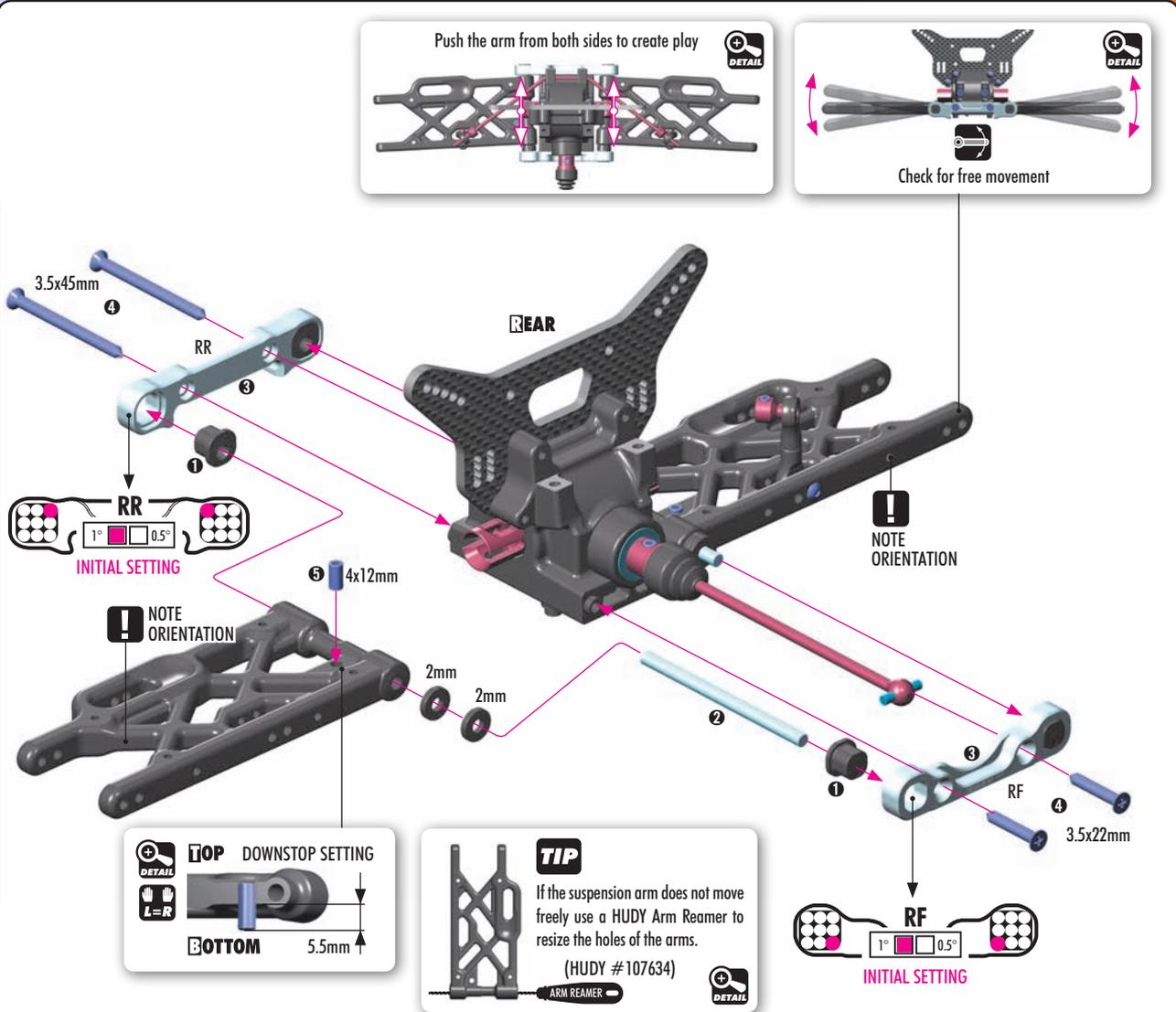
909372  
SS 3.5x22



909395  
SS 3.5x45

### SET-UP BOOK

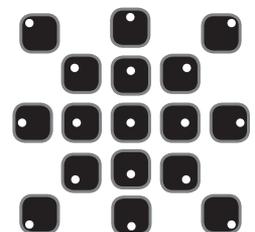
TOE-IN  
ANTI-SQUAT  
ROLL CENTER  
DOWNSTOP  
WHEELBASE  
TRACK WIDTH



**ECCENTRIC BUSHINGS HAVE TWO DIFFERENT OFFSETS FROM THE CENTER.**

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

All possible mounting alternatives of eccentric bushings



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

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°

TRACK-WIDTH		(mm)
RR	RF	
		= 308
		= 306
		= 310

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

# 3. REAR SUSPENSION

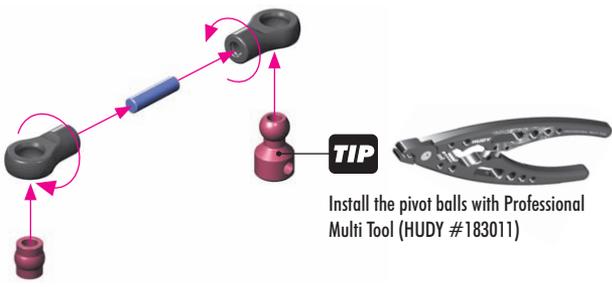
GTXE

GTX8

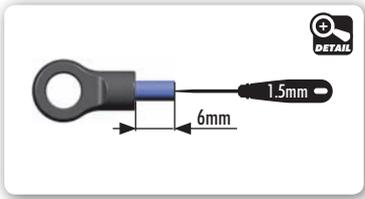


901312  
SB M3x12

2x L=R



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



DETAIL



901303  
SB M3x3



901305  
SB M3x5

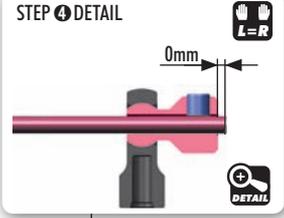
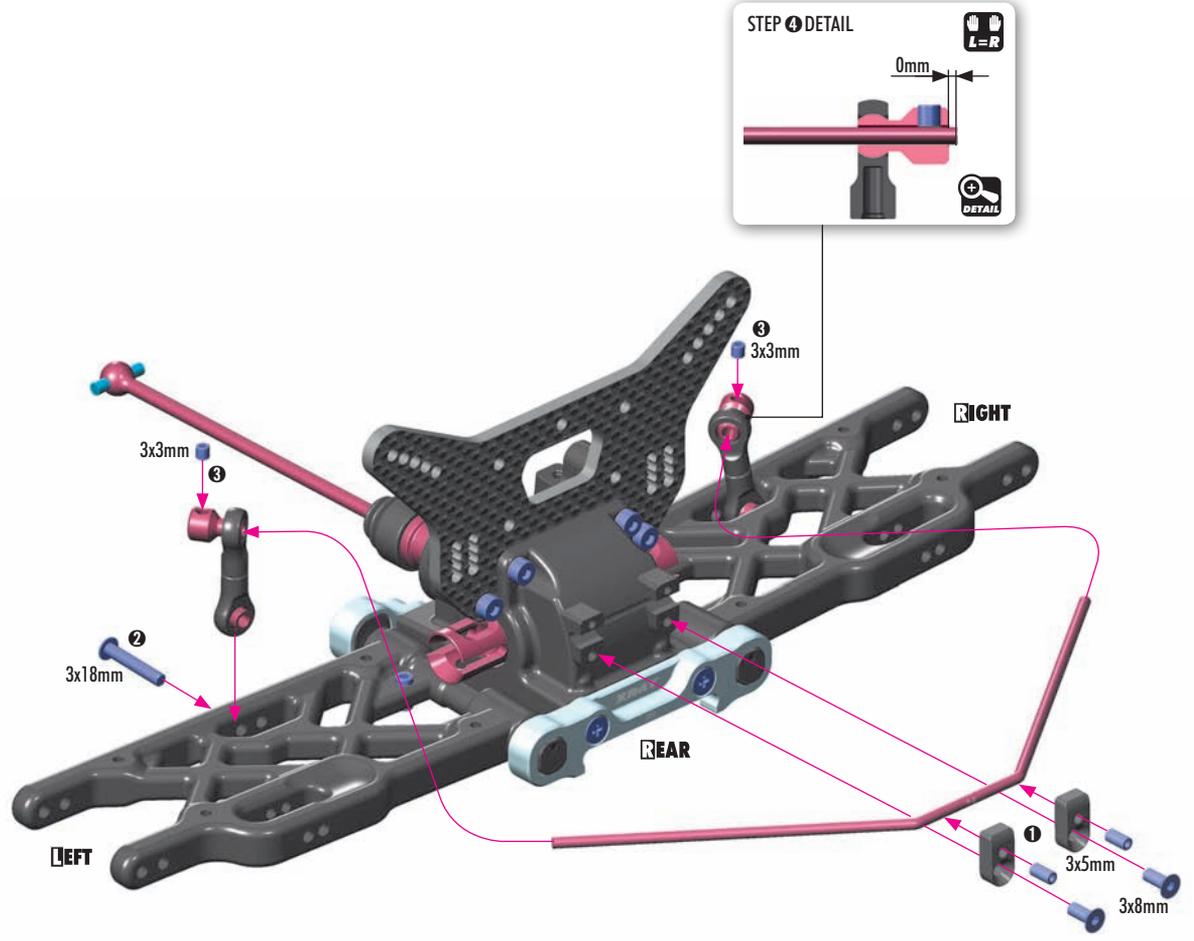


902318  
SH M3x18



903308  
SFH M3x8

L=R



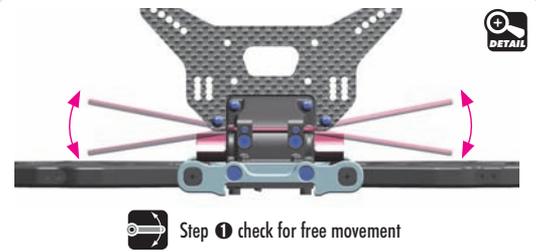
RIGHT

REAR

LEFT



INITIAL SETTING



Step 1 check for free movement

REAR ANTI-ROLL BARS			
OPTION	# 353418	ø 1.8mm	OPTION
	# 353420	ø 2.0mm	OPTION
	# 353422	ø 2.2mm	OPTION
	# 353424	ø 2.4mm	OPTION
	# 353425	ø 2.5mm	OPTION
	# 353426	ø 2.6mm	OPTION
	# 353428	ø 2.8mm	OPTION
	# 353430	ø 3.0mm	INCLUDED
	# 353432	ø 3.2mm	OPTION



Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

Step 1

SET-UP BOOK  
ANTI-ROLL BAR

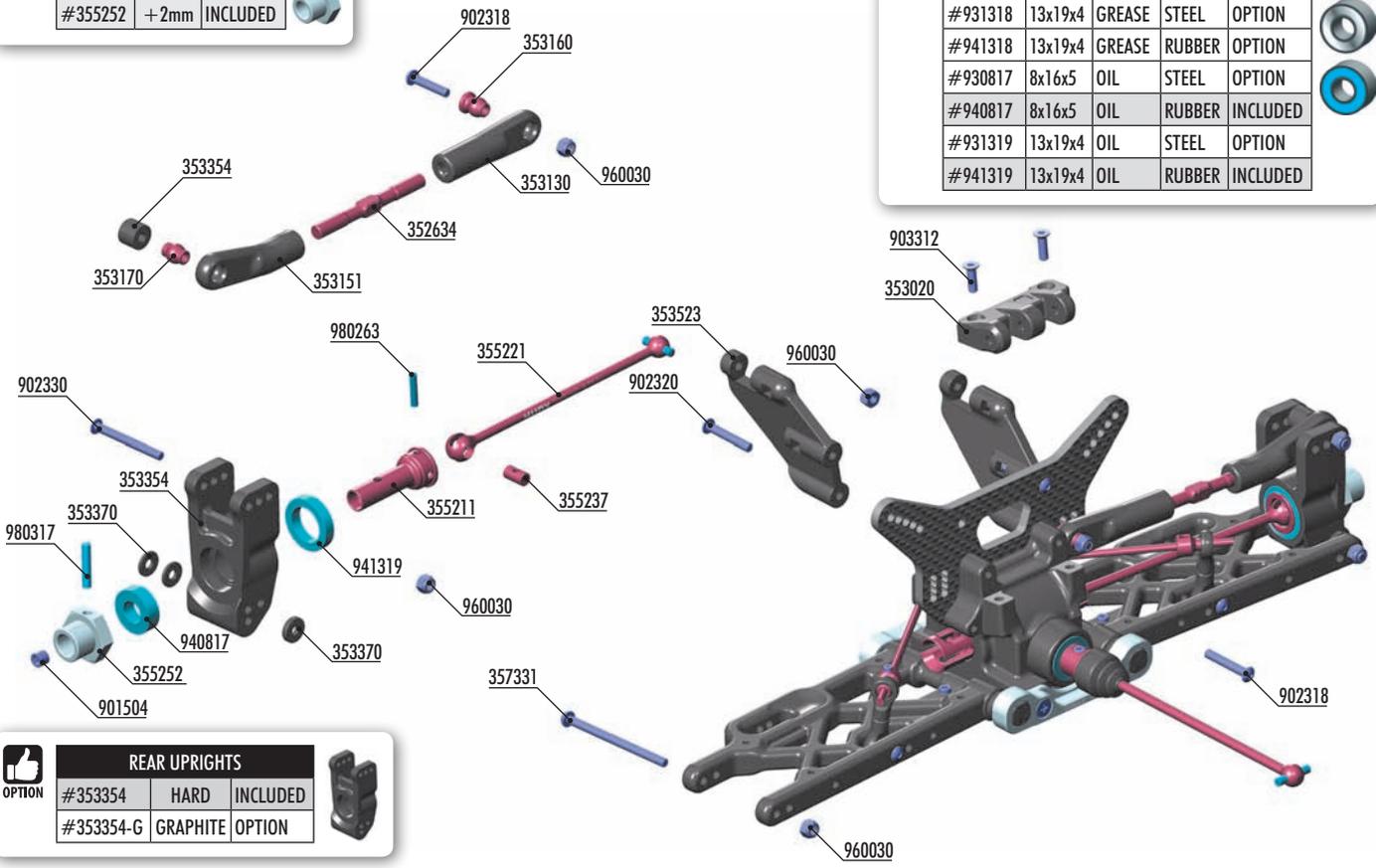
# 4. REAR SUSPENSION

GTXE

GTX8

OFFSET WHEEL AXLES			
#355250	0mm	OPTION	
#355251	+1mm	OPTION	
#355252	+2mm	INCLUDED	

XRAY BALL-BEARING				
#930816	8x16x5	GREASE	STEEL	OPTION
#940816	8x16x5	GREASE	RUBBER	OPTION
#931318	13x19x4	GREASE	STEEL	OPTION
#941318	13x19x4	GREASE	RUBBER	OPTION
#930817	8x16x5	OIL	STEEL	OPTION
#940817	8x16x5	OIL	RUBBER	INCLUDED
#931319	13x19x4	OIL	STEEL	OPTION
#941319	13x19x4	OIL	RUBBER	INCLUDED

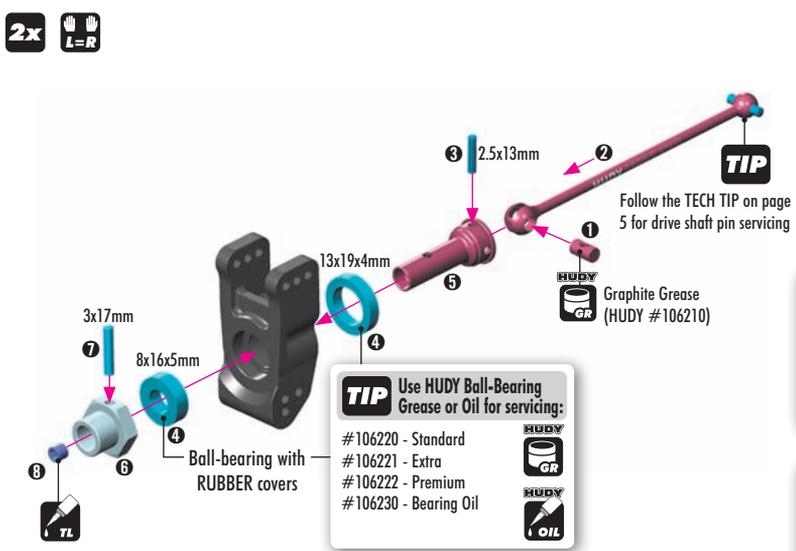


REAR UPRIGHTS		
#353354	HARD	INCLUDED
#353354-G	GRAPHITE	OPTION

**BAG**  
**04**

- 352634 ADJ. TURNBUCKLE M5 L/R 50 MM - HUDY SPRING STEEL™ (2)
- 353020 COMPOSITE REAR BRACE HOLDER
- 353130 REAR UPPER INNER CAMBER LINK BALL JOINT (2)
- 353151 REAR UPPER OUTER CAMBER LINK BALL JOINT - RELIEF (2)
- 353160 MOUNTING BALL 6.8 (4)
- 353170 PIVOT BALL 6.8 (4)
- 353354 COMPOSITE REAR UPRIGHT LB
- 353370 SET OF COMPOSITE REAR HUB CARRIER SHIMS
- 353523 GT COMPOSITE REAR HOLDER POST (2)
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355221 CVD UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™
- 355237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355252 ALU WHEEL AXLE OFFSET +2mm - BLACK COATED (2)

- 357331 REAR LOWER OUTER PIVOT PIN SCREW 3MM (2)
- 901504 HEX SCREW SB M5x4 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902320 HEX SCREW SH M3x20 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 940817 BALL-BEARING 8x16x5 RUBBER SEALED - OIL (2)
- 941319 BALL-BEARING 13x19x4 RUBBER SEALED - OIL (2)
- 960030 NUT M3 (10)
- 980263 PIN 2.5x13 (10)
- 980317 PIN 3x17 (10)



OFFSET WHEEL AXLES			
#355250	0mm	OPTION	
#355251	+1mm	OPTION	
#355252	+2mm	INCLUDED	

REAR UPRIGHTS		
#353354	HARD	INCLUDED
#353354-G	GRAPHITE	OPTION



353370  
SHIM 3x9x1



353370  
SHIM 3x9x2



960030  
N M3

2x L=R



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

Shims for wheelbase adjustment

1mm 1mm

2mm

REAR

LEFT

RIGHT



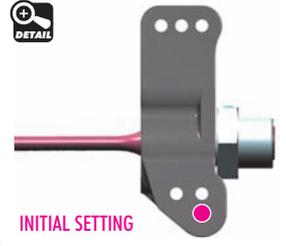
Do not overtighten the self-locking nut. Overtightening may result in suspension binding.



TIP L=R

If the suspension arm does not move freely use a HUDY Arm Reamer to resize the holes of the arms. (HUDY #107633)

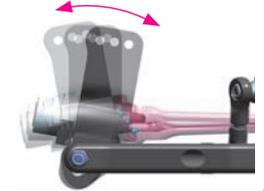
ARM REAMER



INITIAL SETTING



Check for free movement



2x L=R

TIP

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



NOTE ORIENTATION



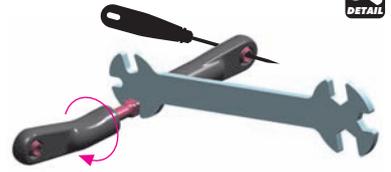
NOTE ORIENTATION



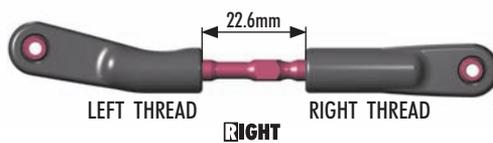
OIL LEFT THREAD

OIL RIGHT THREAD

Use tools to tighten as shown



Special Tool for all turnbuckles & nuts (HUDY #181090) or Turnbuckle Wrench 5mm (HUDY #181050)



LEFT THREAD

22.6mm

RIGHT THREAD

RIGHT



RIGHT THREAD

22.6mm

LEFT THREAD

LEFT

SET-UP BOOK

CAMBER

# 4. REAR SUSPENSION

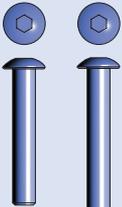
GTXE

GTX8

**2x**



353354  
SHIM 3x9x7



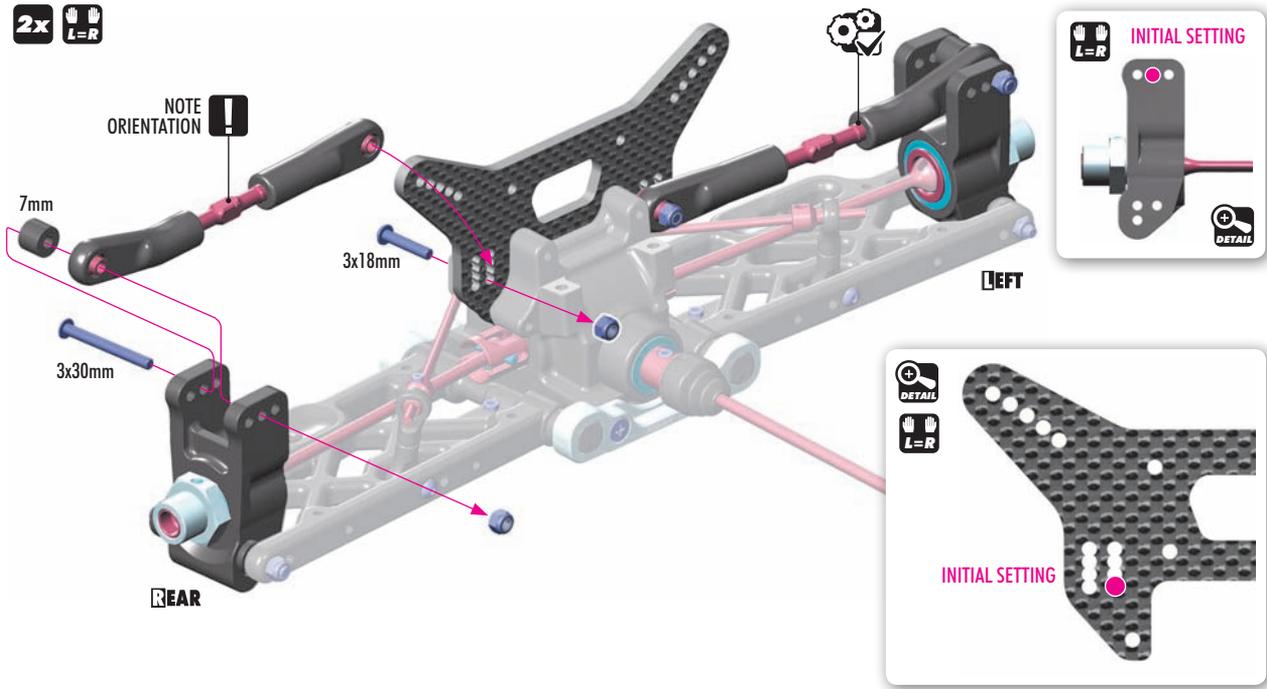
902318  
SH M3x18



902330  
SH M3x30



960030  
N M3



**NOTE ORIENTATION**

7mm

3x18mm

3x30mm

**LEFT**

**REAR**

**INITIAL SETTING**

**INITIAL SETTING**

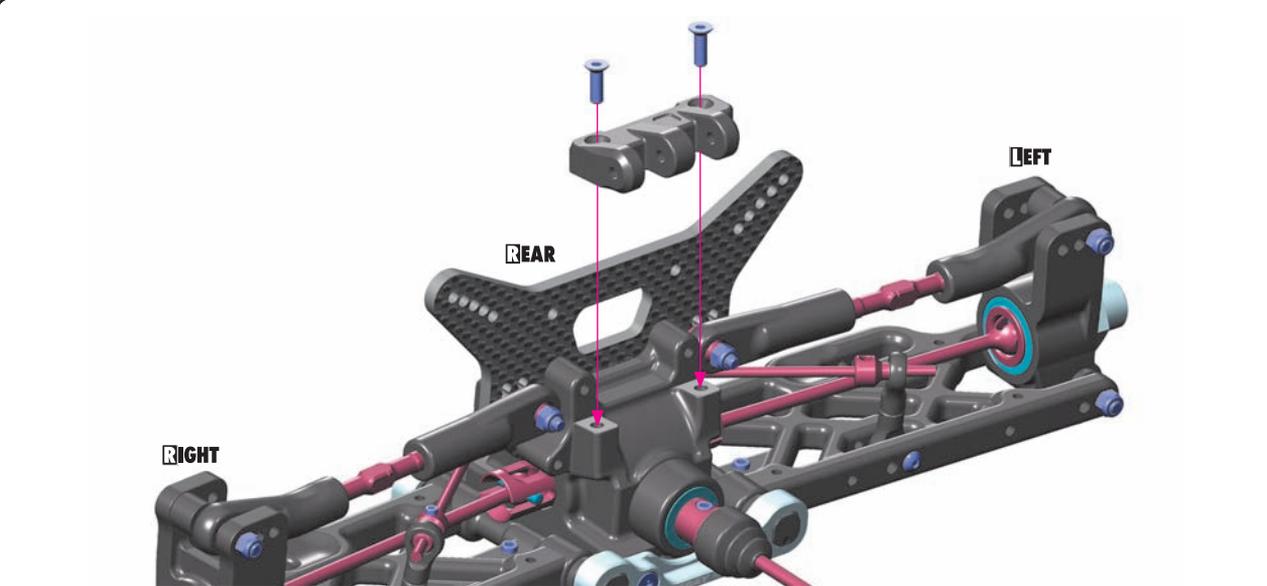
**DETAIL**

**DETAIL**

**L=R**



903312  
SFH M3x12



**LEFT**

**REAR**

**RIGHT**

**2x**



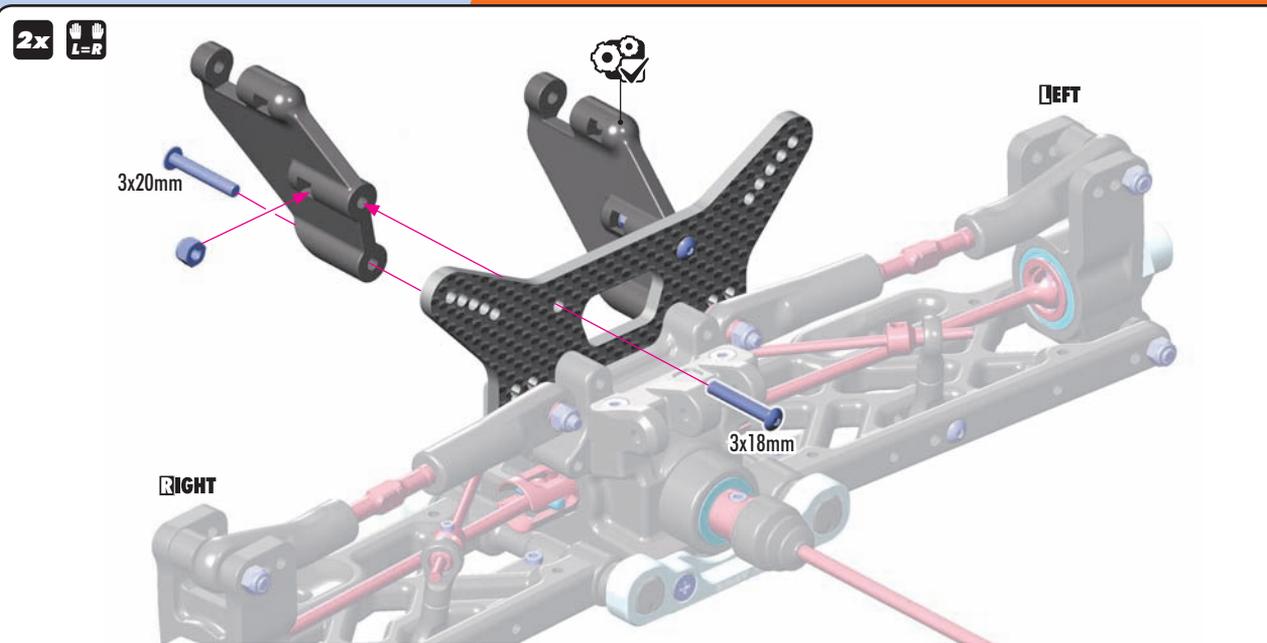
902318  
SH M3x18



902320  
SH M3x20



960030  
N M3



3x20mm

3x18mm

**LEFT**

**RIGHT**

**INITIAL SETTING**

**DETAIL**

**L=R**

# 5. FRONT SUSPENSION

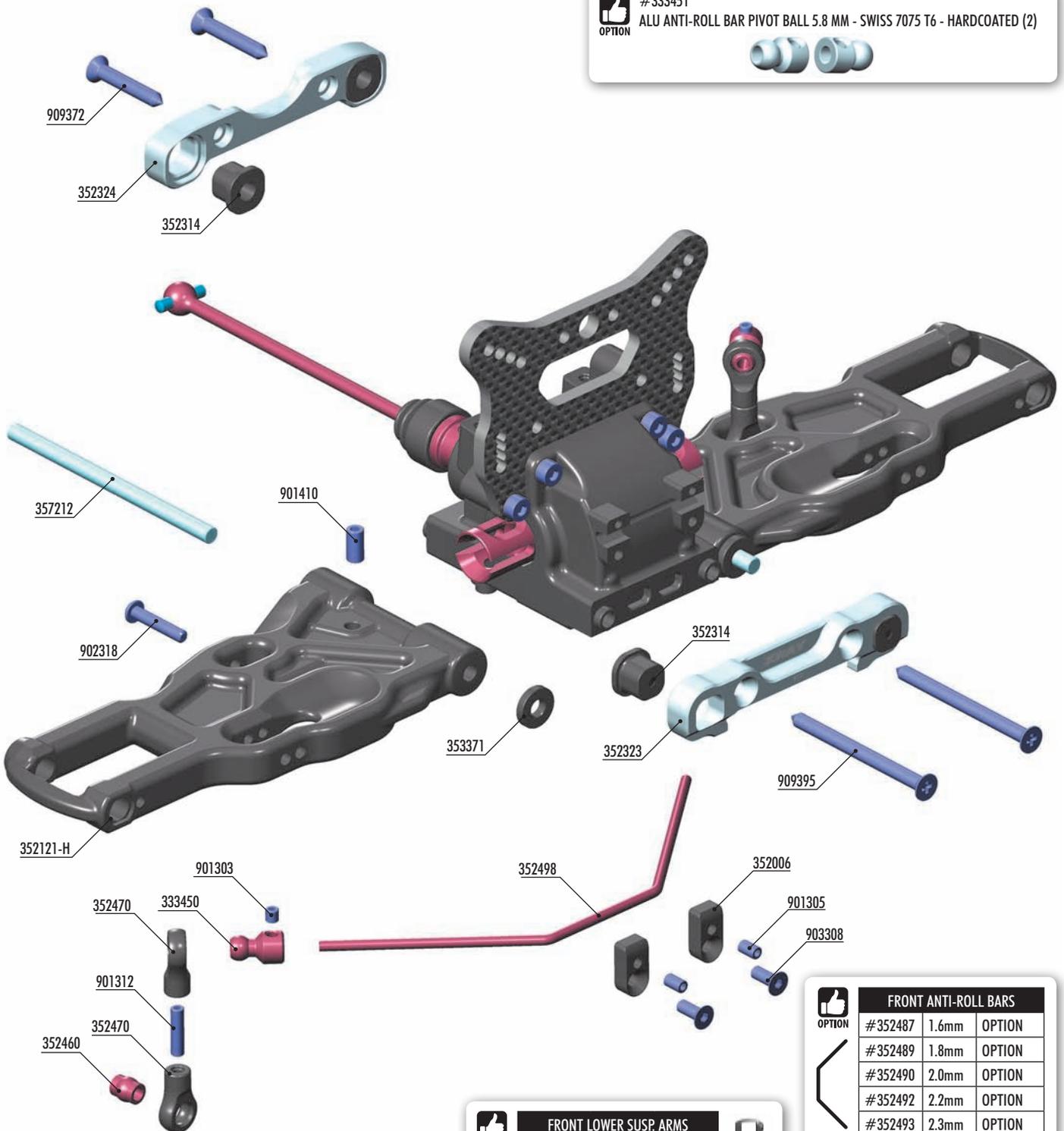
**GTXE**

**GTX8**



#333451

ALU ANTI-ROLL BAR PIVOT BALL 5.8 MM - SWISS 7075 T6 - HARDCOATED (2)



**FRONT LOWER SUSP. ARMS**

#352121-S	SOFT	OPTION
#352121	MEDIUM	OPTION
#352121-H	HARD	INCLUDED
#352121-G	GRAPHITE	OPTION



**FRONT ANTI-ROLL BARS**

#352487	1.6mm	OPTION
#352489	1.8mm	OPTION
#352490	2.0mm	OPTION
#352492	2.2mm	OPTION
#352493	2.3mm	OPTION
#352494	2.4mm	OPTION
#352495	2.5mm	OPTION
#352496	2.6mm	OPTION
#352498	2.8mm	INCLUDED

