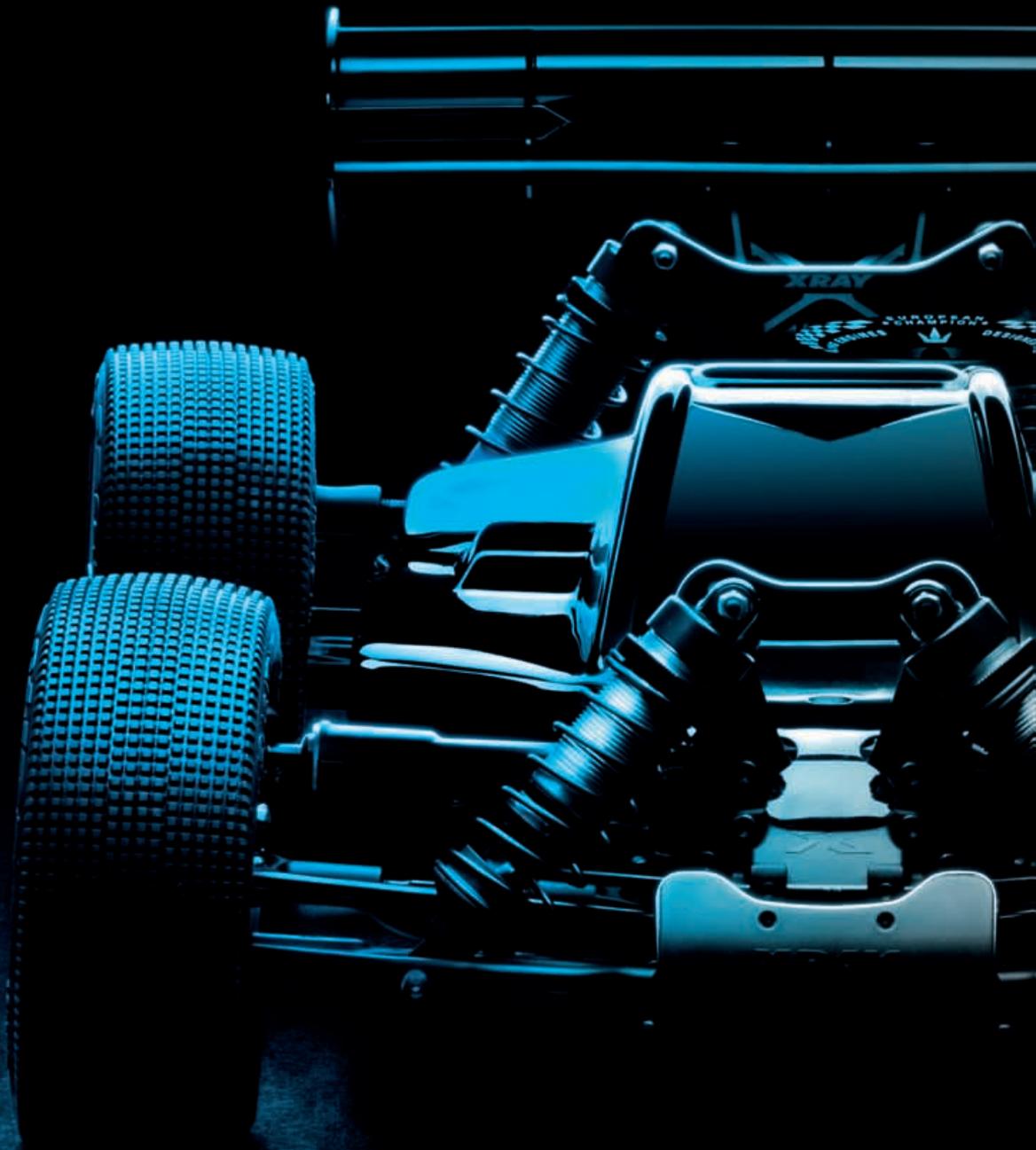


1/8 LUXURY OFF-ROAD BUGGY

# XRAY XB8



**INSTRUCTION MANUAL**

**XRAY XB8'24**

## 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

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.

## 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)**

### XRAY Europe

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91101 Trenčín  
Slovakia, EUROPE  
Phone: +421-32-7401100  
Fax: +421-32-7401109  
Email: [info@teamxray.com](mailto:info@teamxray.com)

### XRAY USA

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

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

## SAFETY PRECAUTIONS

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

**CAUTION: CANCER HAZARD**

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

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

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

for maximum performance. Using any third party parts on this model will void 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.**

# TOOLS REQUIRED



**Combination Pliers**  
(HUDY #189020)

**Side Cutters**  
(HUDY #189010)

**Pocket Hobby Knife** (HUDY #188981)

**Cross Wrench 3mm** (HUDY #107581)

**Turnbuckle Wrench 3mm**  
(HUDY #181030)

**Turnbuckle Wrench 4mm**  
(HUDY #181040)

**Turnbuckle Wrench 5mm**  
(HUDY #181050)

**Special Tool for turnbuckles, nuts** (HUDY #181090)

**HUDY Tweezers Straight** (HUDY #188970)

**HUDY Tweezers Curved** (HUDY #188971)

**Scissors** (HUDY #188990)

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

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

**Allen 2.5mm** (#112545 - HUDY EXCLUSIVE Limited Edition)

**Ball Allen 2.5mm** (#132545 - HUDY EXCLUSIVE Limited Edition)

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

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

**Arm Reamer 4.0mm** (#107644 - HUDY EXCLUSIVE Limited Edition)

**Socket 5.0mm** (#175035 - HUDY EXCLUSIVE Limited Edition)

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

**Slotted Screwdriver 3.0mm** (#153055 HUDY EXCLUSIVE Limited Edition)

**Slotted Screwdriver 4.0mm** (#154055 HUDY EXCLUSIVE Limited Edition)

**Caster Clip Remover** (#107612 - HUDY EXCLUSIVE Limited Edition)

**Reamer** (#107602 - HUDY EXCLUSIVE Limited Edition)

**Flywheel/Wheel Nut Multi-Tool** (HUDY #182016)  
**Wheel Nut Tool 17mm** (HUDY #107570)

**Professional Multi-Tool**  
(HUDY #183011)

# EQUIPMENT REQUIRED

<p><b>Transmitter</b></p>	<p><b>Receiver</b></p>	<p><b>OPTION</b> Engine .21ci (3.5cc) (FX K303 #650105) (FX K303L #650106) (FX K502 #650304)</p>	<p><b>OPTION</b> Manifold &amp; Exhaust (FX #659505) (FX #659558) (FX #659506)</p>	<p>Steering and Throttle Servos</p>
<p>Glow Plug Igniter</p>	<p><b>OPTION</b> Fuel + Fuel Bottle (HUDY #104200)</p>	<p>Lexan™ Paint</p>	<p>Receiver Battery Pack</p>	<p><b>OPTION</b> Starter Box &amp; Battery Pack (HUDY #104500)</p>
<p>Battery Charger</p>	<p>Tires &amp; Wheels</p>	<p><b>OPTION</b> Bearing Oil (HUDY #106230)</p>	<p>Threadlock</p>	<p>CA glue</p>

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



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:

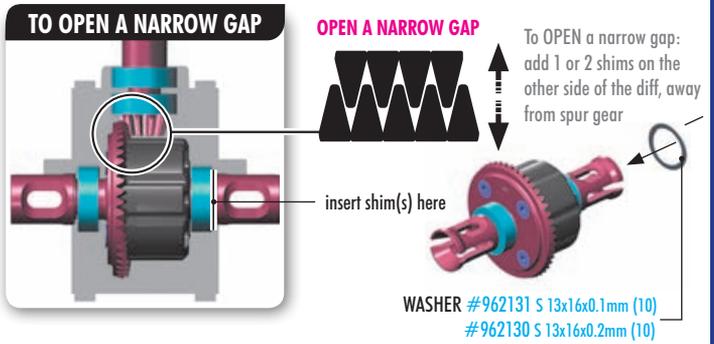
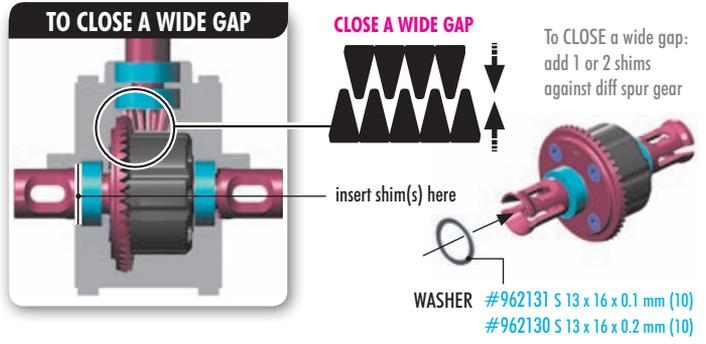
- 351203 **STYLE A** - indicates parts that are included in the bag marked for the section.
- 351190 **STYLE B** - indicates parts that are included in the box.
- 355006 **STYLE C** - indicates parts that are already assembled from previous steps.
- 350908 **STYLE D** - indicates parts that are optional.

## XB8 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:



**CHECK GEAR MESH AND DIFF PLAY ONLY AFTER THE ENTIRE GEARBOX IS MOUNTED TOGETHER WITH THE SUSPENSION HOLDERS ON THE CHASSIS. ALL PARTS ARE DESIGNED TO HAVE CERTAIN PLAY AND IT IS ALL DESIGNED BY PURPOSE.**

### 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 they 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 pins that connect the center driveshafts with the pinion gear and the pins connecting the wheel drive shafts to the wheel axles.
- Pivot balls and ball joints will wear naturally and over time will develop minor play. If there is excess play, the pivot balls and ball joints should 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.
- Clean and re-grease after every 2 hours of driving.

### 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 may fade over time, but this will not affect the strength of the material. The brown color is only a surface treatment, and any color fade will not impact the durability of the part.

### 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.



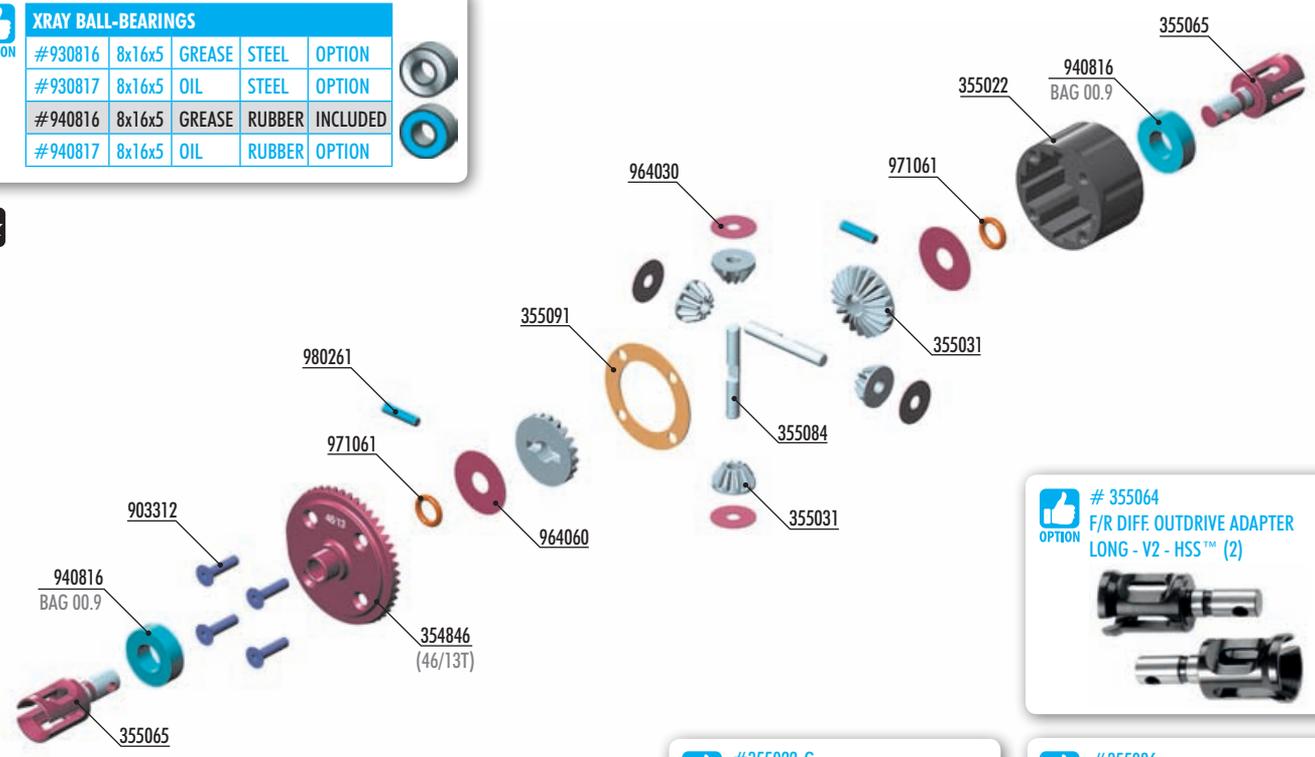
For easy drive pin replacements use **#106000 HUDY Drive Pin Replacement Tool**.

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

# 1. FRONT & REAR DIFFERENTIALS

OPTION	XRAY BALL-BEARINGS				
#930816	8x16x5	GREASE	STEEL	OPTION	
#930817	8x16x5	OIL	STEEL	OPTION	
#940816	8x16x5	GREASE	RUBBER	INCLUDED	
#940817	8x16x5	OIL	RUBBER	OPTION	

**2x**



**# 355064**  
 F/R DIFF. OUTDRIVE ADAPTER LONG - V2 - HSS™ (2)

**#355022-G**  
 DIFFERENTIAL CASE - V2 - GRAPHITE

**#355086**  
 HEAT-RESISTANT F/R ALU DIFF PINS + INSERTS (SET)

**BAGS**  
  
**2x**

354846	F/R DIFF LARGE BEVEL GEAR 46T - MATCHED FOR 13T PINION GEAR	903312	HEX SCREW SFH M3x12 (10)
355006	DIFFERENTIAL 46T - MATCHED FOR 13T PINION GEAR - SET	940816	BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (2)
355022	DIFFERENTIAL CASE - V2	964030	WASHER S 3.5x12x0.2 (10)
355031	STEEL DIFF BEVEL & SATELLITE GEARS - V2 (2+4)	964060	WASHER S 6x18x0.2 (10)
355065	DIFF OUTDRIVE ADAPTER - V2 - HUDY SPRING STEEL™ (2)	971061	SILICONE O-RING 6x1.55 (10)
355084	F/R DIFF PIN (2)	980261	PIN 2.5x11.5 (10)
355091	F/R DIFF GASKET (4)		

- 2x** 940816 BB 8x16x5
- 2x** 964060 S 6x18x0.2
- 2x** 971061 O 6x1.55
- 2x** 980261 P 2.5x11.5

**SET-UP BOOK**  
 DIFFERENTIAL GEARS

**2x**

Use HUDY Ball-Bearing Grease  
 #106220 - STANDARD  
 #106221 - BLUE  
 #106222 - RED

Graphite Grease (HUDY #106210)

Graphite Grease (HUDY #106210)

**46/13T** !

Graphite Grease (HUDY #106210)

**TIP IMPORTANT!**  
 Use matching outdrives on left and right sides of a diff.

**STEP 5 6 DETAIL**

OPTION	XRAY BALL-BEARINGS				
#930816	8x16x5	GREASE	STEEL	OPTION	
#930817	8x16x5	OIL	STEEL	OPTION	
#940816	8x16x5	GREASE	RUBBER	INCLUDED	
#940817	8x16x5	OIL	RUBBER	OPTION	

# 1. FRONT & REAR DIFFERENTIALS



2x 940816  
BB 8x16x5



2x 964060  
S 6x18x0.2



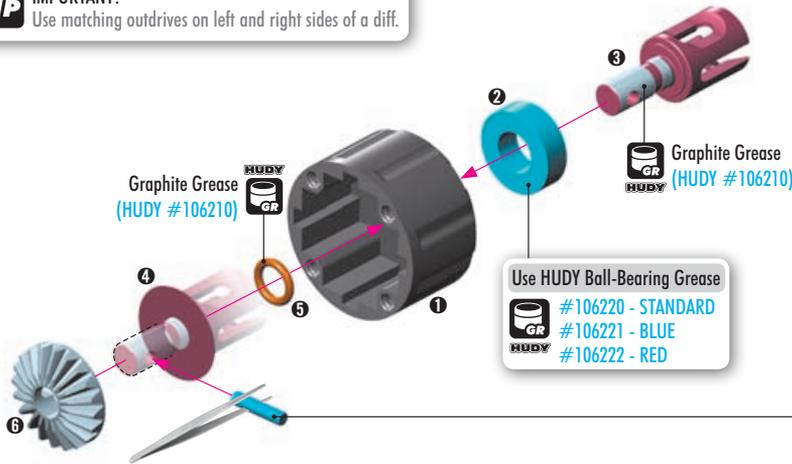
2x 971061  
O 6x1.55



2x 980261  
P 2.5x11.5

2x

**TIP** IMPORTANT!  
Use matching outdrives on left and right sides of a diff.



STEP 5 DETAIL



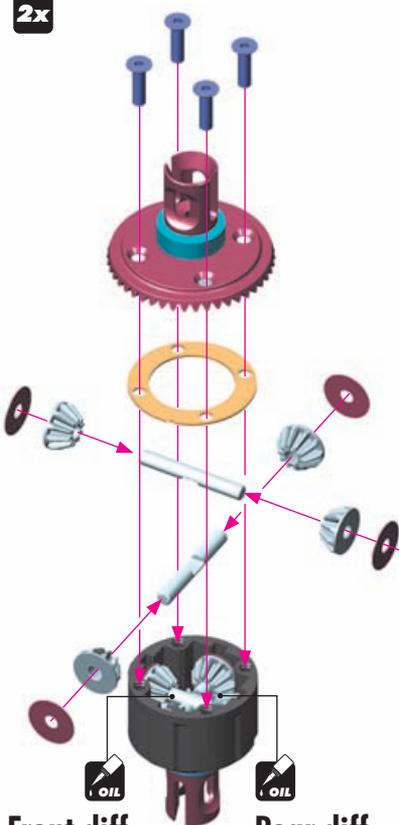
2x



4x 903312  
SFH M3x12



4x 964030  
S 3.5x12x0.2



**Front diff:**

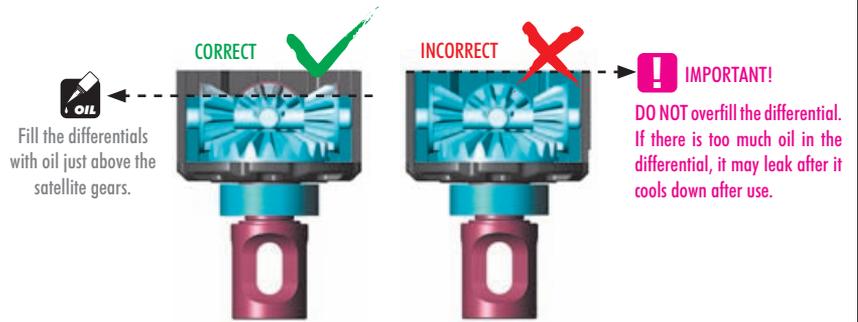
Silicone oil **7.000cSt**  
Fill just above the satellite gears.

**Rear diff:**

Silicone oil **3.000cSt**  
Fill just above the satellite gears.

## VERY IMPORTANT!

Use the following silicone oils included in the kit for initial settings:  
FRONT diff: **7.000cSt** / REAR diff: **3.000cSt**



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



- Put the diff (without oil) on the scale and check the weight:  
- REAR DIFF approx. 39.30g  
- FRONT DIFF approx. 39.30g



- Slowly pour oil into the diff and watch the weight. Add 2.60g of oil into the diff. The approximate weight of the diff+oil is approx. 41.90g

$$\text{REAR DIFF } 39.30\text{g} + 2.60\text{g} = 41.90\text{g}$$

$$\text{FRONT DIFF } 39.30\text{g} + 2.60\text{g} = 41.90\text{g}$$

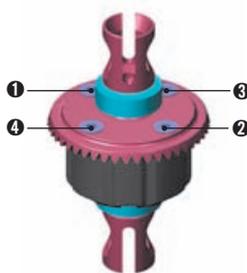
### SET-UP BOOK

DIFFERENTIAL OIL

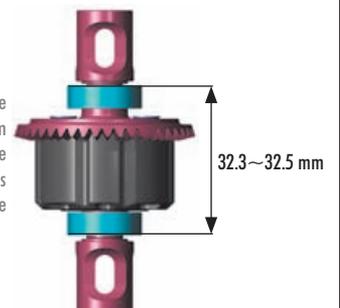
Tighten the screws equally.



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 the differentials are longer, check that the gear is properly seated on the case and retighten the 4 screws while holding the crown gear.



# 1. CENTER DIFFERENTIAL



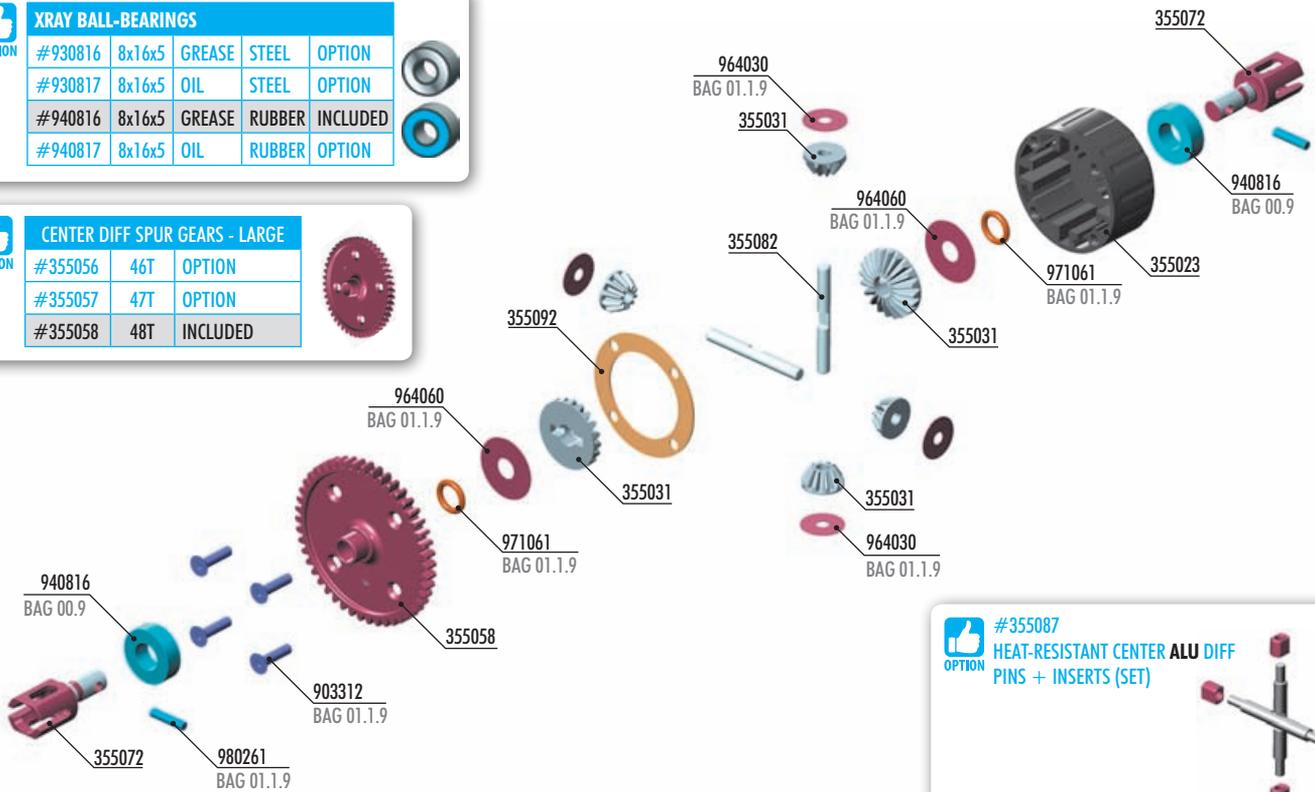
## XRAY BALL-BEARINGS

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



## CENTER DIFF SPUR GEARS - LARGE

#355056	46T	OPTION
#355057	47T	OPTION
#355058	48T	INCLUDED



## #355023-G CENTER DIFFERENTIAL CASE - V2 - GRAPHITE



## #355087 HEAT-RESISTANT CENTER ALU DIFF PINS + INSERTS (SET)



## #355083 HEAT-RESISTANT CENTER STEEL DIFF PINS + INSERTS (SET)



### BAG



- 355013 CENTER DIFFERENTIAL - LARGE - SET - V2
- 355023 CENTER DIFFERENTIAL CASE - V2
- 355031 STEEL DIFF BEVEL & SATELLITE GEARS - V2 (2+4)
- 355058 CENTER DIFF SPUR GEAR 48T - LARGE
- 355072 LARGE CENTER DIFF OUTDRIVE ADAPTER - HUDY STEEL (2)
- 355082 CENTER DIFF PIN (2)
- 355092 CENTER DIFF GASKET (2)

- 903312 HEX SCREW SFH M3x12 (10)
- 940816 BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (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)



1x 940816  
BB 8x16x5



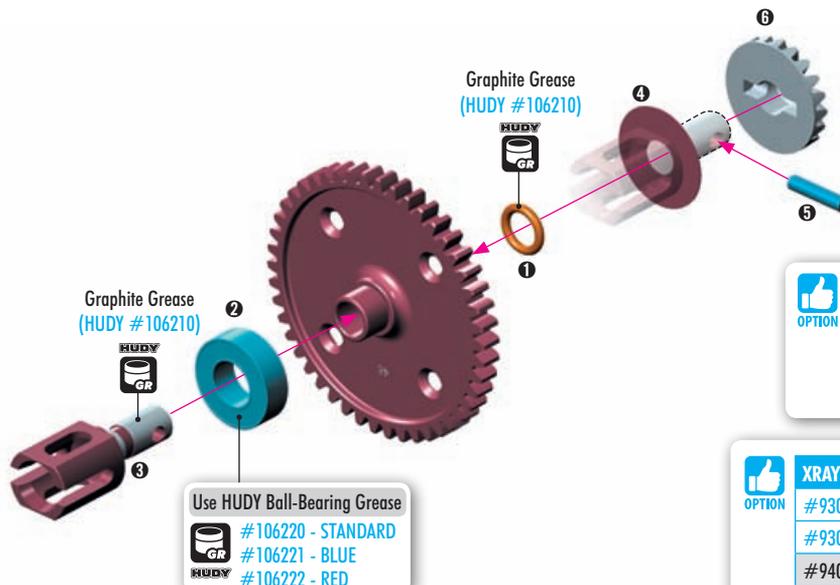
1x 964060  
S 6x18x0.2



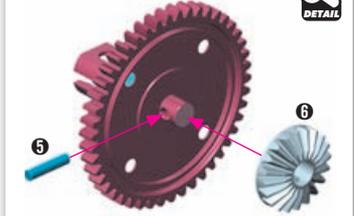
1x 971061  
O 6x1.55



1x 980261  
P 2.5x11.5



### STEP 5 6 DETAIL



## CENTER DIFF SPUR GEARS - LARGE

#355056	46T	OPTION
#355057	47T	OPTION
#355058	48T	INCLUDED



## XRAY BALL-BEARINGS

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



# 1. CENTER DIFFERENTIAL



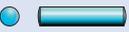
1x 940816  
BB 8x16x5



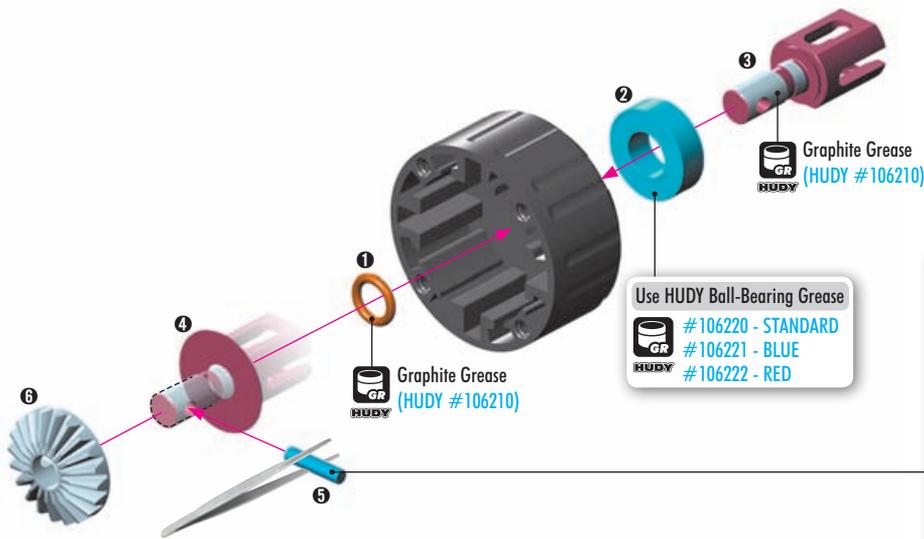
1x 964060  
S 6x18x0.2



1x 971061  
O 6x1.55



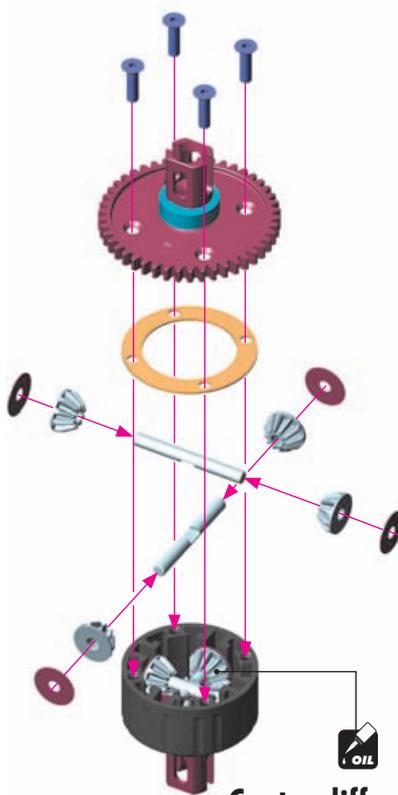
1x 980261  
P 2.5x11.5



4x 903312  
SFH M3x12



4x 964030  
S 3.5x12x0.2

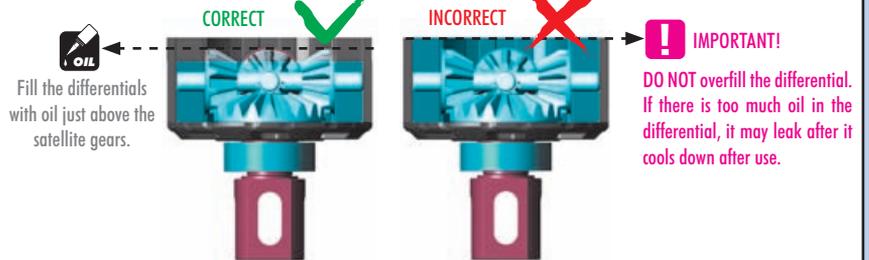


**Center diff:**

Silicone oil 7.000cSt  
Fill to just above the satellite gears.

## VERY IMPORTANT!

Use the following silicone oil included in the kit for initial setting:  
Center diff: 7.000cSt



Fill the differentials with oil just above the satellite gears.

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

To 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 (approximately 42.97g).



2. Slowly pour oil into the diff and watch the weight. Add 5.20g of oil into the diff. The approximate weight of the diff + oil is 48.17g.

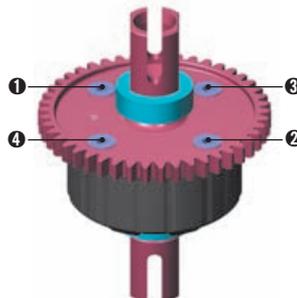
$$\text{CENTER DIFF } 42.97\text{g} + 5.20\text{g} = 48.17\text{g}$$

**SET-UP BOOK**  
DIFFERENTIAL OIL

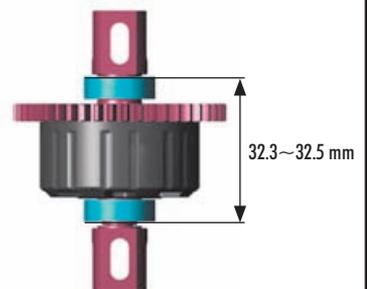
Tighten the screws equally.



Finish tightening in this order:

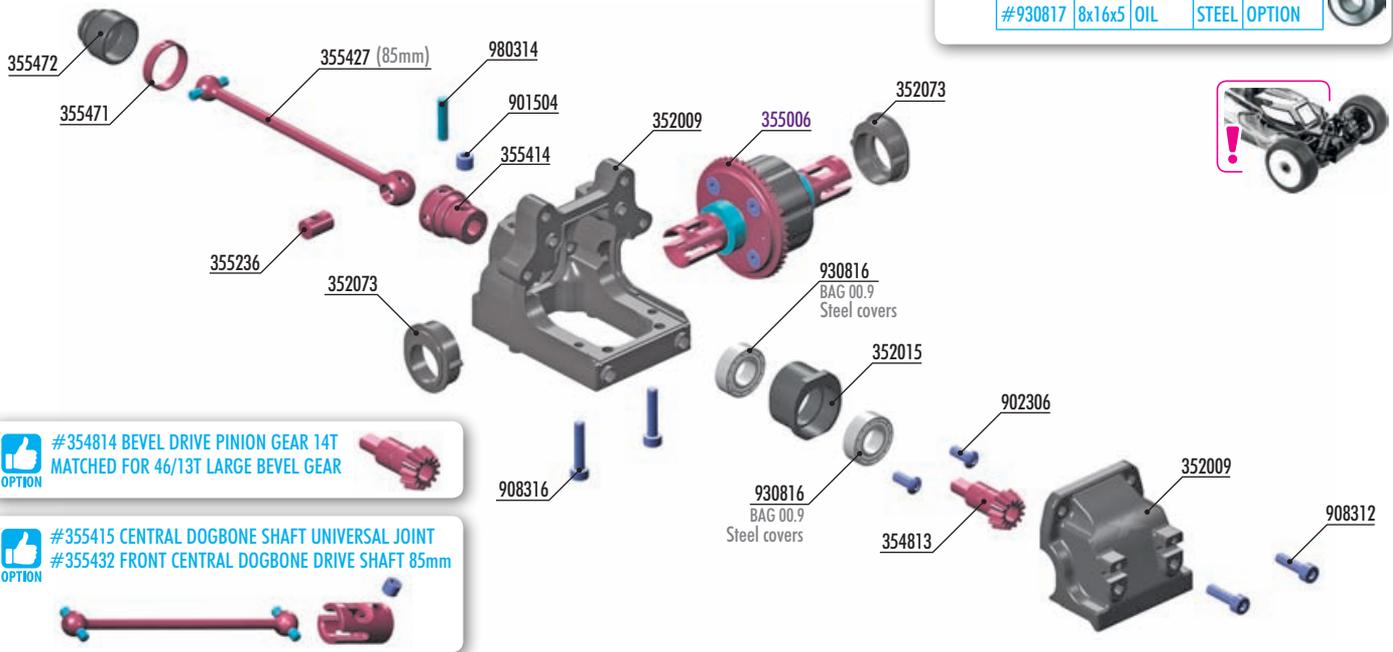


After assembly the differential should have a length of 32.3~32.5 mm measured from the ends of the installed ball-bearings. If the differential is longer, check that the gear is properly seated on the case and retighten the 4 screws while holding the spur gear.



