



INSTRUCTION MANUAL



Specification:

- Length/490mm
- Width/230mm
- Height/210mm
- Ground Clearance/55mm
- Wheelbase/304mm
- Track/F:198mm, R:200mm
- Gear Ratio/C:47/13T, F/R:39/11T
- Weight/2350g

CONQUEROR

1/9 Scale Rally Car

1/9 Scale Radio Controlled Gas Powered Off Road 4WD Super Rally

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This radio controlled racing car is not a toy!
This high-performance R/C model is recommended for ages 14 and older.

Contents



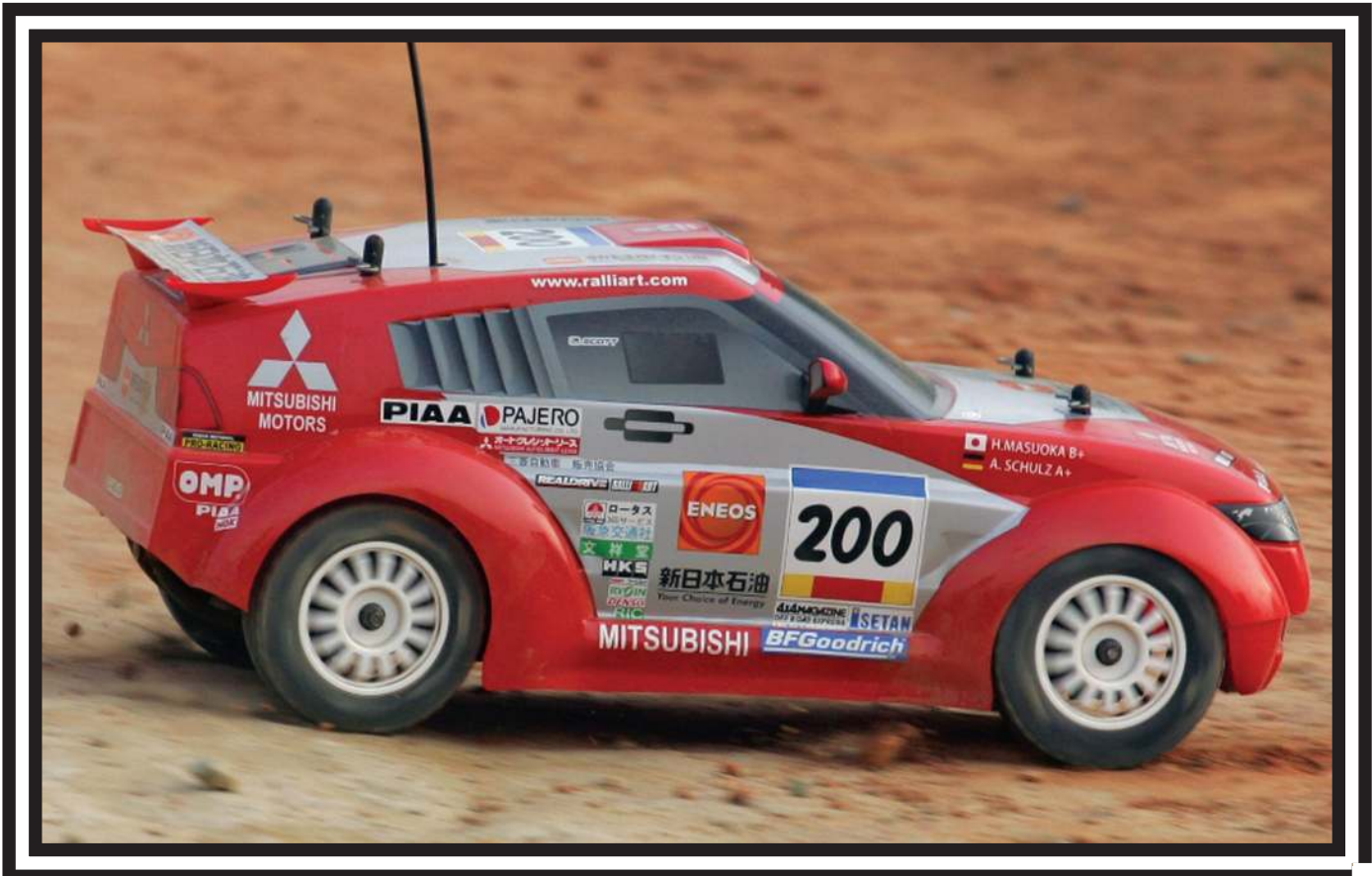
Congratulations on your purchase of the new GS Racing 1/9 scale off-road rally-Conqueror.

Please read this manual thoroughly, before you attempt to start or drive your Conqueror Rally. This manual contains step-by-step instructions to help you complete, prepare for startup, and fine-tune your rally. Updates, setups, and product news will be posted on our website, so check often.

As always, if you should ever have any questions or need help with your Conqueror Rally, please feel free to contact our official GS Racing dealers and distributors, as they will be glad to help you. You may also contact us at any time for the most up to date information and support.

Good luck and good racing!

- GS RACING -



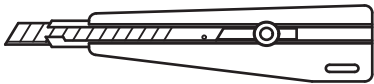
Required Equipment for Operation

1. Tools Required for Building and Maintenance:

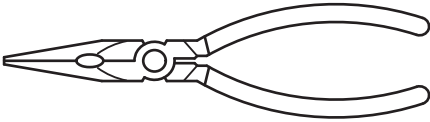
- Precision Ruler or Caliper



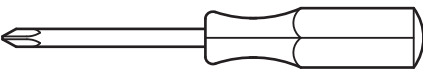
- Hobby Knife



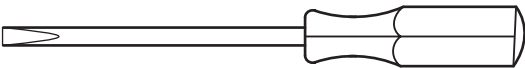
- Needle Nose Pliers



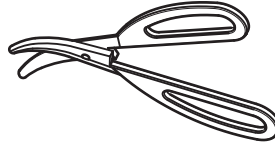
- Phillips Screwdriver (#0,#1,#2)



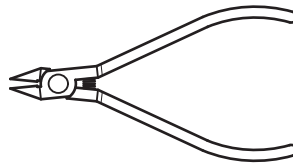
- Flathead Screwdriver



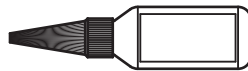
- Hobby Scissors



- Wire Cutters



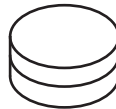
- Thread Locking Compound



- CA Glue and Rubber Cement

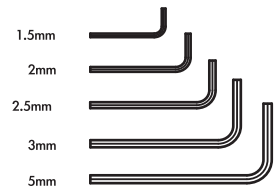


- Silicone Type of Grease

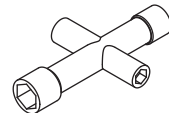
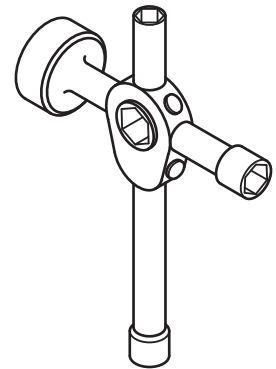


Tools Included:

- Hex Wrench



- Cross Wrench



WARNING!

Do not use a power screwdriver to install screws into nylon or plastic materials. The fast rotation speed can heat up the screws being installed. They can then break the molded parts or strip the threads during installation.

2. Additional Items Required :

- 8 AA size Batteries (For Transmitter)
- 4 AA size Batteries (For Receiver)
- 1AA size Battery (For Igniter)
- Glow Fuel, Differential, Shock, Air Filter Oils and Model Grease
- One 6-Cell 7.2-Volt Battery Packs for Power Starter Unit (Power Starter Kits only)

3. Suggested Items :

- Ni-Cd Battery Pack (5-Cell Hump Type)
- High Speed Servos
- Starter Box (GS Racing Turbo Box recommended)
- 12-Volt Battery or Two 6-Cell 7.2-Volt Battery Packs for Starter Box

Before You Start

1. If you find any problems regarding parts or packaging, please contact your local dealer or your GS Racing Distributor. If you ever have any questions, please feel free to contact your GS Racing distributor.

2. The following are symbols used throughout this instruction manual:



Apply CA glue



Attention



Soak air filter oil



Assemble front and rear



Assemble both left and right sides



Grease



Pure Silicone Oil



Thread Locking Compound

3. We are constantly updating parts to improve our products. These changes, if any, will be noted in supplementary sheets located in a parts bag or inside the box. Check the box before you start and each bag as it is opened. When a supplement is found, attach it to the appropriate section of the manual.

4. The circled numbers in the drawings are key numbers. These numbers are to be used to quickly find the part name and item (part) number in the back of the manual.

5. When we refer to left and right sides, we are referring to the driver's point of view from inside the stadium truck.

6. The engine mounts supplied with the Conqueror Rally may not fit some of the newer type engines.

7. Remove the car, and all accessories included in the package. Along with this manual, the package should contain 1 car with body and wing, 1 antenna tube, 1 glow igniter, 1 fuel bottle, 1 radio manual, set of metric hex wrenches, small cross wrench, large cross wrench, Shadow SB1 decal sheet, 1 GS Radio system, 1 tie strap, and any further supplemental instruction decal, or promotional sheets.

Please review all parts and familiarize yourself with them. If you have no prior nitro r/c experience, ask for help from your local hobby shop, experienced racer, or GS Distributor. If you purchased the drill start equipped Conqueror Rally, you will also find the GS Power Starter Unit.

Final Prep, Checklist, and First Run

Read, understand, and perform the following steps to properly prepare, start, run, and store your Conqueror Rally. Before the first and every run, ensure the area of operation is safe. Never operate on public roads, in places where children or people are present, in residential districts and parks, or indoor or other confined areas. Your Conqueror Rally contains many rotating and moving parts. Do not put your fingers or other objects inside the car while the engine is running. After operation, the engine, exhaust, and chassis can become very hot. Do not touch these parts until they cool.

Remove the body and check the car over for any loose screws and nuts. Although rare, screws can come loose during shipping. After the first 5 minutes of engine break in, check all the screws again. Do this before each run.

Refer to the Engine assembly page of the manual. Check the gear mesh between the engine and the spur gear. Normally the factory setting is ok, but it's always a good idea to check it. The clutch bell and spur should rotate smooth without any excessive noise. Check all other moving/rotating parts for binding. Perform this step before each run and adjust as needed.

Refer to the Shock Spring page of the manual to set the proper ride height. Set the truck on a table and push the truck down and allow it to rise to its ride height. Install the spring adjusters included in with your car to set the ride height so that all lower suspension arms are level when the car stops rising. Repeat until all the lower arms are parallel with the table. A good starting point is 4mm in the front shocks and 10mm in the rear shocks. Double-check this setting after 20 minutes of driving.

Refer to the Air Filter page of the manual. The air filter comes pre-oiled. However, you should check to make sure it is clean and oiled before each run. Remove the entire air filter assembly from the engine. Remove the air filter cap, and if needed, oil the filter foam element. Reassemble the air filter assembly, but do not install it on the engine just yet. We'll do this after checking the radio settings. To clean the air filter, simply remove the foam element, knead it with a small amount of rubbing alcohol, allow it to dry, re-oil, and assemble. Never run the engine without the filter on.

Now it's time to install batteries in the car. Refer to the Radio Box step of the manual. Remove the 2 clips, which hold the radio box cover in place. Inside the radio box is the receiver and battery tray. Note how the servo wires are routed into and out of the radio box. Install four fresh AA size batteries and place the battery tray back in the radio box.

Remove the plastic cap from the antenna tube, and route the receiver antenna wire through the tube. As the wire extends out of the antenna tube, gently pull it through and insert the tube into the mount on the side of the radio box until it just sticks out the bottom. Fix in place by gently tightening the set screw in the mount area. The receiver wire should fall into the groove directly next to the antenna mount. Install the cap back on and allow any excess wire to hang free. Route the servo wires through the opening in the front and close the cover and secure with the clips.

