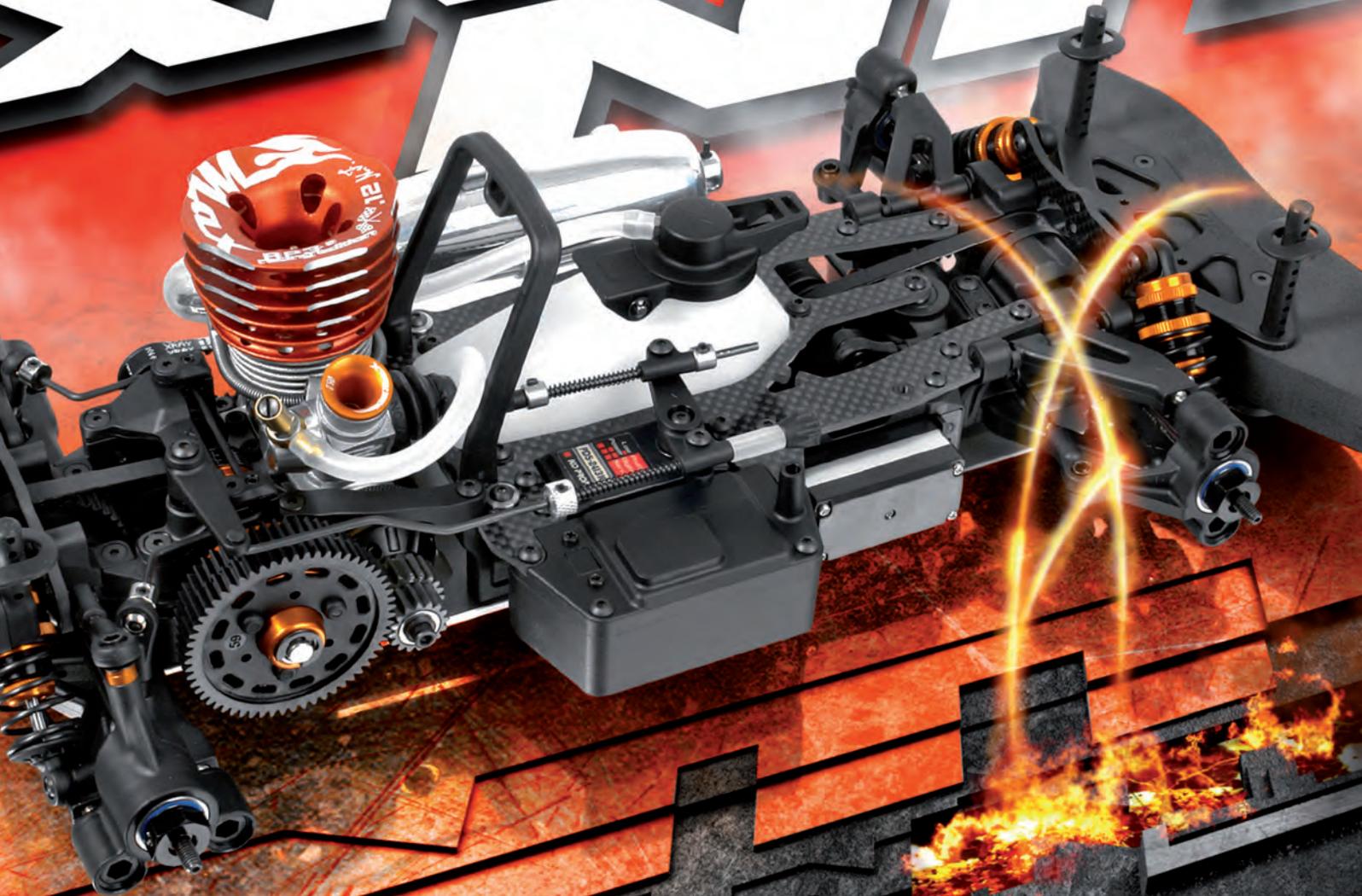


1/10 LUXURY NITRO TOURING CAR

# XRAY



# INSTRUCTION MANUAL

WORLD CHAMPIONS



## BEFORE YOU START

The NT1 is a high-competition, high-quality, 1/10-scale nitro 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 NT1, YOU MUST read through all of the operating instructions and instruction manual and fully understand them to get the maximum enjoyment and prevent unnecessary damage.

## CUSTOMER SUPPORT

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

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

Read carefully and fully understand the instructions before beginning assembly.

Make sure you review this entire manual, the included set-up book, and examine all details carefully. If for some reason you decide the NT1 is not what you wanted or expected, do not continue any further. Your hobby dealer cannot accept your NT1 kit for return or exchange after it has been partially or fully assembled.

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

### XRAY Europe

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Dallas, Texas 75220  
USA  
Phone: (800) 519-7221 \* (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 NEGLIGENCE.

## SAFETY PRECAUTIONS

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

**CAUTION: CANCER HAZARD**

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

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

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

Using any third party parts on this model will void guaranty immediately.

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

## IMPORTANT NOTES – GENERAL

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

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

## IMPORTANT NOTES – NITRO ENGINES

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

## **IMPORTANT NOTES – ELECTRICAL**

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

## **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,

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.

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 additions 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!

**Please note that raw materials such as aluminum, steel, brass, fibreglass, or carbon fibre may have small scratches on the surface which is a standard characteristic of any raw material. Scratches on the surface of any materials are NOT considered to be material defects.**

Products may potentially have small amounts of corrosion on them. This may be caused by variances in weather during different times of the year, humidity in the shop or during shipping, and other contributing factors. Even though we have taken all precautions and protection methods to prevent corrosion, these small amounts of corrosion (if present) are unavoidable and considered to be acceptable.

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

# SYMBOLS USED

|  |  |                    |                                 |
|--|--|--------------------|---------------------------------|
| Apply thread lock                      | Assemble left and right sides the same way       | Number of teeth    | Use pliers                      |
| Apply oil (may indicate specific type) | Ensure smooth non-binding movement               | Scale              | Part bags used                  |
| Apply cyanoacrylate (CA) glue          | Cut off remaining material                       | Pay attention here | Assemble in the specified order |
| Apply grease                           | Assemble as many times as specified (here twice) | Follow tip here    | Follow Set-Up Book              |

## INCLUDED

Silicone Shock Oil



## NOT INCLUDED



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

## TOOLS REQUIRED

**HUDY TOOLS**



Allen 1.5 / 2.0 / 2.5 / 3.0mm



Phillips 3.5mm



Exhaust Spring / Caster Clip Remover

Turnbuckle Tool 3.0mm (HUDY #181030)



Flywheel Tool (HUDY #182010)



Pinion Tool Set (XRAY #339901)



Pliers (HUDY #189020)



Scissors (HUDY #188990)



Side Cutters (HUDY #189010)



Hobby Knife



Wrench Glowplug/Clutchnut (HUDY #107581)



Reamer (HUDY #107602) (HUDY #107601)



## EQUIPMENT REQUIRED

Transmitter



Receiver & Personal Transponder



Steering & Throttle Servos



Engine



Starter Box (HUDY #104400) & Battery Pack



Glowplug Igniter



Manifold & Exhaust



Lexan® Paint



Bodyshell

One-Way Lube (HUDY #106231)



Receiver Battery Pack



Battery Charger

Fibre Tape (HUDY #107870)



Wheels & Tires



Model R/C Car Fuel (nitromethane)



Bearing Oil (HUDY #106230)



Graphite Grease (HUDY #106210)



Air Filter & Oil



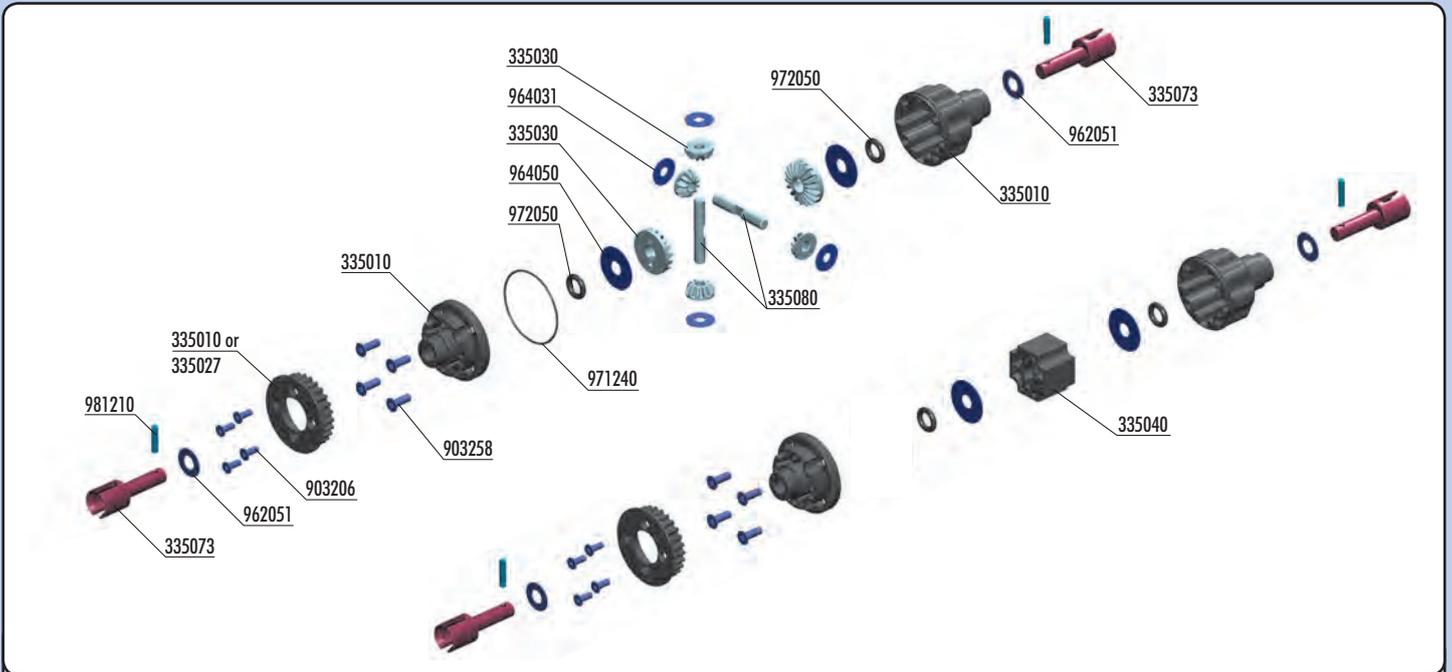
Threadlock & CA Glue



Tire Truer (HUDY #102003)



# 1. FRONT GEAR DIFFERENTIAL & SOLID AXLE



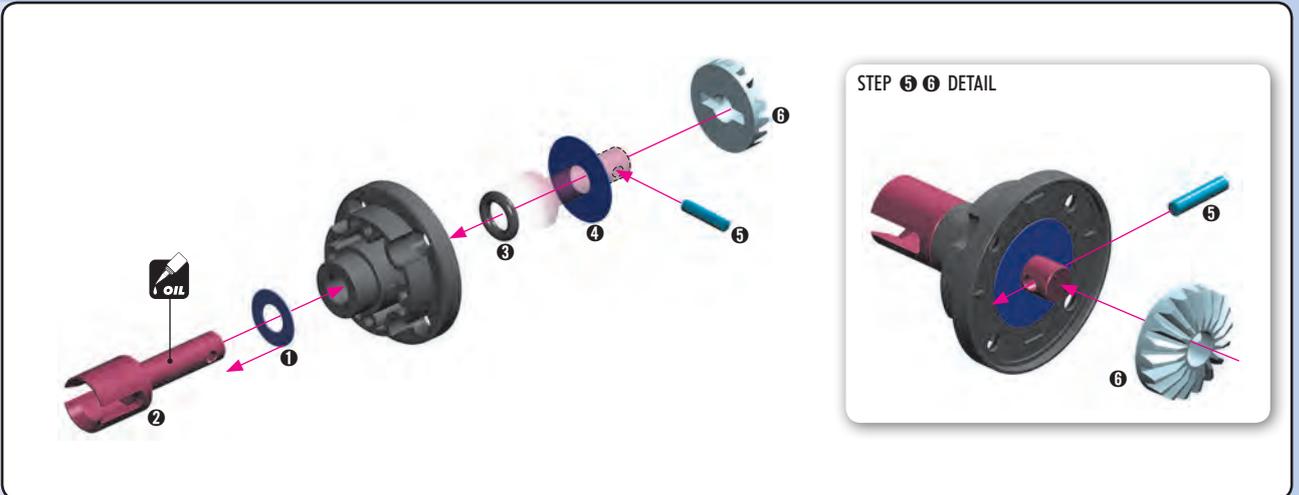
**BAG**



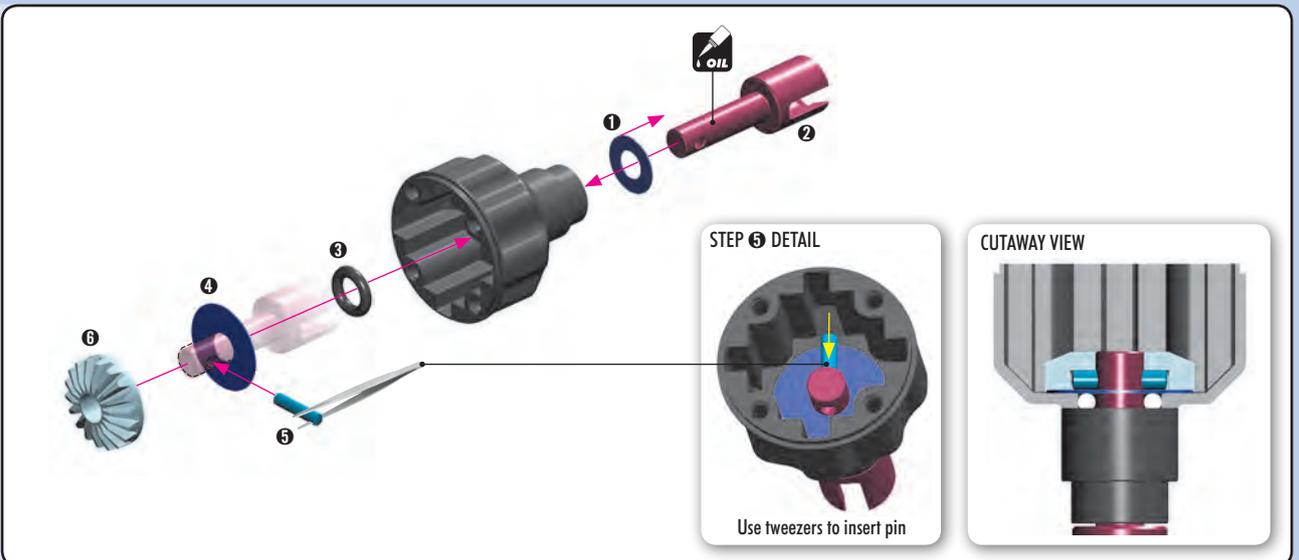
- 33 5000 FRONT GEAR DIFFERENTIAL - SET
- 33 5010 COMPOSITE FRONT DIFF. CASE, COVER & 27T BELT PULLEY
- 33 5027 COMPOSITE TIMING BELT PULLEY 27T
- 33 5030 DIFF BEVEL & SATELLITE GEARS (2+4)
- 33 5040 COMPOSITE SOLID AXLE ADAPTER
- 33 5073 LIGHTWEIGHT DIFF OUTDRIVE ADAPTER - LONG - HUDY SPRING STEEL™ (2)
- 33 5080 DIFF PIN (2)
- 33 5081 ALU DIFF PIN - HARD COATED (2) (OPTION)

- 90 3206 HEX SCREW SFH M2x6 (10)
- 90 3258 HEX SCREW SFH M2.5x8 (10)
- 96 2051 WASHER S 5x10x0.2 (10)
- 96 4031 WASHER S 3.5x10x0.2 (10)
- 96 4050 WASHER S 5x15x0.3 (10)
- 97 1240 SILICONE O-RING 24x0.7 (10)
- 97 2050 SILICONE O-RING 5x2 (10)
- 98 1210 PIN 2x10 (10)

-  962051  
S 5x10x0.2
-  964050  
S 5x15x0.3
-  972050  
O 5x2
-  981210  
P 2x10



-  962051  
S 5x10x0.2
-  964050  
S 5x15x0.3
-  972050  
O 5x2
-  981210  
P 2x10



# FRONT GEAR DIFFERENTIAL & SOLID AXLE

 Silicone oil 80.000 cSt



**TIP**

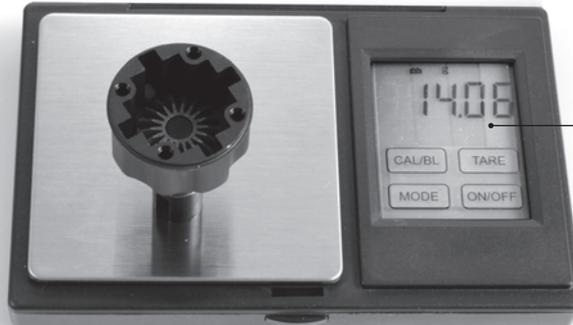
Fill differential up to the top of the diff pins. DO NOT fill the diff to the top of the housing.

Remove the nozzle of the bottle to allow easy filling of the diff.



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



14.06g

1 Put the diff (without oil) on the scale and check the weight (approximately 14.06g)

$$14.06g + 1.6g = 15.66g$$



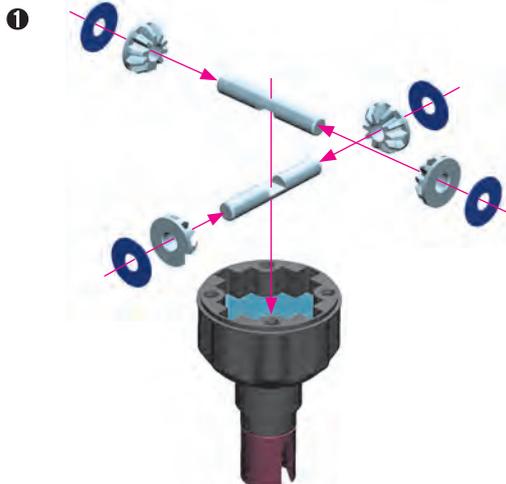
Silicone oil 80.000 cSt

15.66g

2 Slowly pour oil into the diff and watch the weight. Add 1.6g of oil into the diff. The approximate weight of the diff including oil is 16.66g.

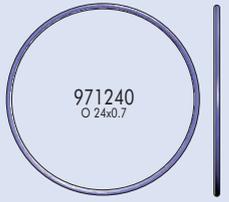


964031  
S 3.5x10x0.2

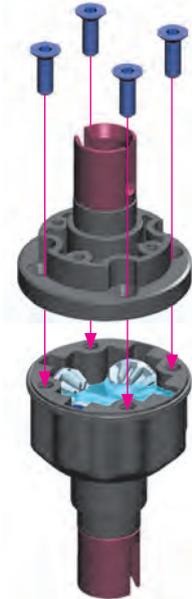


GEAR DIFF ADJUSTMENT

# FRONT GEAR DIFFERENTIAL & SOLID AXLE



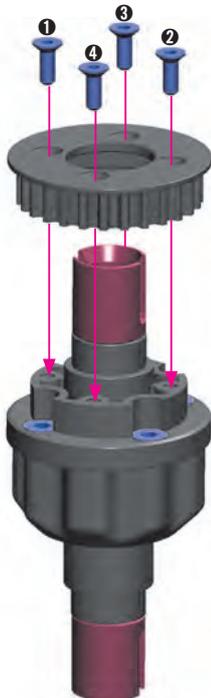
**!** After disassembling the differential the large O-ring may have an increased size and may be more difficult to re-install. We recommend either replacing the O-ring or carefully inserting the O-ring in the diff cover.



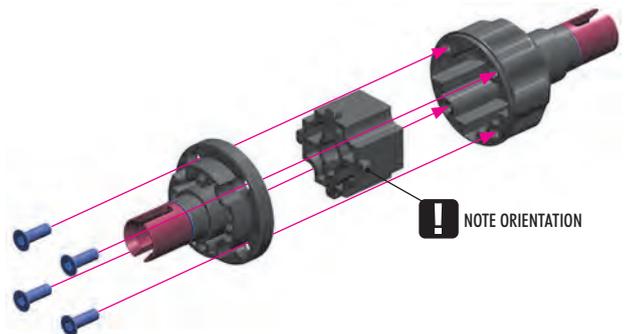
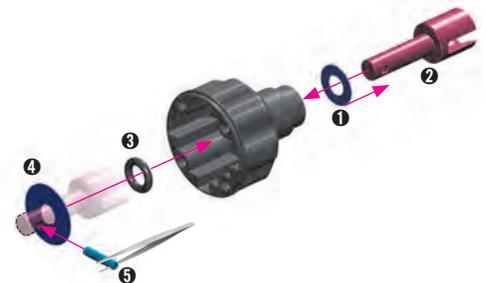
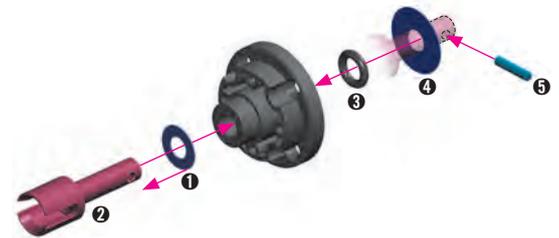
Tighten the screws equally but do NOT tighten them completely



Finish tightening in this order

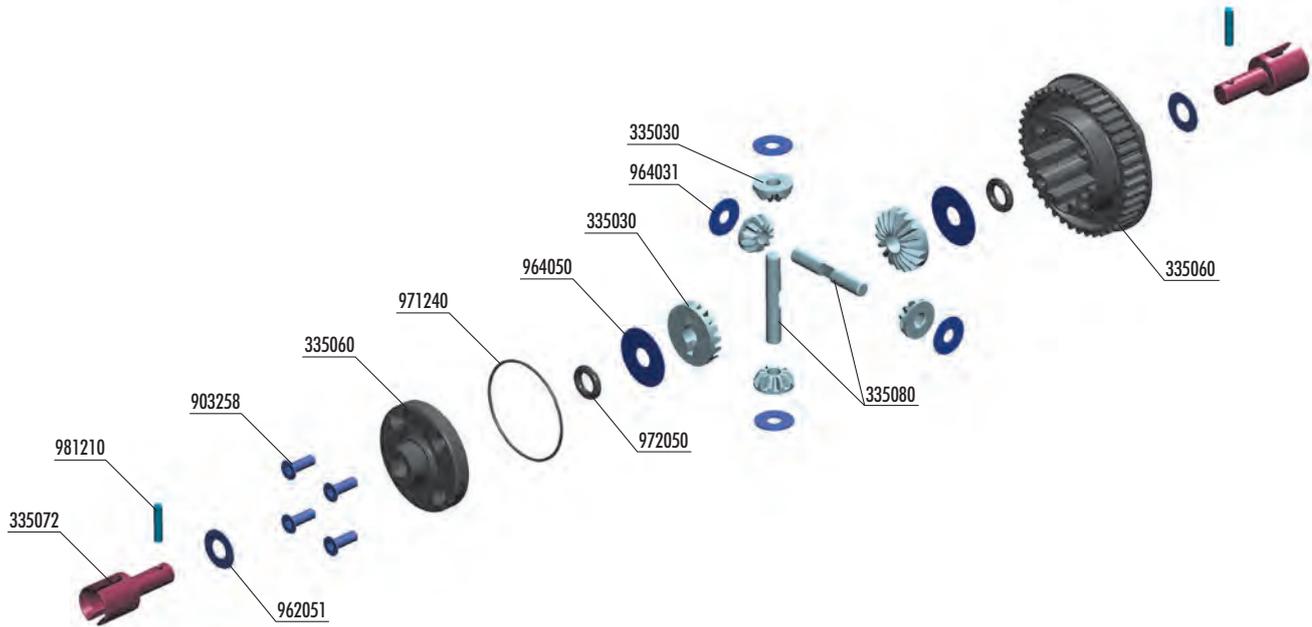


## SOLID AXLE



The front diff can be easily changed into a solid axle. Remove the internal gears and replace with the solid axle locking body.

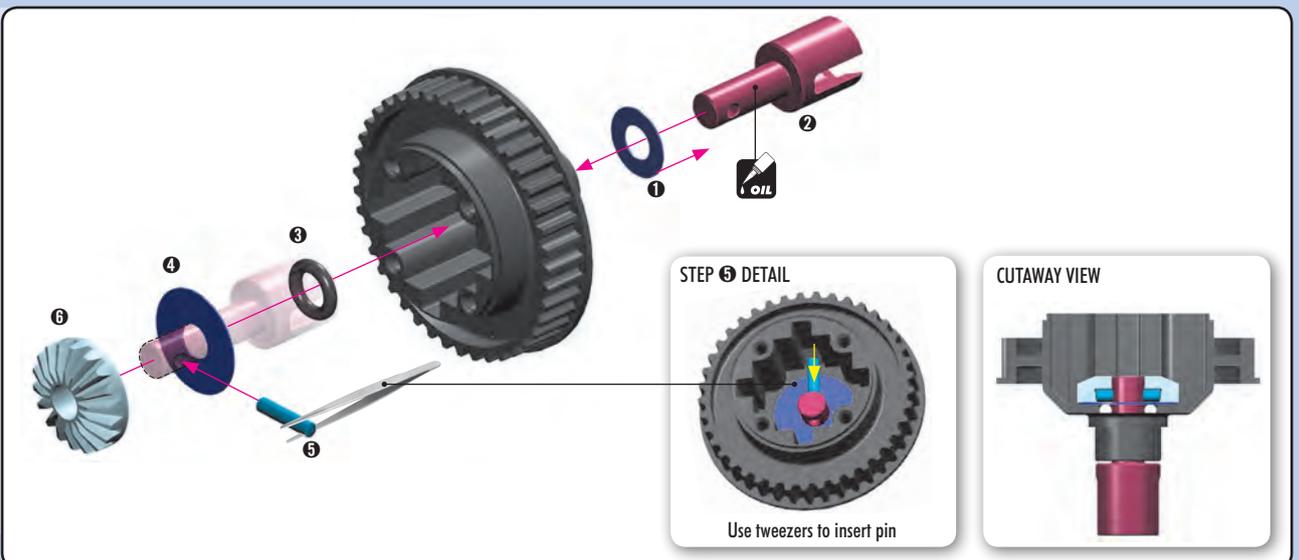
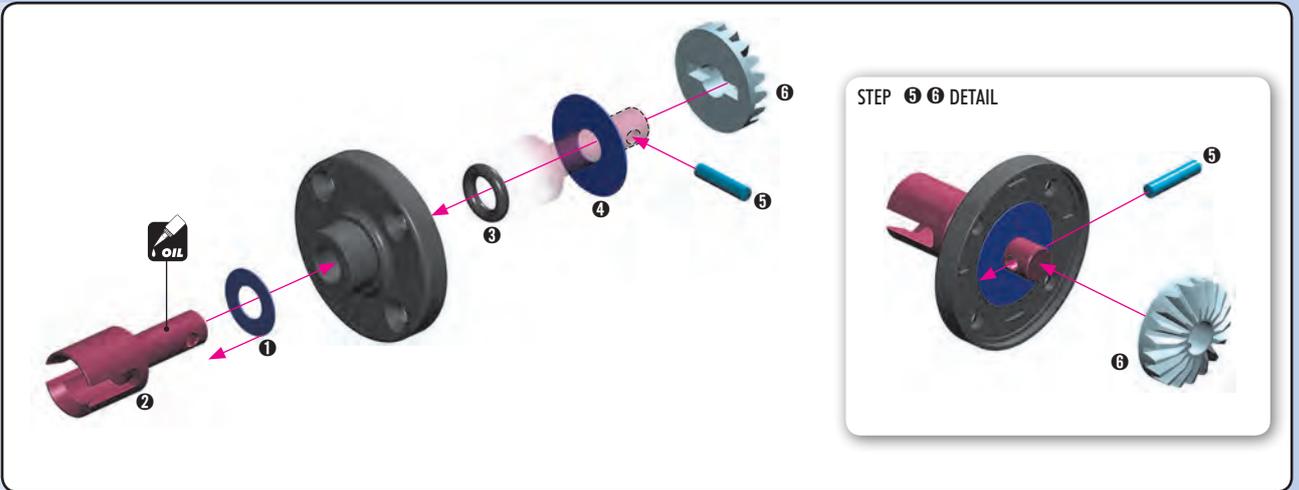
# 1. REAR GEAR DIFFERENTIAL



**BAG**



|         |  |         |                             |
|---------|--|---------|-----------------------------|
| 33 5030 | DIFF BEVEL & SATELLITE GEARS (2+4)                         | 90 3258 | HEX SCREW SFH M2.5x8 (10)   |
| 33 5050 | REAR GEAR DIFFERENTIAL - SET                               | 96 2051 | WASHER S 5x10x0.2 (10)      |
| 33 5060 | COMPOSITE REAR DIFF CASE & COVER                           | 96 4031 | WASHER S 3.5x10x0.2 (10)    |
| 33 5072 | LIGHTWEIGHT DIFF OUTDRIVE ADAPTER - HUDY SPRING STEEL™ (2) | 96 4050 | WASHER S 5x15x0.3 (10)      |
| 33 5080 | DIFF PIN (2)   | 97 1240 | SILICONE O-RING 24x0.7 (10) |
| 33 5081 | ALU DIFF PIN - HARD COATED (2) (OPTION)                    | 97 2050 | SILICONE O-RING 5x2 (10)    |
|         |  | 98 1210 | PIN 2x10 (10)               |



# REAR GEAR DIFFERENTIAL

 Silicone oil 60.000 cSt



**TIP**

Fill differential up to the top of the diff pins. DO NOT fill the diff to the top of the housing.

Remove the nozzle of the bottle to allow easy filling of the diff.



**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



14.62g

① Put the diff (without oil) on the scale and check the weight (approximately 14.62g)

$$14.62g + 1.6g = 16.22g$$



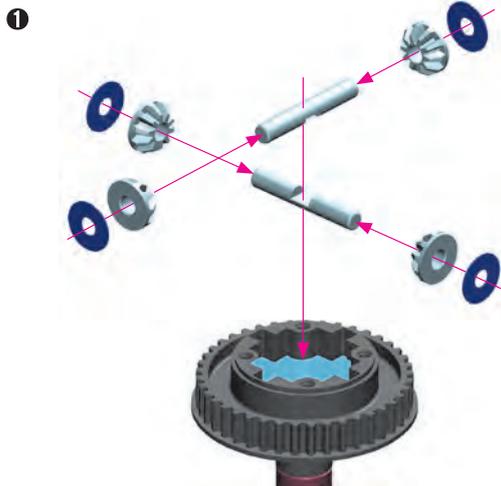
Silicone oil 60.000 cSt

16.22g

② Slowly pour oil into the diff and watch the weight. Add 1.6g of oil into the diff. The approximate weight of the diff including oil is 16.22g.