## 2. FRONT TRANSMISSION

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



**OPTION** #354814 BEVEL DRIVE PINION GEAR 14T  
MATCHED FOR 46/13T LARGE BEVEL GEAR

**OPTION** #355415 CENTRAL DOGBONE SHAFT UNIVERSAL JOINT  
#355432 FRONT CENTRAL DOGBONE DRIVE SHAFT 85mm

**BAG**  
02

- 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR
- 352015 XB8 GEARBOX PINION HEIGHT INSERT (1+1)
- 352073 XB8 GEARBOX DIFF HEIGHT INSERT (2+2)
- 354813 BEVEL DRIVE PINION GEAR 13T - MATCHED FOR 46T LARGE BEVEL GEAR
- 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™
- 355427 FRONT CENTRAL CVD DRIVE SHAFT 85MM - HUDY SPRING STEEL™
- 355471 DRIVE SHAFT LOCKING RING (2)
- 355472 DRIVE SHAFT BOOT (2)

- 901504 HEX SCREW SB M5x4 (10)
- 902306 HEX SCREW SH M3x6 (10)
- 908312 HEX SCREW SOCKET HEAD CAP SCH M3x12 (10)
- 908316 HEX SCREW SOCKET HEAD CAP SCH M3x16 (10)
- 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)
- 980314 PIN 3x14 (10)
- 355006 DIFFERENTIAL 46T - MATCHED FOR 13T PINION GEAR - SET

**1x** 980314  
P 3x14

**TOP VIEW**

**STEP 4 DETAIL** The ring can be assembled by hand, but for easy disassembly we recommend using snap ring pliers (HUDY #189040).

**NOTE ORIENTATION**

**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.

**2x** 902306  
SH M3x6

**2x** 930816  
BB 8x16x5  
(Steel covers)

**INLINE HUB FOR BEVEL DRIVE GEAR POSITIONS**

**INITIAL SETTING**

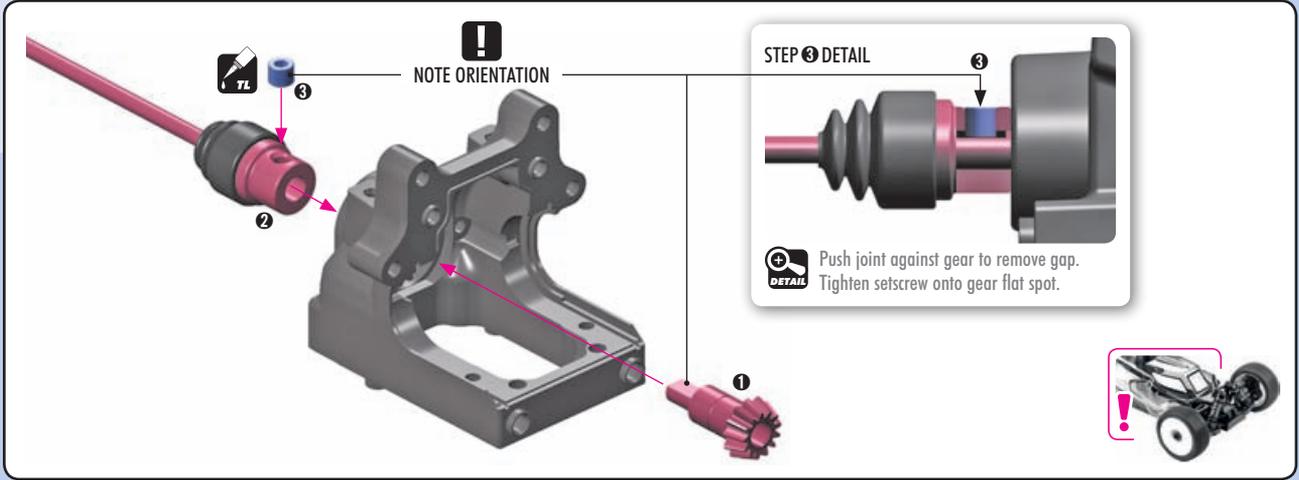
Use HUDY Ball-Bearing Grease

- #106220 - STANDARD
- #106221 - BLUE
- #106222 - RED

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

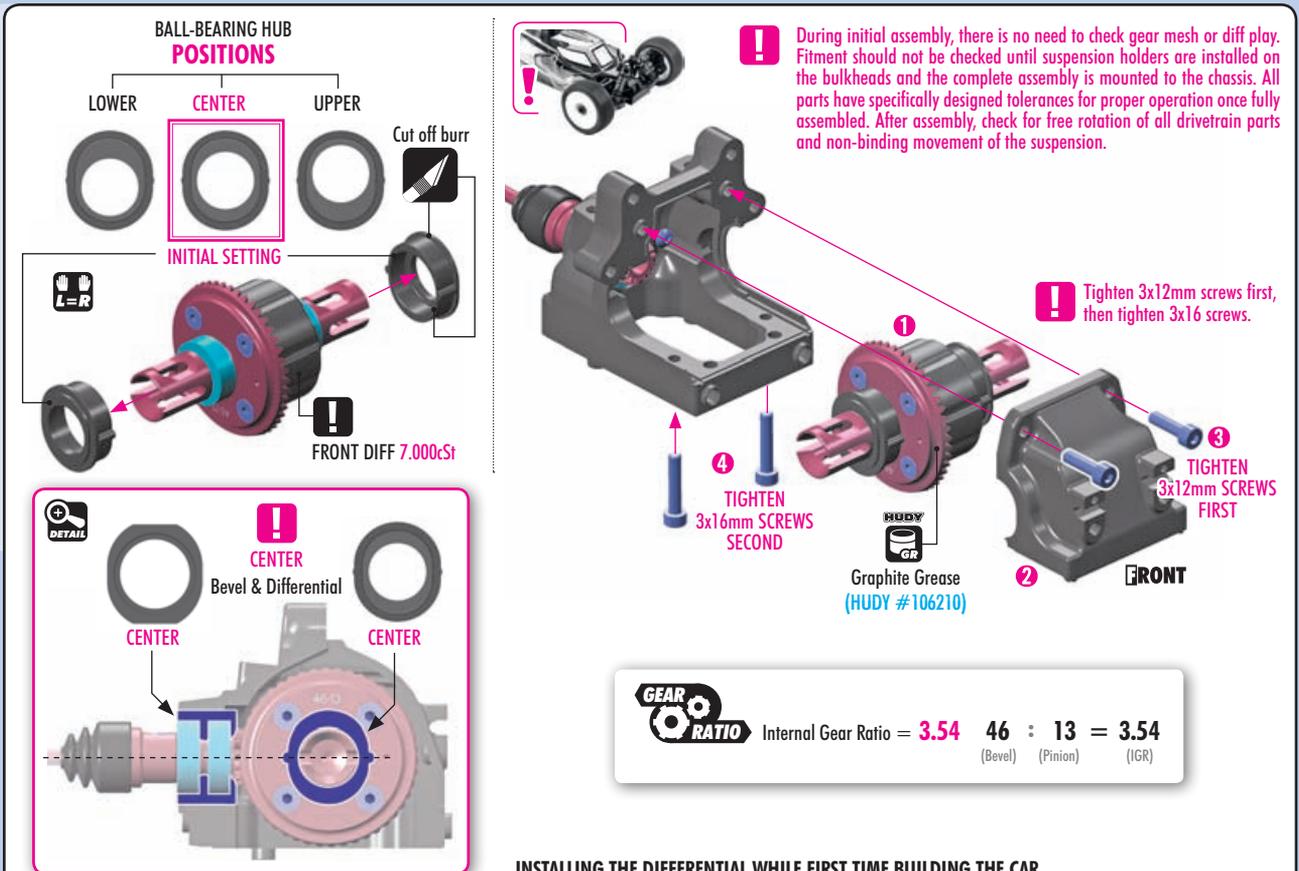
## 2. FRONT TRANSMISSION

1x 901504  
SB M5x4

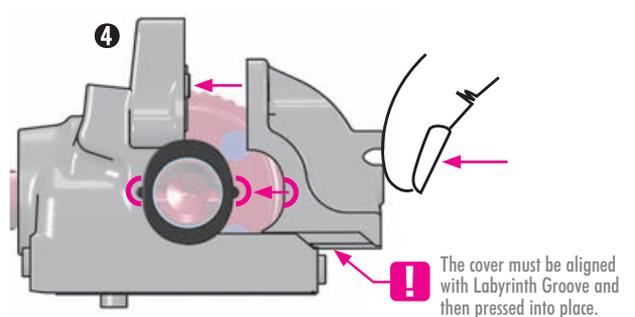
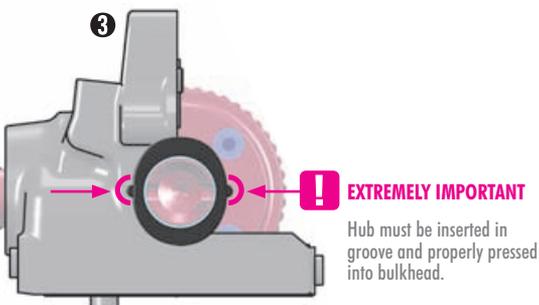
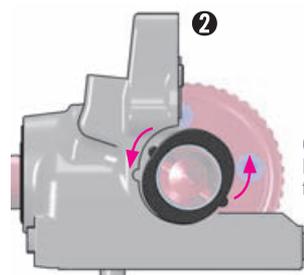
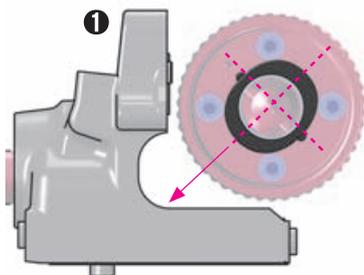


2x 908312  
SCH M3x12

2x 908316  
SCH M3x16

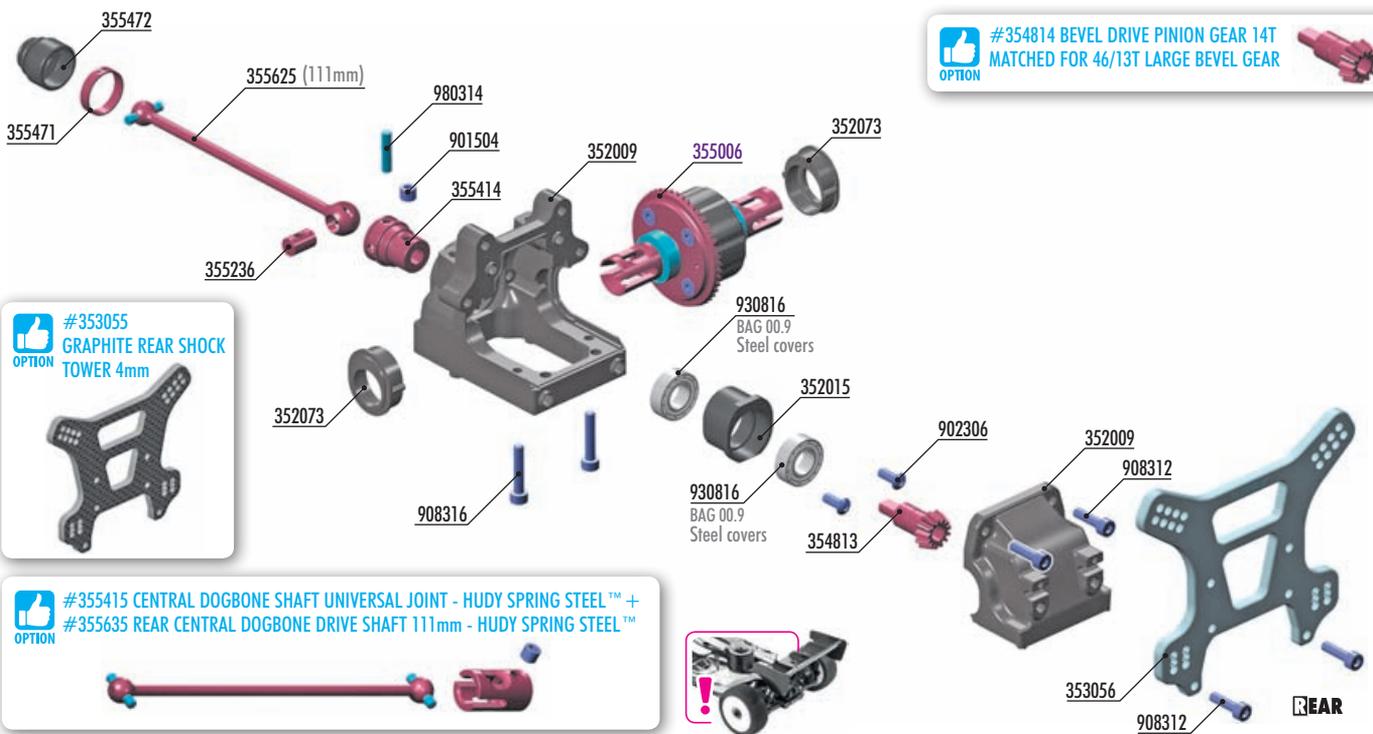


### INSTALLING THE DIFFERENTIAL WHILE FIRST TIME BUILDING THE CAR



## 2. REAR TRANSMISSION

**#354814 BEVEL DRIVE PINION GEAR 14T**  
**MATCHED FOR 46/13T LARGE BEVEL GEAR**

**#353055 GRAPHITE REAR SHOCK TOWER 4mm**



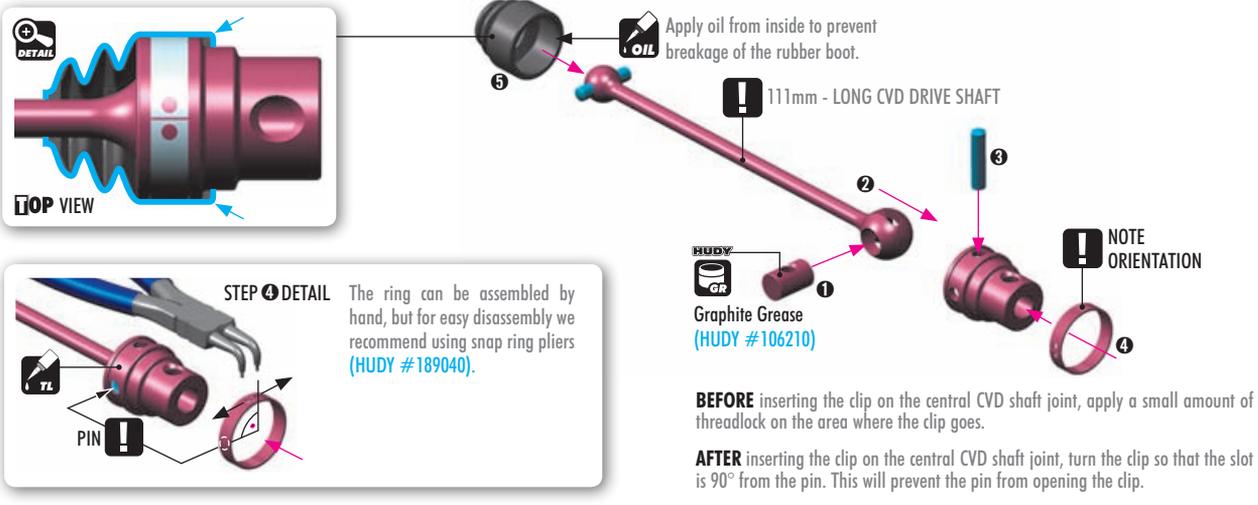
**#355415 CENTRAL DOGBONE SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™ +**  
**#355635 REAR CENTRAL DOGBONE DRIVE SHAFT 111mm - HUDY SPRING STEEL™**



**BAG**  
**02**

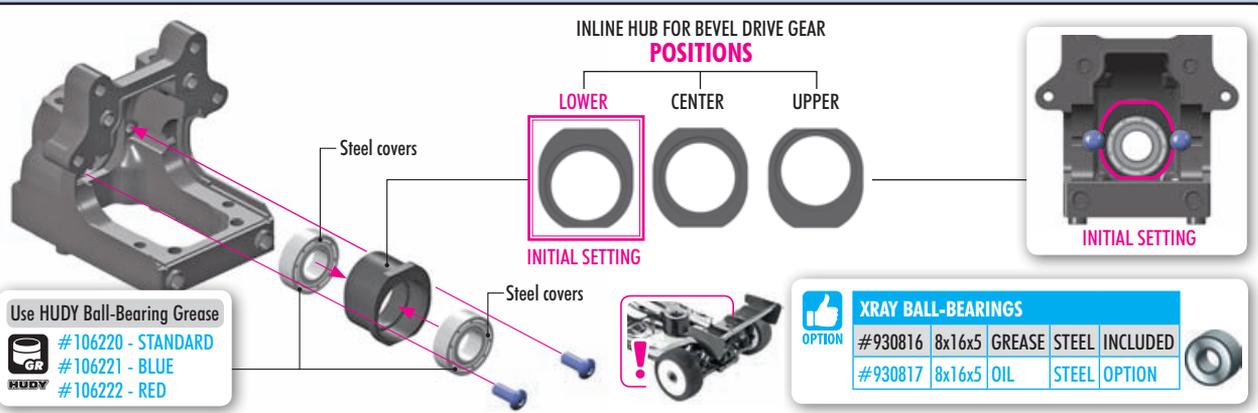
- |   |  |
|---|--|
| 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR                  | 355625 REAR CENTRAL CVD DRIVE SHAFT 111mm - HUDY SPRING STEEL™ |
| 352015 XB8 GEARBOX PINION HEIGHT INSERT (1+1)                         | 901504 HEX SCREW SB M5x4 (10)                                  |
| 352073 XB8 GEARBOX DIFF HEIGHT INSERT (2+2)                           | 902306 HEX SCREW SH M3x6 (10)                                  |
| 353056 XB8 ALU REAR SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4mm)         | 908312 HEX SCREW SOCKET HEAD CAP SCH M3x12 (10)                |
| 354813 BEVEL DRIVE PINION GEAR 13T - MATCHED FOR 46T LARGE BEVEL GEAR | 908316 HEX SCREW SOCKET HEAD CAP SCH M3x16 (10)                |
| 355236 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™                  | 930816 BALL-BEARING 8x16x5 STEEL SEALED - GREASE (2)           |
| 355414 CENTRAL CVD SHAFT UNIVERSAL JOINT - HUDY SPRING STEEL™         | 980314 PIN 3x14 (10)   |
| 355471 DRIVE SHAFT LOCKING RING (2)                                   |  |
| 355472 DRIVE SHAFT BOOT (2)   |  |
- 355006 DIFFERENTIAL 46T - MATCHED FOR 13T PINION GEAR - SET**

**1x 980314**  
**P 3x14**



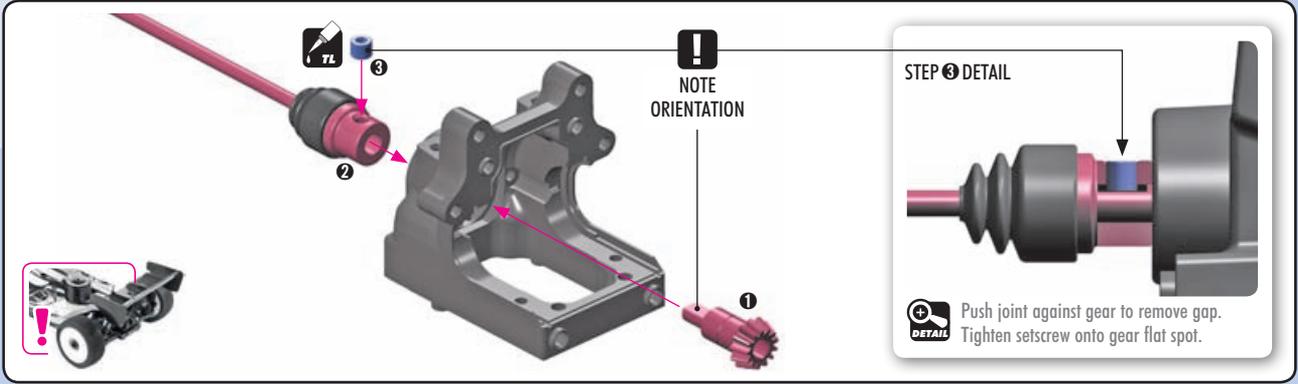
**2x 902306**  
**SH M3x6**

**2x 930816**  
**BB 8x16x5**  
**(Steel covers)**



## 2. REAR TRANSMISSION

1x 901504  
SB M5x4



2x 908312  
SCH M3x12

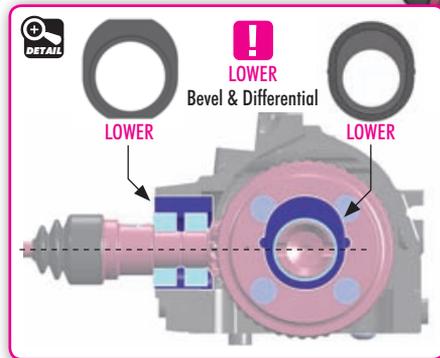
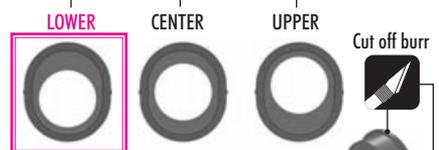
2x 908316  
SCH M3x16

**!** During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

**GEAR RATIO**  
Internal Gear Ratio = **3.54**  
46 : 13 = 3.54  
(Bevel) (Pinion) (IGR)

**!** Tighten 3x12mm screws first, then tighten 3x16 screws.

### BALL-BEARING HUB POSITIONS



**4** TIGHTEN 3x16mm SCREWS SECOND

**GR**  
Graphite Grease (HUDY #106210)

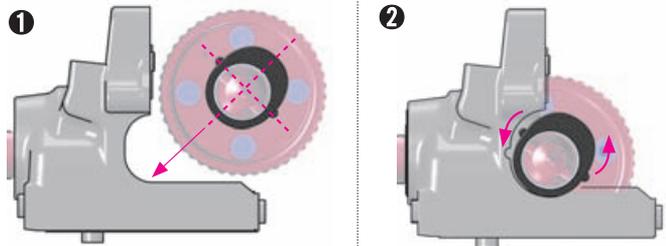
**!** REAR DIFF 3.000cSt

**3** TIGHTEN 3x12mm SCREWS FIRST

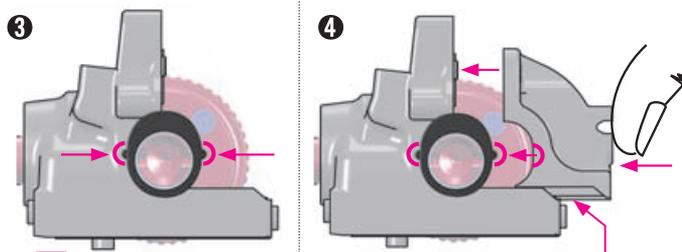
2x 908312  
SCH M3x12



### INSTALLING THE DIFFERENTIAL WHILE FIRST TIME BUILDING THE CAR



Check that left and right Diff Height Inserts are installed in the same orientation.



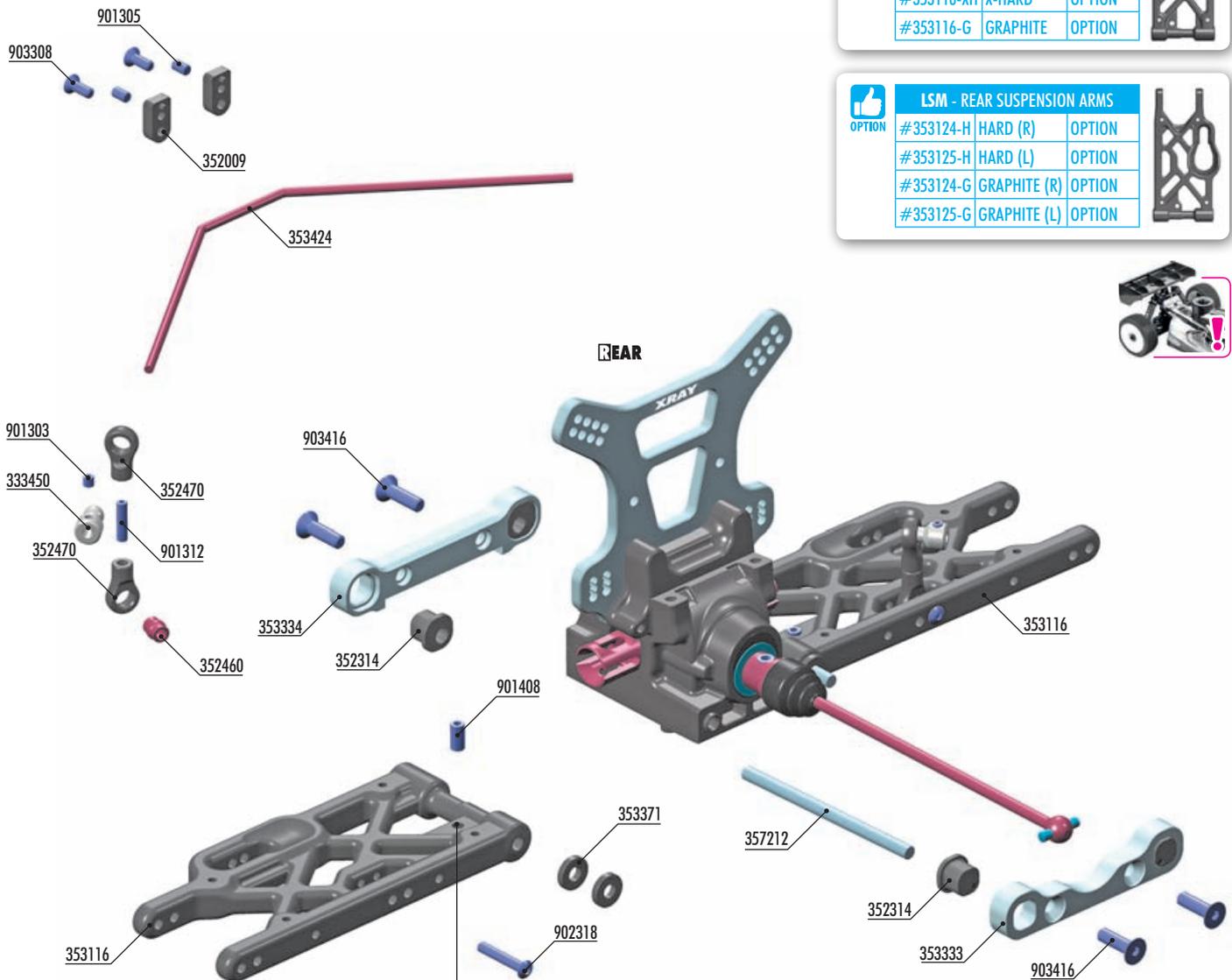
**!** **EXTREMELY IMPORTANT**  
Hub must be inserted in groove and properly pressed into bulkhead.

The cover must be aligned with Labyrinth Groove and then pressed into place.

# 3. REAR SUSPENSION

OPTION	FLAT - REAR SUSPENSION ARMS		
#353115	MEDIUM	OPTION	
#353116	HARD	INCLUDED	
#353116-XH	X-HARD	OPTION	
#353116-G	GRAPHITE	OPTION	

OPTION	LSM - REAR SUSPENSION ARMS		
#353124-H	HARD (R)	OPTION	
#353125-H	HARD (L)	OPTION	
#353124-G	GRAPHITE (R)	OPTION	
#353125-G	GRAPHITE (L)	OPTION	



**#902407**  
HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)

**#902409**  
HEX SCREW SH M4x10 WITH HEX FROM BOTTOM (4)

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

OPTION	REAR ANTI-ROLL BARS		
#353420	ø2.0mm	OPTION	
#353422	ø2.2mm	OPTION	
#353424	ø2.4mm	INCLUDED	
#353425	ø2.5mm	OPTION	
#353426	ø2.6mm	OPTION	
#353428	ø2.8mm	OPTION	
#353430	ø3.0mm	OPTION	
#353432	ø3.2mm	OPTION	



333450	ANTI-ROLL BAR BALL JOINT 5.8mm (2)	901303	HEX SCREW SB M3x3 (10)
352009	SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR	901305	HEX SCREW SB M3x5 (10)
352314	COMPOSITE ECCENTRIC BUSHINGS - V2 (2)	901312	HEX SCREW SB M3x12 (10)
352460	PIVOT BALL 5.8 (10)	901408	HEX SCREW SB M4x8 (10)
352470	BALL JOINT 5.8 (8)	902318	HEX SCREW SH M3x18 (10)
353116	COMPOSITE REAR LOWER SUSPENSION ARM - HARD	903308	HEX SCREW SFH M3x8 (10)
353333	ALU REAR LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - FRONT	903416	HEX SCREW SFH M4x16 (10)
353334	ALU REAR LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - REAR		
353371	SET OF COMPOSITE LOWER ARM SHIMS		
353424	REAR ANTI-ROLL BAR 2.4mm		
357212	LOWER INNER PIVOT PIN F+R (2)		

# 3. REAR SUSPENSION



4x 353371 SHIM 4x10x2



2x 901408 SB M4x8



4x 903416 SFH M4x16



**MEDIUM**  
SUSPENSION ARMS

**DO NOT** use INNER positions.

**HARD**  
SUSPENSION ARMS

All positions are available.

**X-HARD / GRAPHITE**  
SUSPENSION ARMS

**DO NOT** use OUTER positions.

Push bushing into suspension holder until flush.

**REAR**

4x16mm

RR

NOTE ORIENTATION

INITIAL SETTING

RR

1° 0.5°

4x8mm

2mm 2mm

NOTE ORIENTATION

RF

INITIAL SETTING

RF

1° 0.5°

NOTE ORIENTATION

Check for free movement.

**TIP**

If the suspension arms DO NOT move freely, use a HUDY Arm Reamer to resize the holes.

(HUDY #107644)

ARM REAMER

**TOP** DOWNSTOP SETTING

2.0mm

**BOTTOM**

#902407 HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)

Downstop screw for fine tuning.

#902409 HEX SCREW SH M4x10 WITH HEX FROM BOTTOM (4)

All possible mounting alternatives of eccentric bushings.

**SET-UP BOOK**

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

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

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

The XRAY rear alu lower suspension holders provide even greater range of adjustment for the rear suspension. Using different combinations of eccentric bushings, fine adjustment of rear 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	(°)
0	0	=3°
0	0.5	=4°
0	1	=2°
0.5	0	=4°
0.5	0.5	=3°
0.5	1	=5°
1	0	=2°
1	0.5	=3°
1	1	=1°

ROLL CENTER		
RR	RF	(mm)
0	0	=0mm
0	0.5	=1mm
0	1	=-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° offset. The 0.5mm, 0.5° represents the half change.

**Anti-Squat Example:**

0(RR) - 0 (RF) = 3°

0(RR) - 0.5 (RF) = 3.5°

0(RR) - 1 (RF) = 4°

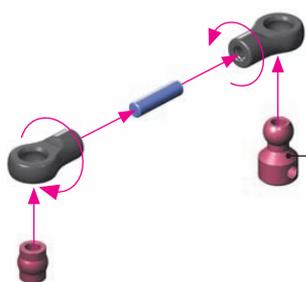
TRACK-WIDTH		
RR	RF	(mm)
0	0	=308
0	0.5	=306
0	1	=310

TOE-IN		
RR	RF	(°)
0	0	=3°
0	0.5	=4°
0	1	=2°
0.5	0	=2°
0.5	0.5	=3°
0.5	1	=1°
1	0	=4°
1	0.5	=5°
1	1	=3°

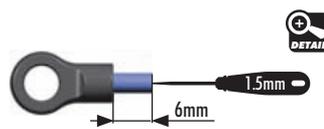
# 3. REAR SUSPENSION



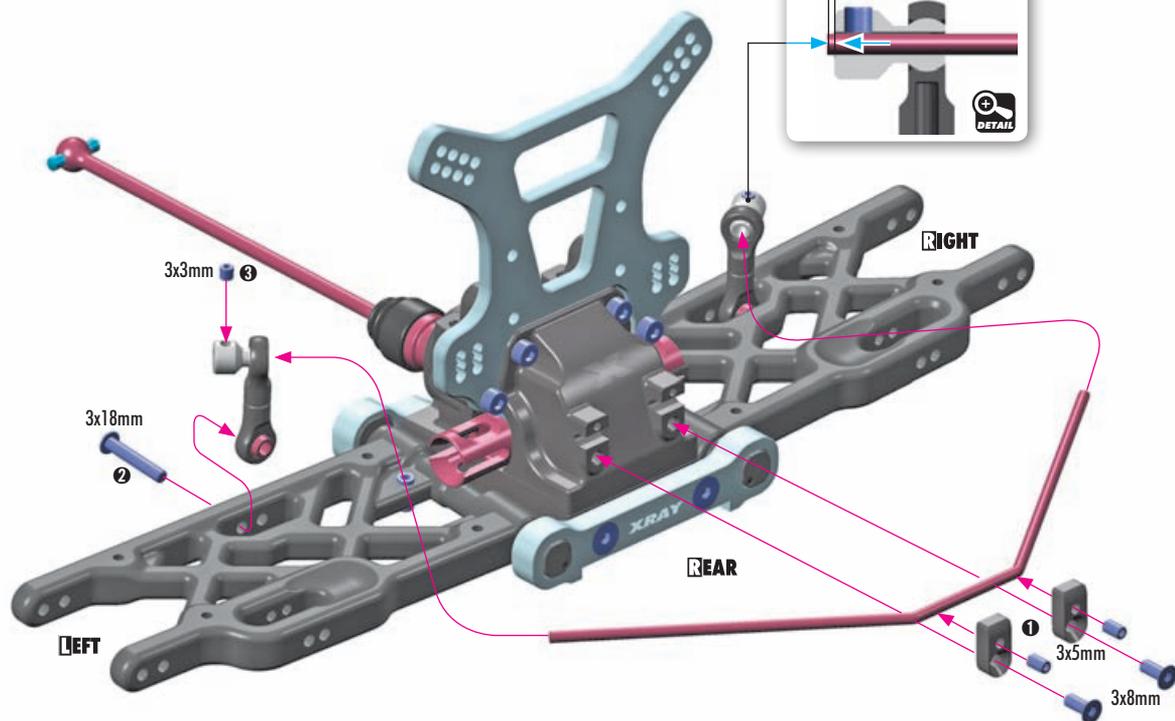
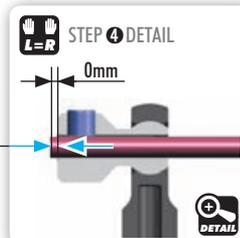
2x L=R



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

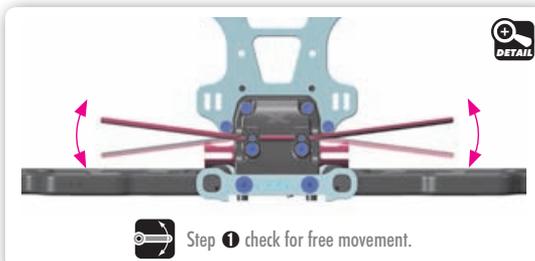


L=R

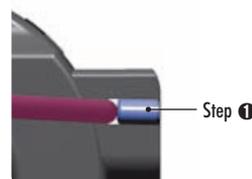


**SET-UP BOOK**  
ANTI-ROLL BAR

INITIAL SETTING

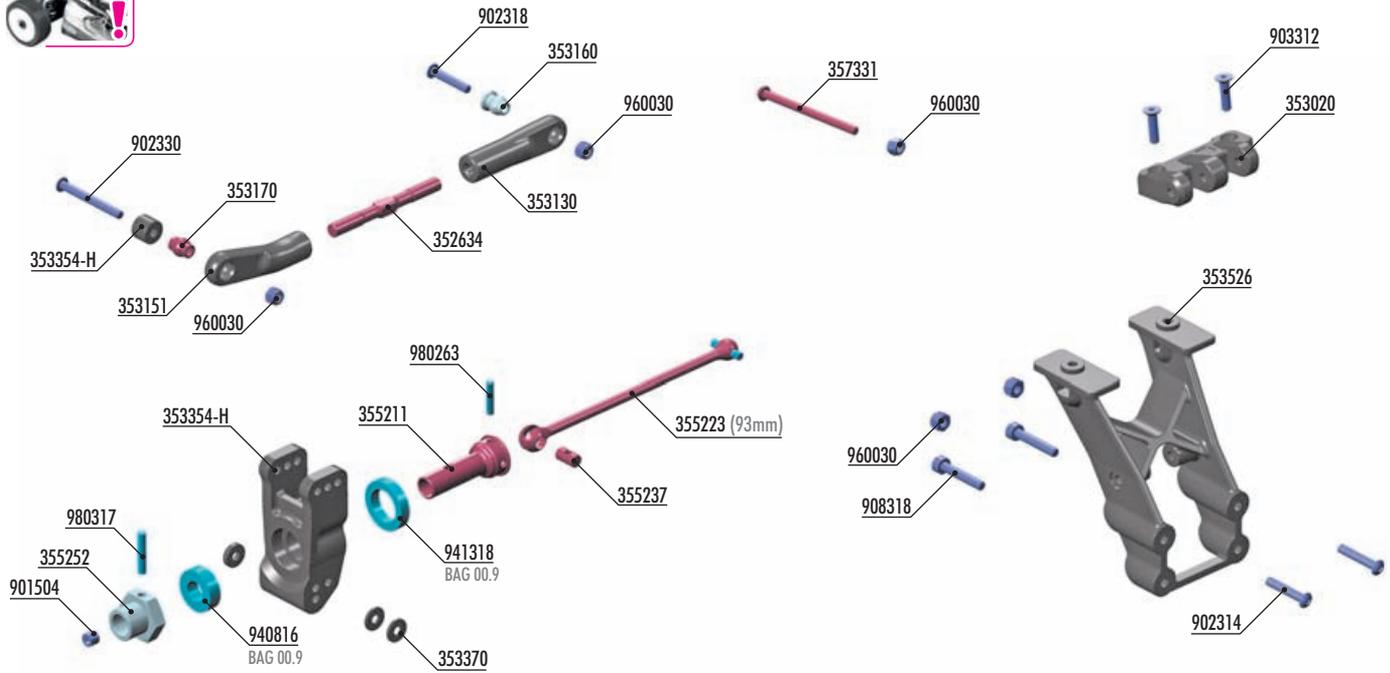


Loosen the 3x5 setscrew if the anti-roll bar DOES NOT turn freely.