Though not absolutely necessary, but as a precaution, you may choose to secure both the battery tray and receiver inside the radio box. After installing the batteries, secure them with a tie strap or tape. Place padding (cotton balls, bubble wrap, thin foam) around both the receiver and the battery tray. Before each run, check to make sure the batteries are secure. Always use fresh fully charged batteries! If your Conqueror Rally should ever behave strange or not respond to radio input, immediately stop the car, shut the engine off, and check for the cause. For added steering and throttle response and speed, you may choose to upgrade to a 5-cell rechargeable battery pack. Please see your local hobby shop for details.

Next, install eight AA batteries in the radio transmitter. Always check to make sure no one is on the same channel as you before turning the transmitter on.

Final Prep, Checklist, and First Run

Extend the antenna and turn the transmitter on, followed by the receiver switch in the car. Always use fresh batteries, and always turn the transmitter on first, and off last. Refer to the radio manual for detailed descriptions of the following.

The radio is preset at the factory, but you should always check the settings before starting the engine. Turn the steering wheel left and right and pull the trigger to throttle and brake. If the servos move opposite the input, then change the direction of the respective servos by using the servo reversing switches, directly under the on/off switch.

Now check the steering. If the front wheels do not point straight, rotate the ST. TRIM knob on the transmitter left or right to point the wheels straight.

Now check the throttle servo. Rotate the TH. Trim button to the right (If you look inside the carburetor body, you will see the gap get bigger.) This will rotate the throttle servo horn away from the engine, pulling the carburetor open. Now slowly rotate the knob towards the left and keep an eye on the shiny sleeve inside the carburetor. As soon as the sleeve stops moving, stop rotating the knob. This is your throttle neutral point. The opening in the carburetor body (the area between the sleeve and the body) should be about 0.7mm.

Now pull the throttle trigger all the way. This will again rotate the servo horn away from the engine. With the throttle trigger pulled all the way, rotate the F.D./High knob all the way to the left, to zero. Keep the throttle at full and slowly turn the knob to the right. As you rotate the knob, the shiny sleeve will move forward, opening the gap inside the carburetor. Keep turning the knob until the shiny sleeve disappears. As soon as it does, stop turning the knob. This is your maximum throttle. Now reinstall the air filter assembly onto the carburetor, make sure it is properly seated and secure it with the included tie wrap. Refer to the Air Filter page of the manual for details.

Rotate the R.D./Brake knob all the way to the right for now. This knob controls the amount of brakes. Turning the knob to the right increases the brakes, and turning to the left decreases the brakes. You may also adjust the amount of brakes by mechanical action on the truck. Refer to the Linkage Adjustment page of the manual. The adjuster knobs can be tightened or loosened to independently increase or decrease the amount of front and rear brakes. Set the brakes so that the front and rear brakes engage equally, then experiment later with brake bias. Check the brakes after the first few tanks as the brakes will break in.

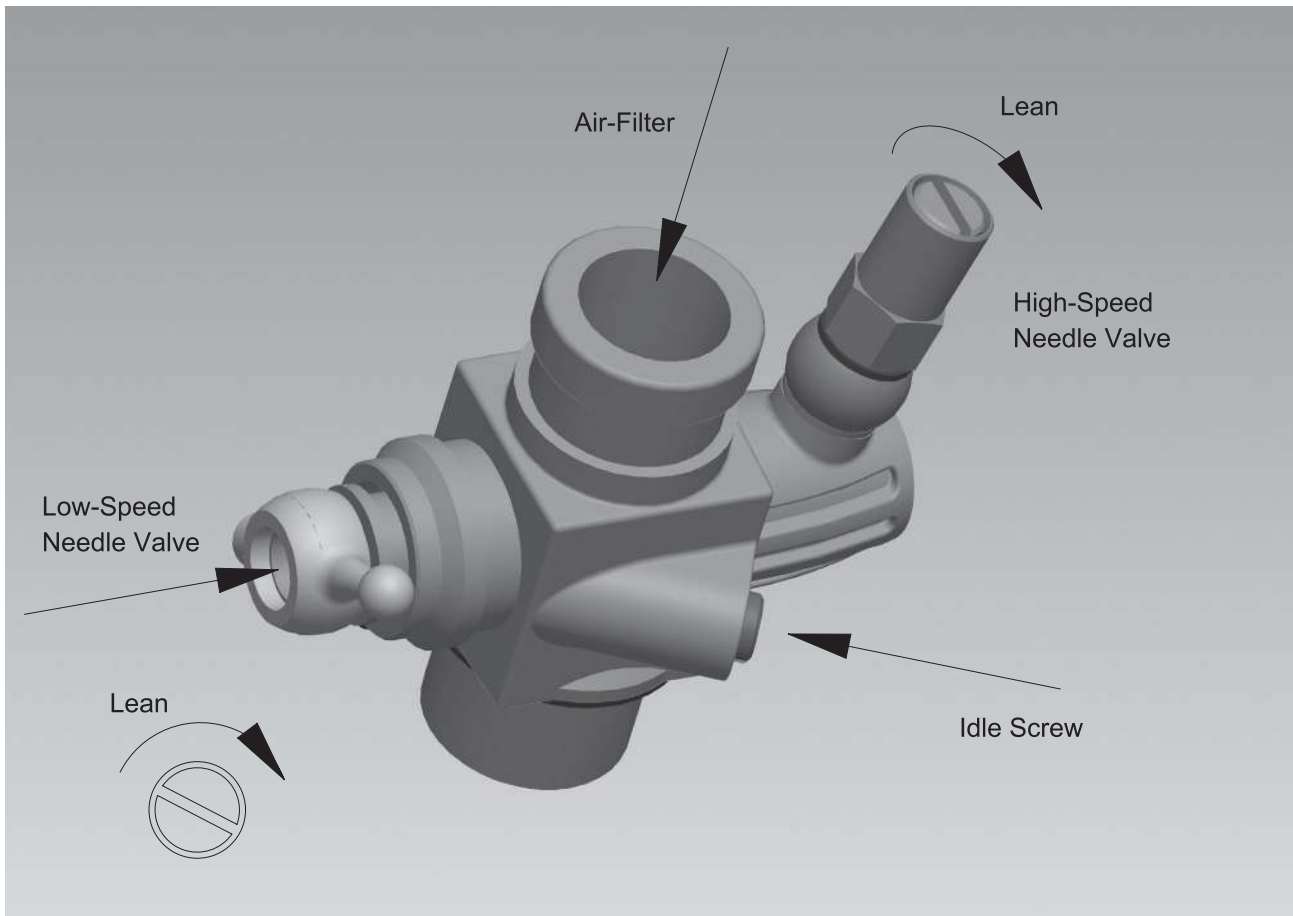
Now it's time to start up and break in the engine. If you are unsure about your ability to properly break-in and tune the engine, or encounter difficulty, please seek help from your local hobby shop or GS Distributor. Nearly all engine problems are directly related to poor break-in procedure and improper adjustments. The following guidelines and settings are for the GS-R15ST engine only, follow them carefully!

Use only popular name brand glow fuel. Do not use any type of RC airplane or helicopter fuel. Use only fresh and clean fuel. Fuel is flammable and explosive, so handle with care and always use outdoors. Always store fuel in a cool, dry, safe place, out of reach of children. Do not allow fuel to come in contact with your person, especially mouth, eyes, nose, face, and ears. Seek medical help if contact occurs.

Check the fuel and pressure lines for leaks and cracks. The fuel line is the tube, which goes from the fuel tank to the engine. The pressure line is the tube, which goes from the exhaust pipe to the fuel tank. Check to make sure both lines are not kinked or touching any moving or rotating parts.

Final Prep, Checklist, and First Run

The needles are preset at the factory, but it's a good idea to verify the proper setting for break-in. The following are the recommended starting settings: Main (high/top end) needle 2 turns from closed and Low (bottom end) needle 2 3/4 turns from closed. The main needle is the screw in the brass tube directly next to the air filter and the bottom end needle is the screw in front of the rubber boot, directly next to the ball linkage. When tightening the needles, stop turning when you feel resistance.



Final Prep, Checklist, and First Run

Fill up the tank with model glow fuel (20% recommended). The engine is easier to start if you prime it. The easiest way to prime the engine is to place an object over the exhaust stinger outlet (the hole in the front of the exhaust pipe) and pull the starter cord several times. This will force fuel through the fuel line and into the carburetor. Install the AA battery in the glow igniter.

Turn on the transmitter and receiver switch. Place the glow igniter onto the glow plug on the engine and gently pull the starter cord. The engine should start up within a few pulls. Never pull the starter cord for an extended period as you will cause damage to the starter mechanism. If the engine does not start, check the glow igniter, glow plug, fuel line, pressure line, and fuel tank. Make sure all are working properly.

To help keep the engine idling during the first tank, you may apply a small amount of throttle to allow the engine to stay running until it warms up. You may do this by pulling the trigger slightly, or by turning the F.D./High TH EPA knob to the right. You may also leave the igniter on the glow plug for the first tank.

Slowly raise the throttle and check to make sure the tires spin and the brakes work. Allow the engine to idle for 5 minutes, then shut down and allow it to cool. Repeat this procedure for an entire tank of fuel. After the first tank, lean (turn clockwise) the main needle 1/8 turn and drive the car at low speeds. Repeat this process for the 3rd and 4th tanks. Pay special attention to engine rpm, exhaust smoke, engine temperature, and idle. You may need to raise or lower the idle during this time. The engine temperature will vary widely depending on type of fuel, weather conditions, and track conditions, so do not use temperature as the sole basis for engine break-in and tuning. Make sure the engine idles steady, plenty of smoke is emitted from the exhaust, and engine rpm is not too high.

During the 3rd and 4th tanks, you may also need to adjust the low-end needle. The final setting for the low-end needle will normally be within 1/4 turn lean or rich from the above starting point.

By the fifth tank the engine should be fully broken in. The final main needle setting will be within 1/2 turn from the above starting point. Never tighten the main needle less than 2 turns from closed. Once the engine has reached its optimum setting, richen (loosen) the main needle about 1/16 turn.

The final settings for both needles (2 to 2 1/4 turns from closed for the main needle) and 2 1/2 to 2 3/4 turns from closed for the low-end needle) will work for most conditions. Extreme conditions (very hot, very cold, very dry, very humid) may require only very slightly different settings. Refer to the "Engine Adjustment" pages in the manual for fine-tuning tips.

The idle screw is used only to raise or lower the idle. Normally the idle will drop as the engine breaks in, but may rise slightly as the top end needle is tightened. If at any time the idle appears too low or the engine will not stay running, tighten the idle screw about 1/2 turn.

During break in, it is a good idea to drive the car without the body on to allow extra cooling to the engine. After break in, apply decals to the body, install and go. If the engine shuts off at any time, and has overheated, allow it to cool before restarting, otherwise you may pull the starter cord too many times in an effort to restart the engine, damaging the starter mechanism. Should you need to replace the glow plug, we suggest using only GS #4 plugs (GS-900068).

Always allow the engine to warm up before making any adjustments. Proper warm up can take up to 3 minutes. Note that when the fuel tank is full, the engine tune will be slightly rich, and when the fuel tank is empty the engine tune will be slightly lean. For best results, set proper engine tune with 1/2 tank of fuel. Engine setting will also vary slightly from paved to unpaved surfaces.

Final Prep, Checklist, and First Run

There are several ways to shut off the engine.

Shutting off the Engine:

There are several ways to shut the engine off. Here are some suggestions. Please exercise caution when attempting to shut the engine off to avoid any bodily harm.