964031  
S 3.5x10x0.2



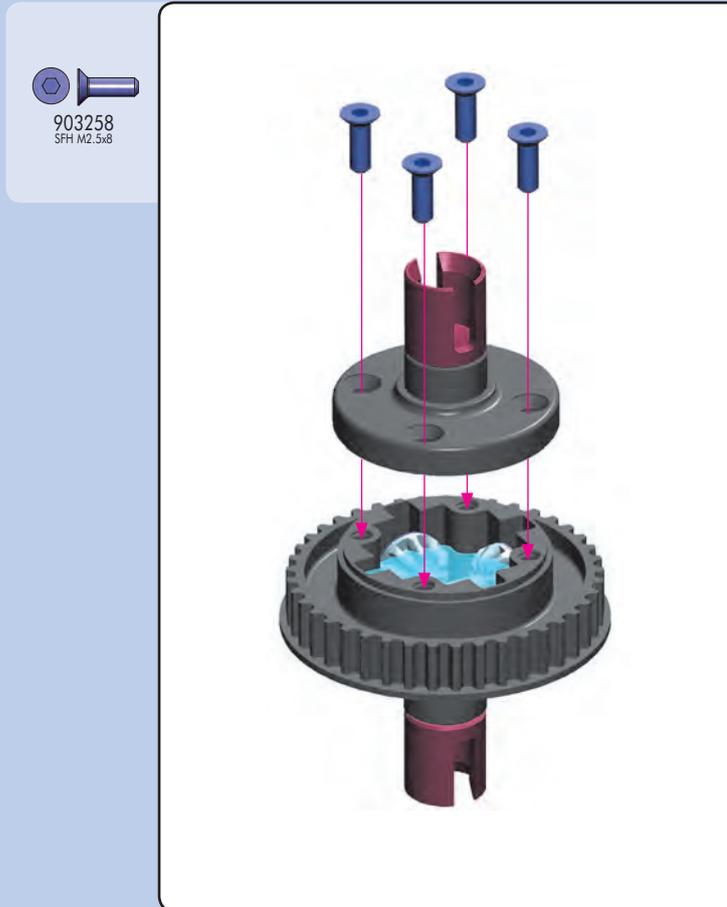
**SET-UP BOOK**  
GEAR DIFF ADJUSTMENT

# REAR GEAR DIFFERENTIAL

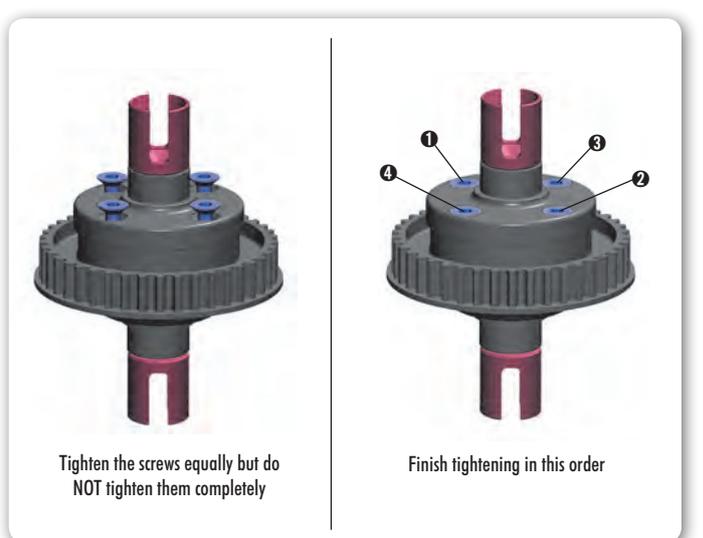


971240  
O 24x0.7

**!** After disassembling the differential the large O-ring may have an increased size and may be more difficult to re-install. We recommend either replacing the O-ring or carefully inserting the O-ring in the diff cover.



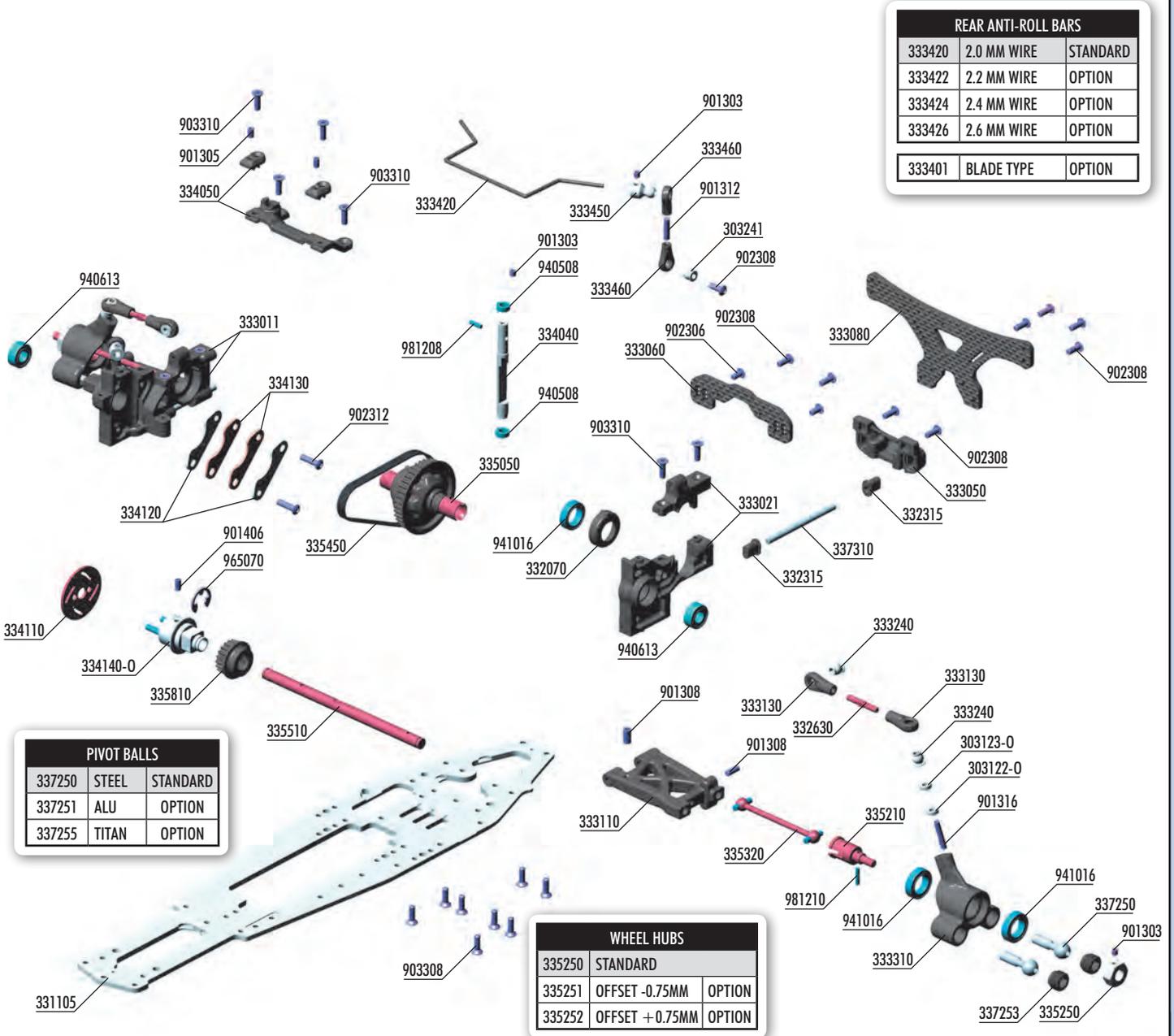
903258  
SFH M2.5x8



Tighten the screws equally but do NOT tighten them completely

Finish tightening in this order

## 2. REAR SUSPENSION



| REAR ANTI-ROLL BARS |             |          |
|---------------------|-------------|----------|
| 333420              | 2.0 MM WIRE | STANDARD |
| 333422              | 2.2 MM WIRE | OPTION   |
| 333424              | 2.4 MM WIRE | OPTION   |
| 333426              | 2.6 MM WIRE | OPTION   |
| 333401              | BLADE TYPE  | OPTION   |

| PIVOT BALLS |       |          |
|-------------|-------|----------|
| 337250      | STEEL | STANDARD |
| 337251      | ALU   | OPTION   |
| 337255      | TITAN | OPTION   |

| WHEEL HUBS |                |        |
|------------|----------------|--------|
| 335250     | STANDARD       |        |
| 335251     | OFFSET -0.75MM | OPTION |
| 335252     | OFFSET +0.75MM | OPTION |

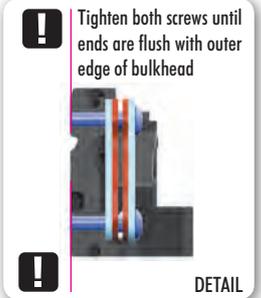
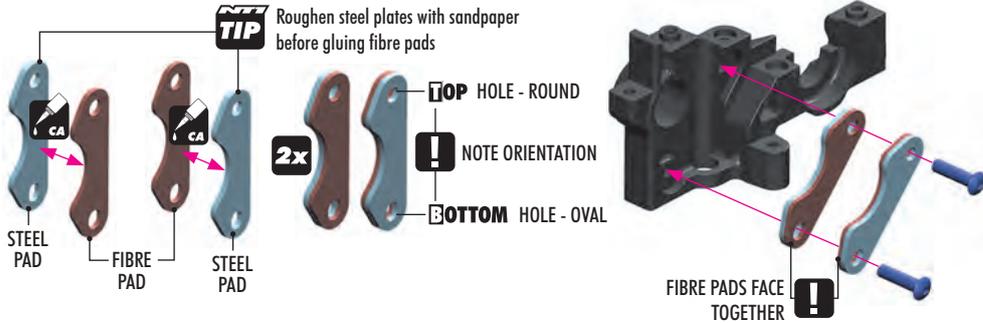


- |           |   |         |   |
|-----------|---|---------|---|
| 30 3122-0 | ALU SHIM 3x6x1.0MM - ORANGE (10)                                | 33 5250 | ALU WHEEL HUB 12MM - BLACK (2)                    |
| 30 3123   | ALU SHIM 3x6x2.0MM - ORANGE (10)                                | 33 5320 | DRIVE SHAFT - 60 MM - HUDY SPRING STEEL™          |
| 30 3241   | BALL UNIVERSAL 5.8 MM HEX (4)                                   | 33 5450 | PUR REINFORCED DRIVE BELT REAR 5.5 x 177 MM       |
| 33 1105   | CHASSIS 3MM - CNC MACHINED - SWISS 7075 T6                      | 33 5510 | 2-SPEED SHAFT                                     |
| 33 2070   | COMPOSITE ADJUST. BALL-BEARING HUB (4)                          | 33 5810 | COMPOSITE BELT PULLEY 20T - 2-SPEED-CENTER        |
| 33 2315   | COMPOSITE SUSP. ECCENTRIC BUSHING (4)                           | 33 7250 | STEEL PIVOT BALL 8.4 MM (2)                       |
| 33 2630   | ADJ. TURNBUCKLE L/R 25 MM - HUDY SPRING STEEL™ (2)              | 33 7252 | ALU ADJUSTING NUT M10x1 (4) (OPTION)              |
| 33 3011   | COMPOSITE LOWER & UPPER BULKHEAD REAR RIGHT - EXTRA ROLL CENTER | 33 7253 | COMPOSITE ADJUSTING NUT M10x1 WITH BALL CUP (4)   |
| 33 3021   | COMPOSITE LOWER & UPPER BULKHEAD REAR LEFT - EXTRA ROLL CENTER  | 33 7310 | REAR LOWER INNER PIVOT PIN (2)                    |
| 33 3050   | COMPOSITE REAR BULKHEAD COVER                                   | 90 1303 | HEX SCREW SB M3x3 (10)                            |
| 33 3060   | GRAPHITE ROLL-CENTER BRIDGE                                     | 90 1305 | HEX SCREW SB M3x5 (10)                            |
| 33 3080   | GRAPHITE SHOCK TOWER REAR 3 MM                                  | 90 1308 | HEX SCREW SB M3x8 (10)                            |
| 33 3110   | COMPOSITE SUSPENSION ARM REAR LOWER - V2                        | 90 1312 | HEX SCREW SB M3x12 (10)                           |
| 33 3130   | COMPOSITE REAR UPPER CAMBER LINK BALL JOINT 5.8 MM (4)          | 90 1316 | HEX SCREW SB M3x16 (10)                           |
| 33 3240   | BALL UNIVERSAL 5.8 MM HEX (4)                                   | 90 1406 | HEX SCREW SB M4x6 (10)                            |
| 33 3310   | COMPOSITE UPRIGHT REAR - V2                                     | 90 2306 | HEX SCREW SH M3x6 (10)                            |
| 33 3420   | ANTI-ROLL BAR REAR 2.0 MM                                       | 90 2308 | HEX SCREW SH M3x8 (10)                            |
| 33 3450   | ANTI-ROLL BAR BALL JOINT 5.8 MM (2)                             | 90 2312 | HEX SCREW SH M3x12 (10)                           |
| 33 3460   | COMPOSITE ANTI-ROLL BAR BALL JOINT 5.8 MM (4)                   | 90 3308 | HEX SCREW SFH M3x8 (10)                           |
| 33 4040   | BRAKE CAM POST - ALU 7075 T6                                    | 90 3310 | HEX SCREW SFH M3x10 (10)                          |
| 33 4050   | COMPOSITE BRAKE UPPER PLATE + COMPOSITE CLAMPS                  | 94 0508 | HIGH-SPEED BALL-BEARING 5x8x2.5 RUBBER SEALED (2) |
| 33 4110   | VENTILATED BRAKE DISK - LASER CUT - PRECISION-GROUND            | 94 0613 | HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)  |
| 33 4120   | HARDENED STEEL BRAKE PAD - LASER CUT (2)                        | 94 1016 | HIGH-SPEED BALL-BEARING 10x16x4 RUBBER SEALED (2) |
| 33 4130   | BRAKE PAD FERODO (2)  | 96 5070 | E-CLIP 7 (10)                                     |
| 33 4140-0 | BRAKE DISK ADAPTER - ALU 7075 T6 - ORANGE                       | 98 1208 | PIN 2x8 (10)                                      |
| 33 5210   | DRIVE AXLE - HUDY SPRING STEEL™                                 | 98 1210 | PIN 2x10 (10)                                     |

# REAR SUSPENSION



902312  
SH M3x12



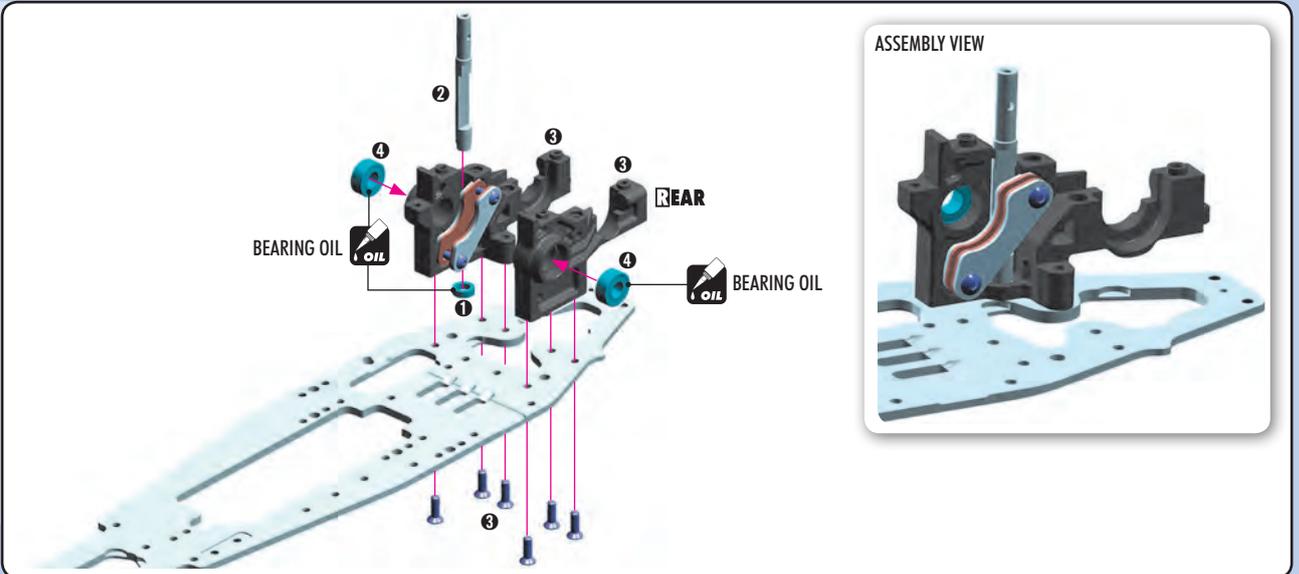
903308  
SFH M3x8



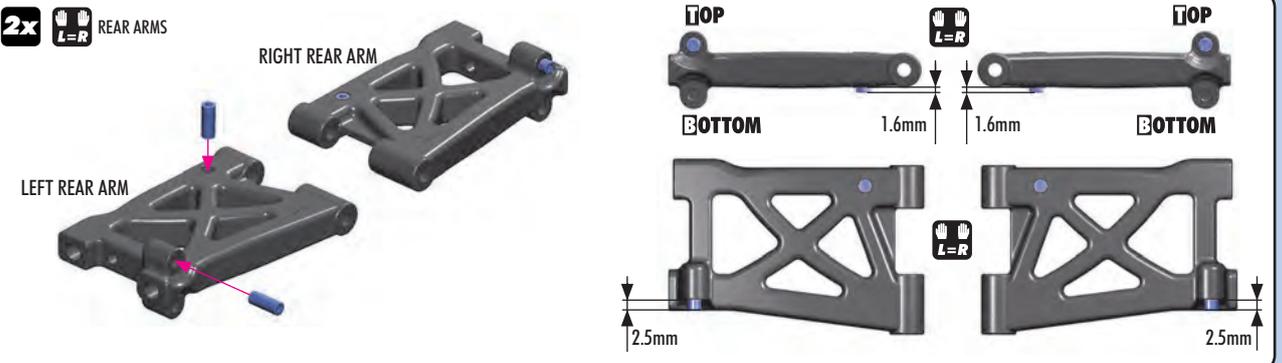
940508  
BB 5x8x2.5



940613  
BB 6x13x5



901308  
SB M3x8



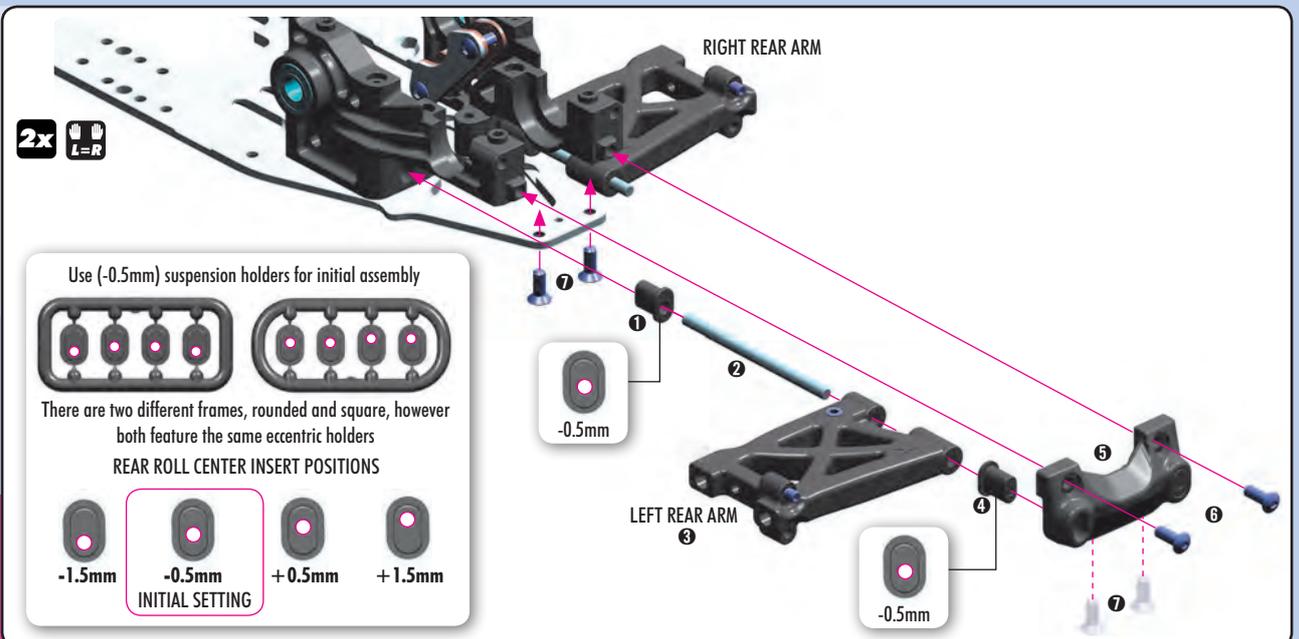
REAR DOWNSTOP  
ADJUSTMENT



902308  
SH M3x8



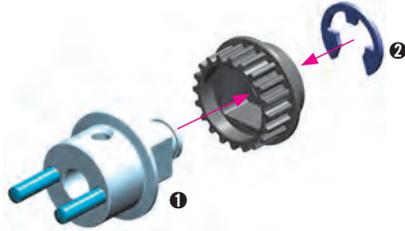
903308  
SFH M3x8



ROLL CENTER  
ADJUSTMENT



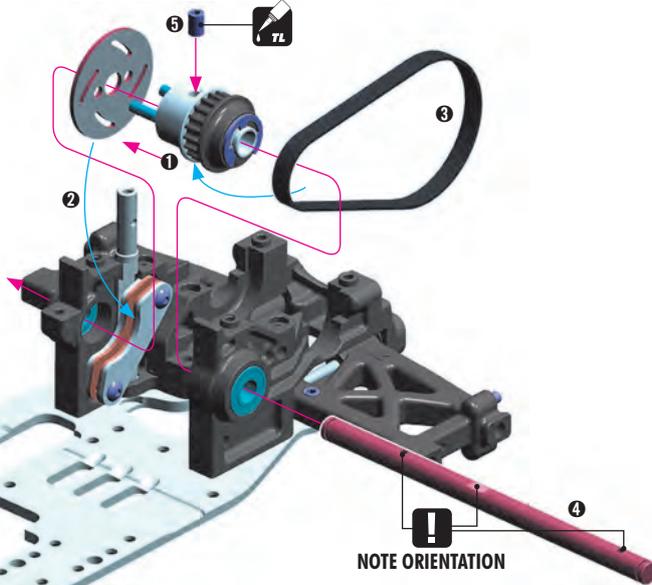
965070  
C7



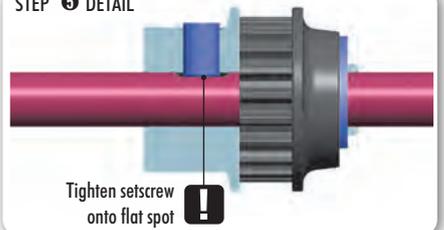
ASSEMBLED VIEW



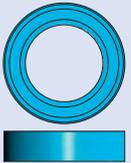
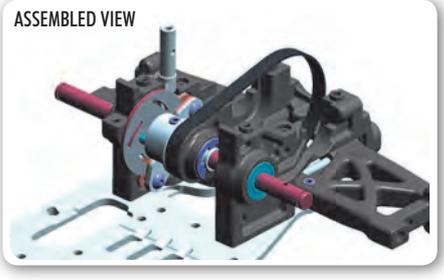
901406  
SB M4x6



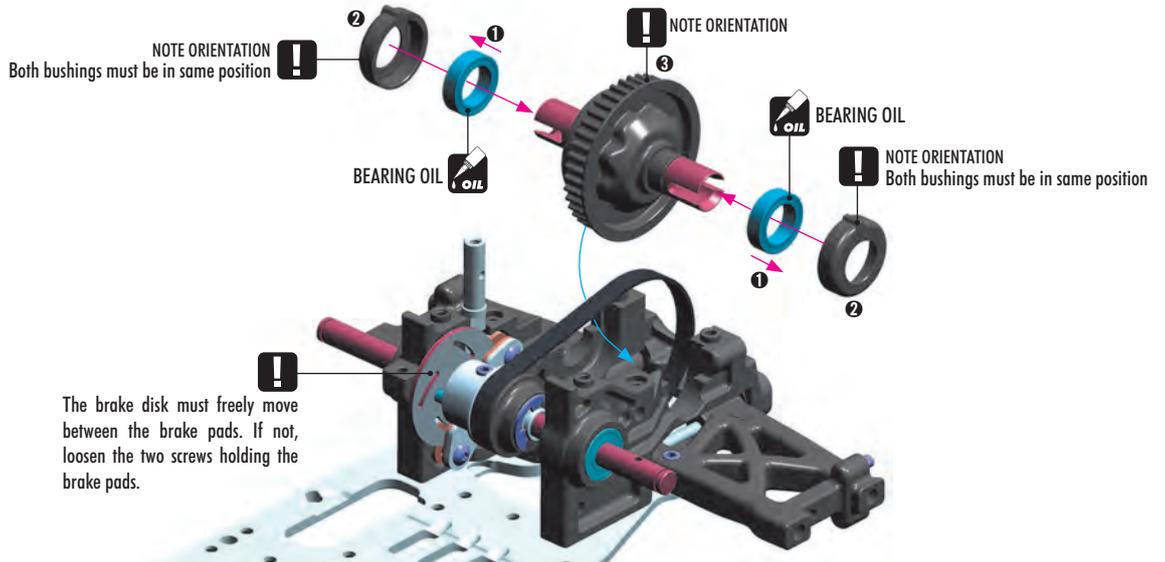
STEP 6 DETAIL



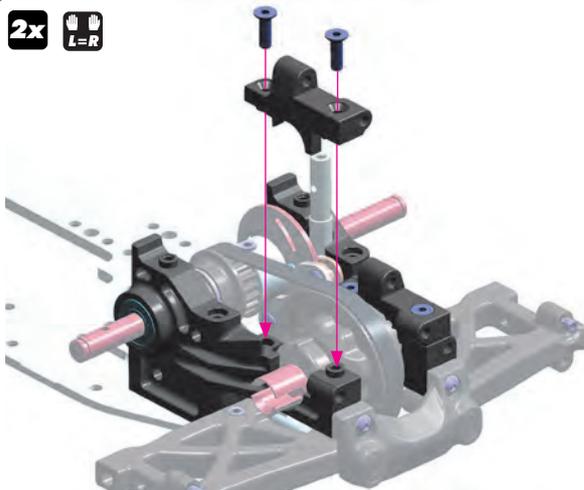
ASSEMBLED VIEW



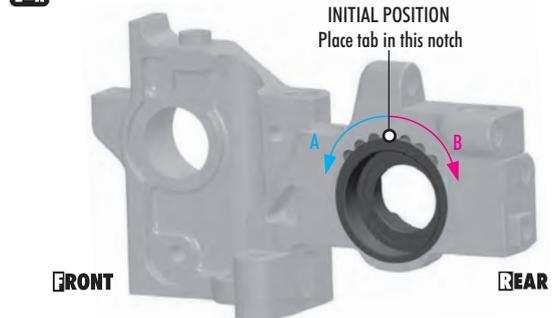
941016  
BB 10x16x4



903310  
SFH M3x10



REAR BELT TENSION ADJUSTMENT



**TO tighten REAR BELT**  
Rotate BOTH rear composite bushings in arrow direction (A)

**TO loosen REAR BELT**  
Rotate BOTH rear composite bushings in arrow direction (B)

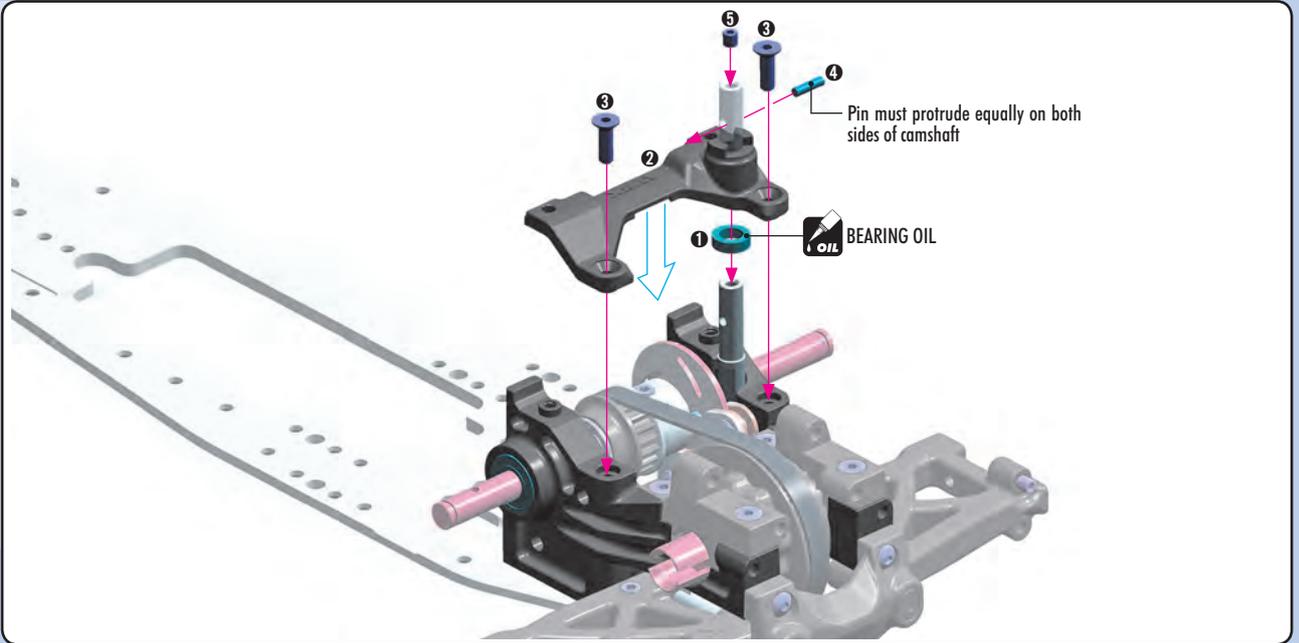
# REAR SUSPENSION

901303  
SB M3x3

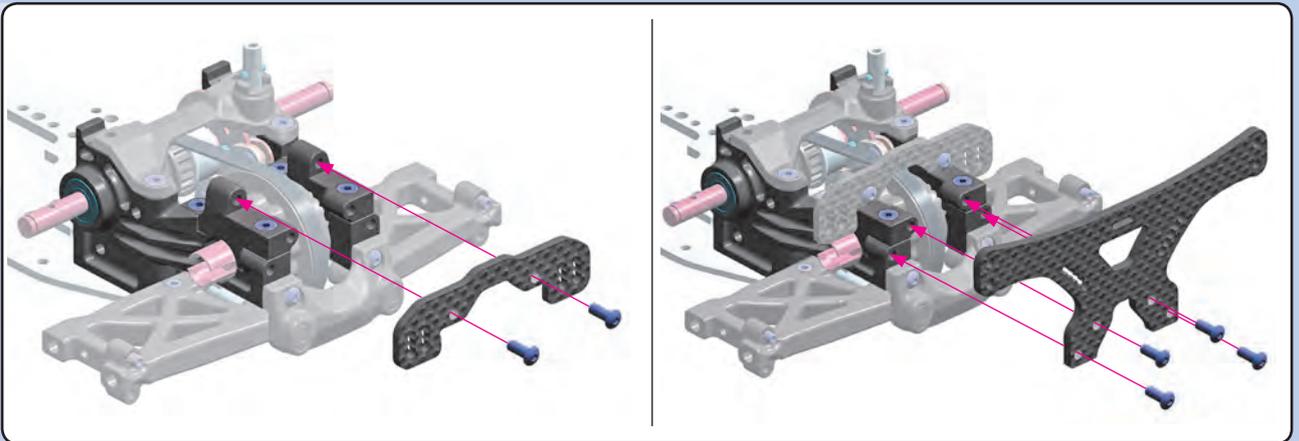
903310  
SFH M3x10

940508  
BB 5x8x2.5

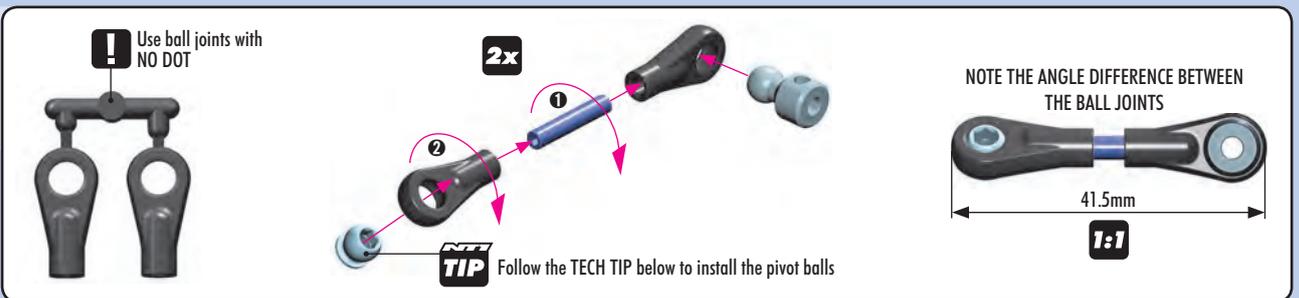
981208  
P 2x8



902308  
SH M3x8



901312  
SB M3x12



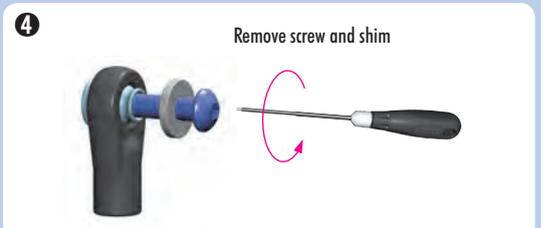
## TECH TIP

Follow this tech tip to install pivot balls into ball joints.