OPTION	REAR ANTI-ROLL BARS	
#353420	ø2.0mm	OPTION
#353422	ø2.2mm	OPTION
#353424	ø2.4mm	INCLUDED
#353425	ø2.5mm	OPTION
#353426	ø2.6mm	OPTION
#353428	ø2.8mm	OPTION
#353430	ø3.0mm	OPTION
#353432	ø3.2mm	OPTION

# 4. REAR SUSPENSION

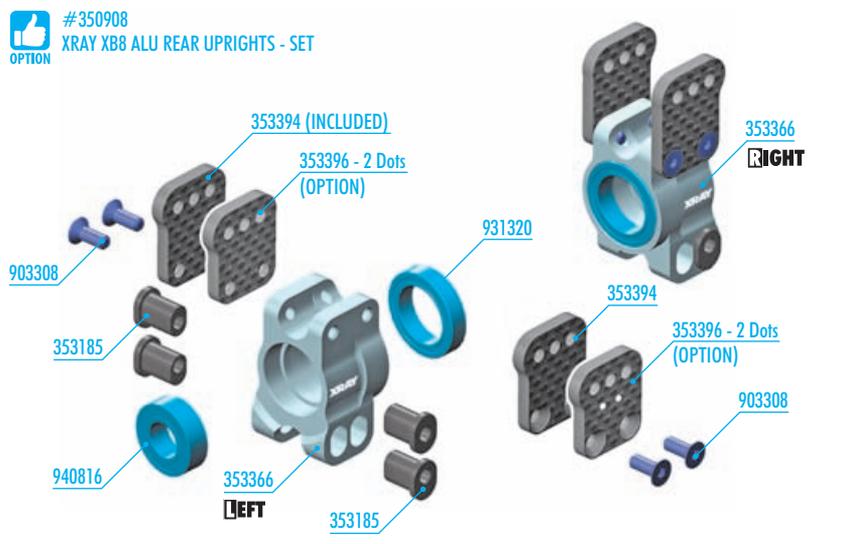


REAR UPRIGHTS			
OPTION	#353354	MEDIUM	OPTION
	#353354-H	HARD	INCLUDED
	#353354-G	GRAPHITE	OPTION
	#350908	ALU-SET	OPTION

OPTION #355215  
CVD ADJUSTABLE DRIVE AXLE - HUDY SPRING STEEL™

OPTION #350908  
XRAY XB8 ALU REAR UPRIGHTS - SET

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



- 352634 ADJ. TURNBUCKLE M5 L/R 50mm - HUDY SPRING STEEL™ (2)
- 353020 COMPOSITE REAR BRACE HOLDER
- 353130 REAR UPPER INNER CAMBER LINK BALL JOINT (2)
- 353151 RELIEF REAR UPPER OUTER CAMBER LINK BALL JOINT (2)
- 353160 MOUNTING BALL 6.8 (4)
- 353170 PIVOT BALL 6.8 (4)
- 353354-H COMPOSITE REAR UPRIGHT - HARD
- 353370 SET OF COMPOSITE REAR HUB CARRIER SHIMS
- 353526 COMPOSITE REAR WING HOLDER FOR SEMI-SPLIT BULKHEAD
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355223 CVD UNIVERSAL DRIVE SHAFT 93mm - 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)
- 902314 HEX SCREW SH M3x14 (10)
- 902318 HEX SCREW SH M3x18 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 908318 HEX SCREW SOCKET HEAD CAP SCH M3x18 (10)
- 940816 BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (2)
- 941318 BALL-BEARING 13x19x4 RUBBER SEALED - GREASE (2)
- 960030 NUT M3 (10)
- 980263 PIN 2.5x13 (10)
- 980317 PIN 3x17 (10)

# 4. REAR SUSPENSION

- 2x 901504 SB M5x4
- 2x 940816 BB 8x16x5
- 2x 941318 BB 13x19x4
- 2x 980263 P 2.5x13
- 2x 980317 P 3x17
- 4x 353370 SHIM 3x9x1
- 2x 353370 SHIM 3x9x2
- 2x 960030 N M3

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

**NOTE ORIENTATION**

93mm SHORT CVD DRIVE SHAFT

2.5x13mm

Graphite Grease (HUDY #106210)

3x17mm

13x19x4mm

8x16x5mm

Use HUDY Ball-Bearing Grease

- #106220 - STANDARD
- #106221 - BLUE
- #106222 - RED

**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** 2.5mm

REAR UPRIGHTS			
#353354	MEDIUM	OPTION	
#353354-H	HARD	INCLUDED	
#353354-G	GRAPHITE	OPTION	
#350908	ALU-SET	OPTION	

**OPTION** #355215 CVD ADJUSTABLE DRIVE AXLE - HUDY SPRING STEEL™

Drive shaft position

4 | 3 | 2 | 1

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

**TIP** Before tightening the pivot pin locknut, ensure the rear upright moves freely. If it DOES NOT move freely, lightly sand both wheelbase shims and recheck for bind.

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

2mm

Shims for wheelbase adjustment 1 + 1mm

**REAR**

**LEFT**

**RIGHT**

DO NOT overtighten the self-locking nut. Overtightening may result in suspension bind.

**TIP** **L=R** ARM REAMER (HUDY #107643)

If the rear upright DOES NOT move freely, use a HUDY Arm Reamer to resize the hole.

**INITIAL SETTING**

Check for free movement.

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

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

**NOTE ORIENTATION**

**NOTE ORIENTATION**

Use tools to tighten as shown.

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

LEFT THREAD

RIGHT THREAD

LEFT THREAD

RIGHT THREAD

26.5mm

26.5mm

**RIGHT**

**LEFT**

**SET-UP BOOK**  
CAMBER

# 4. REAR SUSPENSION

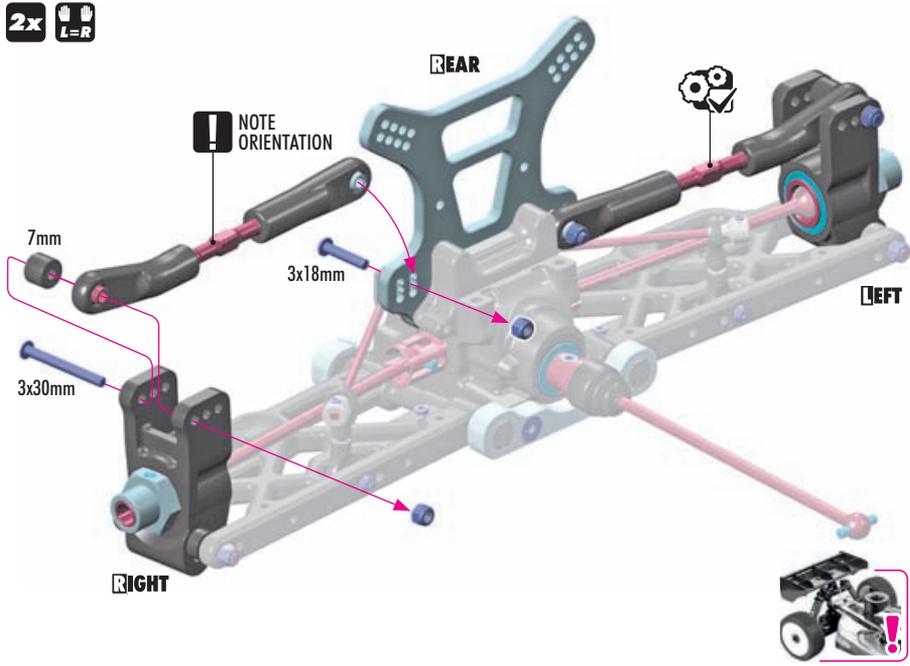
**2x**  353354-H  
SHIM 3x9x7

**2x**  902318  
SH M3x18

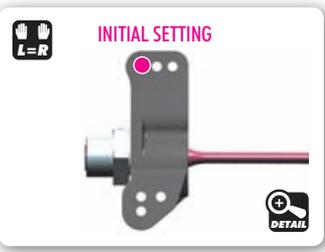
**2x**  902330  
SH M3x30

**4x**  960030  
N M3

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



**L=R** **INITIAL SETTING**

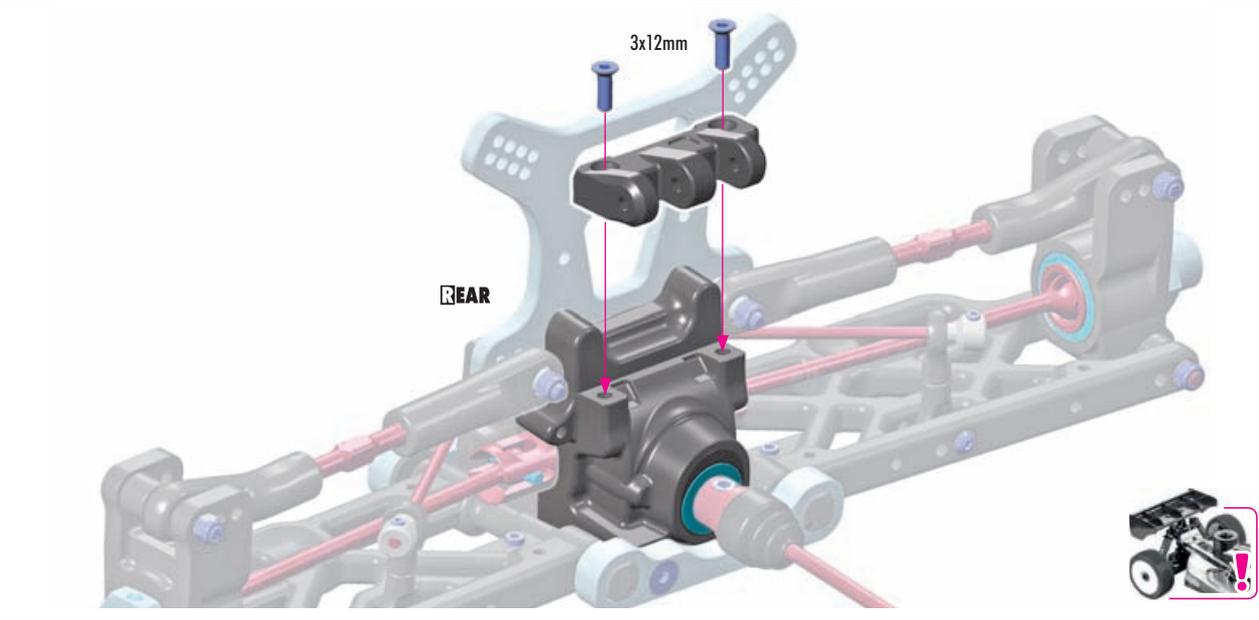


**DETAIL**



**INITIAL SETTING**

**2x**  903312  
SFH M3x12

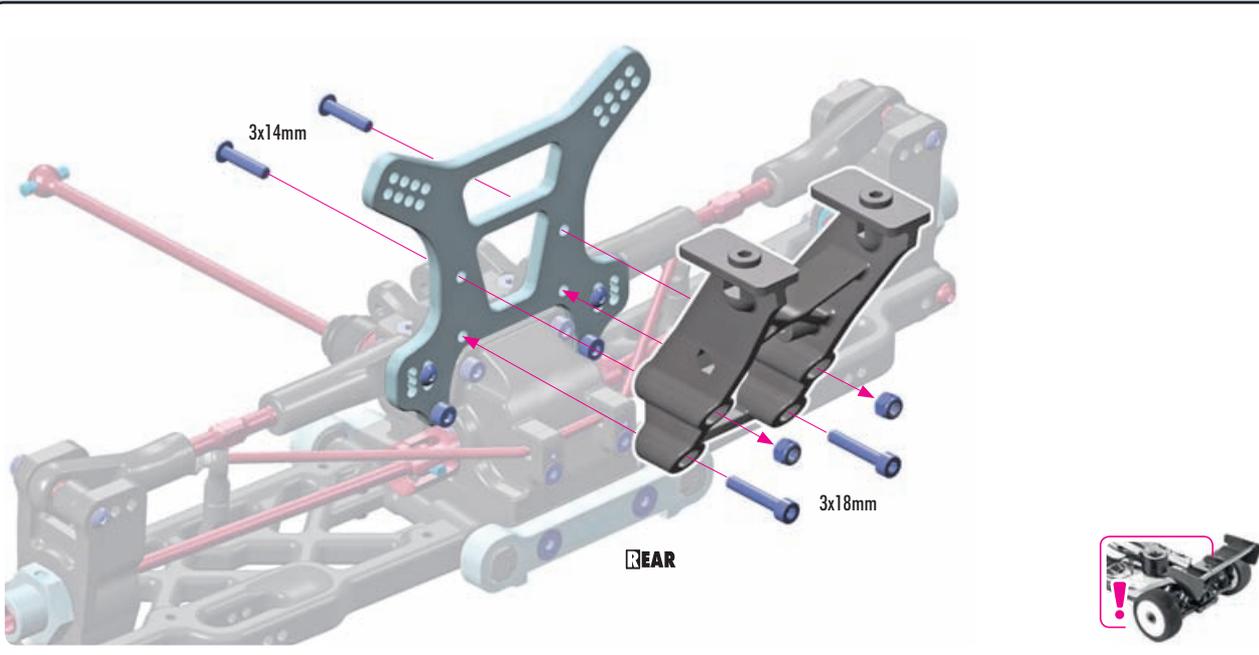




**2x**  902314  
SH M3x14

**2x**  908318  
SCH M3x18

**2x**  960030  
N M3





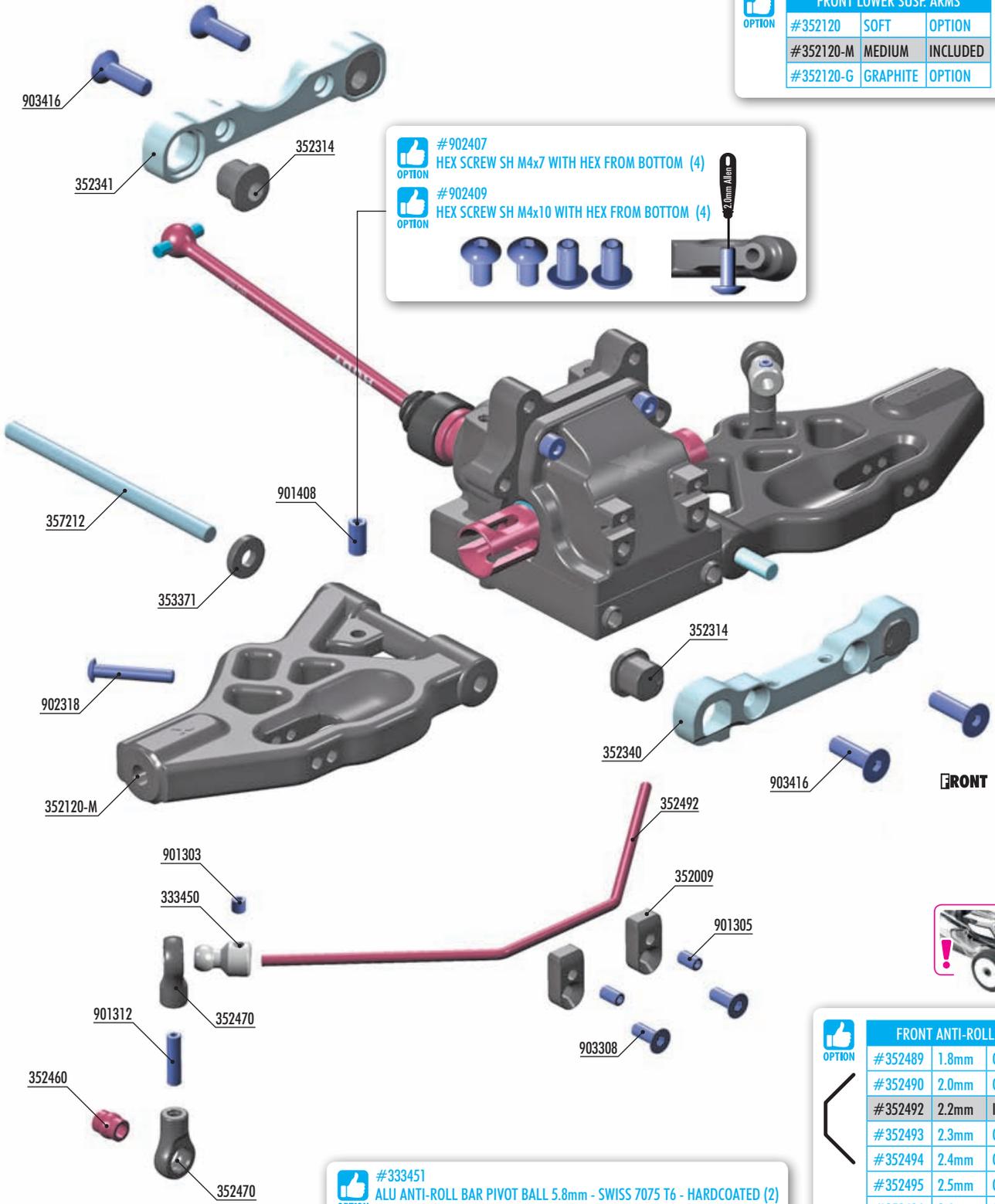
# 5. FRONT SUSPENSION

FRONT LOWER SUSP. ARMS		
#352120	SOFT	OPTION
#352120-M	MEDIUM	INCLUDED
#352120-G	GRAPHITE	OPTION



#902407  
 OPTION HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)

#902409  
 OPTION HEX SCREW SH M4x10 WITH HEX FROM BOTTOM (4)



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

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



- |   |                                      |
|---|--------------------------------------|
| 333450 ANTI-ROLL BAR BALL JOINT 5.8mm (2)                           | 357212 LOWER INNER PIVOT PIN F+R (2) |
| 352009 SEMI-SPLIT DIFF BULKHEAD BLOCK SET FRONT/REAR                |                                      |
| 352120-M COMPOSITE FRONT LOWER SUSPENSION ARM - MEDIUM              | 901303 HEX SCREW SB M3x3 (10)        |
| 352314 COMPOSITE SQUARE ADJ. ROLL CENTER BUSHINGS - V2 (2)          | 901305 HEX SCREW SB M3x5 (10)        |
| 352340 ALU FRONT LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - FRONT | 901312 HEX SCREW SB M3x12 (10)       |
| 352341 ALU FRONT LOWER SUSP. HOLDER FOR SEMI-SPLIT BULKHEAD - REAR  | 901408 HEX SCREW SB M4x8 (10)        |
| 352460 PIVOT BALL 5.8 (10)  | 902318 HEX SCREW SH M3x18 (10)       |
| 352470 BALL JOINT 5.8 (8)   | 903308 HEX SCREW SFH M3x8 (10)       |
| 352492 FRONT ANTI-ROLL BAR 2.4mm                                    | 903416 HEX SCREW SFH M4x16 (10)      |
| 353371 SET OF COMPOSITE LOWER ARM SHIMS                             |                                      |

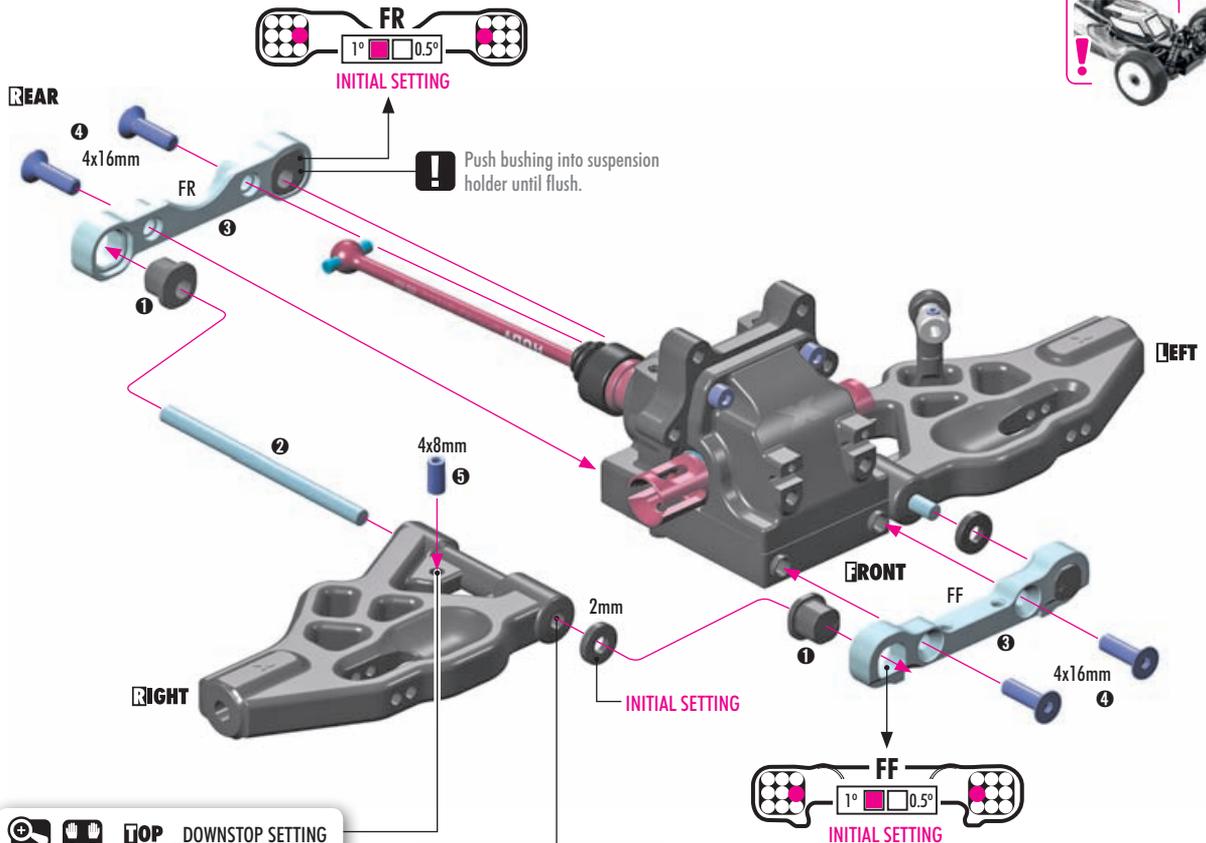
# 5. FRONT SUSPENSION

10

2x 353371 SHIM 4x10x2

2x 901408 SB M4x8

4x 903416 SFH M4x16



**TOP** DOWNSTOP SETTING

**BOTTOM** 0.0mm

**OPTION** #902407 HEX SCREW SH M4x7 WITH HEX FROM BOTTOM (4)

Downstop screw for fine tuning.

**OPTION** #902409 HEX SCREW SH M4x10 WITH HEX FROM BOTTOM (4)

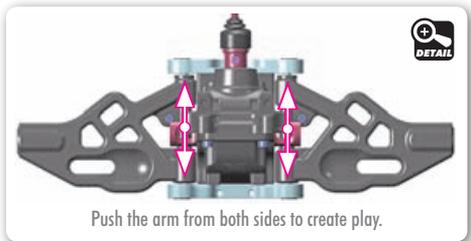
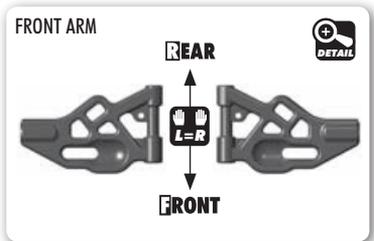
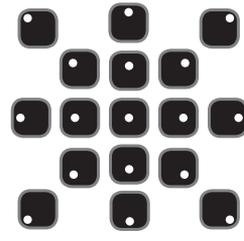
**TIP** L=R

If suspension arms do not pivot freely after checking eccentric bushings, a HUDY arm reamer can eliminate any remaining bind.

(HUDY #107644)

ARM REAMER

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

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

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

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).

The tables above describe the changes to kick-up and front track width when using the 0 and 1mm/1deg offset bushings. The .5mm/.5deg bushings reduce setting changes by half.

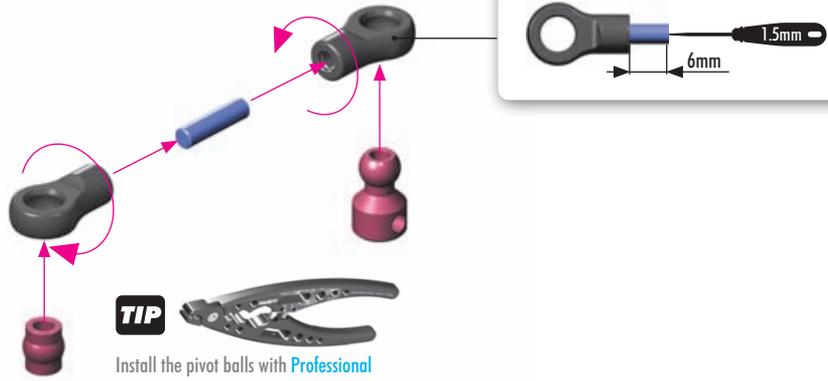
\* NOT recommended to use this setting.

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

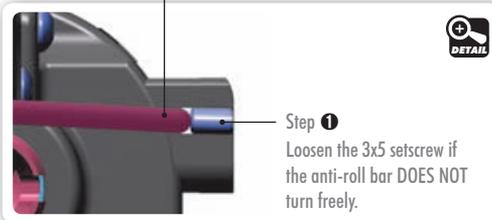
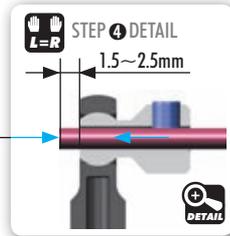
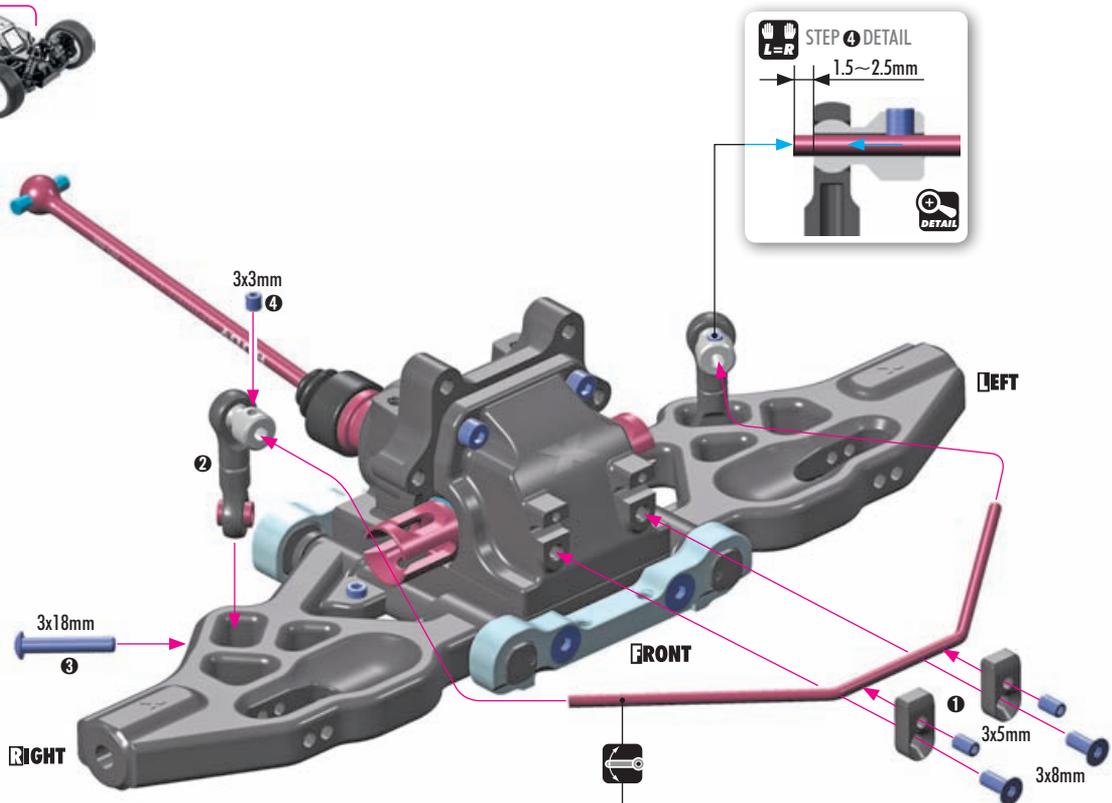
# 5. FRONT SUSPENSION



2x L=R



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



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

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

# 6. FRONT SUSPENSION

**#357253**  
BRASS ADJUSTING NUT M15x1

**#350910**  
C-HUB FRONT SUSPENSION CONVERSION SET

**FRONT UPPER SUSP. ARMS**

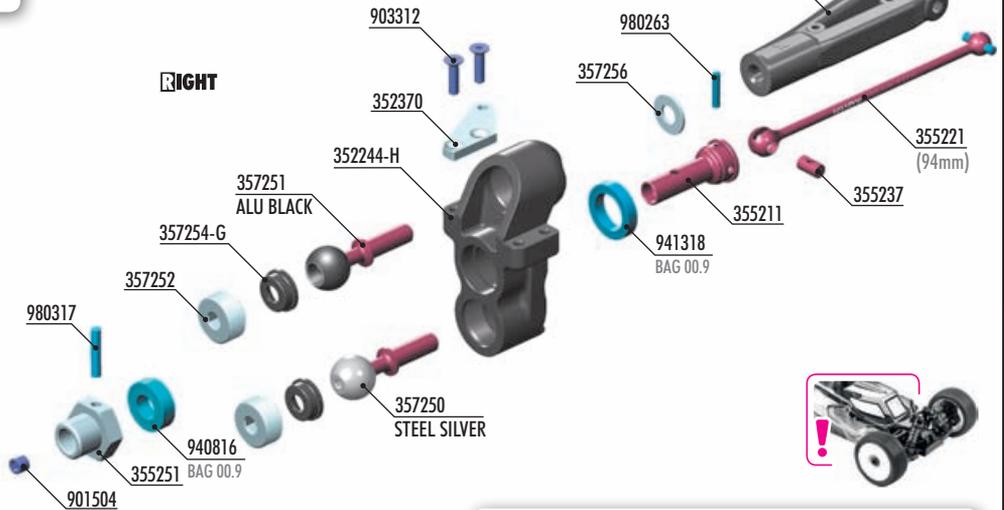
#352135	SOFT	OPTION
#352135-M	MEDIUM	INCLUDED
#352135-G	GRAPHITE	OPTION

**OFFSET WHEEL AXLES**

#355250	0mm	OPTION
#355251	+1mm	INCLUDED
#355252	+2mm	OPTION

**STEERING BLOCKS**

#352244	MEDIUM	OPTION
#352244-H	HARD	INCLUDED
#352244-G	GRAPHITE	OPTION



**FRONT ARM WINGS**

#352194	LEXAN®	OPTION
#352195	CARBON	OPTION

**ALU STEERING PLATE**

#352372	1 DOTS	OPTION
#352370	2 DOTS	INCLUDED

**XRAY BALL-BEARINGS**

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

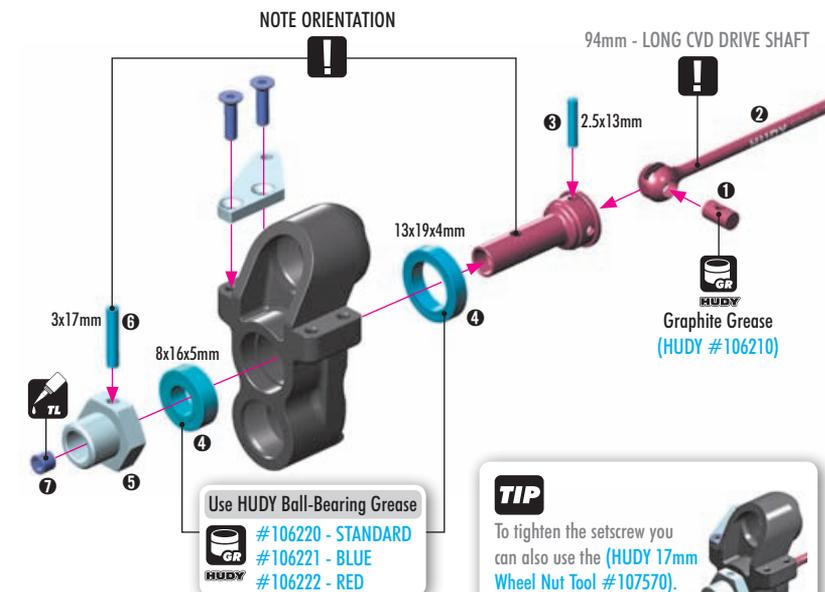


- 352135-M FRONT UPPER ARM - MEDIUM
- 352244-H PB STEERING BLOCK LB - HARD
- 352370 ALU STEERING PLATE - SWISS 7075 T6 (L+R)
- 355211 CVD DRIVE AXLE - HUDY SPRING STEEL™
- 355221 CVD UNIVERSAL DRIVE SHAFT 94mm - HUDY SPRING STEEL™
- 355237 CVD DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 355251 ALU WHEEL AXLE OFFSET "+1mm" - HARD COATED (2)
- 357250 STEEL PIVOT BALL 13.7mm (2)
- 357251 ALU PIVOT BALL 13.7mm WITH STEEL SCREW (2)

- 357252 ALU ADJUSTING NUT M15x1 (2)
- 357254-G COMPOSITE BALL CUP 13.9mm - GRAPHITE (2)
- 357256 ALU SHIM 6x13x1 (2)
- 901504 HEX SCREW SB M5x4 (10)
- 903312 HEX SCREW SFH M3x12 (10)
- 940816 BALL-BEARING 8x16x5 RUBBER SEALED - GREASE (2)
- 941318 BALL-BEARING 13x19x4 RUBBER SEALED - GREASE (2)
- 980263 PIN 2.5x13 (10)
- 980317 PIN 3x17 (10)

- 2x 901504 SB M5x4
- 2x 940816 BB 8x16x5
- 2x 941318 BB 13x19x4
- 2x 980263 P 2.5x13
- 2x 980317 P 3x17

2x L-R



**#355222**  
UNIVERSAL DRIVE SHAFT - HUDY SPRING STEEL™

**OFFSET WHEEL AXLES**

#355250	0mm	OPTION
#355251	+1mm	INCLUDED
#355252	+2mm	OPTION

**STEERING BLOCKS**

#352244	MEDIUM	OPTION
#352244-H	HARD	INCLUDED
#352244-G	GRAPHITE	OPTION

**ALU STEERING PLATE**

#352372	1 DOTS	OPTION
#352370	2 DOTS	INCLUDED

# 6. FRONT SUSPENSION

**2x** **L-R**

**!** ALU pivot ball  
BLACK color

**!** STEEL pivot ball  
SILVER color

**TIP** Tighten hex nuts using HUDY tool #107581.

**OPTION** #357253 Brass Adjusting Nut M15x1

**DETAIL**

**PIVOT BALLS MUST MOVE FREELY**  
During initial assembly, tighten each hex nut until the pivot ball starts to bind, then loosen slightly. Verify that the pivot balls move freely.