**BAG**

**05**

333450  
352006  
352121-H  
352314  
352323  
352324  
352460  
352470  
352498  
353371

ANTI-ROLL BAR BALL JOINT 5.8 MM (2)  
DIFF BULKHEAD BLOCK SET FRONT/REAR  
C-HUB COMPOSITE FRONT LOWER SUSPENSION ARM - HARD  
COMPOSITE SQUARE ADJ. ROLL CENTER BUSHINGS - V2 (2)  
ALU FRONT LOWER SUSP. HOLDER - FRONT - SQUARE ADJ. ROLL CENTER - V2  
ALU FRONT LOWER SUSP. HOLDER - REAR - SQUARE ADJ. ROLL CENTER - V2  
PIVOT BALL 5.8 (10)  
BALL JOINT 5.8 (8)  
FRONT ANTI-ROLL BAR 2.8MM  
SET OF COMPOSITE LOWER ARM SHIMS

357212  
901303  
901305  
901312  
901410  
902318  
903308  
909372  
909395

LOWER INNER PIVOT PIN F+R (2)  
HEX SCREW SB M3x3 (10)  
HEX SCREW SB M3x5 (10)  
HEX SCREW SB M3x12 (10)  
HEX SCREW SB M4x10 (10)  
HEX SCREW SH M3x18 (10)  
HEX SCREW SFH M3x8 (10))  
SCREW PHILLIPS SS 3.5x22 (10)  
SCREW PHILLIPS SS 3.5x45 (10)



353371  
SHIM 4x10x2



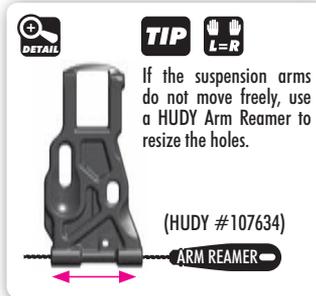
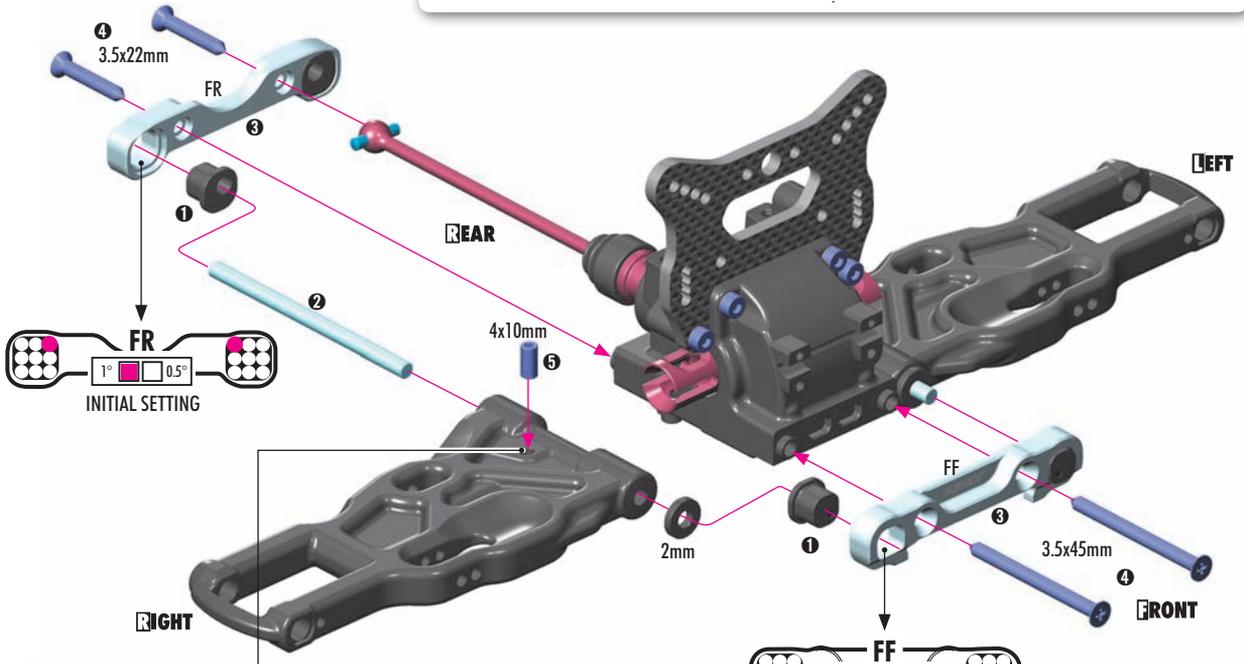
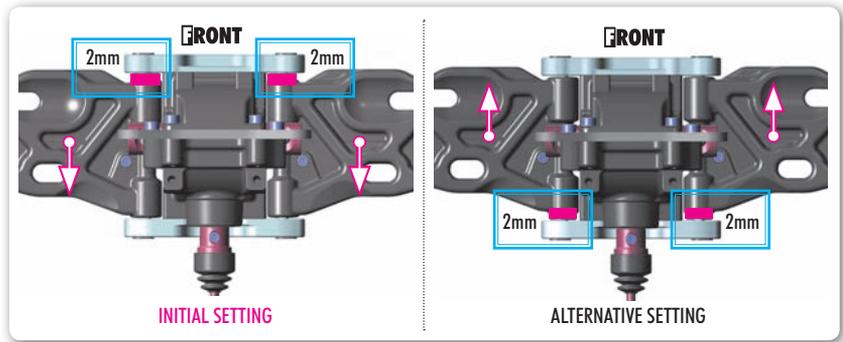
901410  
SB M4x10



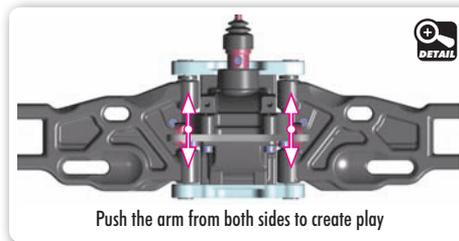
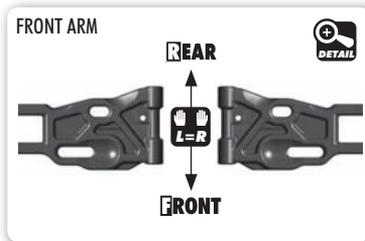
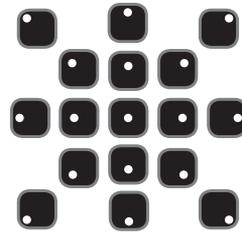
909372  
SS 3.5x22



909395  
SS 3.5x45



All possible mounting alternatives of eccentric bushings



Eccentric bushings have two different offsets from the center.

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

The 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).

TRACK-WIDTH		
FF	FR	(mm)
		= 308
		= 306
		= 310

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

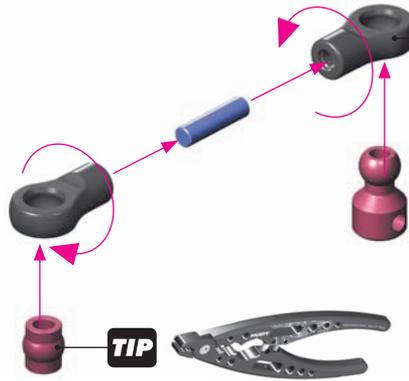
The tables below describe the amounts of kick-up, front track-width change depending on the combinations of eccentric bushings used with 0 and 1mm, 1° offset. The 0.5mm, 0.5° represents the half change.

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

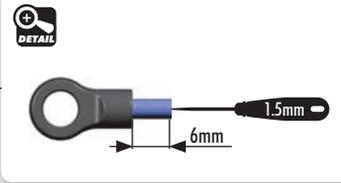


901312  
SB M3x12

2x L=R



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



901303  
SB M3x3



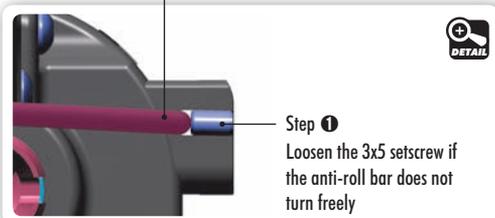
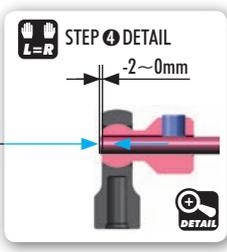
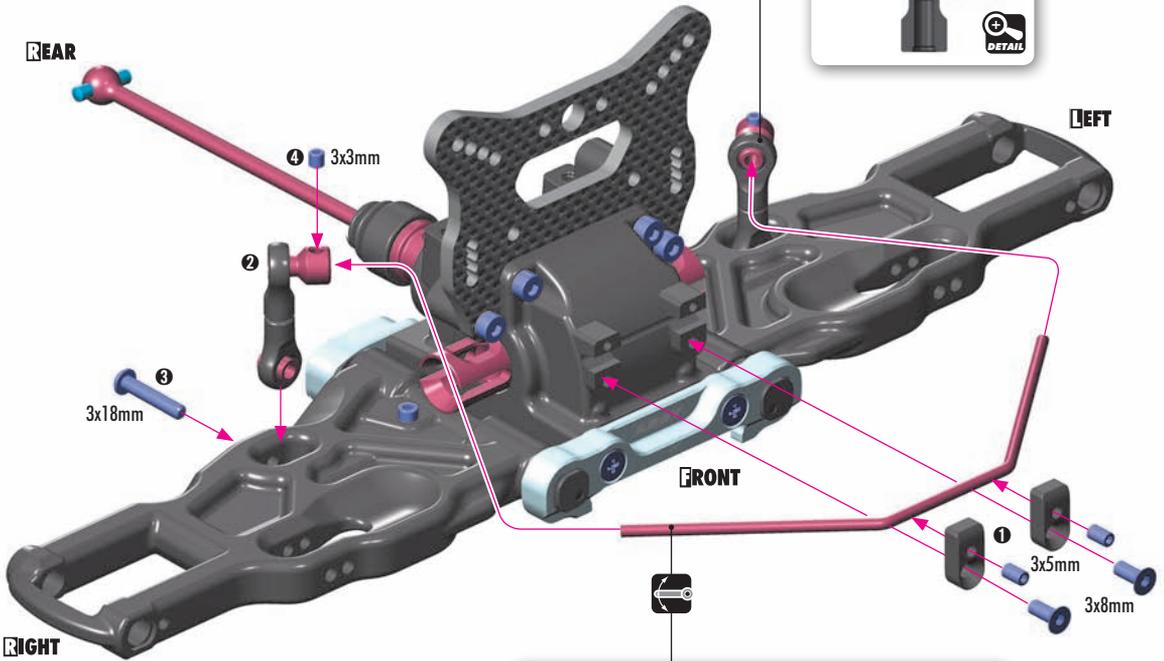
901305  
SB M3x5



902318  
SH M3x18



903308  
SFH M3x8



**Step 1**  
Loosen the 3x5 setscrew if the anti-roll bar does not turn freely

OPTION	FRONT ANTI-ROLL BARS		
#352487	1.6mm	OPTION	
#352489	1.8mm	OPTION	
#352490	2.0mm	OPTION	
#352492	2.2mm	OPTION	
#352493	2.3mm	OPTION	
#352494	2.4mm	OPTION	
#352495	2.5mm	OPTION	
#352496	2.6mm	OPTION	
#352498	2.8mm	INCLUDED	



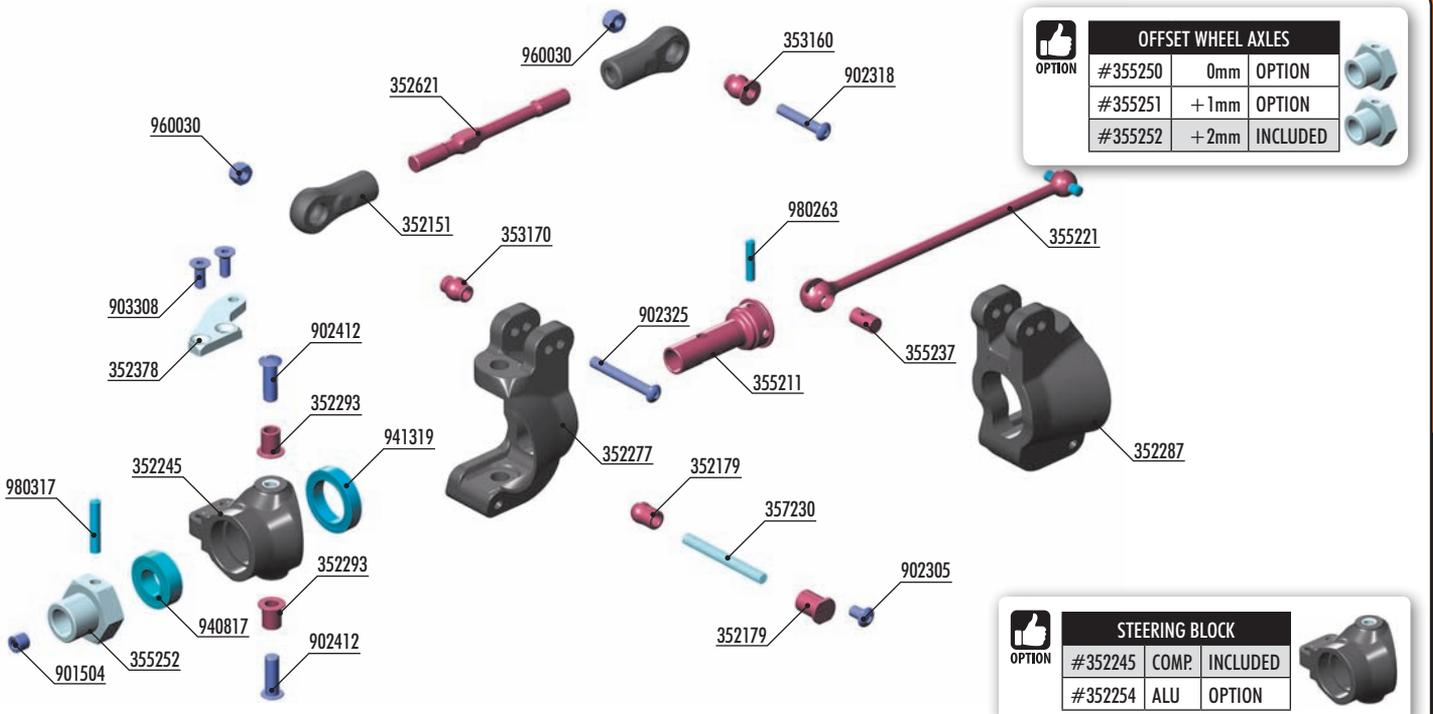
**Step 1** check for free movement

**SET-UP BOOK**  
ANTI-ROLL BAR

# 6. FRONT SUSPENSION

GTXE

GTX8



OFFSET WHEEL AXLES			
OPTION	#355250	0mm	OPTION
	#355251	+1mm	OPTION
	#355252	+2mm	INCLUDED

STEERING BLOCK			
OPTION	#352245	COMP.	INCLUDED
	#352254	ALU	OPTION

ECCENTRIC BUSHINGS			
OPTION	#352170	0° - STEEL	OPTION
	#352174	1° - STEEL	OPTION
	#352175	2° - STEEL	OPTION
	#352179	0° - COMP.	INCLUDED

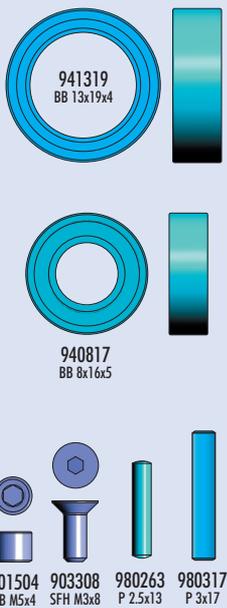
CASTER BLOCK - RIGHT			
OPTION	#352275	2° RIGHT	ALU
	#352276	16° RIGHT	ALU
	#352277	16° RIGHT	COMP.

CASTER BLOCK - LEFT			
OPTION	#352285	2° LEFT	ALU
	#352286	16° LEFT	ALU
	#352287	16° LEFT	COMP.

**BAG**  
06

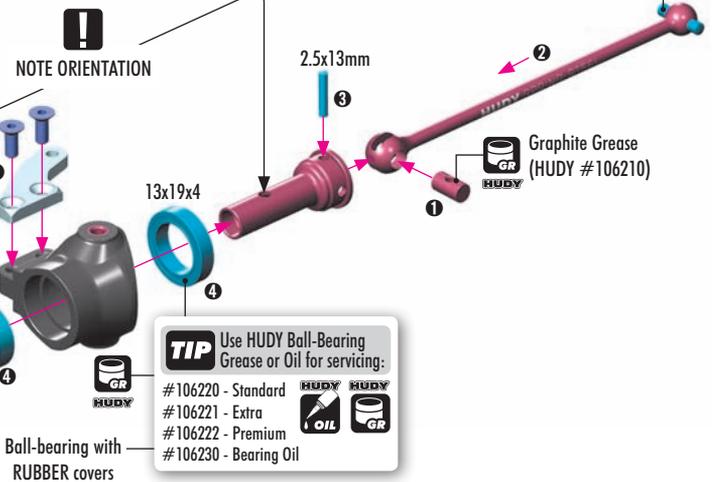
- 352151 FRONT UPPER ARM BALL JOINT (2) - V2
- 352179 COMPOSITE BUSHING & BALL MOUNT SET (2+2)
- 352245 C-HUB STEERING BLOCK LB WITH ALU INSERTS
- 352277 COMPOSITE C-HUB 16° RIGHT
- 352287 COMPOSITE C-HUB 16° LEFT
- 352293 STEEL C-HUB BUSHING (2)
- 352378 ALU STEERING PLATE - SWISS 7075 T6 (L+R)
- 352621 ADJ. TURNBUCKLE M5 L/R 58 MM - HUDY SPRING STEEL (2)
- 353160 MOUNTING BALL 6.8 (4)
- 353170 PIVOT BALL 6.8 (4)
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355221 CVD UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™
- 355237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355252 ALU WHEEL AXLE OFFSET " +2MM" - HARD COATED (2)

- 357230 FRONT LOWER OUTER PIVOT PIN (2)
- 901504 HEX SCREW SB M5x4 (10)
- 902305 HEX SCREW SH M3x5 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902325 HEX SCREW SH M3x25 (10)
- 902412 HEX SCREW SH M4x12 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 940817 BALL-BEARING 8x16x5 RUBBER SEALED - OIL (2)
- 941319 BALL-BEARING 13x19x4 RUBBER SEALED - OIL (2)
- 960030 NUT M3 (10)
- 980263 PIN 2.5x13 (10)
- 980317 PIN 3x17 (10)



OFFSET WHEEL AXLES			
OPTION	#355250	0mm	OPTION
	#355251	+1mm	OPTION
	#355252	+2mm	INCLUDED

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



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

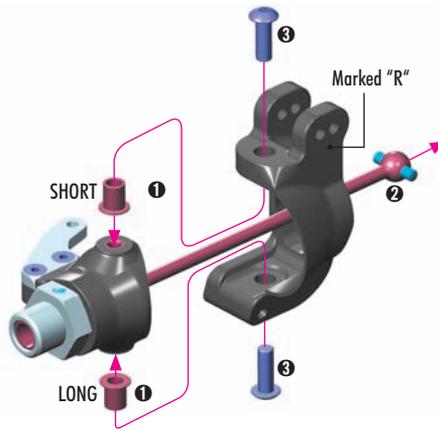
**TIP** Use HUDY Ball-Bearing Grease or Oil for servicing:

- #106220 - Standard
- #106221 - Extra
- #106222 - Premium
- #106230 - Bearing Oil

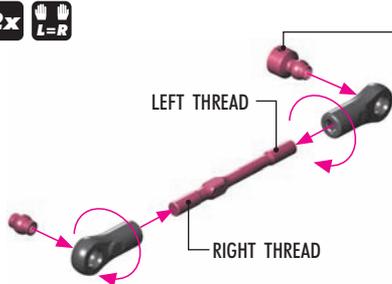


902412  
SH M4x12

2x L=R



2x L=R



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

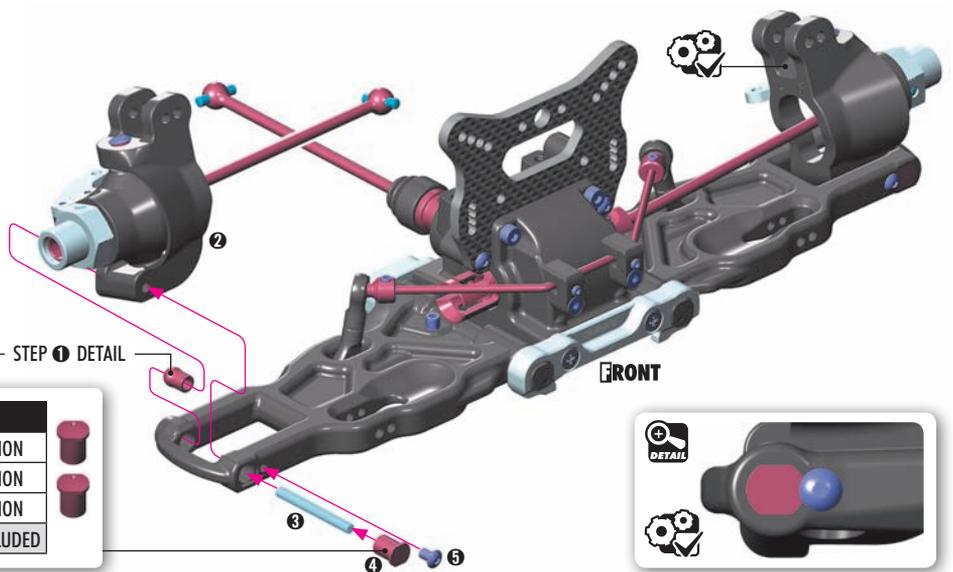


902305  
SH M3x5

2x L=R



**TIP** Press pivot ball into arm until it snaps into place

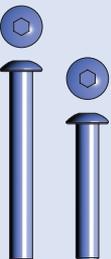


OPTION

ECCENTRIC BUSHINGS			
#352170	0° - STEEL		OPTION
#352174	1° - STEEL		OPTION
#352175	2° - STEEL		OPTION
#352179	0° - COMP.		INCLUDED

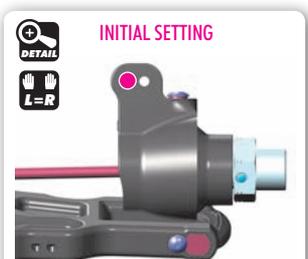
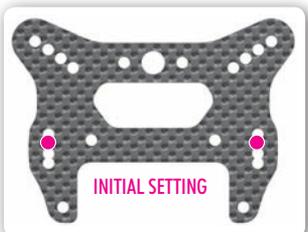
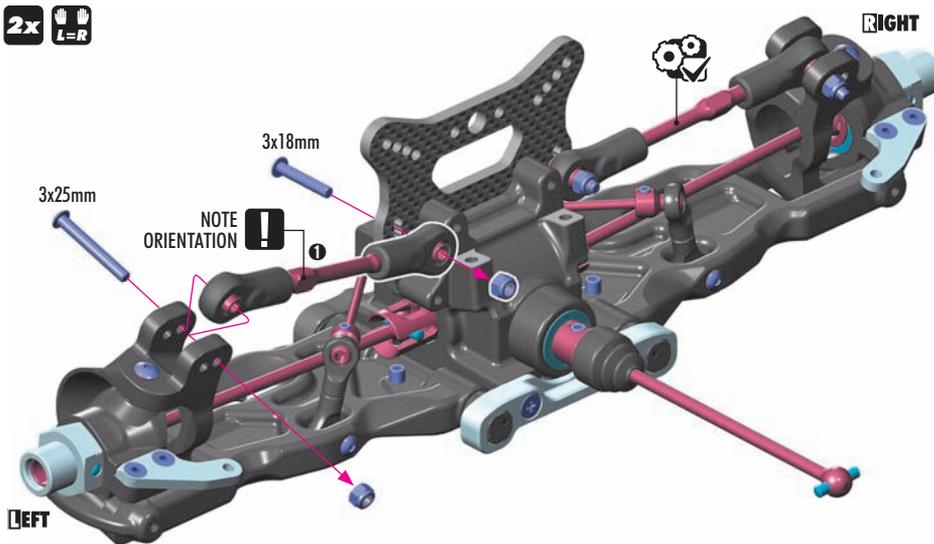


960030  
N M3

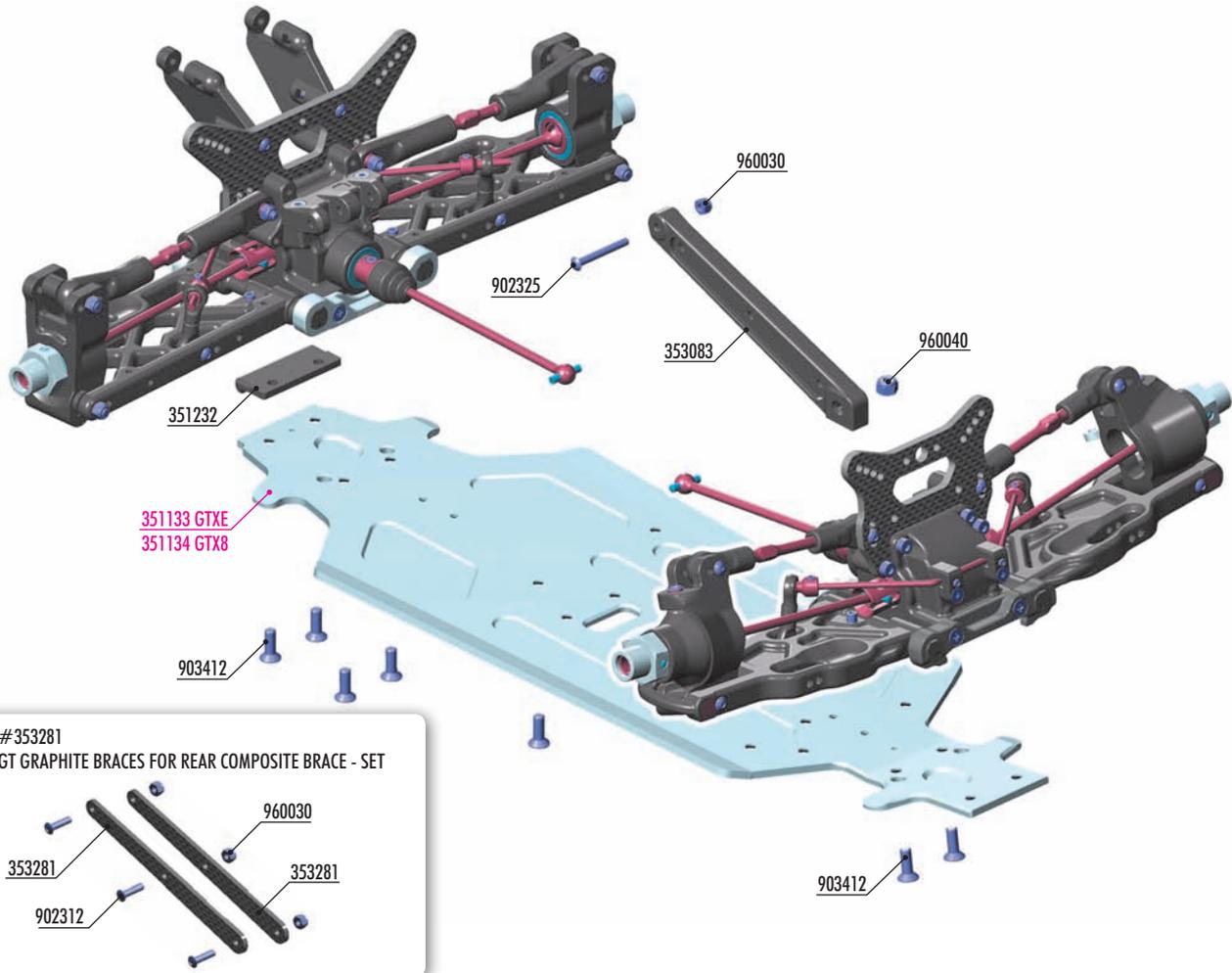


902325 SH M3x25  
902318 SH M3x18

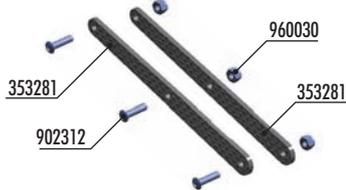
2x L=R



**SET-UP BOOK**  
ROLL CENTER



#353281  
GT GRAPHITE BRACES FOR REAR COMPOSITE BRACE - SET



**BAG**

**06**

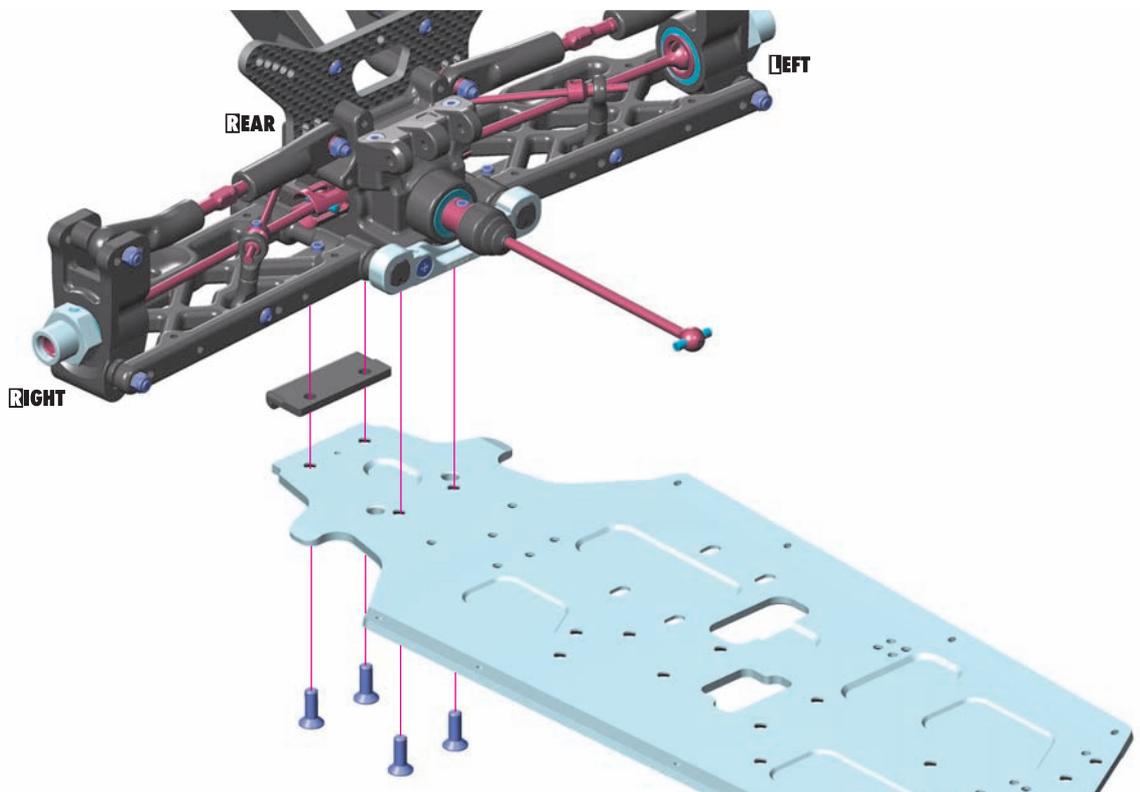
351232 COMPOSITE FRONT & REAR SUSPENSION HOLDER PLATE  
 353083 COMPOSITE REAR BRACE  
 902325 HEX SCREW SH M3x25 (10)  
 903412 HEX SCREW SFH M4x12 (10)