- Parts Needed:
- M3 x 16 SH screw
  - M3 shim

Note that the composite ball joints have two sides, noticeable around the pivot ball hole: one side has a shiny finish, the other side has a regular finish.

SHINY  
FINISH SIDE



901303  
SB M3x3

902308  
SH M3x8

**2x**

**!** Do not fully tighten the setscrew; the joint must fit over the anti-roll bar wire

**REAR**

901305  
SB M3x5

903310  
SFH M3x10

**2x**

**DETAIL**

Only tighten setscrew enough to remove excessive free play; anti-roll bar must still move freely

**STEP 2 DETAIL**

Wire should be flush with end of pivot ball



**2x**

**NOTE ORIENTATION**

**!**

Tighten composite hex nuts using HUDY tool #107581

**TIP**

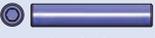
**ASSEMBLY VIEW**

**CUTAWAY VIEW**

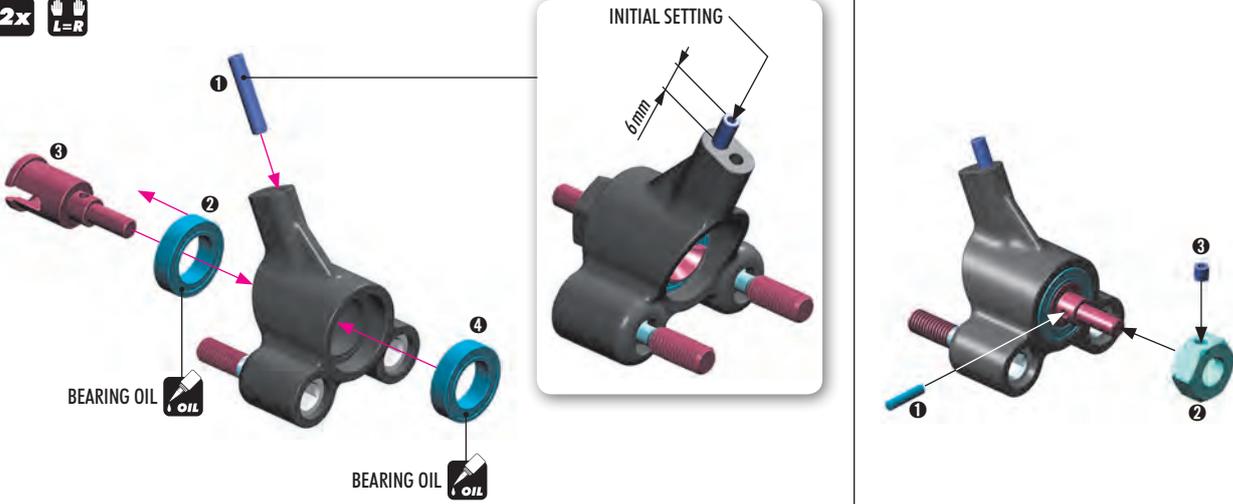
Pivot balls must move freely.

During initial assembly, tighten each aluminum hex nut until the pivot ball starts to bind, then loosen slightly. Verify that the pivot balls move freely.

# REAR SUSPENSION

-  901316  
SB M3x16
-  981210  
P 2x10
-  941016  
BB 110x16x4
-  901303  
SB M3x3

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



INITIAL SETTING  
6mm

BEARING OIL

BEARING OIL

**SET-UP BOOK**  
REAR CAMBER  
ADJUSTMENT

**!** Use ball joints WITH DOT

**2x**



**L=R** **1:1**

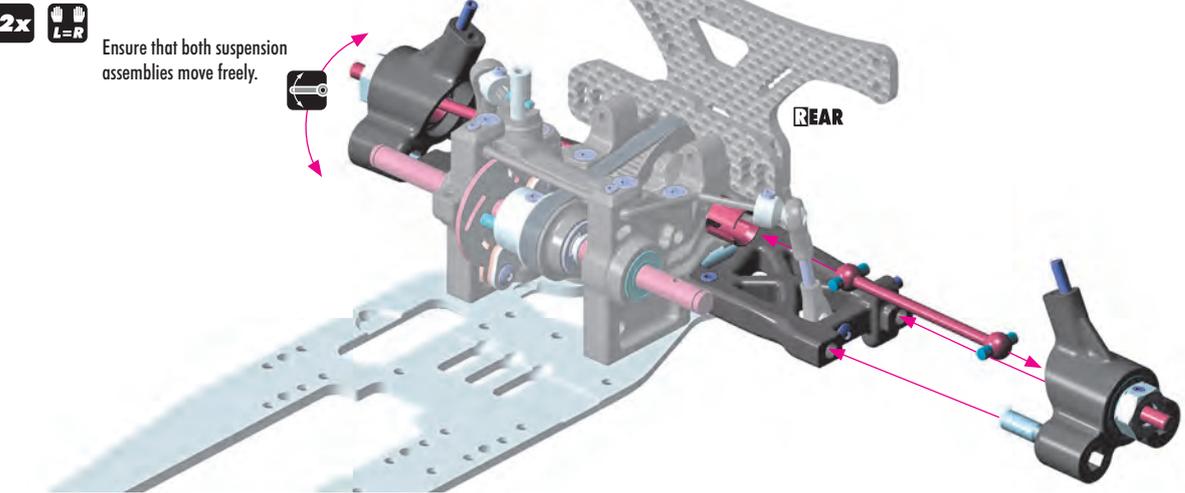
47mm

**!** 90° angle difference between the ball joints

**TIP** Follow the TECH TIP on page 14 to install the pivot balls

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

Ensure that both suspension assemblies move freely.



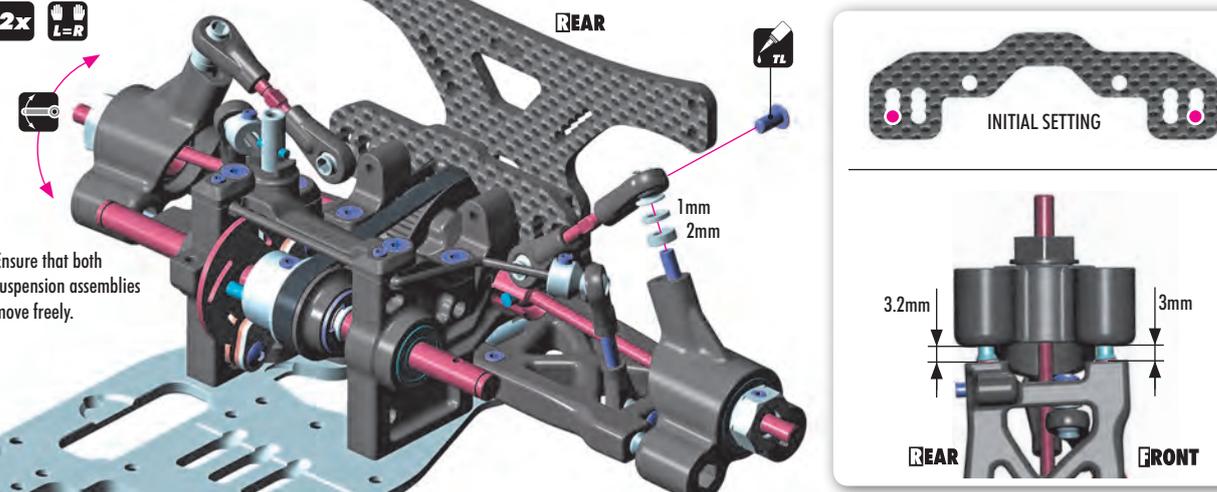
REAR

-  902306  
SH M3x6
-  303122-O  
SHIM 3x6x1
-  303123-O  
SHIM 3x6x2

**SET-UP BOOK**  
REAR ROLL CENTER  
ADJUSTMENT  
REAR TOE-IN  
ADJUSTMENT

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

Ensure that both suspension assemblies move freely.



REAR

1mm  
2mm

INITIAL SETTING

3.2mm  
3mm

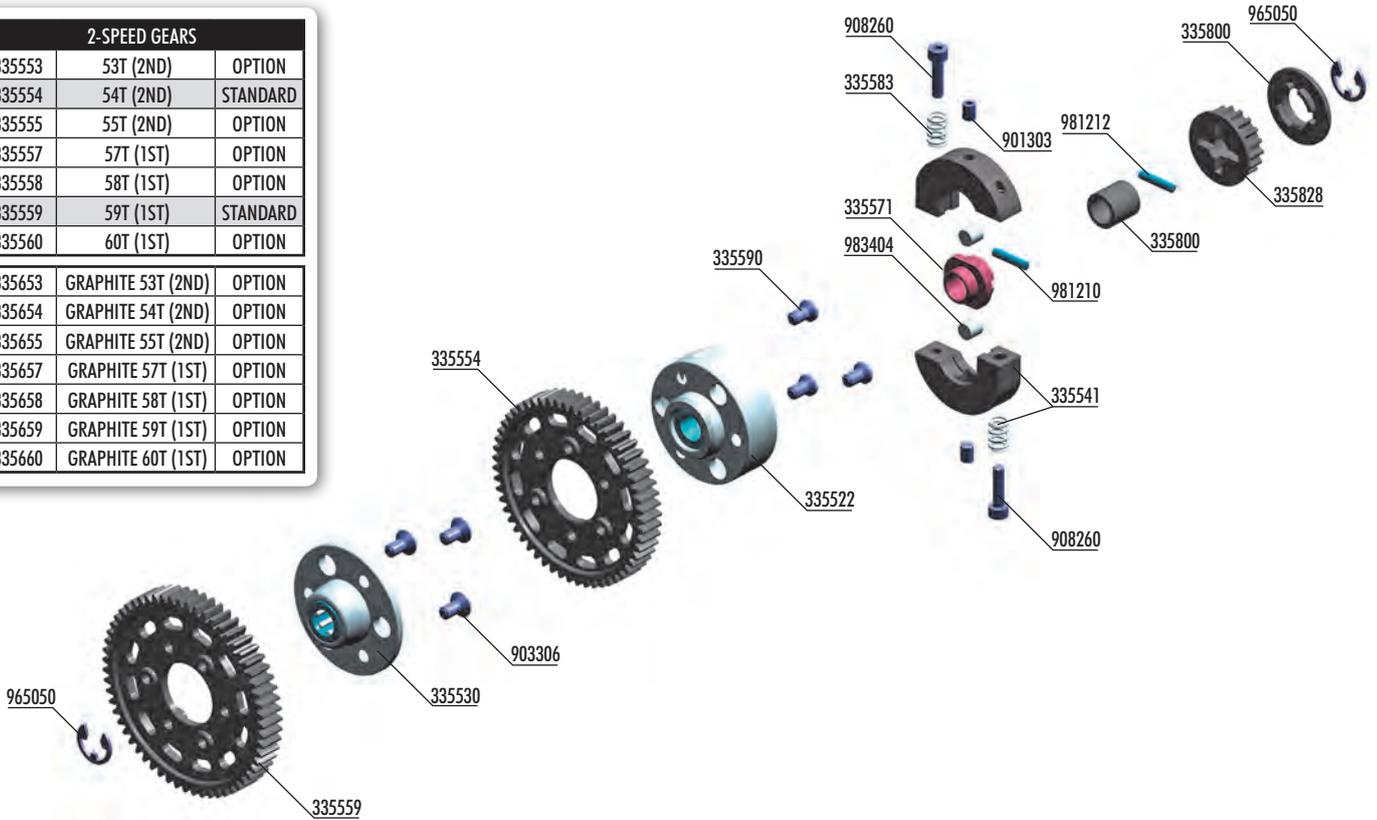
REAR FRONT

# 3. REAR TRANSMISSION

| 2-SPEED GEARS |           |          |
|---------------|-----------|----------|
| 335553        | 53T (2ND) | OPTION   |
| 335554        | 54T (2ND) | STANDARD |
| 335555        | 55T (2ND) | OPTION   |
| 335557        | 57T (1ST) | OPTION   |
| 335558        | 58T (1ST) | OPTION   |
| 335559        | 59T (1ST) | STANDARD |
| 335560        | 60T (1ST) | OPTION   |

|        |                    |        |
|--------|--------------------|--------|
| 335653 | GRAPHITE 53T (2ND) | OPTION |
| 335654 | GRAPHITE 54T (2ND) | OPTION |
| 335655 | GRAPHITE 55T (2ND) | OPTION |
| 335657 | GRAPHITE 57T (1ST) | OPTION |
| 335658 | GRAPHITE 58T (1ST) | OPTION |
| 335659 | GRAPHITE 59T (1ST) | OPTION |
| 335660 | GRAPHITE 60T (1ST) | OPTION |



**BAG**

**03**

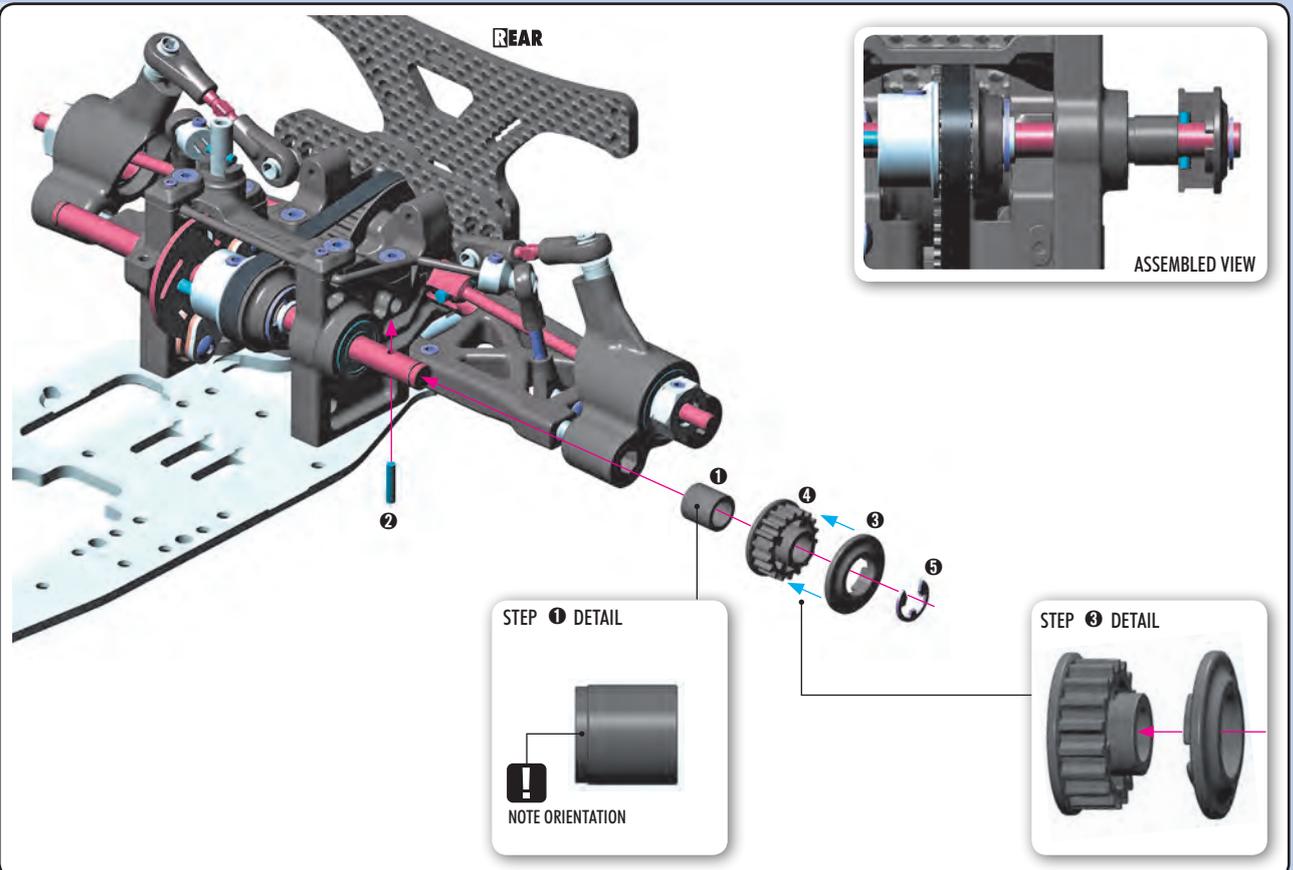
- |         |   |         |  |
|---------|---|---------|--|
| 33 5522 | ALU SMALL CARRIER FOR 2-SPEED GEAR (2nd) + BALL-BEARING - ALU 7075 T6 | 33 5828 | COMPOSITE BELT PULLEY 18T - 2-SPEED-SIDE |
| 33 5530 | DRIVE FLANGE WITH ONE-WAY BEARING - ALU 7075 T6                       | 90 1303 | HEX SCREW SB M3x3 (10)                   |
| 33 5541 | COMPOSITE SMALL 2-SPEED GEAR BOX SHOE - SET                           | 90 3306 | HEX SCREW SFH M3x6 (10)                  |
| 33 5554 | COMPOSITE 2-SPEED GEAR 54T (2nd) - V3                                 | 90 8260 | HEX SCREW SOCKET HEAD CAP M2.5x10 (10)   |
| 33 5559 | COMPOSITE 2-SPEED GEAR 59T (1st)                                      | 96 5050 | E-CLIP 5 (10)                            |
| 33 5571 | ADAPTER SMALL 2-SPEED   | 98 1210 | PIN 2x10 (10)                            |
| 33 5590 | HEX SCREW SFH M3x6 - GRINDED (3)                                      | 98 1212 | PIN 2x12 (10)                            |
| 33 5583 | SPRING FOR SMALL GEAR BOX - MEDIUM-HARD (2)                           | 98 3404 | ROLLER PIN 4x4 MM (2)                    |
| 33 5800 | COMPOSITE BELT PULLEY COVER SET                                       |         |  |



965050  
CS



981212  
P 2x12

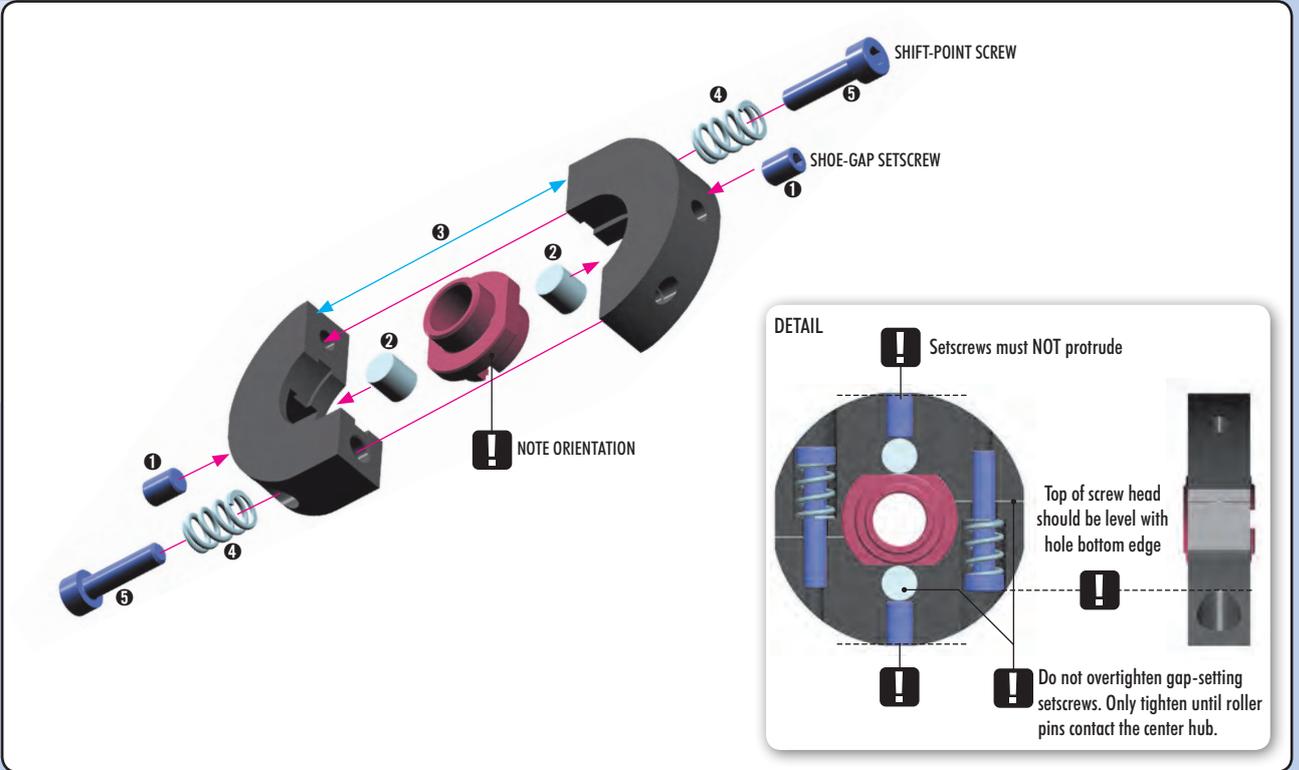


# REAR TRANSMISSION

901303  
SB M3x3

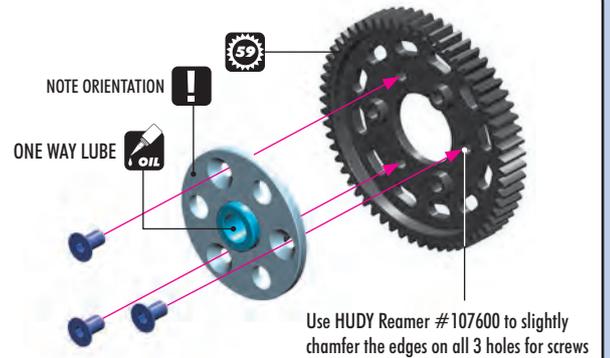
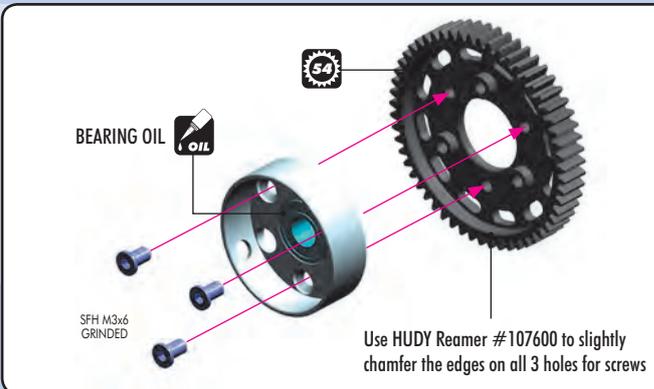
908260  
SCH M2.5x10