**2x** **L-R**

**!**

**2x** 357256  
SHIM 6x13x1

**2x** **L-R**

Wings (NOT INCLUDED)

**OPTION** #352194  
XB8 LEXAN® FRONT UPPER ARM WINGS IFMAR LEGAL - SET

**OPTION** #352195  
XB8 CARBON FIBER FRONT UPPER ARM WINGS - SET

3x6mm

3x6mm

1mm

**TIP** HUDY Tool Allen 2.5mm

FRONT UPPER SUSP. ARMS		
<b>OPTION</b> #352135	SOFT	OPTION
#352135-M	MEDIUM	INCLUDED
#352135-G	GRAPHITE	OPTION

**SET-UP BOOK**  
CAMBER  
TRACK-WIDTH

**SET-UP BOOK**  
CAMBER  
TRACK-WIDTH

**2x** **L-R**

**!**

**RIGHT**

**FRONT**

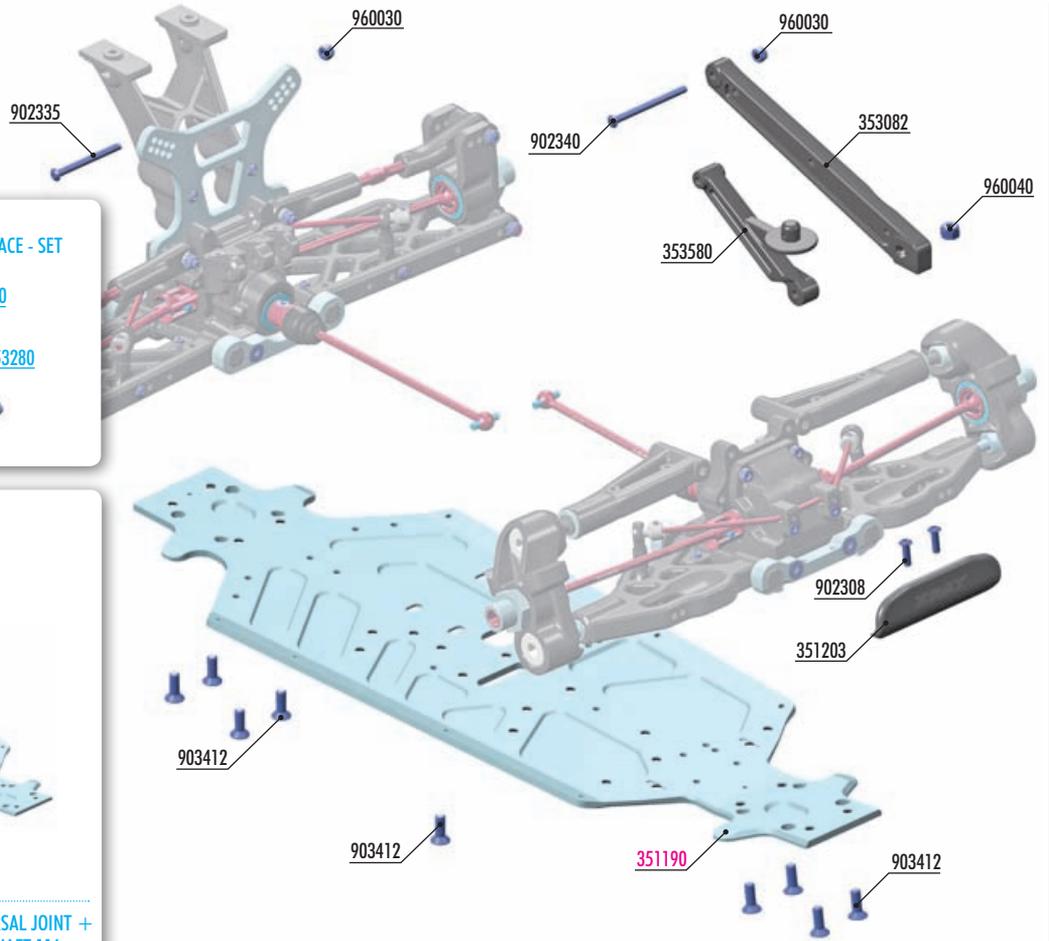
**LEFT**

**TIP** HUDY Tool Allen 2.5mm

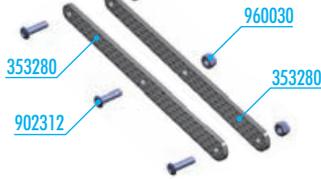
**SET-UP BOOK**  
ROLL CENTER

**SET-UP BOOK**  
ROLL CENTER

# 6. FRONT & REAR ASSEMBLY



**#353280**  
GRAPHITE BRACES FOR REAR COMPOSITE BRACE - SET  
OPTION



### LONG CONFIGURATION

**#351118**  
XB8 ALU CHASSIS - SWISS 7075 T6 (3mm)  
OPTION  
(LONGER + 4mm)



**#355627**  
REAR CENTRAL CVD DRIVE SHAFT 115mm  
OPTION

**#355415** CENTRAL DOGBONE SHAFT UNIVERSAL JOINT +  
**#355632** REAR CENTRAL DOGBONE DRIVE SHAFT 116mm  
OPTION



### BAG



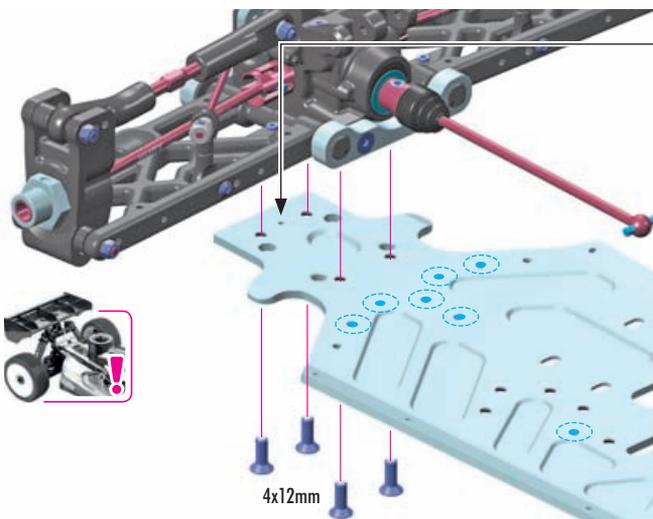
- 351203 COMPOSITE FRONT BUMPER FOR SEMI-SPLIT BULKHEAD
- 353082 COMPOSITE REAR BRACE - MEDIUM - M
- 353580 COMPOSITE WING HOLDER BRACE WITH REAR BODY POST
- 902308 HEX SCREW SH M3x8 (10)
- 902335 HEX SCREW SH M3x35 (10)

- 902340 HEX SCREW SH M3x40 (10)
- 903412 HEX SCREW SFH M4x12 (10)
- 960030 NUT M3 (10)
- 960040 NUT M4 (10)

**351190** XB8 ALU CHASSIS - SWISS 7075 T6 (3MM) - SHORT



4x 903412  
SFH M4x12



**TIP** To prevent dust a protective sticker on the rear part of the chassis covers the center balancing hole.



**#293084**  
PRECISION BALANCING CHASSIS WEIGHTS 10G (4)  
OPTION



Locations for weights



During initial assembly, there is no need to check gear mesh or diff play. Fitment should not be checked until suspension holders are installed on the bulkheads and the complete assembly is mounted to the chassis. All parts have specifically designed tolerances for proper operation once fully assembled. After assembly, check for free rotation of all drivetrain parts and non-binding movement of the suspension.

# 6. FRONT & REAR ASSEMBLY

- 902335 SH M3x35 1x
- 960030 N M3 1x

Push the top of the holder together with fingers to insert the brace with body post. ①

NOTE  
Overtightening will deform the composite wing holder, and will not allow you to mount the wing as per the instructions on page 46 step 2.

- 902340 SH M3x40 1x
- 903412 SFH M4x12 1x

REAR

3x40mm

M3

M4

4x12mm

#353280 GRAPHITE BRACE SET for extra stiffness adjustment.

- 2x 902308 SH M3x8
- 4x 903412 SFH M4x12

FRONT

4x12mm

FRONT BUMPER ASSEMBLY

3x8mm

FRONT

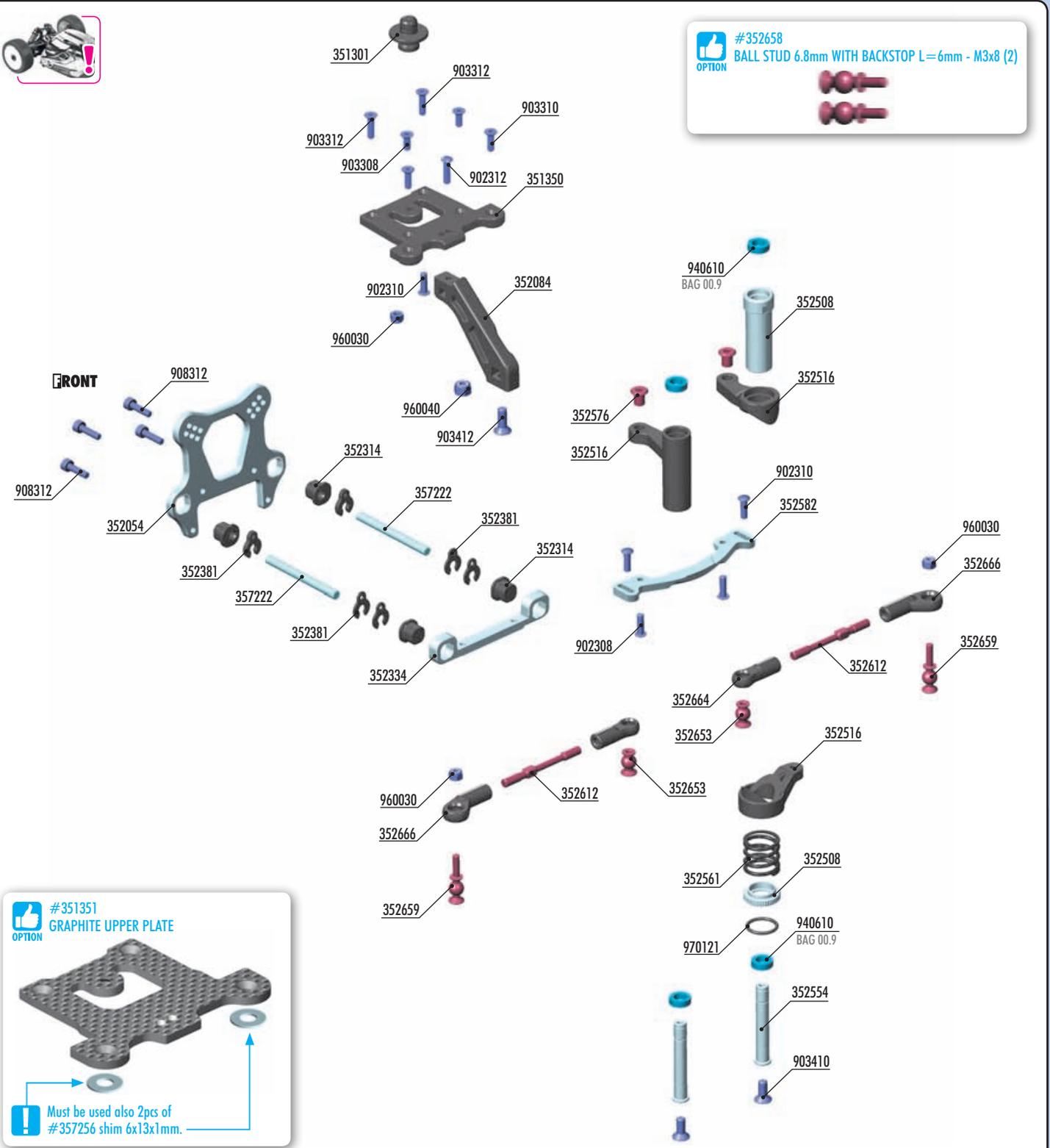
PUSH

During assembly, there is no need to check gear mesh or diff play. In particular, **DO NOT** check gear mesh and diff play when the differential is installed only in the gear box without the suspension holders and without being mounted to the chassis. All parts have specifically designed play, and only when the car is fully assembled will it have the proper amount of play where necessary. Only once you build the entire car, then you can check for free movement of all rotational parts and drivetrain as well as a free non-binding operation of suspension parts.

# 7. STEERING



**#352658**  
**BAG OPTION**  
 BALL STUD 6.8mm WITH BACKSTOP L=6mm - M3x8 (2)



**#351351**  
**BAG OPTION**  
 GRAPHITE UPPER PLATE

**!** Must be used also 2pcs of #357256 shim 6x13x1mm.

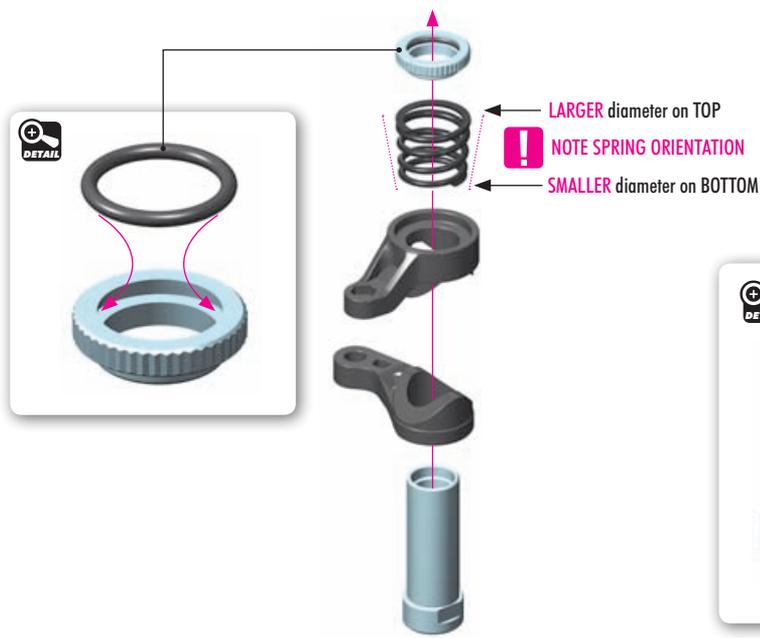
**BAG**  
**07**

351301	BODY POSTS	352666	COMPOSITE RELIEF STEERING BALL JOINT 6.8mm (2)
351350	COMPOSITE UPPER PLATE WITH TWO BRACE POSITIONS	357222	FRONT UPPER PIVOT PIN 4x45 (2)
352054	ALU FRONT SHOCK TOWER FOR SEMI-SPLIT BULKHEAD (4mm)	902308	HEX SCREW SH M3x8 (10)
352084	COMPOSITE FRONT BRACE	902310	HEX SCREW SH M3x10 (10)
352314	COMPOSITE SQUARE ADJ. ROLL CENTER BUSHINGS - V2 (2)	902312	HEX SCREW SH M3x12 (10)
352334	ALU FRONT UPPER ARM HOLDER FOR SEMI-SPLIT BULKHEAD	903308	HEX SCREW SFH M3x8 (10)
352381	CASTER CLIPS (2)	903310	HEX SCREW SFH M3x10 (10)
352508	SERVO SAVER FOR SEMI-SPLIT BULKHEAD - GRAPHITE - SET	903312	HEX SCREW SFH M3x12 (10)
352516	COMPOSITE SERVO SAVER FOR SEMI-SPLIT BULKHEAD - GRAPHITE	903410	HEX SCREW SFH M4x10 (10)
352554	ALU SERVO SAVER PIVOT SHAFT WITH CHASSIS LOCK (2)	903412	HEX SCREW SFH M4x12 (10)
352561	SERVO SAVER SPRING PROGRESSIVE	908312	HEX SCREW SOCKET HEAD CAP SCH M3x12 (10)
352576	STEERING PLATE BUSHING (2)	940610	BALL-BEARING 6x10x3 RUBBER SEALED - OIL (2)
352582	ALU STEERING PLATE FOR SEMI-SPLIT BULKHEAD - SWISS 7075 T6	960030	NUT M3 (10)
352612	ADJ. TURNBUCKLE M4 L/R 45mm - HUDY SPRING STEEL™ (2)	960040	NUT M4 (10)
352653	BALL STUD 6.8mm WITH BACKSTOP - M3 (2)	970121	O-RING 12.1 x 1.6 (10)
352659	BALL STUD 6.8mm WITH BACKSTOP L=6mm - M3x11 (2)		
352664	COMPOSITE STEERING BALL JOINT 6.8mm - V3 (2)		

# 7. STEERING



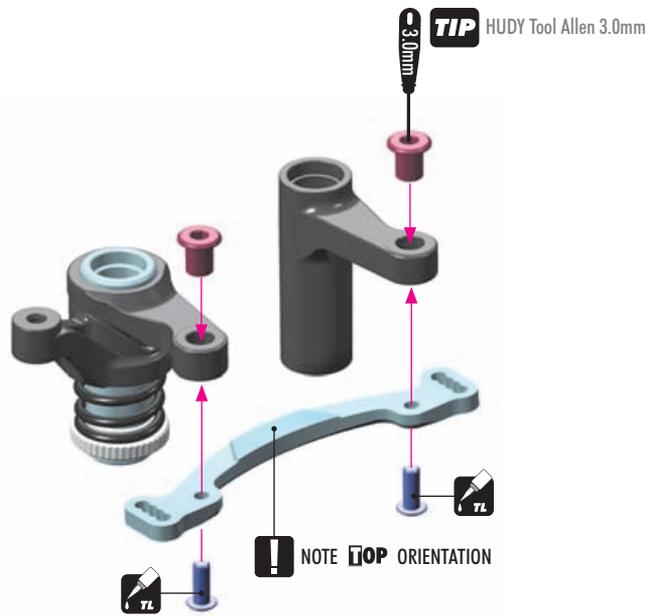
1x 970121  
O 12.1x1.6



**SET-UP BOOK**  
SERVO SAVER



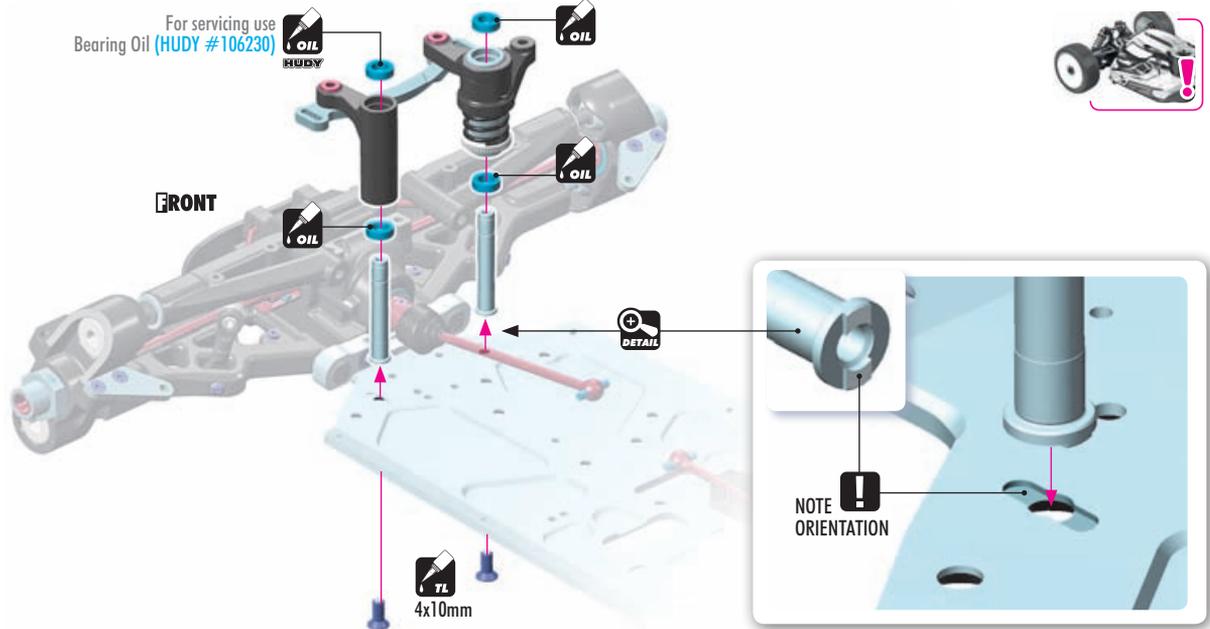
2x 902308  
SH M3x8



2x 903410  
SFH M4x10



4x 940610  
BB 6x10x3



# 7. STEERING

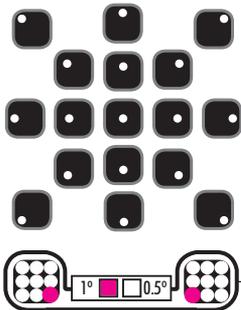


1x 902310  
SH M3x10

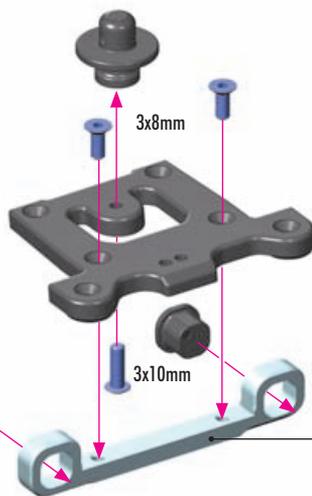


2x 903308  
SFH M3x8

All possible mounting alternatives of eccentric bushings.



INITIAL SETTING



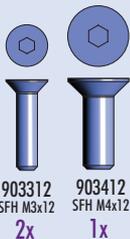
**SET-UP BOOK**  
ROLL CENTER



1x 902312  
SH M3x12



2x 903310  
SFH M3x10



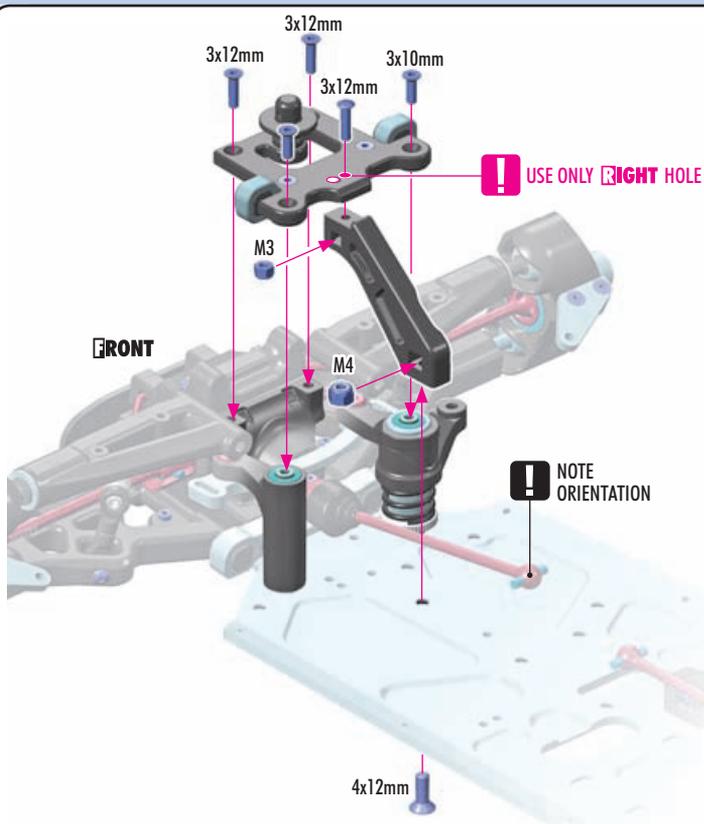
2x 903312 SFH M3x12  
1x 903412 SFH M4x12



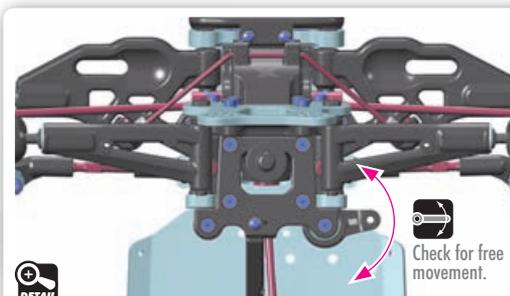
1x 960030  
N M3



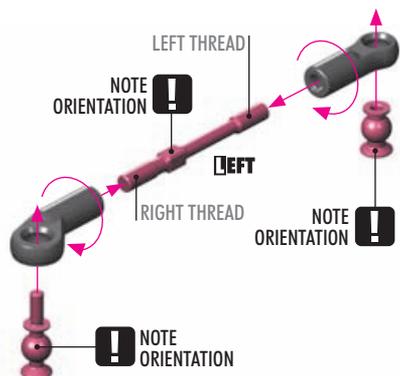
1x 960040  
N M4



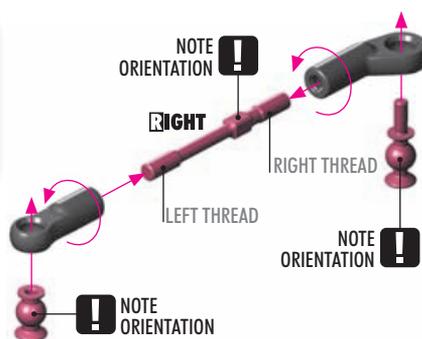
NOTE ORIENTATION



After the top deck assembly check for free movement of steering system.



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



# 7. STEERING



4x 908312  
SCH M3x12

**LEFT**

1+1mm 2mm

1mm 1mm

2mm

3x12mm

**RIGHT**

**FRONT**

! XRAY logo towards the front.

**INITIAL SETTING**

1° 0.5°

All possible mounting alternatives of eccentric bushings.

CASTER	
UPPER CLIP (Behind arm)	LOWER SHIM (Behind arm)
4mm	21°
3mm	22.5°
2mm	24°
1mm	25.5°
0	27°

UPPER CLIP Behind arm

LOWER SHIM Behind arm

CASTER

! (Car icon)

**SET-UP BOOK**  
ROLL CENTER  
CASTER



2x 902310  
SH M3x10

2x 960030  
N M3

**FRONT**

**RIGHT**

**LEFT**

3x10mm

**INITIAL SETTING**

! NOTE ORIENTATION Adjustment block towards outside.

! NOTE ORIENTATION Adjustment block towards outside.

Check for free movement.

Check for free movement.

! (Car icon)

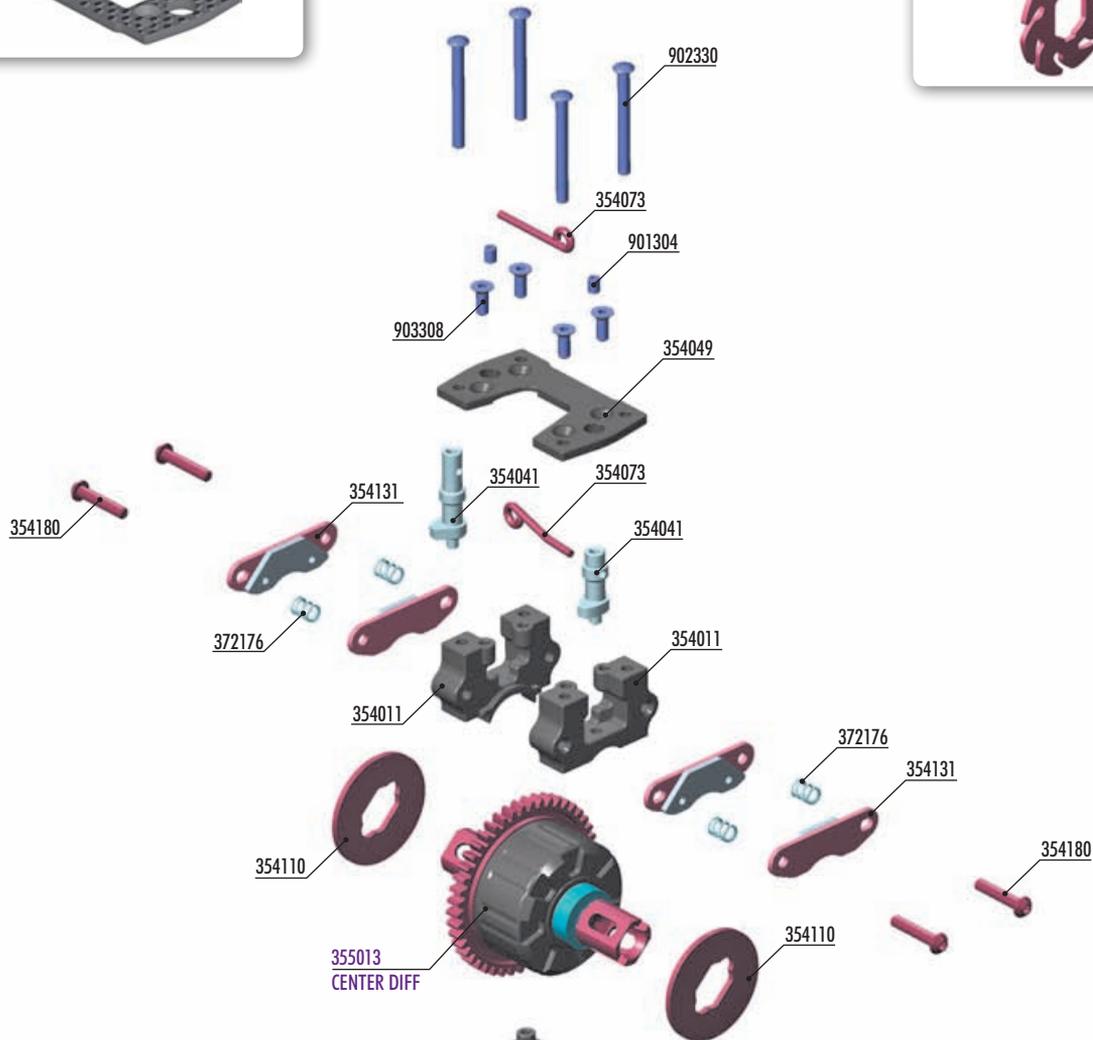
**SET-UP BOOK**  
ACKERMANN  
BUMPS STEER  
TOE-IN

# 8. CENTER DIFF & BRAKE

**#354057**  
**GRAPHITE CENTER DIFF MOUNTING PLATE**  
 OPTION



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



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



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



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



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



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

**BAG**

**08**

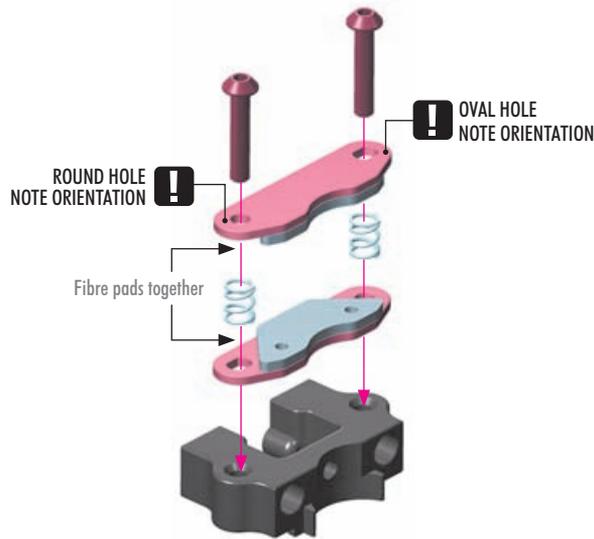
- 354011 CENTER DIFF MOUNTING PLATE SET - HIGHER
- 354041 ALU BRAKE CAM POST & ROD (2+2) HARD COATED
- 354049 COMPOSITE CENTER DIFF MOUNTING PLATE
- 354073 BRAKE CAME ROD (1+1)
- 354110 VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND
- 354131 GLUED BRAKE PAD SET - ULTRA-EFFICIENT (4)
- 354180 STEEL BRAKE PAD GUIDE PIN SCREW (2)
- 372176 SPRING 4.25 COILS 3.6x6x0.4mm; C=1.5 - GOLD (SOFT) (2)

- 901304 HEX SCREW SB M3x4 (10)
- 902330 HEX SCREW SH M3x30 (10)
- 903308 HEX SCREW SFH M3x8 (10)
- 903412 HEX SCREW SFH M4x12 (10)

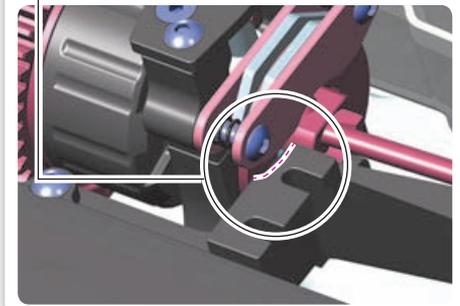
355013 CENTER DIFFERENTIAL - LARGE - SET

# 8. CENTER DIFF & BRAKE

2x



When using ultra-efficient brake pads, carefully remove a small amount of material from radio tray as shown.