960030 NUT M3 (10)  
 960040 NUT M4 (10)

351133 GTXE.3 ALU CHASSIS - SWISS 7075 T6 (3MM)  
 351134 GTX8.3 ALU CHASSIS - SWISS 7075 T6 (3MM)



903412  
SFH M4x12





902325  
SH M3x25



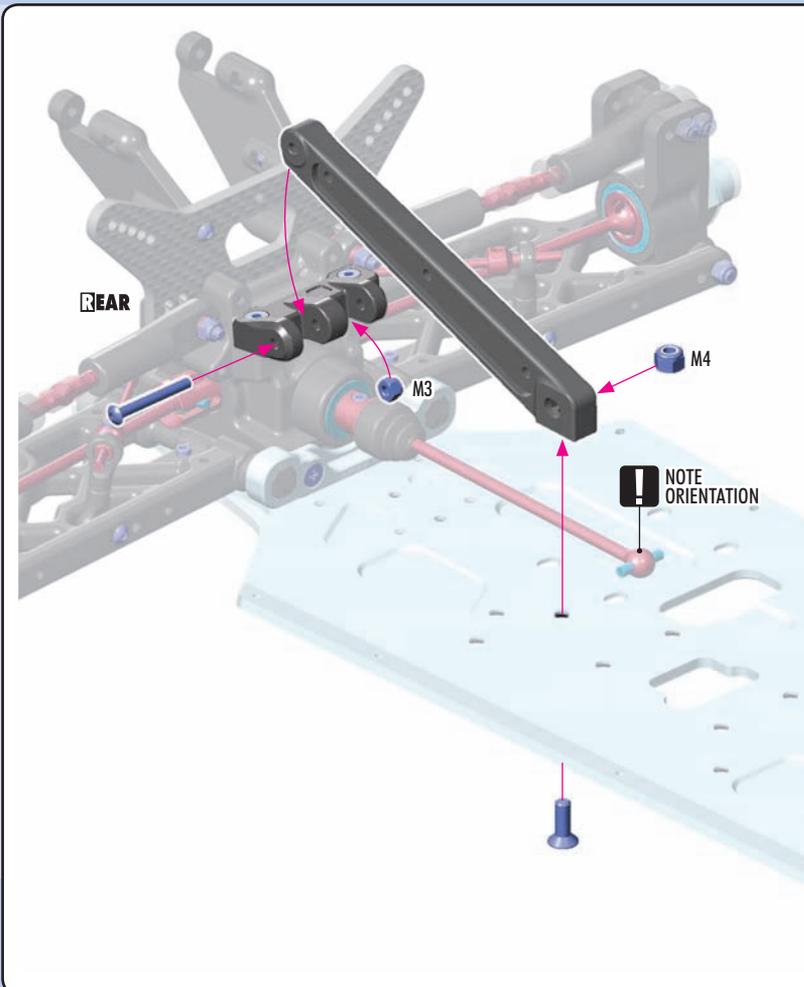
903412  
SFH M4x12



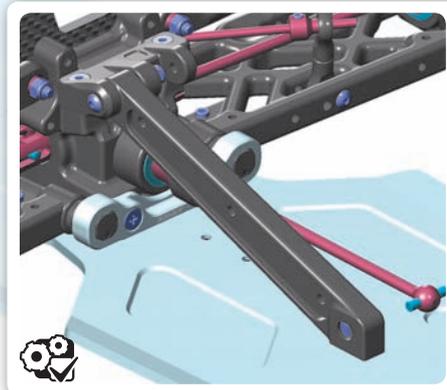
960030  
N M3



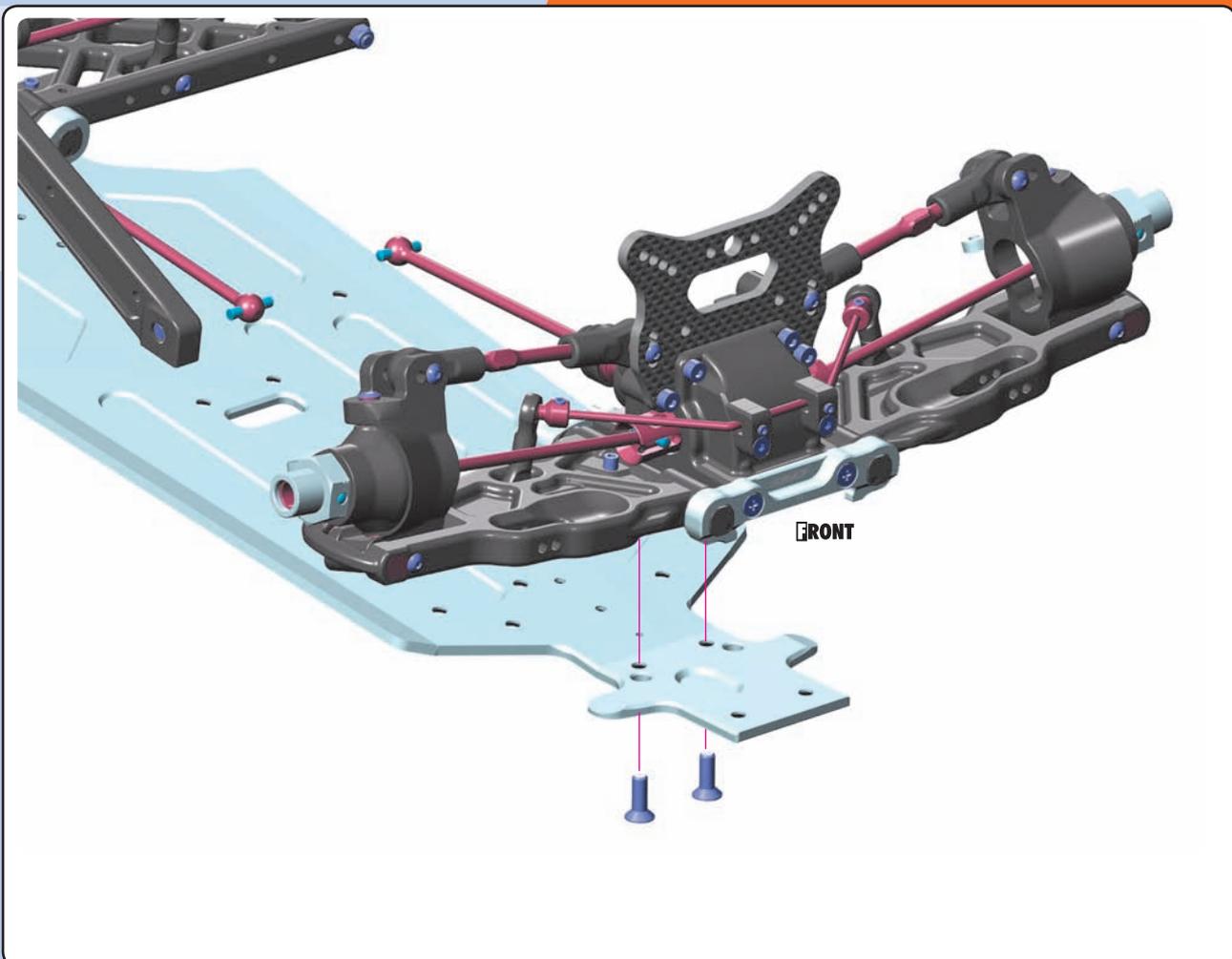
960040  
N M4



#353281  
GRAPHITE BRACE SET for extra stiffness adjustment.



903412  
SFH M4x12



# 7. STEERING

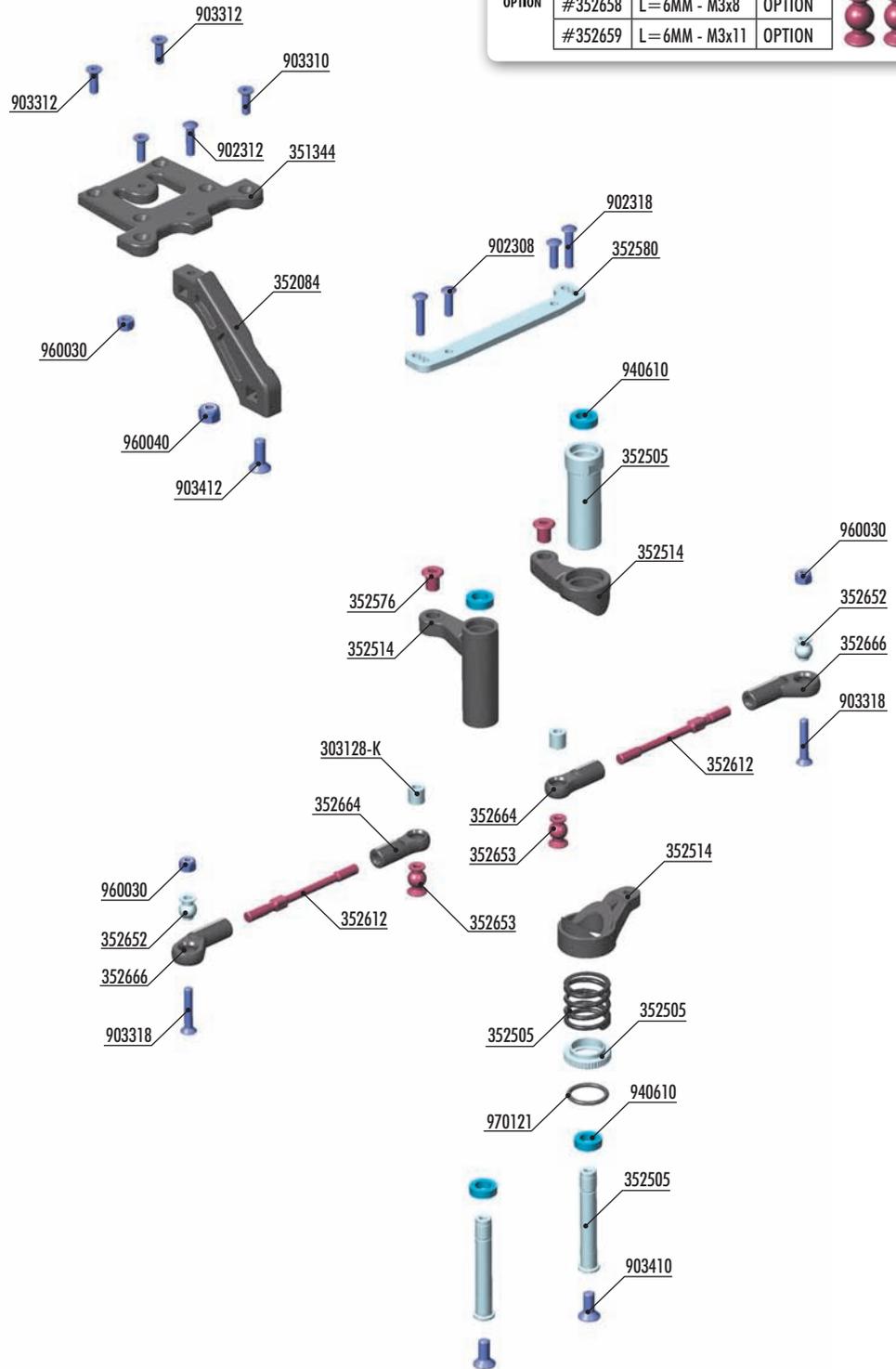
GTXE

GTX8

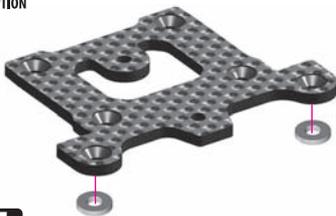


**BALL STUD 6.8mm WITH BACKSTOP**

#352658	L=6MM - M3x8	OPTION
#352659	L=6MM - M3x11	OPTION



**#351348 GRAPHITE UPPER PLATE**



**NOTE**

Must be used also 2pcs of #303136 shim 3x7x1mm.

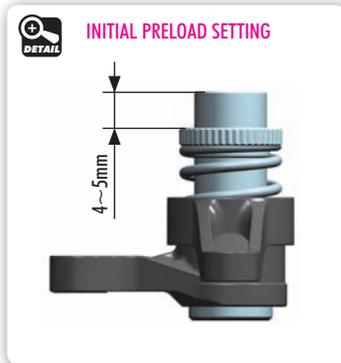
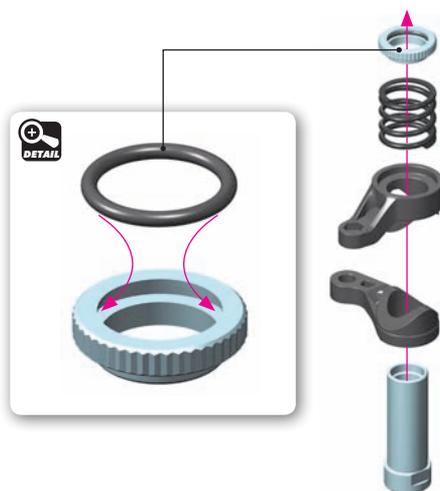
**BAG**

**07**

303128-K	ALU SHIM 3x6x6.0MM - BLACK (10)	903312	HEX SCREW SFH M3x12 (10)
351344	COMPOSITE UPPER PLATE	903318	HEX SCREW SFH M3x18 (10)
352084	COMPOSITE FRONT BRACE	903410	HEX SCREW SFH M4x10 (10)
352505	SERVO SAVER COMPLETE SET	903412	HEX SCREW SFH M4x12 (10)
352514	COMPOSITE SERVO SAVER - GRAPHITE	940610	BALL-BEARING 6x10x3 RUBBER SEALED - OIL (2)
352576	STEERING PLATE BUSHING (2)	960030	NUT M3 (10)
352580	ALU STEERING PLATE - SWISS 7075 T6	960040	NUT M4 (10)
352612	ADJ. TURNBUCKLE M4 L/R 45 MM - HUDY SPRING STEEL™ (2)	970121	O-RING 12.1 x 1.6 (10)
352652	BALL STUD 6.8MM (4)		
352653	BALL STUD 6.8MM WITH BACKSTOP - M3 (2)		
352664	COMPOSITE STEERING BALL JOINT 6.8MM - V3 (2)		
352666	COMPOSITE RELIEF STEERING BALL JOINT 6.8MM (2)		
902308	HEX SCREW SH M3x8 (10)		
902312	HEX SCREW SH M3x12 (10)		
902318	HEX SCREW SH M3x18 (10)		
903310	HEX SCREW SFH M3x10 (10)		



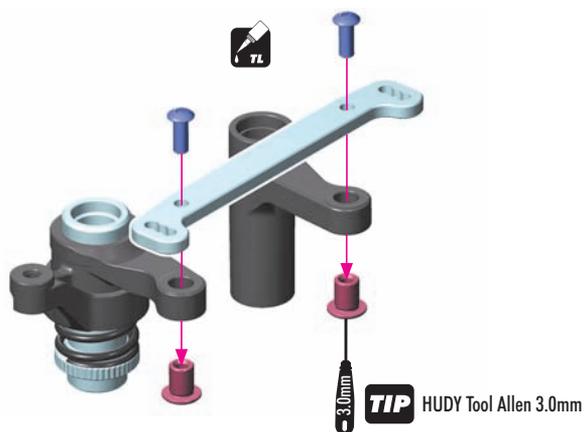
970121  
O 12.1x1.6



**SET-UP BOOK**  
SERVO SAVER



902308  
SH M3x8



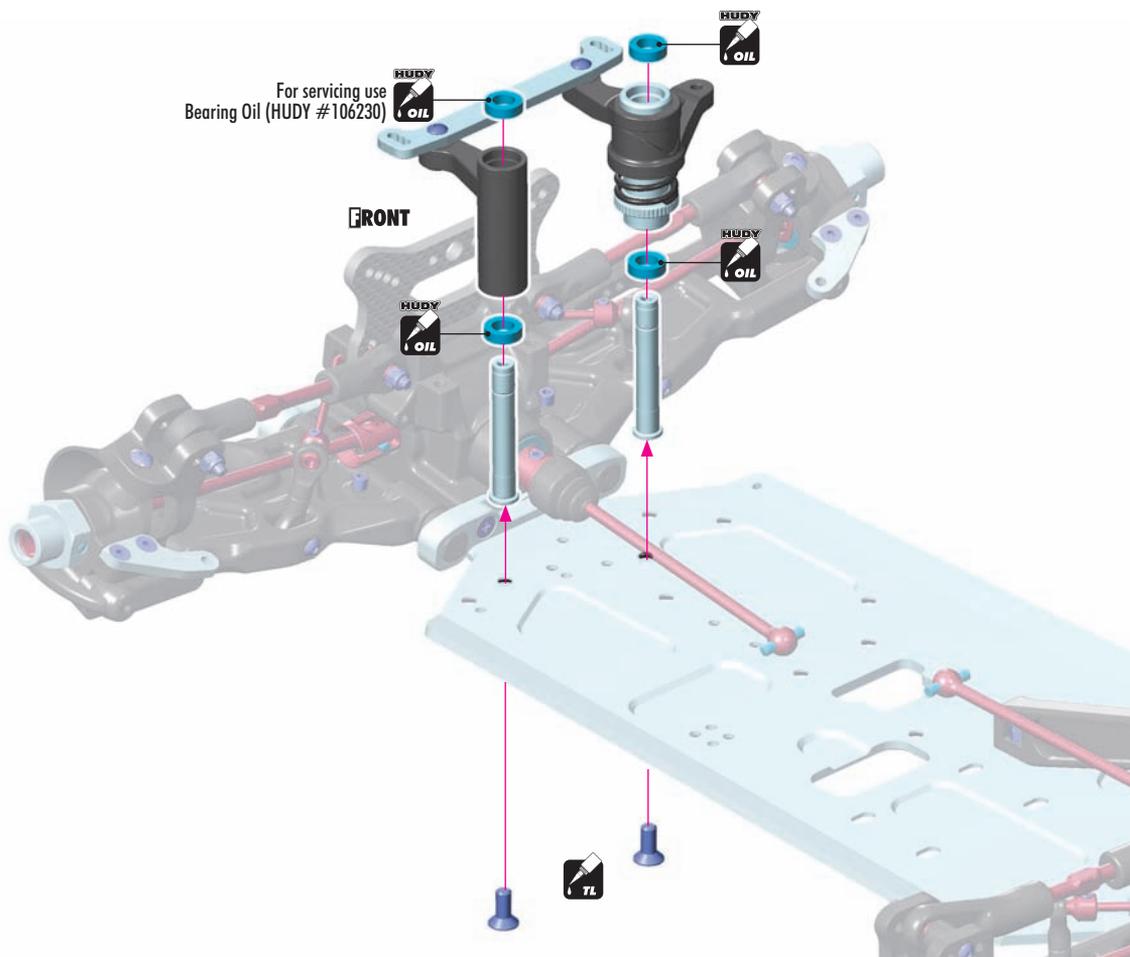
**TIP** HUDY Tool Allen 3.0mm



903410  
SFH M4x10



940610  
BB 6x10x3





# 8. CENTER DIFF & BRAKE

**GTX8**

**#354010-G**  
COMPOSITE CENTER DIFFERENTIAL MOUNTING PLATE SET - GRAPHITE



**OPTION**  
**COMPOSITE 2-SPEED GEARS**

#345545	45T	2ND	OPTION
#345546	46T	2ND	INCLUDED
#345547	47T	2ND	OPTION
#345548	48T	1ST	OPTION
#345549	49T	1ST	INCLUDED
#345550	50T	1ST	OPTION

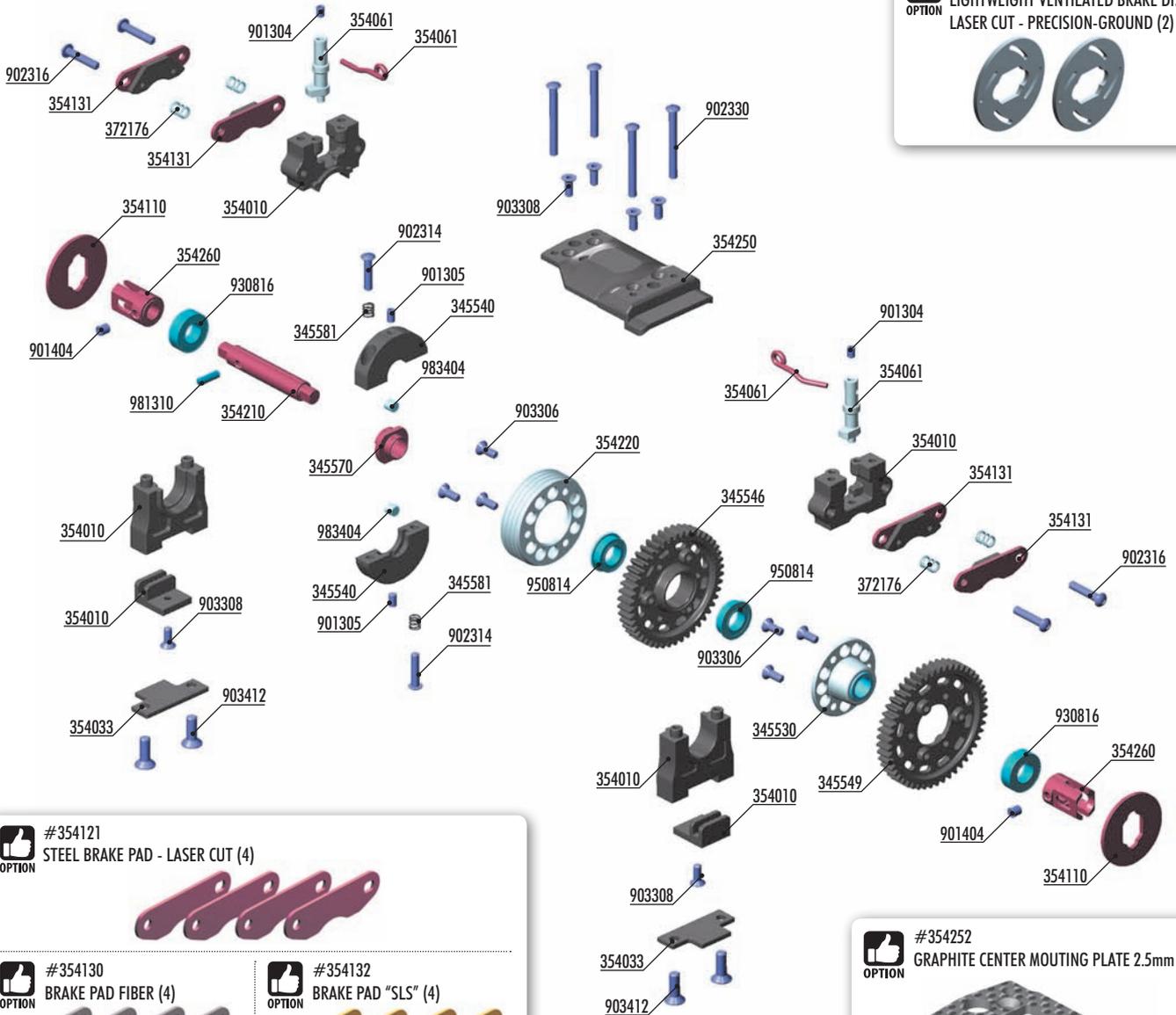
**OPTION**  
**GRAPHITE 2-SPEED GEARS**

#345645	45T	2ND	OPTION
#345646	46T	2ND	OPTION
#345647	47T	2ND	OPTION
#345648	48T	1ST	OPTION
#345649	49T	1ST	OPTION
#345650	50T	1ST	OPTION

**OPTION**  
**#354113**  
SUPER-LIGHTWEIGHT VENTILATED BRAKE DISK - PRECISION-GROUND (2)



**OPTION**  
**#354112**  
LIGHTWEIGHT VENTILATED BRAKE DISK LASER CUT - PRECISION-GROUND (2)



**OPTION**  
**#354121**  
STEEL BRAKE PAD - LASER CUT (4)



**OPTION**  
**#354130**  
BRAKE PAD FIBER (4)



**OPTION**  
**#354132**  
BRAKE PAD "SLS" (4)



**!** **CA** It is necessary to glue the brake pad with strong CA glue suitable for steel.

**OPTION**  
**#354252**  
GRAPHITE CENTER MOUNTING PLATE 2.5mm



**BAG**

**08**

- 345530 ALU DRIVE FLANGE WITH ONE-WAY BEARING - SWISS 7075 T6
- 345540 COMPOSITE 2-SPEED GEAR BOX SHOE - SET
- 345546 COMPOSITE 2-SPEED GEAR 46T (2nd) - H
- 345549 COMPOSITE 2-SPEED GEAR 49T (1st)
- 345570 ADAPTER 2-SPEED
- 345581 GEAR BOX SPRING C=13.0 (2)
- 354010 CENTER DIFF MOUNTING PLATE - SET
- 354033 GT COMPOSITE 2-SPEED HOLDER PLATE (2)
- 354061 ALU BRAKE CAM POST & ROD (2+2) HARD COATED
- 354110 VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND
- 354131 GLUED BRAKE PADS SET-ULTRA EFFICIENT (4)
- 354210 GT 2-SPEED SHAFT - HUDY SPRING STEEL™
- 354220 CARRIER FOR 2-SPEED GEAR (2nd) - SWISS 7075 T6
- 354250 GT COMPOSITE 2-SPEED UPPER PLATE
- 354260 GT CENTRAL TRANSM. OUTDRIVE ADAPTER - HUDY SPRING STEEL™

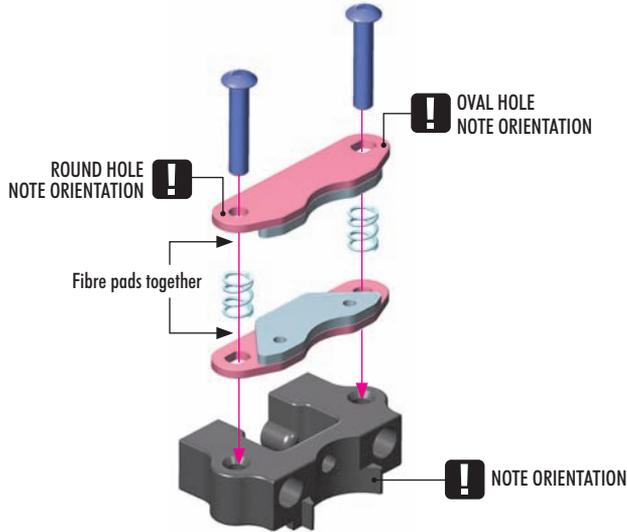
- 372176 SPRING 4.25 COILS 3.6x6x0.4MM, C=1.5 - GOLD (SOFT) (2)
- 901304 HEX SCREW SB M3x4 (10)
- 901305 HEX SCREW SB M3x5 (10)
- 901404 HEX SCREW SB M4x4 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 902316 HEX SCREW SH M3x16 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903306 HEX SCREW SFH M3x6 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903412 HEX SCREW SFH M4x12 (10)
- 930816 BALL-BEARING 8x16x5 RUBBER SEALED - OIL (2)
- 950814 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 981310 PIN 3x10 (10)
- 983404 ROLLER PIN 4x4 MM (2)

# 8. CENTER DIFF & BRAKE



902316  
SH M3x16

2x



Temporarily insert brake disk between pads to set correct gap



#354121  
STEEL BRAKE PAD - LASER CUT (4)



#354130  
BRAKE PAD FIBER (4)



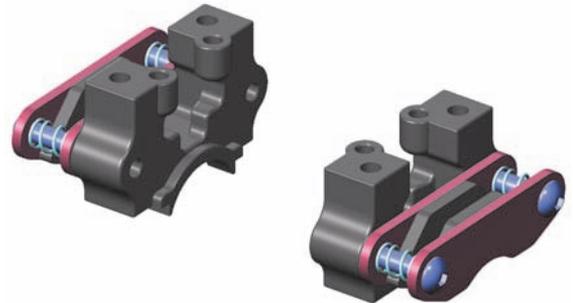
#354132  
BRAKE PAD "SLS" (4)



It is necessary to glue the brake pad with strong CA glue suitable for steel.



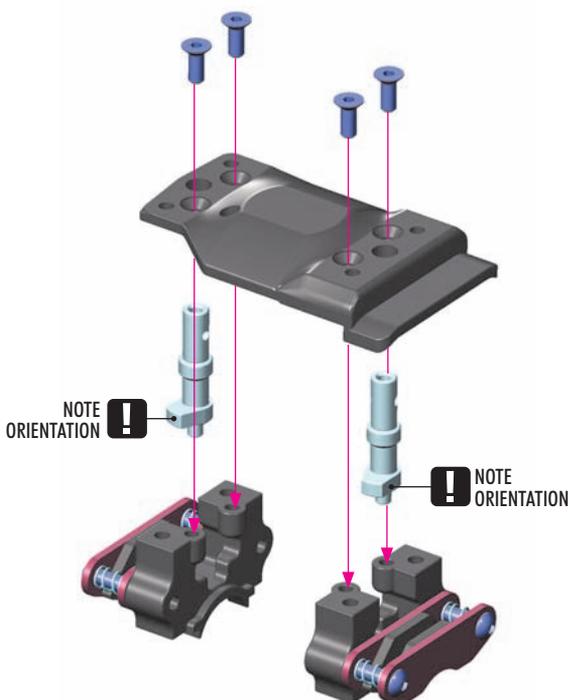
ASSEMBLY VIEW



901304  
SB M3x4



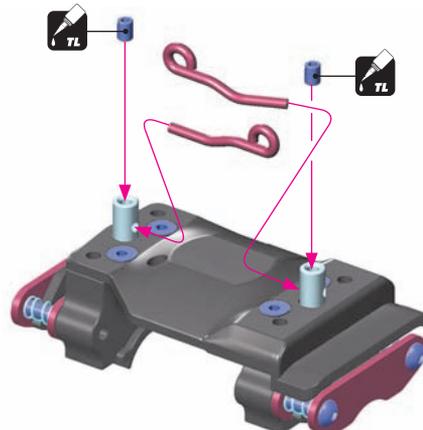
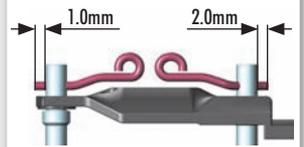
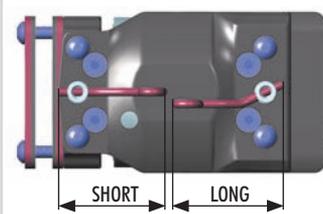
903308  
SFH M3x8



TOP VIEW



NOTE ORIENTATION



# 8. CENTER DIFF & BRAKE

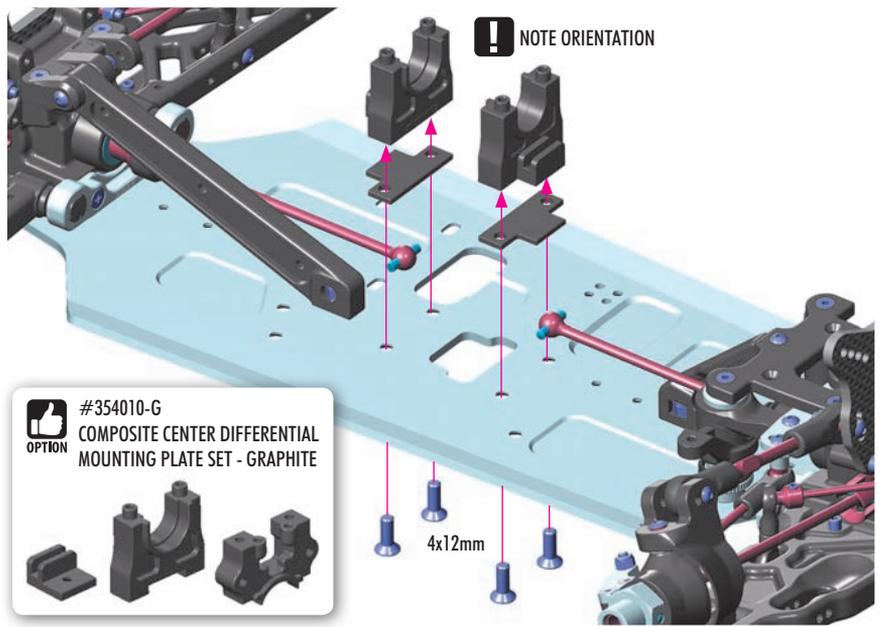
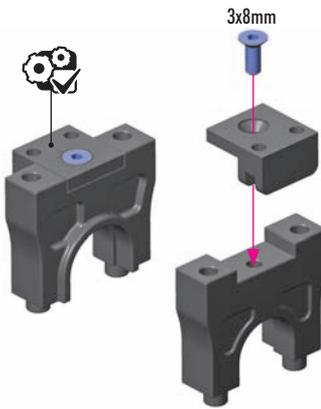


903308  
SFH M3x8



903412  
SFH M4x12

**!** NOTE ORIENTATION  
OF ALL PARTS



**!** #354010-G  
COMPOSITE CENTER DIFFERENTIAL  
MOUNTING PLATE SET - GRAPHITE



4x12mm



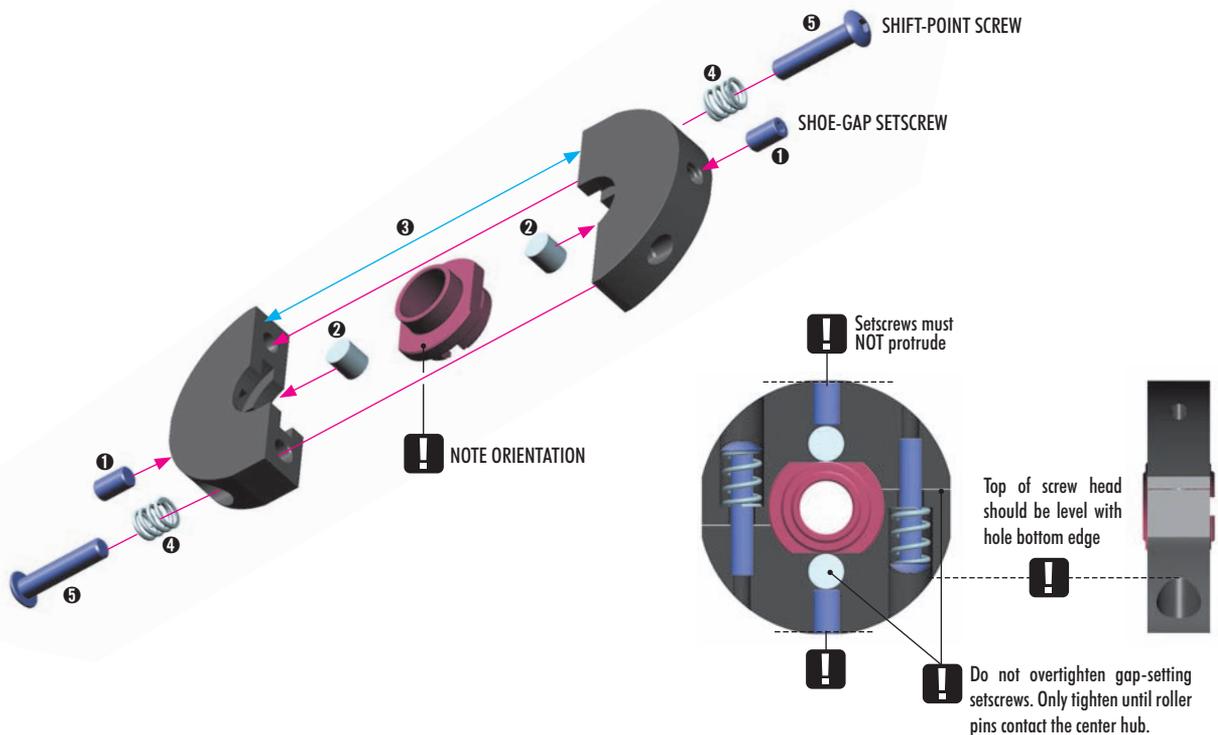
901305  
SB M3x5



902314  
SH M3x14



983404  
RP 4x4



**!** Setscrews must NOT protrude

Top of screw head should be level with hole bottom edge

**!** Do not overtighten gap-setting setscrews. Only tighten until roller pins contact the center hub.



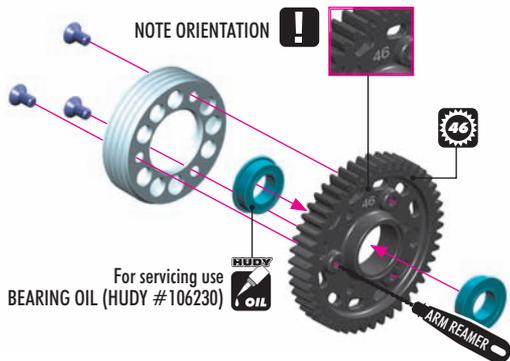
2-SPEED TRANSMISSION



950814  
BB 8x14x4

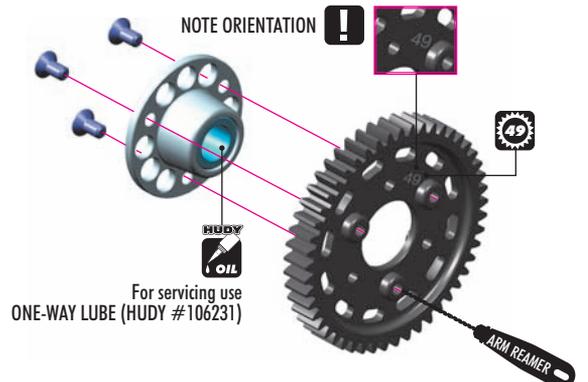


903306  
SFH M3x6



For servicing use BEARING OIL (HUDY #106230)