1. You can simply allow the engine to run until there is no more fuel in the tank if your engine is tuned properly, you will notice a slight rise in idle just before the engine shuts off. If the engine idles erratically well before it shuts off, your engine settings may be lean.
2. You may place an object (a rag, the sole of your shoe, etc.) over the tip of the exhaust stinger. By covering the exhaust stinger, the engine will shut off immediately. Do not use your bare fingers as you risk injury.
3. You may bump the flywheel with an object (a rag, the sole of your shoe, the handle of a screwdriver, etc.) Do not use your bare fingers as you risk injury.
4. You may press your finger (or other blunt, clean object) over and into the air filter. This method is recommended only in case of emergency. Pressing into the air filter may force dirt into the engine. Contact with the engine or carburetor may cause burns.
5. You may pinch the fuel line (the tubing that goes from the tank to the engine) with a pair of needle nose pliers until the engine shuts off. Use caution as to not cut or damage the fuel line. If your engine is tuned properly, you will notice a slight rise in idle just before the engine shuts off if the engine idles erratically well before it shuts off, your engine settings may be lean.

Before storing your rally away, draw out any remaining fuel in the tank. Restart the engine to use up any remaining fuel. Apply a few drops of after-run oil to the engine, through the carburetor. Wipe off any dirt, mud, or oil from the rally. Remove the batteries from the rally and the transmitter.

For further fine tuning, here are some suggestions.

The first, easiest, and most important thing you can do is to keep the car clean and in good working condition. Keep your car clean and perform regular maintenance, such as keeping the screws tight, the air filter clean and oiled, and replacing bent or worn parts.

Tires have a huge impact on the performance of any car. The supplied tires are excellent for most average conditions. If you plan on parking lot racing, we highly suggest Pro-Line and Panther brand tires.

Shocks are very important to the handling of the car. In time you will need to replace the oil in the shocks. Refer to the Shock Oil page in the manual for details.

Final Prep, Checklist, and First Run

Final Prep, Checklist, and First Run

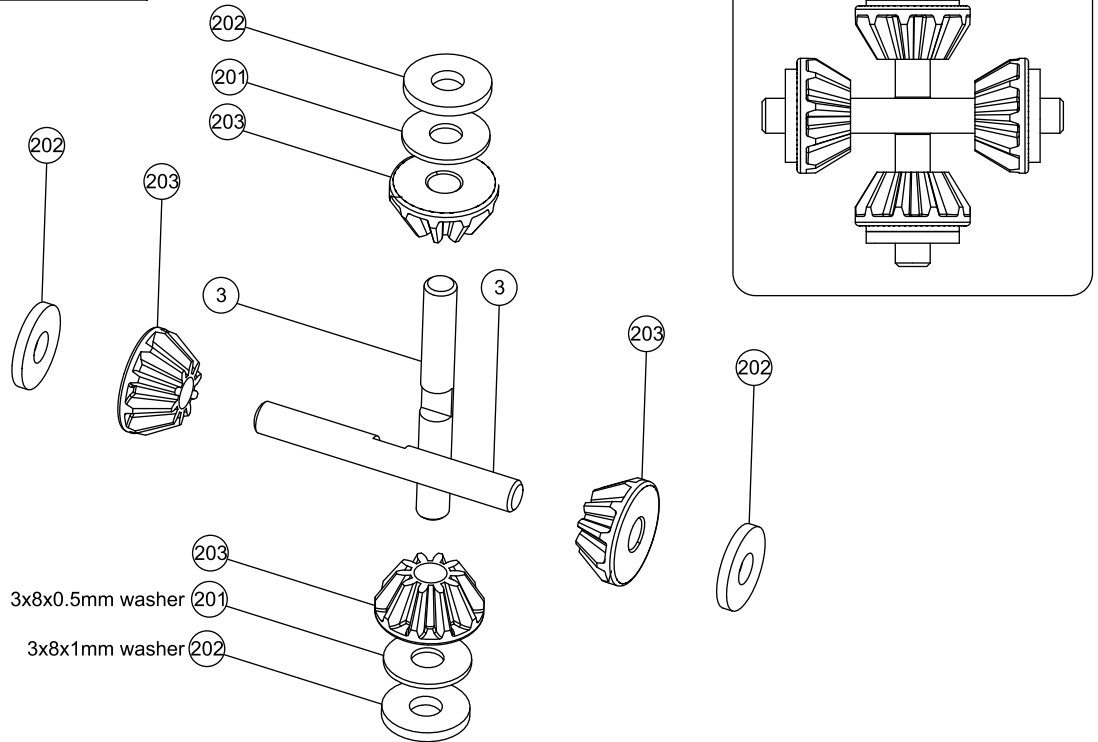
The differentials come pre-assembled with grease. This setting works very well for most average conditions. Refer to the Differential assembly steps in the manual for further tuning details.

For increasing speeds, there are several optional clutch bell and spur gears available from GS and other manufacturers. A 13 tooth clutch bell will increase top end speed. Spur gears are available, both smaller and larger than the stock gear. Larger spur gears will provide better acceleration, and smaller spur gears will provide higher top end speeds.

There are a host of option parts for your Conqueror Rally. Nearly all the option parts are performance enhancing parts as well as adding great looks to your car. Refer to your manual and to www.gsracing.com for details.

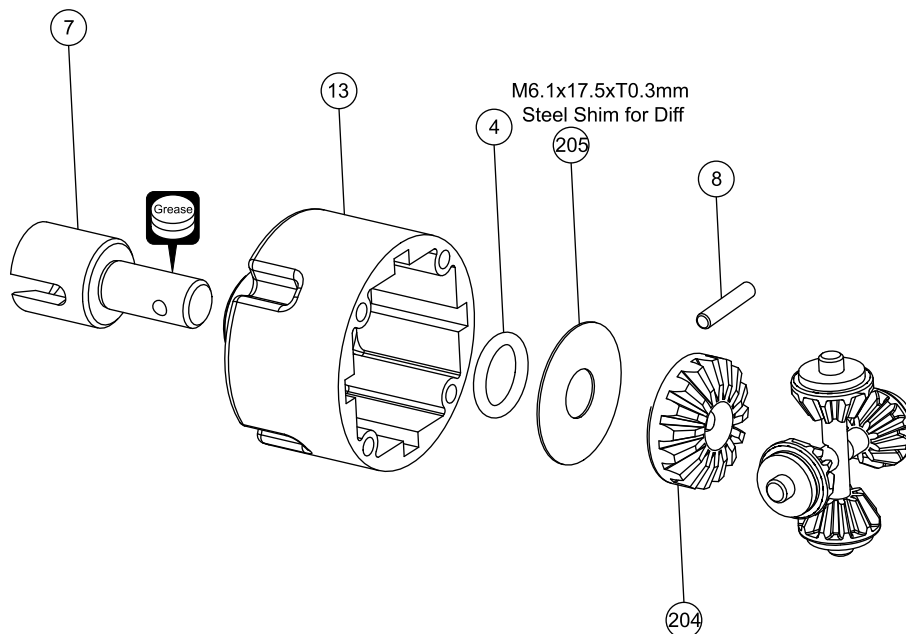
This manual contains step-by-step instructions on the assembly of the Conqueror Rally. Follow these steps to perform regular maintenance, to replace or repair broken or worn parts, and to perform fine-tuning.

Bevel Gear Assembly



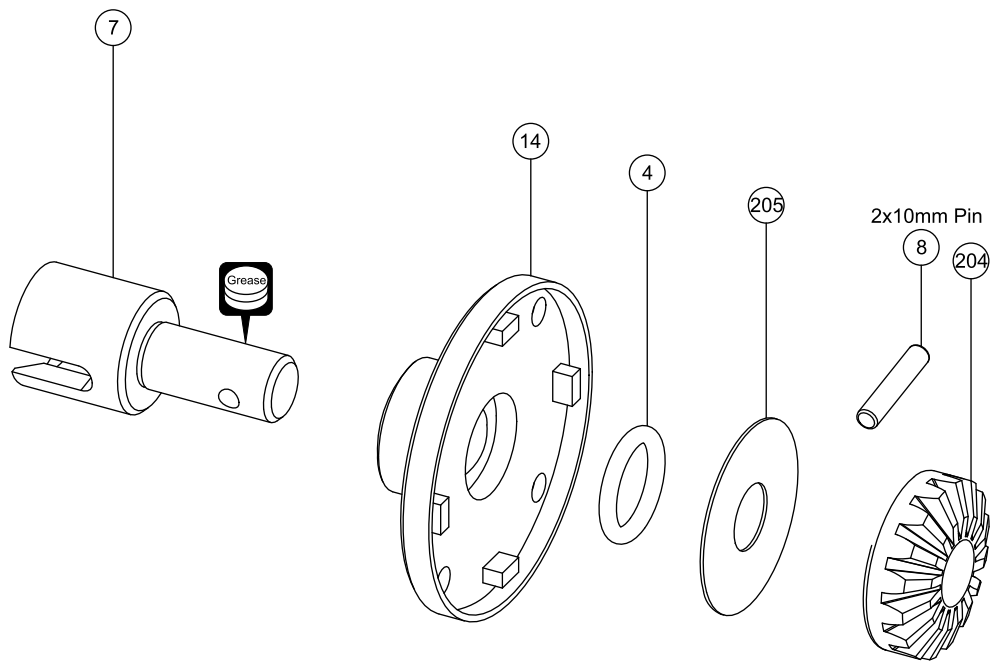
Bevel Gear Assembly: In this step you will build the small bevel gear assemblies for all 2 differentials. Slide 2 small bevel gears, small sides toward each other, over the shaft. Repeat on second shaft. Place one shaft assembly over the other, the flat portions locking into each other. The shims behind the gears should be flush with the ends of the shafts.

Bevel Gear Assembly



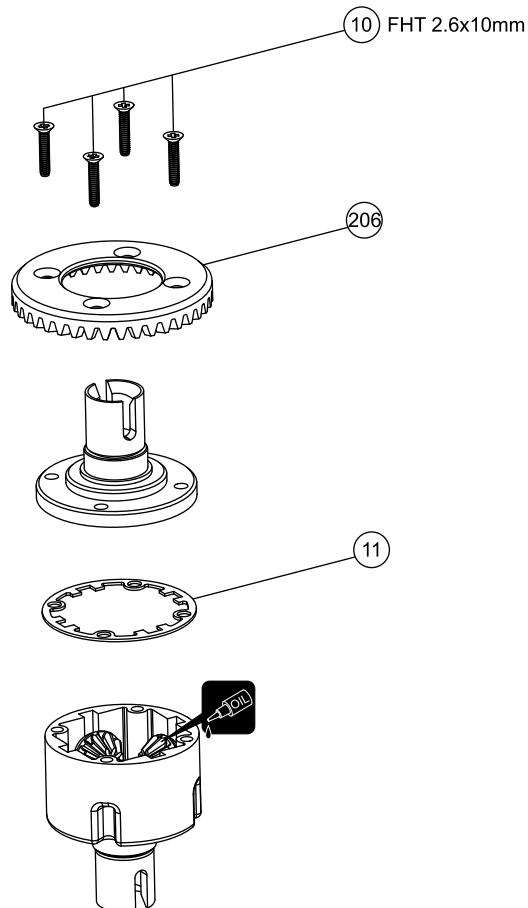
Front/Rear Diff Assembly: In this step you will assemble the diff cases for both the front and rear differentials. Slide the bearing onto the output shaft of the diff case. Apply a light coat of grease to the male portion of the front/rear diff out drive and insert it through the diff case. Apply a very light coat of grease to the o-ring, then slide it over the shaft of the out drive and seat it in the diff case. Slide 1 shim behind each large bevel gear. Insert the pin through the hole in the shaft of the out drive. Check to make sure the out drive rotates freely. Slide the large bevel gear over the pin. Slide one of the small bevel gear assemblies into the grooves of the diff case and over the large bevel gear. You may need to rotate the out drive to allow the small bevel gear assembly to seat properly. Check to make sure all parts rotate smooth and are properly seated. Repeat for second diff case.