983404  
RP 4x4



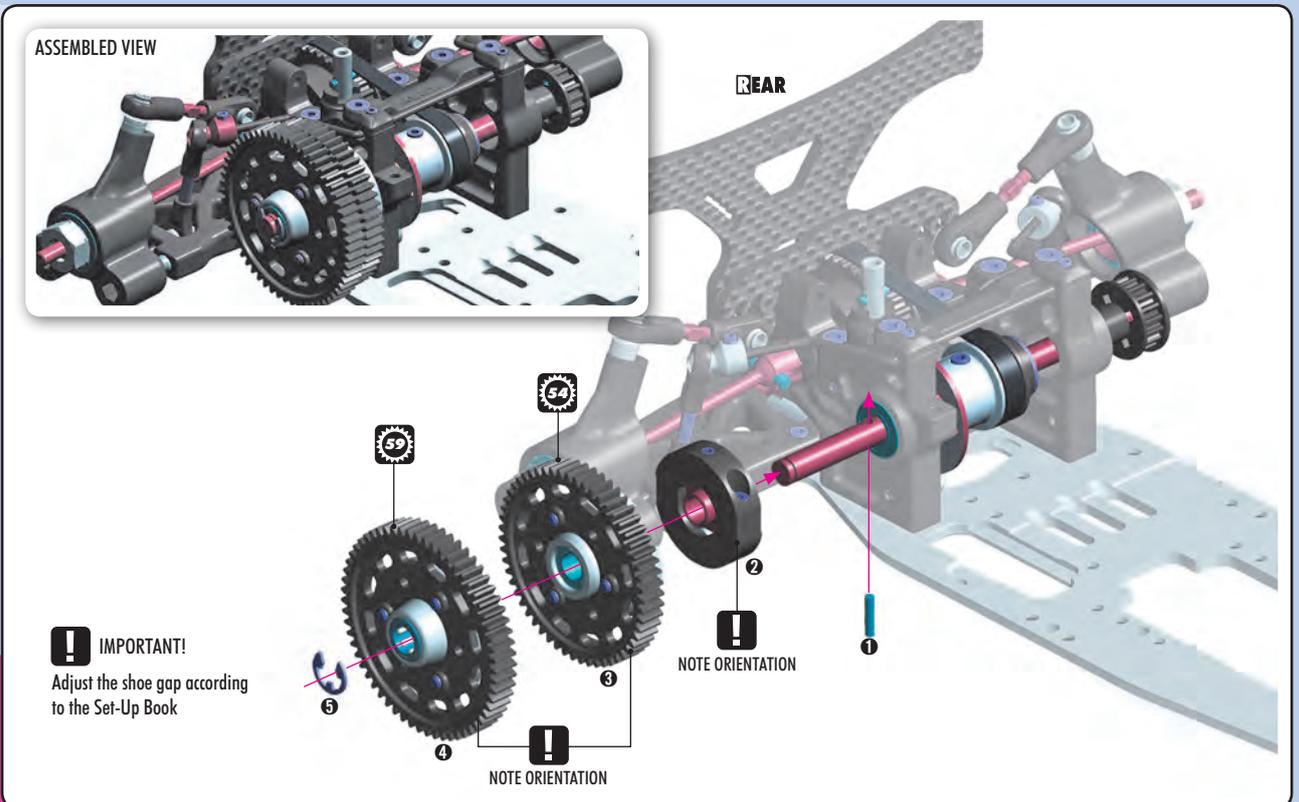
335590  
SFH M3x6  
GRINDED

903306  
SFH M3x6

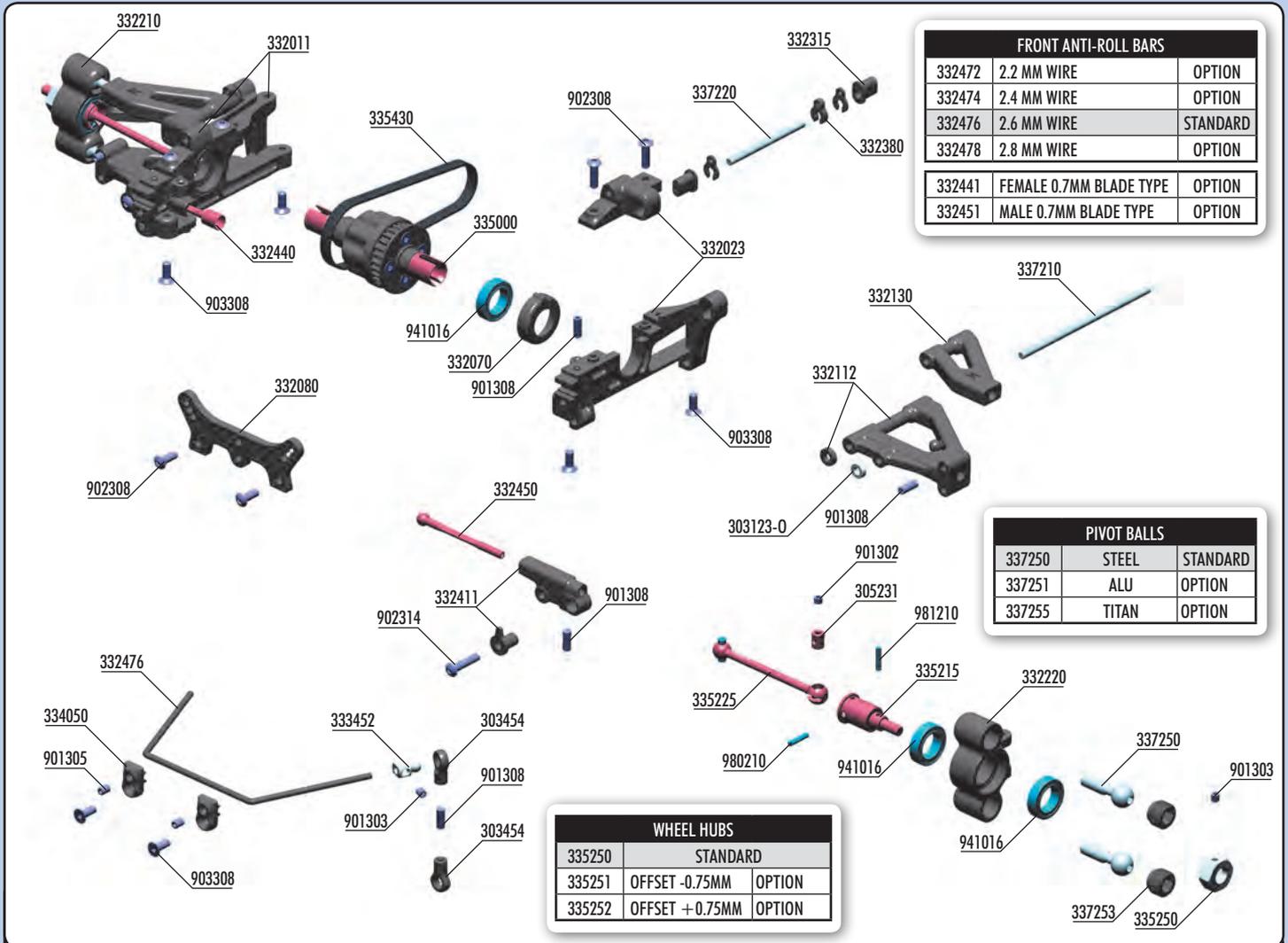


965050  
C 5

981210  
P 2x10



# 4. FRONT SUSPENSION



| FRONT ANTI-ROLL BARS |                         |          |
|----------------------|-------------------------|----------|
| 332472               | 2.2 MM WIRE             | OPTION   |
| 332474               | 2.4 MM WIRE             | OPTION   |
| 332476               | 2.6 MM WIRE             | STANDARD |
| 332478               | 2.8 MM WIRE             | OPTION   |
| 332441               | FEMALE 0.7MM BLADE TYPE | OPTION   |
| 332451               | MALE 0.7MM BLADE TYPE   | OPTION   |

| PIVOT BALLS |       |          |
|-------------|-------|----------|
| 337250      | STEEL | STANDARD |
| 337251      | ALU   | OPTION   |
| 337255      | TITAN | OPTION   |

| WHEEL HUBS |                |        |
|------------|----------------|--------|
| 335250     | STANDARD       |        |
| 335251     | OFFSET -0.75MM | OPTION |
| 335252     | OFFSET +0.75MM | OPTION |

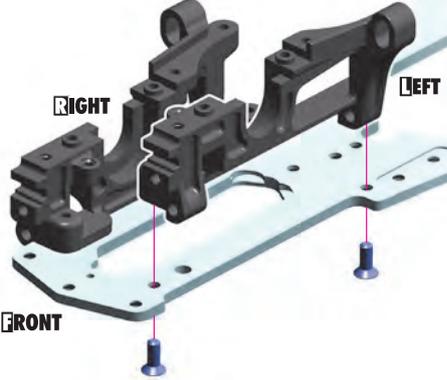
**BAG**

**04**

- 30 3123-0 ALU SHIM 3x6x2.0MM - ORANGE (10)
- 30 3454 BALL JOINT 4.9MM - OPEN (4)
- 30 5231 DRIVE SHAFT COUPLING - HUDY SPRING STEEL™
- 33 2011 COMPOSITE LOWER & UPPER BULKHEAD FRONT RIGHT FOR WIRE ANTI-ROLL BAR
- 33 2023 COMPOSITE LOWER & UPPER BULKHEAD FRONT LEFT FOR WIRE ANTI-ROLL BAR - V2
- 33 2070 COMPOSITE ADJUST. BALL-BEARING HUB (4)
- 33 2080 GRAPHITE SHOCK TOWER FRONT 2.5MM
- 33 2112 COMPOSITE SUSPENSION ARM FRONT LOWER FOR WIRE ANTI-ROLL BAR
- 33 2130 COMPOSITE SUSPENSION ARM FRONT UPPER - V2
- 33 2210 COMPOSITE STEERING BLOCK RIGHT - V2
- 33 2220 COMPOSITE STEERING BLOCK LEFT - V2
- 33 2315 COMPOSITE SUSP. ECCENTRIC BUSHING (4)
- 33 2380 COMPOSITE CASTER CLIPS (2)
- 33 2411 COMPOSITE FRONT ANTI-ROLL BAR HOLDER & ECCENTRIC W/O UPSTOP (2+2)
- 33 2440 ANTI-ROLL BAR FRONT FEMALE - HUDY SPRING STEEL™
- 33 2450 ANTI-ROLL BAR FRONT MALE - HUDY SPRING STEEL™
- 33 2476 ANTI-ROLL BAR FRONT 2.6 MM
- 33 3452 ALU ANTI-ROLL BAR PIVOT BALL 4.9 MM (2)
- 33 4050 COMPOSITE BRAKE UPPER PLATE + COMPOSITE CLAMPS
- 33 5215 CVD AXLE - SUPER LIGHT - HUDY SPRING STEEL™
- 33 5225 CVD DRIVE SHAFT - FRONT - HUDY SPRING STEEL™
- 33 5250 ALU WHEEL HUB 12MM - BLACK (2)
- 33 5430 PUR REINFORCED DRIVE BELT FRONT 5 x 186 MM
- 33 7210 FRONT LOWER INNER PIVOT PIN (2)
- 33 7220 FRONT UPPER PIVOT PIN (2)
- 33 7250 STEEL PIVOT BALL 8.4 MM (2)
- 33 7252 ALU ADJUSTING NUT M10x1 (4) (OPTION)
- 33 7253 COMPOSITE ADJUSTING NUT M10x1 WITH BALL CUP (4)
- 90 1302 HEX SCREW SB M3x2.5 (10)
- 90 1303 HEX SCREW SB M3x3 (10)
- 90 1305 HEX SCREW SB M3x5 (10)
- 90 1308 HEX SCREW SB M3x8 (10)
- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2314 HEX SCREW SH M3x14 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 94 1016 HIGH-SPEED BALL-BEARING 10x16x4 RUBBER SEALED (2)
- 97 2030 SILICONE O-RING 3x2 (10)
- 98 0210 PIN 2x10 (10)
- 98 1210 PIN 2x10 (10)



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



# FRONT SUSPENSION

First, choose which anti-roll bar to use. If blade anti-roll bar (ALTERNATIVE 1) is used, follow Alternative 1 assembly. If wire anti-roll bar is used (ALTERNATIVE 2), continue assembling the car (DO NOT ASSEMBLE BLADE BAR AND SKIP THIS STEP); the wire anti-roll bar will be mounted later in this section.

Whether you race on small, technical tracks or large, fast tracks, you have a choice of front anti-roll bars; both wire and blade style anti-roll bars are included.

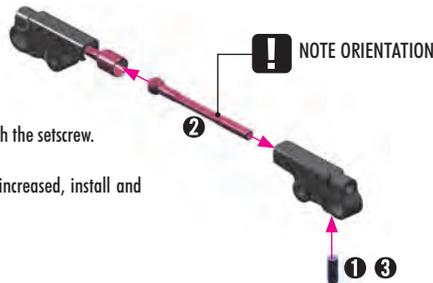
**Blade anti-roll bar (Alternative 1)** recommended for long, fast tracks when maximum cornering speed is needed. With the blade anti-roll bar, the car will not dive in the corners and will maintain maximum speed.

**Wire anti-roll bar (Alternative 2)** recommended for smaller, technical tracks when fast direction changes and side weight changes are needed.

## ALTERNATIVE 1 (BLADE ANTI-ROLL BAR)

901308  
SB M3x8

- 1 Pre-thread mount with the setscrew.
- 2
- 3 After anti-roll bar is increased, install and tighten the setscrew.



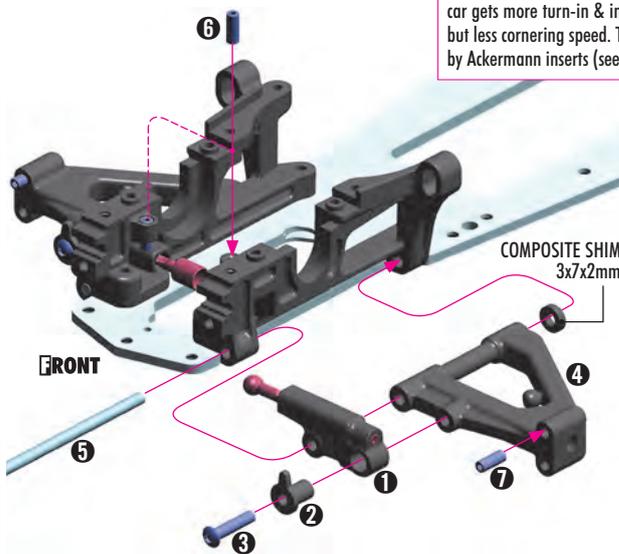
303123-O  
SHIM 3x6x2

901308  
SB M3x8



902314  
SH M3x14

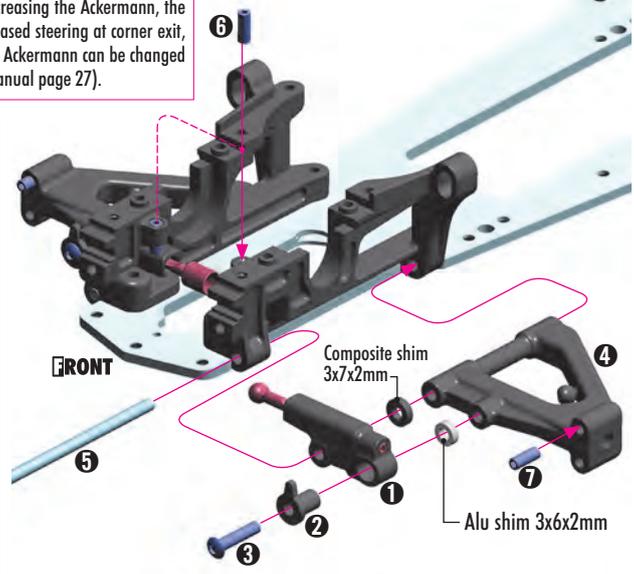
### Forward Arm Position (A) Shim behind arm



### IMPORTANT!

The position of the front arm directly influences the steering Ackermann (angle of the steering linkages). When the arm is moved to rearward position (shim in front of the arm), the angle of the steering linkages changes and gives less Ackermann. By decreasing the Ackermann, the car gets more turn-in & increased steering at corner exit, but less cornering speed. The Ackermann can be changed by Ackermann inserts (see manual page 27).

### Rearward Arm Position (B) (INITIAL SETTING) Shim in front of arm

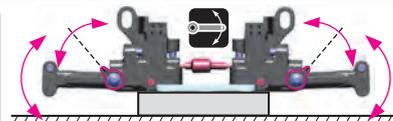


### DETAIL

- ! Each anti-roll bar blade has a hex hole at its end. Use a 1.5mm hex wrench to adjust the blades.



- ! Do not insert ball into cup too deeply or bars will bind during operation



Ensure that the suspension arms move freely. Ensure that the eccentric holders move freely.

When the bar is set, verify that both sides move at the same time. If they do, the bars are set up correctly. If not, make sure that both downstops are the same. If the arms still do not move at the same time, gently loosen the screw which holds eccentric bushing and rotate the bushing until the arms do move at the same time. Retighten the screws fully.

### STEP 7 DETAIL

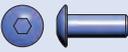
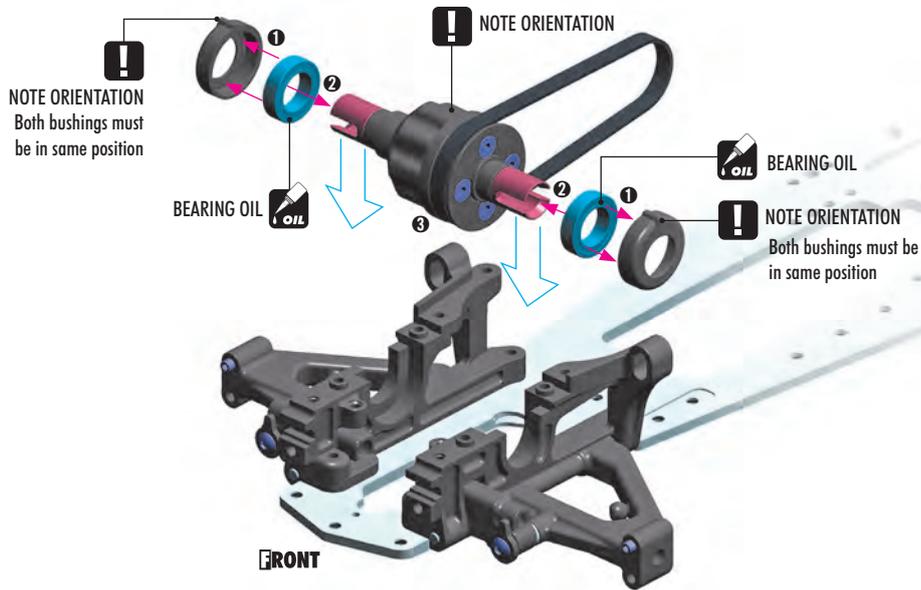


**SET-UP BOOK**  
FRONT ANTI-ROLL BAR  
ADJUSTMENT  
DOWNSTOP ADJUSTMENT

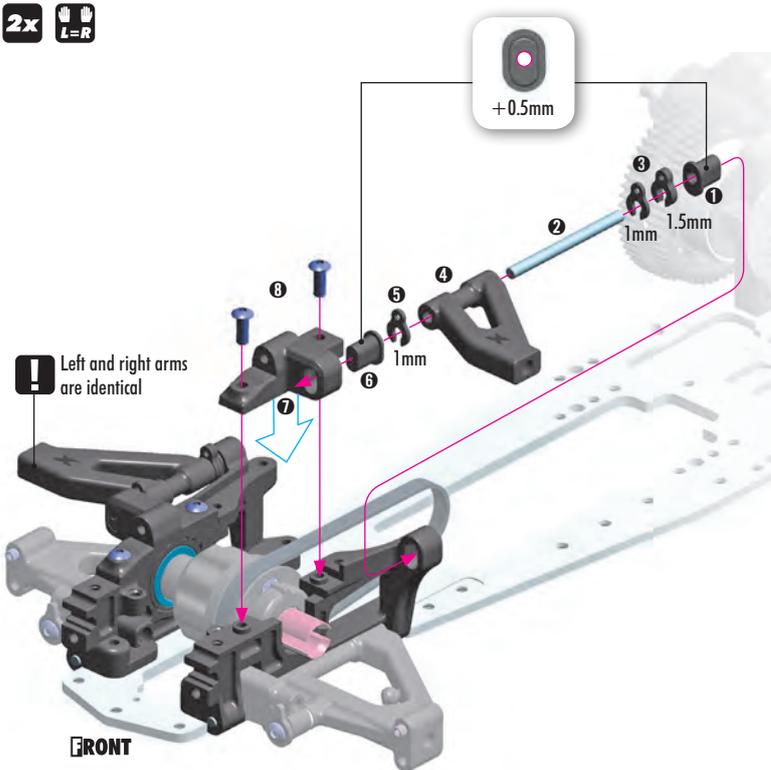
# FRONT SUSPENSION



941016  
BB 10x16x4



902308  
SH M3x8



Use (+0.5mm) suspension holders for initial assembly



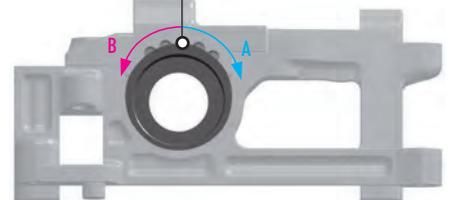
There are two different frames, rounded and square, however both feature the same eccentric holders

FRONT ROLL CENTER INSERT POSITIONS



**L=R** FRONT BELT TENSION ADJUSTMENT

INITIAL POSITION  
Place tab in this notch



**TO loosen FRONT BELT**

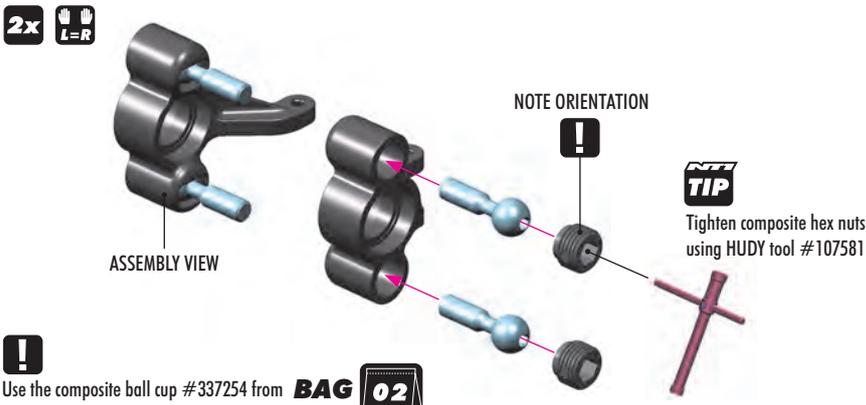
Rotate BOTH front composite bushings in arrow direction (B)

**TO tighten FRONT BELT**

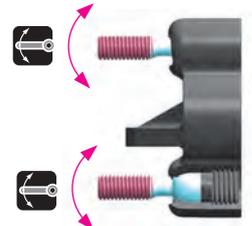
Rotate BOTH front composite bushings in arrow direction (A)



FRONT ROLL CENTER ADJUSTMENT



DETAIL



Pivot balls must move freely.

During initial assembly, tighten each aluminum hex nut until the pivot ball starts to bind, then loosen slightly. Verify that the pivot balls move freely.

# FRONT SUSPENSION

**901302**  
SB M3x2.5

**980210**  
P 2x10

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

THREAD LOCK **TL**

**1** **5**

**2**

GREASE **GR**

**4**

**3**

**STEP 5 DETAIL**  
Tighten the screw fully when the pin is installed



**901303**  
SB M3x3

**941016**  
BB 10x16x4

**981210**  
P 2x10

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

BEARING OIL **OIL**

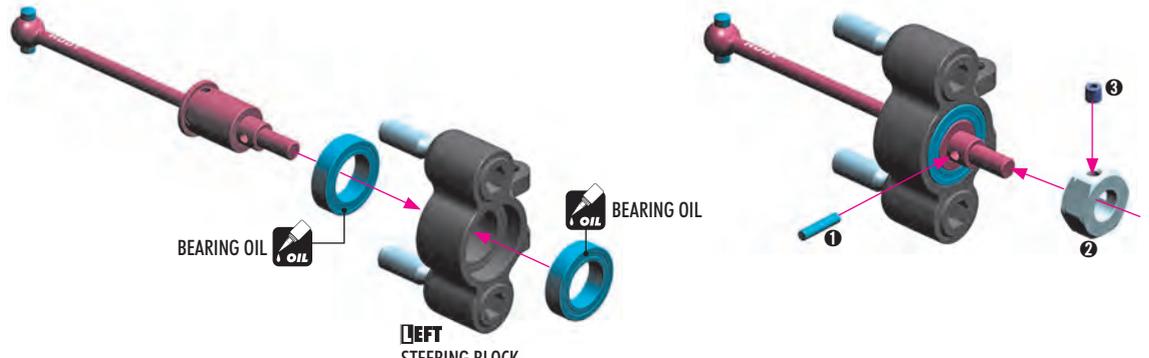
BEARING OIL **OIL**

**LEFT STEERING BLOCK**

**1**

**2**

**3**



**SET-UP BOOK**

FRONT WHEELBASE & CAMBER ADJUSTMENT

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

**RIGHT STEERING BLOCK**

**FRONT**

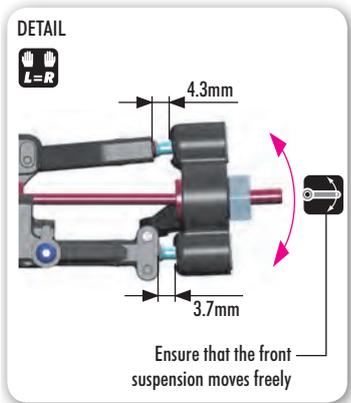
**LEFT STEERING BLOCK**

**DETAIL**  
**L=R**

4.3mm

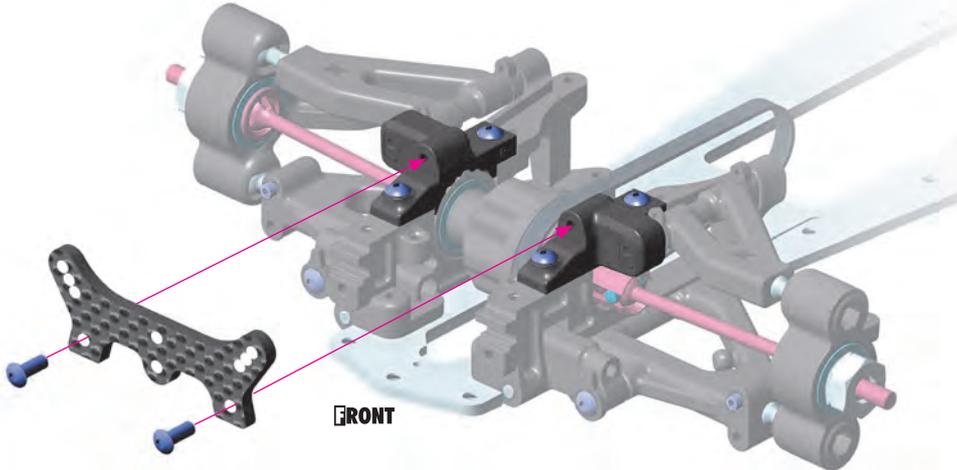
3.7mm

Ensure that the front suspension moves freely



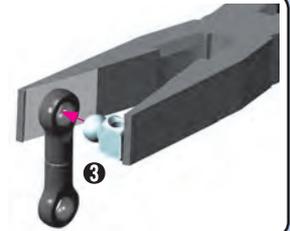
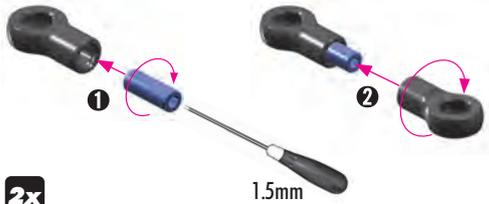
**902308**  
SH M3x8

**FRONT**



ALTERNATIVE 2 (WIRE ANTI-ROLL BAR)

901308  
SB M3x8



2x

1.5mm

1:1

27mm

3

303123-O  
SHIM 3x6x2

901308  
SB M3x8



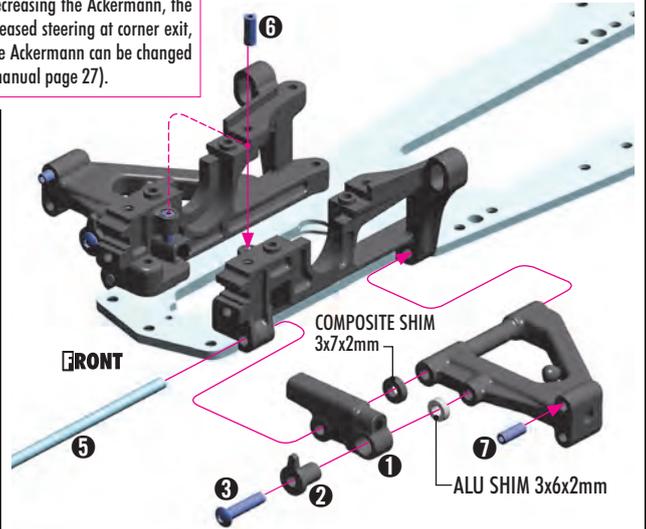
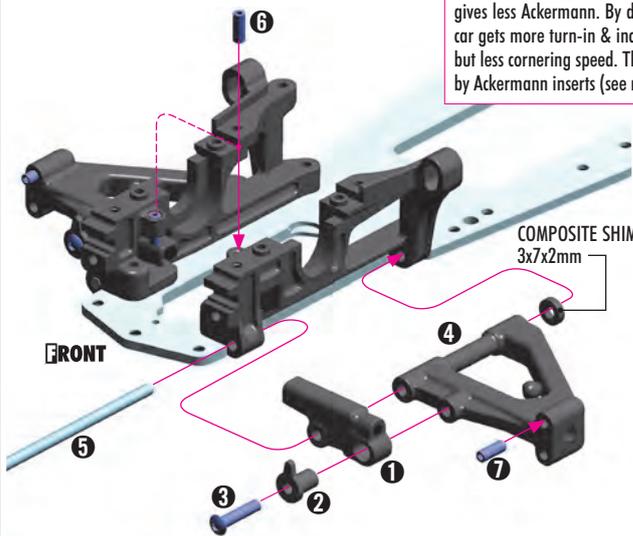
902314  
SFH M3x14

Forward Arm Position (A)  
Shim behind arm

IMPORTANT!

The position of the front arm directly influences the steering Ackermann (angle of the steering linkages). When the arm is moved to rearward position (shim in front of the arm), the angle of the steering linkages changes and gives less Ackermann. By decreasing the Ackermann, the car gets more turn-in & increased steering at corner exit, but less cornering speed. The Ackermann can be changed by Ackermann inserts (see manual page 27).