Use HUDY Reamer #107600 to slightly chamfer the edges on all 3 holes for screws from inside. **TIP**



For servicing use ONE-WAY LUBE (HUDY #106231)

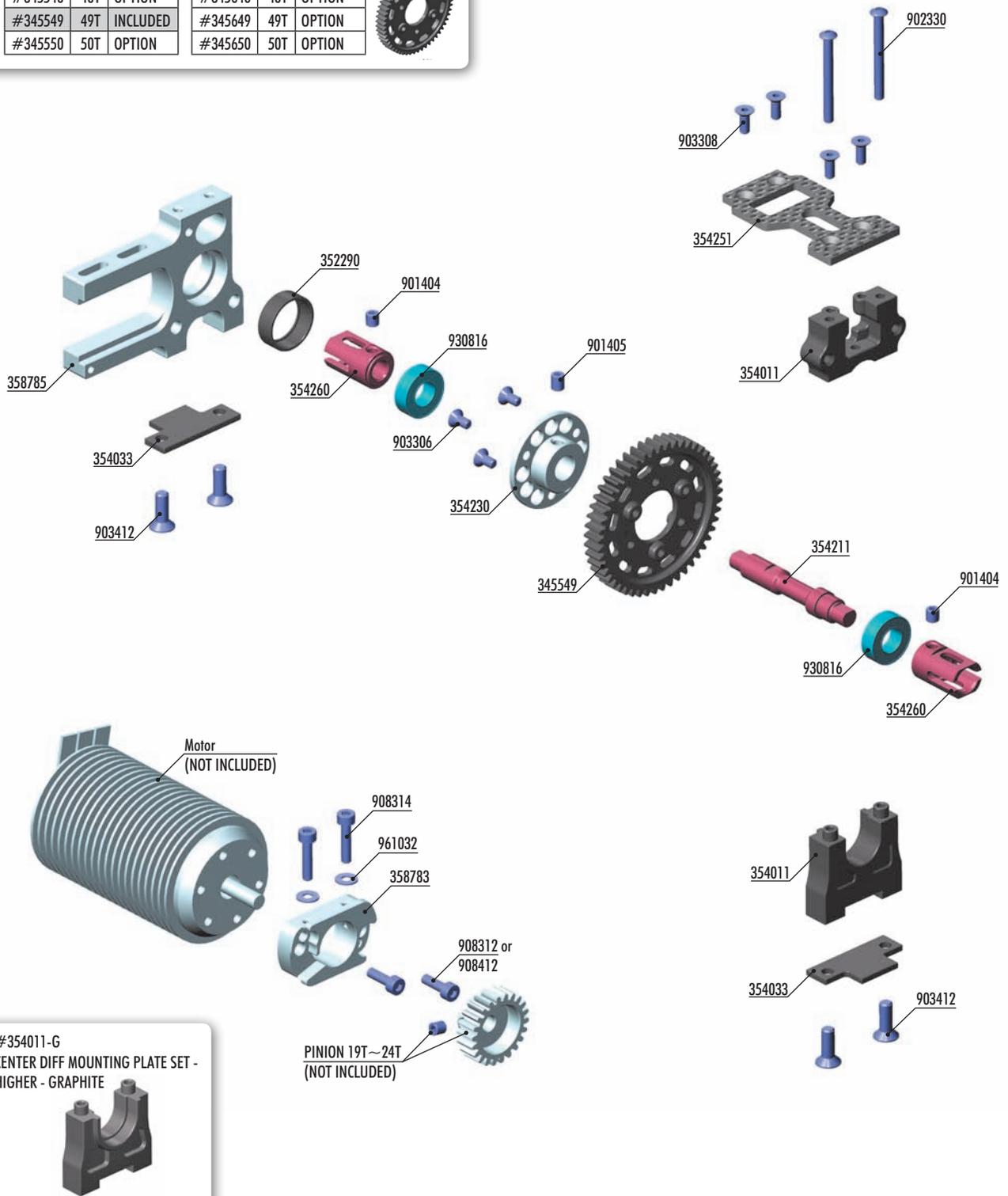
Use HUDY Reamer #107600 to slightly chamfer the edges on all 3 holes for screws from inside. **TIP**



# 8. CENTER SOLID SHAFT & MOTOR



COMPOSITE GEARS			GRAPHITE GEARS		
#345548	48T	OPTION	#345648	48T	OPTION
#345549	49T	INCLUDED	#345649	49T	OPTION
#345550	50T	OPTION	#345650	50T	OPTION



#354011-G  
CENTER DIFF MOUNTING PLATE SET -  
HIGHER - GRAPHITE



PINION 19T~24T  
(NOT INCLUDED)

BAG

08

- |        |  |        |   |
|--------|--|--------|---|
| 345549 | COMPOSITE 2-SPEED GEAR 49T (1st)                         | 902330 | HEX SCREW SH M3x30 (10)                       |
| 352290 | COMPOSITE BUSHING FOR ALU STEERING BLOCK (4)             | 903306 | HEX SCREW SFH M3x6 (10)                       |
| 354011 | CENTER DIFF MOUNTING PLATE - SET                         | 903308 | HEX SCREW SFH M3x8 (10)                       |
| 354033 | GT COMPOSITE 2-SPEED HOLDER PLATE (2)                    | 903412 | HEX SCREW SFH M4x12 (10)                      |
| 354211 | GTE SOLID SHAFT - HUDY SPRING STEEL™                     | 908312 | HEX SCREW SOCKET HEAD CAP M3x12 (10)          |
| 354230 | GTE ALU CENTER SPUR GEAR COLLAR                          | 908314 | HEX SCREW SOCKET HEAD CAP M3x14 (10)          |
| 354251 | GTE GRAPHITE CENTER UPPER PLATE                          | 908412 | HEX SCREW SOCKET HEAD CAP M4x12 (10)          |
| 354260 | GT CENTRAL TRANSM. OUTDRIVE ADAPTER - HUDY SPRING STEEL™ | 930816 | BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2) |
| 358783 | ALU MOTOR MOUNT PLATE                                    | 961032 | WASHER S 3.2 (10)                             |
| 358785 | GTE ALU MOTOR MOUNT                                      |        |   |
| 901404 | HEX SCREW SB M4x4 (10)                                   |        |   |
| 901405 | HEX SCREW SB M4x5 (10)                                   |        |   |

# 8. CENTER SOLID SHAFT & MOTOR

901404  
SB M4x4

901405  
SB M4x5

930816  
BB 8x16x5

**TIP** Use HUDDY Ball-Bearing Grease or Oil for servicing:  
 #106220 - Standard  
 #106221 - Extra  
 #106222 - Premium  
 #106230 - Bearing Oil

THREAD LOCK 4x4mm

THREAD LOCK 4x5mm

Ball-bearing with STEEL covers

NOTE ORIENTATION

NOTE ORIENTATION

THREAD LOCK 4x4mm

Ball-bearing with STEEL covers

CUTAWAY VIEW

903306  
SFH M3x6

OPTION	COMPOSITE GEARS	GRAPHITE GEARS
	#345548 48T OPTION	#345648 48T OPTION
	#345549 49T INCLUDED	#345649 49T OPTION
	#345550 50T OPTION	#345650 50T OPTION

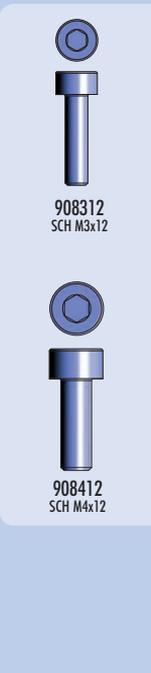
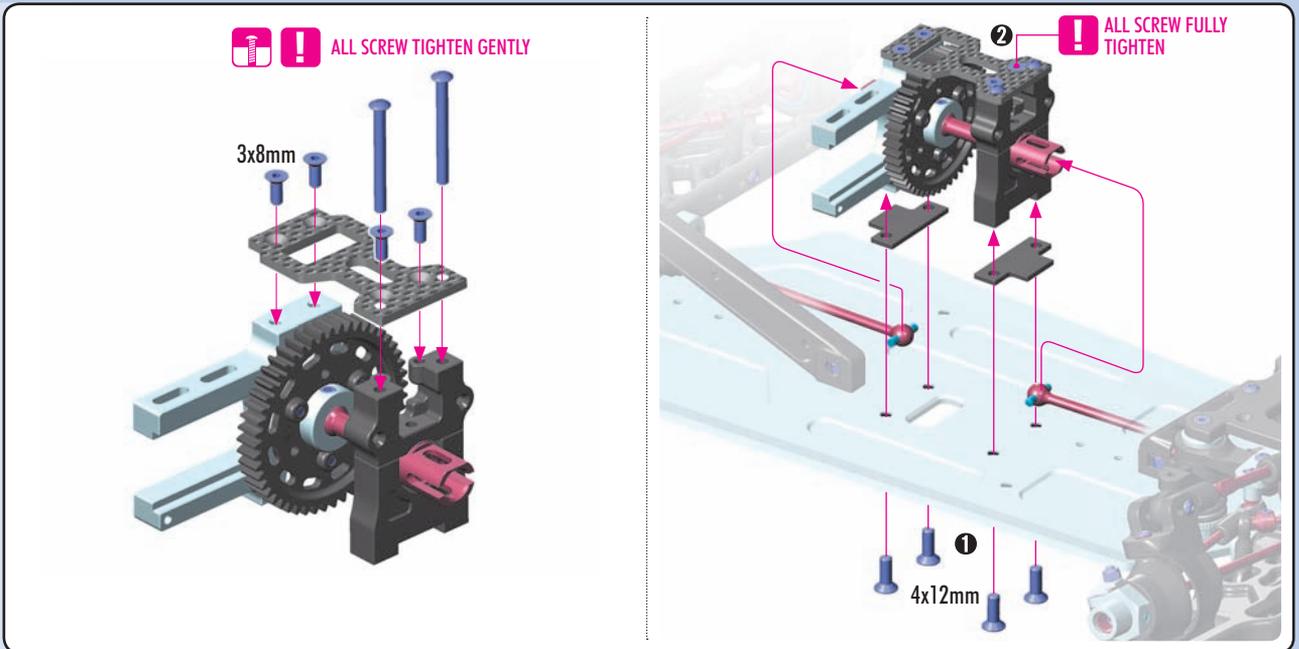
NOTE ORIENTATION

NOTE ORIENTATION

OPTION #354011-G CENTER DIFF MOUNTING PLATE - SET

OPTION	COMPOSITE GEARS	GRAPHITE GEARS
	#345548 48T OPTION	#345648 48T OPTION
	#345549 49T INCLUDED	#345649 49T OPTION
	#345550 50T OPTION	#345650 50T OPTION

# 8. CENTER SOLID SHAFT & MOTOR



Use M3 or M4 screws which fit your motor.  
(M4 INITIAL SETTING)

XRAY PINION GEAR				
OPTION	#355819	19T	ALU	OPTION
	#355820	20T	ALU	OPTION
	#355821	21T	ALU	OPTION
	#355822	22T	ALU	OPTION
	#355823	23T	ALU	OPTION
	#355824	24T	ALU	OPTION



**GEAR MESH ADJUSTMENT**

Adjust gear mesh so there is minimal play between the gears.

**TOO TIGHT** gear mesh will put excessive strain on all parts and damage the parts.

**TOO LOOSE** gear mesh may result in stripped gears.



### 1ST PINION GEAR XCA HARD COATED

#348515	15T	OPTION
#348516	16T	INCLUDED
#348517	17T	OPTION
#348518	18T	OPTION



### 2ST PINION GEAR XCA HARD COATED

#348519	19T	INCLUDED
#348520	20T	OPTION
#348521	21T	OPTION

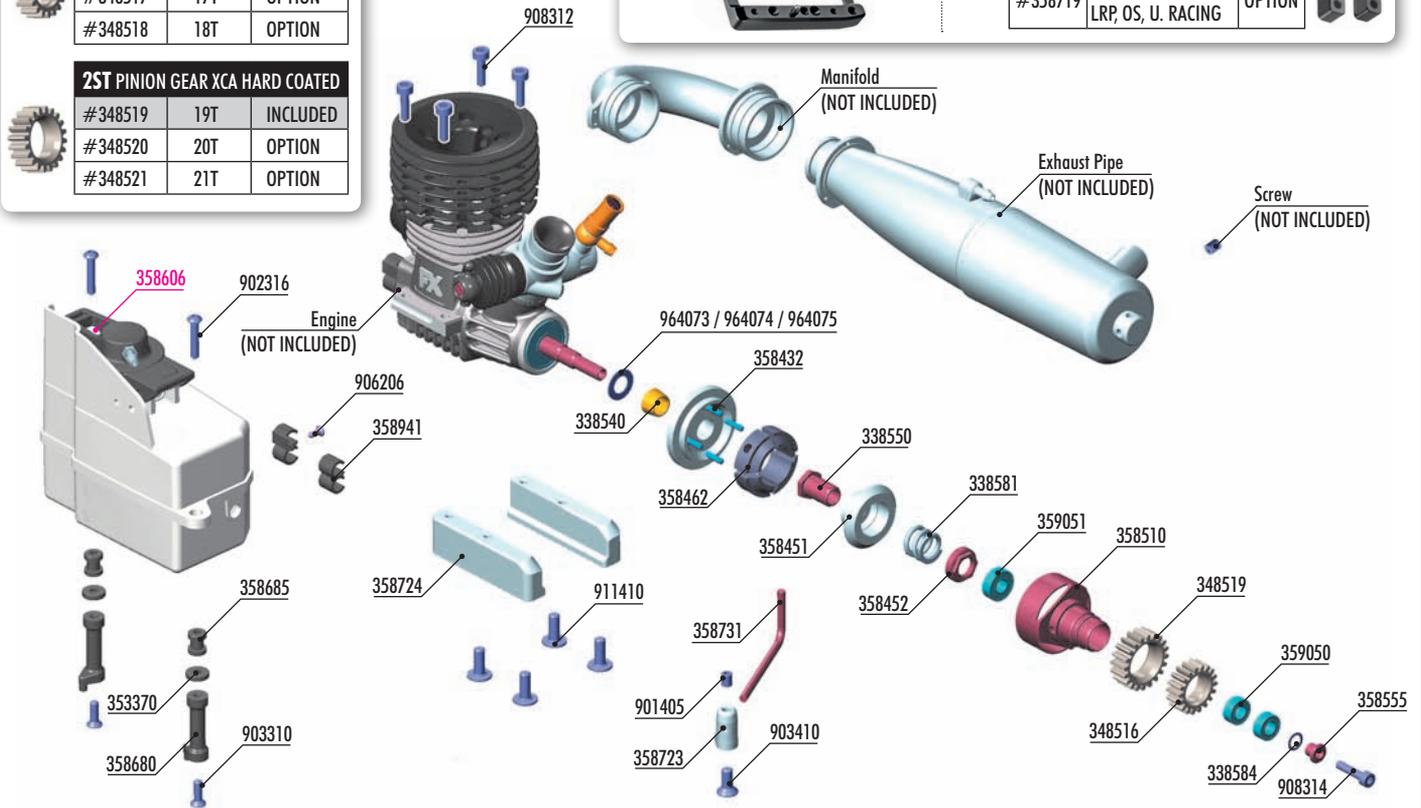


### #358709 ALU MONOBLOCK ENGINE MOUNT



### ALU STAND FOR ENGINE MOUNT

#358718	FX, NOVAROSS, MAX, SIRIO	OPTION
#358719	PICCO, REDS, ORION, LRP, OS, U. RACING	OPTION



### #358400 XRAY COMPLETE 4-SHOE CLUTCH SET



### #358511 GT 2-SPEED 4-SHOE CLUTCH BELL - LIGHTWEIGHT



### #358605 FUEL TANK 125CC WITH FLOATING FILTER



### #353250 GRAPHITE BRACE FOR CHASSIS SIDE GUARDS - SET



### 4-SHOE CLUTCH SHOES

#	Material	Weight	GRIP	OPTION
#358457	ALU HARD (4)	1.00g	HIGH	OPTION
#358458	ALU MED (4)	1.00g		OPTION
#358461	GRAPHITE (4)	1.00g		OPTION
#358458	SOFT (4)	1.15g	OPTION	
#358459	MEDIUM (4)	1.15g	OPTION	
#358460	HARD (4)	1.15g	LOW	OPTION



### CLUTCH SPRINGS (4pcs)

#	Material	Color	RPM	OPTION
#358480	SOFT	GOLD	EARLY	OPTION
#358481	MEDIUM	GREY		OPTION
#358482	HARD	SILVER		LATE



### #351159 CHASSIS SIDE GUARDS L+R #351159-S CHASSIS SIDE GUARDS L+R - SOFT



## BAG

09

- 338540 FLYWHEEL COLLAR 7MM
- 338550 FLYWHEEL NUT - HUDY SPRING STEEL™
- 338581 CLUTCH SPRING - MEDIUM - V2
- 338584 SHIM 5x7x0.2 (10)
- 348516 XCA ALU 7075 T6 HARD COATED PINION GEAR - 16T (1ST)
- 348519 XCA ALU 7075 T6 HARD COATED PINION GEAR - 19T (2ND)
- 353370 SET OF COMPOSITE REAR HUB CARRIER SHIMS
- 358432 GT ALU 4-SHOE FLYWHEEL
- 358451 GT ALU 4-SHOE CLUTCH PRESSURE SLEEVE
- 358452 GT 4-SHOE FLYWHEEL NUT
- 358462 GT COMPOSITE CLUTCH 4-SHOE - GRAPHITE
- 358510 GT 2-SPEED CLUTCH BELL - LIGHTWEIGHT
- 358555 GT CLUTCH BELL BUSHING - HUDY SPRING STEEL™
- 358680 FUEL TANK MOUNTING POST (2)
- 358685 FUEL TANK MOUNTING GROMMET (4)
- 358723 EXHAUST WIRE MOUNT SET
- 358724 ALU ENGINE MOUNT - CNC MACHINED (L+R)
- 358731 EXHAUST MOUNTING WIRE - LONG
- 358941 COMPOSITE TUBING HOLDER FOR FUEL TANK (2)
- 359050 BALL-BEARING 5x10x4 STEEL SEALED - GREASE (2)
- 359051 BALL-BEARING 5x12x4 STEEL SEALED - GREASE (2)
- 901405 HEX SCREW SB M4x5 (10)
- 902316 HEX SCREW SH M3x16 (10)
- 903310 HEX SCREW SFH M3x10 (10)
- 903410 HEX SCREW SFH M4x10 (10)
- 906206 SCREW PHILLIPS FH 2.2x6 (10)
- 908312 HEX SCREW (CAP HEAD) 3x12 (10)
- 908314 HEX SCREW (CAP HEAD) 3x14 (10)
- 911410 HEX SCREW FLANGED SH M4x10 (10)
- 964073 WASHER S 7x10x0.2 (10)
- 964074 WASHER S 7x10x0.3 (10)
- 964075 WASHER S 7x10x0.5 (10)
- 358606 FUEL TANK 150CC WITH FLOATING FILTER**



908312  
SCH M3x12



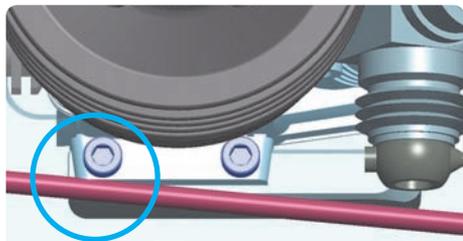
964073  
57x10x0.2



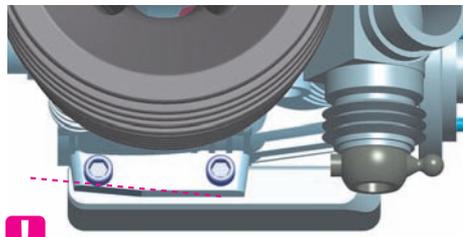
964074  
57x10x0.3



964075  
57x10x0.5

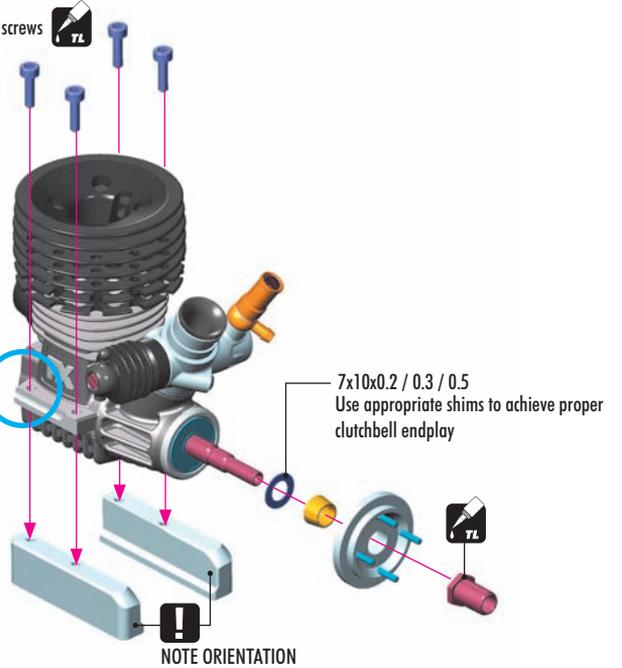


**!** IMPORTANT!



**!** When installing the engine, first check that the drive shaft does not touch the engine. If it does, remove some material from the engine mount as shown to make some room between engine and shaft.

All screws



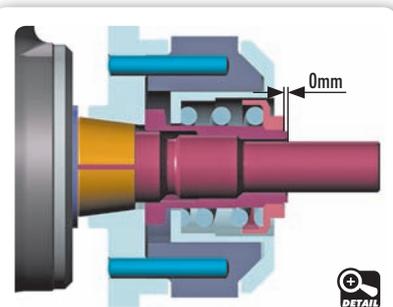
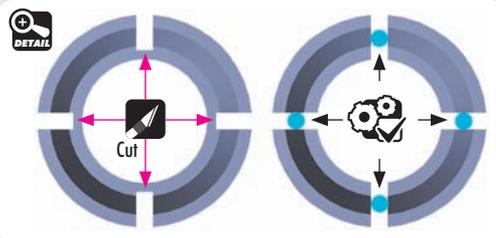
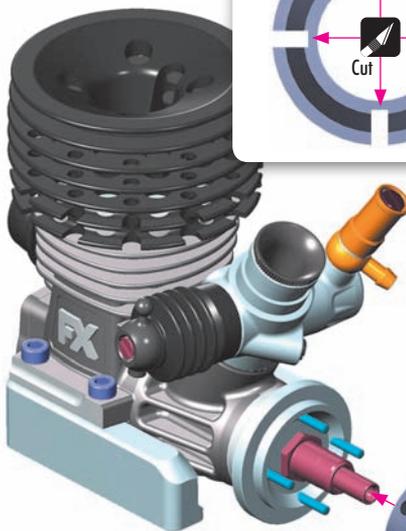
**!** **OPTION** #358709  
ALU MONOBLOCK ENGINE MOUNT



**!** **OPTION** #358718  
ALU STAND FOR ENGINE MOUNT  
(FX, NOVAROSS, MAX, SIRIO)



**!** **OPTION** #358719  
ALU STAND FOR ENGINE MOUNT  
(PICCO, REDS, ORION, LRP, OS, U. RACING)



**!** **OPTION** #358400  
XRAY COMPLETE 4-SHOE CLUTCH SET



<b>!</b> <b>OPTION</b>	4-SHOE CLUTCH SHOES		GRIP	OPTION	
	Part #	Material			Weight
	#358457	ALU HARD (4)	1.00g	HIGH	OPTION
	#358458	ALU MED (4)	1.00g		OPTION
	#358461	GRAPHITE (4)	1.00g		OPTION
	#358458	SOFT (4)	1.15g		OPTION
	#358459	MEDIUM (4)	1.15g		OPTION
	#358460	HARD (4)	1.15g	LOW	OPTION

<b>!</b> <b>OPTION</b>	CLUTCH SPRINGS (4pcs)		RPM	OPTION	
	Part #	Material			Setting
	#358480	SOFT	GOLD	EARLY	OPTION
	#358481	MEDIUM	GREY		OPTION
	#358482	HARD	SILVER		LATE



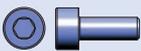
338584  
5x7x0.2



359050  
BB 5x10x4



359051  
BB 5x12x4



908314  
SCH M3x14



#358511  
GT 2-SPEED 4-SHOE CLUTCH BELL -  
LIGHTWEIGHT



**!** Optional part for #358400  
XRAY COMPLETE 4-SHOE CLUTCH SET



### 1ST PINION GEAR XCA HARD COATED



#348515	15T	OPTION
#348516	16T	INCLUDED
#348517	17T	OPTION
#348518	18T	OPTION



### 2ST PINION GEAR XCA HARD COATED

#348519	19T	INCLUDED
#348520	20T	OPTION
#348521	21T	OPTION



**TIP**

TO TIGHTEN THE 16T OR 19T PINION GEAR  
USE THE OPTIONAL #349901 XRAY PINION  
TOOL (19~21T / 16~18T).



These bearings must still  
be regularly serviced and  
replaced when worn out.

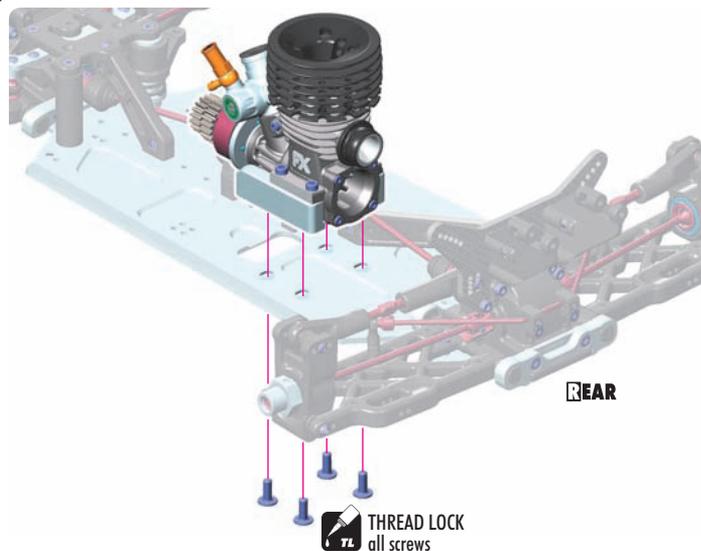


### SET-UP BOOK

CLUTCH SPRINGS  
CLUTCH SHOE



911410  
SHF M4x10



### GEAR MESH

Adjust gear mesh so there is minimal  
play between the gears.

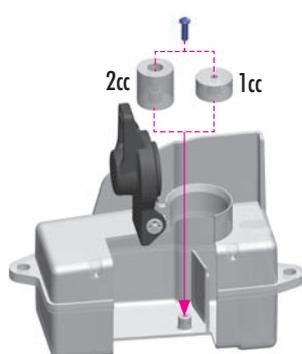
Too tight gear mesh will put excessive  
strain on all parts and damage the  
parts. Too loose gear mesh may result  
in stripped gears.

### SET-UP BOOK

GEARING  
GEAR MESH ADJ.



907258  
SP 2.5x8



The fuel tank has the larger fuel volume and includes OPTIONAL tank inserts for decreasing the volume of the tank. Using the inserts allows you to adjust the volume of fuel inside the tank; this works in conjunction with variables such as fuel filter capacity and/or length of fuel line to ensure you have the legal fuel volume limit for racing.

Tube holders are easily connected to the fuel tank by screws. Using screws is much more secure than using glue to attach the holders to the fuel tank.

### 2CC FUEL TANK INSERT

The larger insert decreases the fuel tank volume by 2cc, and is recommended for use when the fuel filter is used.



NOTE ORIENTATION



### 1CC FUEL TANK INSERT

The smaller insert decreases the fuel tank volume by 1cc.



NOTE ORIENTATION



NOTE: The fuel tank insert can be easily mounted to the bottom of the fuel tank using the provided screw, when the fuel tank cap is opened fully.