Bevel Gear Assembly



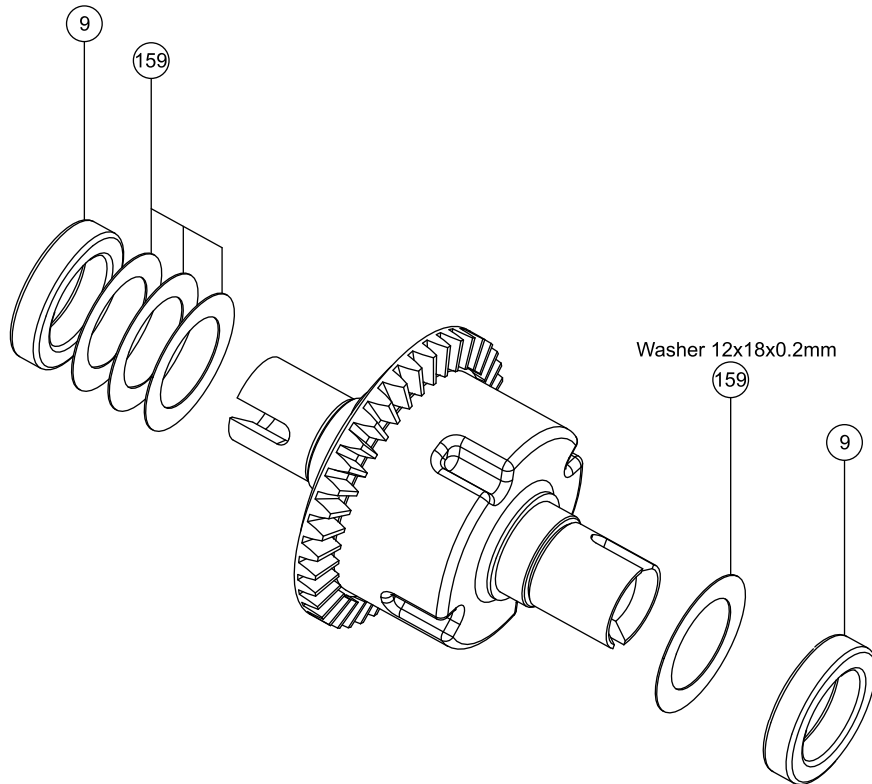
Front/Rear Conical Gear: Slide the bearing over the output shaft of the front/rear diff cap. Apply a light coat of grease to the male portion of the front/rear diff out drive and insert it through the diff cap. Apply a very light coat of grease to the o-ring, then slide it over the shaft of the out drive and seat it in the diff cap. Slide 1 shim behind each large bevel gear. Insert the pin through the hole in the shaft of the out drive. Check to make sure the out drive rotates freely.

Front/Rear Diff Assembly



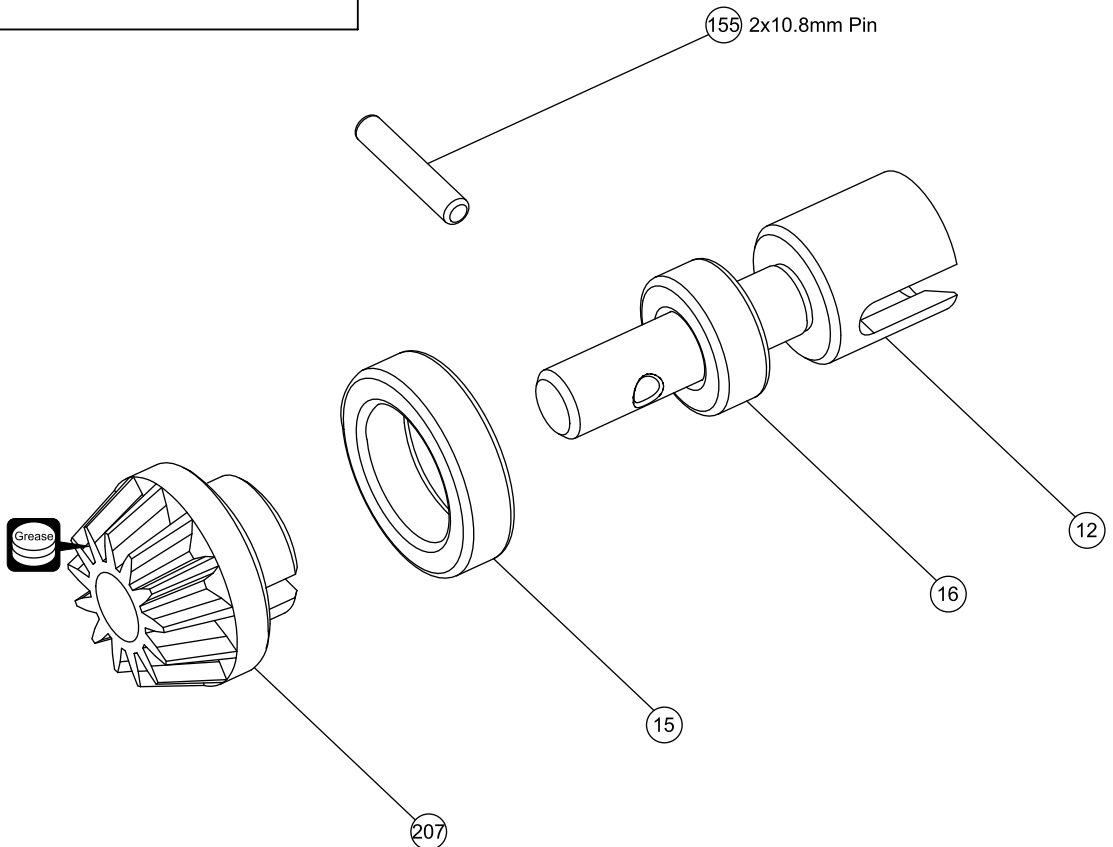
Attach the 39T Ring gear assembly using 2.6x10mm FHT screws. Tighten the screws in a cross pattern until firmly sunk, do not over tighten!

Front/Rear Diff



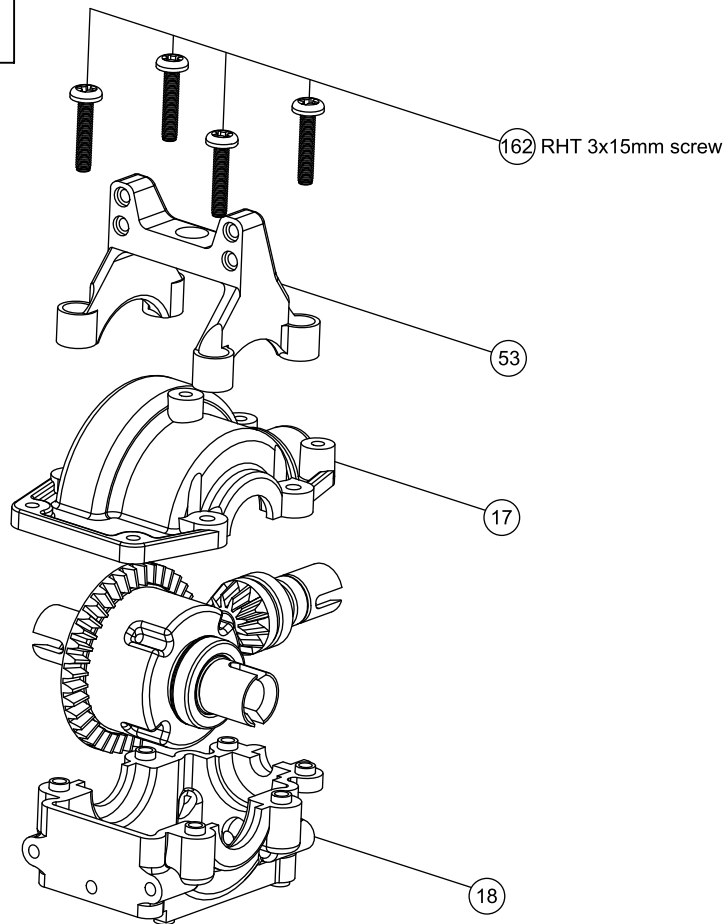
Slide washers(159) between the each diff out drive and the bearing.

Front/Rear Pinion Gear Assembly



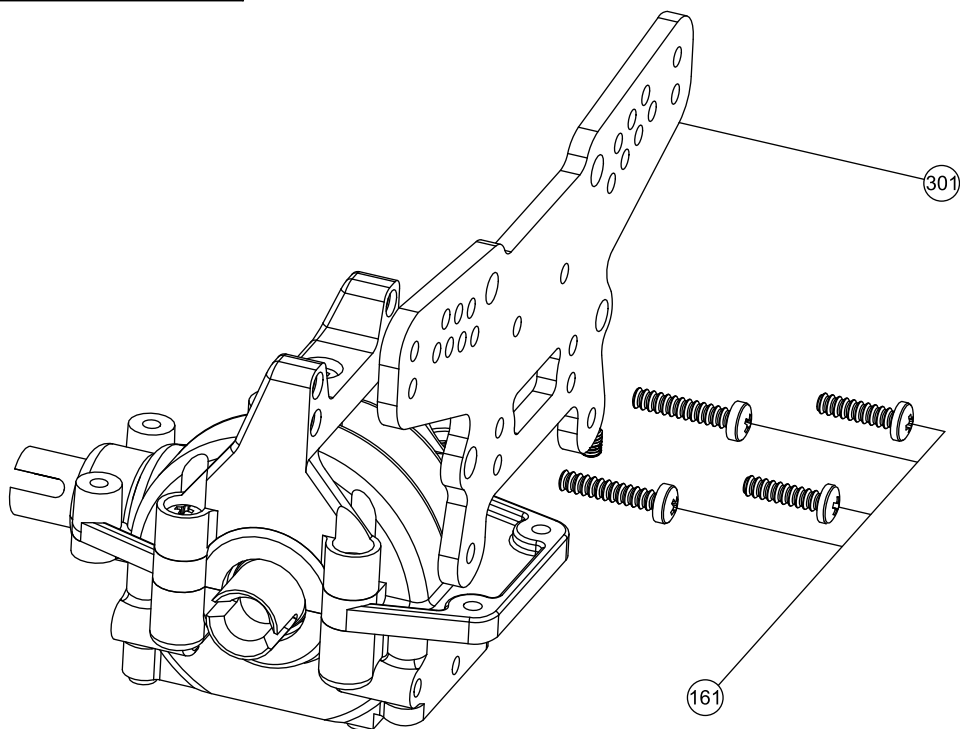
Insert the pin through the hole in the shaft of the pinion gear out drive.