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



#354130  
BRAKE PAD FIBER (4)  
OPTION

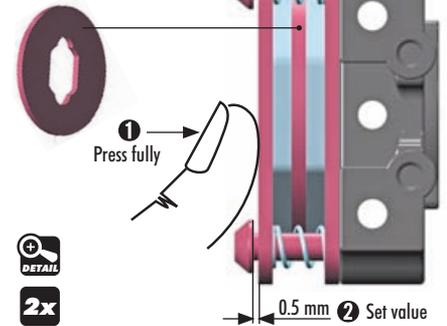


#354132  
BRAKE PAD "SLS" (4)  
OPTION



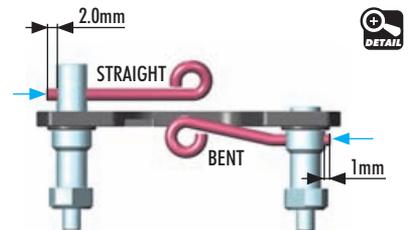
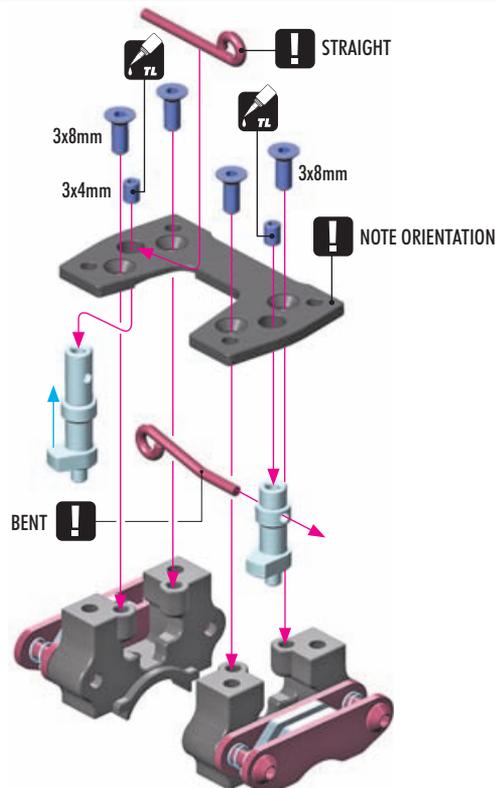
It is necessary to glue the brake pad with strong CA glue suitable for steel.

Temporarily insert BRAKE DISK between pads to set correct gap.

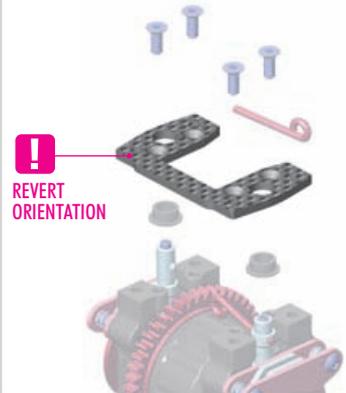


2x 901304  
SB M3x4

4x 903308  
SFH M3x8



#354057  
GRAPHITE CENTER DIFF MOUNTING PLATE  
OPTION



# 8. CENTER DIFF & BRAKE

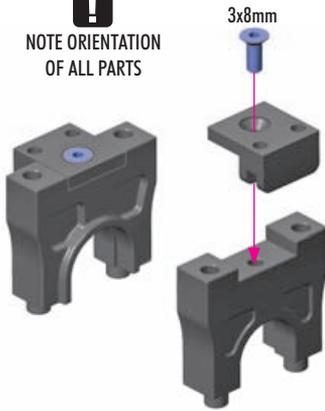


2x 903308  
SFH M3x8

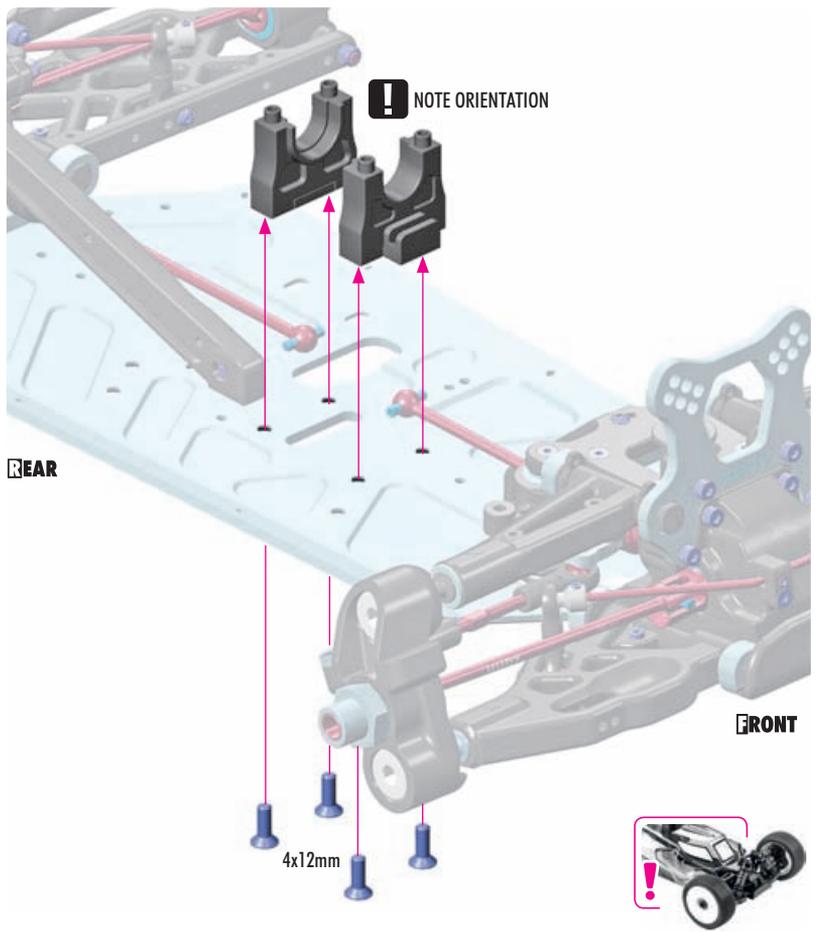


4x 903412  
SFH M4x12

**!** NOTE ORIENTATION  
OF ALL PARTS



**!** #354011-G  
OPTION CENTER DIFF MOUNTING PLATE SET  
HIGHER - GRAPHITE



**!** NOTE ORIENTATION

REAR

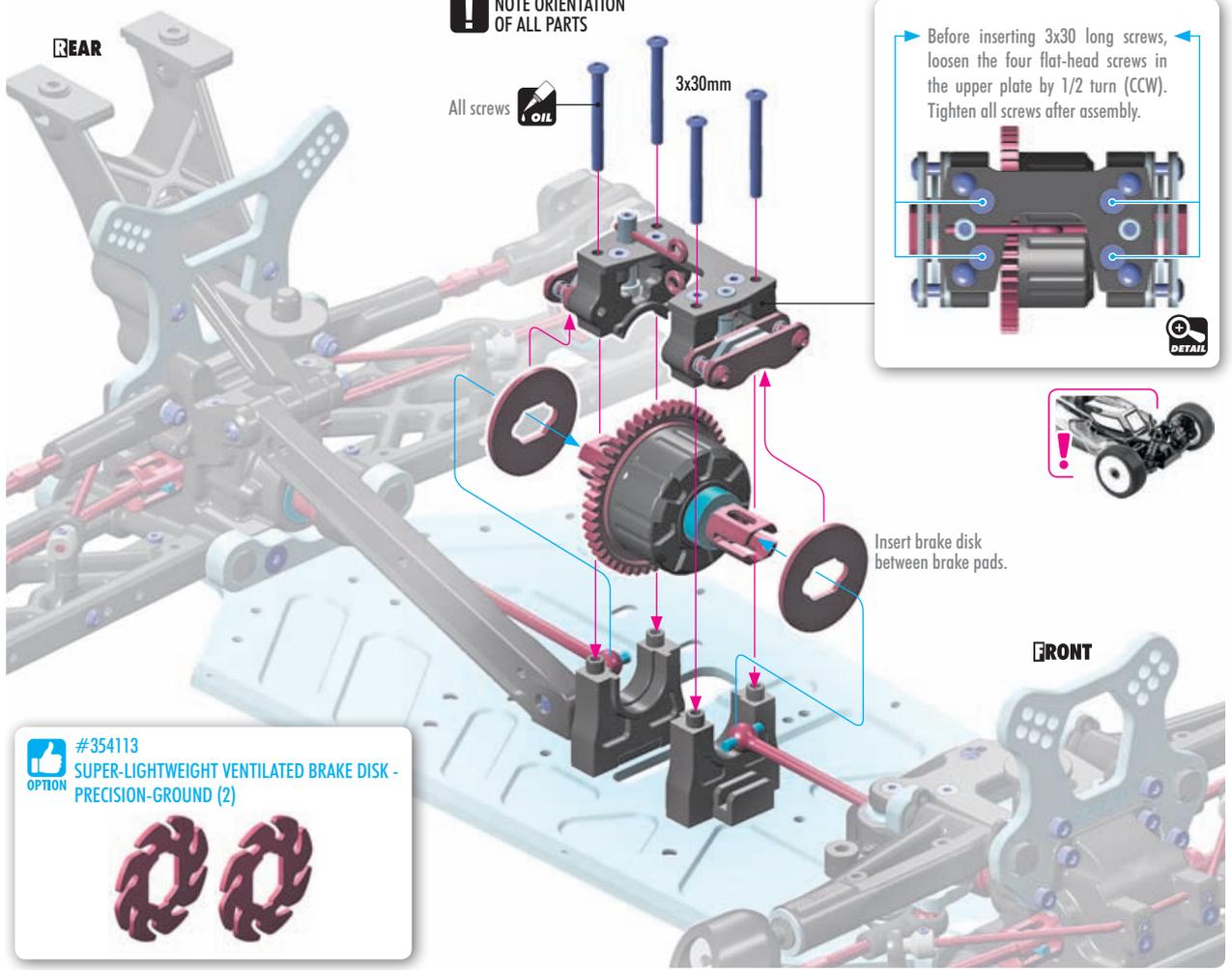
FRONT

4x12mm



4x 902330  
SH M3x30

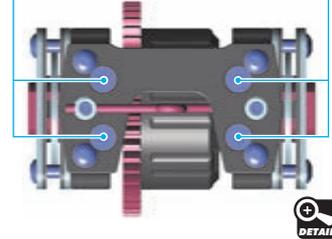
**!** NOTE ORIENTATION  
OF ALL PARTS



All screws OIL

3x30mm

Before inserting 3x30 long screws,  
loosen the four flat-head screws in  
the upper plate by 1/2 turn (CCW).  
Tighten all screws after assembly.

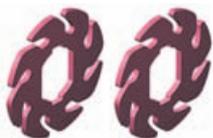


**+**  
DETAIL

Insert brake disk  
between brake pads.



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



# 9. FUEL TANK & ENGINE



#358709  
ALU MONOBLOCK ENGINE MOUNT - SWISS 7075 T6



#358718  
ALU STAND (FX, NOVAROSS, MAX, SIRIO)



#358719  
ALU STAND (PICCO, REDS, ORION, LRP, OS, ULT. RACING)



#351159-S  
COMPOSITE CHASSIS SIDE GUARD L+R - SOFT



#351160  
CARBON FIBER CHASSIS SIDE GUARD L+R



#358400  
XRAY COMPLETE 4-SHOE CLUTCH SET



4-SHOE CLUTCH SHOES

#	Material	Qty	Weight	GRIP	OPTION
#358457	ALU HARD	(4)	1.00g	HIGH	OPTION
#358456	ALU MED	(4)	1.00g	HIGH	OPTION
#358461	GRAPHITE	(4)	1.00g	HIGH	OPTION
#358460	ALU HARD	(4)	1.15g	HIGH	OPTION
#358459	ALU MEDIUM	(4)	1.15g	HIGH	INCLUDED
#358458	ALU SOFT	(4)	1.15g	LOW	OPTION



CLUTCH SPRINGS (4pcs)

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



CLUTCHBELL 4 SHOES CLUTCH

#	Material	OPTION
#358413	13T	OPTION
#358413-L	13T Lightweight	OPTION
#358414-L	14T Lightweight	OPTION



#650105  
FX K303



- 3 PORTS
- DLC
- CERAMIC BEARING
- BALANCED

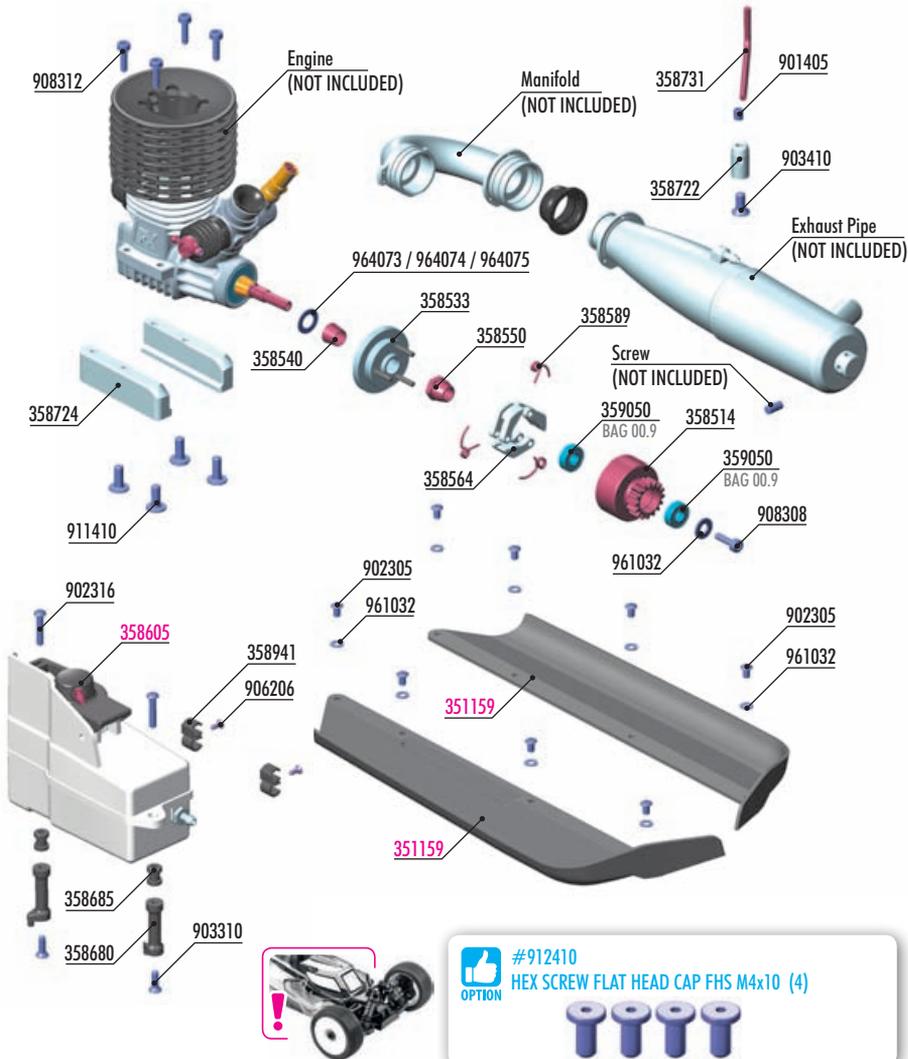
FX EUROPEAN CHAMPION



#659505 FX MUFFLER 3.5CC EFRA 2131 + MANIFOLD M - CHROME  
#659558 FX MUFFLER 3.5CC EFRA 2169 + MANIFOLD - MEDIUM



FX EUROPEAN CHAMPION



#912410  
HEX SCREW FLAT HEAD CAP FHS M4x10 (4)



#358660  
GRAPHITE 125CC FUEL TANK GUARD



HIGH TORQUE CLUTCH SPRING

#	Material	RPM	OPTION
#358588	GRAY	MEDIUM	OPTION
#358589	SILVER	HARD	INCLUDED



CLUTCHBELL 3 SHOES CLUTCH

#	Material	OPTION
#358512	12T	OPTION
#358513	13T	OPTION
#358514	14T	INCLUDED
#358525	15T	OPTION
#358517	13T Lightweight	OPTION
#358518	14T Lightweight	OPTION



- 358514 CLUTCH BELL 14T
- 358533 FLYWHEEL - HIGH TORQUE - LIGHTWEIGHT
- 358540 FLYWHEEL COLLAR
- 358550 FLYWHEEL NUT - HUDY SPRING STEEL™
- 358564 ALU CLUTCH SHOE - HARD (3)
- 358589 HIGH TORQUE CLUTCH SPRINGS - HARD (3)
- 358680 FUEL TANK MOUNTING POST (2)
- 358685 FUEL TANK MOUNTING GROMMET (4)
- 358722 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 - V2 (2)
- 901405 HEX SCREW SB M4x5 (10)

- 902305 HEX SCREW SH M3x5 (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)
- 908308 HEX SCREW (CAP HEAD) 3x8 (10)
- 908312 HEX SCREW (CAP HEAD) 3x12 (10)
- 911410 HEX SCREW FLANGED SH M4x10 (10)
- 961032 WASHER S 3.2 (10)
- 964073 WASHER S 7x10x0.2 (10)
- 964074 WASHER S 7x10x0.3 (10)
- 964075 WASHER S 7x10x0.5 (10)
- 351159 CHASSIS SIDE GUARDS L+R
- 358605 FUEL TANK 125CC WITH FLOATING FILTER & TRANSIENT JET

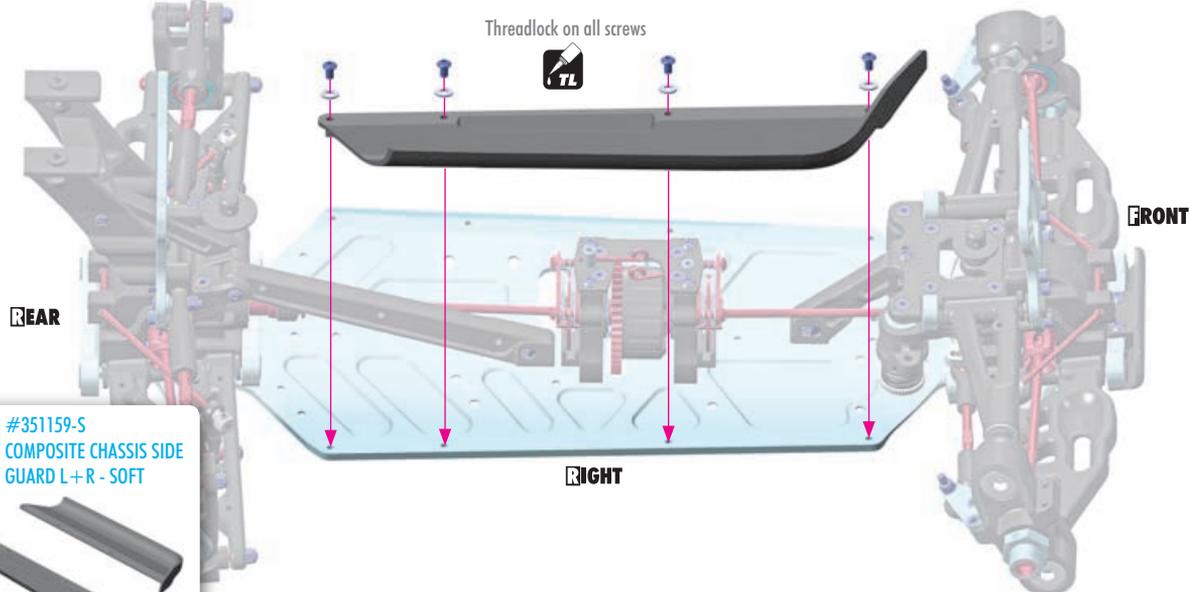
# 9. FUEL TANK & ENGINE



4x 902305  
SH M3x5



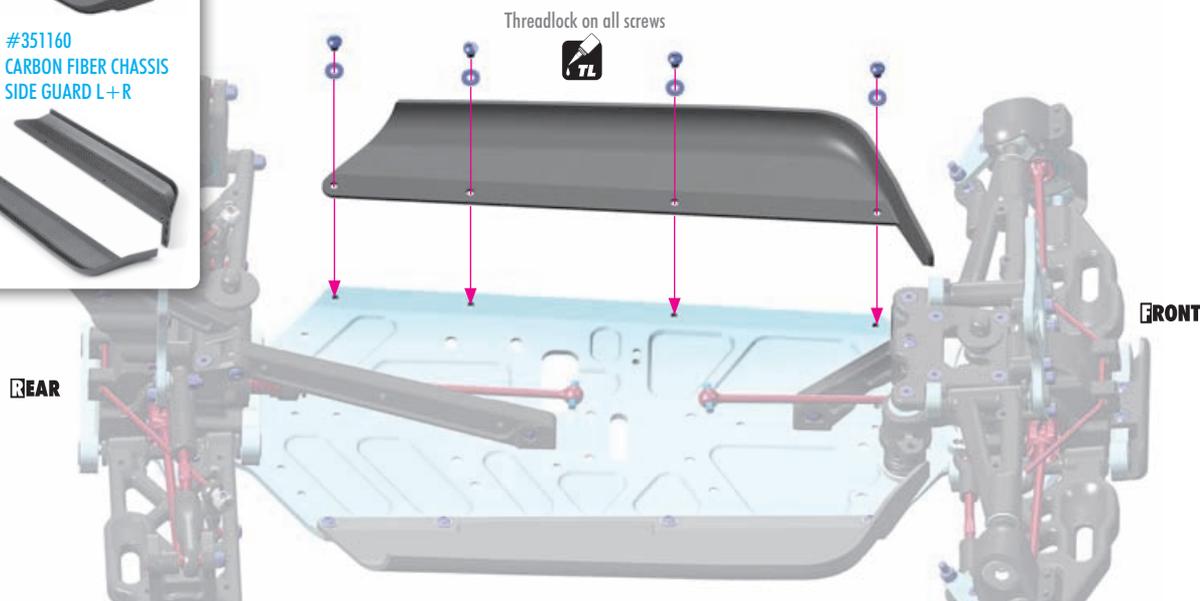
4x 961032  
S 3.2



**#351159-S**  
COMPOSITE CHASSIS SIDE  
GUARD L+R - SOFT  
OPTION



**#351160**  
CARBON FIBER CHASSIS  
SIDE GUARD L+R  
OPTION



4x 902305  
SH M3x5



4x 961032  
S 3.2



4x 908312  
SCH M3x12



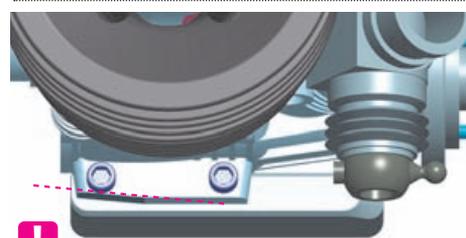
1x 964073  
S 7x10x0.2



1x 964074  
S 7x10x0.3

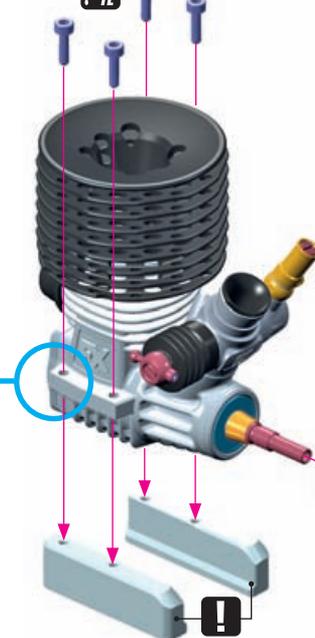


1x 964075  
S 7x10x0.5



When installing the engine, first check that the drive shaft **DOES NOT** touch the engine. If it does, remove material from the engine case as shown to create clearance between the engine and driveshaft.

All screws 3x12mm



**FX ENGINES**  
OPTION

(FX K303 #650105)  
(FX K303L #650106)  
(FX K502 #650304)



**FX** EUROPEAN CHAMPION

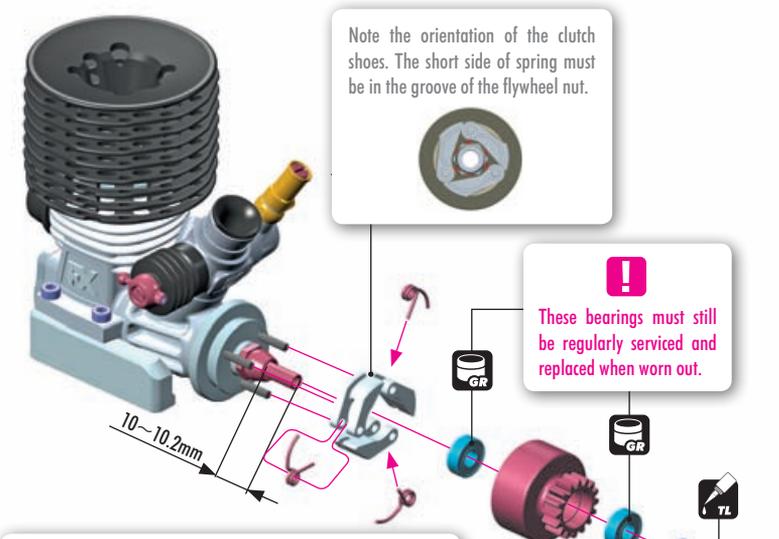
7x10x0.2 / 0.3 / 0.5  
Use appropriate shims to achieve  
proper clutchbell endplay.



**NOTE ORIENTATION**

# 9. FUEL TANK & ENGINE

-  2x 359050 BB 5x10x4
-  1x 908308 SCH M3x8
-  1x 961032 S3.2



Note the orientation of the clutch shoes. The short side of spring must be in the groove of the flywheel nut.

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

10~10.2mm

**TIP** Hold the flywheel using HUDY Flywheel Tool #182016.

**TIP** Tighten the clutch nut using HUDY tool #107581.

3.2mm 3x8mm

**GEAR RATIO** Final Drive Ratio

$$(48 : 14) \times 3.54 = 12.14$$

(Center Spur) (Clutchbell) (Internal ratio) (FDR)

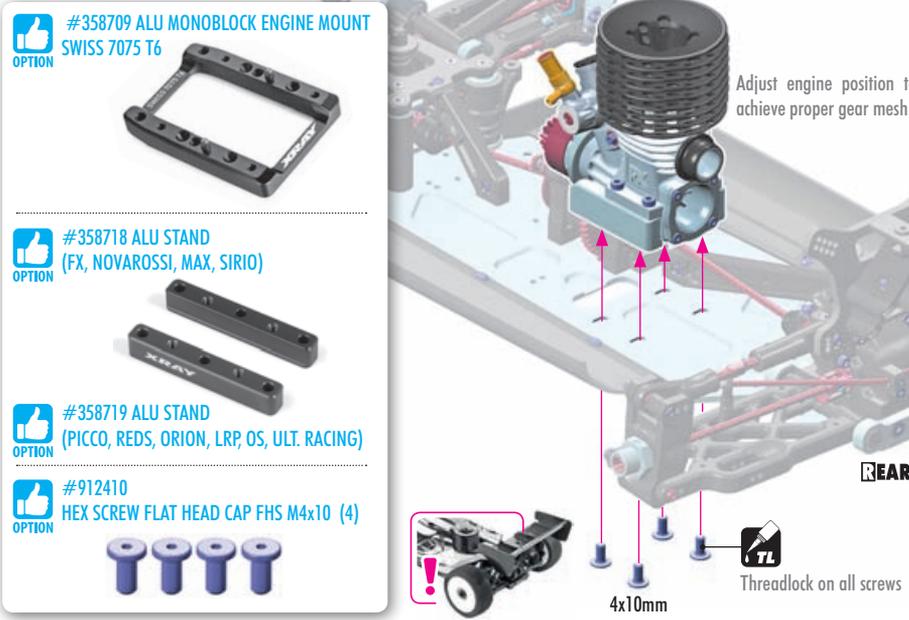
CLUTCH SHOE			
OPTION	#358563	GRAPHITE (2)	OPTION
	#358564	ALU - HARD (3)	INCLUDED

CLUTCHBELL 3 SHOE CLUTCH			
OPTION	#358512	12T	OPTION
	#358513	13T	OPTION
	#358514	14T	INCLUDED
	#358525	15T	OPTION
	#358517	13T Lightweight	OPTION
	#358518	14T Lightweight	OPTION

HIGH TORQUE CLUTCH SPRING			
OPTION	#358588	GRAY	MEDIUM OPTION
	#358589	SILVER	HARD INCLUDED

**SET-UP BOOK**  
CLUTCH SPRINGS  
CLUTCH SHOE

-  4x 911410 SHF M4x10



**OPTION** #358709 ALU MONOBLOCK ENGINE MOUNT SWISS 7075 T6

**OPTION** #358718 ALU STAND (FX, NOVAROSS, MAX, SIRIO)

**OPTION** #358719 ALU STAND (PICCO, REDS, ORION, LRP, OS, ULT. RACING)

#912410 HEX SCREW FLAT HEAD CAP FHS M4x10 (4)

Adjust engine position to achieve proper gear mesh.

REAR

4x10mm Threadlock on all screws



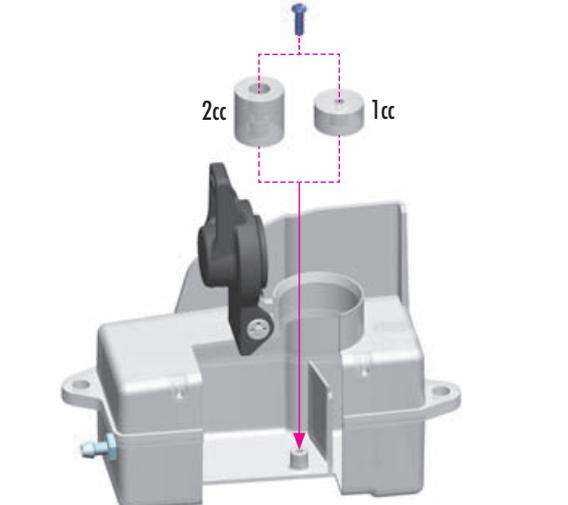
**GEAR MESH**

**EXTREMELY IMPORTANT**

It is very important that your XB8 has properly-adjusted gear mesh. Adjust the gear mesh so there is adequate (or slightly larger) space between the spur gear and clutchbell teeth. Adjust the gear mesh by sliding the engine mounts in the slots of the chassis. You should be able to rock one gear back and forth slightly while holding the other one firmly. Be sure to check the gear mesh all the way around the spur gear. Tighten the screws once the engine alignment and gear mesh are correct, and then re-check the gear mesh to ensure the engine mounts did not move.

**SET-UP BOOK**  
GEARING  
GEAR MESH ADJ.

-  1x 907258 SP 2.5x8



2cc 1cc

The fuel tank volume can be adjusted using the included inserts. The inserts reduce fuel capacity inside the tank to adjust for fuel filter and fuel line capacity and ensure a legal fuel volume 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.



**1CC FUEL TANK INSERT**

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



**NOTE ORIENTATION**  **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.

# 9. FUEL TANK & ENGINE



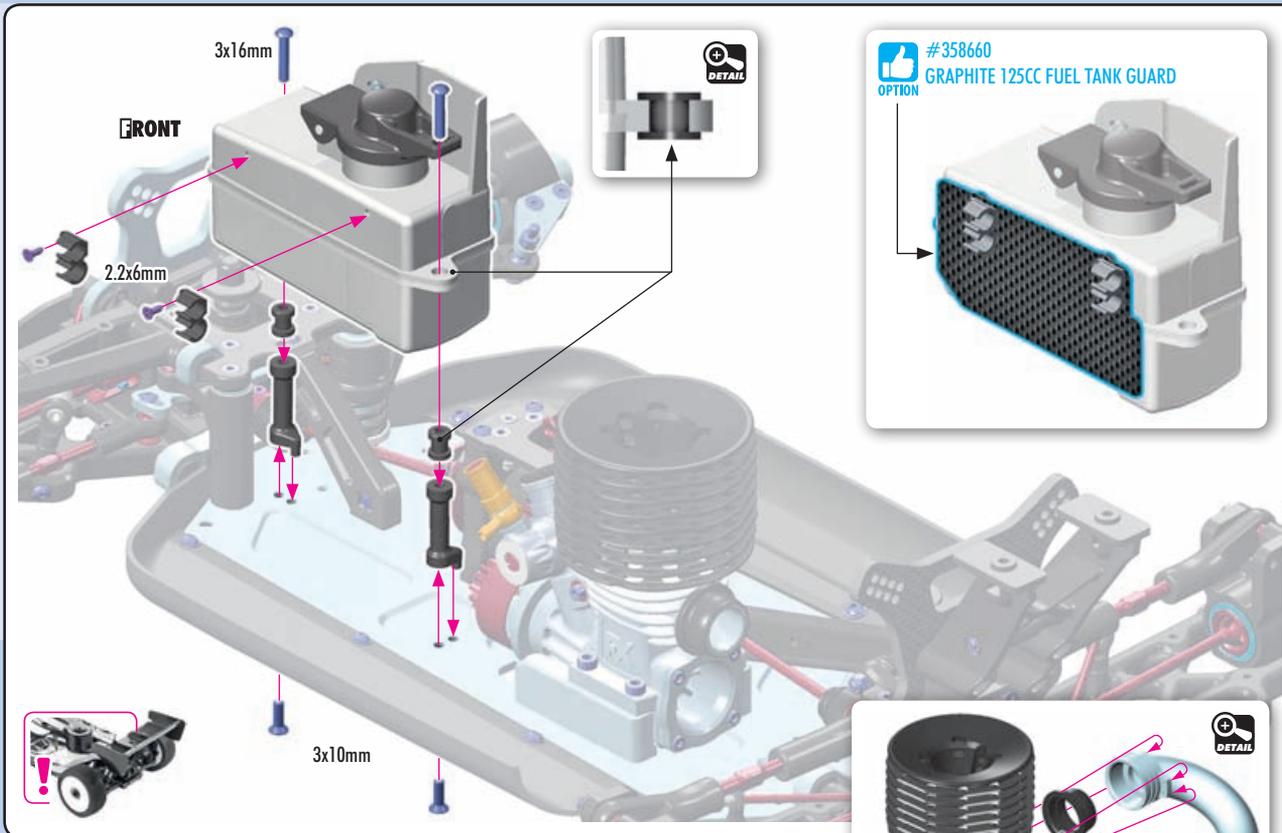
2x 902316 SH M3x16



2x 903310 SFH M3x10



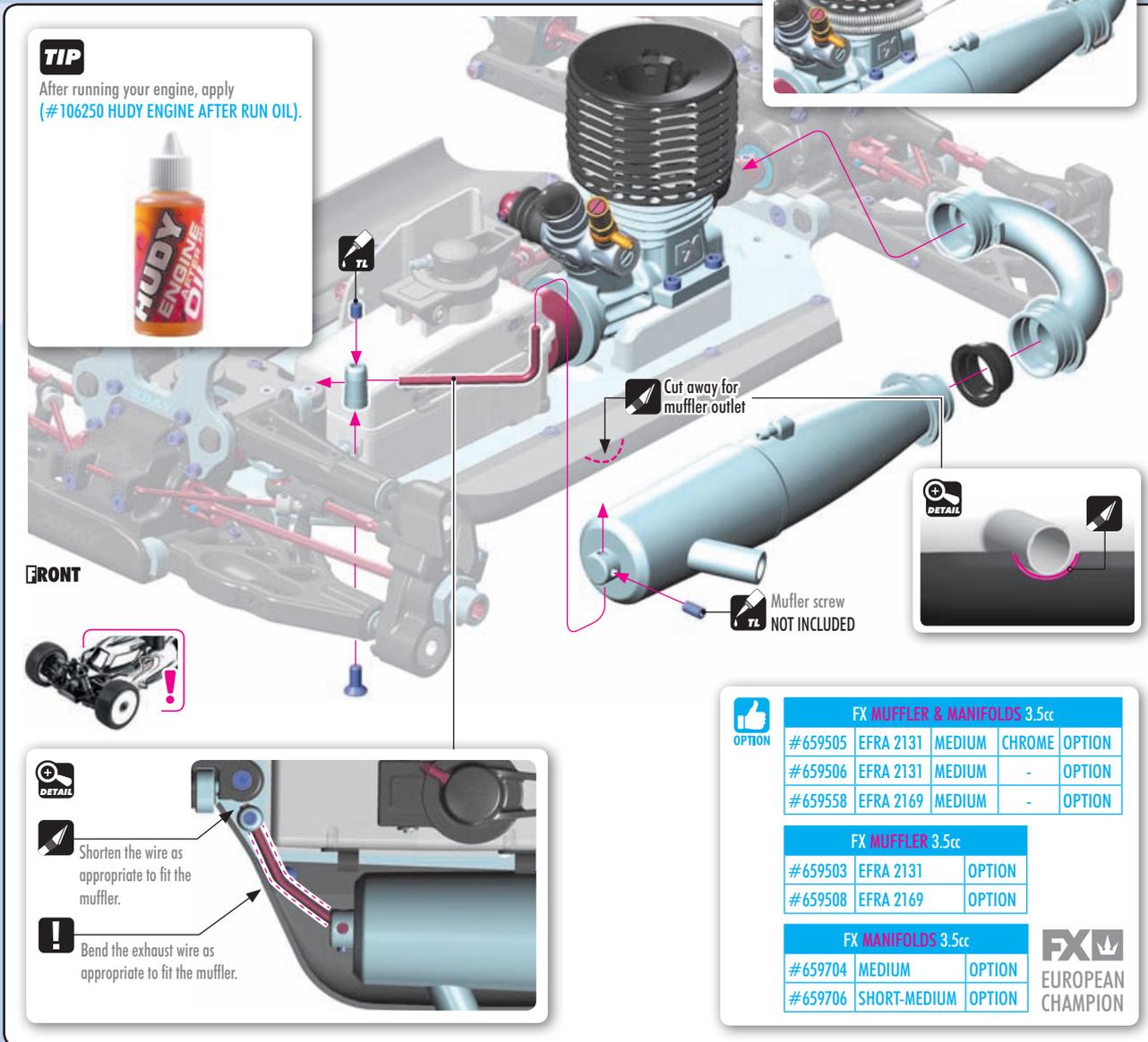
2x 906206 SFP 2.2x6



1x 901405 SB M4x5



1x 903410 SFH M4x10



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



**FX MUFFLER & MANIFOLDS 3.5cc**

#659505	EFRA 2131	MEDIUM	CHROME	OPTION
#659506	EFRA 2131	MEDIUM	-	OPTION
#659558	EFRA 2169	MEDIUM	-	OPTION

**FX MUFFLER 3.5cc**

#659503	EFRA 2131	OPTION
#659508	EFRA 2169	OPTION

**FX MANIFOLDS 3.5cc**

#659704	MEDIUM	OPTION
#659706	SHORT-MEDIUM	OPTION



# 10. RADIO CASE

**902310** Personal transponder (NOT INCLUDED)  
**902312** Hex screw SH M3x6 (10) (OPTION)  
**902314** Hex screw SH M3x14 (10)  
**306310** Antenna tube (2)  
**356003** Composite radio case set - Hard  
**356050** Battery cable with switch (OPTION)  
**356140** Composite servo mount - Small (2)  
**356200** Brake/throttle arms & steering servo arms - Set  
**356219** Composite servo shims 1.0, 1.5 & 2.5mm (2+2+2)  
**389135** Connecting cable receiver/batt. pack (OPTION)  
**Receiver (NOT INCLUDED)**  
**Receiver battery (NOT INCLUDED)**  
**Throttle Servo (NOT INCLUDED)**  
**Steering Servo (NOT INCLUDED)**  
**Servo Screw (NOT INCLUDED)** 356200  
**960030** Nut M3 (10)  
**961032** Washer S 3.2 (10)

**#356005**  
GRAPHITE BATTERY & RECEIVER COVER PLATE FOR HARD RADIO CASE

**!** \*this option part will not fit #356004 Soft Radio Case

**#356004**  
COMPOSITE RADIO CASE SET - SOFT



- 302611 ADJ. TURNBUCKLE L/R 35mm - HUDY SPRING STEEL™ (2)
- 352460 PIVOT BALL 5.8 (10)
- 352670 SERVO BALL JOINT 5.8mm (4)
- 356003 COMPOSITE RADIO CASE SET - HARD
- 356050 BATTERY CABLE WITH SWITCH (OPTION)
- 356140 COMPOSITE SERVO MOUNT - SMALL (2)
- 356200 BRAKE/THROTTLE ARMS & STEERING SERVO ARMS - SET
- 356219 COMPOSITE SERVO SHIMS 1.0, 1.5 & 2.5mm (2+2+2)
- 389135 CONNECTING CABLE RECEIVER/BATT. PACK (OPTION)

- 902306 HEX SCREW SH M3x6 (10) (OPTION)
- 902310 HEX SCREW SH M3x10 (10)
- 902312 HEX SCREW SH M3x12 (10)
- 902314 HEX SCREW SH M3x14 (10)
- 903412 HEX SCREW SFH M4x12 (10)
- 960030 NUT M3 (10)
- 961032 WASHER S 3.2 (10)
- 306310 ANTENNA TUBE (2)



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

**RIGHT THREAD**  
**LEFT THREAD**

**DETAIL**

approx. 19.5mm

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

**NOTE ORIENTATION**

3x12mm

**NOTE ORIENTATION**

Use appropriate servo arm:

- Market servo horn
- K** (23T)
- H** (24T)
- F** (25T)

TOOTH

**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

-  8x 902314 SH M3x14
-  8x 961032 S 3.2

**step 1**

Servo screw (NOT INCLUDED)

**NOTE**  
Use the shims only when the servo extends below the bottom of the radio case.

Plug the connectors into the receiver in Step 2.