353370  
SHIM 3x9x2



902316  
SH M3x16



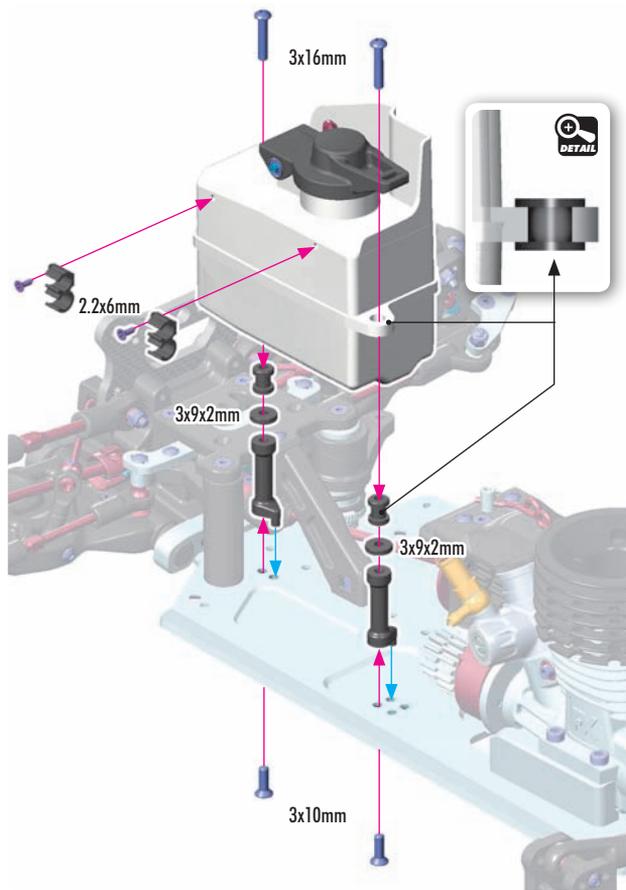
903310  
SFH M3x10



906206  
SFP 2.2x6

## ALTERNATIVE 150CC FUEL TANK

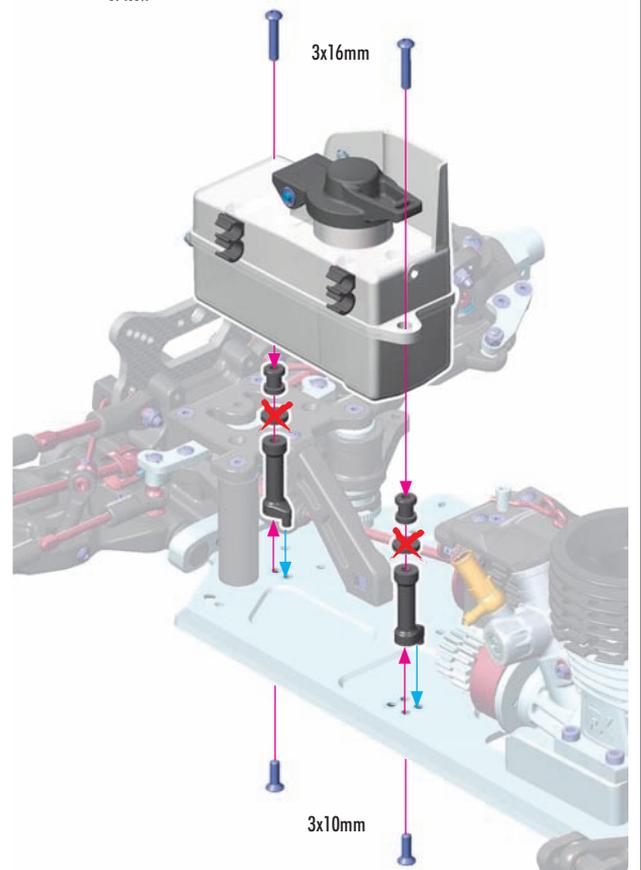
INITIAL SETTING



## ALTERNATIVE 125CC FUEL TANK



#358605  
FUEL TANK 125CC WITH FLOATING FILTER & TRANSIENT JET



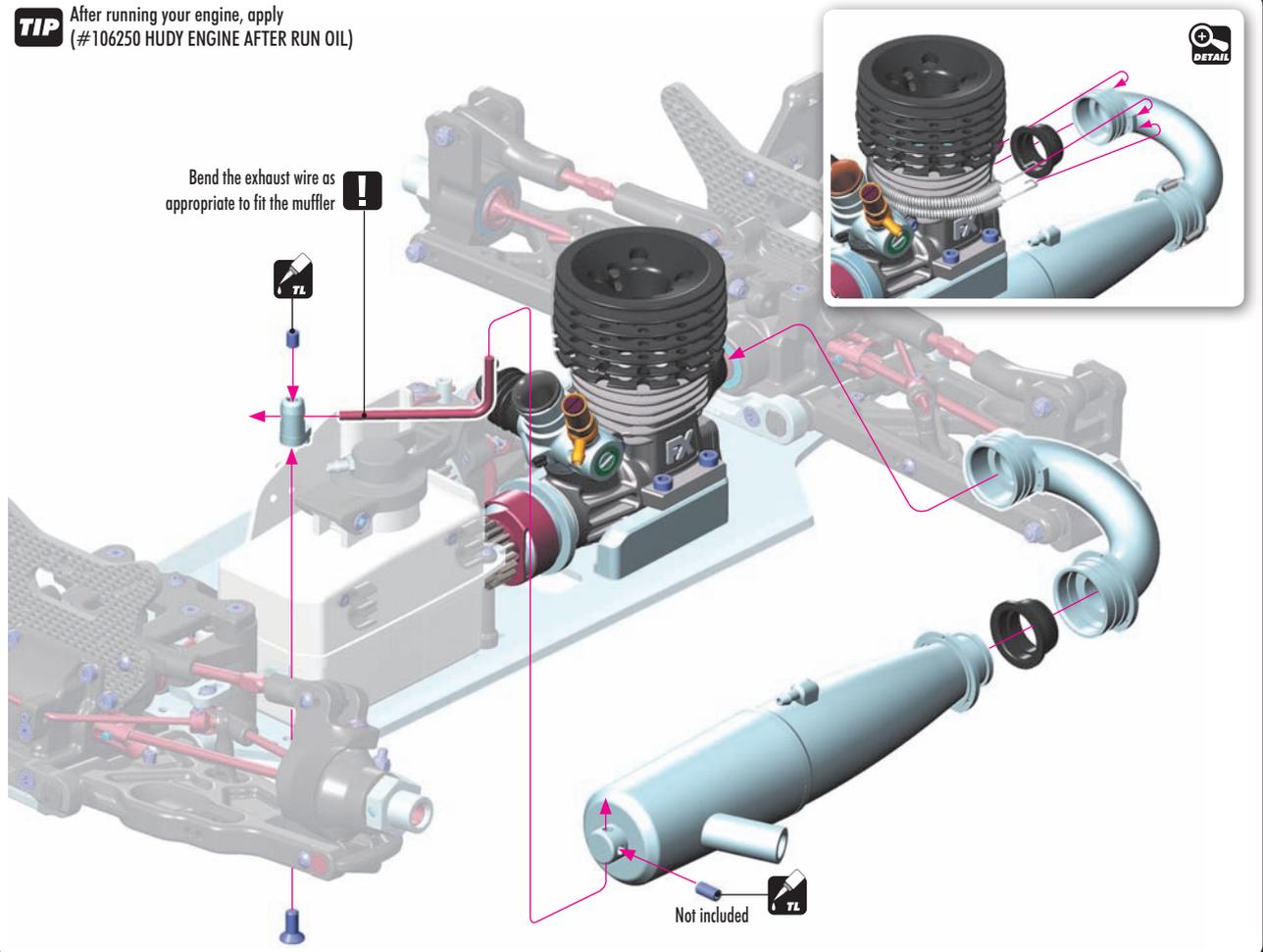
901405  
SB M4x5



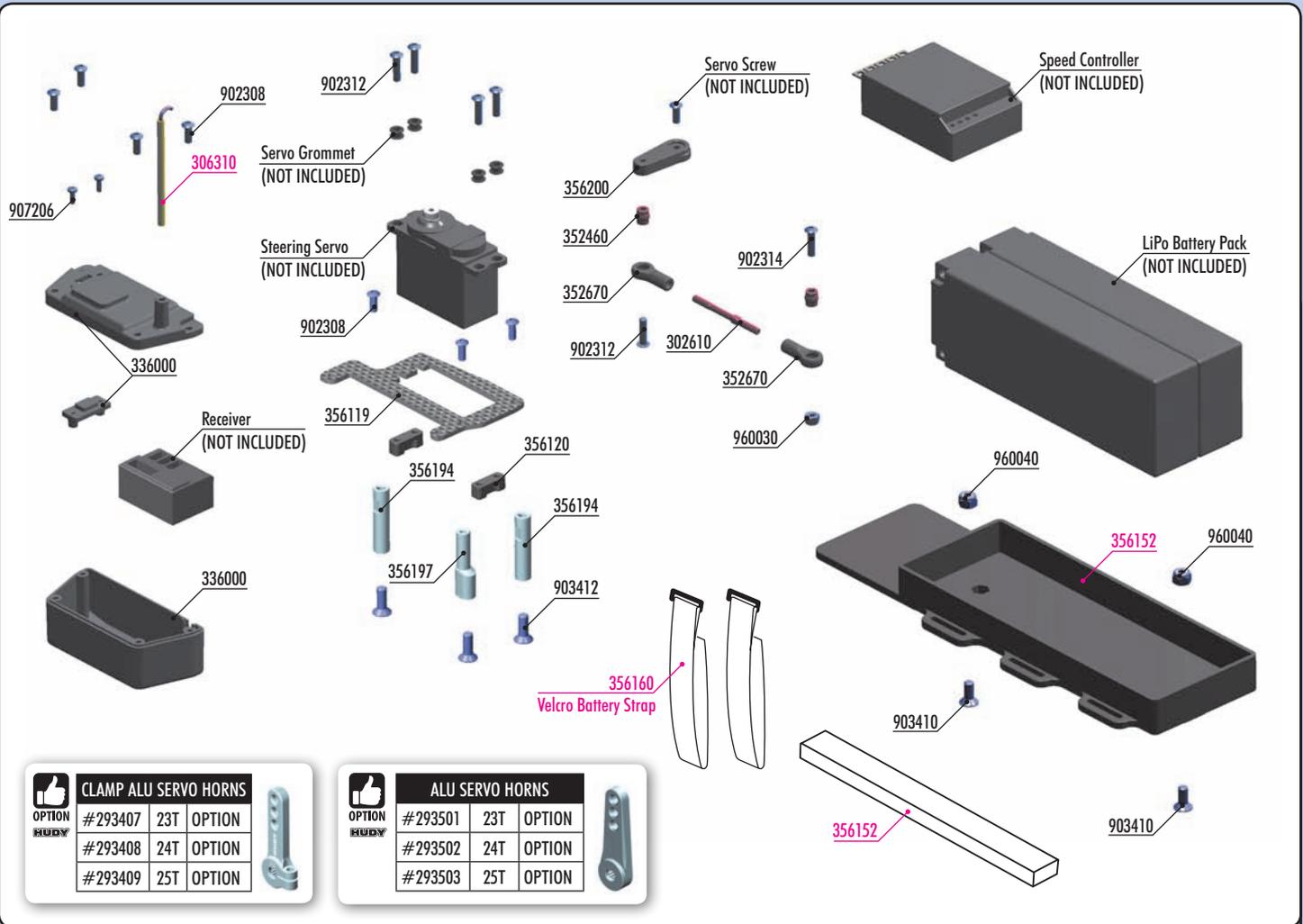
903410  
SFH M4x10

**TIP** After running your engine, apply (#106250 HUDY ENGINE AFTER RUN OIL)

Bend the exhaust wire as appropriate to fit the muffler



# 10. RADIO CASE



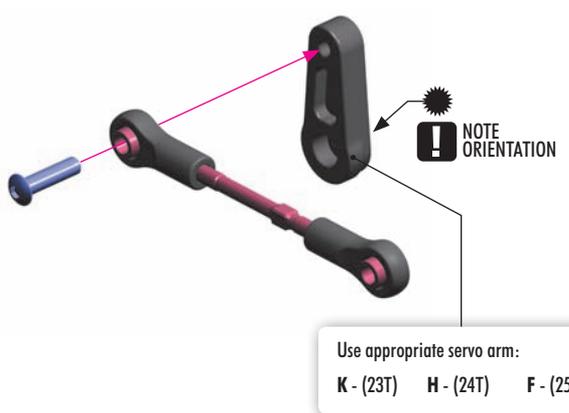
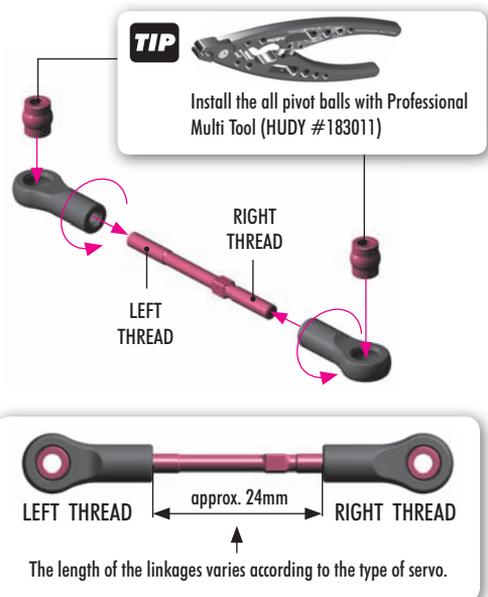
CLAMP ALU SERVO HORNS			
OPTION	#293407	23T	OPTION
HUDY	#293408	24T	OPTION
	#293409	25T	OPTION

ALU SERVO HORNS			
OPTION	#293501	23T	OPTION
HUDY	#293502	24T	OPTION
	#293503	25T	OPTION



- 302610 ADJ. TURNBUCKLE L/R 40 MM - HUDY SPRING STEEL (2)
- 336000 COMPOSITE RECEIVER CASE - V2
- 336060 RECEIVER SWITCH - SET (OPTION)
- 352460 PIVOT BALL 5.8 (10)
- 352670 SERVO BALL JOINT 5.8MM (4)
- 356119 GRAPHITE RECEIVER CASE TOP PLATE
- 356120 STEERING SERVO MOUNT - SET
- 356194 ALU MOUNT FOR RECEIVER BOX
- 356194 ALU ECCENTRIC MOUNT FOR RECEIVER BOX
- 356197 ALU ECCENTRIC MOUNT FOR RECEIVER BOX
- 356200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
- 389135 CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
- 902308 HEX SCREW SH M3x8 (10)

- 902312 HEX SCREW SH M3x12 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 903410 HEX SCREW SFH M4x10 (10)
- 903412 HEX SCREW SFH M4x12 (10)
- 907206 SCREW PHILLIPS 2x6 (10)
- 960030 NUT M3 (10)
- 960040 NUT M4 (10)
- 306310 ANTENNA TUBE (2)
- 356152 COMPOSITE BATTERY PLATE
- 356160 VELCRO BATTERY STRAP 20x300MM (2)

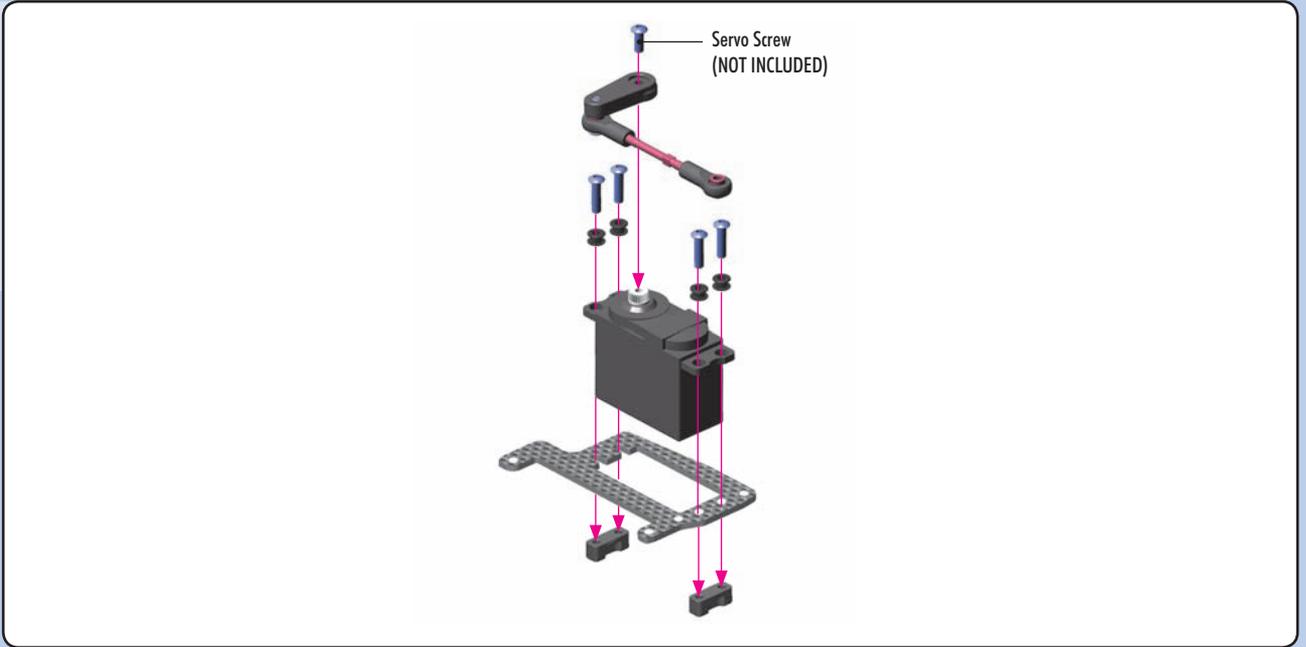


CLAMP ALU SERVO HORNS			
OPTION	#293407	23T	OPTION
HUDY	#293408	24T	OPTION
	#293409	25T	OPTION

ALU SERVO HORNS			
OPTION	#293501	23T	OPTION
HUDY	#293502	24T	OPTION
	#293503	25T	OPTION



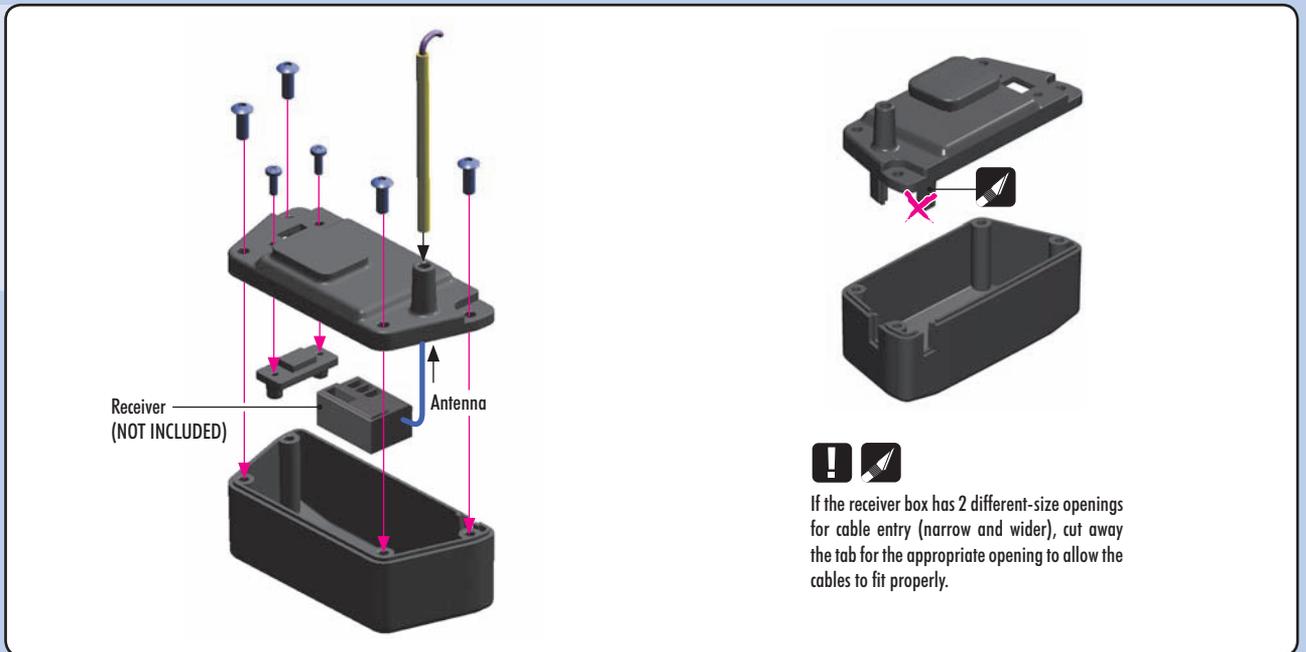
902312  
SH M3x12



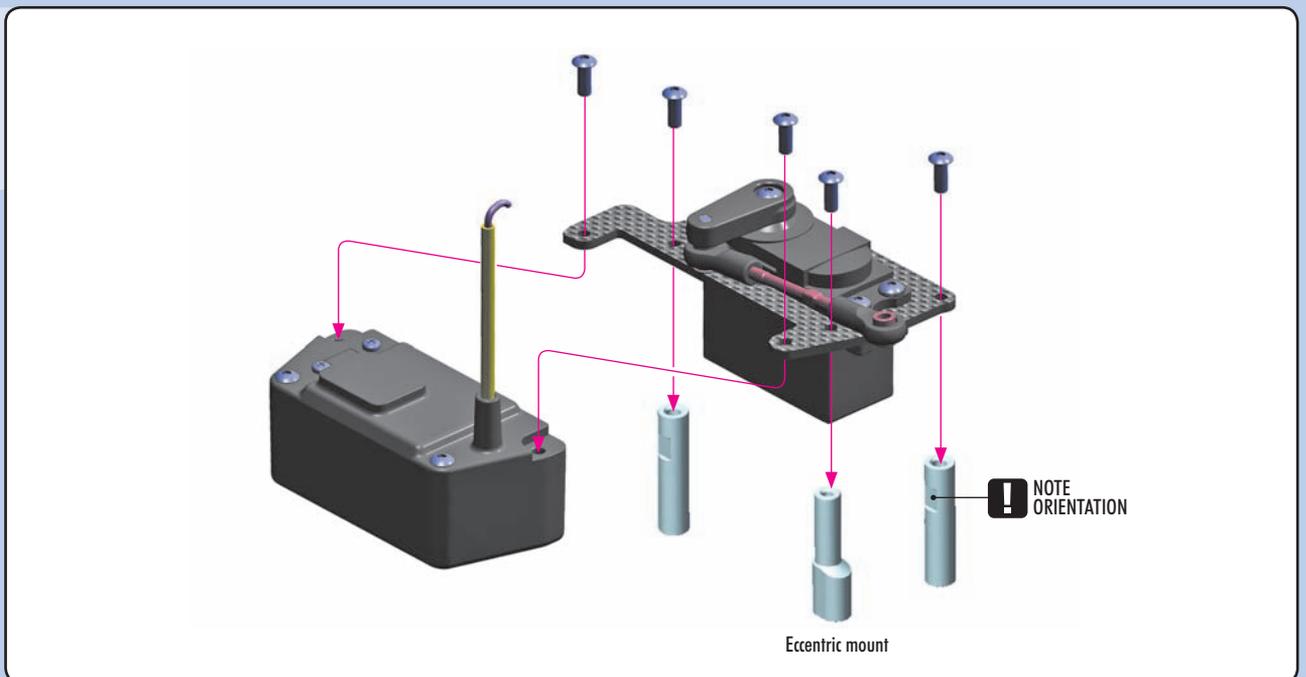
902308  
SH M3x8



907206  
2x6



902308  
SH M3x8



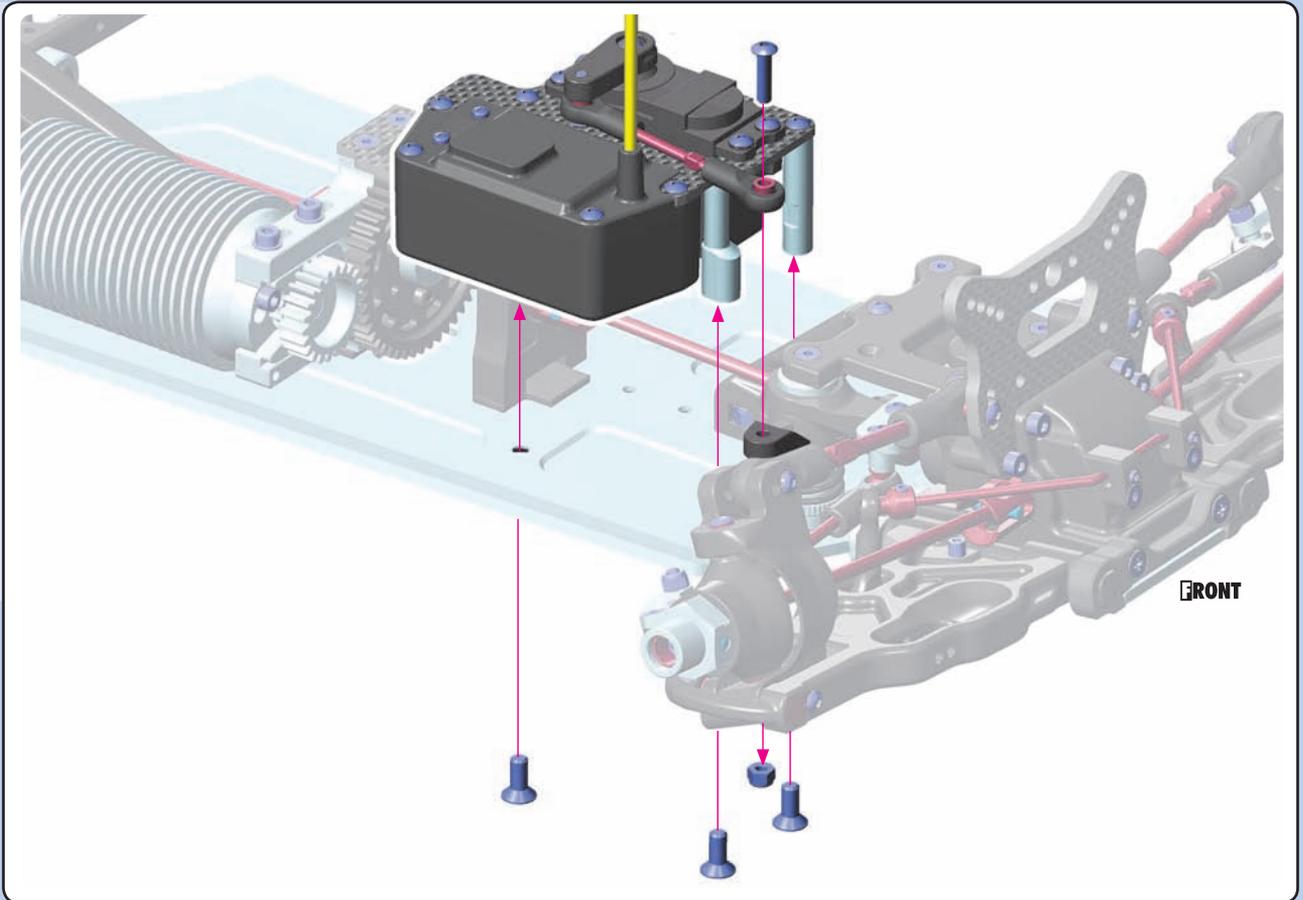
# 10. RADIO CASE

- 

902314  
SH M3x14
- 

903412  
SFH M4x12
- 

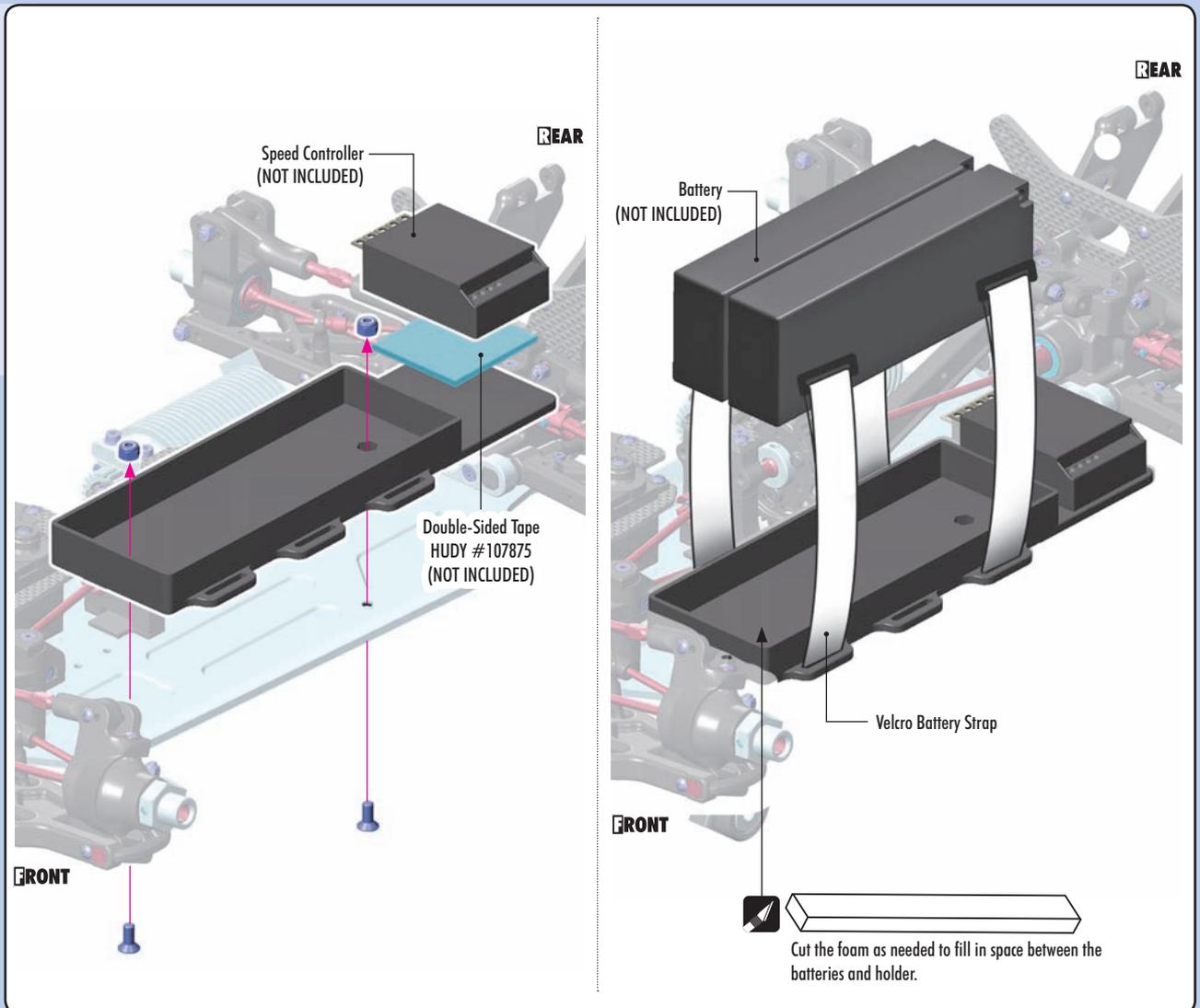
960030  
N M3



- 

903410  
SFH M4x10
- 

960040  
N M4



# 10. RADIO CASE

**GTX8**

Labels in diagram include: 902310, 356003, 902312, 902306 (NOT INCLUDED), Personal transponder (NOT INCLUDED), Servo Screw (NOT INCLUDED), 356200, 902314, 352460, 352460, 352670, 902312, 302611, 960030, 902314, Servo Grommet (NOT INCLUDED), Receiver (NOT INCLUDED), 356003, Receiver battery (NOT INCLUDED), Steering Servo (NOT INCLUDED), Throttle Servo (NOT INCLUDED), Servo Grommet (NOT INCLUDED), 902314, 336120, 356120, 356003, 903412, 903412, 336120, 356120.