Gear Box Assembly



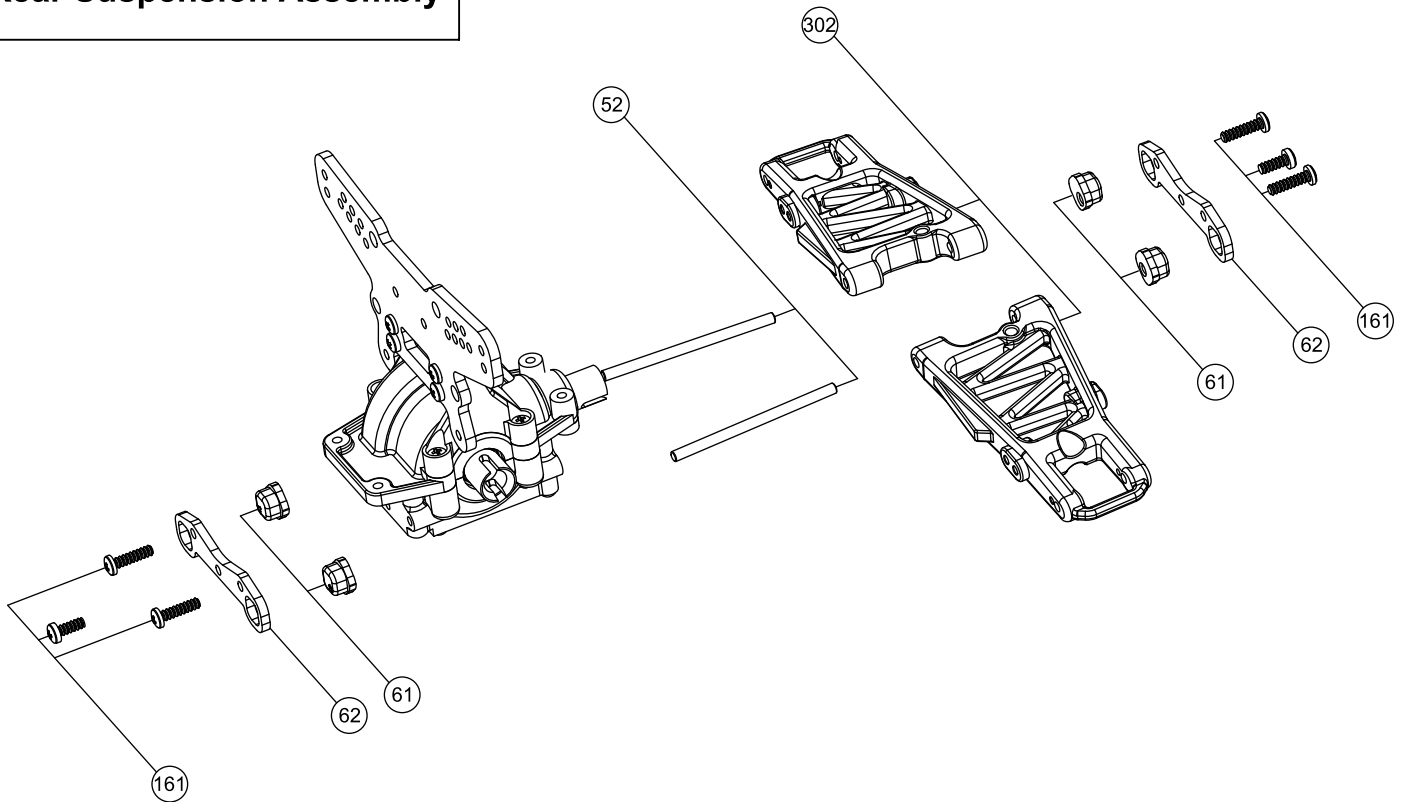
Fit the shock tower mount, gear box cap and gear box mount using 4pcs 3x15mm RHT screws at the same time on it.

Rear Shock Tower Assembly



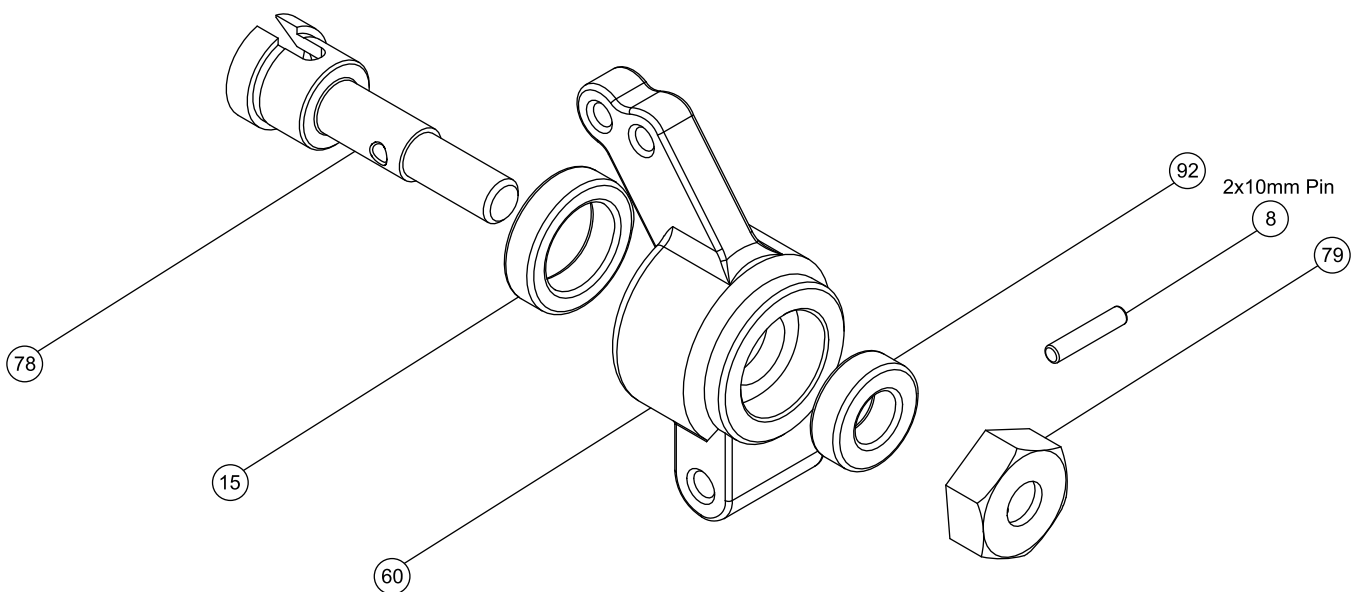
Fit the rear shock tower, rear end brace and Rear end brace mount using screws as shown on the drawing. And also fit the wing mount of exhaust pipe set using screws as shown on the drawing.

Rear Suspension Assembly



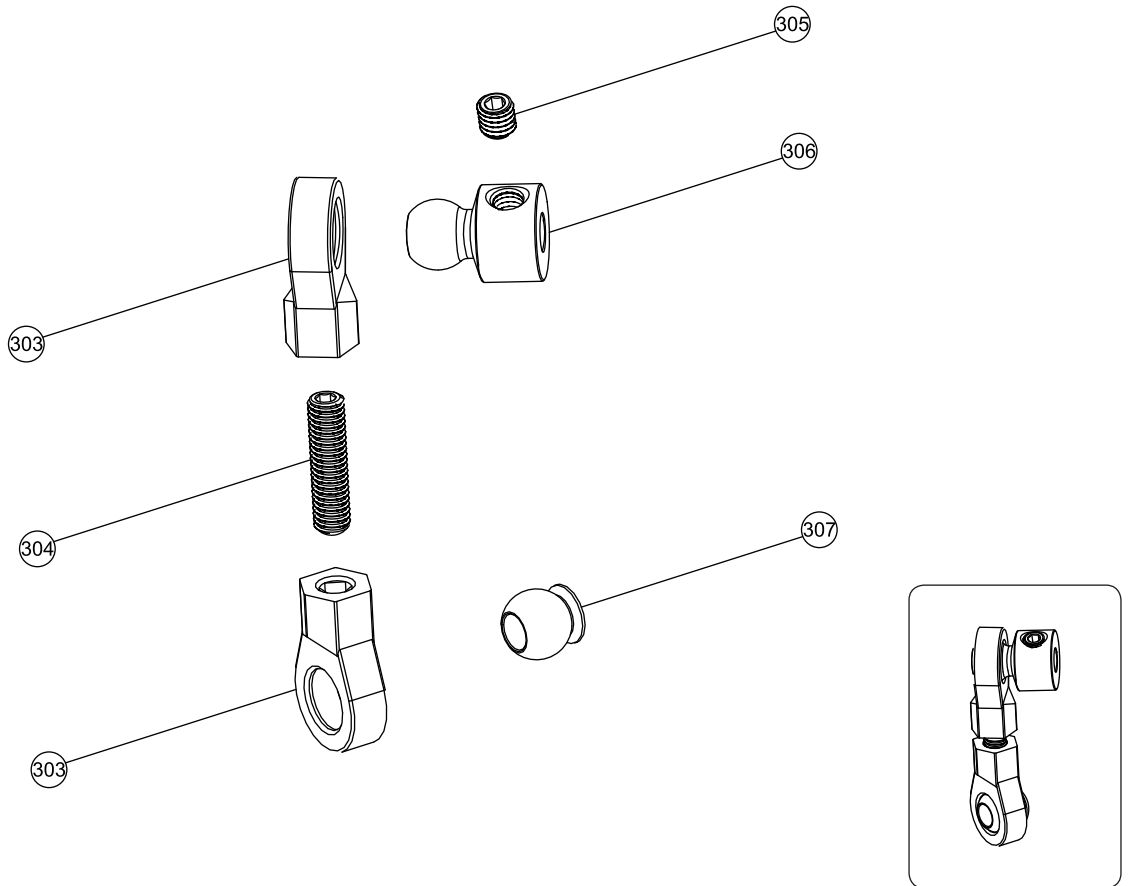
The Conqueror Rally is using non e-clip suspension system. Insert the anti-squat inserts, note side up, into the anti-squat mount. Slide the hinge pins into the anti-squat mount and slide the lower arm assemblies over the hinge pins. Insert the rear suspension mount inserts, note side out, into the rear suspension mount. Slide the mount, with the inserts attached over the hinge pins.

Rear Hub Assembly

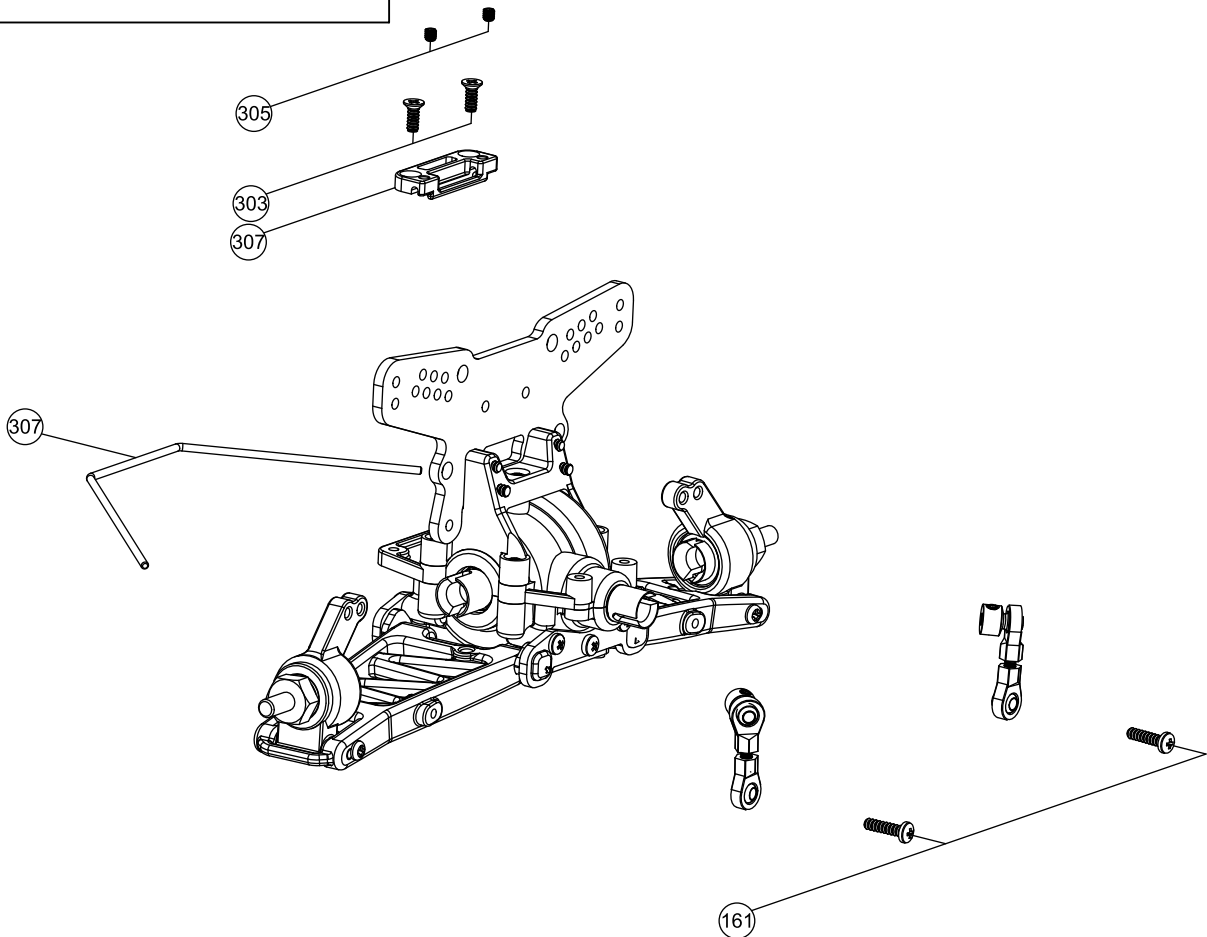


Rear Hub Carrier Assembly: The rear hubs on the Conqueror Rally are the same left and right. Push a 10x15x4 bearing into the inside of the hub and a 6x12x4 bearing into the outside of the hub. Slide a wheel axle through the bearings. Slide a wheel hub over the axle, lining up the holes in the axle and wheel hub. Push the 2mm pin through the hub and axle. Repeat for other hub.