Rearward Arm Position (B)  
(INITIAL SETTING)  
Shim in front of arm



COMPOSITE SHIM  
3x7x2mm

COMPOSITE SHIM  
3x7x2mm

ALU SHIM 3x6x2mm

FRONT

FRONT

FORWARD ARM POSITION

DETAIL

FRONT

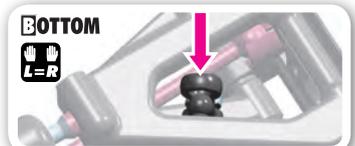
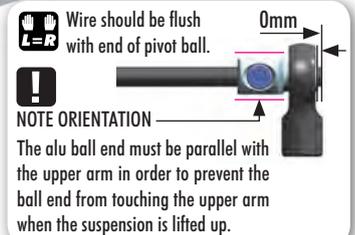
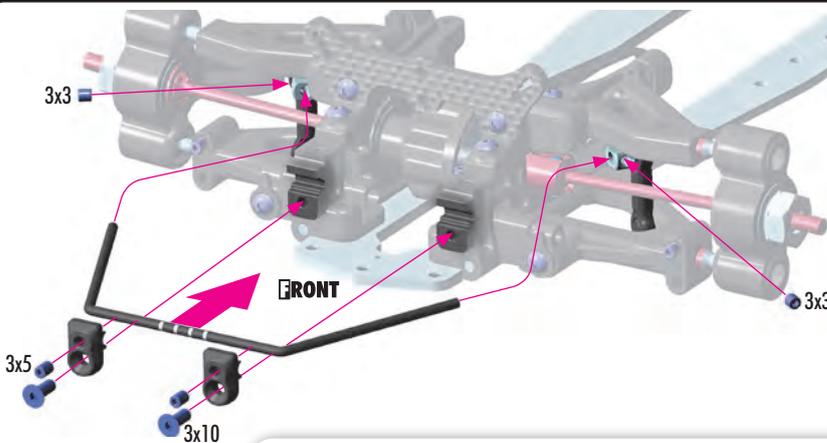
REARWARD ARM POSITION

DETAIL

901303  
SB M3x3

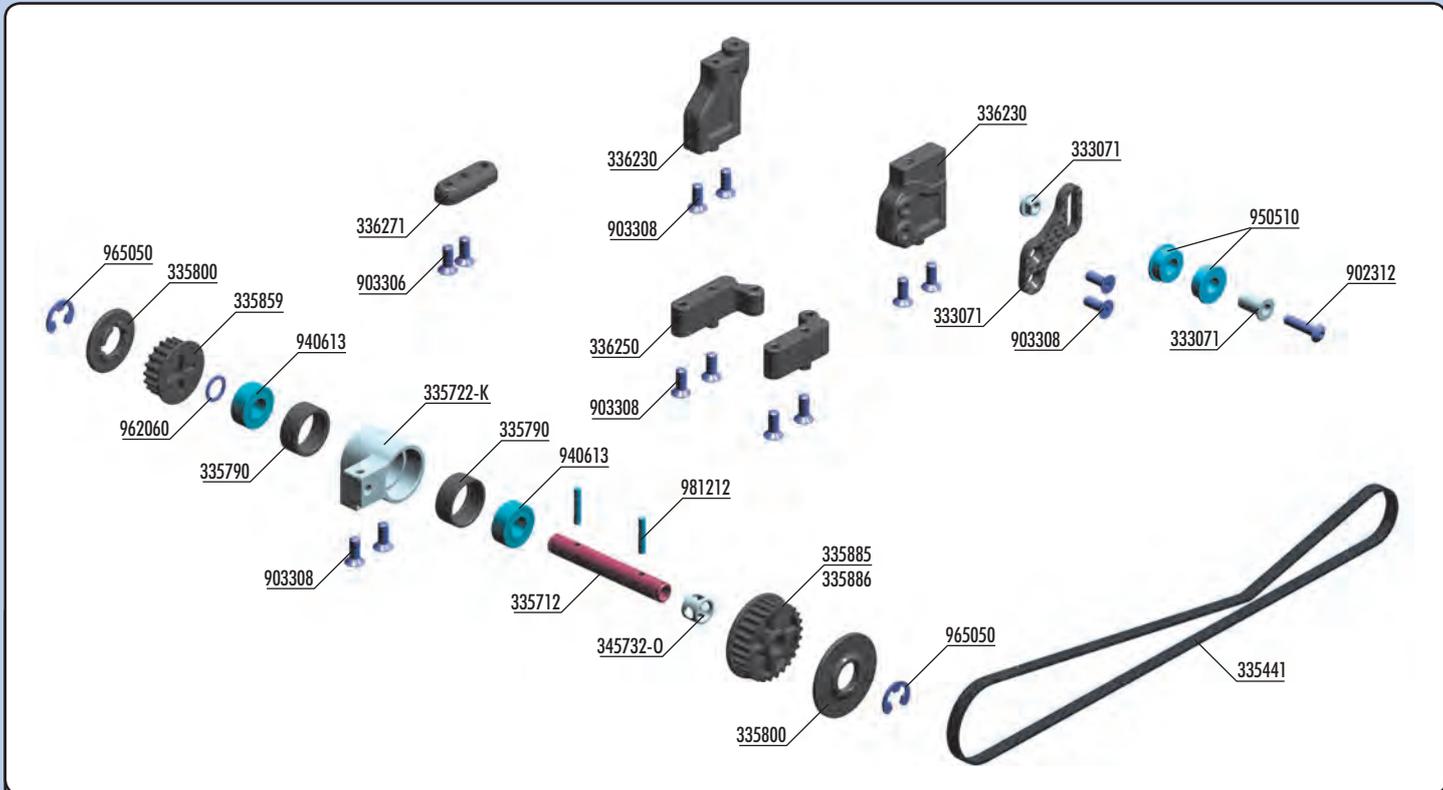
901305  
SB M3x5

903310  
SFH M3x10



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

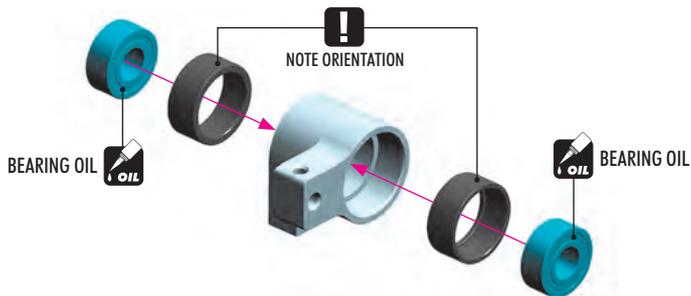
# 5. FRONT TRANSMISSION



|           |  |           |   |
|-----------|--|-----------|---|
| 33 3071   | BELT TENSIONER SET   | 33 6250   | COMPOSITE BATTERY MOUNT L+R (2)                                 |
| 33 5441   | PUR REINFORCED DRIVE BELT SIDE 4.5 x 390 MM                    | 33 6271   | COMPOSITE BATTERY PLATE HOLDER                                  |
| 33 5712   | FRONT MIDDLE SHAFT - HUDY SPRING STEEL™ - LIGHTWEIGHT          | 34 5732-0 | ALU MIDDLE SHAFT LOCATING COLLAR - SHORT - LIGHTWEIGHT - ORANGE |
| 33 5722-K | ALU FRONT MIDDLE SHAFT HOLDER - BLACK                          | 90 2312   | HEX SCREW SH M3x12 (10)   |
| 33 5790   | COMPOSITE BALL-BEARING BUSHING FOR MIDDLE SHAFT (2)            | 90 3306   | HEX SCREW SFH M3x6 (10)   |
| 33 5800   | COMPOSITE BELT PULLEY COVER SET                                | 90 3308   | HEX SCREW SFH M3x8 (10)   |
| 33 5859   | COMPOSITE BELT PULLEY 19T - MID-CENTER                         | 94 0613   | HIGH-SPEED BALL-BEARING 6x13x5 RUBBER SEALED (2)                |
| 33 5885   | COMPOSITE BELT PULLEY 25T - MID-SIDE                           | 95 0510   | BALL-BEARING FR85ZZ 5x10x4 FLANGED (2)                          |
| 33 5886   | COMPOSITE BELT PULLEY 26T - MID-SIDE                           | 96 2060   | WASHER S 6x8x0.5 (10)   |
| 33 6230   | COMPOSITE RADIO PLATE MOUNTS (1+1)                             | 96 5050   | E-CLIP 5 (10)   |
| 33 6231-0 | ALU RADIO PLATE MOUNTS (L+R) - SWISS 7075 T6 - ORANGE (OPTION) | 98 1212   | PIN 2x12 (10)   |



940613  
BB 6x13x5



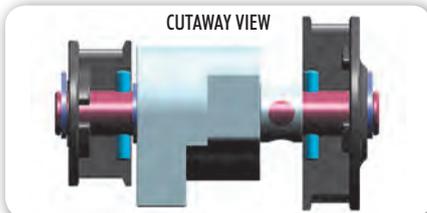
962060  
SHIM 6x8x0.5



965050  
C 5



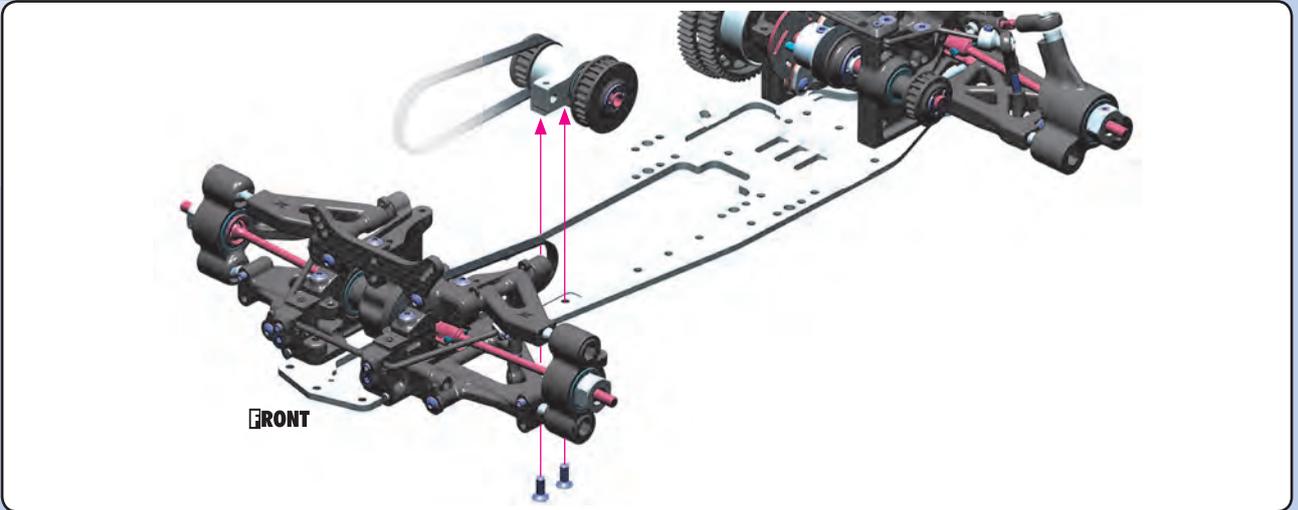
981212  
P 2x12



# FRONT TRANSMISSION



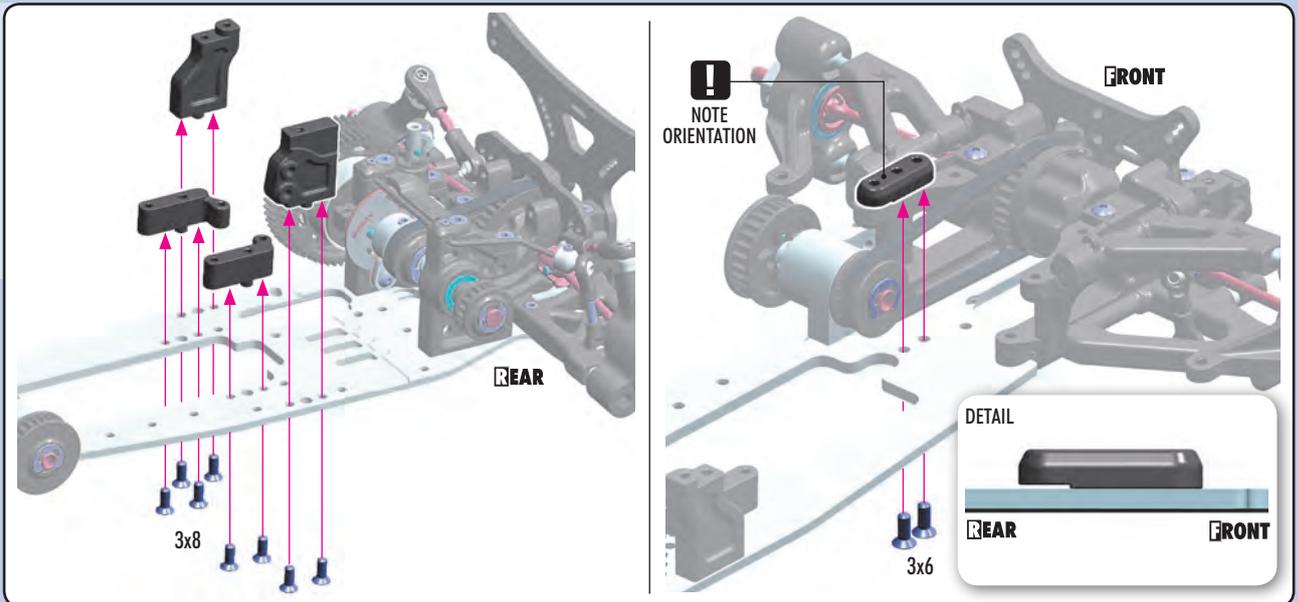
903308  
SFH M3x8



903306  
SFH M3x6



903308  
SFH M3x8



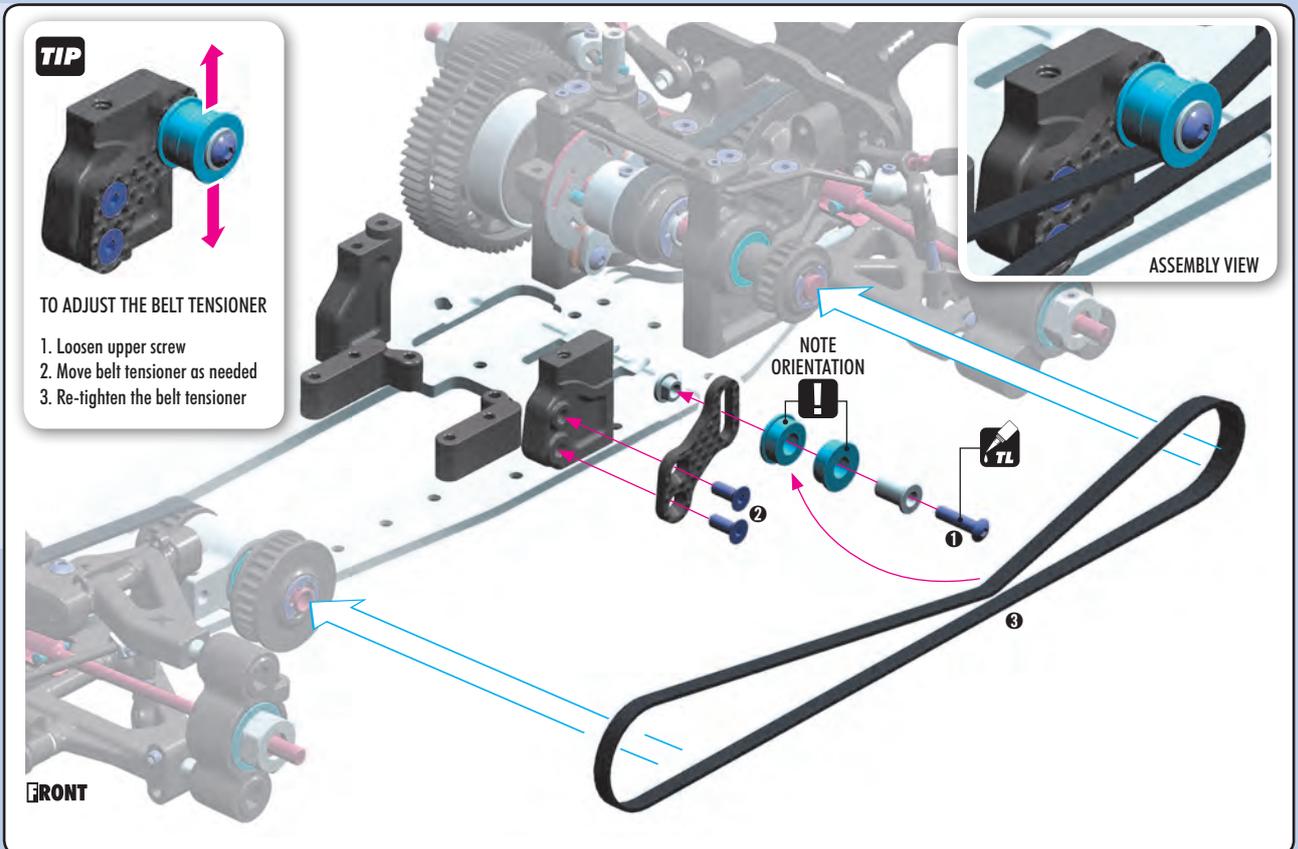
902312  
SH M3x12



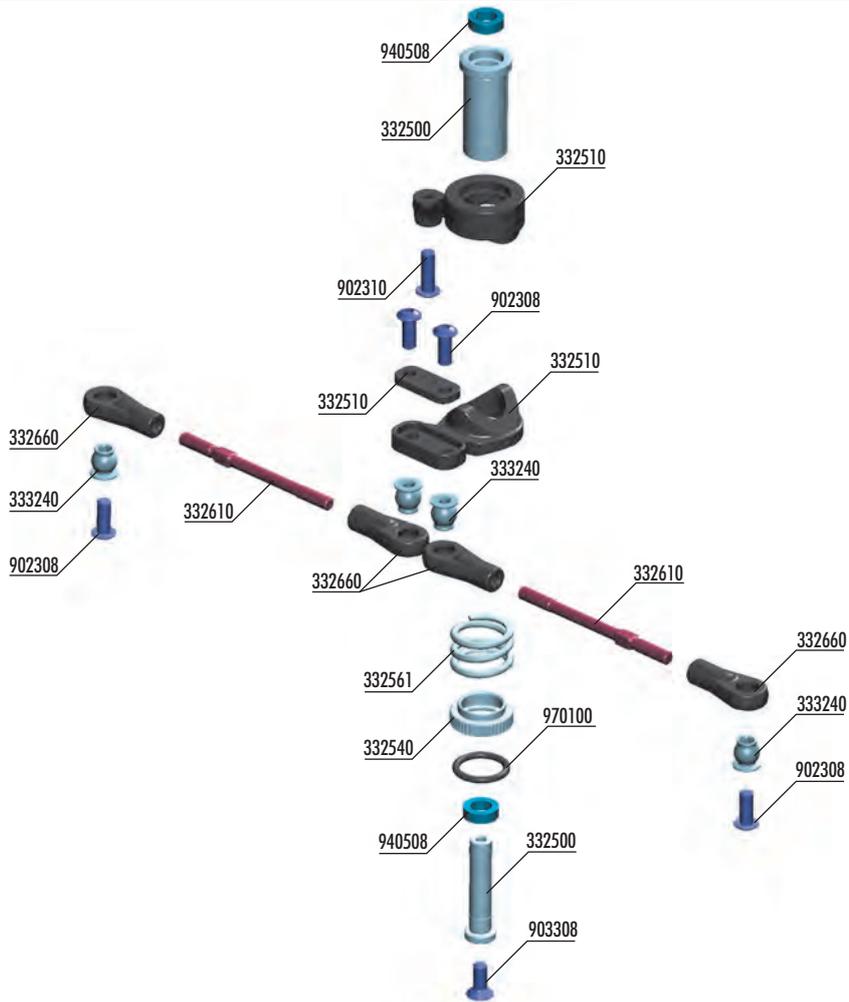
903308  
SFH M3x8



950510  
BB 5x10x4



# 6. STEERING



**BAG**



- 33 2500 SERVO SAVER COMPLETE SET
- 33 2510 COMPOSITE SERVO SAVER
- 33 2540 ALU SERVO SAVER ADJUSTABLE NUT
- 33 2561 SERVO SAVER SPRING C=14
- 33 2610 ADJ. TURNBUCKLE L/R 42 MM - HUDY SPRING STEEL™ (2)
- 33 2660 COMPOSITE STEERING & SERVO BALL JOINT 5.8 MM (4+2)

- 33 3240 BALL UNIVERSAL 5.8 MM HEX (4)
- 90 2308 HEX SCREW SH M3x8 (10)
- 90 2310 HEX SCREW SH M3x10 (10)
- 90 3308 HEX SCREW SFH M3x8 (10)
- 94 0508 HIGH-SPEED BALL-BEARING 5x8x2.5 RUBBER SEALED (2)
- 97 0100 O-RING 10 x 1.5 (10)



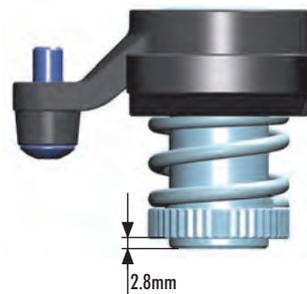
902310  
SH M3x10



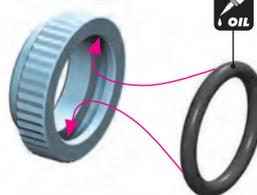
970100  
O 10x1.5



INITIAL PRELOAD



STEP 1 DETAIL



**TECH TIP** Follow the TECH TIP on page 12 to install the pivot balls

**2x**

70.6mm

70.6mm

**L=R** **1:1**

**902308**  
SH M3x8

**NOTE ORIENTATION**

**NOTE ORIENTATION**

**ACKERMANN SETTINGS**

**INITIAL SETTING**

**A** **B** **C** **D**

There are two different Ackermann inserts labeled AD and CB. You can insert each of the Ackermann inserts in two different orientations which will result in the different Ackermann settings. Note the orientation of the mounting positions.

**903308**  
SFH M3x8

**940508**  
BB 5x8x2.5

**BEARING OIL**

**BEARING OIL**

**LEFT** **FRONT** **RIGHT**

**STEP 5 DETAIL**

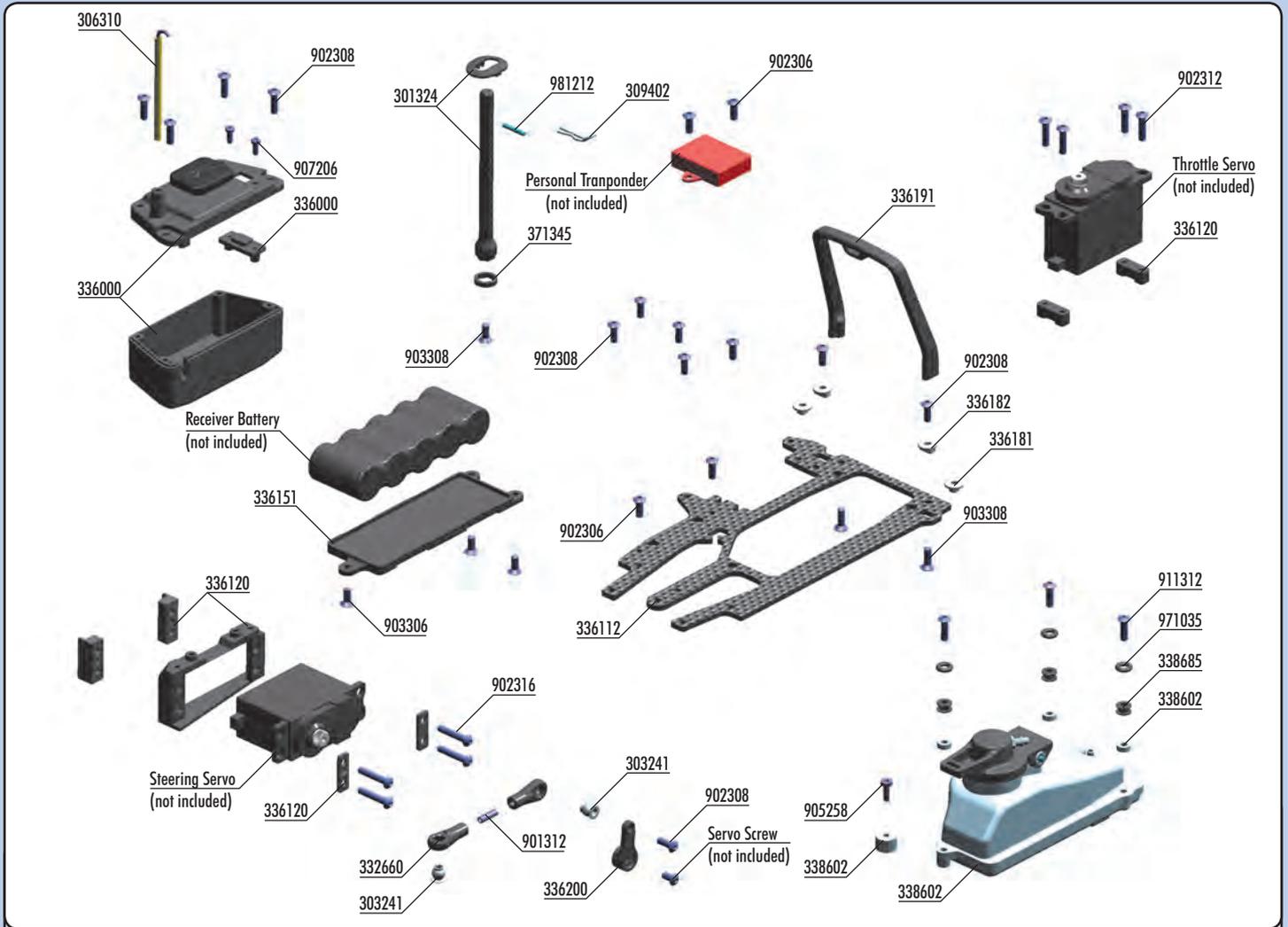
**SET-UP BOOK**  
**ACKERMANN ADJUSTMENT**

**902308**  
SH M3x8

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

**FRONT**

# 7. FUEL TANK & ELECTRONICS



## BAG



|         |  |         |                                     |         |                             |
|---------|--|---------|-------------------------------------|---------|-----------------------------|
| 30 1324 | FRONT BODY MOUNT SET +2MM HEIGHT                   | 33 6151 | COMPOSITE BATTERY PLATE             | 90 2312 | HEX SCREW SH M3x12 (10)     |
| 30 3241 | BALL UNIVERSAL 5.8 MM HEX (4)                      | 33 6191 | COMPOSITE ROLL-OVER BAR WITH EYELET | 90 2316 | HEX SCREW SH M3x16 (10)     |
| 30 6310 | ANTENNA TUBE (2)                                   | 33 6200 | STEERING SERVO ARMS - SET           | 90 3306 | HEX SCREW SFH M3x6 (10)     |
| 30 9402 | BODY CLIP FOR 6MM BODY POST (4)                    | 33 8602 | FUEL TANK 75CC - SET - V3           | 90 3308 | HEX SCREW SFH M3x8 (10)     |
| 33 2660 | COMPOSITE STEERING & SERVO BALL JOINT 5.8 MM (4+2) | 33 8685 | FUEL TANK MOUNTING GROMMET (3)      | 90 5258 | SCREW PHILLIPS 2.5x8 (10)   |
| 33 6000 | COMPOSITE RECEIVER CASE - V2                       | 37 1345 | COMPOSITE SHIM FOR BODY POST (2)    | 90 7206 | SCREW PHILLIPS M2x6 (10)    |
| 33 6112 | GRAPHITE RADIO PLATE                               |         |                                     | 91 1312 | HEX SCREW FL. SH M3x12 (10) |
| 33 6120 | COMPOSITE STEERING SERVO HOLDER - SET              | 90 1312 | HEX SCREW SB M3x12 (10)             | 97 1035 | SILICONE O-RING 3.5x2 (10)  |
| 33 6181 | ALU RADIO PLATE MULTI-FLEX™ BUSHING - FLEX (2)     | 90 2306 | HEX SCREW SH M3x6 (10)              | 98 1212 | PIN 2x12 (10)               |
| 33 6182 | ALU RADIO PLATE MULTI-FLEX™ BUSHING - FIXED (2)    | 90 2308 | HEX SCREW SH M3x8 (10)              |         |                             |



903308  
SFH M3x8



905258  
2.5x8



911312  
SFH M3x12



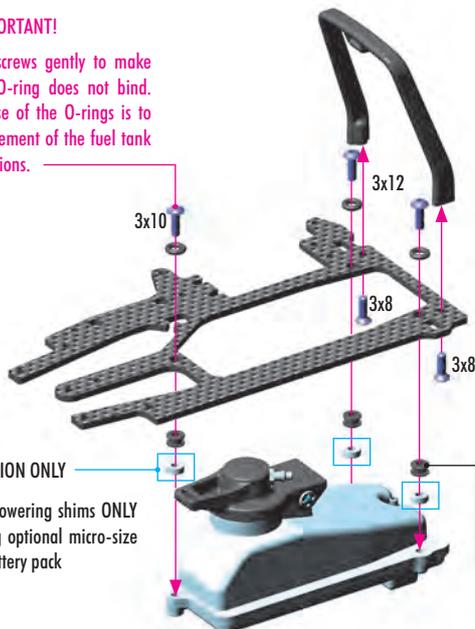
971035  
O 3.5x2

### IMPORTANT!

Tight the screws gently to make sure that O-ring does not bind. The purpose of the O-rings is to create movement of the fuel tank in all directions.

### OPTION ONLY

Use 3mm lowering shims ONLY when using optional micro-size receiver battery pack



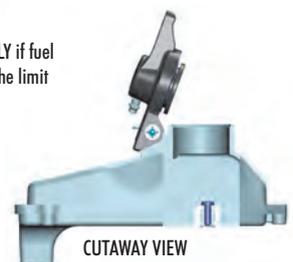
### CUTAWAY VIEW



Ensure that bar is square with radio plate



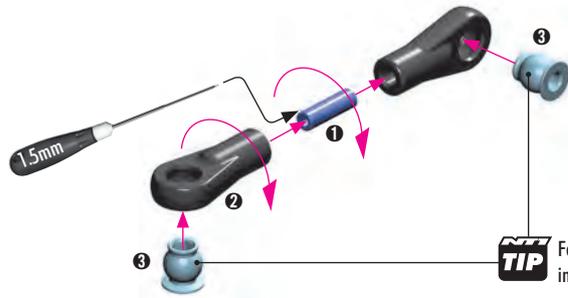
Install insert ONLY if fuel capacity is over the limit



CUTAWAY VIEW



901312  
SB M3x12



**TECH TIP** Follow the TECH TIP on page 13 to install the pivot balls



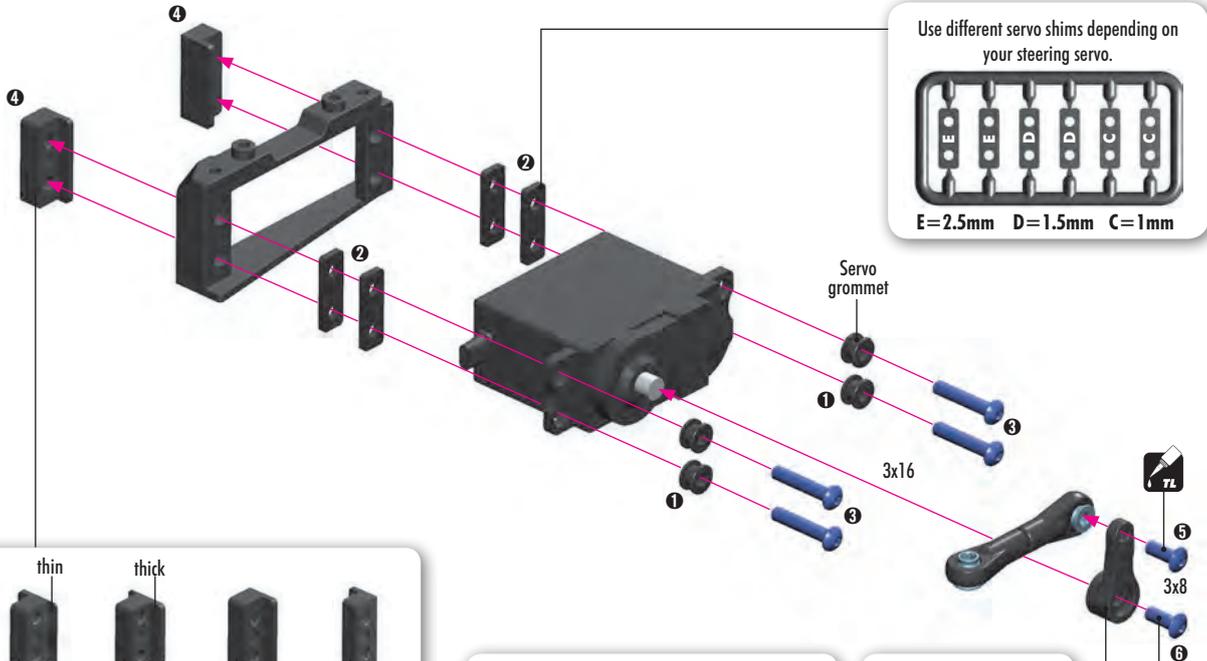
Note the 90° angle difference between the ball joints



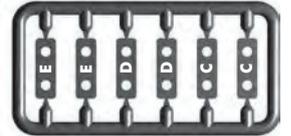
902308  
SH M3x8



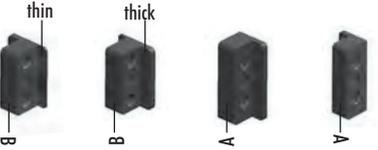
902316  
SH M3x16



Use different servo shims depending on your steering servo.