RADIO CASE - SET			
#356004	SOFT	OPTION	
#356003	HARD	INCLUDED	

**BAG**

**10**

302611	ADJ. TURNBUCKLE L/R 35 MM - HUDY SPRING STEEL™ (2)	389135	CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)
336120	COMPOSITE STEERING SERVO HOLDER - SET - V2	902306	HEX SCREW SH M3x6 (10) (OPTION)
352460	PIVOT BALL 5.8 (10)	902310	HEX SCREW SH M3x10 (10)
352670	SERVO BALL JOINT 5.8MM (4)	902312	HEX SCREW SH M3x12 (10)
356003	COMPOSITE RADIO CASE SET	902314	HEX SCREW SH M3x14 (10)
356050	BATTERY CABLE WITH SWITCH (OPTION)	903412	HEX SCREW SFH M4x12 (10)
356120	STEERING SERVO MOUNT - SET	960030	NUT M3 (10)
356200	BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET	306310	ANTENNA TUBE (2)

902312  
SH M3x12

**TIP**

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

RIGHT THREAD

LEFT THREAD

RIGHT THREAD

approx. 19.5mm

LEFT THREAD

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

**DETAIL**

Use appropriate servo arm:

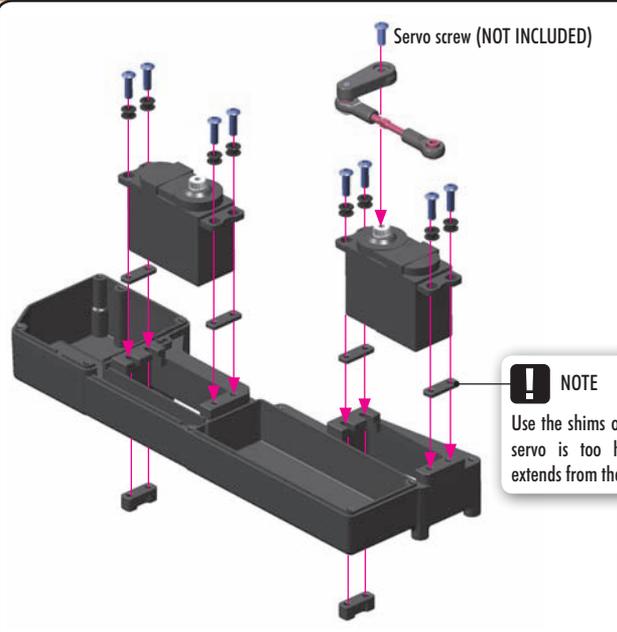
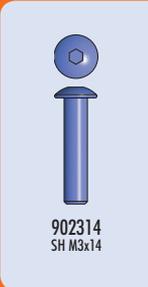
- K - (23T)
- H - (24T)
- F - (25T)

**NOTE ORIENTATION**

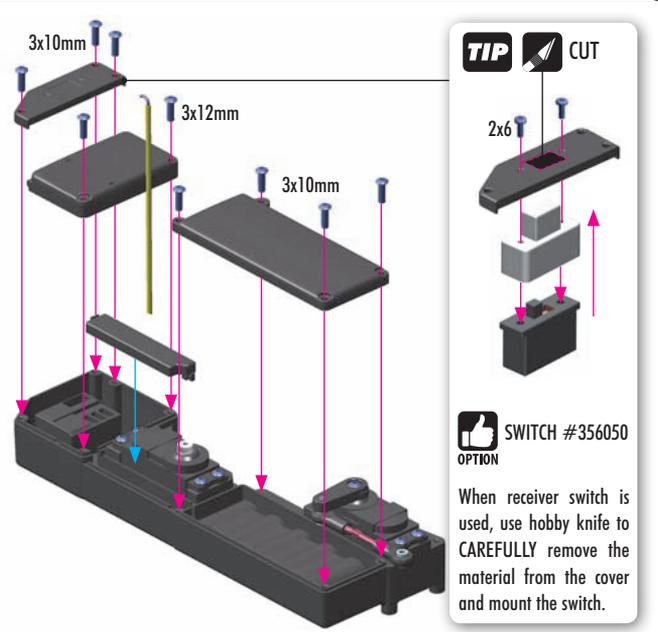
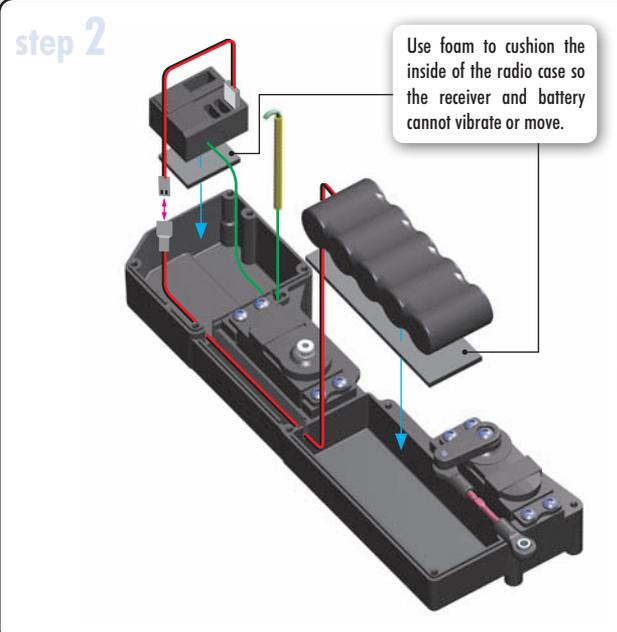
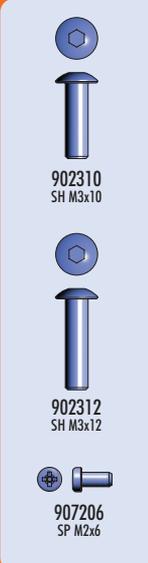
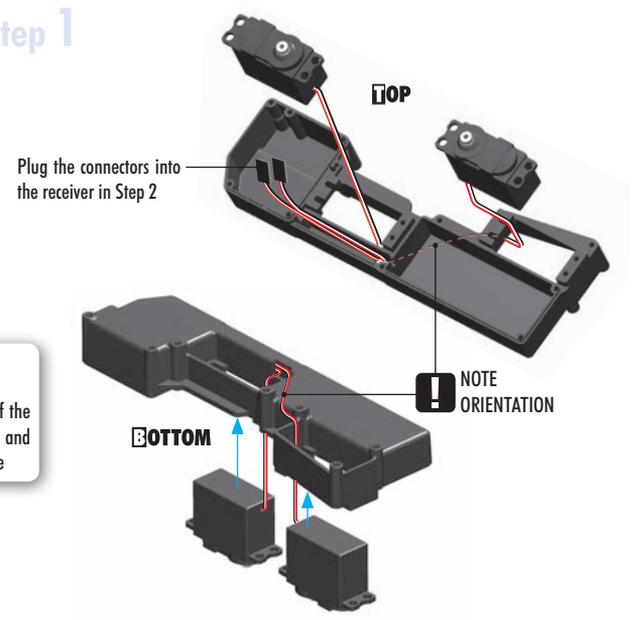
CLAMP ALU SERVO HORNS			
#293407	23T	OPTION	
#293408	24T	OPTION	
#293409	25T	OPTION	

ALU SERVO HORNS			
#293501	23T	OPTION	
#293502	24T	OPTION	
#293503	25T	OPTION	

# 10. RADIO CASE



## step 1

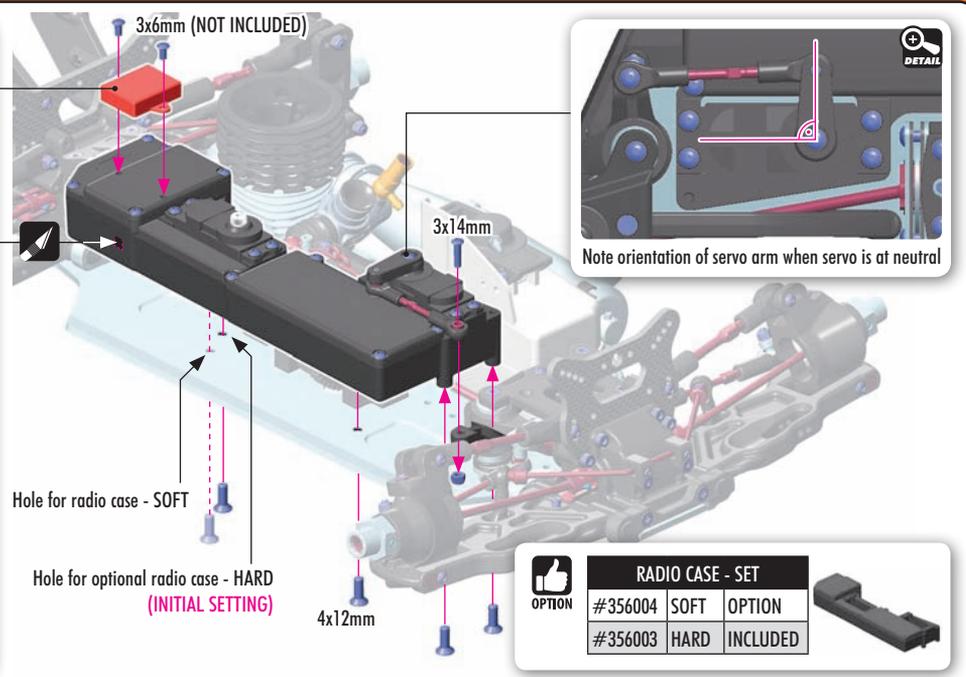


Personal transponder (NOT INCLUDED)  
#902306 Screws (NOT INCLUDED)

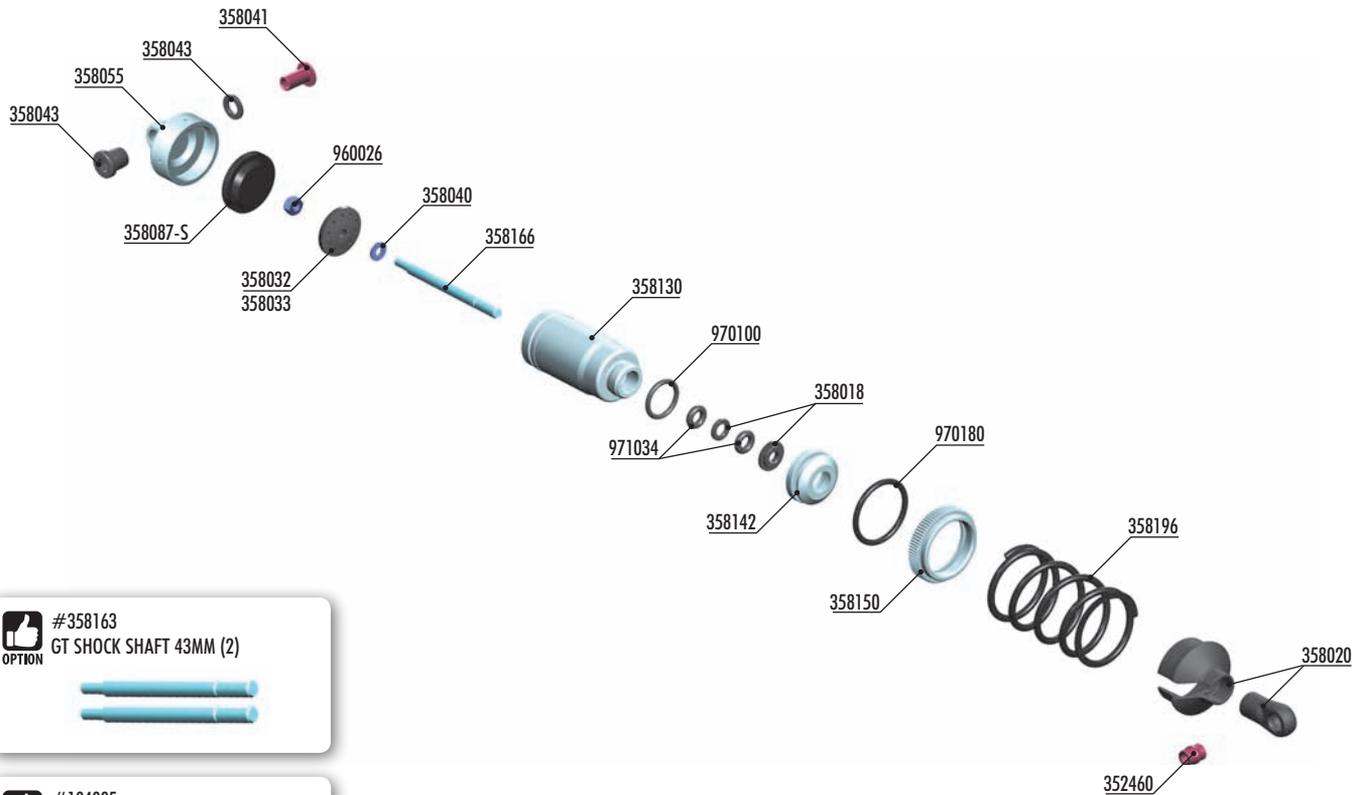
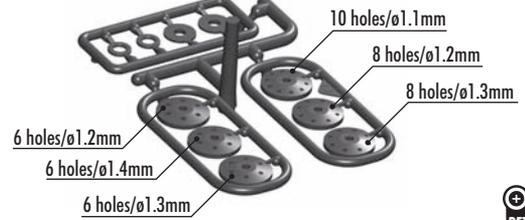
Personal transponder can be placed on the top of the radio box or inside of the radio box

**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-sided tape.



### PISTONS



**#358163**  
GT SHOCK SHAFT 43MM (2)



**#104005**  
HUDY AIR VAC - VACUUM PUMP  
- 1/8 OFF-ROAD



**SHOCK RUBBER MEMBRANE (4)**

OPTION	MEMBRANE TYPE	SOFTNESS	STATUS
#358084	RIBBED	MEDIUM	OPTION
#358084-S	BRIBBED	SOFT	OPTION
#358087-S	CELL	SOFT	INCLUDED
#358087-M	CELL	MEDIUM	OPTION

- #358027** PISTON 5-HOLE (1.5mm) & 2-HOLE (1.0mm) (4)
- #358028** PISTON 6-HOLE (1.3mm) & 2-HOLE (1.1mm) (4)
- #308029** PISTON 6-HOLE (1.4mm) & 2-HOLE (1.1mm) (4)
- #358030** PISTON 8-HOLE (1.2mm) & 2-HOLE (1.2mm) (4)
- #358031** PISTON 8-HOLE (1.3mm) & 2-HOLE (1.2mm) (4)

**#358054**  
XB8 ALU SHOCK CAP NUT WITH  
VENT HOLE - BLACK COATED (2)



### BAG



- 352460 PIVOT BALL 5.8 - V3 (10)
- 358018 COMPOSITE SET OF SHIMS FOR SHOCKS - (2)
- 358020 COMPOSITE SHOCK PARTS
- 358032 SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1MM) - DELRIN - V2
- 358033 COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4MM) - DELRIN - V2
- 358040 HARDENED SHOCK SHIMS (4)
- 358041 STEEL SHOCK BUSHING (2)
- 358043 COMPOSITE SHOCK BUSHING & SHIM (2+2)
- 358055 ALU SHOCK CAP NUT - BLACK COATED (2)
- 358087-S SHOCK RUBBER MEMBRANE CELL - SOFT (4)
- 358130 GT ALU SHOCK BODY - V2 (2)
- 358142 ALU SHOCK BODY NUT FOR SHOCK BOOT (2)
- 358150 ALU SHOCK BODY ADJ. NUT (2)
- 358166 GT SHOCK SHAFT 46MM (2)
- 358196 XRAY GT SPRING - 3 DOTS (2)
- 960026 NUT M2.5 - SHORT (10)
- 970100 O-RING 10 x 1.5 (10)
- 970180 O-RING 18 x 1.8 (10)
- 971034 SILICONE O-RING 3.5x2 (10)



358040  
5 2.5x6x0.5



960026  
N M2.5

4x



6 holes  
ø1.2mm pistons



NOTE ORIENTATION



#358163  
GT SHOCK SHAFT 43MM (2)



Install the piston with Professional Multi Tool (HUDY #183011)



INCORRECT



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.



CORRECT



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.

### SET-UP BOOK

SHOCK DAMPING  
SHOCK PISTONS



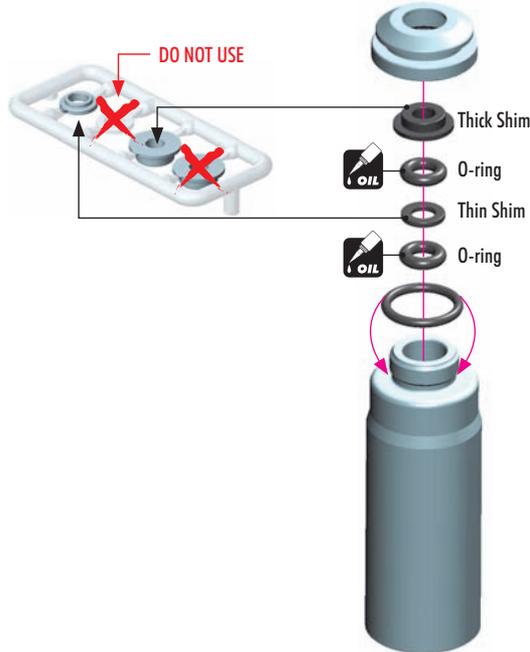
970100  
0 10x1.5



971034  
0 3.4x2

4x

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



DO NOT USE

Thick Shim

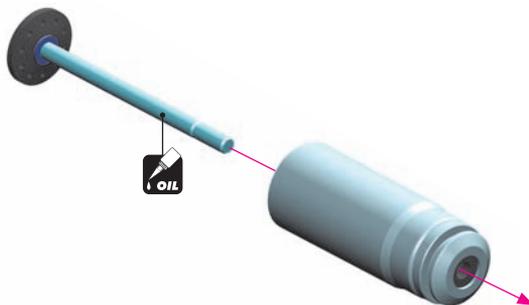
O-ring

Thin Shim

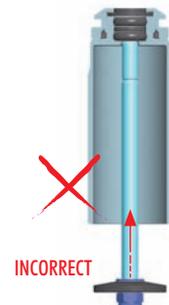
O-ring



4x



### EXTREMELY IMPORTANT



INCORRECT



CORRECT

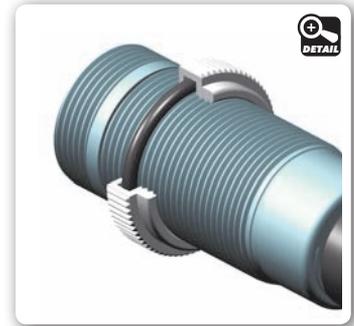
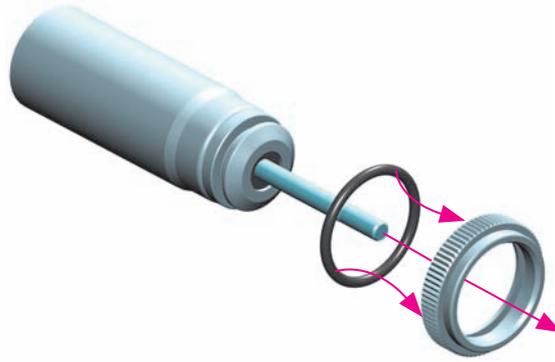
Do not push the shock rod straight through the lower shock body assembly; O-ring damage may result.

Twist the shock rod through the lower shock body assembly.



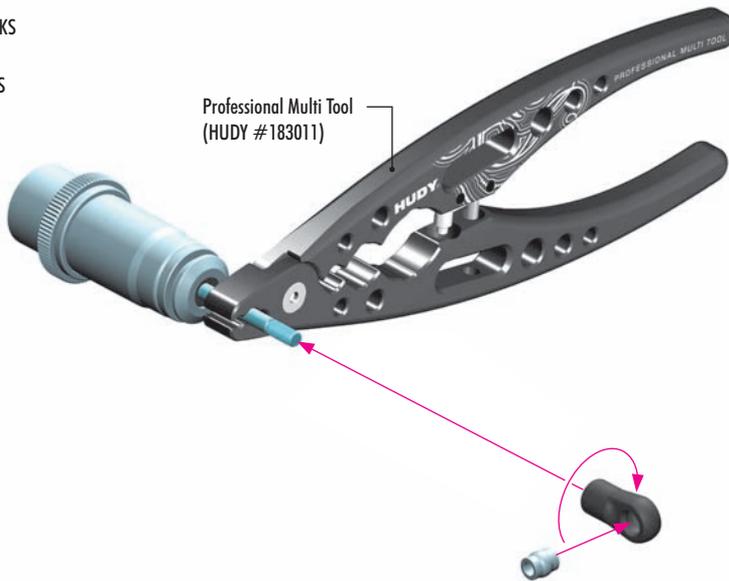
970180  
Ø 18x1.8

4x

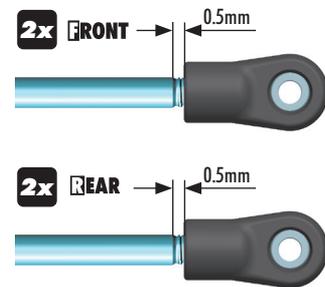


2x FRONT SHOCKS

2x REAR SHOCKS



Professional Multi Tool  
(HUDY #183011)



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

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

4x SHOCK  
Oil 800cSt

SET-UP  
BOOK  
SHOCK OIL

- Extend the shock shaft completely. Fill the shock body with the shock oil. For the shocks use 800cSt oil.
- Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.
- Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.
- Install the shock membrane into the groove in the upper shock cap.
- HALF TIGHTEN 50%

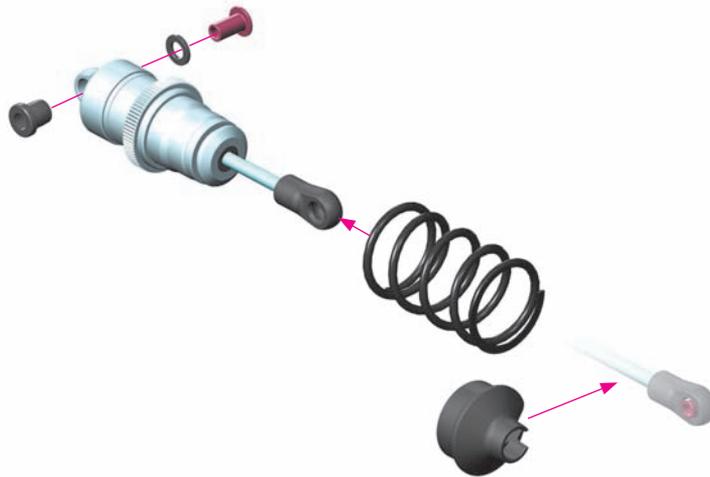
Gently place the shock cap assembly onto the filled shock body. Excess oil will spill from the shock. Screw the shock cap onto the body by only a few turns.
- TIGHTEN FULLY 100%

Gently push the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.
- Keep the shock shaft pushed in the shock body and tighten the shock cap completely. The rebound will be at approximately 0%.



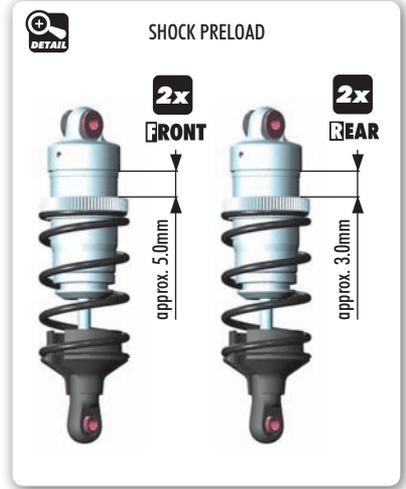
971034  
Ø 3.4x2

4x



**SET-UP BOOK**

SPRING RATE SHOCK  
PRELOAD  
RIDE HEIGHT



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

The default shock rebound setting is 0% (as described on page 40). Alternatively, you may set the shock rebound setting to 50% or 100% as described below. Remove the shock springs before performing shock rebound adjustment.

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

REMOVE SHOCK CAP



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



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



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

HALF TIGHTEN 50%



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



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

TIGHTEN FULLY 100%



6 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)**

REMOVE SHOCK CAP



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



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

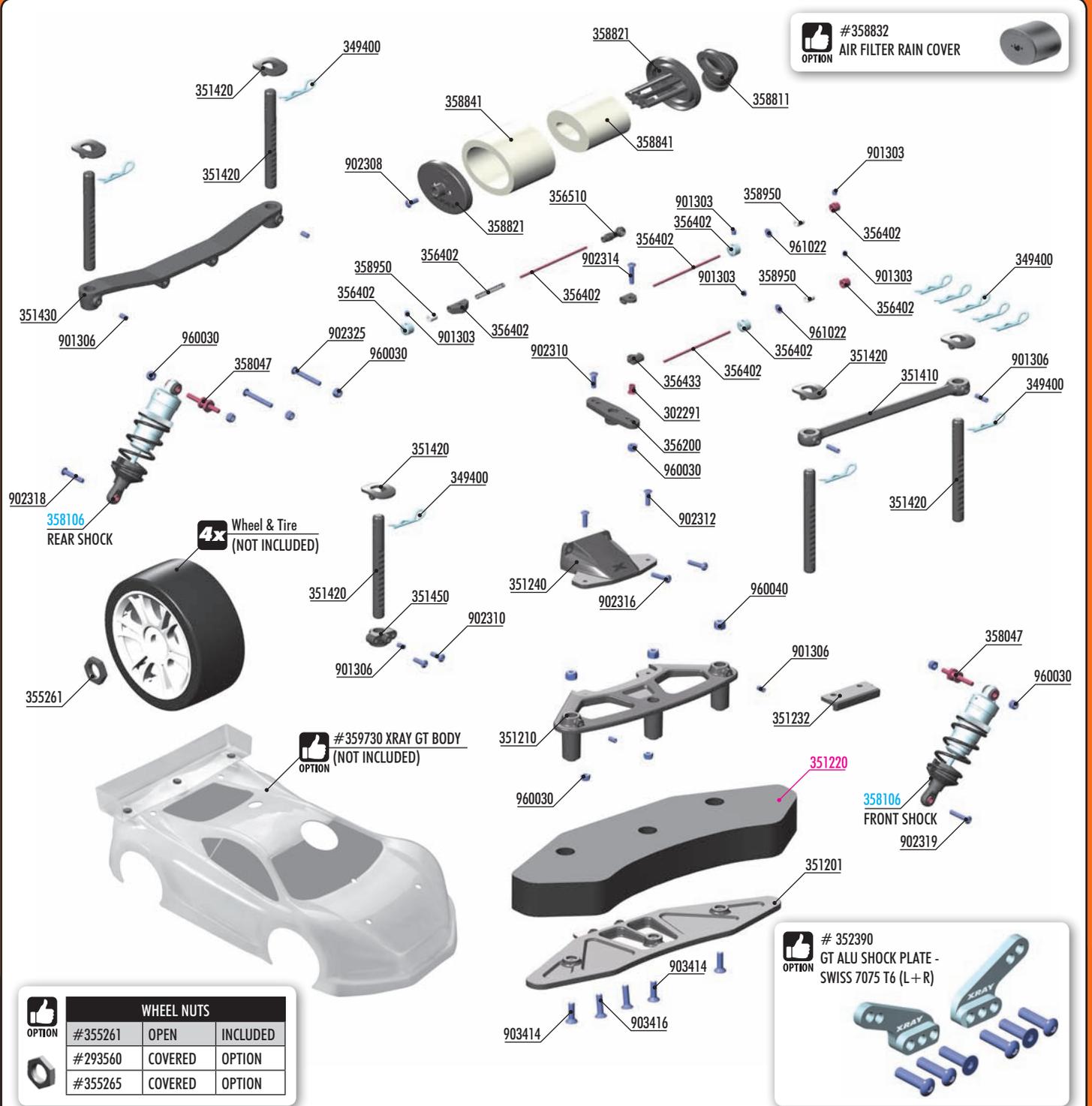


3 Orient the filled shock vertically for several minutes with the shock shaft fully extended. The remaining air bubbles will release.

TIGHTEN FULLY 100%



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



**#358832**  
OPTION AIR FILTER RAIN COVER

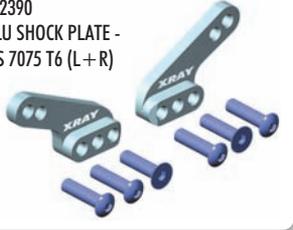


**4x** Wheel & Tire  
(NOT INCLUDED)

**#359730** XRAY GT BODY  
(NOT INCLUDED)

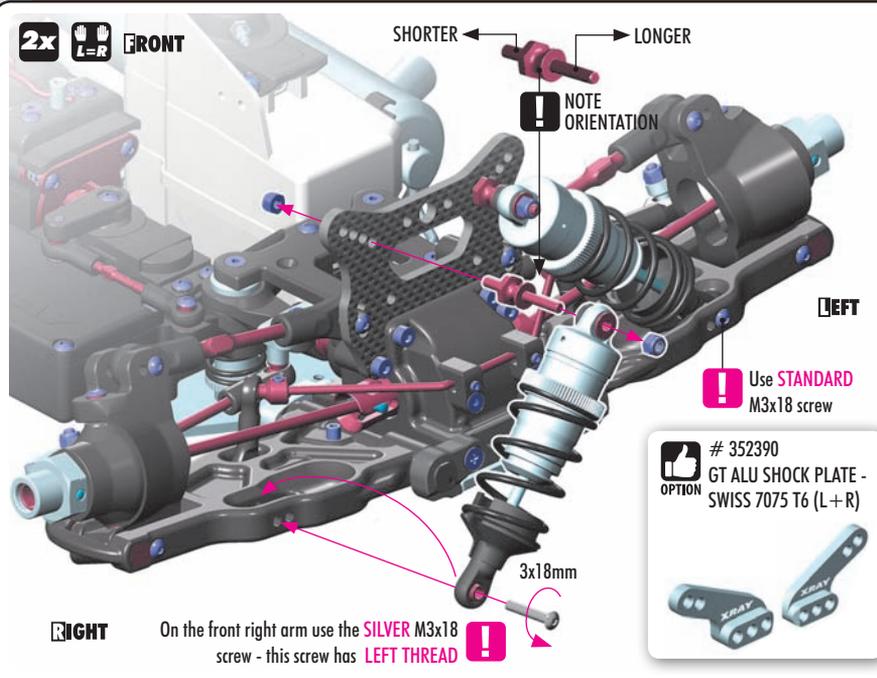
WHEEL NUTS		
<b>#355261</b>	OPEN	INCLUDED
<b>#293560</b>	COVERED	OPTION
<b>#355265</b>	COVERED	OPTION

**# 352390**  
OPTION GT ALU SHOCK PLATE - SWISS 7075 T6 (L+R)

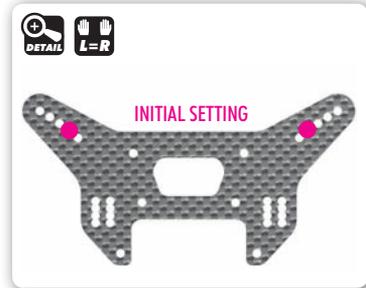
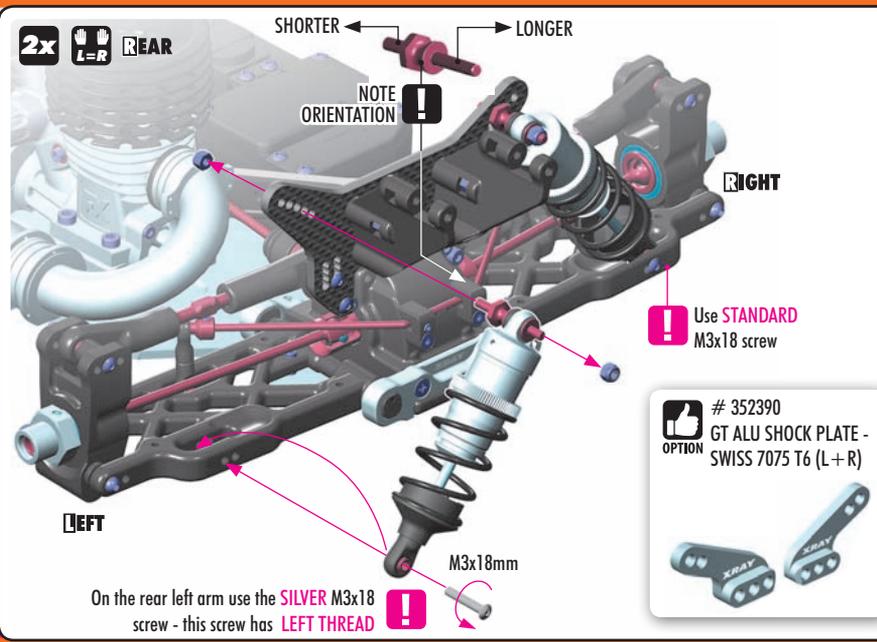


**BAG**  
**12**

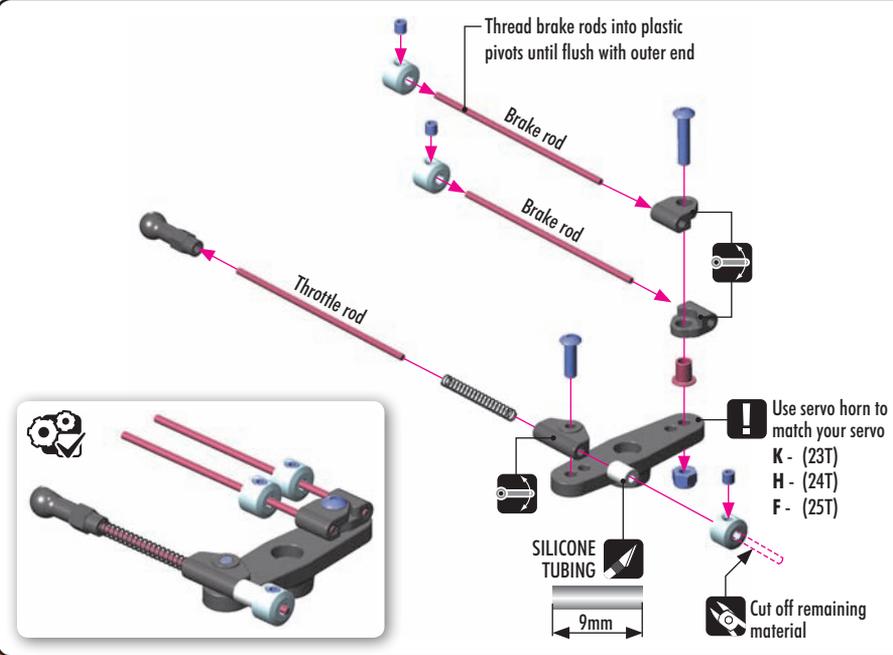
- |        |   |               |                                       |
|--------|---|---------------|---------------------------------------|
| 302291 | STEEL STEERING BUSHING (2+2)                      | 901303        | HEX SCREW SB M3x3 (10)                |
| 349400 | BODY CLIP (10)                                    | 901306        | HEX SCREW SB M3x6 (10)                |
| 351201 | GT COMPOSITE FRONT BUMPER                         | 902308        | HEX SCREW SH M3x8 (10)                |
| 351210 | GT COMPOSITE FRONT UPPER BUMPER                   | 902310        | HEX SCREW SH M3x10 (10)               |
| 351232 | GT COMPOSITE FRONT & REAR SUSPENSION HOLDER PLATE | 902312        | HEX SCREW SH M3x12 (10)               |
| 351240 | GT COMPOSITE FRONT UPPER BUMPER BRACE             | 902314        | HEX SCREW SH M3x14 (10)               |
| 351410 | GT COMPOSITE FRONT HOLDER FOR BODY POSTS          | 902316        | HEX SCREW SH M3x16 (10)               |
| 351420 | GT COMPOSITE BODY POSTS (2)                       | 902318        | HEX SCREW SH M3x18 (10)               |
| 351430 | GT COMPOSITE REAR HOLDER FOR BODY POSTS           | 902319        | HEX SCREW SH M3x18 - LEFT THREAD (10) |
| 351450 | GT COMPOSITE CENTER BODY POST HOLDER              | 902325        | HEX SCREW SH M3x25 (10)               |
| 355261 | WHEEL NUT - RIBBED - HARD COATED (2)              | 903414        | HEX SCREW SFH M4x14 (10)              |
| 356200 | BRAKE/THROTTLE ARMS & SERVO ARMS - SET            | 903416        | HEX SCREW SFH M4x16 (10)              |
| 356402 | XB8 BRAKE/THROTTLE SYSTEM - SET                   | 960030        | NUT M3 (10)                           |
| 356433 | GT COMPOSITE BRAKE WIRE HOLDER (2)                | 960040        | NUT M4 (10)                           |
| 356510 | CLOSED BALL JOINT 3.9 (4)                         | 961022        | WASHER S 2.2 (10)                     |
| 358047 | STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)         | <b>358106</b> | <b>GTX8 SHOCK ABSORBERS V2 (2)</b>    |
| 358811 | AIR FILTER ELBOW - LOW PROFILE                    | <b>351220</b> | <b>GT FOAM BUMPER</b>                 |
| 358821 | AIR FILTER BODY & CAP - LOW PROFILE               |               |                                       |
| 358841 | AIR FILTER FOAM & OIL - LOW PROFILE               |               |                                       |
| 358950 | SILICONE TUBING 1M (2.4 x 5.5MM)                  |               |                                       |