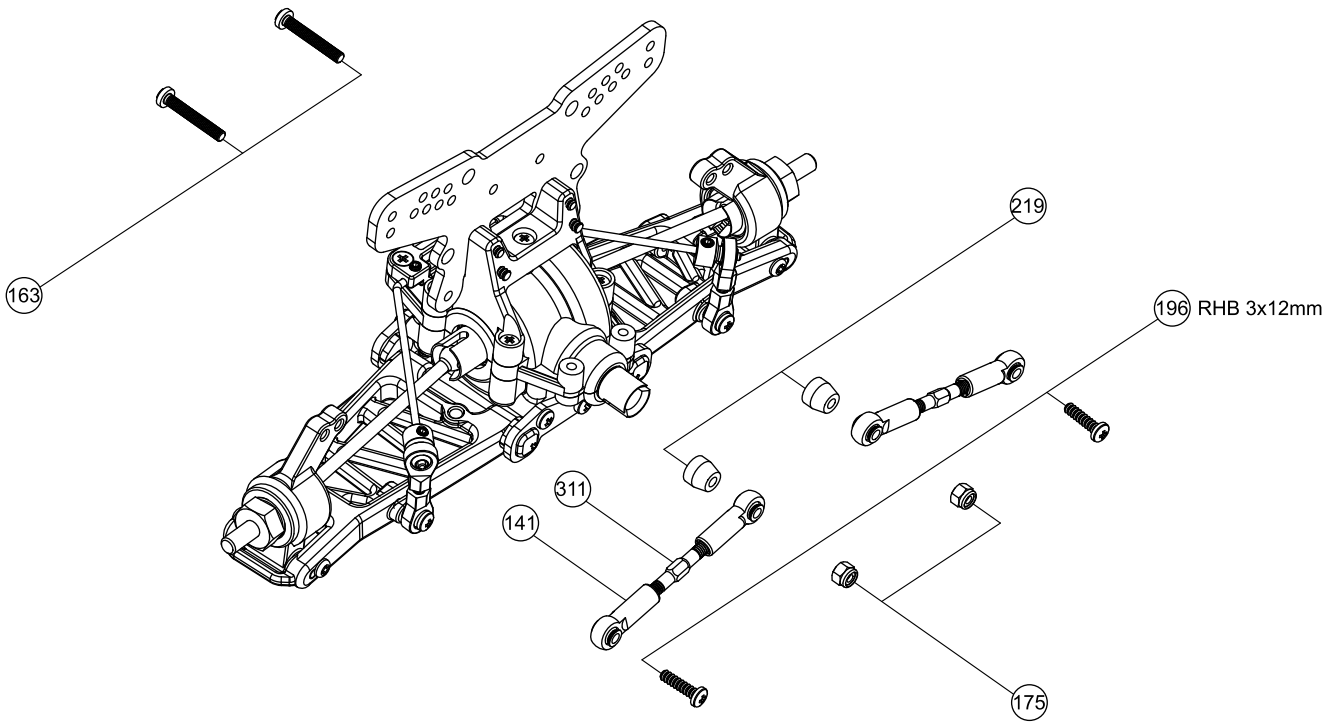
Sway Bar Linkage Assembly



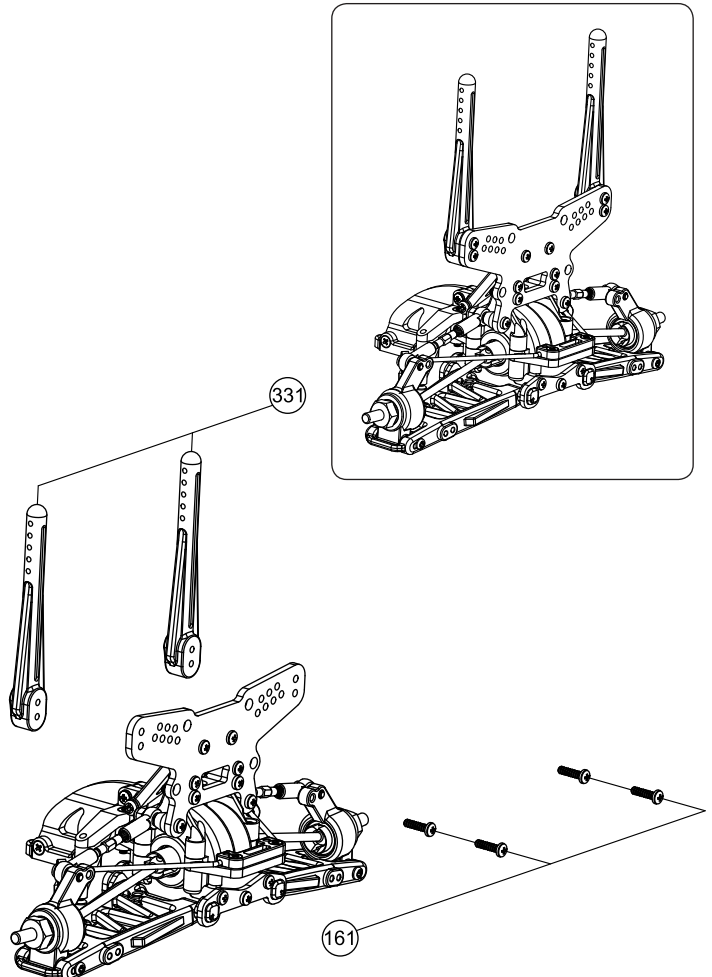
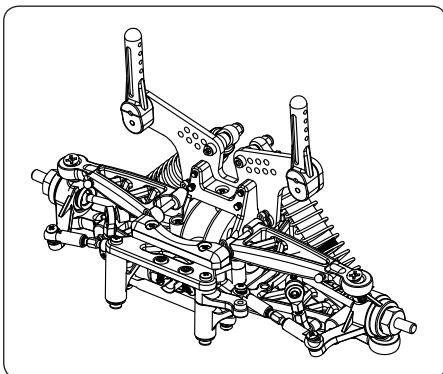
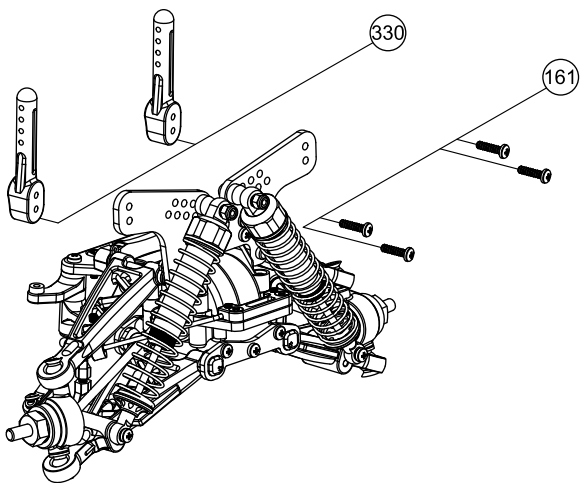
Rear Sway Bar Assembly



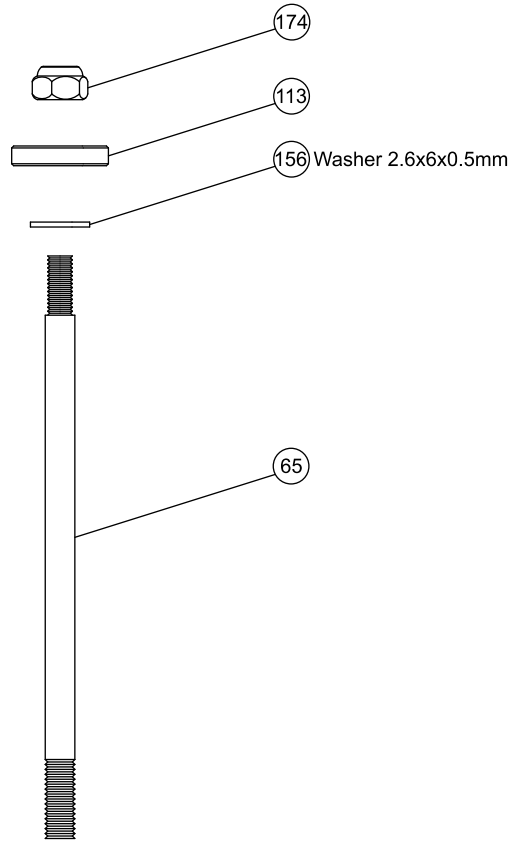
Rear Upper Arms Assembly



Body Mount Assembly

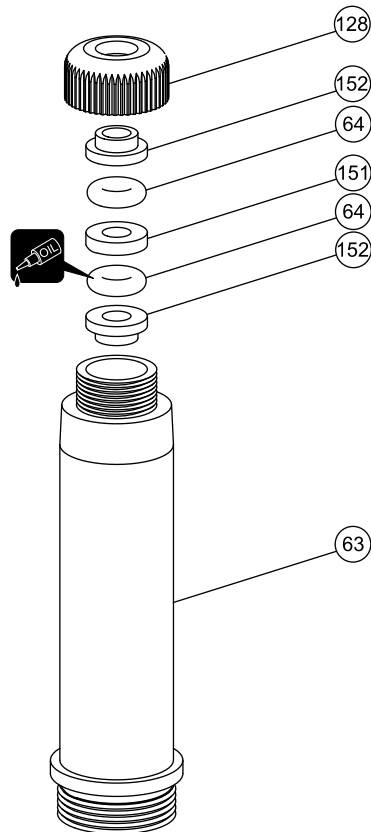


Shock Shaft Assembly



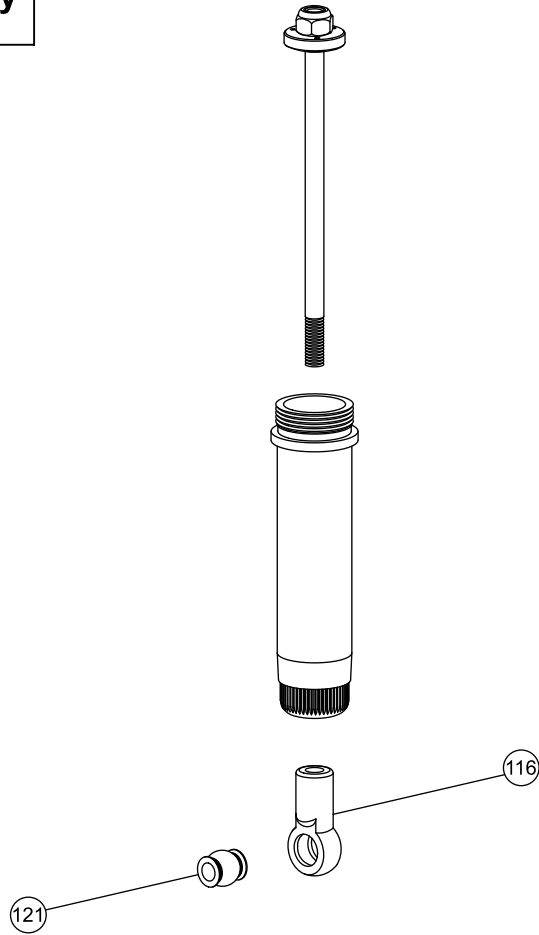
Shock Body/Piston: For the shock piston assembly, slide the 2.6mm washer over the stepped end of the shock shaft. Place the shock piston, over the shaft and washer. Tighten the piston in place using the 2.5mm lock nut. Repeat for the 3 other shock shafts.