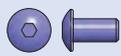
E=2.5mm D=1.5mm C=1mm



Use appropriate inserts for your servo, to ensure the servo has minimal play (movement) in the servo holder.

| HUDY ALU SERVO HORNS |  |
|----------------------|--|
| #293501              | 23T KO Propo, Airtronics, JR, Sanwa (OPTION) |
| #293502              | 24T Hitec (OPTION)                           |
| #293503              | 25T Futaba (OPTION)                          |

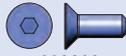
Use appropriate servo arm:  
K - (23T)  
H - (24T)  
F - (25T)



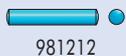
902306  
SH M3x6



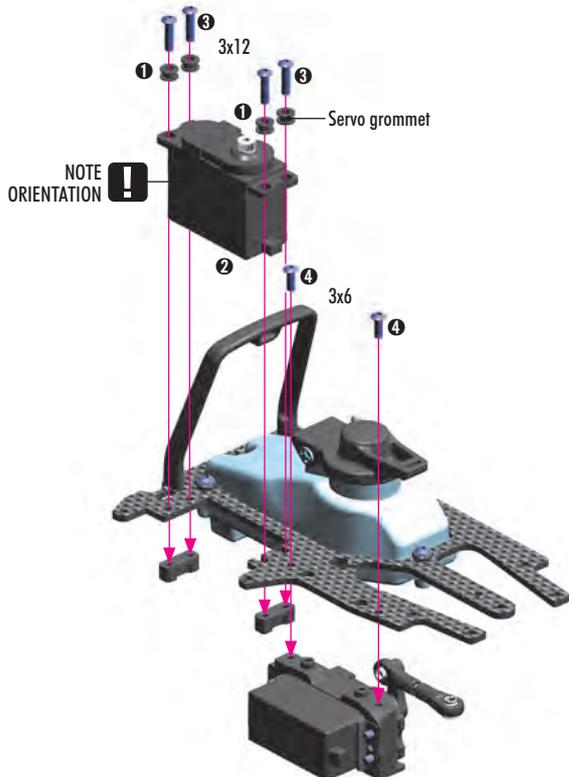
902312  
SH M3x12



903308  
SFH M3x8



981212  
P 2x12



**NOTE ORIENTATION**



# FUEL TANK & ELECTRONICS

902308  
SH M3x8

902310  
SH M3x10

ALU RADIO PLATE  
MULTI-FLEX™ BUSHINGS

**FIXED**

**INITIAL SETTING**  
When using fixed bushing, tighten fully.

**BOTTOM DETAIL**

**FLEX**

When using the flex bushing, tighten the screw fully and then loosen 1/8 of a turn to allow the the top deck to flex.

**BOTTOM DETAIL**

**DETAIL**

Servo arm must be perpendicular to linkage when servo is in neutral.

90°~95°

Attach steering linkage to servo saver.

902306  
SH M3x6

902308  
SH M3x8

907206  
2x6

Antenna

If the receiver box has 2 different-size openings for cable entry (narrow and wider), cut away the tab for the appropriate opening to allow the cables to fit properly.

Route servo and transponder leads into box and seal with silicone sealant

3x8

2x6

3x6

Personal Transponder (not included)

Use an appropriate receiver battery pack.

The NT1 accommodates standard 5-cell receiver packs or optional micro-size packs.

Use tape to mount the receiver battery pack to the lower holder.

Battery (not included)

**ASSEMBLED VIEW**

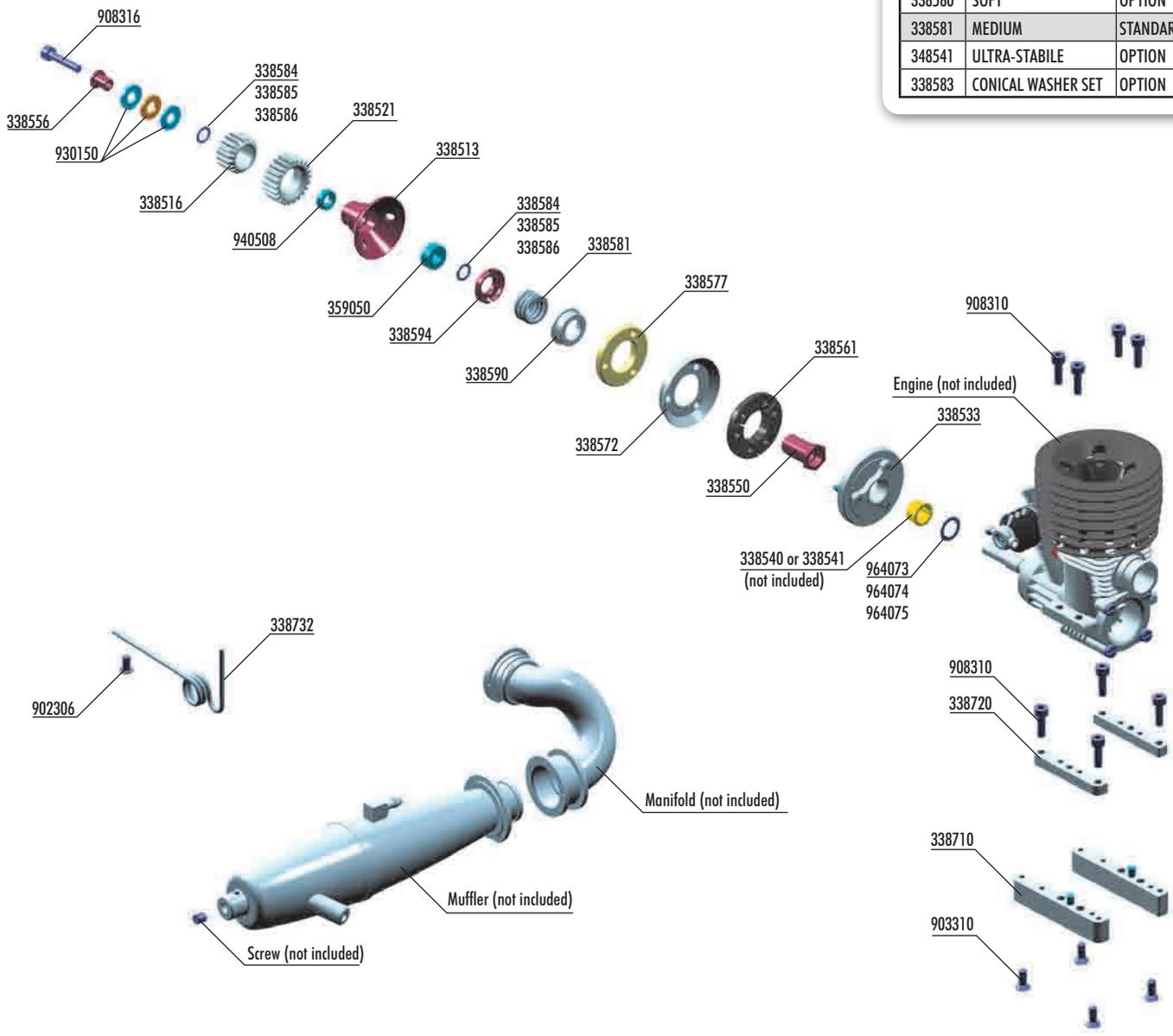
903306  
SFH M3x6

**FRONT**

**REAR**

# 8. ENGINE & CLUTCH

| CLUTCH SPRINGS |                    |          |
|----------------|--------------------|----------|
| 338580         | SOFT               | OPTION   |
| 338581         | MEDIUM             | STANDARD |
| 348541         | ULTRA-STABILE      | OPTION   |
| 338583         | CONICAL WASHER SET | OPTION   |



| 1ST PINION GEARS |  |          |
|------------------|--|----------|
| 338515           | XCA HARDCOATED PINION GEAR - 15T (1st) | OPTION   |
| 338516           | XCA HARDCOATED PINION GEAR - 16T (1st) | STANDARD |
| 338517           | XCA HARDCOATED PINION GEAR - 17T (1st) | OPTION   |
| 338518           | XCA HARDCOATED PINION GEAR - 18T (1st) | OPTION   |

| 2ST PINION GEARS |  |          |
|------------------|--|----------|
| 338520           | XCA HARDCOATED PINION GEAR - 20T (2nd) | OPTION   |
| 338521           | XCA HARDCOATED PINION GEAR - 21T (2nd) | STANDARD |
| 338522           | XCA HARDCOATED PINION GEAR - 22T (2nd) | OPTION   |
| 338523           | XCA HARDCOATED PINION GEAR - 23T (2nd) | OPTION   |
| 338524           | XCA HARDCOATED PINION GEAR - 24T (2nd) | OPTION   |



- 33 8502 XCA (XRAY CENTRIFUGAL-AXIAL) CLUTCH SET - REVERSE
- 33 8513 XCA CLUTCHBELL - HIGH DYNAMIC - HUDY STEEL
- 33 8516 XCA ALU 7075 T6 HARD COATED PINION GEAR - 16T (1ST)
- 33 8521 XCA ALU 7075 T6 HARD COATED PINION GEAR - 21T (2ND)
- 33 8533 FLYWHEEL REVERSE - FLAT - ALU 7075 T6 - HARDCOATED - 32MM
- 33 8540 FLYWHEEL COLLAR 7MM - NOVAROSS (OPTION)
- 33 8541 FLYWHEEL COLLAR 6MM - PICCO (OPTION)
- 33 8550 FLYWHEEL NUT - HUDY SPRING STEEL™
- 33 8556 CLUTCH BELL BUSHING - HUDY SPRING STEEL™
- 33 8561 CLUTCH FLYWEIGHT SET - HIGH DYNAMIC
- 33 8572 ALU CLUTCH DISK - CONICAL - SWISS 7075 T6
- 33 8577 CLUTCH SHOE - HIGH DYNAMIC - YELLOW
- 33 8581 CLUTCH SPRING - MEDIUM
- 33 8584 SHIM 5x7x0.2 (10)
- 33 8585 SHIM 5x7x0.3 (10)
- 33 8586 SHIM 5x7x0.5 (10)
- 33 8590 CLUTCH SPRING CUP - ALU 7075 T6
- 33 8594 CLUTCH PRELOAD ADJ. NUT - HUDY SPRING STEEL™

- 33 8710 ALU ENGINE MOUNT (2)
- 33 8720 ALU STAND FOR ENGINE MOUNT (2)
- 33 8732 EXHAUST MOUNTING WIRE - EXTRA-LONG
- 35 9050 CLUTCH BELL BALL-BEARING MR105ZZ 5x10x4 (2)
- 90 2306 HEX SCREW SH M3x6 (10)
- 90 3310 HEX SCREW SFH M3x10 (10)
- 90 8310 HEX SCREW SOCKET HEAD CAP M3x10 (10)
- 90 8316 HEX SCREW SOCKET HEAD CAP M3x16 (10)
- 93 0150 CARBIDE BALL-BEARING AXIAL F5-10 5x10x4 WITH GROOVE
- 94 0508 HIGH-SPEED BALL-BEARING 5x8x2.5 RUBBER SEALED (2)
- 96 4073 WASHER S 7x10x0.2 (10)
- 96 4074 WASHER S 7x10x0.3 (10)
- 96 4075 WASHER S 7x10x0.5 (10)



964073  
5.7x10x0.2



964074  
5.7x10x0.3



964075  
5.7x10x0.5

Shim (for adjusting flywheel distance)

Use the flywheel collar that comes with your engine, or use optional XRAY collars:  
 #338540 – XRAY flywheel collar for Ø6mm crankshafts  
 #338541 – XRAY flywheel collar for Ø7mm crankshafts

The flywheel collar must stay inside the flywheel.  
 If the flywheel collar is too long – if it is flush with the flywheel or protrudes slightly – remove a small amount of material from the end, or use an XRAY collar.

**CORRECT** ✓      **INCORRECT** ✗

**TIP** Hold the flywheel using HUDY Flywheel Tool #182010

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

Clutch weights are machined as 1 piece, with thin film connecting the pieces together. You need to cut the connecting film to separate the 3 shoes.

**CUT**

Flywheel

**NOTE ORIENTATION**

**DETAIL**

10~11mm  
Adjust with spring preload collar

9.2 + 0.1mm  
Adjust with shims behind flywheel

**DETAIL**

INITIAL POSITION FOR FLYWHEEL PINS

**TECH TIP FOR EXTRA BOTTOM-END POWER**

For extra bottom-end power, thread a M3x4 setscrew (#901304) into each clutch flyweight as shown. The setscrew will add more weight to the end of the flyweight which will cause the flyweight to open harder, giving more bottom-end power. This is recommended for high-traction tracks where bottom-end power is required.

**IMPORTANT!**  
 Install setscrew into free (non-pivot) end of flyweight.

After inserting the setscrew, some excess material may come out of the hole. REMOVE this excess material with a knife.

**3x** M3x4 (#901304 not included)

**CUTAWAY VIEW**

**TECH TIP FOR NT1 CLUTCH SHOE**

To ensure that the NT1 clutch shoe works properly and for a long time, it is very important to run in the clutch shoe.



Please follow these run-in steps to help ensure proper clutch operation:

- 1 Install clutch according to manual.
- 2 Check that the spring preload is not too much; for run-in process use less preload.
- 3 When you start the engine, the clutch should start engage under low RPM. If the clutch engages only under high RPM, stop the engine and loosen the spring preload collar. Repeat until the clutch engages under low RPM.
- 4 Run in the clutch shoe on the track, or on the starter box if you have only limited time. (We recommend running it in on the track.)
- 5 Run in the clutch shoe for 1 tank of fuel using a soft preload setting, and then after that slightly tighten the spring preload. DO NOT run in the clutch shoe under high RPM.
- 6 Continue this process until the clutch shoe is properly run in; this will be indicated by a dark and glossy surface colour on the top of the clutch shoe.



338584  
S 5x7x0.2



338585  
S 5x7x0.3



338586  
S 5x7x0.5



930508  
BB 5x10x4



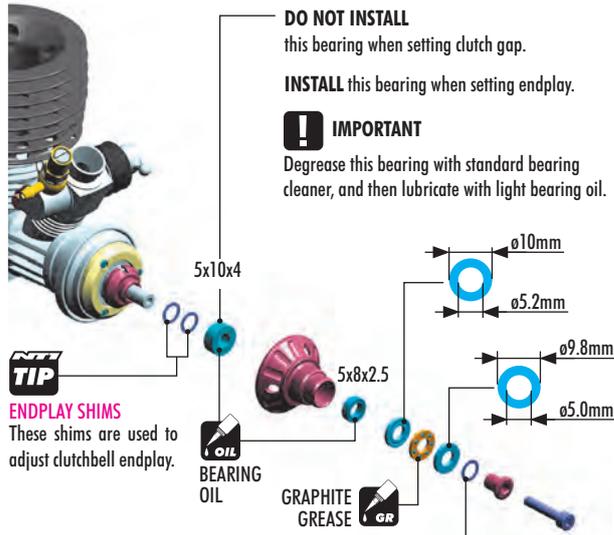
359050  
BB 5x10x4



930150  
BA 5x10



908316  
SCH M3x16

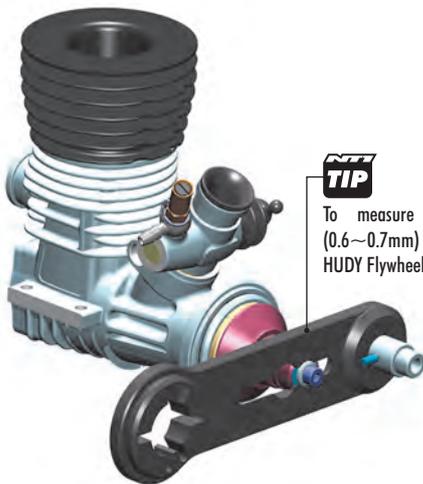


**TIP**  
**ENDPLAY SHIMS**  
These shims are used to adjust clutchbell endplay.

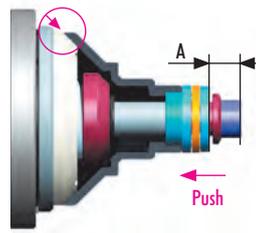
**DO NOT INSTALL** this bearing when setting clutch gap.  
**INSTALL** this bearing when setting endplay.

**IMPORTANT**  
Degrease this bearing with standard bearing cleaner, and then lubricate with light bearing oil.

**TIP**  
**CLUTCH GAP SHIMS**  
These shims are used to adjust clutch gap.



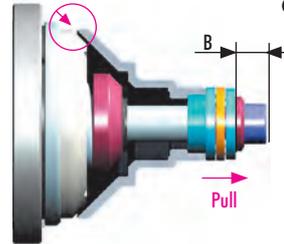
**TIP**  
To measure the clutch gap (0.6~0.7mm) you can also use HUDY Flywheel Tool #182010



## (1) ADJUSTING THE CLUTCH GAP

1 Install the clutchbell, outer ball-bearing (small), and thrustbearing assembly on the engine crankshaft. **DO NOT** install the inner ball-bearing or internal shims.

Push the clutchbell onto the clutch shoe and measure distance A as indicated.



2 Pull the clutchbell away from the clutch shoe and measure distance B as indicated.

3 The clutch gap is A - B; the correct gap is 0.6-0.7mm

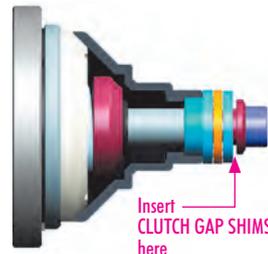
If the clutch gap is greater than this, you can easily calculate the thickness of shims required to set correct gap:

$$\text{Thickness of shims required (in mm)} = A - B - 0.7$$

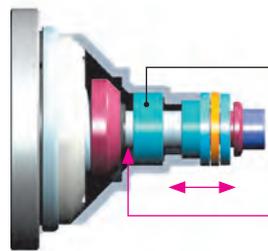
For example, using the values A=5.5mm, B=4.5mm

$$\text{Shim thickness} = 5.5 - 4.5 - 0.7 = 0.3\text{mm}$$

Place shims on the small collar, outside the thrustbearing assembly.



Insert CLUTCH GAP SHIMS here

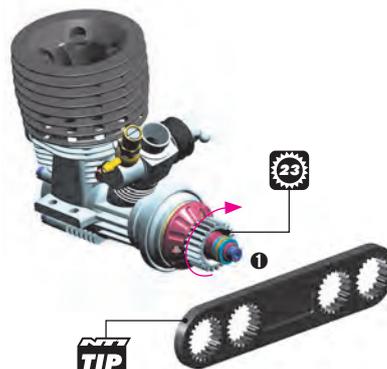
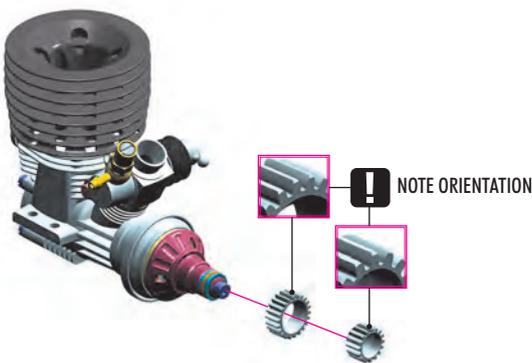


## (2) ADJUSTING THE ENDPLAY

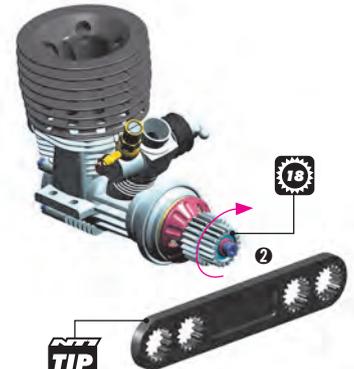
Measure endplay with this bearing installed

Apply shims on crankshaft to set endplay to 0.05-0.15mm

Insert ENDPLAY SHIMS here (approximately 0.7~1.0mm)



**TIP**  
To tighten the 23T pinion gear use the optional #339901 XRAY NT1 Pinion Tool (20~23T; 15~18T).



**TIP**  
To tighten the 18T pinion gear use the optional #339901 XRAY NT1 Pinion Tool (20~23T; 15~18T).

# ENGINE & CLUTCH



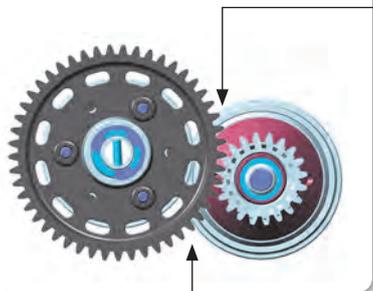
903310  
SFH M3x10



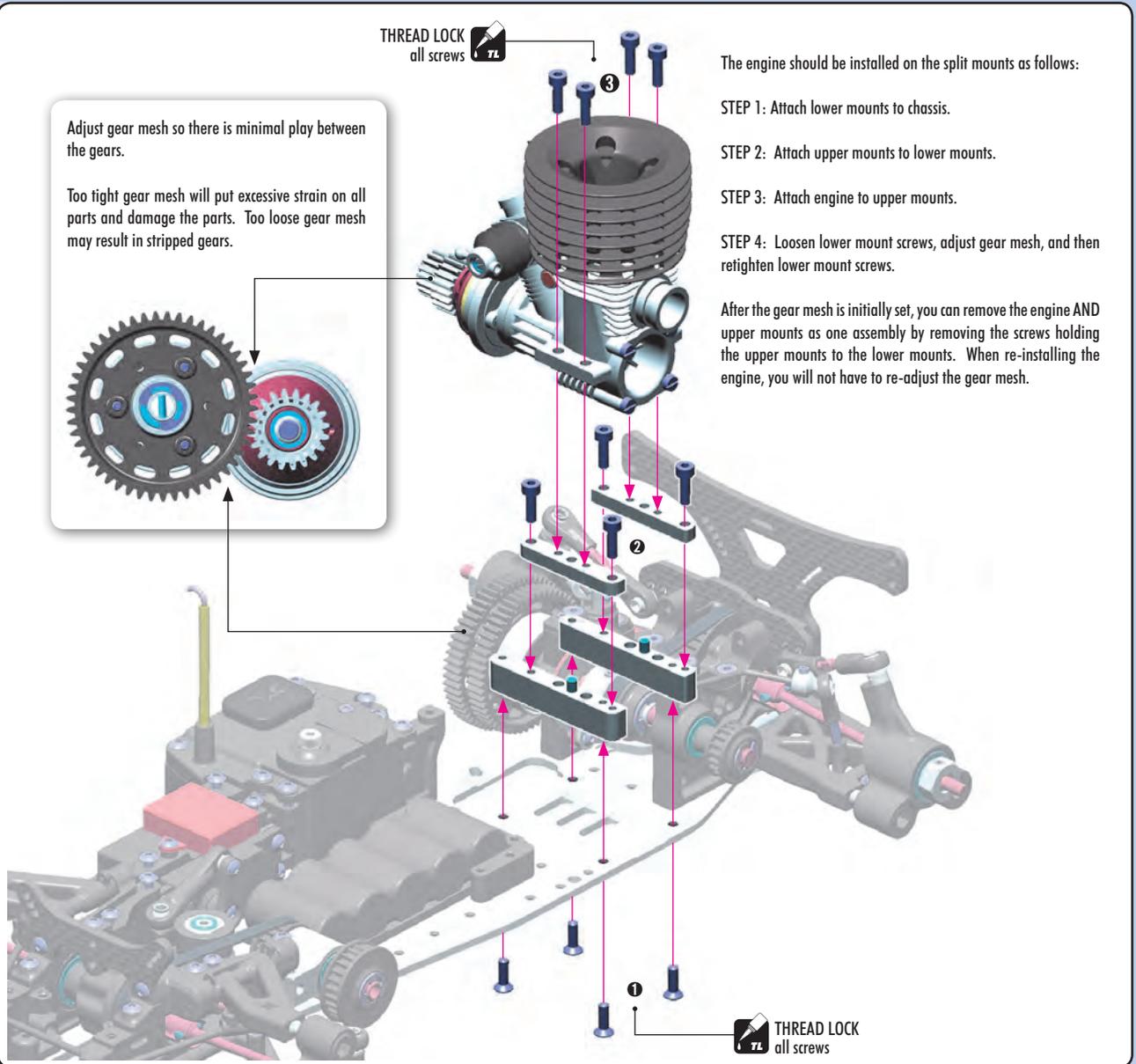
908310  
SCH M3x10

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

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



THREAD LOCK  
all screws



The engine should be installed on the split mounts as follows:

STEP 1: Attach lower mounts to chassis.

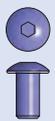
STEP 2: Attach upper mounts to lower mounts.

STEP 3: Attach engine to upper mounts.

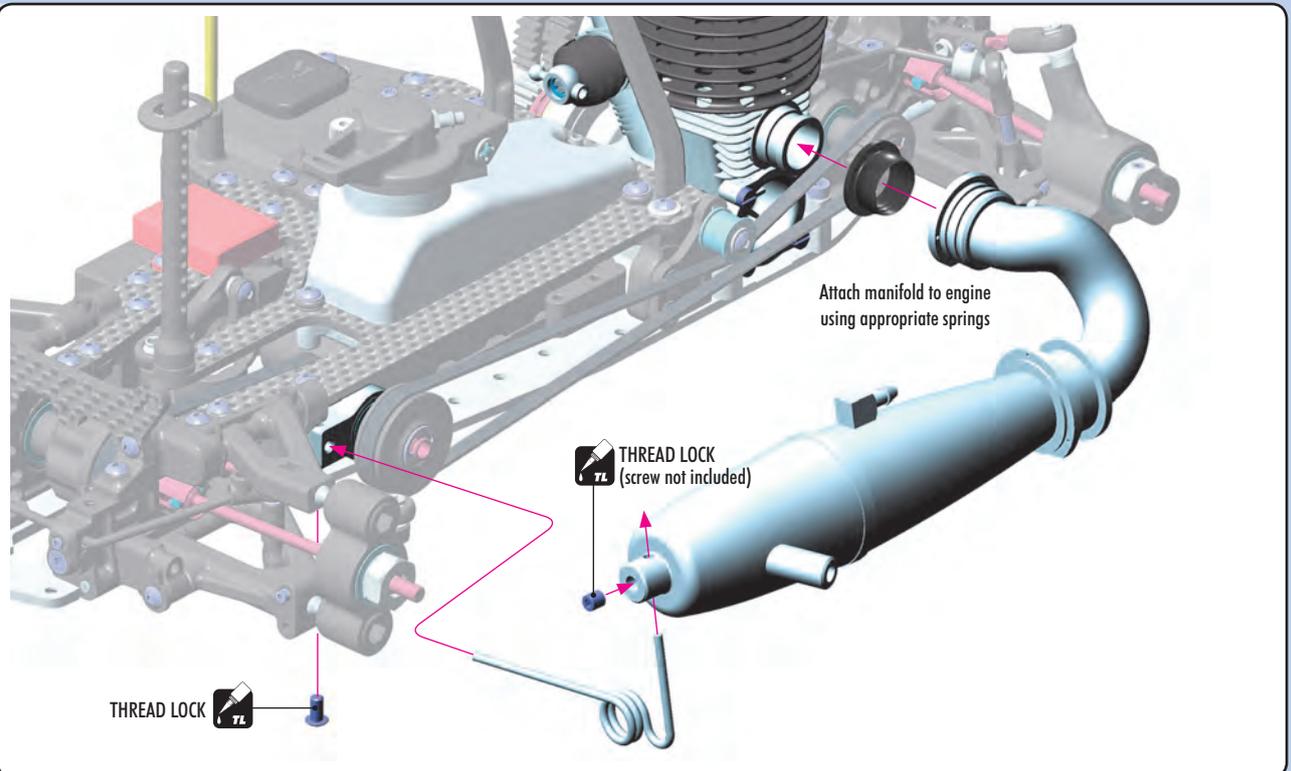
STEP 4: Loosen lower mount screws, adjust gear mesh, and then retighten lower mount screws.

After the gear mesh is initially set, you can remove the engine AND upper mounts as one assembly by removing the screws holding the upper mounts to the lower mounts. When re-installing the engine, you will not have to re-adjust the gear mesh.