**NOTE ORIENTATION**

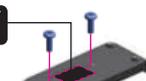
-  7x 902310 SH M3x10
-  2x 902312 SH M3x12

**step 2**

Use foam to cushion the inside of the radio case so the receiver and battery cannot vibrate or move.

3x10mm  
3x12mm  
3x10mm

**TIP**  2x 907206 SP M2x6

**CUT** 

 **SWITCH #356050**  
OPTION

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

-  1x 902314 SH M3x14
-  4x 903412 SFH M4x12
-  1x 960030 N M3

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

When the transponder is placed on top of the radio case cover, trim material from the case to allow the transponder wires to enter the case.

**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.

3x6mm (NOT INCLUDED)

3x14mm

4x12mm

Hole for radio case - SOFT

Hole for optional radio case - HARD (INITIAL SETTING)

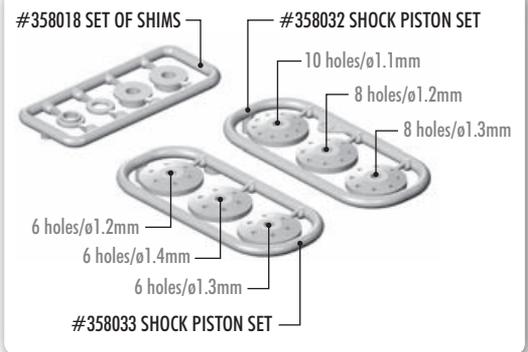
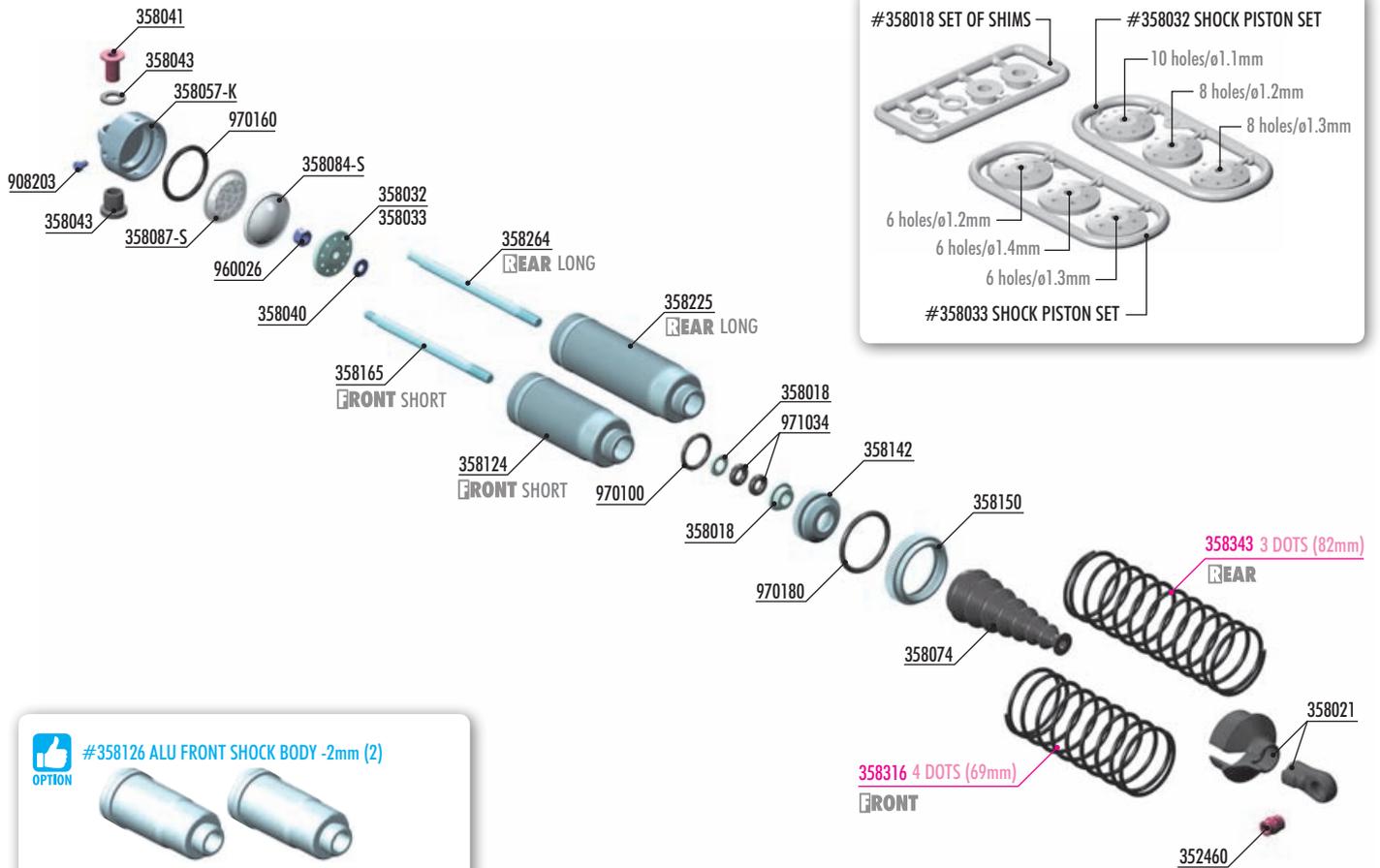
**NOTE ORIENTATION**  
of servo arm when servo is at neutral.

 **DETAIL**

 **#356004**  
**COMPOSITE RADIO CASE SET - SOFT**  
OPTION



# 11. SHOCK ABSORBERS



**OPTION** #358126 ALU FRONT SHOCK BODY -2mm (2)



**OPTION** #358164 FRONT SHOCK SHAFT 59mm (2)  
#358265 REAR SHOCK SHAFT 71.5mm (2)



**OPTION** SHOCK RUBBER MEMBRANE (4)

Part No.	Type	Material	Status
#358084-S	RIBBED	SOFT	INCLUDED
#358087-S	CELL	SOFT	INCLUDED
#358087-M	CELL	MEDIUM	OPTION



**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)



**OPTION** SHOCK SPRINGS

Part No.	Spring Rate (C)	Coil Dots	Coil Length	Position	Status
#358315	C=0.77-0.80	3 DOTS	69mm	FRONT	OPTION
#358316	C=0.80-0.83	4 DOTS	69mm	FRONT	INCLUDED
#358317	C=0.83-0.86	5 DOTS	69mm	FRONT	OPTION
#358334	C=0.66-0.68	2 DOTS	85mm	REAR	OPTION
#358335	C=0.68-0.70	3 DOTS	85mm	REAR	OPTION
#358343	C=0.68-0.70	3 DOTS	82mm	REAR	INCLUDED
#358344	C=0.70-0.73	4 DOTS	82mm	REAR	OPTION

**OPTION** #358107 XB8 FRONT SHOCK ABSORBERS ZERO REBOUND SET (2)  
#358207 XB8 REAR SHOCK ABSORBERS ZERO REBOUND SET (2)



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



## BAGS

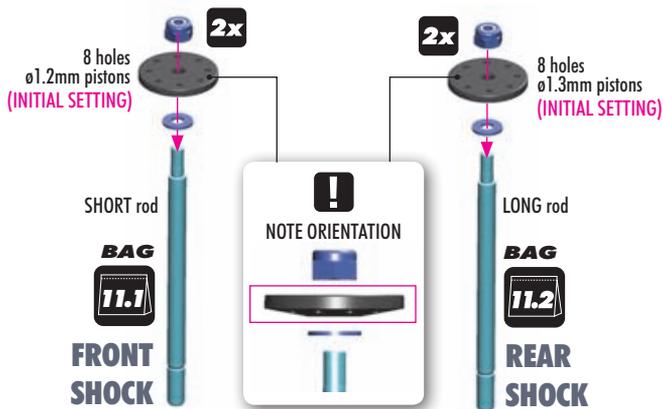


- 352460 PIVOT BALL 5.8 - V3 (10)
- 358018 COMPOSITE SET OF SHIMS FOR SHOCKS - V2 (2)
- 358021 COMPOSITE SHOCK PARTS WITH KEYED BALL JOINTS
- 358032 SHOCK PISTON SET 8-HOLE (1.2; 1.3) 10-H. (1.1mm) - DELRIN - V3
- 358033 COMPOSITE SHOCK 6-HOLE PISTON SET (1.2; 1.3; 1.4mm) - DELRIN - V3
- 358040 HARDENED SHOCK SHIMS (4)
- 358041 STEEL SHOCK BUSHING (2)
- 358043 COMPOSITE SHOCK BUSHING & SHIM (2+2)
- 358057-K MULTI ADJ. 3-IN-1 ALU SHOCK CAP - SWISS 7075 T6 (2)
- 358074 FOLDING SHOCK BOOT (4)
- 358084-S SHOCK RUBBER MEMBRANE BOTTOM RIBBED - SOFT (4)
- 358087-S SHOCK RUBBER MEMBRANE CELL - SOFT (4)
- 358124 ALU FRONT SHOCK BODY - HARD COATED - V2 (2)
- 358142 ALU SHOCK BODY NUT FOR SHOCK BOOT (2)

- 358150 ALU SHOCK BODY ADJ. NUT (2)
- 358165 FRONT SHOCK SHAFT 61mm (2)
- 358225 ALU REAR SHOCK BODY - HARD COATED - V2 (2)
- 358264 REAR SHOCK SHAFT 67.5mm (2)
- 908203 HEX SCREW SOCKET HEAD CAP M2x3 (10)
- 960026 NUT M2.5 - SHORT (10)
- 970100 O-RING 10 x 1.5 (10)
- 970160 O-RING 16 x 2.0 (10)
- 970180 O-RING 18 x 1.8 (10)
- 971034 SILICONE O-RING 3.5x2 (10)

- 358316 XRAY FRONT SPRING 69mm - 4 DOTS (2)
- 358343 XRAY REAR SPRING 82mm - 3 DOTS (2)

# 11. SHOCK ABSORBERS



**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.



**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.

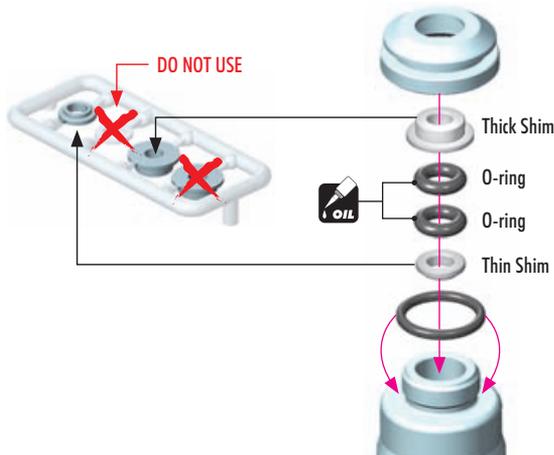
**SET-UP BOOK**  
SHOCK DAMPING  
SHOCK PISTONS



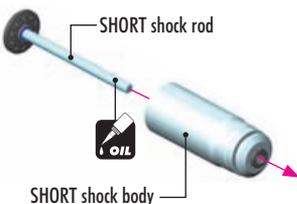
**2x FRONT SHOCKS (SHORT)**

**2x REAR SHOCKS (LONG)**

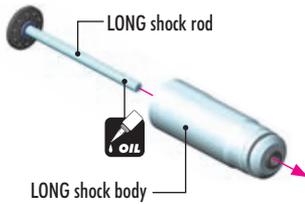
There are two different thickness shims, use them as shown. Use the same procedure when building both front and rear shocks.



**2x FRONT SHOCKS**

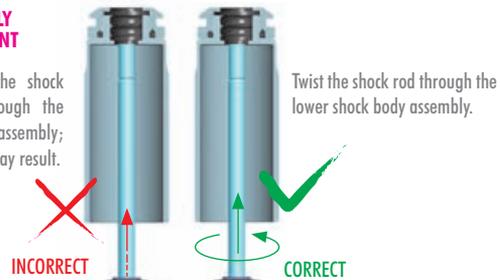


**2x REAR SHOCKS**



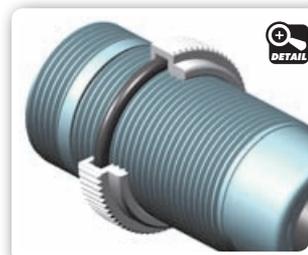
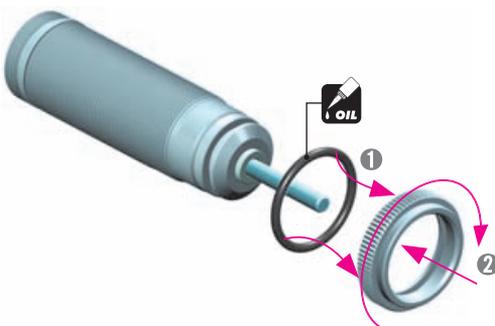
**EXTREMELY IMPORTANT**

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



**2x FRONT SHOCKS**

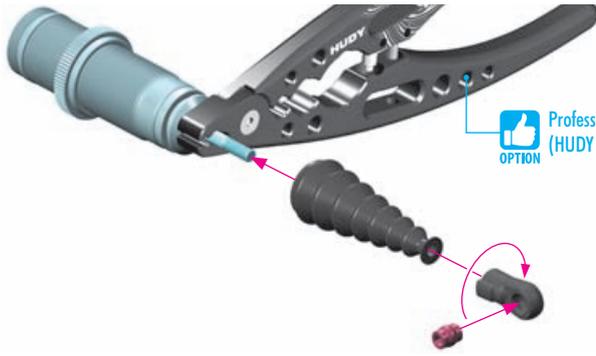
**2x REAR SHOCKS**



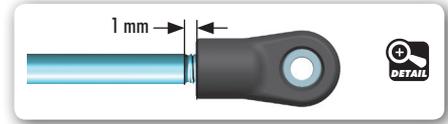
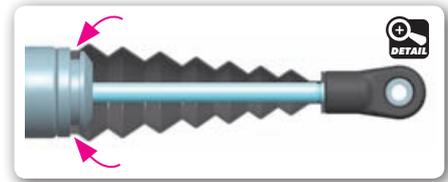
# 11. SHOCK ABSORBERS

**2x** FRONT SHOCKS

**2x** REAR SHOCKS



**OPTION**  
Professional Multi-Tool  
(HUDY #183011).



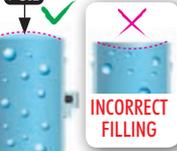
**SHOCK TYPE: CELL MEMBRANE**

for LOW GRIP

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

Oil level after filling

**CORRECT FILLING**



**INCORRECT FILLING**  
FRONT (SHORT)  
Oil 600cSt  
REAR (LONG)  
Oil 550cSt

**1**  
Extend the shock shaft completely. Fill the shock body with the shock oil.

**2**  
Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.

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

**4x** 908203  
SCH M2x3



Cell Membrane



**4**  
Install the CELL shock membrane and screw into the groove in the upper shock cap.

**SHOCK CAP  
HALF 50% TIGHTEN**



**5**  
**1** Gently place the shock cap assembly onto the filled shock body. **2** Slowly compress the shock shaft towards the top of the shock body and hold in this position. Excess oil will be expelled from the shock.

**SHOCK CAP  
100% TIGHTEN FULLY**



**6**  
While still holding the shock shaft in position, fully tighten the shock cap.

**SHOCK TYPE: RIBBED MEMBRANE**

for BUMPY - HIGH GRIP

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

Oil level after filling

**CORRECT FILLING**



**INCORRECT FILLING**  
FRONT (SHORT)  
Oil 600cSt  
REAR (LONG)  
Oil 550cSt

**1**  
Extend the shock shaft completely. Fill the shock body with the shock oil.

**2**  
Move the shock shaft up and down a few times to release the air bubbles trapped beneath the piston.

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

**4x** 908203  
SCH M2x3



Ribbed Membrane



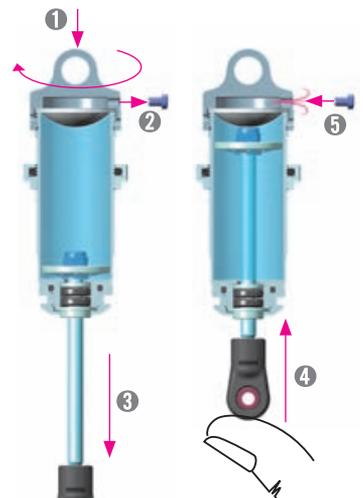
**4**  
Install the RIBBED shock membrane and screw into the groove in the upper shock cap.

**SHOCK CAP  
HALF 50% TIGHTEN**



**5**  
**1** Gently place the shock cap assembly onto the filled shock body. **2** Slowly compress the shock shaft towards the top of the shock body and hold in this position. Excess oil will be expelled from the shock.

**SHOCK CAP  
100% TIGHTEN FULLY**



**6**  
**1** Fully tighten the shock cap. **2** Loosen the cap screw. **3** Extend the shock shaft. **4** Slowly compress shock shaft completely into shock body, forcing air from the cap. **5** While still holding the shock shaft in compressed position, re-tighten screw to seal cap.

# 11. SHOCK ABSORBERS

SHOCK TYPE: **EMULSION**

for DEFAULT STANDARD

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

**Oil level after filling**  
CORRECT FILLING

**INCORRECT FILLING**

**FRONT (SHORT)**  
Oil 600cSt

**REAR (LONG)**  
Oil 550cSt

1

Extend the shock shaft completely. Fill the shock body with the shock oil.

2

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

3~5x UP & DOWN

3

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

4

4x 970160 0 16x2

O-ring

Install o-ring in the cap.

5

Fill the shock cap with oil up to the o-ring.

6

SHOCK CAP 100% TIGHTEN FULLY

Carefully place the shock cap onto the oil filled shock body and tighten the cap. Some oil may spill from the shock during this process.

7

Slowly compress the shock shaft completely into the shock body. Excess oil will flow through the hole in the shock cap.

GENTLY PUSH

8

With the shock shaft still compressed, tighten the screw.

4x 908203 SCH M2x3

9

6x push the shaft up and down.

20x UP & DOWN

10

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

GENTLY PUSH

11

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

GENTLY PUSH

12

Tighten the screw.

2x REAR SHOCKS

LONG rear shock

LONG spring

REAR shock PRELOAD

approx. 2mm

2x FRONT SHOCKS

SHORT front shock

SHORT spring

FRONT shock PRELOAD

approx. 2mm

FRONT & REAR SHOCKS

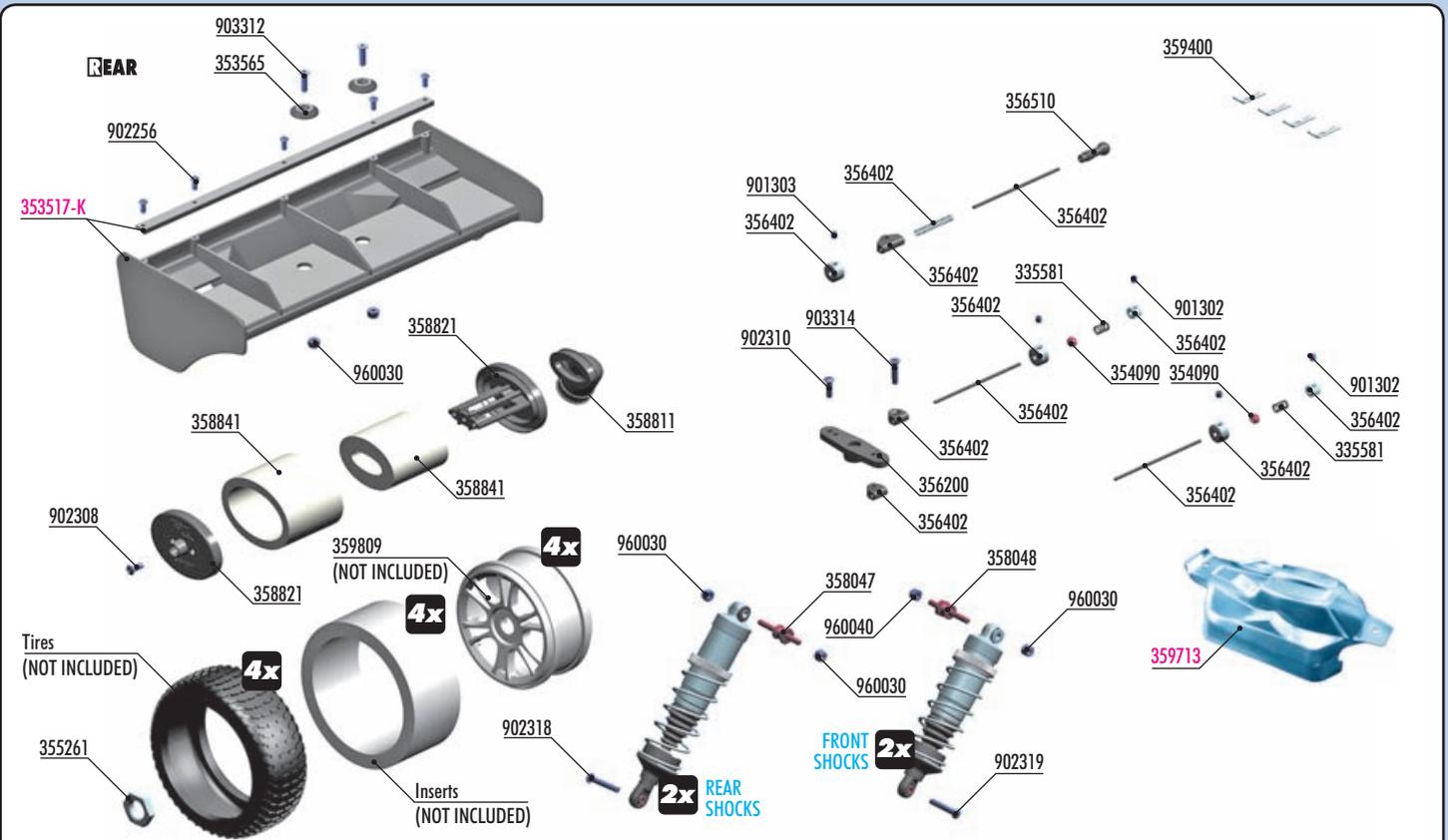
IMPORTANT!

Both rear shocks must be the same overall length.

IMPORTANT!

Both front shocks must be the same overall length.

# 12. FINAL ASSEMBLY



**OPTION** **XRAY STARBURST WHEELS**

#359808	PINK	OPTION
#359809	YELLOW	OPTION



**OPTION** **WHEEL NUTS**

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



**OPTION** #358832 **AIR FILTER RAIN COVER**



**OPTION** **SERVO BRACE LINK**



302663 302630 362651 362280 303125

A connecting brace between the throttle servo and the radio box compensates for the softer, more flexible radio box, as well as eliminating throttle servo vibrations to the chassis.

**OPTION** **XRAY XB8 BODIES**

#359712	HIGH-SPEED LIGHTWEIGHT	OPTION
#359713	"EAZY"	INCLUDED
#359714	"EAZY" LIGHTWEIGHT	OPTION



**OPTION** **HUDY CLAMP ALU SERVO HORNS**

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



**OPTION** **WINGS**

#353517-K	BLACK	INCLUDED
#353517	WHITE	OPTION
#353517-Y	YELLOW	OPTION
#353512	LEXAN®	OPTION



**OPTION** **HUDY REAR WING SHIM**

#293561	SILVER	OPTION
#293561-0	ORANGE	OPTION
#293561-K	BLACK	OPTION
#353561	SILVER	OPTION



**OPTION** **HUDY ALU SERVO HORNS**

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



**BAG**  
**12**

302630	ADJ. TURNBUCKLE L/R 20mm - HUDY SPRING STEEL™ (2) (OPTION)	362652	BALL END 4.9mm WITH THREAD 10mm (2) (OPTION)
302663	COMPOSITE BALL JOINT 4.9mm - OPEN - V2 (8) (OPTION)	901302	HEX SCREW SB M3x2.5 (10)
303125	ALU SHIM 3x6x3.0mm (10) (OPTION)	901303	HEX SCREW SB M3x3 (10)
335581	SPRING C=7.8 - MEDIUM - SILVER (2)	902256	HEX SCREW SH M2.5x6 (10)
353565	COMPOSITE REAR WING SHIM - BLACK (2)	902308	HEX SCREW SH M3x8 (10)
354090	BALL-SHAPED BRAKE SHIM (2)	902310	HEX SCREW SH M3x10 (10)
355261	WHEEL NUT - RIBBED - HARD COATED (2)	902318	HEX SCREW SH M3x18 (10)
356200	BRAKE/THROTTLE ARMS & SERVO ARMS - SET	902319	HEX SCREW SH M3x18 - LEFT THREAD (10)
356402	XB8 BRAKE/THROTTLE SYSTEM - SET - V2	903312	HEX SCREW SFH M3x12 (10)
356510	CLOSED BALL JOINT 3.9 (4)	903314	HEX SCREW SFH M3x14 (10)
358047	STEEL M3/M3 UPPER SHOCK MOUNT STAND OFF WITH HEX (2)	960030	NUT M3 (10)
358048	STEEL M4/M3 UPPER SHOCK MOUNT STAND OFF WITH HEX (2)	960040	NUT M4 (10)
358811	AIR FILTER ELBOW - LOW PROFILE	358950	SILICONE TUBING 1m (2.4 x 5.5mm)
358821	AIR FILTER BODY & CAP - LOW PROFILE	353517-K	WICKERBILL REAR WING - BLACK
358841	AIR FILTER FOAM & OIL - LOW PROFILE	359713	XRAY XB8 / XB8E "EAZY" BODY
359400	BODY CLIP (10)		
362280	ALU CONICAL SHIM 3x6x2.0mm (10) (OPTION)		
362651	BALL END 4.9mm WITH THREAD 8mm (2) (OPTION)		

# 12. FINAL ASSEMBLY

**FRONT SHOCKS (SHORT)**

**2x**

**L=R**

902318 SH M3x18 1x

902319 SH M3x18 LEFT thread 1x

2x 960030 N M3

2x 960040 N M4

**!** FRONT SHOCKS (SHORT)

**!** NOTE ORIENTATION

**!** NUT M4

**!** NUT M3

SHORTER M4

LONGER M3

Use **STANDARD** M3x18 screw

**!** On the front right arm use the **SILVER** M3x18 screw - this screw has **LEFT THREAD**.

3x18mm

**FRONT**

**INITIAL SETTING**

**L=R**

**SET-UP BOOK**

SHOCK ABSORBERS

**!** Spring retainer

**!** NOTE ORIENTATION

**L=R**

**REAR** **FRONT**

**REAR SHOCKS (LONG)**

**2x**

**L=R**

902318 SH M3x18 1x

902319 SH M3x18 LEFT thread 1x

4x 960030 N M3

**!** REAR SHOCKS (LONG)

**!** NOTE ORIENTATION

SHORTER

LONGER

Use **STANDARD** M3x18 screw

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

3x18mm

**REAR**

**INITIAL SETTING**

**L=R**

**SET-UP BOOK**

SHOCK ABSORBERS

**!** Spring retainer

**!** NOTE ORIENTATION

**L=R**

**FRONT** **REAR**

3x 901303 SB M3x3

1x 902310 SH M3x10

1x 903314 SFH M3x14

Thread brake rods into plastic pivots until flush with outer end.

Brake rod

3x14mm

3x10mm

Throttle rod

**!** Use servo horn to match your servo.

Market servo horn

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

Cut off remaining material

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

CLAMP ALU SERVO HORNS		
#293444	23T	OPTION
#293445	24T	OPTION
#293446	25T	OPTION
#293447	23T	OPTION
#293448	24T	OPTION
#293449	25T	OPTION

**DETAIL**

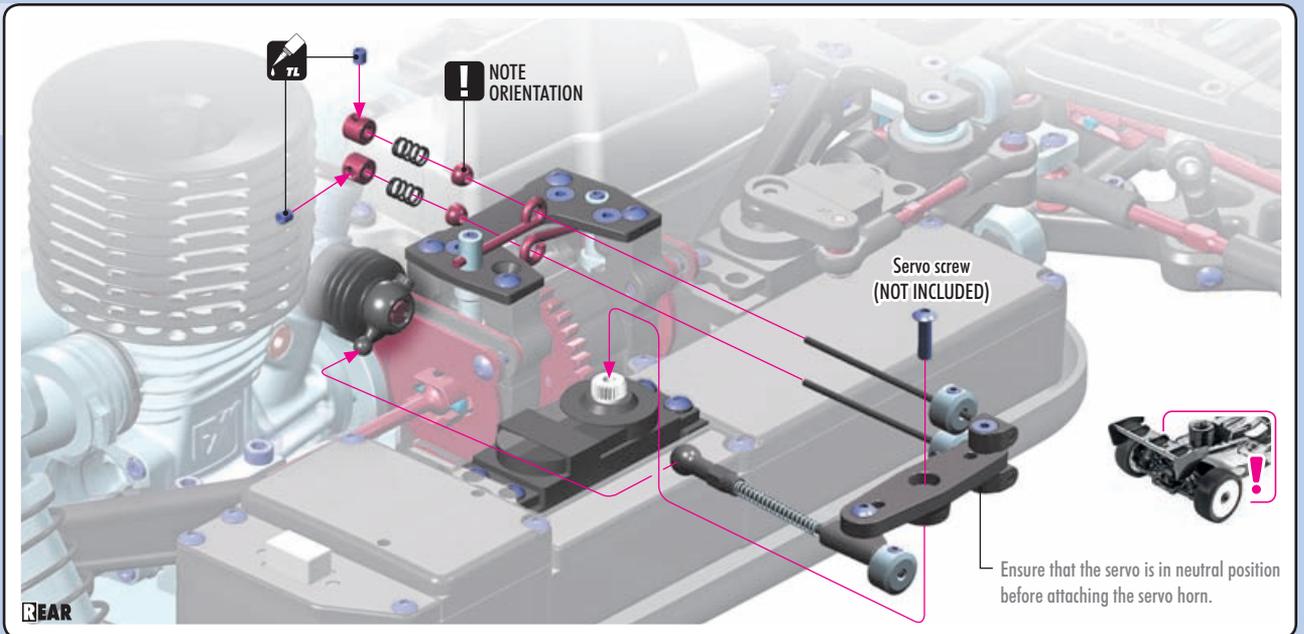
Small gap

Small gap

Tighten screw until snug. Pivots should move freely.