Shock Absorbers Assembly

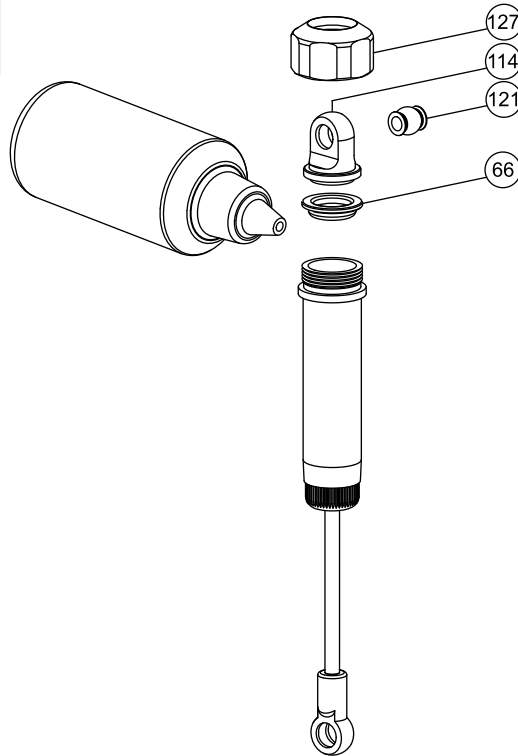


Apply a drop of GS Racing Pure Silicone Shock Oil to the o-rings. Place a shaft groove, followed by an o-ring, and one o-ring spacer, followed by another o-ring than place another shaft groove on the shock body. Tighten the lower cap for shock body.

Shock Absorbers Assembly

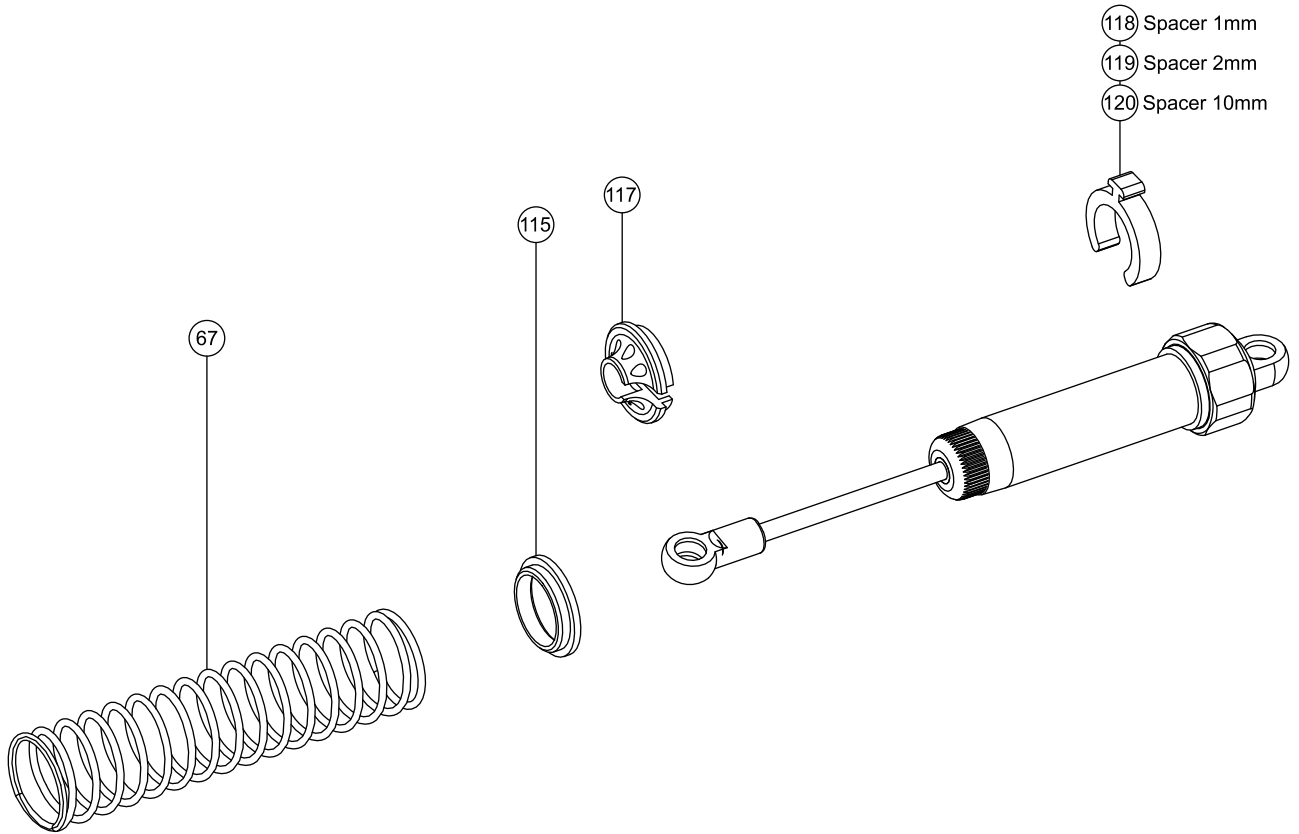


Shock Cap Assembly

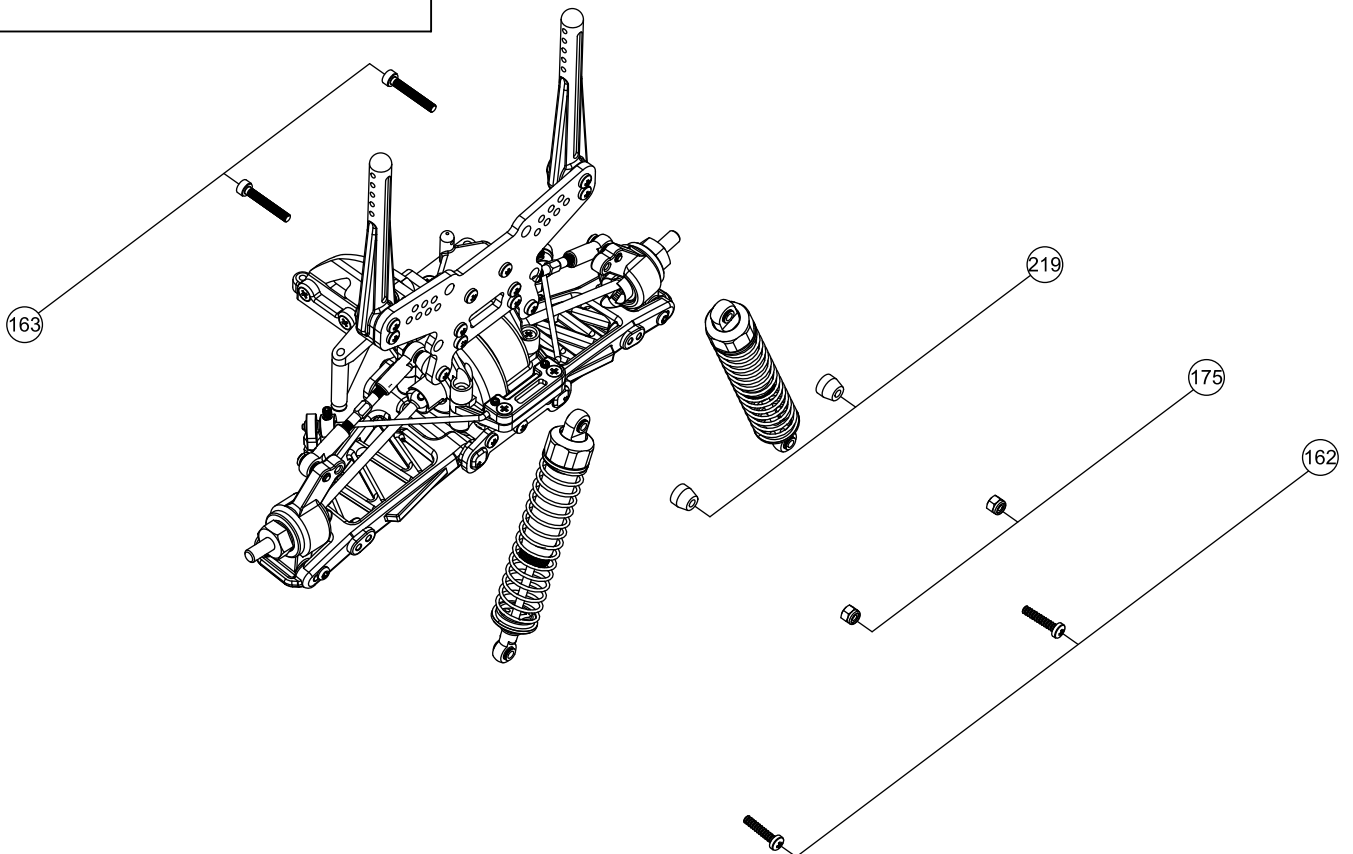


Push the shock shaft in about 5mm. Fill the shock with shock oil about half way. We suggest using GS Racing Pure Silicone 45wt. oil for the front shocks and rear shocks. Pull the shock shaft out and continue to fill until the oil level is just below the top of the shock body. Allow the air bubbles to escape. Push the shaft up about 2-3mm. Carefully thread the shock cap assembly onto the shock body until tight. Wipe off any excess oil, which may escape at this time. Check shock action. The shock shaft should move in and out of the shock body. The shock shaft should have some rebound when compressed. You may notice some oil leakage after initial assembly. If oil leakage persists, disassemble and repeat process. Oil leakage is almost always due to an unseated shock bladder or loose shock cap. Repeat for all shocks.