THREAD LOCK  
all screws



902306  
SH M3x6

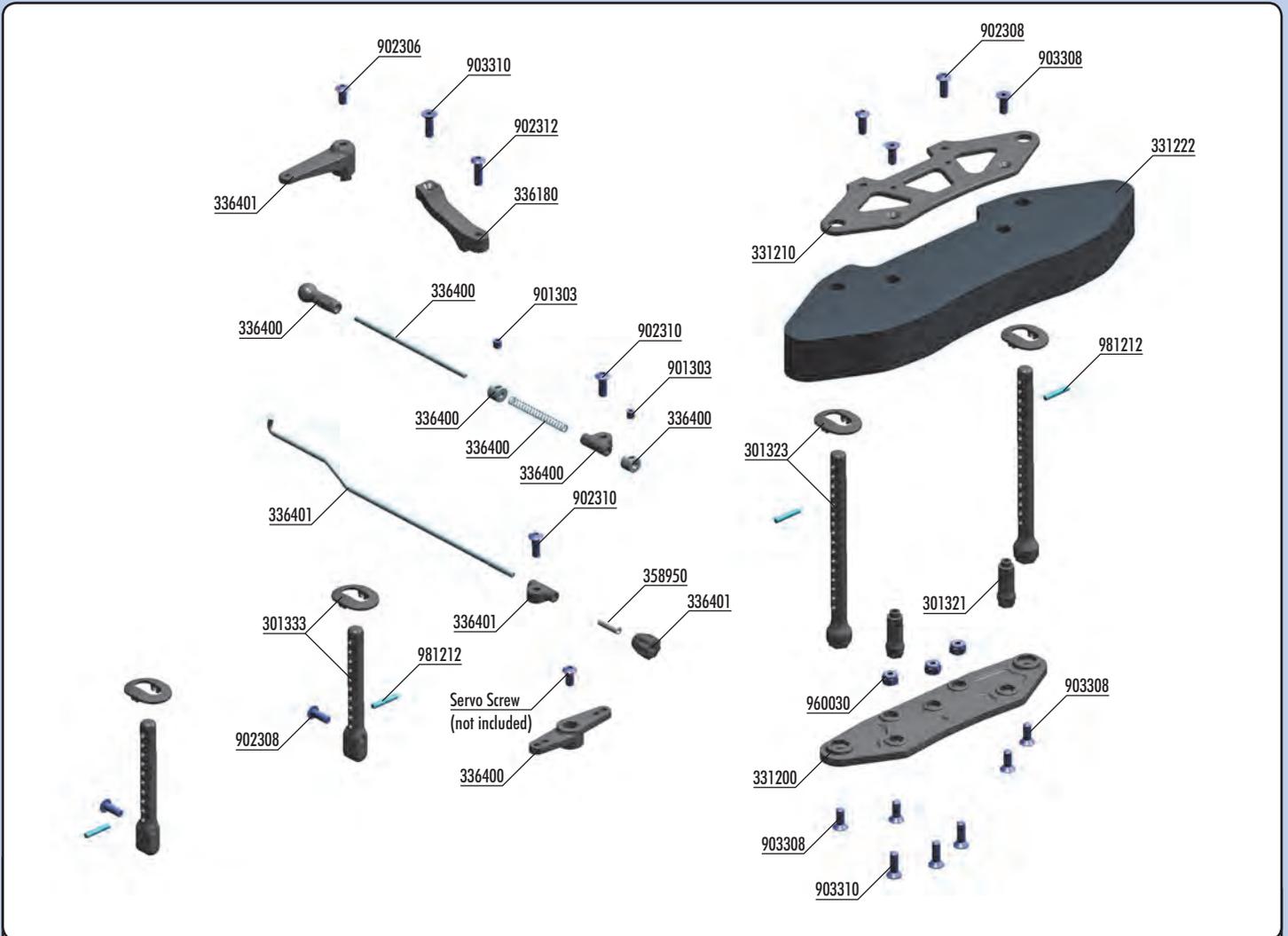


Attach manifold to engine using appropriate springs

THREAD LOCK  
(screw not included)

THREAD LOCK

# 9. CARB LINKAGE & BODYMOUNTS



## BAG



|         |                                       |         |   |         |                          |
|---------|---------------------------------------|---------|---|---------|--------------------------|
| 30 1321 | COMPOSITE BRACE FOR BUMPER (2)        | 33 1222 | FOAM BUMPER FOR ANTI-ROLL BAR                   | 90 2306 | HEX SCREW SH M3x6 (10)   |
| 30 1323 | FRONT BODY MOUNT SET + 1MM HEIGHT     | 33 6180 | COMPOSITE REAR STIFFENER                        | 90 2308 | HEX SCREW SH M3x8 (10)   |
| 30 1333 | REAR BODY MOUNT SET + 1MM HEIGHT      | 33 6400 | THROTTLE SYSTEM SET                             | 90 2310 | HEX SCREW SH M3x10 (10)  |
| 33 1200 | COMPOSITE BUMPER                      | 33 6401 | BRAKE SYSTEM SET                                | 90 2312 | HEX SCREW SH M3x12 (10)  |
| 33 1201 | COMPOSITE WIDE BUMPER (OPTION)        | 35 8950 | SILICONE TUBING 1M (2.4 x 5.5MM)                | 90 3308 | HEX SCREW SFH M3x8 (10)  |
| 33 1210 | COMPOSITE UPPER HOLDER FOR BUMPER     | 35 8951 | SIL. TUBING 1M (2.4 x 5.5MM) FLUORESCENT YELLOW | 90 3310 | HEX SCREW SFH M3x10 (10) |
| 33 1211 | FRONT HOLDER FOR TRANSPONDER (OPTION) | 90 1303 | HEX SCREW SB M3x3 (10)                          | 96 0030 | NUT M3 (10)              |
| 33 1221 | FOAM BUMPER - HARD - V2 (OPTION)      |         |   | 98 1212 | PIN 2x12 (10)            |



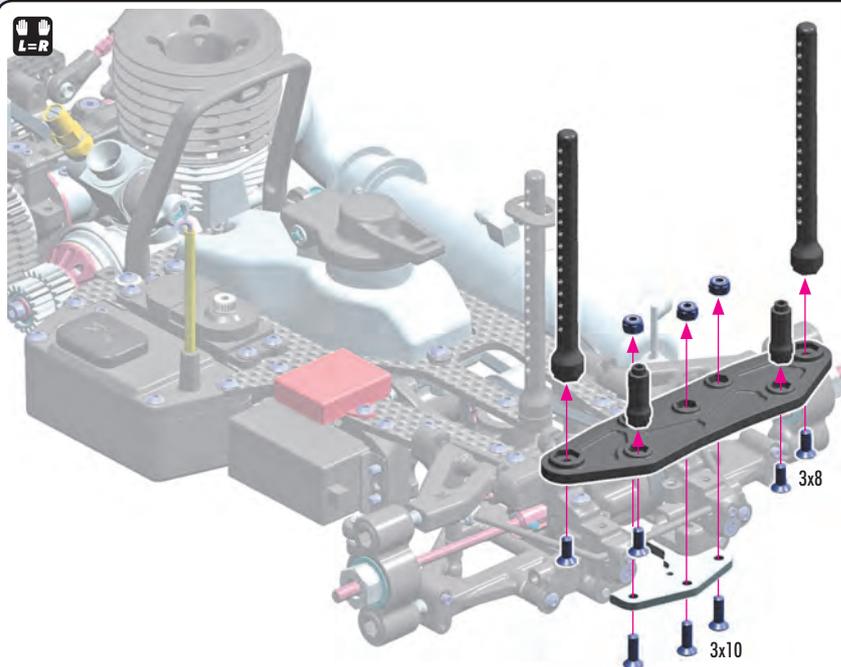
903308  
SFH M3x8



903310  
SFH M3x10



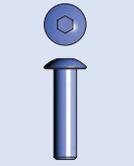
960030  
N M3



# CARB LINKAGE & BODYMOUNTS



902308  
SH M3x8



902312  
SH M3x12



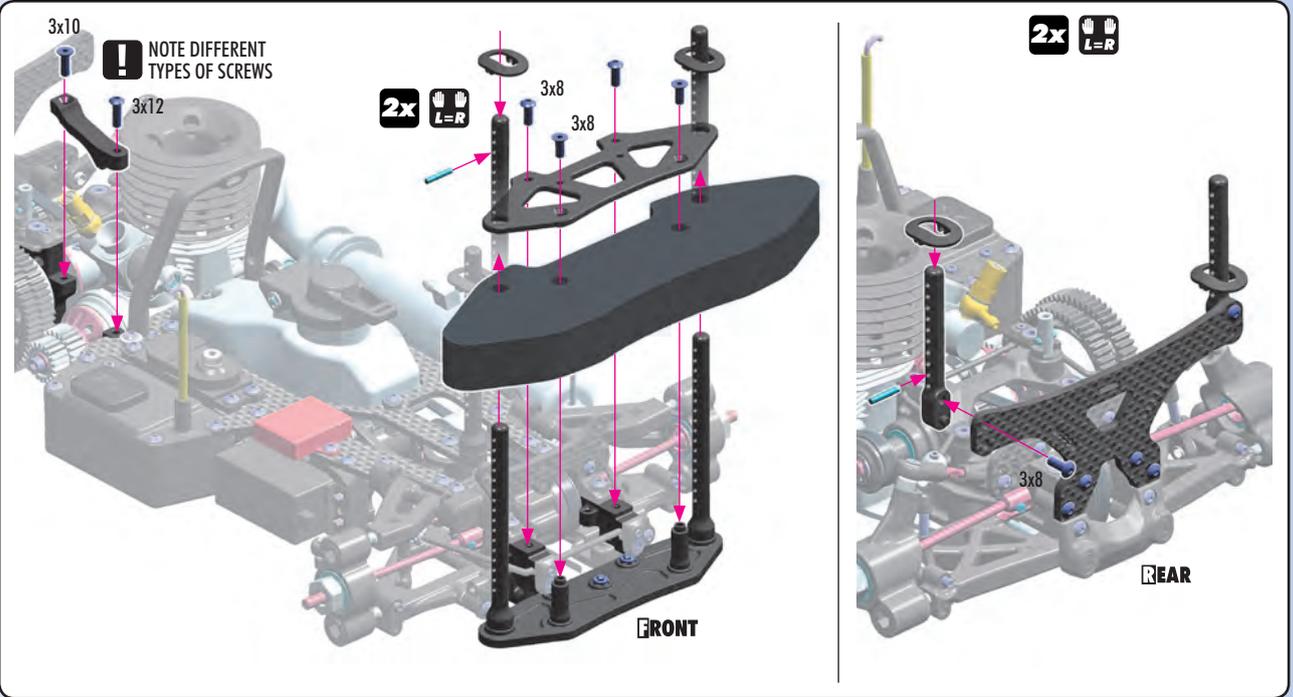
903308  
SFH M3x8



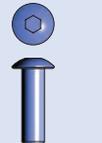
903310  
SFH M3x10



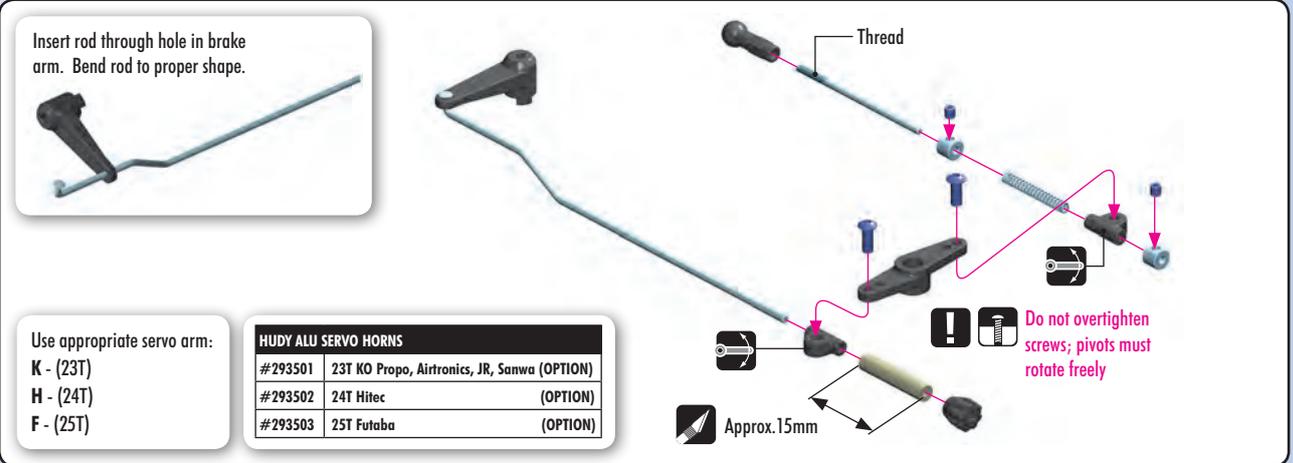
981212  
P 2x12



901303  
SB M3x3



902310  
SH M3x10

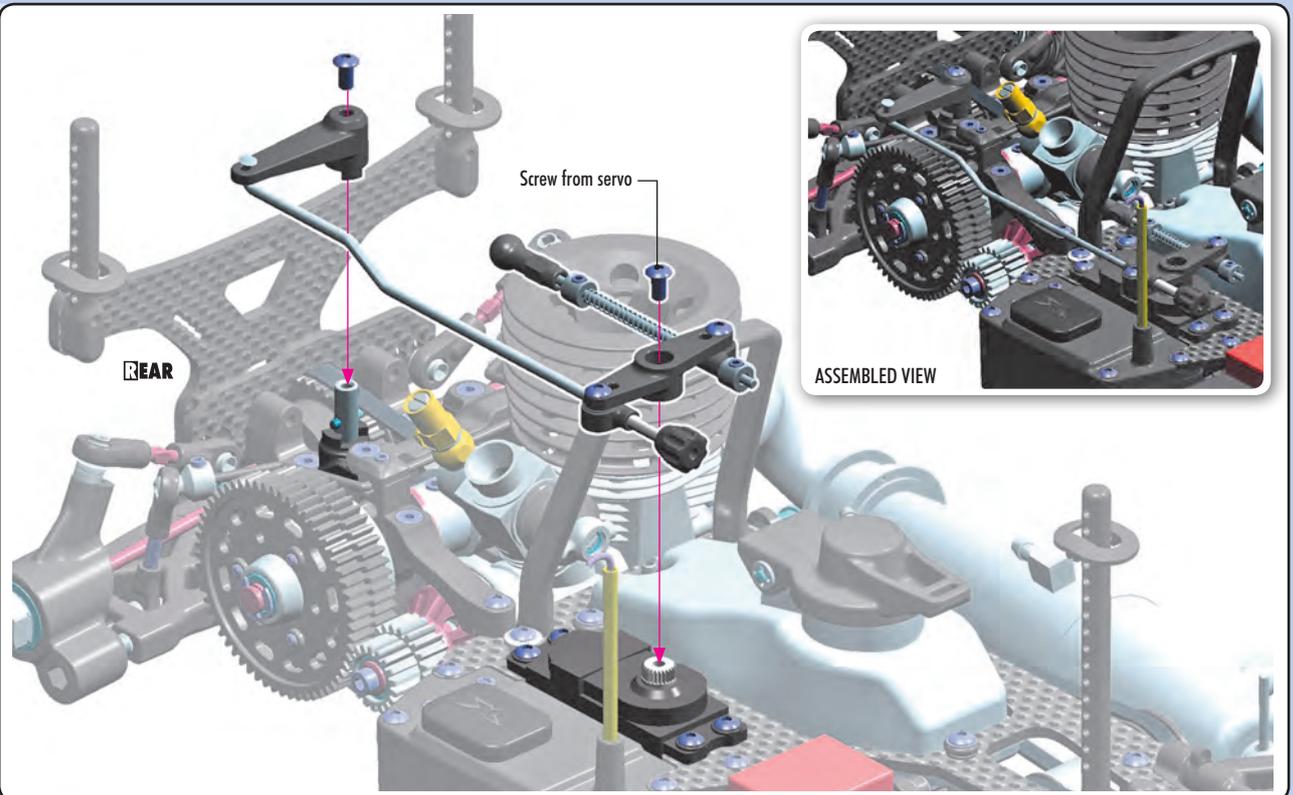


Use appropriate servo arm:  
**K - (23T)**  
**H - (24T)**  
**F - (25T)**

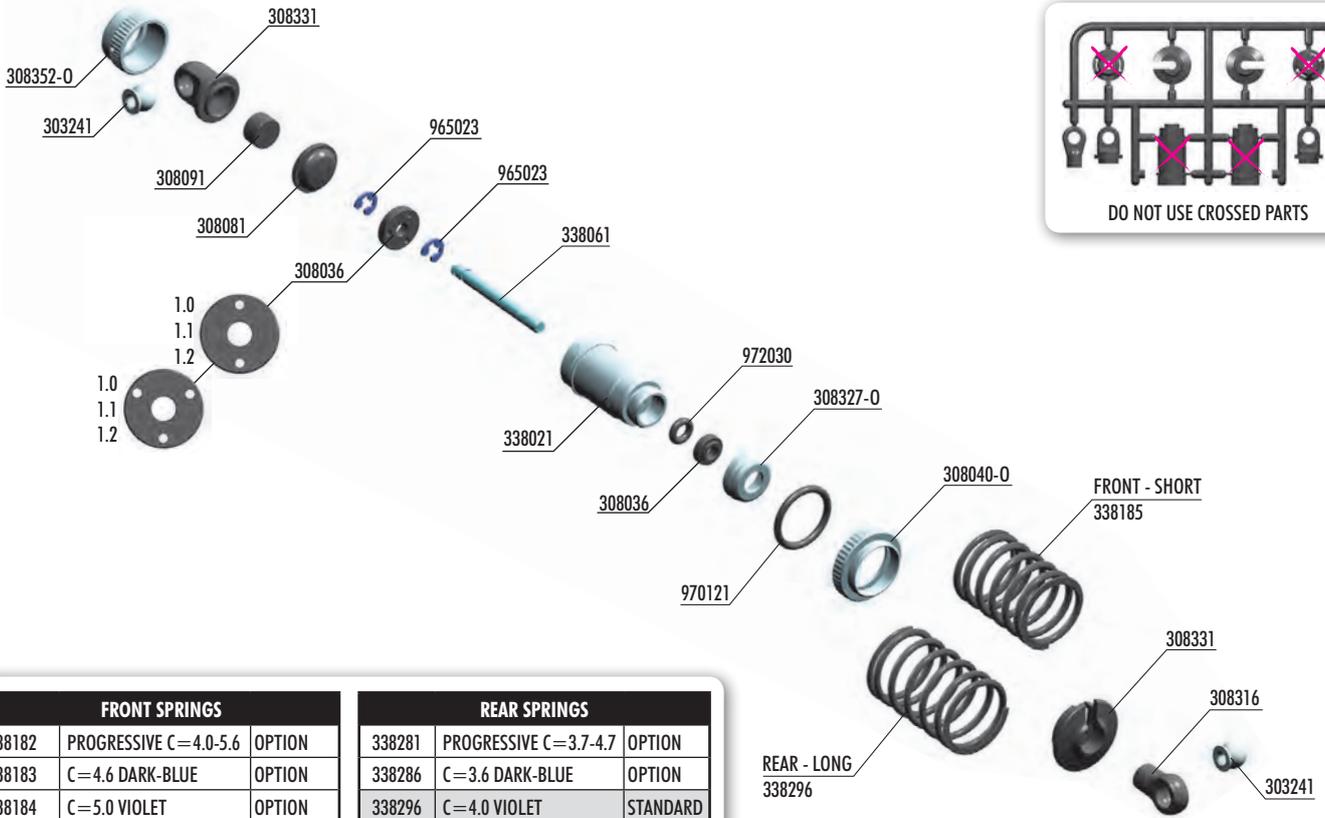
| HUDY ALU SERVO HORNS |  |
|----------------------|--|
| #293501              | 23T KO Propo, Airtronics, JR, Sanwa (OPTION) |
| #293502              | 24T Hitec (OPTION)                           |
| #293503              | 25T Futaba (OPTION)                          |



902306  
SH M3x6



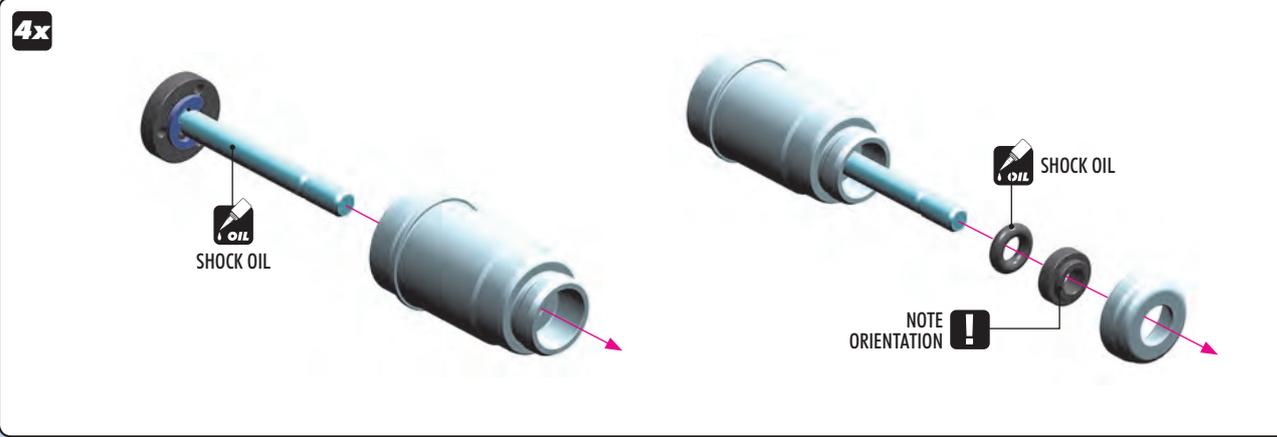
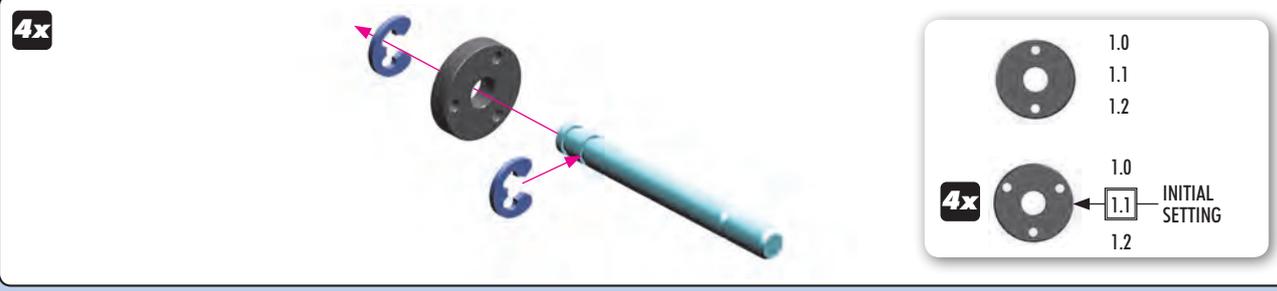
# 10. SHOCK ABSORBERS



| FRONT SPRINGS |                       |          | REAR SPRINGS |                       |          |
|---------------|-----------------------|----------|--------------|-----------------------|----------|
| 338182        | PROGRESSIVE C=4.0-5.6 | OPTION   | 338281       | PROGRESSIVE C=3.7-4.7 | OPTION   |
| 338183        | C=4.6 DARK-BLUE       | OPTION   | 338286       | C=3.6 DARK-BLUE       | OPTION   |
| 338184        | C=5.0 VIOLET          | OPTION   | 338296       | C=4.0 VIOLET          | STANDARD |
| 338185        | C=5.4 LIGHT-PURPLE    | STANDARD | 338287       | C=4.5 LIGHT-PURPLE    | OPTION   |
| 338186        | C=5.8 PURPLE          | OPTION   | 338297       | C=5.0 PURPLE          | OPTION   |
| 338187        | C=6.3 LIGHT-RED       | OPTION   | 338288       | C=5.6 LIGHT-RED       | OPTION   |



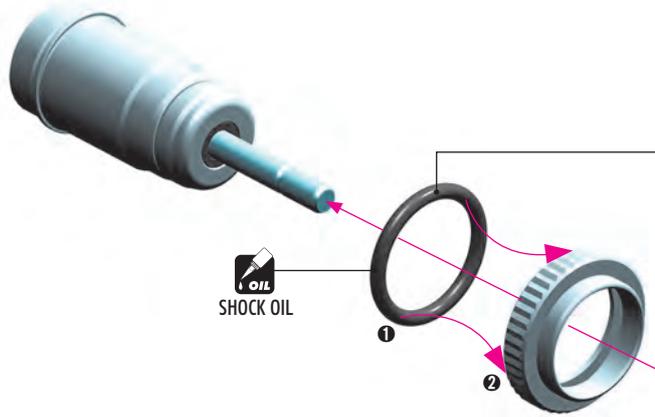
- 303241 BALL UNIVERSAL 5.8 MM HEX (4)
- 308036 COMPOSITE NON-ADJUSTABLE PISTONS - DELRIN - V3
- 308040-0 SHOCK ADJ. NUT ALU + O-RING - ORANGE (4)
- 308081 SHOCK ABSORBER MEMBRANE - LOW (4)
- 308091 SHOCK FOAM INSERTS - LOW (4)
- 308316 COMPOSITE SHOCK BALL JOINT - OPEN (4)
- 308327-0 ALU CAP FOR XRAY SHOCK BODY - ORANGE (2)
- 308331 COMPOSITE FRAME SHOCK PARTS 4-STEP - SHORT
- 308352-0 ALU SHOCK CAP-NUT WITH HOLE - ORANGE (2)
- 338001-0 ALU SHOCK ABSORBER-SET - ORANGE (2)
- 338021 ALU SHOCK BODY (2)
- 338061 HARDENED SHOCK SHAFT (2)
- 338185 SPRING-SET D=1.8 (33 LB) LIGHT-PURPLE - MEDIUM-MEDIUM HARD - FRONT (2)
- 338296 SPRING-SET D=1.7 (28 LB) VIOLET - MEDIUM - REAR (2)
- 965023 E-CLIP 2.3 (10)
- 970121 O-RING 12.1x1.6 (10)
- 972030 SILICONE O-RING 3x2 (10)



# SHOCK ABSORBERS



4x

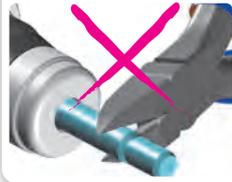


SHOCK OIL

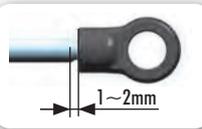
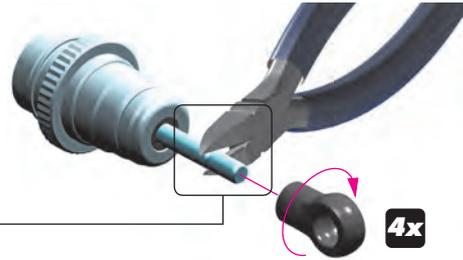
1

2

INCORRECT X

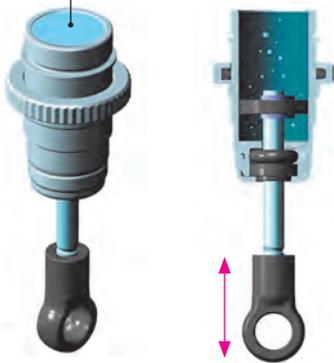


CORRECT ✓



4x

SHOCK OIL



## SHOCK FILLING

- 1 Fully extend the piston rod so the piston is at the bottom of the shock body.
- 2 Hold the shock upright and slightly overfill the shock body with shock oil.
- 3 Let the oil settle and allow air bubbles to rise to the top. Slowly move the piston up and down until no more air bubbles appear. Add shock oil as necessary.
- 4 Pull the piston rod most of the way out of the shock body. Let the shock rest for 5 minutes to allow the air bubbles to escape.

4x



CUTAWAY VIEW



After you insert the membrane ensure that it sits properly all around the alu cup properly.

4x



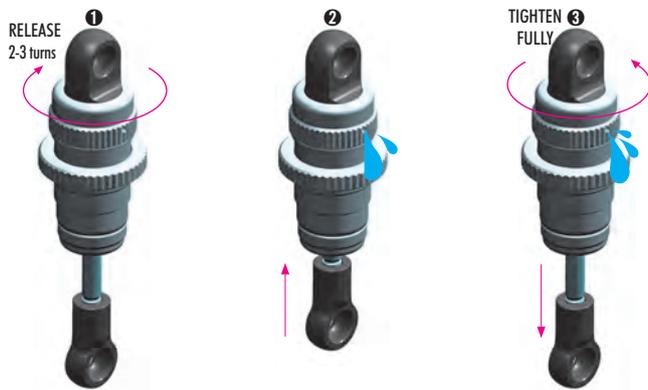
When installing the shock cap assembly on the shock body, some oil will leak out... this is normal.

Fully tighten the cap and clean off any excess oil.

After the shock is assembled, the shock rod will push itself out of the shock body fairly quickly.

Follow the next procedure to adjust the rebound.

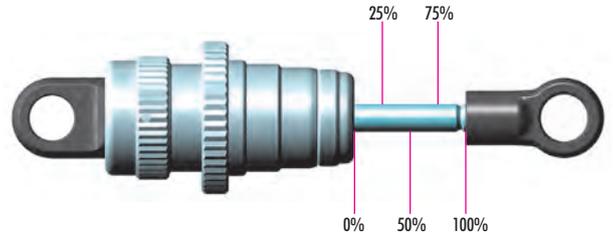
4x



## REBOUND ADJUSTMENT

AFTER THE SHOCK IS ASSEMBLED YOU HAVE TO SET THE SHOCK REBOUND.