**SET-UP BOOK**  
SHOCK ABSORBERS



**SET-UP BOOK**  
SHOCK ABSORBERS



**CLAMP ALU SERVO HORNS**

#293444	23T	OPTION
#293445	24T	OPTION
#293446	25T	OPTION
#293447	23T	OPTION
#293448	24T	OPTION
#293449	25T	OPTION

**ALU SERVO HORNS**

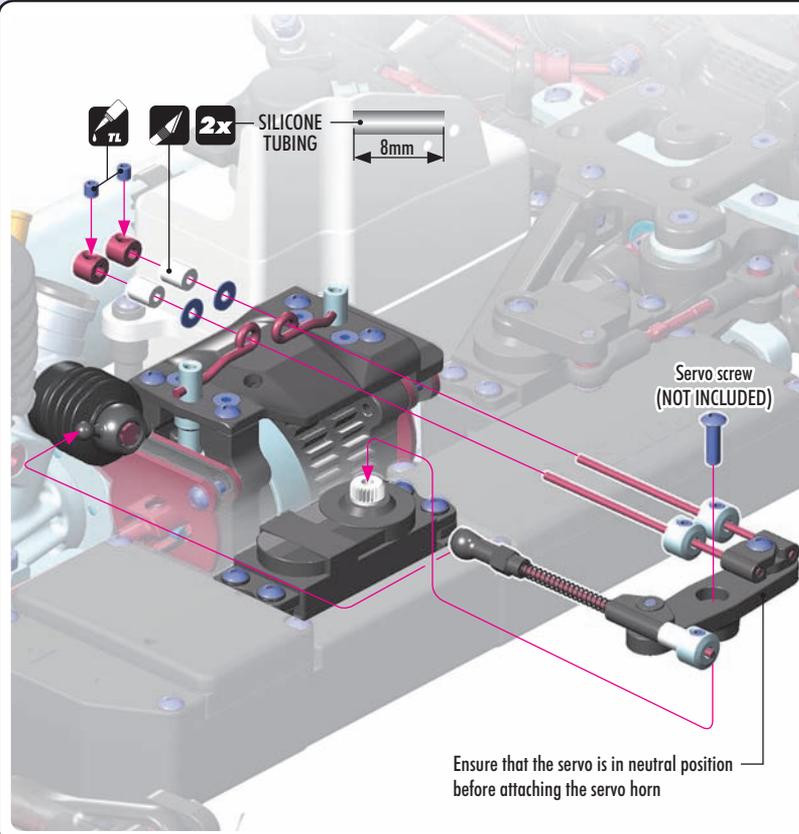
#293504	23T	OPTION
#293505	24T	OPTION
#293506	25T	OPTION
#293507	23T	OPTION
#293508	24T	OPTION
#293509	25T	OPTION

901303  
SB M3x3

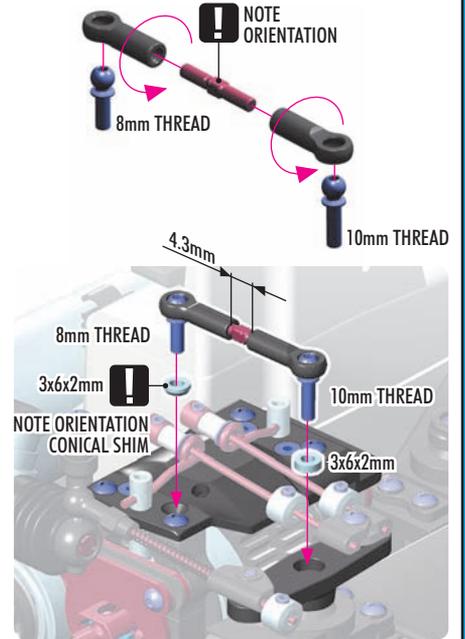
961022  
S 2.2

303123  
SHIM 3x6x2

362280  
CON. SHIM 3x6x2



SERVO BRACE LINK  
OPTION



- 1 Remove the screws from mounting plate and servo horn
- 2 Install the servo brace
- 3 Check free move

901306  
SB M3x6

902312  
SH M3x12

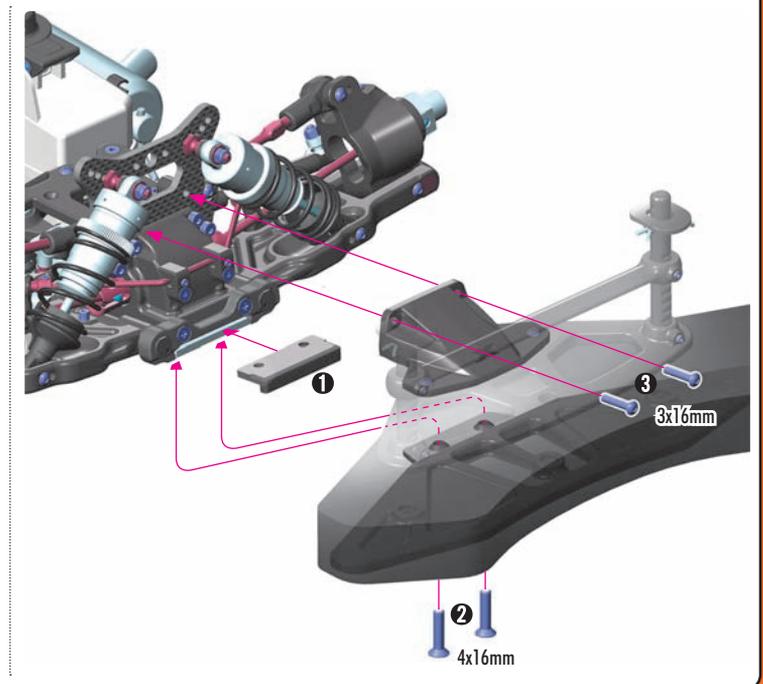
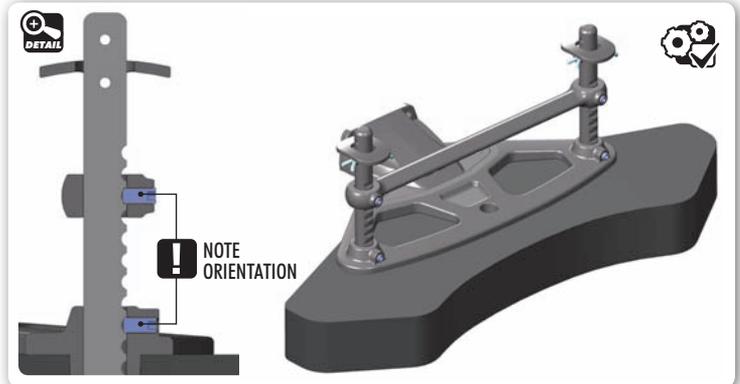
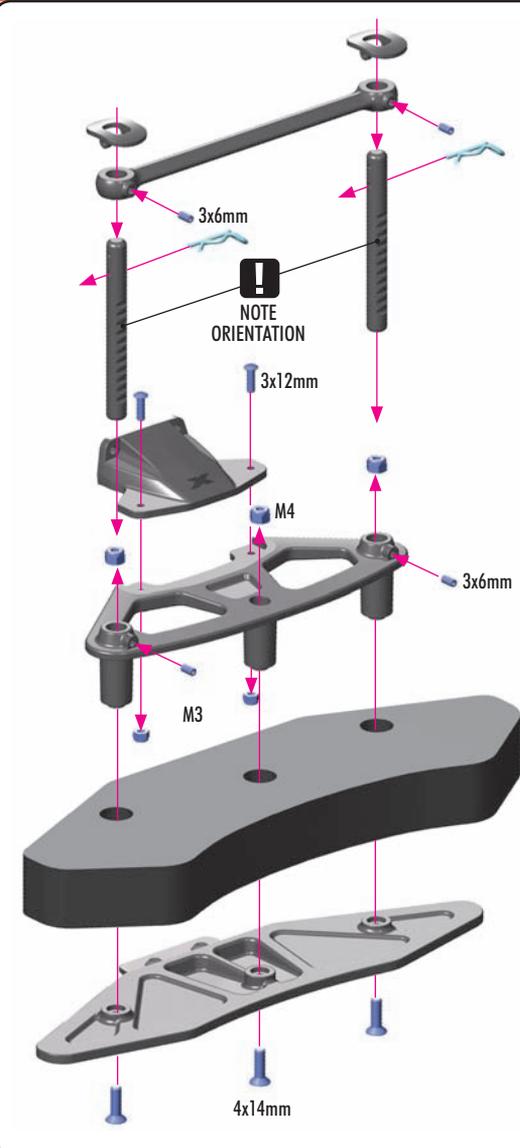
902316  
SH M3x16

903414  
SFH M4x14

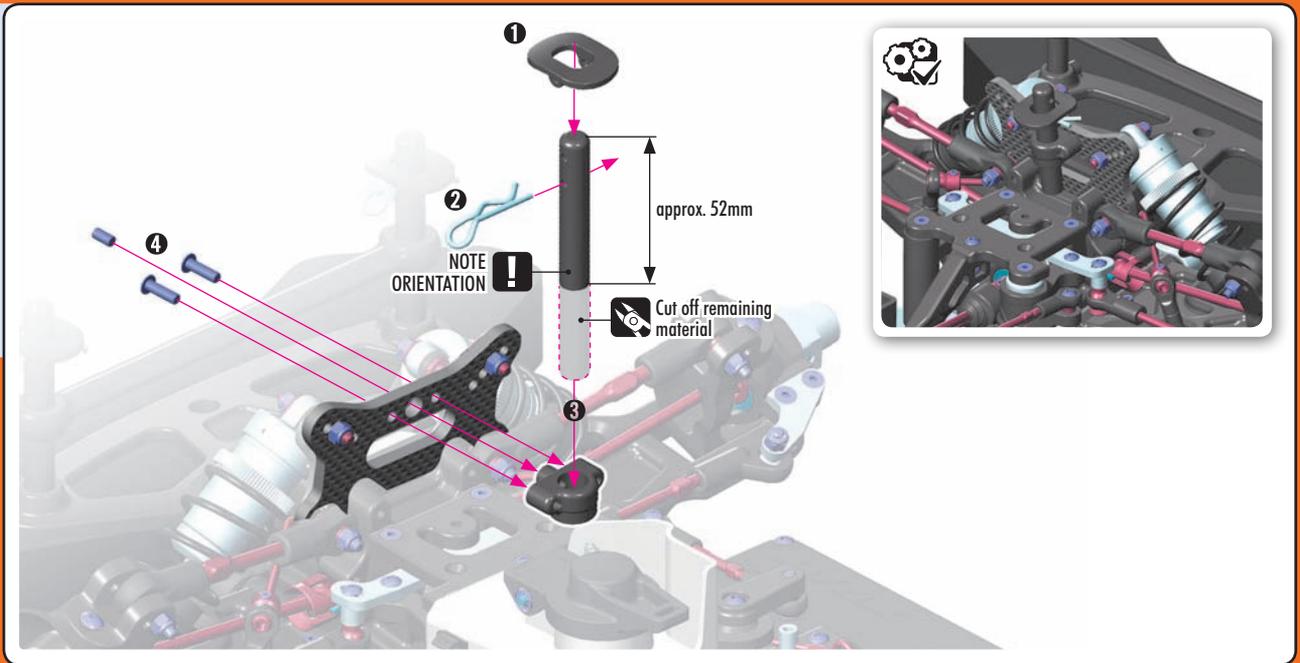
903416  
SFH M4x16

960030  
N M3

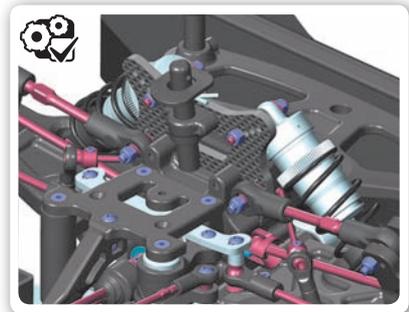
960040  
N M4



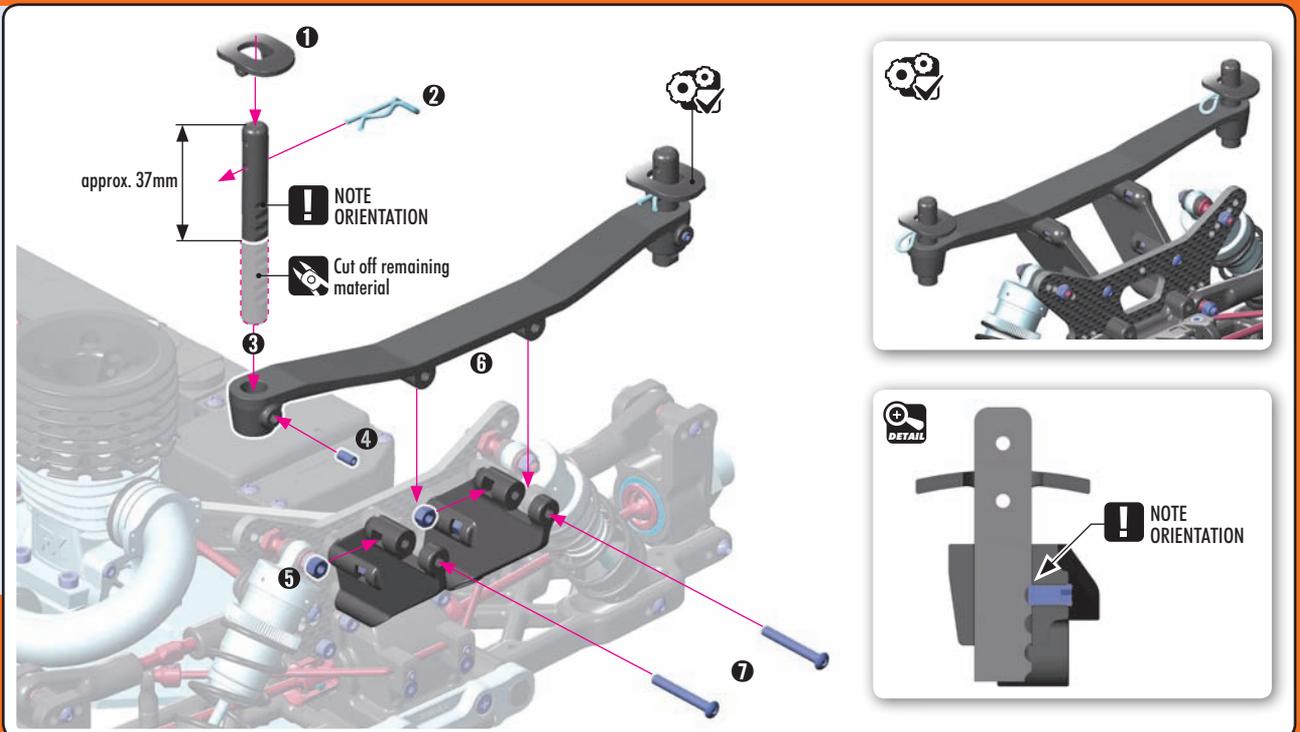
 901306  
SB M3x6  
 902310  
SH M3x10



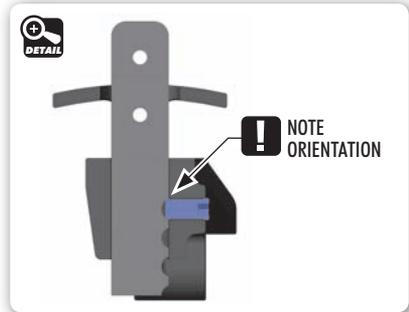
**1**  
 approx. 52mm  
**2**  
 NOTE ORIENTATION  
**3**  
 Cut off remaining material  
**4**



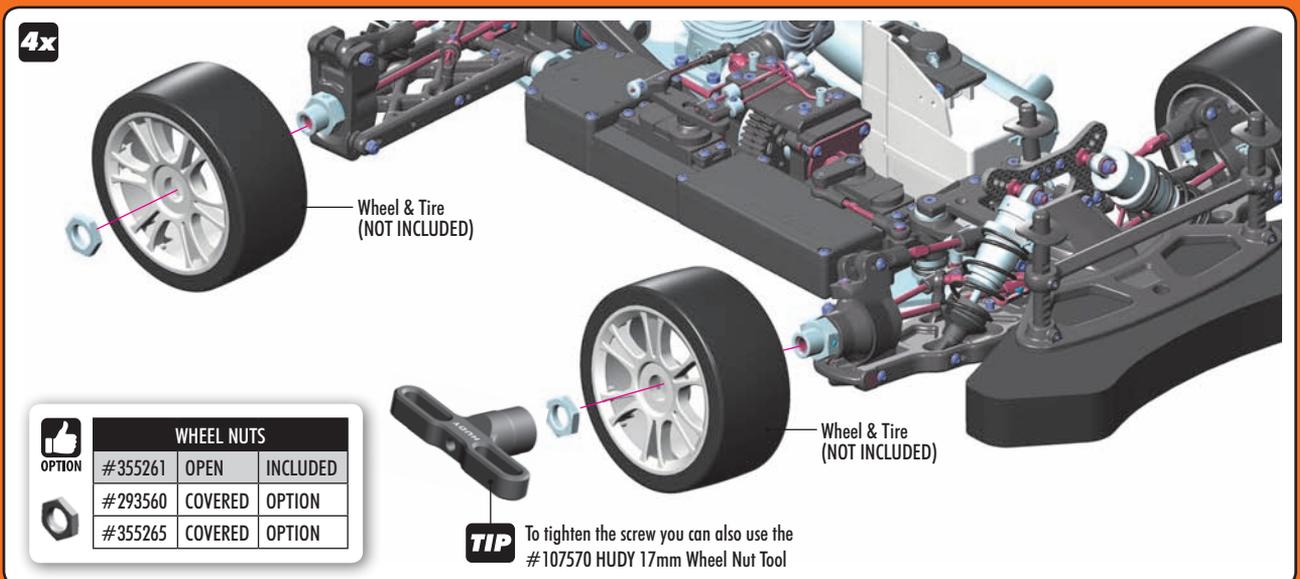
 901306  
SB M3x6  
 902325  
SH M3x25  
 960030  
N M3



**1**  
 approx. 37mm  
 NOTE ORIENTATION  
 Cut off remaining material  
**2**  
**3**  
**4**  
**5**  
**6**  
**7**



**4x**



Wheel & Tire (NOT INCLUDED)

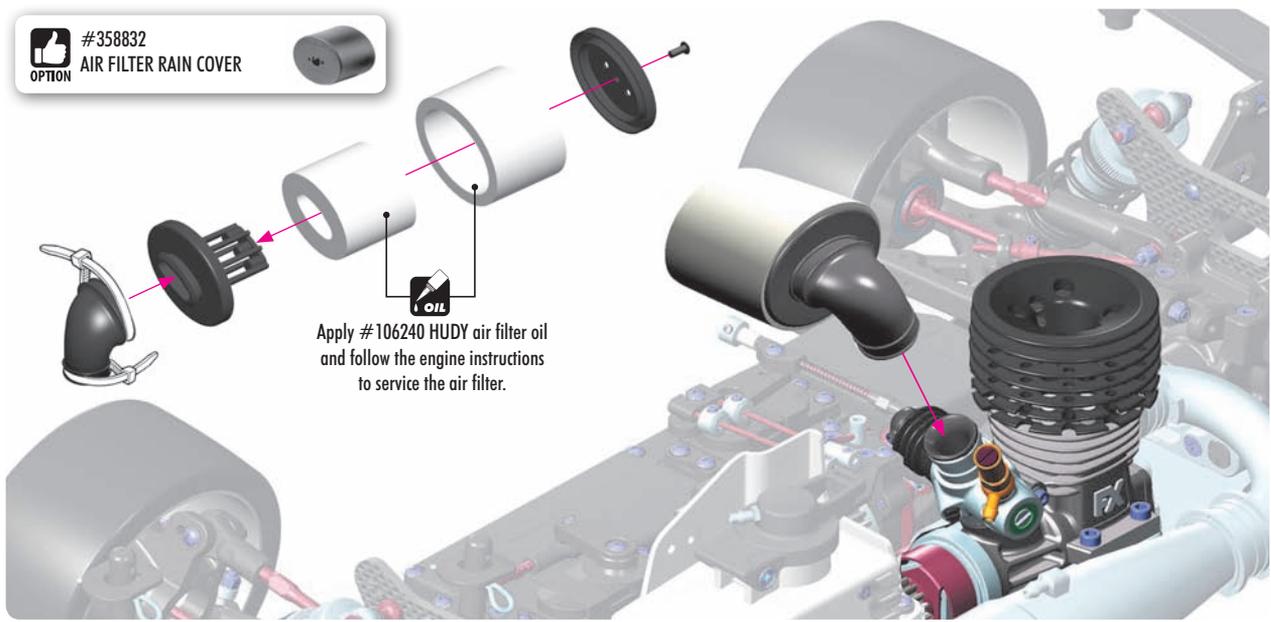
Wheel & Tire (NOT INCLUDED)

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

WHEEL NUTS		
	#355261	OPEN INCLUDED
	#293560	COVERED OPTION
	#355265	COVERED OPTION



**#358832**  
OPTION  
AIR FILTER RAIN COVER

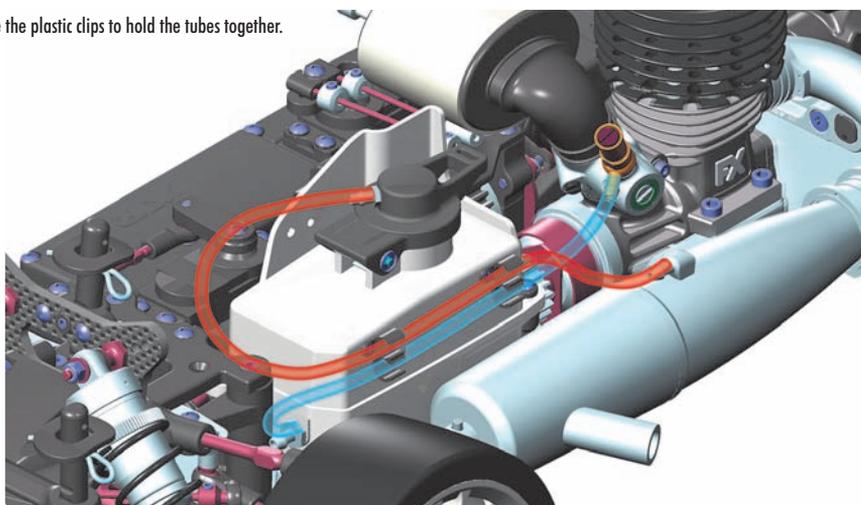


Cut the silicone tube depending on engine and muffler. Use the plastic clips to hold the tubes together.

SILICONE TUBE MARKED AS  
BLUE = FROM FUEL TANK TO CARBURETOR

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

**!** Keep fuel line away from clutchbell and flywheel.



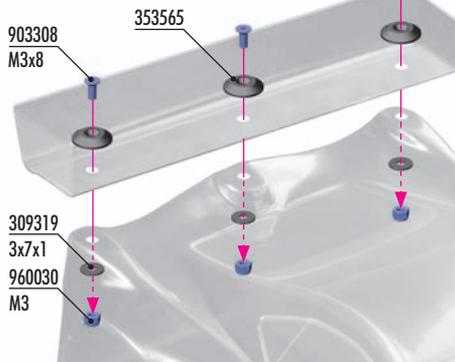
**#359730** GTX BODY (NOT INCLUDED)  
OPTION

- 1 Before cutting and making holes on the body, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts.
- 2 Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- 3 Mask all windows.
- 4 Apply paint masks as appropriate.
- 5 Paint the body using paints formulated for polycarbonate bodies.
- 6 When the paint is dry, remove the masking.
- 7 Carefully cut out the body using appropriate scissors or cutting tools.
- 8 When you have finished cutting, peel off the external protective films.



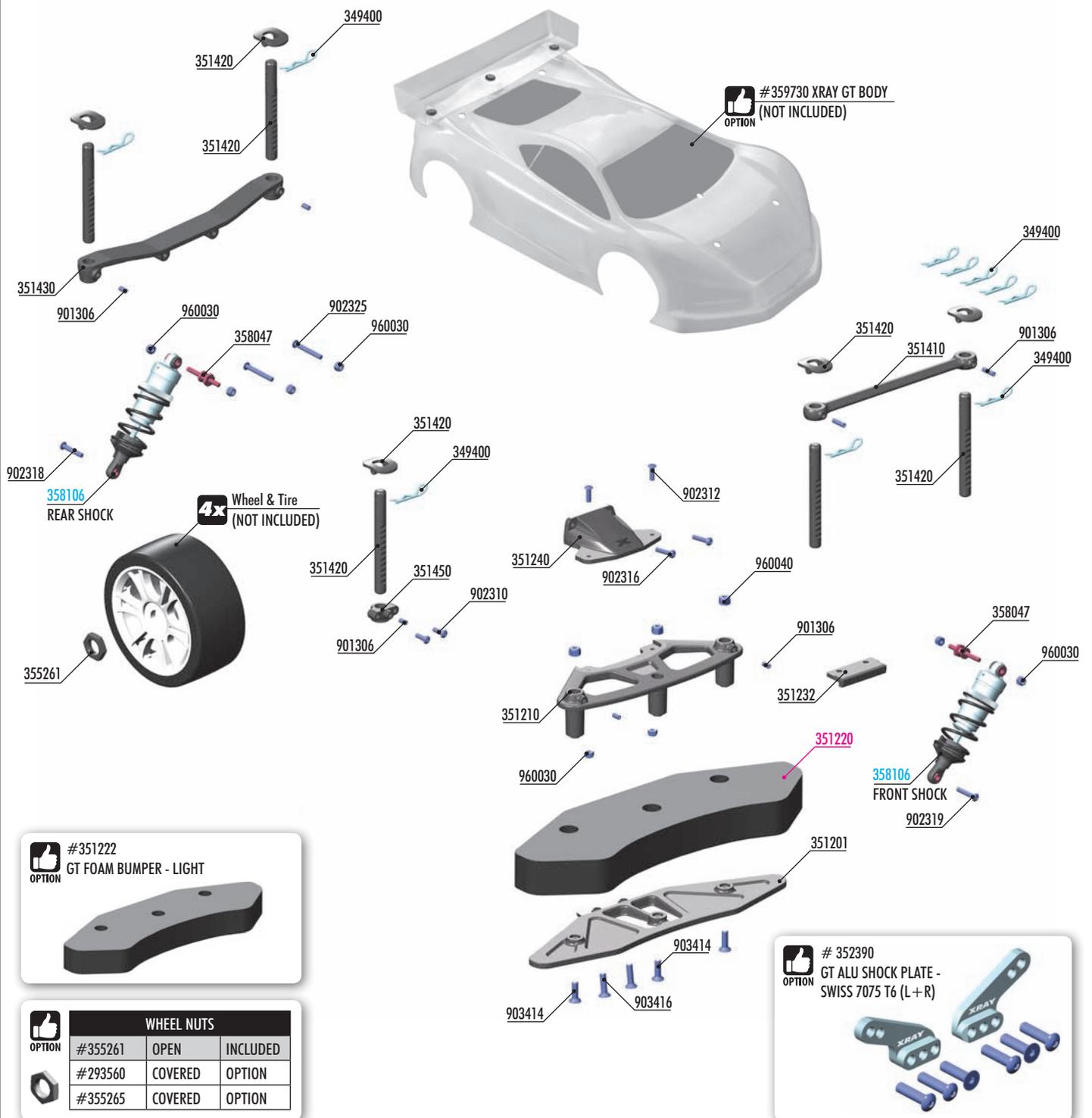
**TIP** To reinforce the body or to fix broken body use #106280 HUDY BODY FIX

**TIP** Use Body Reamer (HUDY #107600) for all holes.



WING SHIMS			
OPTION	#353565	COMPOSITE	INCLUDED
	#293561	ALU	OPTION
	#293561-0	ALU	OPTION
	#353561	ALU	OPTION

# 12. FINAL ASSEMBLY



WHEEL NUTS			
OPTION	#355261	OPEN	INCLUDED
	#293560	COVERED	OPTION
	#355265	COVERED	OPTION

## BAG

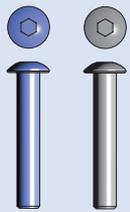
12

- 349400 BODY CLIP (10)
- 351201 GT COMPOSITE FRONT BUMPER
- 351210 GT COMPOSITE FRONT UPPER BUMPER
- 351232 GT COMPOSITE FRONT & REAR SUSPENSION HOLDER PLATE
- 351240 GT COMPOSITE FRONT UPPER BUMPER BRACE
- 351410 GT COMPOSITE FRONT HOLDER FOR BODY POSTS
- 351420 GT COMPOSITE BODY POSTS (2)
- 351430 GT COMPOSITE REAR HOLDER FOR BODY POSTS
- 351450 GT COMPOSITE CENTER BODY POST HOLDER
- 355261 WHEEL NUT - RIBBED - HARD COATED (2)
- 358047 STEEL SCREW SHOCK PIVOT BALL WITH HEX (2)

- 901306 HEX SCREW SB M3x6 (10)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)

- 902316 HEX SCREW SH M3x16 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902319 HEX SCREW SH M3x18 - LEFT THREAD (10)
- 902325 HEX SCREW SH M3x25 (10)
- 903414 HEX SCREW SFH M4x14 (10)
- 903416 HEX SCREW SFH M4x16 (10)
- 960030 NUT M3 (10)
- 960040 NUT M4 (10)

- 358106 GTX8 SHOCK ABSORBERS - V2 (2)
- 351220 GT FOAM BUMPER



902318 SH M3x18  
902319 SH M3x18 LEFT thread



960030 N M3

**SET-UP BOOK**

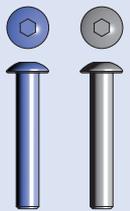
SHOCK ABSORBERS

**2x** **FRONT**

SHOCK ABSORBERS

**OPTION** # 352390 GT ALU SHOCK PLATE - SWISS 7075 T6 (L+R)

**INITIAL SETTING**



902318 SH M3x18  
902319 SH M3x18 LEFT thread



960030 N M3

**SET-UP BOOK**

SHOCK ABSORBERS

**2x** **REAR**

SHOCK ABSORBERS

**OPTION** # 352390 GT ALU SHOCK PLATE - SWISS 7075 T6 (L+R)

**INITIAL SETTING**

# 12. FINAL ASSEMBLY



901306  
SB M3x6



902312  
SH M3x12



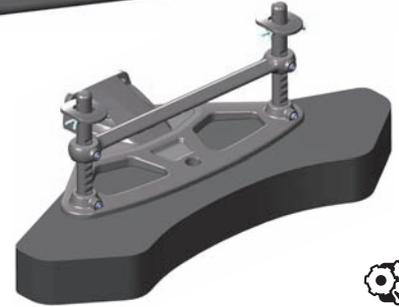
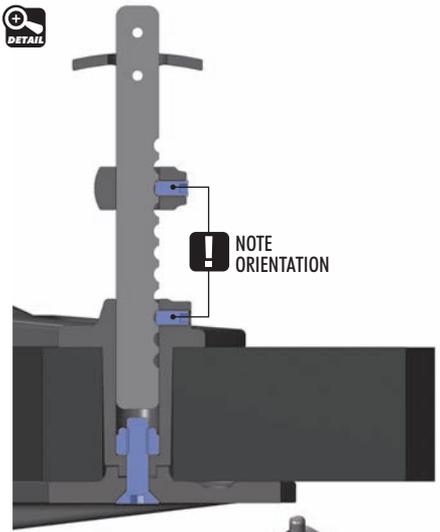
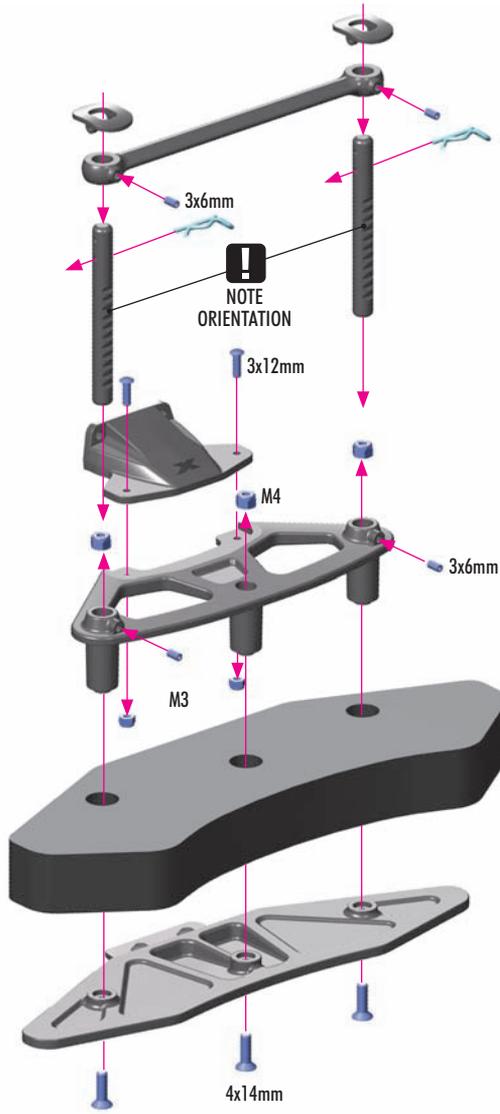
903414  
SFH M4x14