# 12. FINAL ASSEMBLY

2x 901302  
SB M3x2.5



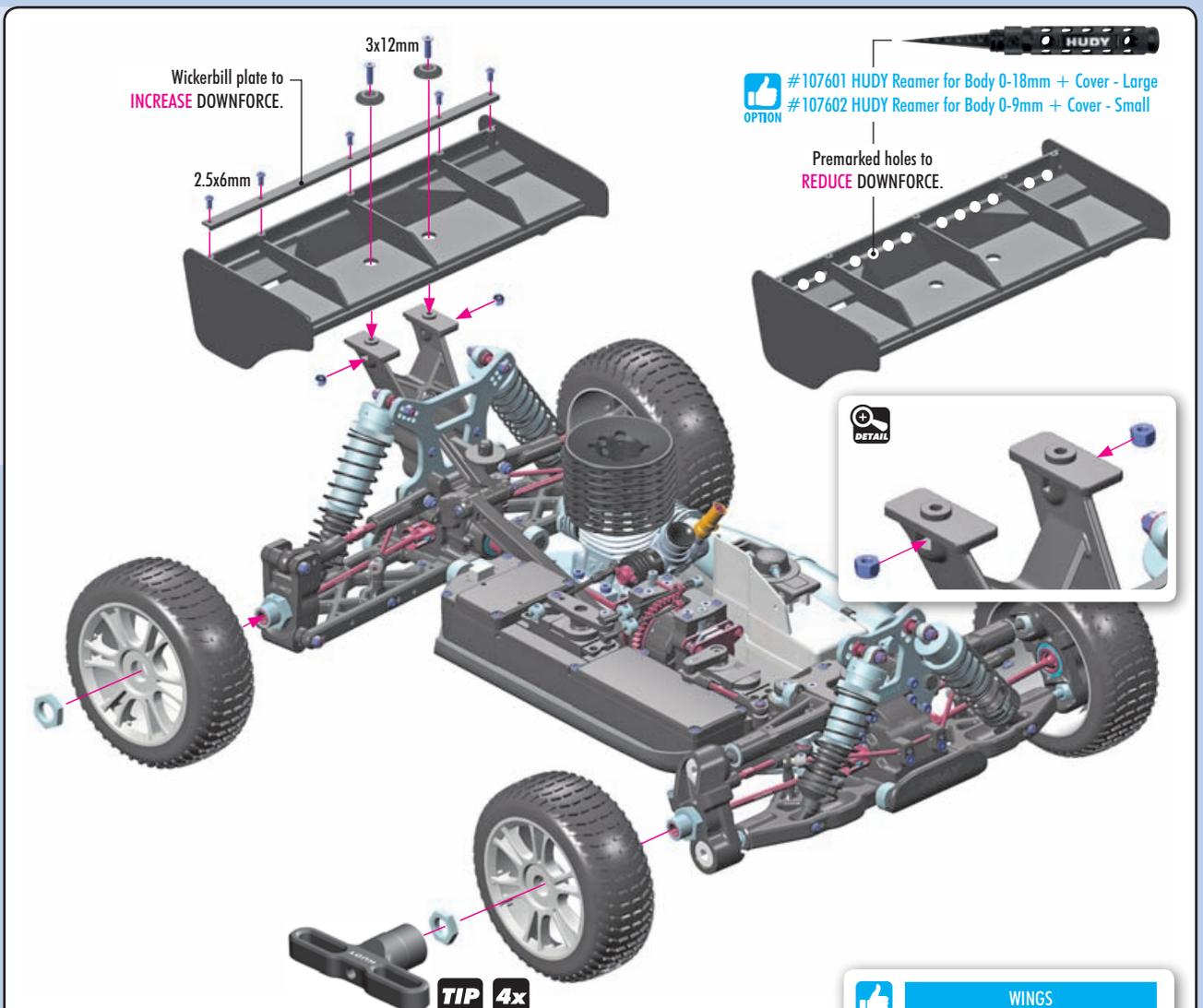
5x 902256  
SH M2.5x6



2x 903312  
SFH M3x12



2x 960030  
N M3



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

OPTION

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

OPTION

XRAY STARBURST WHEELS		
#359808	Pink	OPTION
#359809	Yellow	OPTION

OPTION

WINGS		
#353517-K	BLACK	INCLUDED
#353517	WHITE	OPTION
#353517-Y	YELLOW	OPTION
#353512	LEXAN®	OPTION



# 12. FINAL ASSEMBLY



**#358832**  
OPTION  
AIR FILTER RAIN COVER



**#106245**  
OPTION  
HUDY AIR FILTER SEALANT



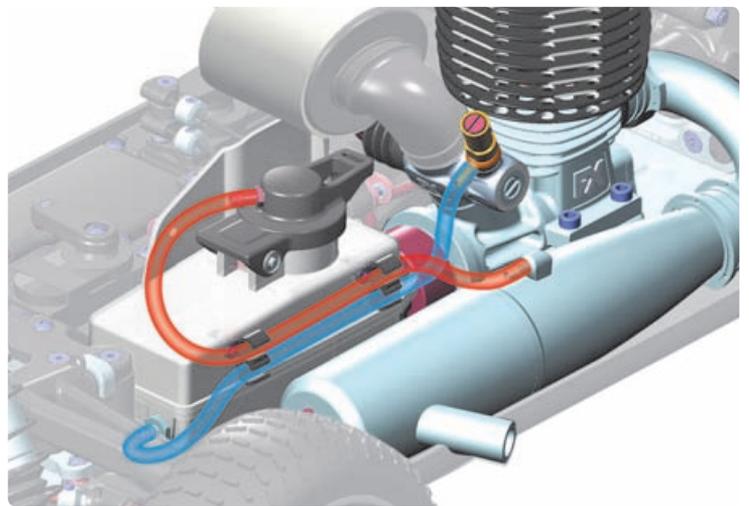
Cut the silicone tube depending on engine and muffler.  
Use the plastic clips to hold the tubes together.

**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.

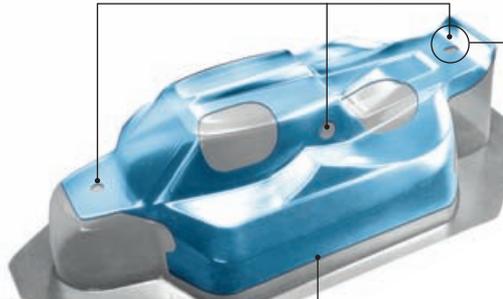
**#358951**  
OPTION  
SILICONE TUBING 2.4x5.5x1000mm  
FLUORESCENT YELLOW



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



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

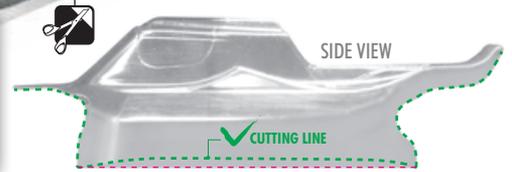


Be sure to make this rear body mount hole oval so in the case of chassis flex after a big jump the body mount will not tear up the hole.

**TIP** To reinforce the body or to fix broken body use #106281 HUDY BODY FIX.



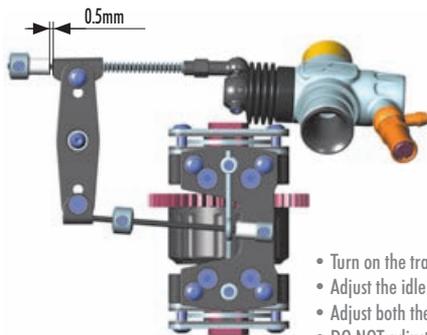
XRAY XB8 BODIES		
#359712	HIGH-SPEED LIGHT.	OPTION
#359713	"EAZY"	INCLUDED
#359714	"EAZY" LIGHT.	OPTION



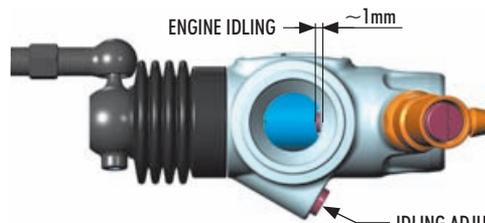
# THROTTLE LINKAGE ADJUSTMENT

## NEUTRAL (IDLE)

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

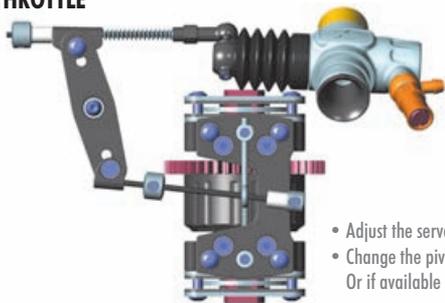


- Turn on the transmitter and receiver and set the engine control servo trim to the neutral position.
- Adjust the idle adjustment screw on the carburetor to open approx. 1mm.
- Adjust both the throttle linkage and brake linkages accordingly.
- DO NOT adjust the linkage with the engine running.



**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.

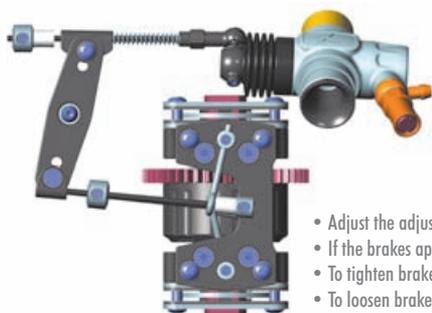
## FULL THROTTLE



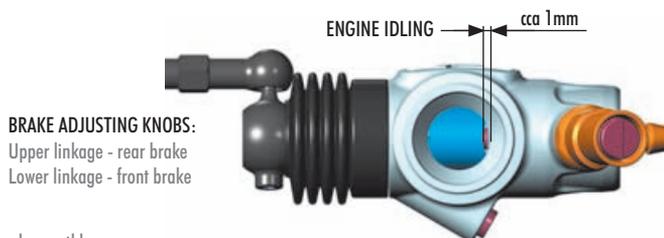
- Adjust the servo-horn mounting position for the carburetor to open fully.
- Change the pivot mounting position on the servo horn in case the carburetor is not opening fully or if it is opening excessively. Or if available on the transmitter, adjust the throttle high end point.



## 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.



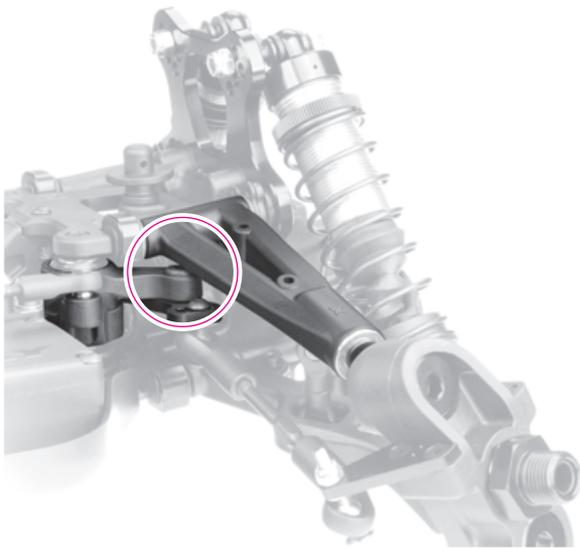
**BRAKE ADJUSTING KNOBS:**  
Upper linkage - rear brake  
Lower linkage - front brake

# 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 to 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>

If more than 104-105mm front droop is used, certain set-up configurations may result in the upper arm contacting the steering bellcranks.

This will have limited impact on handling, but material can be removed from the bottom of the upper arm to avoid contact with the steering assembly if using additional droop.



## DIFF MAINTENANCE

### REMOVING THE DIFFERENTIAL WHEN CAR IS ASSEMBLED

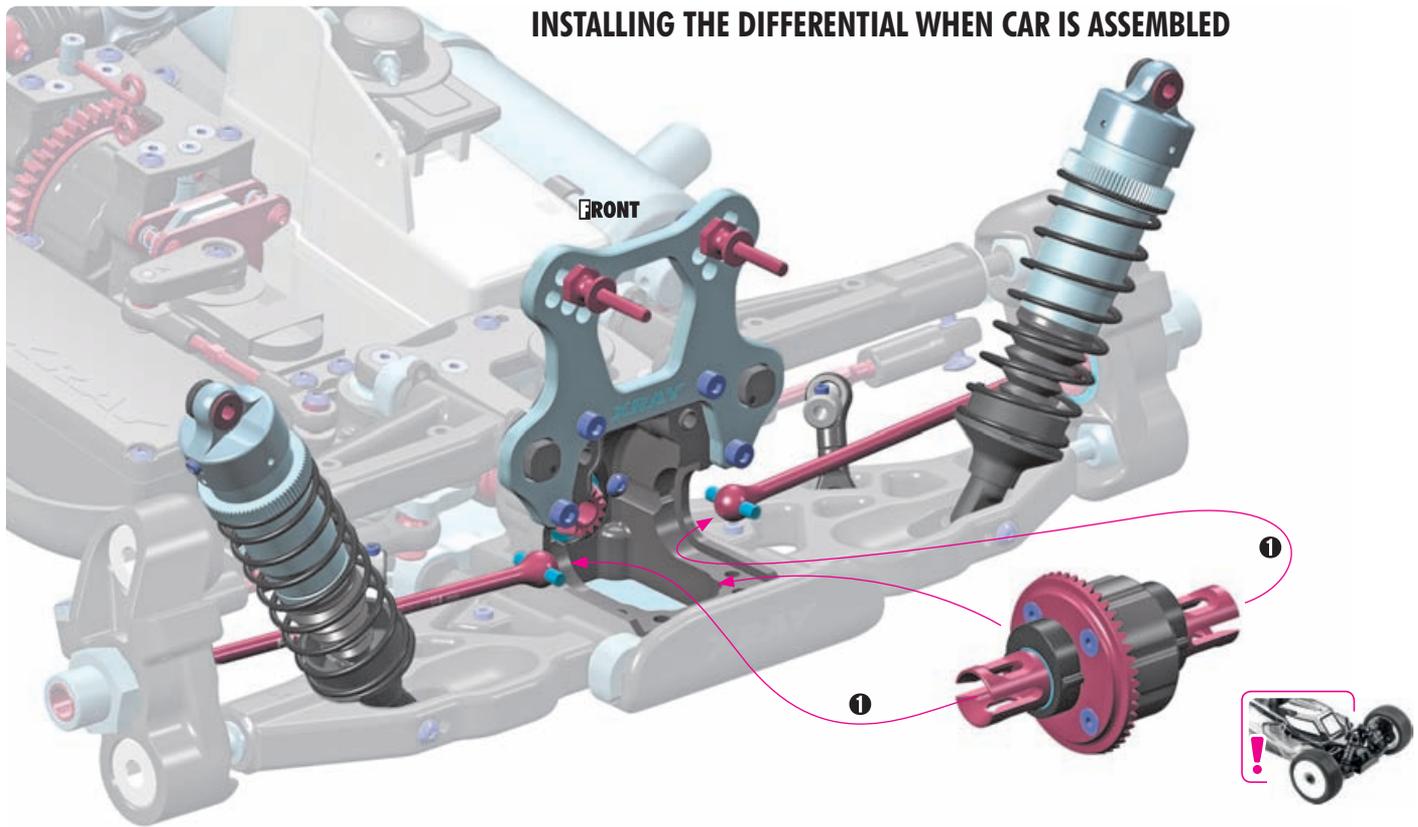
**FRONT**

**FRONT & REAR**

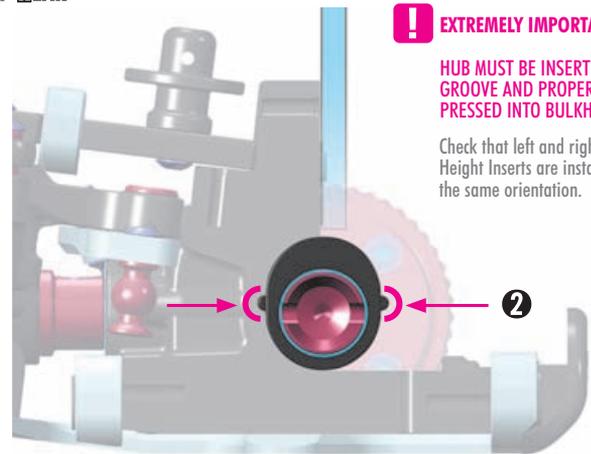
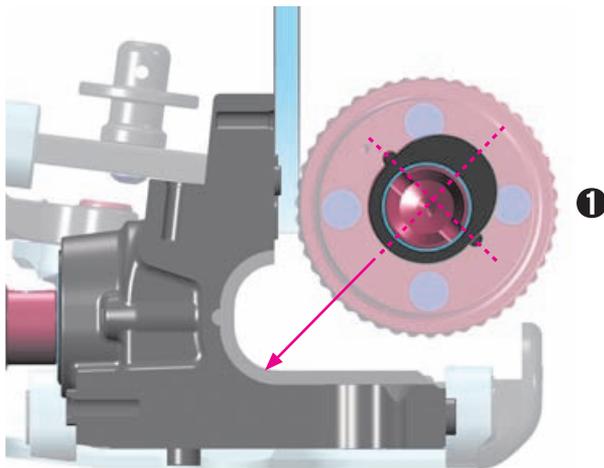
- 1 REMOVE HARDWARE**
  - Gearbox Cover Upper Screws (2)
  - Gearbox Cover Lower Screws (2)
  - Shock Absorber Locknuts (2)
  - Disconnect Anti-Roll Bar Linkage
- 2** Using a strong tool, carefully pry up from below anti-roll bar to separate cover from gearbox.
  - Strong Tool**
- 3**

# DIFF MAINTENANCE

## INSTALLING THE DIFFERENTIAL WHEN CAR IS ASSEMBLED



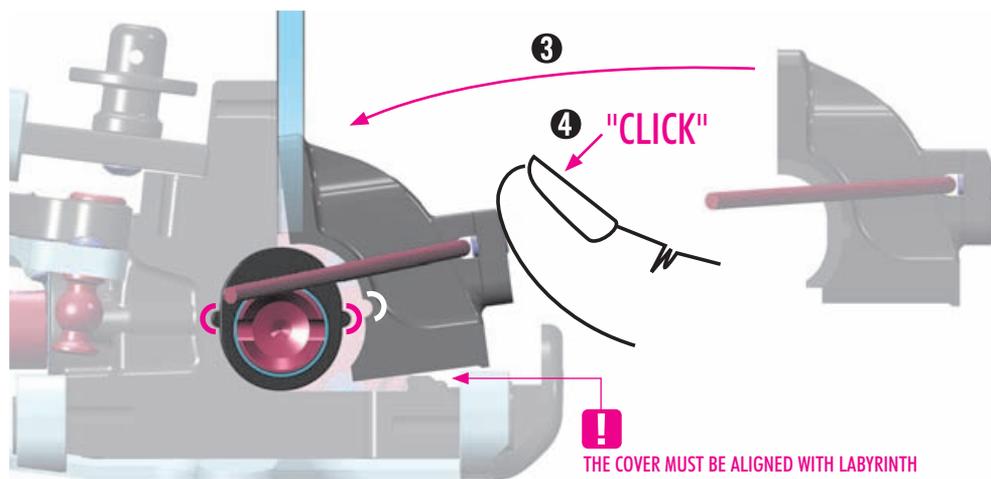
### FRONT & REAR



### ! EXTREMELY IMPORTANT

HUB MUST BE INSERTED IN GROOVE AND PROPERLY PRESSED INTO BULKHEAD.

Check that left and right Diff Height Inserts are installed in the same orientation.



### 5 RE-INSTALL HARDWARE

- Gearbox Cover Upper Screws (2)
- Gearbox Cover Lower Screws (2)
- Shock Absorber Locknuts (2)
- Reconnect Anti-Roll Bar Linkage

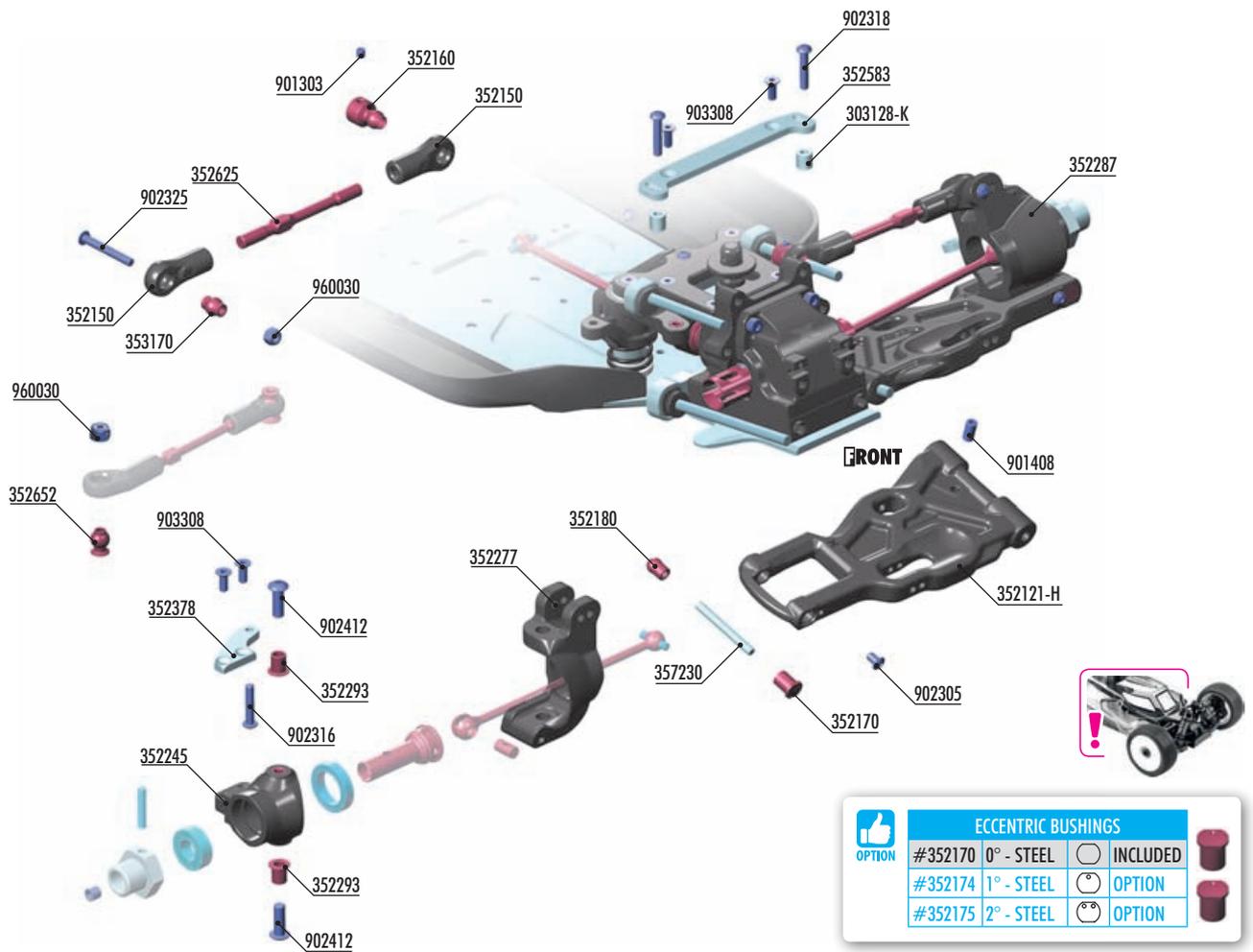
! THE COVER MUST BE ALIGNED WITH LABYRINTH GROOVE AND THEN PRESSED INTO PLACE

# FRONT C-HUB SUSPENSION



## #350910 FRONT C-HUB SUSPENSION - SET

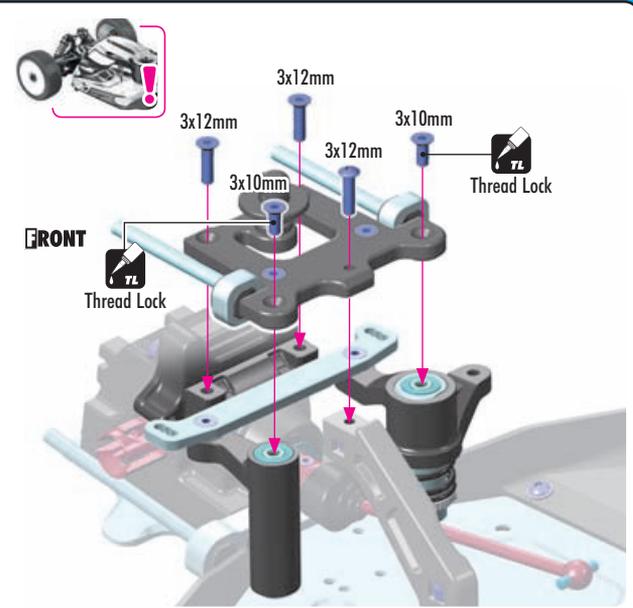
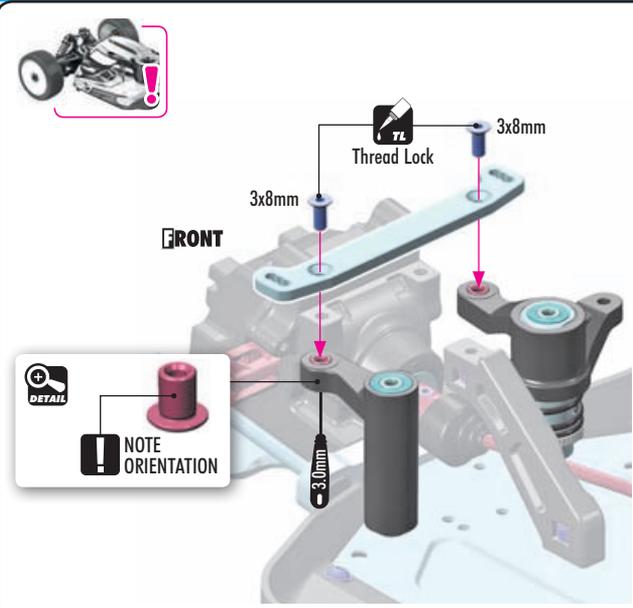
OPTION



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

- |  |   |                                |
|--|---|--------------------------------|
| 303128-K ALU SHIM 3x6x6mm (10)                       | 352378 ALU STEERING PLATE - SWISS 7075 T6 (L+R) | 902316 HEX SCREW SH M3x16 (10) |
| 352121-H COMPOSITE FRONT LOWER SUSPENSION ARM - HARD | 352583 ALU STEERING PLATE - SWISS 7075 T6       | 902318 HEX SCREW SH M3x18 (10) |
| 352150 FRONT UPPER ARM BALL JOINT (2)                | 352625 ADJ. TURNBUCKLE M5 L/R 46mm (2)          | 902325 HEX SCREW SH M3x25 (10) |
| 352160 STEEL MOUNTING BALL 6.8mm (2)                 | 352652 BALL STUD 6.8mm (4)                      | 902412 HEX SCREW SH M4x12 (10) |
| 352170 STEEL ECCENTRIC BUSHING 0° (2)                | 353170 PIVOT BALL 6.8 (4)                       | 903308 HEX SCREW SFH M3x8 (10) |
| 352180 BALL MOUNT (2)                                | 357230 FRONT LOWER OUTER PIVOT PIN (2)          | 960030 NUT M3 (10)             |
| 352245 STEERING BLOCK                                | 901303 HEX SCREW SB M3x3 (10)                   |                                |
| 352277 COMPOSITE CASTER BLOCK 16° RIGHT              | 901408 HEX SCREW SB M4x8 (10)                   |                                |
| 352287 COMPOSITE CASTER BLOCK 16° LEFT               | 902305 HEX SCREW SH M3x5 (10)                   |                                |
| 352293 STEEL BUSHING FOR CASTER BLOCK (2)            |   |                                |

- |                  |                  |
|------------------|------------------|
|                  |                  |
| 902312 SH M3x12  | 903308 SFH M3x8  |
| 1x               | 2x               |
|                  |                  |
| 903310 SFH M3x10 | 903312 SFH M3x12 |
| 2x               | 2x               |



# FRONT C-HUB SUSPENSION

**2x** 941318  
BB 13x19x4

**2x** 940816  
BB 8x16x5

**2x** 901504  
SB M5x4

**4x** 903308  
SFH M3x8

**2x** 980317  
P 3x17

**2x**

**NOTE ORIENTATION**

3x8mm

13x19x4

8x16x5

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

Graphite Grease (HUDY #106210)

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

**4x** 902412  
SH M4x12

**2x**

4x12mm

Marked "R"