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



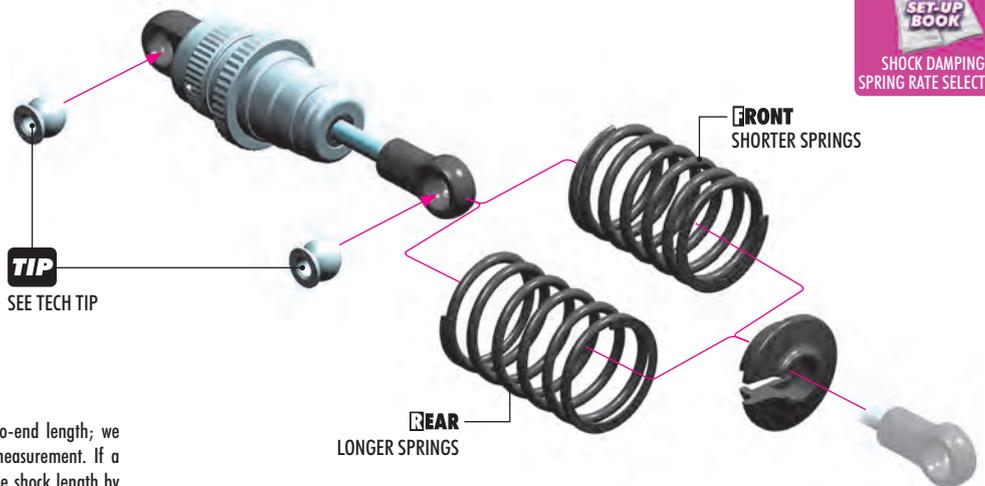
## REBOUND CHECK

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

- 100% rebound - repeat step 2 and 3 two - three times
- 75% rebound - repeat step 2 and 3 until the shock shaft will push out 75% of its length
- 50% rebound - repeat step 2 and 3 until the shock shaft will push out 50% of its length
- 25% rebound - repeat step 2 and 3 until the shock shaft will push out 25% of its length
- 0% rebound - repeat step 2 and 3 until the shock shaft will push out 0% of its length

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

4x



## SHOCK LENGTH ADJUSTMENT:

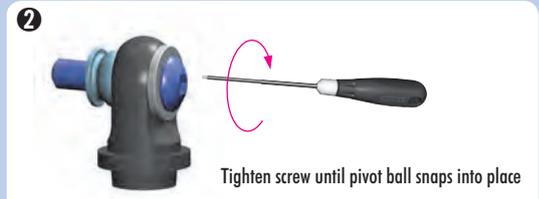
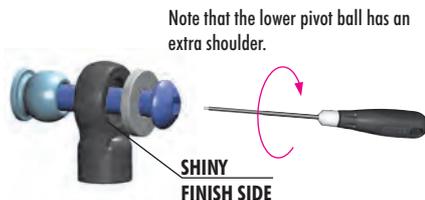
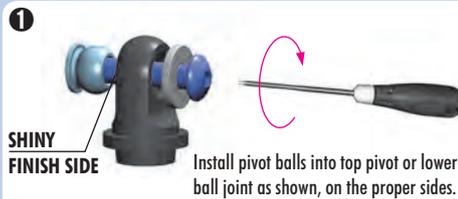
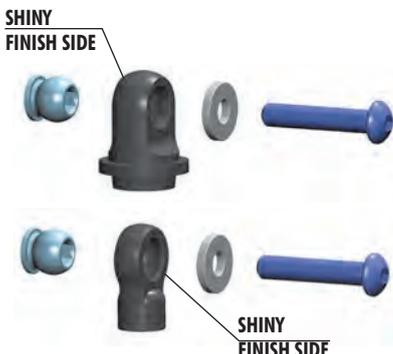
It is VERY important that all shocks are equal length. Fully extend the shock absorber and measure the end-to-end length; we recommend using digital calipers to give an accurate measurement. If a shock absorber is shorter or longer than others, adjust the shock length by tightening or loosening the ball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

## TECH TIP

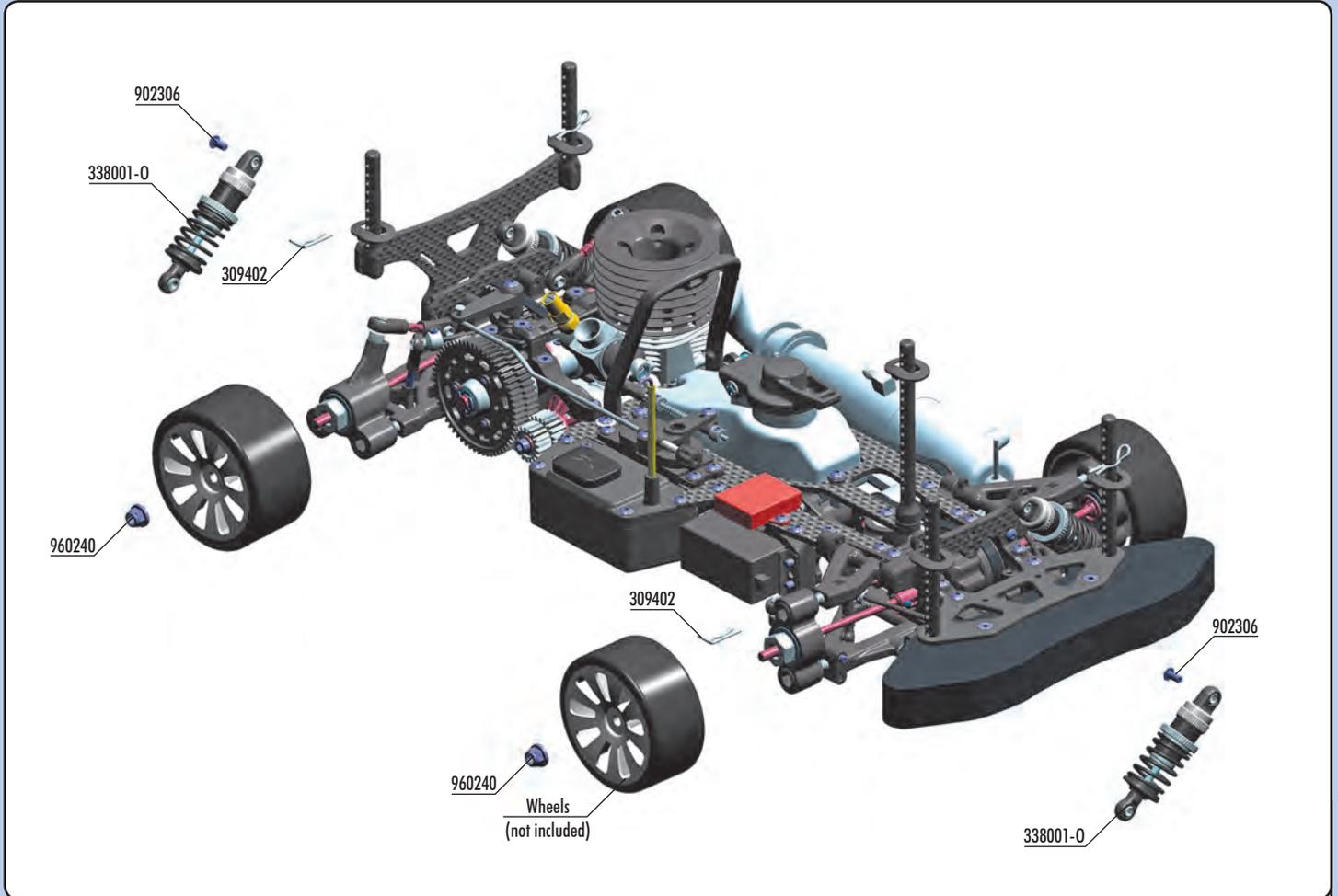
Follow this tech tip to properly install pivot balls into the top pivot and bottom ball joint.

- Parts needed:
- M3 x 16 SH screw
  - M3 shim

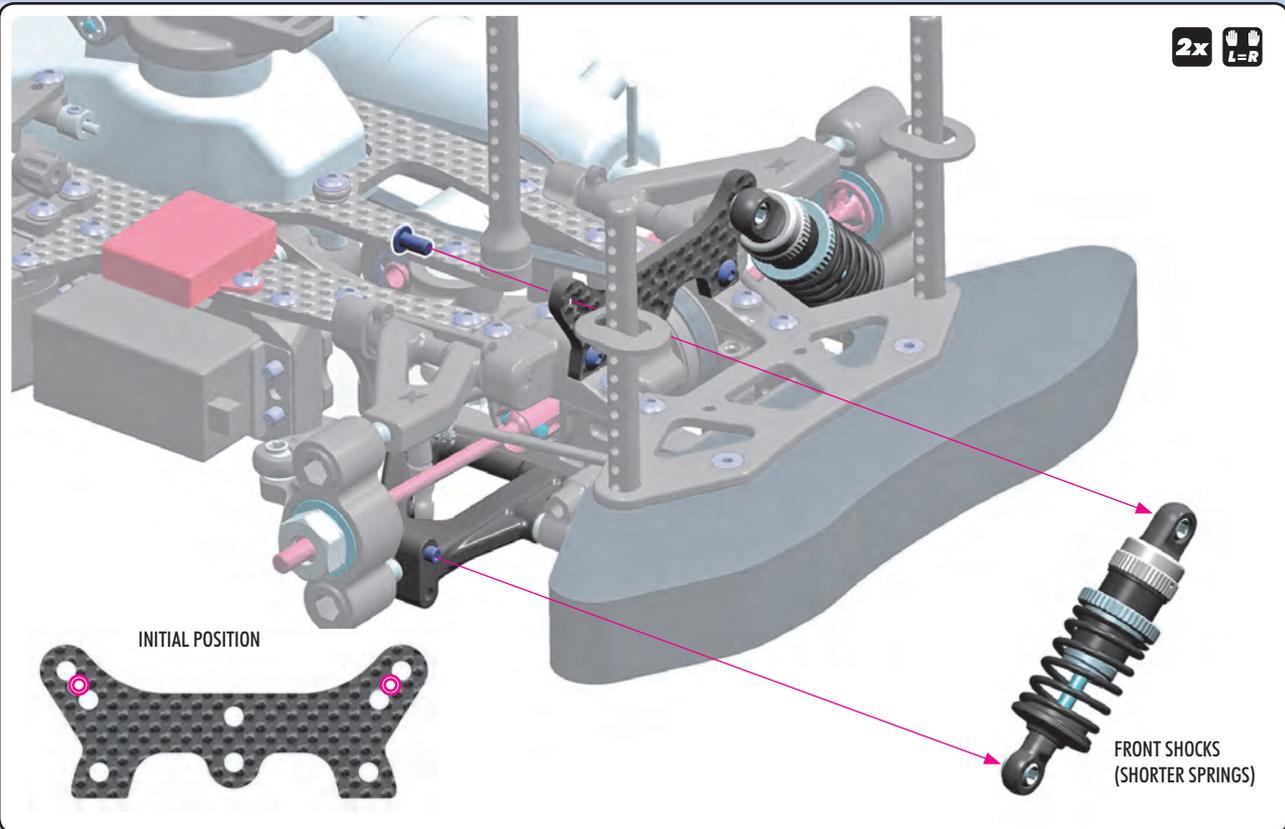
Note that the composite parts have two sides, noticeable around the pivot ball hole: one side has a shiny finish, the other side has a regular finish.

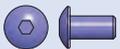


# FINAL ASSEMBLY



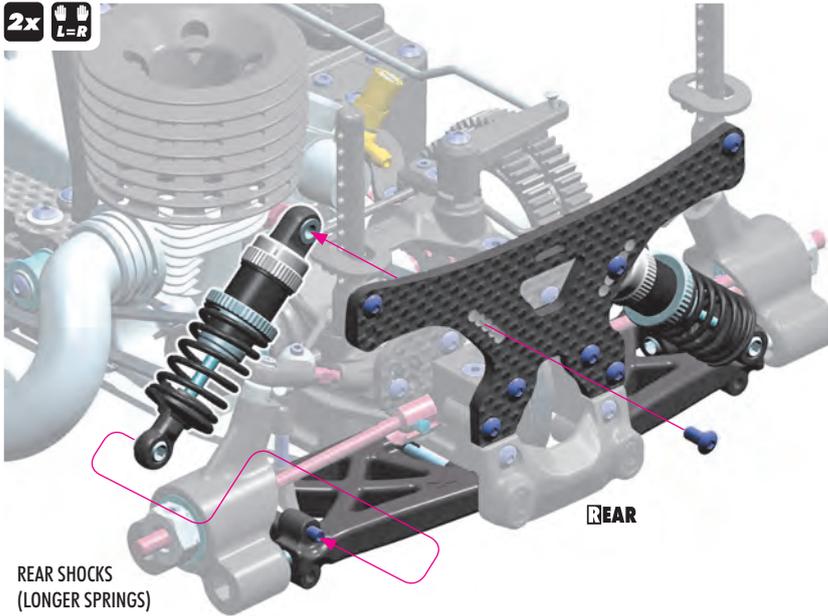
- 30 9402 BODY CLIP FOR 6MM BODY POST (4)
- 33 8001-0 ALU SHOCK ABSORBER-SET - ORANGE (2)
- 90 2306 HEX SCREW SH M3x6 (10)
- 96 0240 NUT M4 WITH SERRATED FLANGE (10)





902306  
SHI M3x6

2x  
L-R

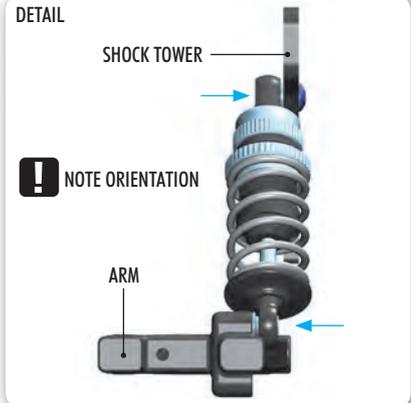


REAR SHOCKS  
(LONGER SPRINGS)

REAR



INITIAL POSITION



DETAIL

SHOCK TOWER

NOTE ORIENTATION

ARM



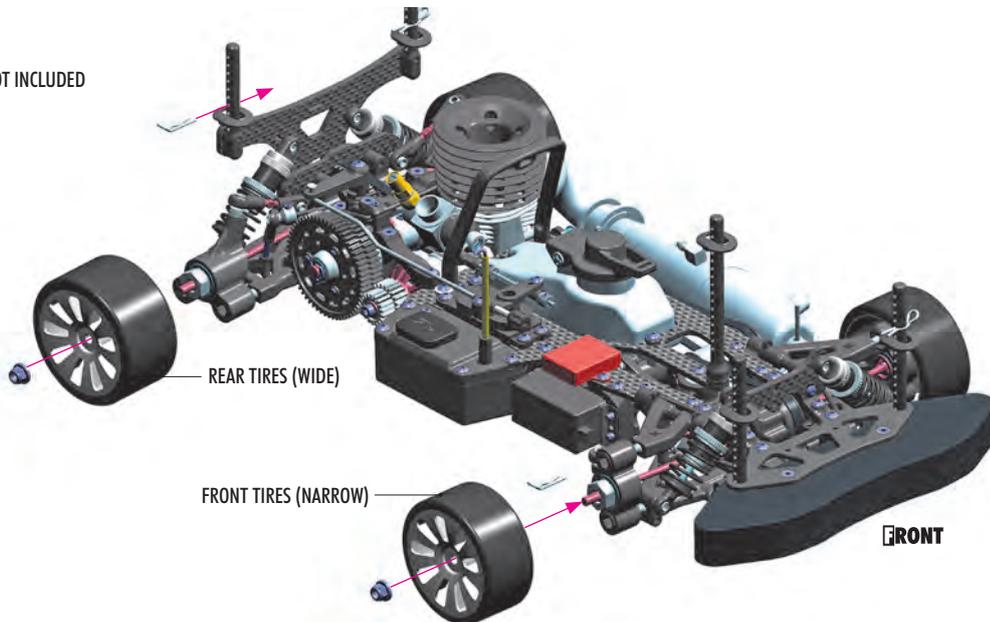
SHOCK POSITION  
ADJUSTMENT



960240  
N M4

4x  
L-R

TIRES NOT INCLUDED



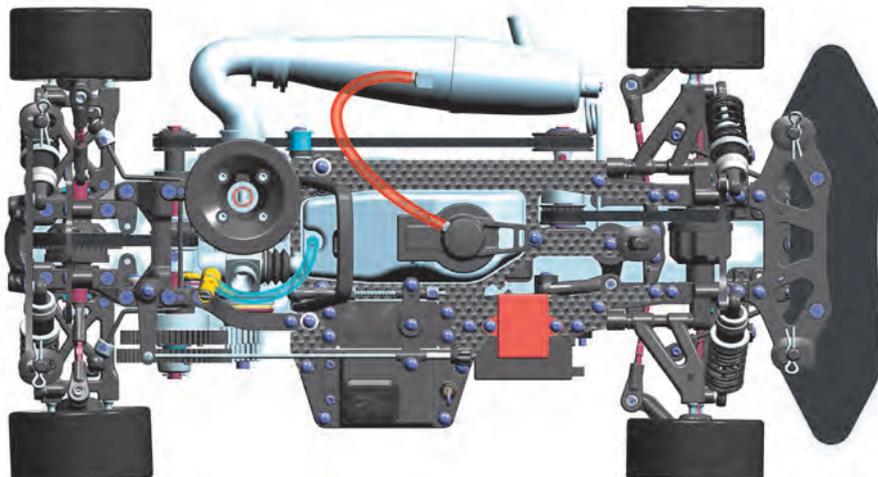
REAR TIRES (WIDE)

FRONT TIRES (NARROW)

FRONT

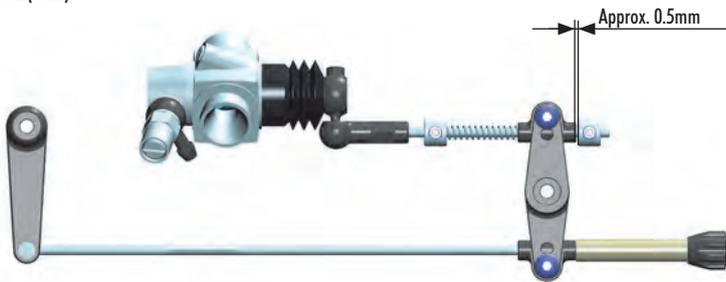
Cut 2 pieces of silicone tubing and install as follows: **SILICONE TUBE MARKED AS RED = FROM MUFFLER TO FUEL TANK CAP**

**SILICONE TUBE MARKED AS BLUE = FROM FUEL TANK TO CARBURETOR**



# CARB LINKAGE ADJUSTMENT

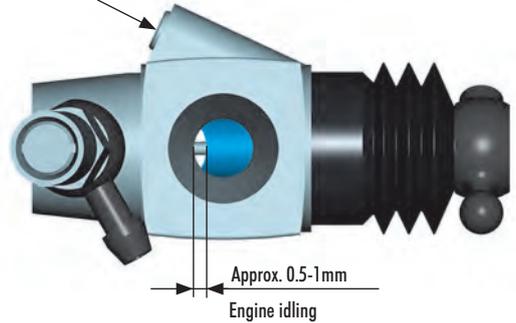
## NEUTRAL (IDLE)



Approx. 0.5mm

### IDLE ADJUSTMENT SCREW

Do not allow carburetor to close to less than **0.5mm**.



Approx. 0.5-1mm

Engine idling

Turn on transmitter and receiver and set the throttle servo trim to the neutral position.

Adjust the idle adjustment screw on the carburetor to open approx. 0.5-1mm.

Adjust both collars on the carb and brake linkages accordingly. The carb linkage must have approximately 0.5mm of preload on the spring at neutral.

DO NOT ADJUST while the engine is running.

## FULL THROTTLE



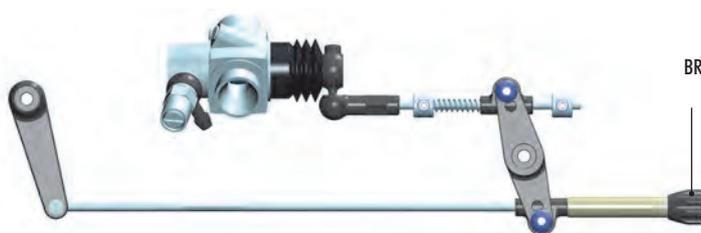
With the engine NOT RUNNING but the receiver turned ON, apply full throttle at the transmitter.

Adjust the transmitter's throttle servo high-end point so that the servo horn fully opens the carburetor when the transmitter's throttle control (e.g., throttle trigger) is at 95% of full throttle. The servo should not have excessive strain when at full throttle, or throttle/carb damage will result.

If the transmitter does not have throttle high-end point adjustment, adjust the throttle linkage pivot position on the servo horn until full throttle is obtained.



## BRAKE



### BRAKE ADJUSTING COLLAR

Adjust the composite collar on the brake linkage so the brakes work smoothly.

If the brakes apply too much or not enough, adjust the collar accordingly. If your transmitter has throttle servo low-end point adjustment (or brake adjustment), use that to set the appropriate amount of throttle servo horn throw.



|                |  |  |  |
|----------------|--|--|--|
| RACE           |  |  |  |
| TRACK          |  |  |  |
| NAME           |  |  |  |
| CITY / COUNTRY |  |  |  |
| CONTACT        |  |  |  |

|      |                        |     |       |
|------|------------------------|-----|-------|
| DATE | TEMPERATURE / °F OR °C | AIR | TRACK |
|------|------------------------|-----|-------|

|                     |                    |                |      |                       |
|---------------------|--------------------|----------------|------|-----------------------|
| QUALIFYING POSITION | BEST LAPTIME / SEC | FINAL POSITION | LAPS | RACE LENGTH / MINUTES |
|---------------------|--------------------|----------------|------|-----------------------|

|                 |                                    |                                 |                                |
|-----------------|------------------------------------|---------------------------------|--------------------------------|
| TRACK CONDITION | <input type="checkbox"/> SMOOTH    | <input type="checkbox"/> MEDIUM | <input type="checkbox"/> BUMPY |
|                 | <input type="checkbox"/> TECHNICAL | <input type="checkbox"/> MIXED  | <input type="checkbox"/> FAST  |

|          |                              |                                 |                               |
|----------|------------------------------|---------------------------------|-------------------------------|
| TRACTION | <input type="checkbox"/> LOW | <input type="checkbox"/> MEDIUM | <input type="checkbox"/> HIGH |
|----------|------------------------------|---------------------------------|-------------------------------|

| FRONT | DIFF                | REAR |
|-------|---------------------|------|
|       | GEAR DIFF. OIL /cst |      |

|                      |                              |
|----------------------|------------------------------|
| ONE WAY DIFFERENTIAL | <input type="checkbox"/> YES |
|----------------------|------------------------------|

|                     |                              |
|---------------------|------------------------------|
| SOLID ONE WAY DIFF. | <input type="checkbox"/> YES |
|---------------------|------------------------------|

|            |                              |            |                              |
|------------|------------------------------|------------|------------------------------|
| SOLID AXLE | <input type="checkbox"/> YES | SOLID AXLE | <input type="checkbox"/> YES |
|------------|------------------------------|------------|------------------------------|

| GEARING |   |
|---------|---|
| PINION  | 1ST 15 <input type="checkbox"/> 16 <input type="checkbox"/> 17 <input type="checkbox"/> 18 <input type="checkbox"/> 19 <input type="checkbox"/> 20 <input type="checkbox"/> 21 <input type="checkbox"/> 22 <input type="checkbox"/> 23 <input type="checkbox"/> 24 <input type="checkbox"/> 25 <input type="checkbox"/> 26 <input type="checkbox"/> 27 <input type="checkbox"/> 28 <input type="checkbox"/> 29 <input type="checkbox"/> 30 <input type="checkbox"/> |
| SPUR    | 1ST 57 <input type="checkbox"/> 58 <input type="checkbox"/> 59 <input type="checkbox"/> 60 <input type="checkbox"/>   |
|         | 2ND 53 <input type="checkbox"/> 54 <input type="checkbox"/> 55 <input type="checkbox"/>   |

|        |   |           |           |
|--------|---|-----------|-----------|
| PULLEY | 25 <input type="checkbox"/> 26 <input type="checkbox"/> | RATIO 1ST | RATIO 2ND |
|--------|---|-----------|-----------|

| FRONT  | SHOCKS       | REAR   |
|--|--------------|--|
|  | SPRING       |  |
|  | OIL /cst     |  |
|  | REBOUND %    |  |
| <input type="checkbox"/> YES <input type="checkbox"/> NO | FOAM INSERTS | <input type="checkbox"/> YES <input type="checkbox"/> NO |

| PISTONS                          |                                 |                                 |                                  |
|----------------------------------|---------------------------------|---------------------------------|----------------------------------|
| <input type="checkbox"/> 2 HOLES | <input type="checkbox"/> 1.0 mm | <input type="checkbox"/> 1.0 mm | <input type="checkbox"/> 2 HOLES |
| <input type="checkbox"/> 3 HOLES | <input type="checkbox"/> 1.1 mm | <input type="checkbox"/> 1.1 mm | <input type="checkbox"/> 3 HOLES |
|                                  | <input type="checkbox"/> 1.2 mm | <input type="checkbox"/> 1.2 mm | <input type="checkbox"/> 3 HOLES |

| FRONT   | ANTI-ROLL BAR   | REAR  |
|---|---|---|
| <input type="checkbox"/> 0° <input type="checkbox"/> 30° <input type="checkbox"/> 45° <input type="checkbox"/> 60° <input type="checkbox"/> 90° | <input type="checkbox"/> 0° <input type="checkbox"/> 30° <input type="checkbox"/> 45° <input type="checkbox"/> 60° <input type="checkbox"/> 90° | <input type="checkbox"/> 0° <input type="checkbox"/> 30° <input type="checkbox"/> 45° <input type="checkbox"/> 60° <input type="checkbox"/> 90° |

|                                   |                                 |       |                                 |
|-----------------------------------|---------------------------------|-------|---------------------------------|
| STANDARD <input type="checkbox"/> | <input type="checkbox"/> 0.7 mm | BLADE | OPTION <input type="checkbox"/> |
|-----------------------------------|---------------------------------|-------|---------------------------------|

|          |     |
|----------|-----|
| WIRE /mm |     |
|          | /mm |

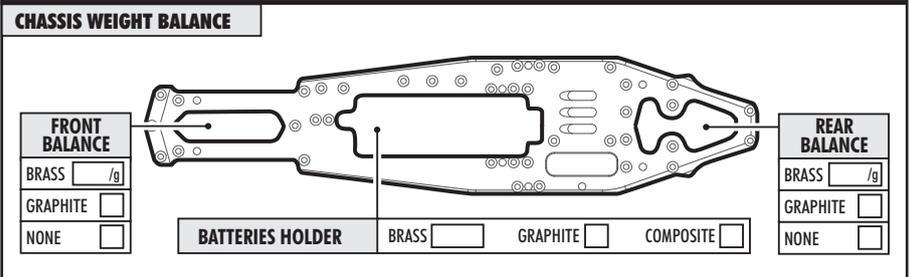
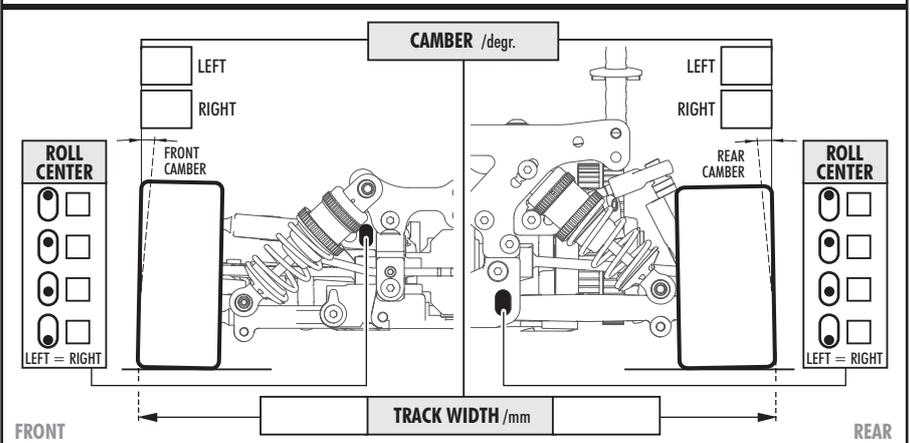
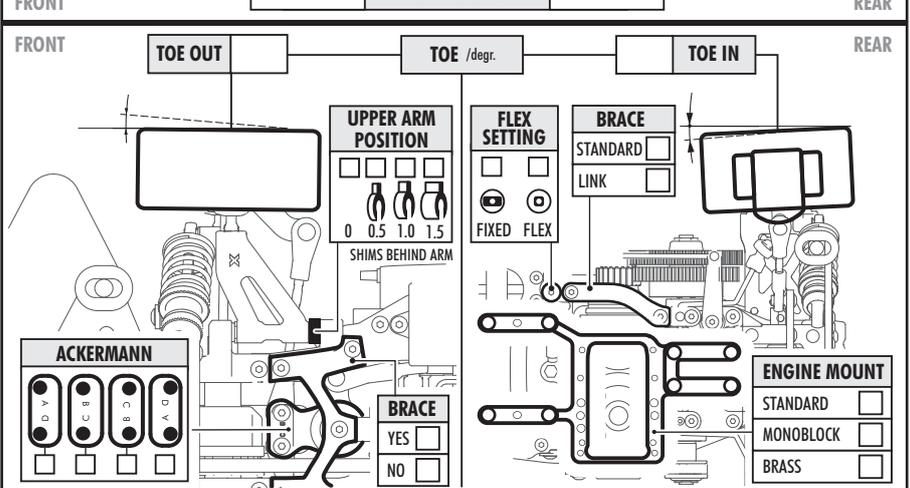
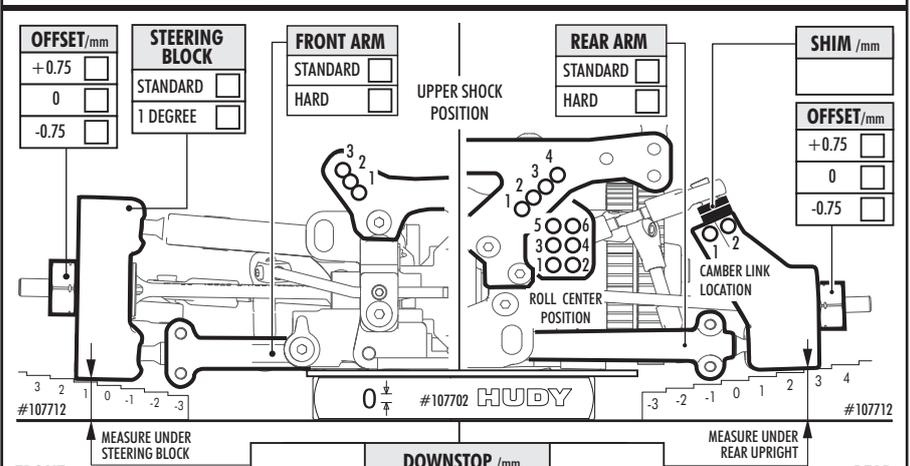
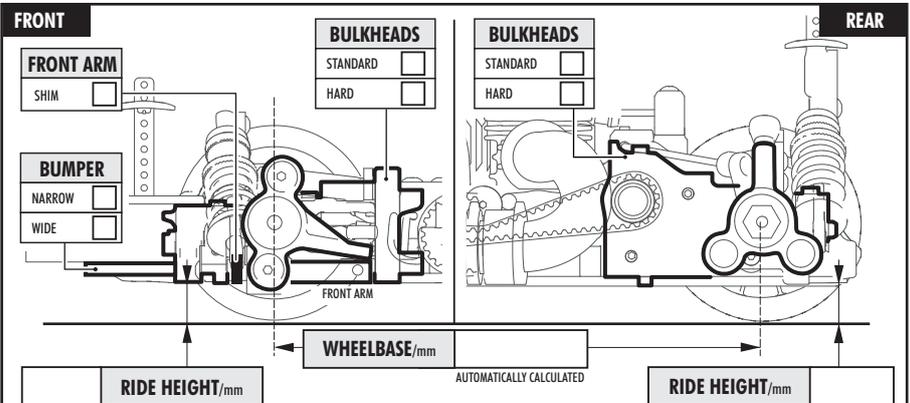
| FRONT | TIRES           | REAR  |
|-------|-----------------|-------|
| LEFT  |                 | LEFT  |
| RIGHT |                 | RIGHT |
|       | MANUFACTURER    |       |
|       | SHORE /deg°     |       |
|       | DIAMETER /mm    |       |
|       | 5 MIN. WEAR /mm |       |
|       | RUBBER TIRES    |       |

| ENGINE        |               |
|---------------|---------------|
| ENGINE        |               |
| CARB. DIA /mm | HEAD SHIM /mm |
| MUFFLER       | FUEL          |
|               | PLUG          |

| CLUTCH / BRAKE    |   |
|-------------------|---|
| FLYWHEEL          | <input type="checkbox"/> STANDARD               |
| CLUTCH FLYWEIGHTS | <input type="checkbox"/> STANDARD               |
| CLUTCH SHOE       | CLUTCH SPRING <input type="checkbox"/> STANDARD |
| CLEARANCE /mm     | ADJ. NUT /mm                                    |
| BRAKE PAD         | <input type="checkbox"/> STANDARD               |

| BODY        |               |            |
|-------------|---------------|------------|
| WING HEIGHT | WING POSITION | WING ANGLE |
|             |               |            |

|          |  |  |
|----------|--|--|
| COMMENTS |  |  |
|----------|--|--|



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