960030  
N M3



960040  
N M4



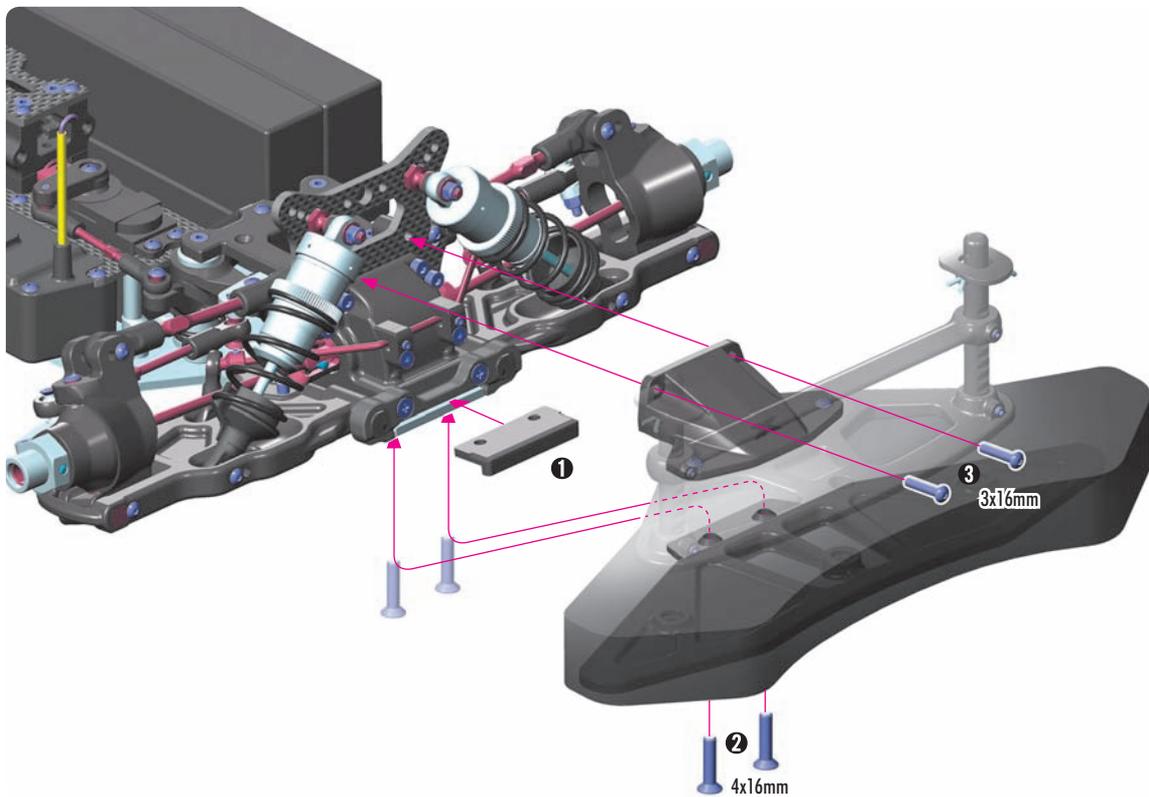
#351222  
GT FOAM BUMPER - LIGHT  
OPTION



902316  
SH M3x16



903416  
SFH M4x16

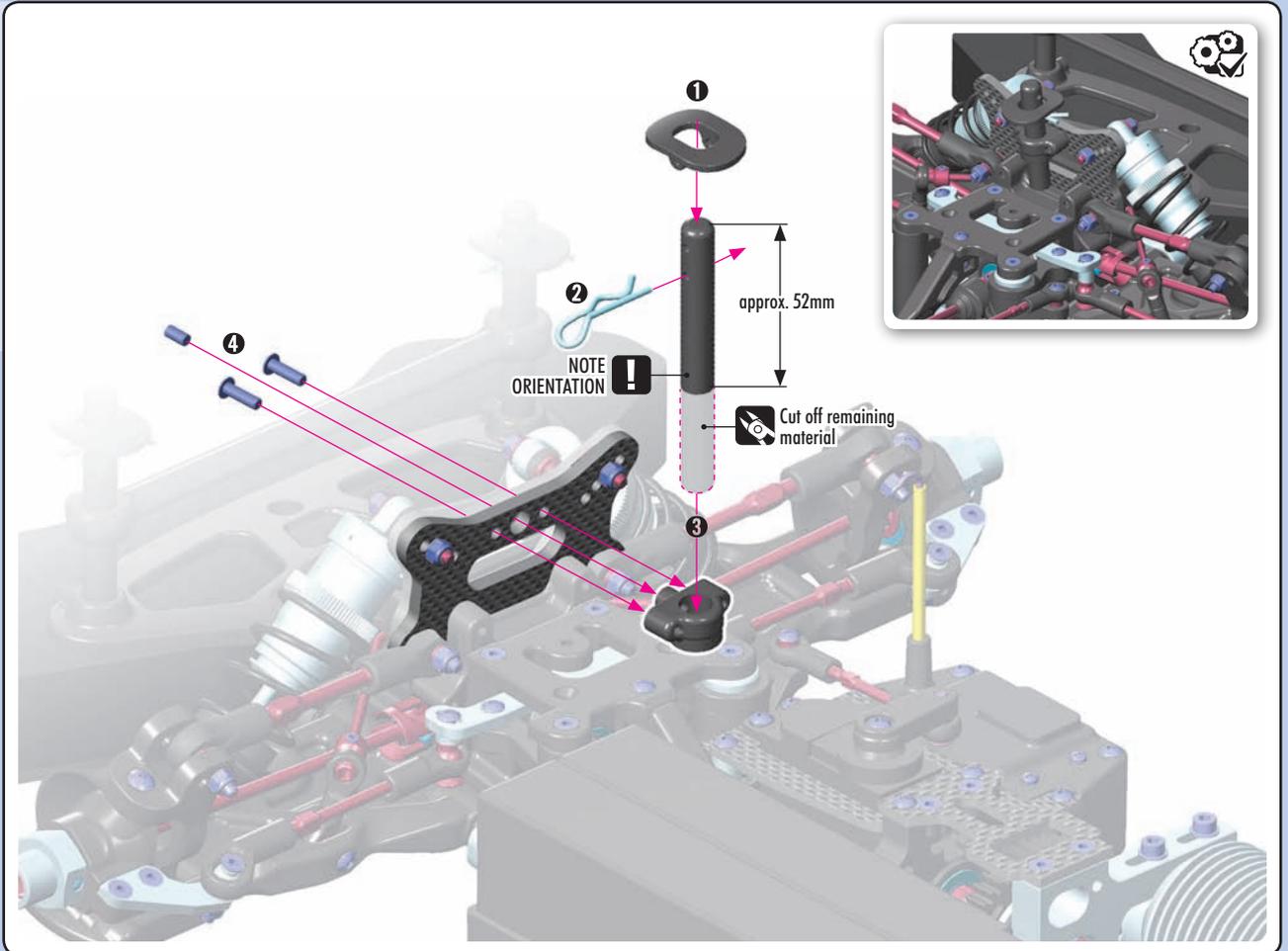




901306  
SB M3x6



902310  
SH M3x10



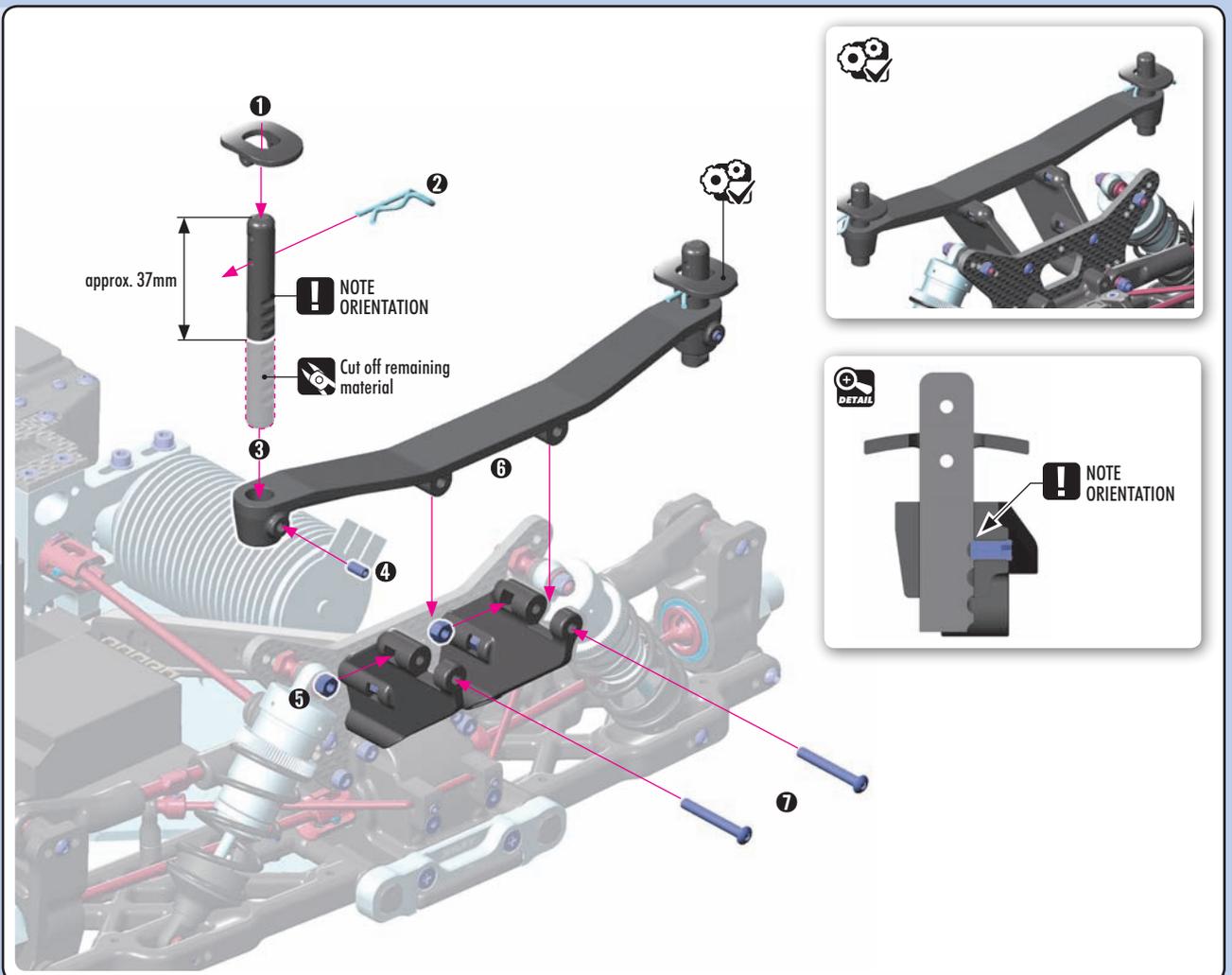
901306  
SB M3x6



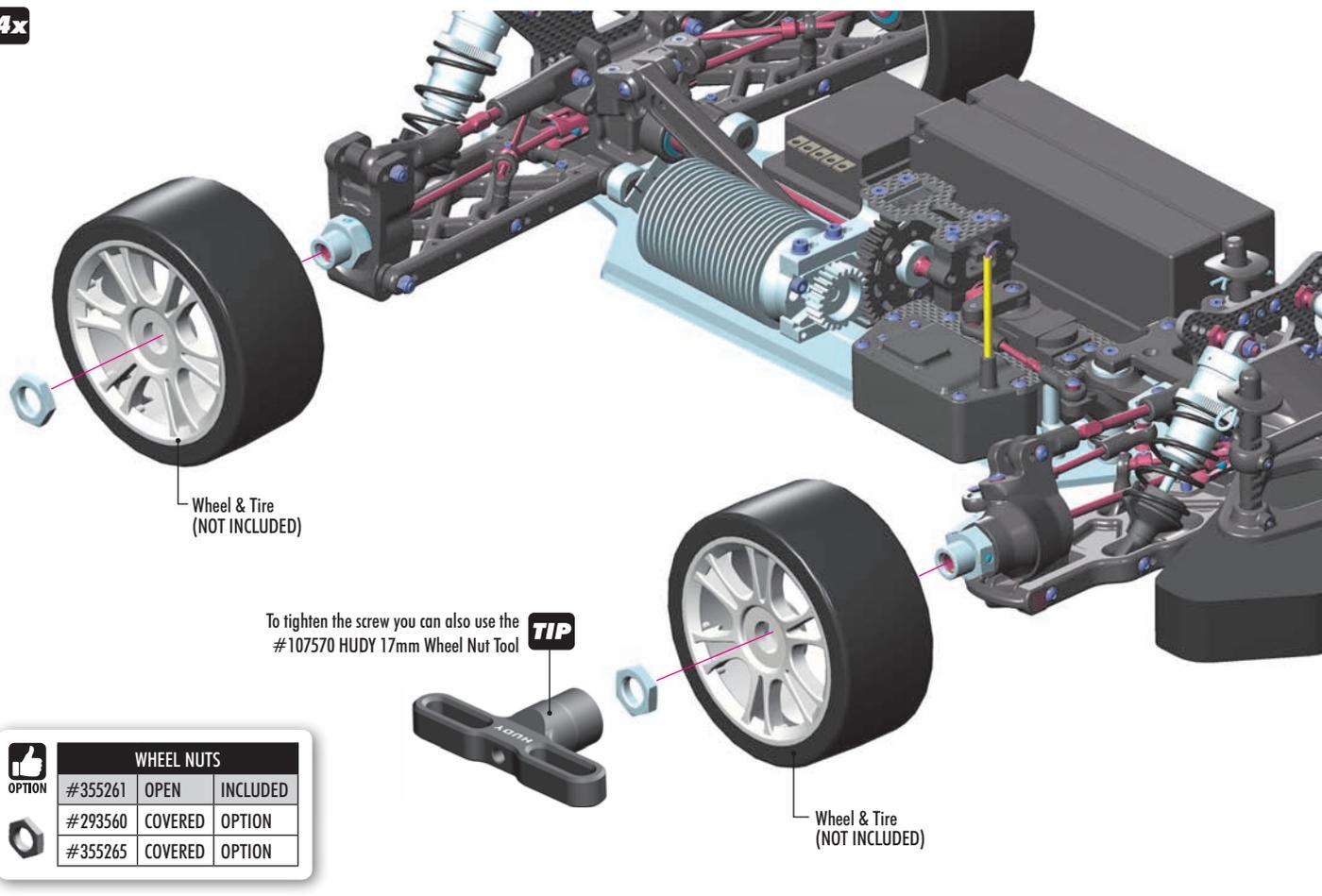
902325  
SH M3x25



960030  
N M3



4x



OPTION

### WHEEL NUTS

#355261	OPEN	INCLUDED
#293560	COVERED	OPTION
#355265	COVERED	OPTION

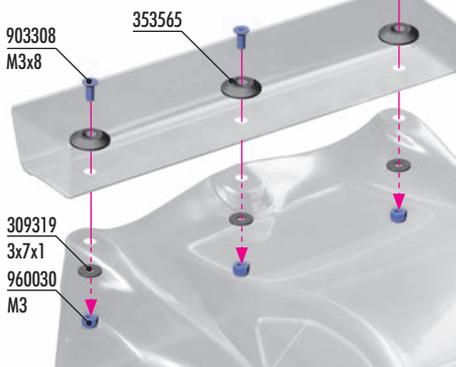
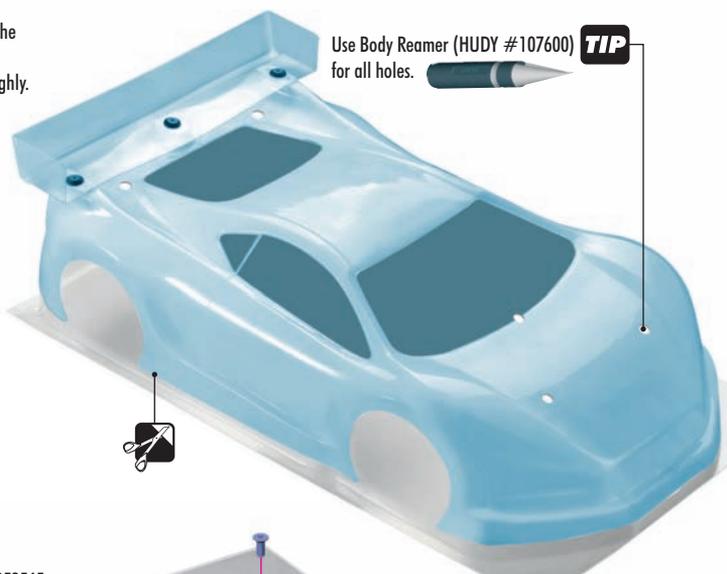


#359730 GTX BODY (NOT INCLUDED)

OPTION

- 1 Before cutting and making holes on the body, put the unpainted body on the chassis to confirm the mounting position and location for holes and cutouts.
- 2 Before painting, wash the inside of the body with mild detergent, and then rinse and dry thoroughly.
- 3 Mask all windows.
- 4 Apply paint masks as appropriate.
- 5 Paint the body using paints formulated for polycarbonate bodies.
- 6 When the paint is dry, remove the masking.
- 7 Carefully cut out the body using appropriate scissors or cutting tools.
- 8 When you have finished cutting, peel off the external protective films.

Use Body Reamer (HUDY #107600) for all holes. **TIP**



OPTION

### WING SHIMS

#353565	COMPOSITE	INCLUDED
#293561	ALU	OPTION
#293561-0	ALU	OPTION
#353561	ALU	OPTION



To reinforce the body or to fix broken body use #106280 HUDY BODY FIX

## 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  
#106213



HUDY  
#106220



HUDY  
#106222



HUDY  
#106221

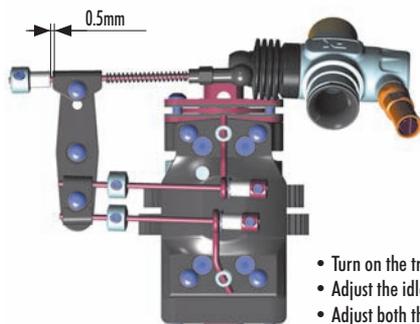


HUDY #106230

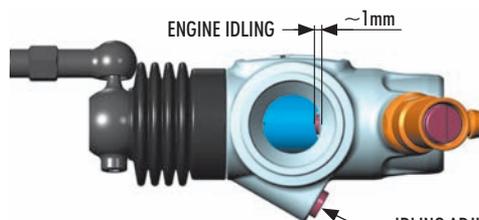


## NEUTRAL (IDLE)

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



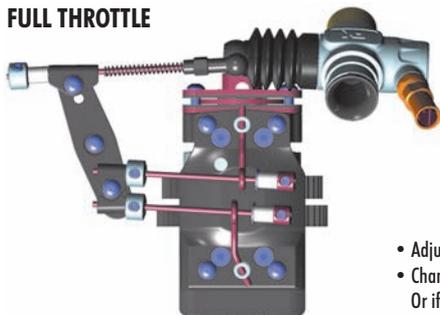
- Turn on the transmitter and receiver and set the engine control servo trim to the neutral position.
- Adjust the idle adjustment screw on the carburetor to open approx. 1mm.
- Adjust both the throttle linkage and brake linkages accordingly.
- DO NOT adjust the linkage with the engine running.



**ENGINE IDLING** ~1mm

**IDLING ADJUSTMENT SCREW.**  
Use to adjust the idle setting of the carburetor. Do not allow carburetor to close to less than 1mm.

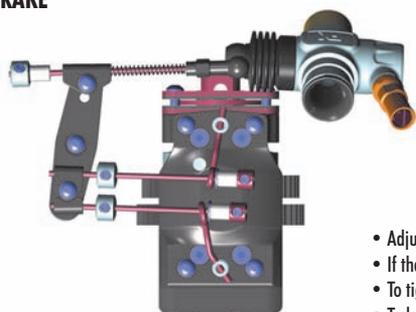
## FULL THROTTLE



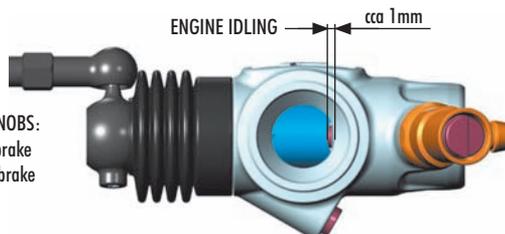
- Adjust the servo-horn mounting position for the carburetor to open fully.
- Change the pivot mounting position on the servo horn in case the carburetor is not opening fully or if it is opening excessively. Or if available on the transmitter, adjust the throttle high end point.



## BRAKE



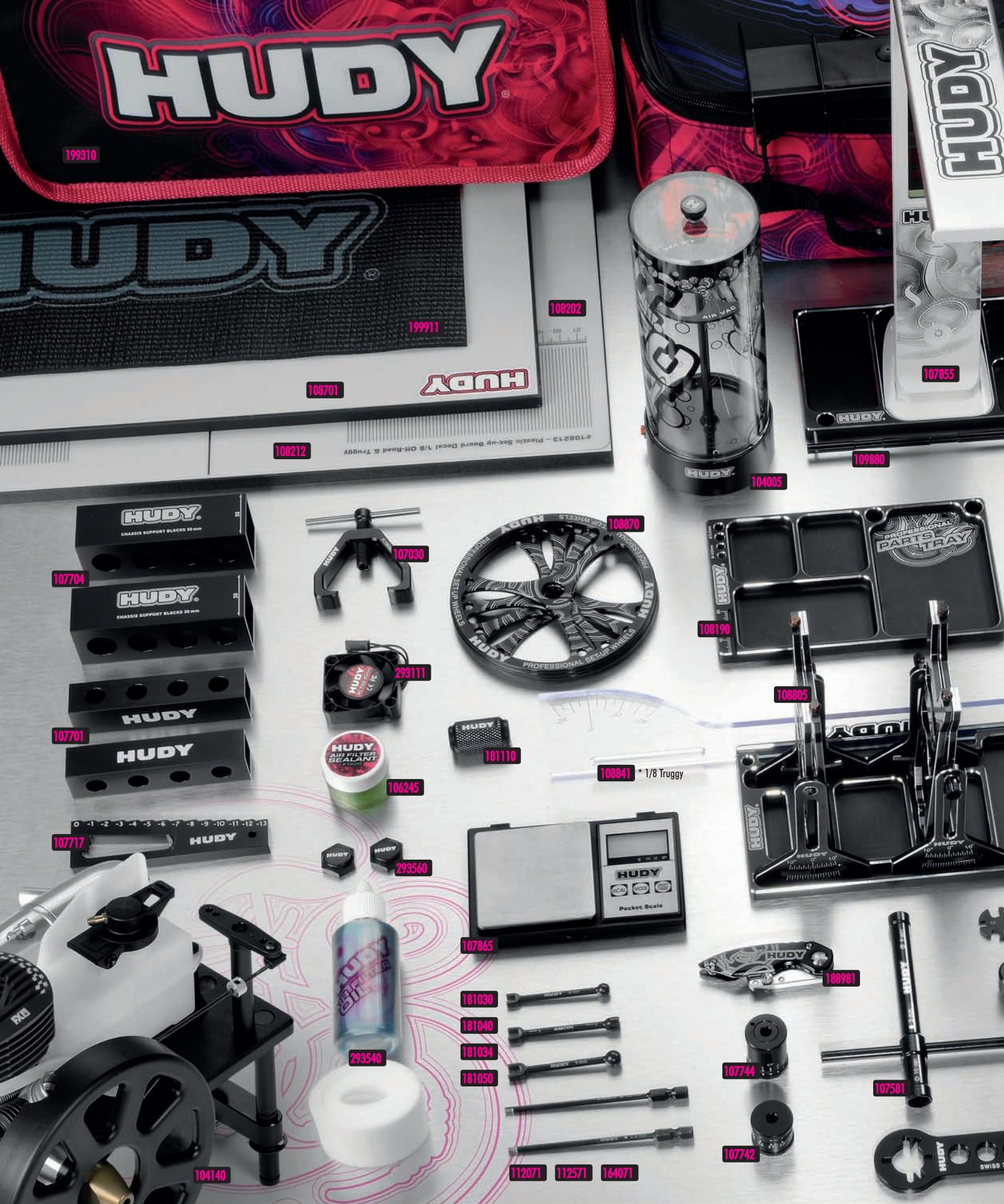
- Adjust the adjustable collars so the brakes work smoothly.
- If the brakes apply too much or not enough, adjust the adjustable collars accordingly. Or if available on the transmitter, adjust the brake endpoint.
- To tighten brakes, turn collar to thread brake rod INTO pivot.
- To loosen brakes, turn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



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

# TROUBLESHOOTING GUIDE

PROBLEM	CAUSE	SOLUTION
ENGINE DOES NOT START	<ul style="list-style-type: none"> <li>• Fuel tank is empty or carburetor is not primed</li> <li>• Bad glowplug or dead glowdriver battery</li> <li>• Fuel lines, fuel filter, air cleaner, or muffler is clogged</li> <li>• Engine is flooded due to over-priming</li> <li>• Carburetor is not adjusted properly</li> <li>• Throttle servo linkage not adjusted properly</li> </ul>	<ul style="list-style-type: none"> <li>• Fill fuel tank with fuel and prime</li> <li>• Replace glowplug or recharge/replace glowdriver battery</li> <li>• Clean or replace clogged part(s)</li> <li>• Remove glowplug, turn car over to discharge fuel from cylinder. Test glowplug and replace if defective</li> <li>• Set idle and main/slow needle adjusting screw to standard starting position</li> <li>• Move throttle servo to neutral position and re-adjust linkage(s)</li> </ul>
ENGINE STARTS BUT THEN STALLS	<ul style="list-style-type: none"> <li>• Fuel tank is empty</li> <li>• Fuel lines, fuel filter, air cleaner, or muffler is clogged</li> <li>• Carburetor is not adjusted properly</li> <li>• Engine has overheated</li> </ul>	<ul style="list-style-type: none"> <li>• Fill fuel tank with fuel</li> <li>• Clean or replace clogged part(s)</li> <li>• Re-adjust idle and main/slow needle adjusting screw</li> <li>• Allow engine to thoroughly cool down and open main needle adjusting screw 30° turn richer (CCW)</li> </ul>
BAD REACTION AND RESPONSE FROM ENGINE	<ul style="list-style-type: none"> <li>• Carburetor is not adjusted properly</li> <li>• Fuel lines, fuel filter, air cleaner, or muffler is clogged</li> <li>• Low fuel pressure from muffler</li> </ul>	<ul style="list-style-type: none"> <li>• Re-adjust main/slow needle adjusting screw</li> <li>• Clean or replace clogged part(s)</li> <li>• Properly install pressure line between muffler and fuel tank</li> </ul>
CAR IS HARD TO CONTROL	<ul style="list-style-type: none"> <li>• Weak transmitter and/or receiver batteries</li> <li>• Low reception from radio antennas</li> <li>• Servo linkages not adjusted properly</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge or replace batteries</li> <li>• Fully extend transmitter and receiver antennas</li> <li>• Move servo to neutral then re-adjust linkage(s)</li> </ul>
STEERING DOES NOT WORK PROPERLY	<ul style="list-style-type: none"> <li>• Weak transmitter and/or receiver batteries</li> <li>• Bent linkages or driveshafts</li> <li>• Loose steering components</li> <li>• Drivetrain damage</li> </ul>	<ul style="list-style-type: none"> <li>• Recharge or replace batteries</li> <li>• Check tightness of steering components and tighten if necessary</li> <li>• Replace damaged parts</li> </ul>
HANDLING PROBLEMS	<ul style="list-style-type: none"> <li>• Shocks are not working properly</li> <li>• Suspension is binding</li> <li>• Improper tires</li> </ul>	<ul style="list-style-type: none"> <li>• Rebuild the shocks and replace worn or broken parts</li> <li>• Make sure suspension moves freely. Replace worn or broken parts</li> <li>• Use different tires</li> </ul>
STEERING FEELS SLUGGISH OR VAGUE	<ul style="list-style-type: none"> <li>• Suspension is binding</li> <li>• Damaged steering servo</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure suspension moves freely, and replace worn or broken parts</li> <li>• Check the steering servo for damage and wear, and replace/repair if necessary</li> </ul>
THE CAR DOES NOT DRIVE STRAIGHT	<ul style="list-style-type: none"> <li>• Suspension is binding</li> <li>• Steering trim is off-center</li> <li>• Wheels are loose</li> <li>• Damaged steering servo</li> </ul>	<ul style="list-style-type: none"> <li>• Make sure suspension moves freely, and replace worn or broken parts</li> <li>• Adjust steering trim until car drives straight</li> <li>• Check the make sure the wheel nuts are properly tightened</li> <li>• Check the steering servo for damage and wear, and replace/repair if necessary</li> </ul>



- #104005 HUDY Air Vac - Vacuum Pump - 1/8 Off-Road
- #104140 HUDY Engine Break-In Bench
- #104500 HUDY Star-Box 1/8 Off-Road
- #105500 HUDY Universal Tire Balancing Station
- #105510 Wheel Adapter for 1/8 Off-Road Cars, Truggy & Rally Game
- #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins)
- #106200 HUDY Magic Cleaning Gum
- #106245 HUDY Air Filter Sealant
- #107030 HUDY Flywheel Puller
- #107090 HUDY Bearing Check Tool
- #107570 HUDY 17mm Off-Road Wheel Nut Tool
- #107581 HUDY Cross Wrench Glowplug # 8mm / Clutchnut # 10mm
- #107602 Limited Edition - Reamer for Body 0-18mm + Cover - Large

- #107612 Limited Edition - Exhaust Spring / Caster Clip Remover
- #107644 Limited Edition - Arm Reamer # 4.0mm
- #107701 Chassis Droop Gauge Support Blocks 20mm for 1/8 - LW(2)
- #107704 Chassis Droop Gauge Support Blocks 30mm 1/8 Off-Road - LW (2)
- #107717 Chassis Droop Gauge 0 to -13 mm for 1/8 Off-Road
- #107742 HUDY Adjustable Ride Height Gauge 20-30mm
- #107744 HUDY Adjustable Ride Height Gauge 30-45mm
- #107762 HUDY Adjustable Camber Gauge 110mm
- #107780 HUDY Adjustable Droop Gauge 80-140mm
- #107783 HUDY Droop Gauge 70-140mm
- #107855 HUDY Pit LED
- #107865 HUDY Ultimate Digital Pocket Scale 300g/0.01g
- #108170 HUDY Off-Road & Truggy Car Stand

- #108190 HUDY Alu Tray for Parts
- #108202 Flat Set-Up Board for 1/8 Off-Road & Truggy
- #108212 Plastic Set-up Board Decal for 1/8 Off-Road & Truggy
- #108701 Flat Set-Up Board for 1/8 Off-Road & GT - Lightweight
- #108805 Universal Exclusive Set-up System for 1/8 Off-Road Cars
- #108841 Upside Measure Plate for 1/8 Truggy
- #108860 Alu Nut for 1/8 Off-Road System (4)
- #108870 Alu Set-up Wheel for 1/8 Off-Road Cars - V2 (4)
- #109802 HUDY Alu Tray for 1/8 Off-Road Diff & Shocks
- #109841 HUDY Alu Tray for 1/8 Off-Road Diff Assembly
- #109860 HUDY Alu Tray for Set-Up System
- #109880 HUDY Alu Tray for Accessories & Pit LED
- #11545 Limited Edition - Allen Wrench # 1.5mm

EXCLUSIVE PROFESSIONAL

# HUDY



- #112045 Limited Edition - Allen Wrench # 2.0mm
- #112071 Power Tool Tip Allen 2.0 x 90 mm
- #112545 Limited Edition - Allen Wrench # 2.5mm
- #112571 Power Tool Tip Allen 2.5 x 90 mm
- #113045 Limited Edition - Allen Wrench # 3.0mm
- #132045 Limited Edition - Allen Wrench + Ball Repl. Tip # 2.0mm
- #132545 Limited Edition - Allen Wrench + Ball Repl. Tip # 2.5mm
- #154060 Long Slotted Screwdriver 4.0 mm - for Engine Adjust. - SPC - V2
- #164045 Limited Edition - Phillips Screwdriver # 4.0mm
- #164071 Power Tool Tip Phillips 4.0 x 90 mm
- #170050 Socket Driver 5.0 mm
- #175535 Limited Edition - Socket Driver # 5.5mm
- #181030 HUDY Spring Steel Turnbuckle Wrench 3 mm

- #181034 HUDY Spring Steel Turnbuckle Wrench 3 & 4mm
- #181040 HUDY Spring Steel Turnbuckle Wrench 4 mm
- #181050 HUDY Spring Steel Turnbuckle Wrench 5 mm
- #181090 HUDY Special Tool For Turnbuckles & Nuts
- #181110 HUDY Ball Joint Wrench
- #182015 HUDY 1/8 Off-Road Flywheel/Wheel Nut Multi-Tool
- #183011 HUDY Professional Multi Tool
- #188981 HUDY Pocket Hobby Knife
- #188990 HUDY Professional Body Scissors
- #199060 HUDY Alu Tool Stand
- #199184 HUDY Car Bag - 1/8 & 1/10 Off-Road
- #199270 HUDY LiPo Safety Bag
- #199310 HUDY Pit Bag - Compact

- #199911 HUDY Pit Mat Roll 750x1200mm with Printing
- #293111 HUDY Brushless RC Fan 40mm
- #293540 Air Filter Foam & Oil (10) - XRAY XB8 Low Profile Style
- #293560 HUDY Alu Wheel Nut with Cover - Ribbed (2)

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

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



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

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