4x12mm

**2x**

LEFT THREAD

RIGHT THREAD

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

21.5mm

LEFT

RIGHT

**2x** 901408  
SB M4x8

**2x** 902305  
SH M3x5

**2x** 902325  
SH M3x25

**2x** 960030  
N M3

**2x**

**NOTE ORIENTATION**

STEP 1 DETAIL

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

STEP 7 DETAIL

**TOP** DOWNSTOP SETTING

0.0mm

**OPTION**

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

**DETAIL**

**DETAIL**

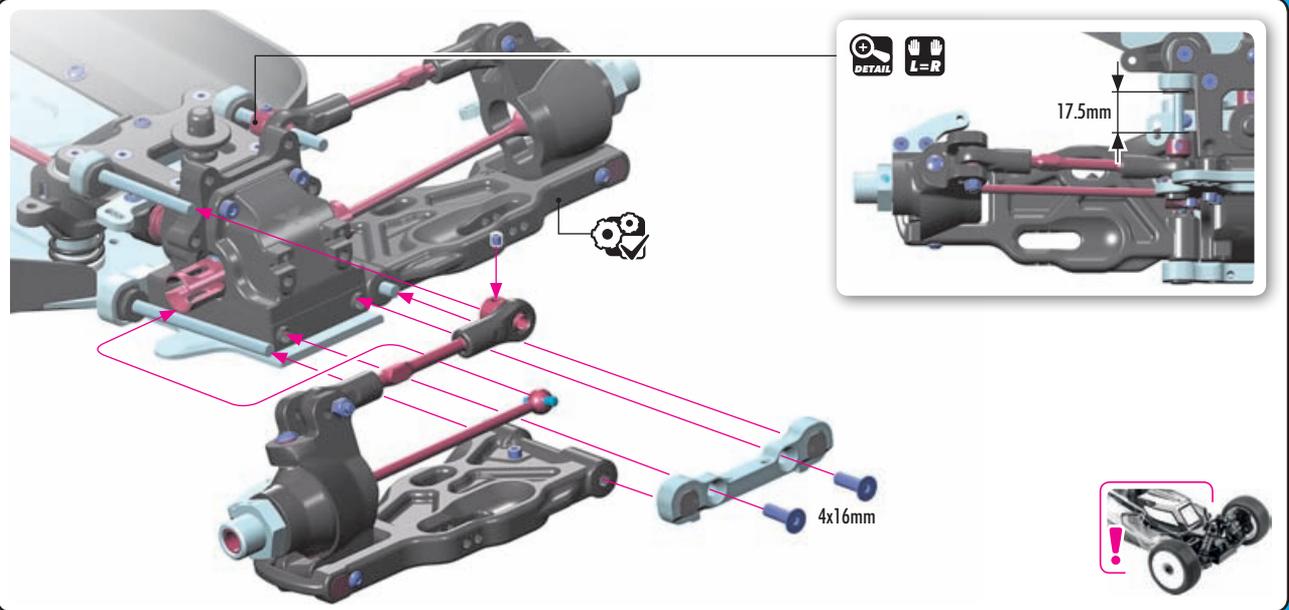
**DETAIL**

# FRONT C-HUB SUSPENSION

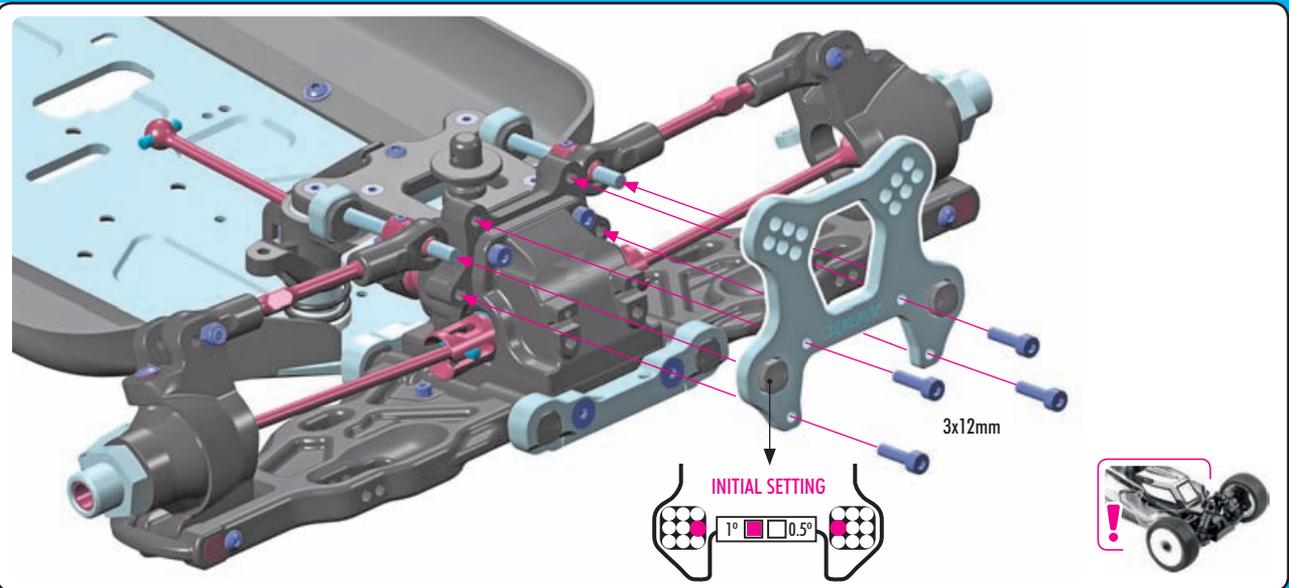
2x 901303  
SB M3x3



4x 903416  
SFH M4x16



4x 908312  
SFH M3x12



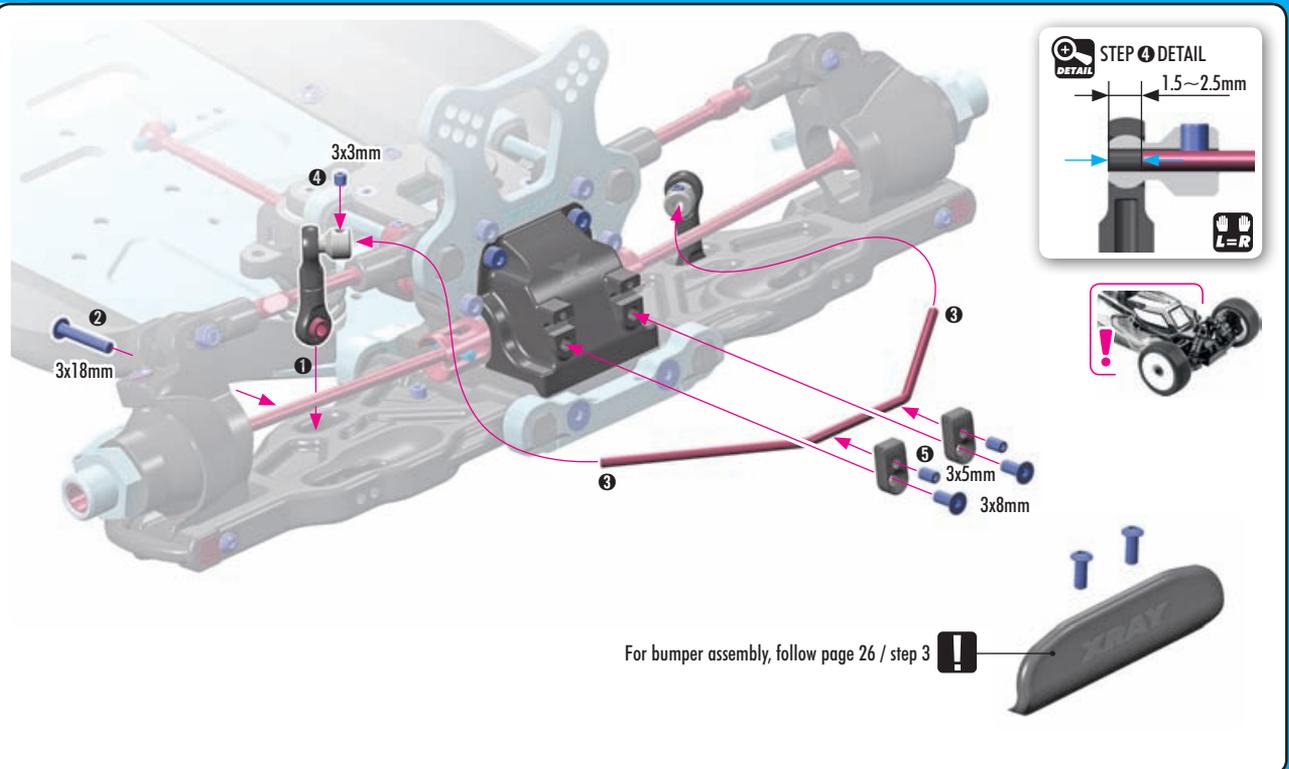
2x 901303  
SB M3x3

2x 901305  
SB M3x5

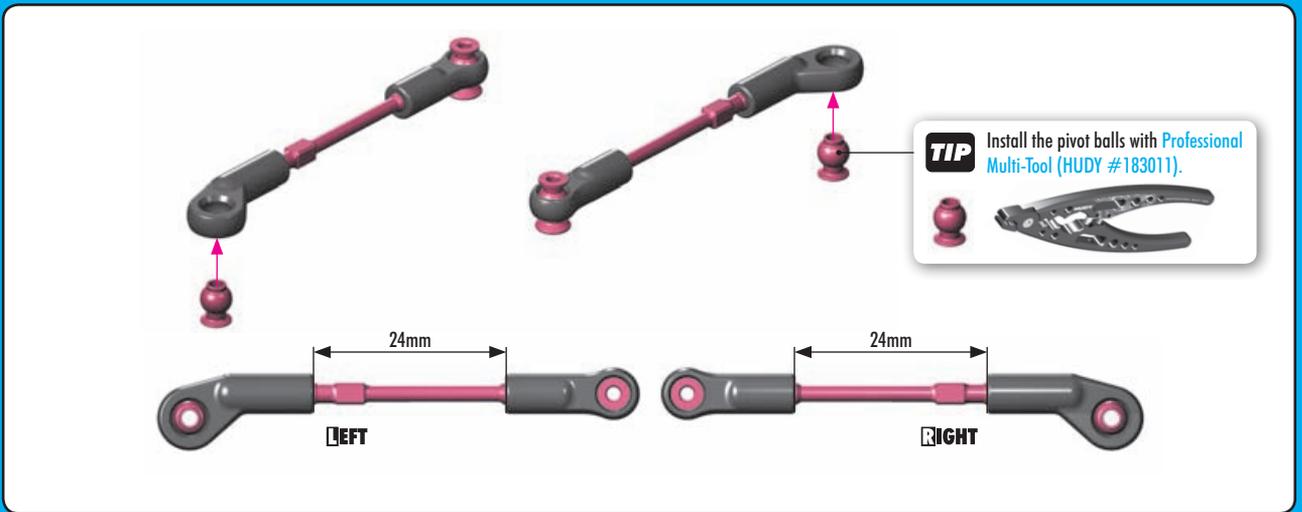
2x 902308  
SH M3x8

2x 902318  
SH M3x18

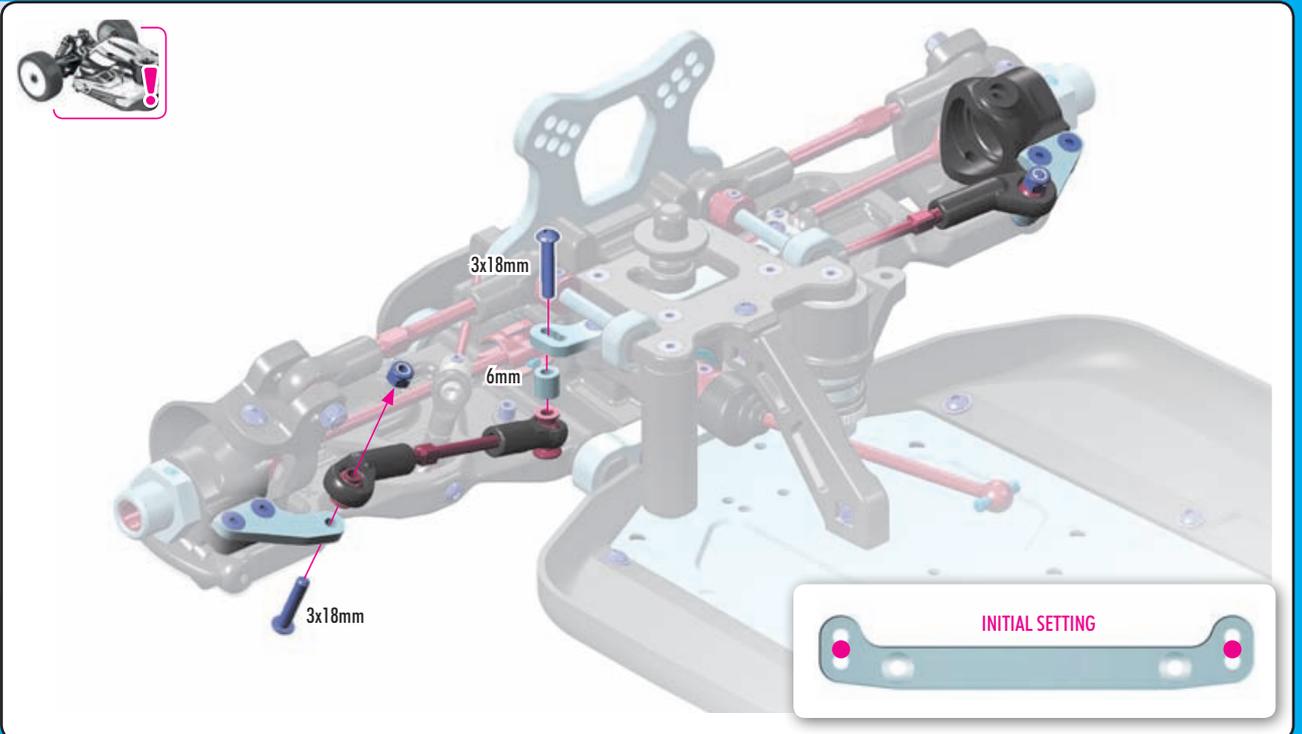
2x 903308  
SFH M3x8



# FRONT C-HUB SUSPENSION

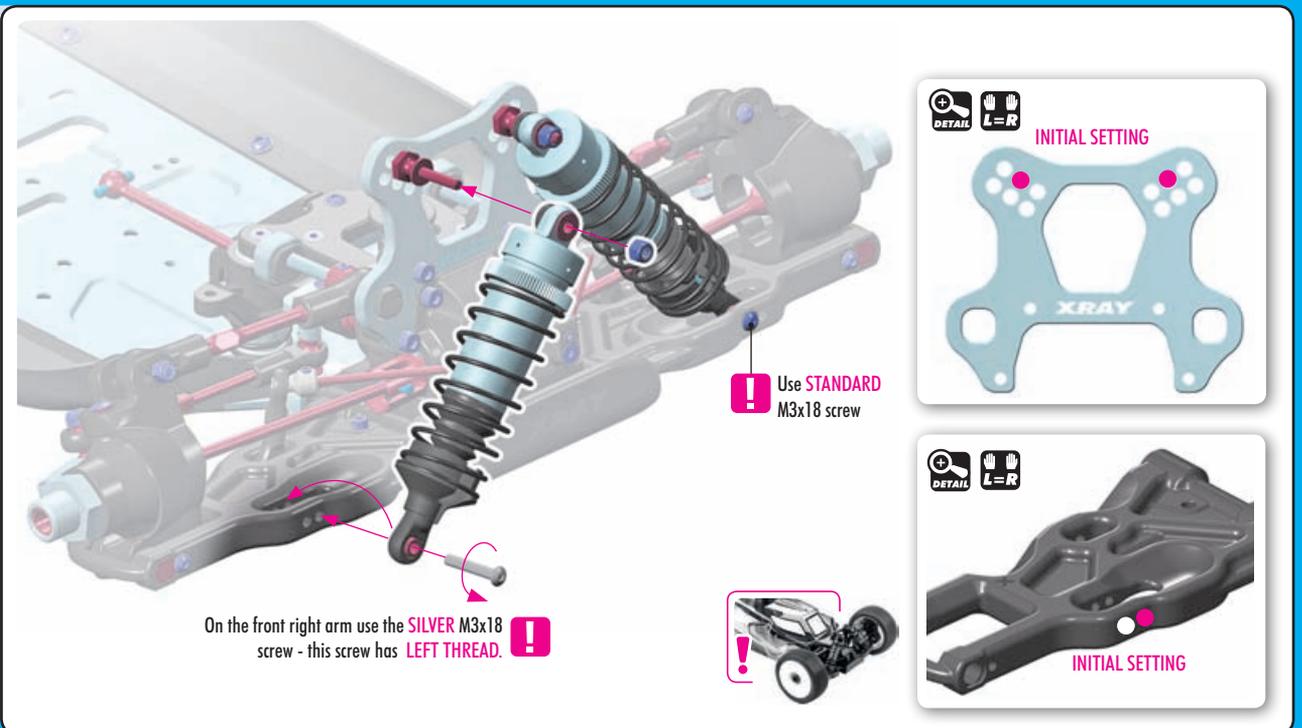


- 2x 303128-K SHIM 3x6x6
- 4x 902318 SH M3x18
- 2x 960030 N M3



- 902318 SH M3x18 1x

902319 SH M3x18 LEFT thread 1x
- 2x 960030 N M3



## 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



# SET-UP SHEET

XRAY XB8'24 SET-UP VER.01 ©XRAY

# XRAY XB8'24 PIVOT BALL

RACE

TRACK

NAME  DATE

TEMPERATURE AIR  TEMPERATURE TRACK

LAPS  FINAL POSITION  BEST LAP TIME  RACE LENGTH

/sec /min

**TRACKS**

SIZE  OPEN  MEDIUM  TIGHT

TRACTION  LOW  MEDIUM  HIGH

SURFACE  SMOOTH  MEDIUM  BUMPY

TYPE  HARD PACKED  SOFT DIRT  CLAY  
 BLUE GROVE  ASTRO TURF  GRASS

CONDITION  DRY  DUSTY  WET  MUD

**DIFFERENTIAL**

CASE MATERIAL FRONT  CENTER  REAR  CASE MATERIAL

OIL FRONT  CENTER  REAR  OIL

CROWN GEAR FRONT  REAR  CROWN GEAR

**GEARING**

CLUTCH SHOE 3  4

SPRINGS

CLUTCH BELL  /T SPUR GEAR  /T

**SHOCKS**

FRONT	TYPE	REAR
<input type="text"/>	SPRINGS	<input type="text"/>
<input type="text"/>	MEMBRANE	<input type="text"/>
<input type="text"/>	OIL	<input type="text"/>

/cSt /cSt

**STANDARD PISTONS**

<input type="checkbox"/> 6 HOLES	<input type="checkbox"/> 1.1 mm	<input type="checkbox"/> 6 HOLES
<input type="checkbox"/> 8 HOLES	<input type="checkbox"/> 1.2 mm	<input type="checkbox"/> 8 HOLES
<input type="checkbox"/> 10 HOLES	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/> 10 HOLES
<input type="checkbox"/> OTHER	<input type="checkbox"/> 1.4 mm	<input type="checkbox"/> OTHER

**VALVE PISTONS**

<input type="checkbox"/> 5+2 HOLES	<input type="checkbox"/> 1.5 mm	<input type="checkbox"/> 5+2 HOLES
<input type="checkbox"/> 6+2 HOLES	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/> 6+2 HOLES
<input type="checkbox"/> 8+2 HOLES	<input type="checkbox"/> 1.4 mm	<input type="checkbox"/> 8+2 HOLES
<input type="checkbox"/>	<input type="checkbox"/> 1.2 mm	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/>

**ANTI-ROLL BAR**

FRONT  /mm THICKNESS  /mm REAR  /mm

**TIRES**

FRONT	BRAND	REAR
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	COMPOUND	<input type="text"/>
<input type="text"/>	INSERTS	<input type="text"/>
<input type="text"/>	WHEELS	<input type="text"/>

**ENGINE**

TYPE

MUFFLER

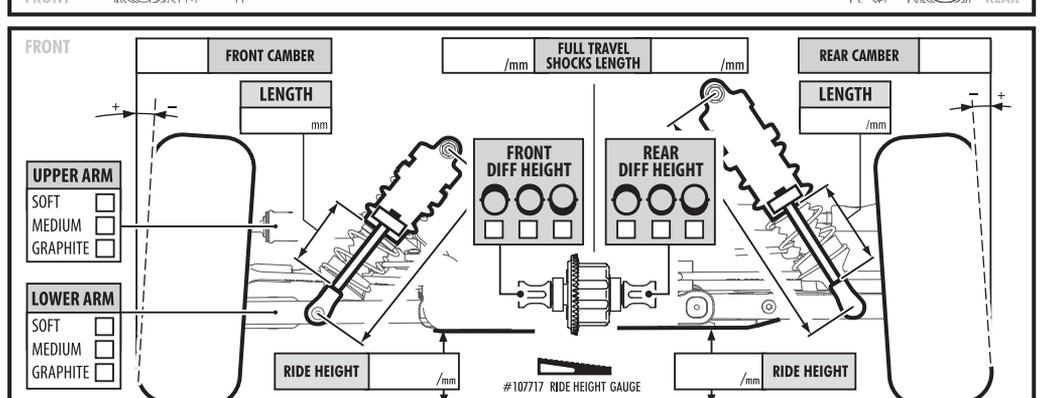
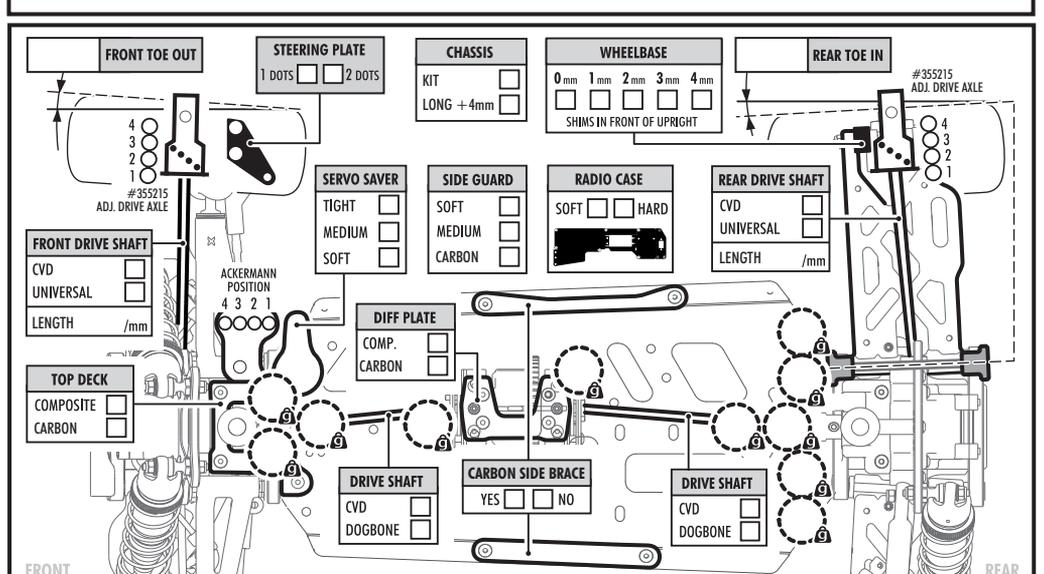
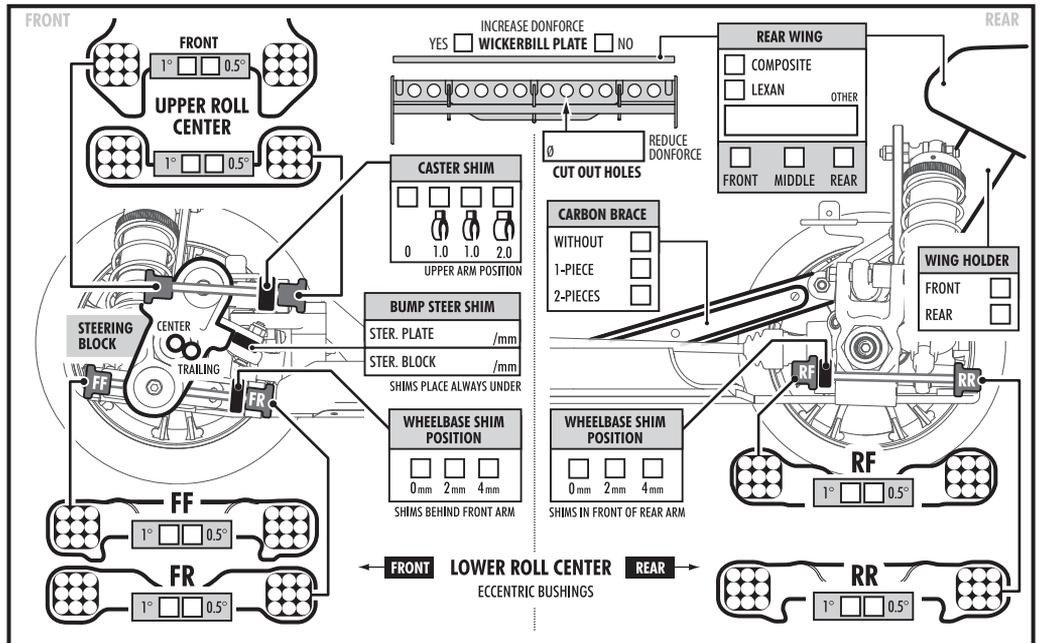
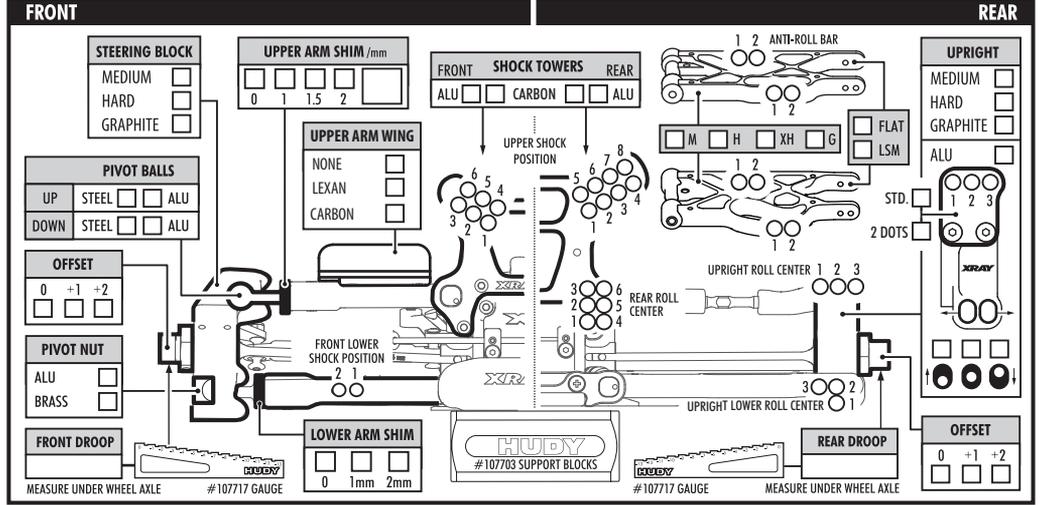
MANIFOLD

PLUG

FUEL

**BODY** EAZY  EAZY LIGHT  OTHER

**TOTAL WEIGHT**  /g



RACE

TRACK

NAME  DATE

TEMPERATURE AIR  TEMPERATURE TRACK

LAPS  FINAL POSITION  BEST LAP TIME  RACE LENGTH

/sec /min

**TRACKS**

SIZE  OPEN  MEDIUM  TIGHT

TRACTION  LOW  MEDIUM  HIGH

SURFACE  SMOOTH  MEDIUM  BUMPY

TYPE  HARD PACKED  SOFT DIRT  CLAY

BLUE GROVE  ASTRO TURF  GRASS

CONDITION  DRY  DUSTY  WET  MUD

**DIFFERENTIAL**

FRONT	CENTER	REAR
CASE MATERIAL <input type="text"/>	<input type="text"/>	CASE MATERIAL <input type="text"/>
OIL <input type="text"/>	<input type="text"/>	OIL <input type="text"/>
CROWN GEAR <input type="text"/>	<input type="text"/>	CROWN GEAR <input type="text"/>

**GEARING**

CLUTCH SHOE  3  4

SPRINGS

CLUTCH BELL  /T SPUR GEAR  /T

**SHOCKS**

FRONT	TYPE	REAR
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	SPRINGS	<input type="text"/>
<input type="text"/>	MEMBRANE	<input type="text"/>
<input type="text"/>	OIL	<input type="text"/>

/cst /cst

**STANDARD PISTONS**

<input type="checkbox"/> 6 HOLES	<input type="checkbox"/> 1.1 mm	<input type="checkbox"/> 6 HOLES
<input type="checkbox"/> 8 HOLES	<input type="checkbox"/> 1.2 mm	<input type="checkbox"/> 8 HOLES
<input type="checkbox"/> 10 HOLES	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/> 10 HOLES
<input type="checkbox"/> OTHER	<input type="checkbox"/> 1.4 mm	<input type="checkbox"/> 10 HOLES

**VALVE PISTONS**

<input type="checkbox"/> 5+2 HOLES	<input type="checkbox"/> 1.5 mm	<input type="checkbox"/> 5+2 HOLES
<input type="checkbox"/> 6+2 HOLES	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/> 6+2 HOLES
<input type="checkbox"/> 8+2 HOLES	<input type="checkbox"/> 1.4 mm	<input type="checkbox"/> 8+2 HOLES
<input type="checkbox"/>	<input type="checkbox"/> 1.2 mm	<input type="checkbox"/> 8+2 HOLES
<input type="checkbox"/>	<input type="checkbox"/> 1.3 mm	<input type="checkbox"/>

**ANTI-ROLL BAR**

FRONT  /mm THICKNESS REAR  /mm

**TIRES**

FRONT	BRAND	REAR
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	COMPOUND	<input type="text"/>
<input type="text"/>	INSERTS	<input type="text"/>
<input type="text"/>	WHEELS	<input type="text"/>

**ENGINE**

TYPE

MUFFLER

MANIFOLD

PLUG

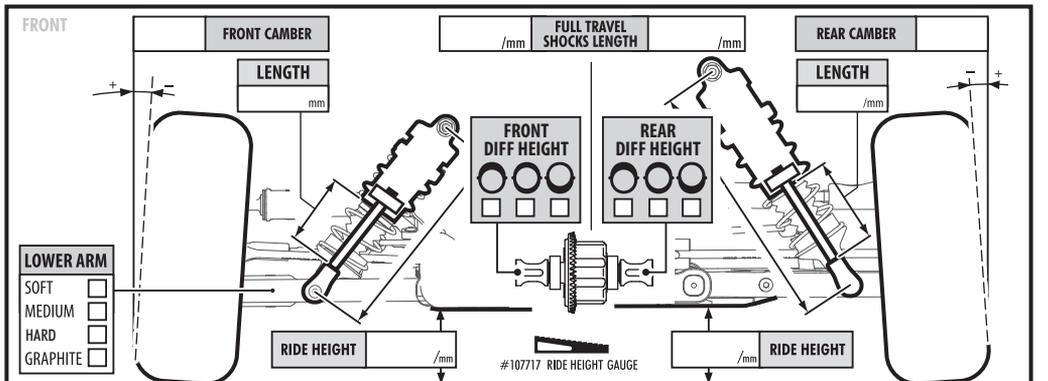
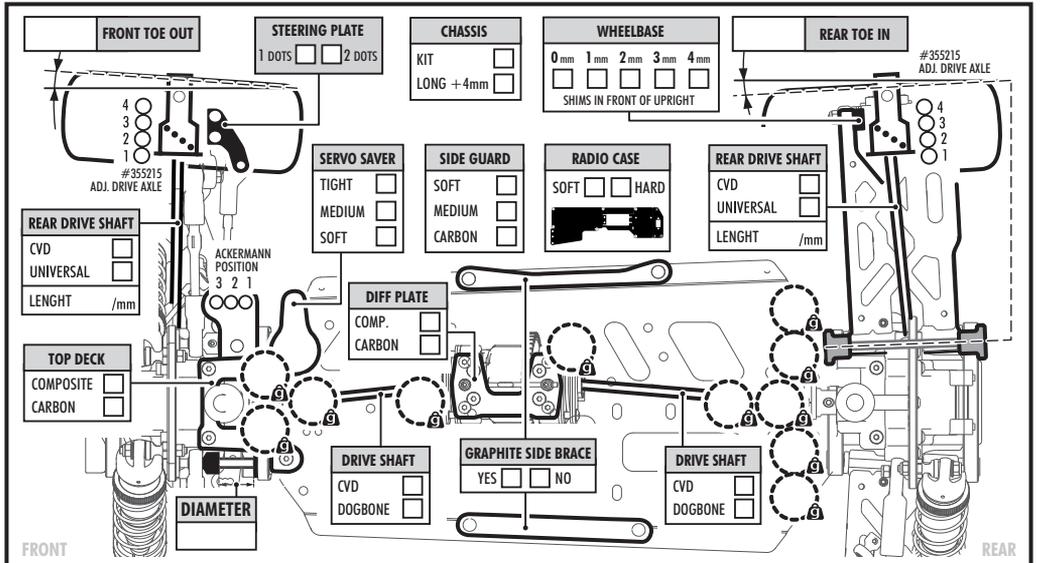
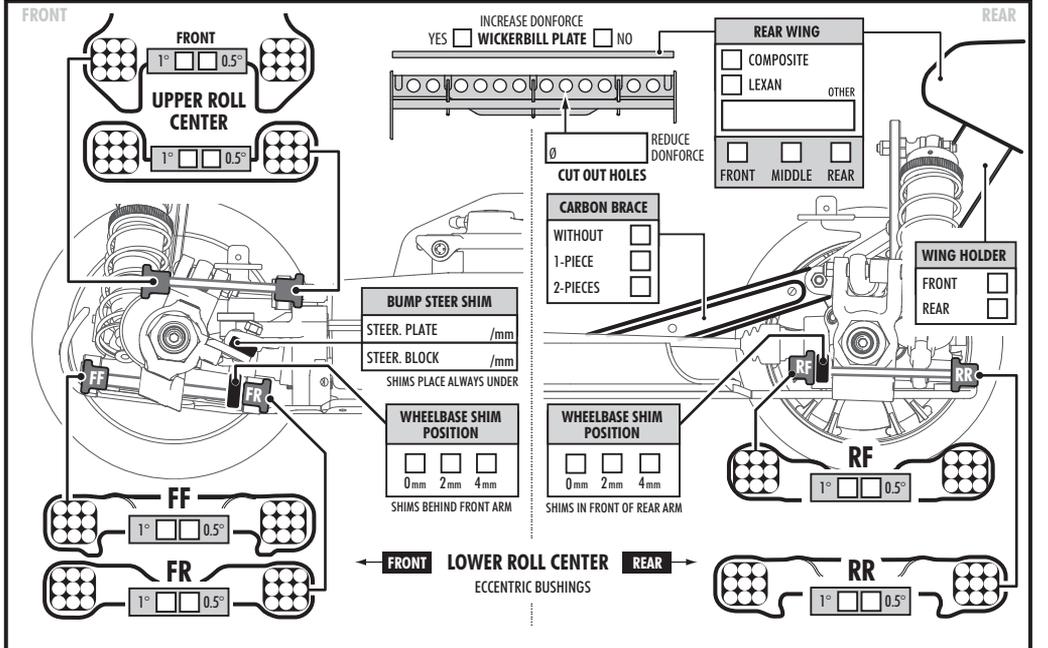
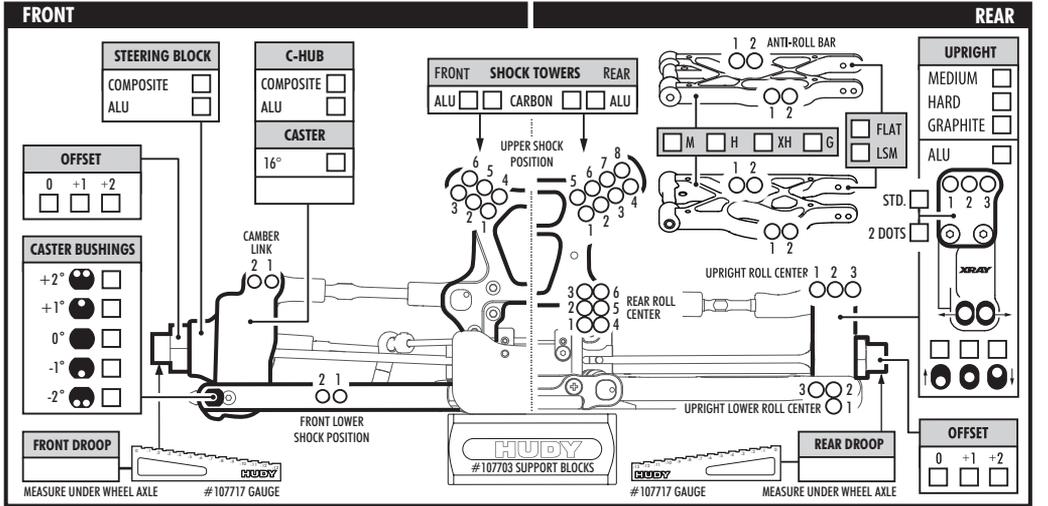
FUEL

**BODY**

EAZY  EAZY LIGHT

OTHER

**TOTAL WEIGHT**  /g





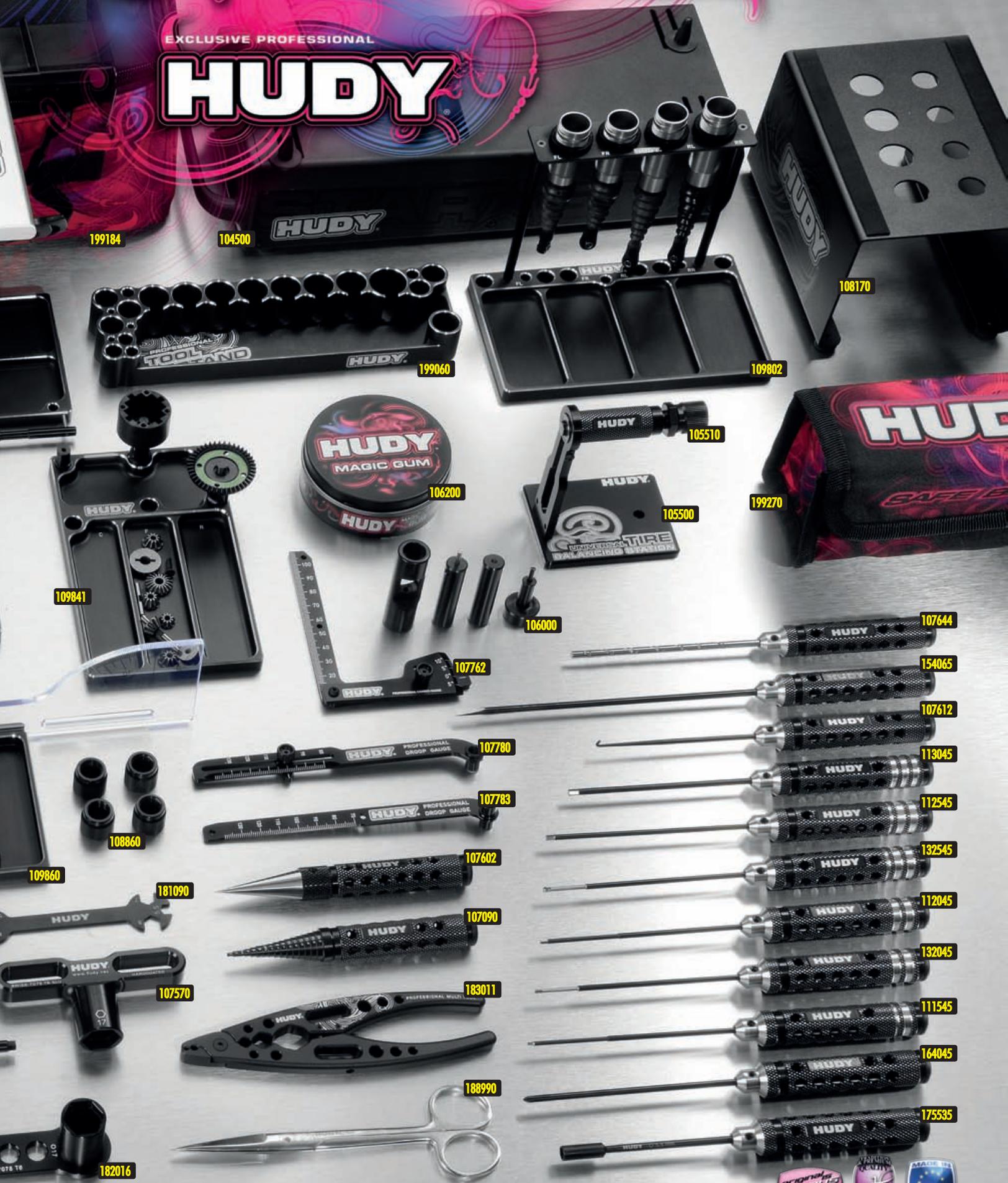
- #104005 HUDY Air Vac - Vacuum Pump - 1/8 Off-Road
- #104140 HUDY Engine Break-In Bench
- #104500 HUDY Star-Box 1/8 Off-Road
- #105500 HUDY Universal Tire Balancing Station
- #105510 Wheel Adapter for 1/8 Off-Road Cars, Truggy & Rally Game
- #106000 HUDY Drive Pin Replacement Tool (for 3mm Pins)
- #106200 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
- #107876 HUDY Professional Digital Pocket Scale 3000g/0.1g
- #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 1/8 Off-Road & GT - Lightweight - Grey
- #108702 Flat Set-Up Board 1/8 Off-Road & GT - Lightw. - Silver Grey
- #108703 Flat Set-Up Board 1/8 Off-Road & GT - Lightw. - Dark Grey
- #108704 Flat Set-Up Board 1/8 Off-Road & GT - Lightweight - Titan
- #108705 Flat Set-Up Board 1/8 Off-Road & GT - Lightweight - Black
- #108760 Plastic Set-Up Board Decal 399x545mm - 1/8 Off-Road & GT
- #108801 HUDY Set-Up Station for 1/8 Off-Road Cars & Truggy
- #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

EXCLUSIVE PROFESSIONAL

# HUDY



- #109860 HUDY Alu Tray for Set-Up System
- #109880 HUDY Alu Tray for Accessories & Pit LED
- #111545 Limited Edition - Allen Wrench # 1.5mm
- #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
- #154065 Limited Edition -Sl. Screwdriver for Engine #4.0mm - Long
- #164045 Limited Edition - Phillips Screwdriver # 4.0mm
- #164071 Power Tool Tip Phillips 4.0 x 90 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
- #182016 HUDY Wheel Nut & 3/4 Shoe Flywheel MultiTool 1/8 Buggy
- #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 with External Soldering Tabs
- #293113 HUDY Brushless RC Fan 40mm with Internal Soldering Tabs
- #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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