Front/Rear Shock Assembly

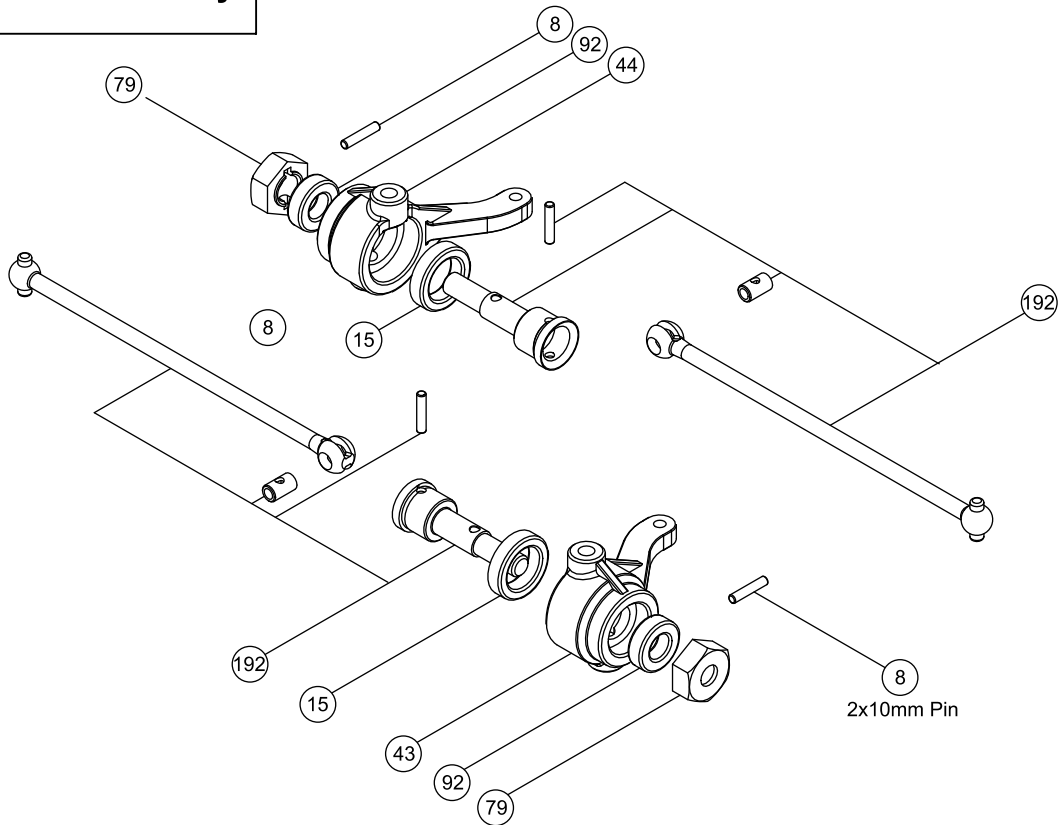


Shock Position



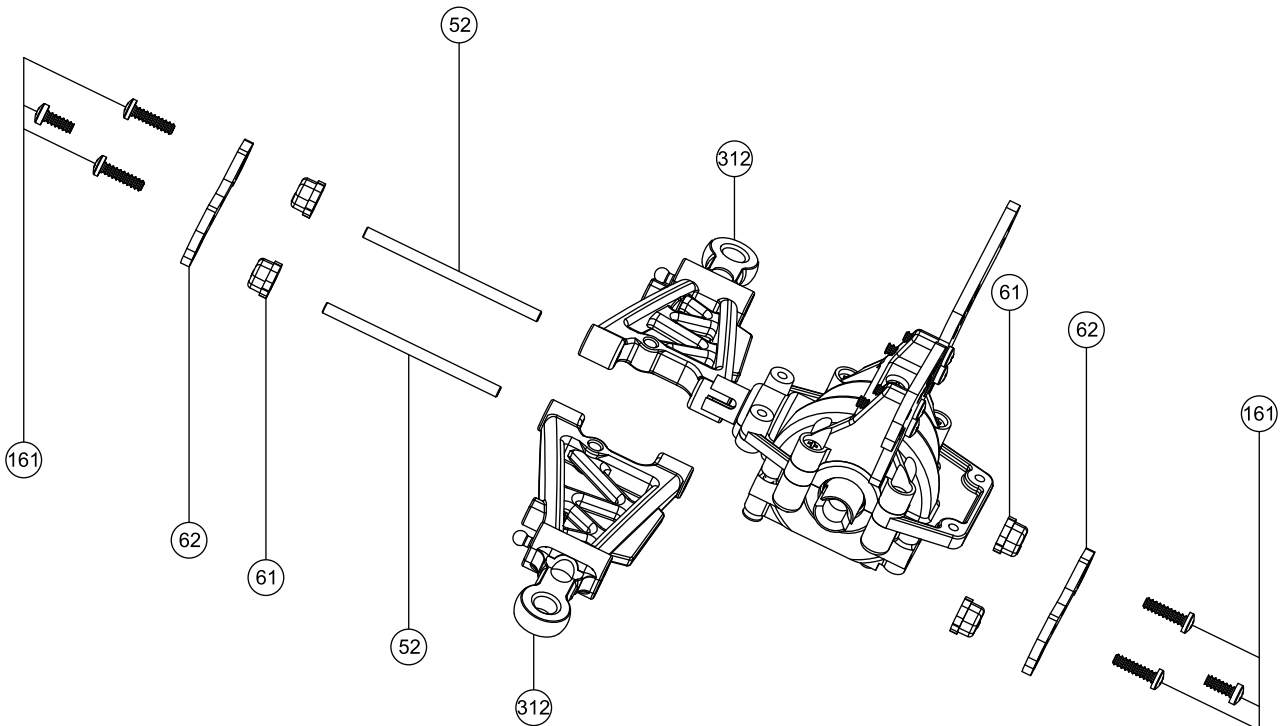
Rear Shocks: Attach the shocks to the shock tower and lower arms at the outside holes of the arms using 3x15 RHT screws.

Front Wheel Hub Assembly



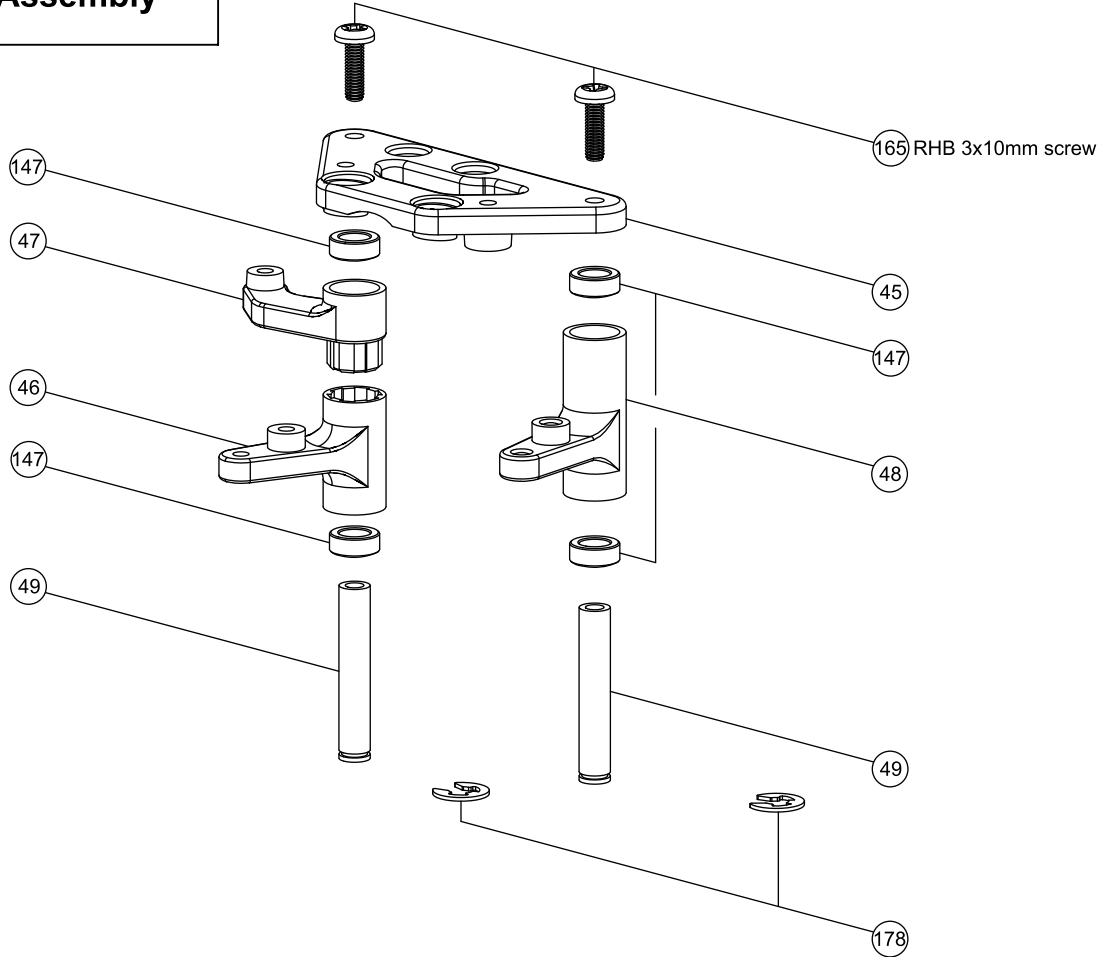
Steering Knuckles: Push a 10x15x4 bearing into the inside of the hub and a 6x12x4 bearing into the outside of the hub. Slide a CVD's axle through the bearings. Slide a wheel hub over the axle, lining up the holes in the axle and wheel hub. Push the 2mm pin through the hub and axle. Repeat for other hub.

Front Suspension Assembly

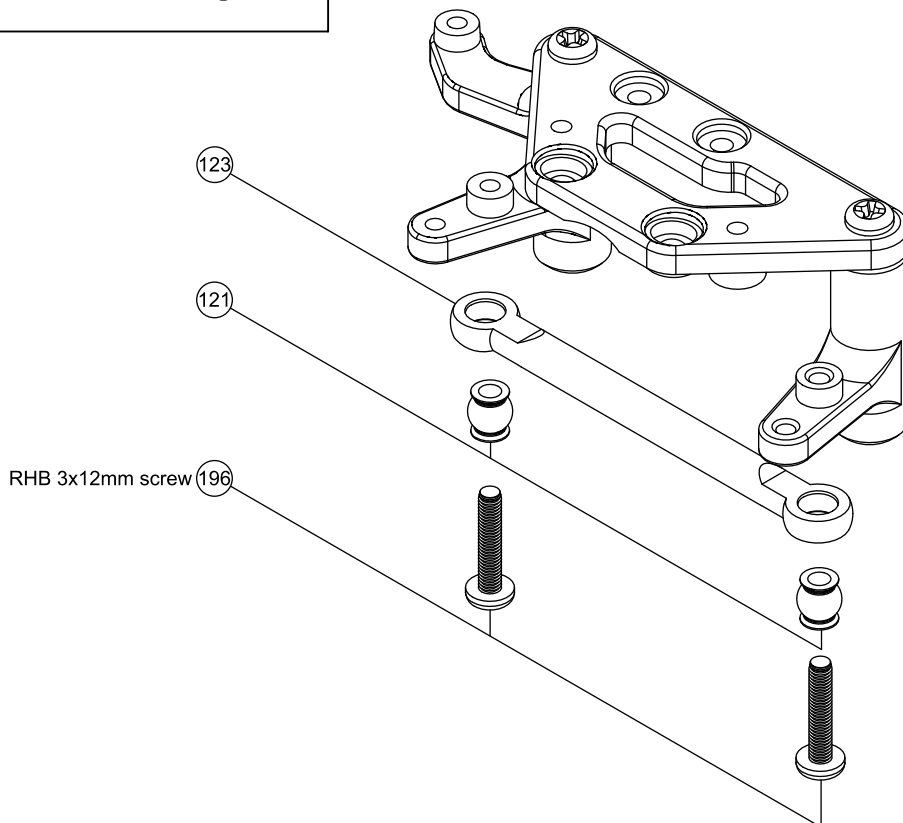


All Conqueror Rally are using non e-clip suspension system. Insert the toe-in plate inserts, note side up, into the front toe-in plate. Slide the hinge pins into the front toe-in plate and slide the lower arm assemblies over the hinge pins. Insert the front rear suspension mount inserts, note side out, into the front rear suspension mount. Slide the mount, with the inserts attached over the hinge pins.

Servo Saver Assembly

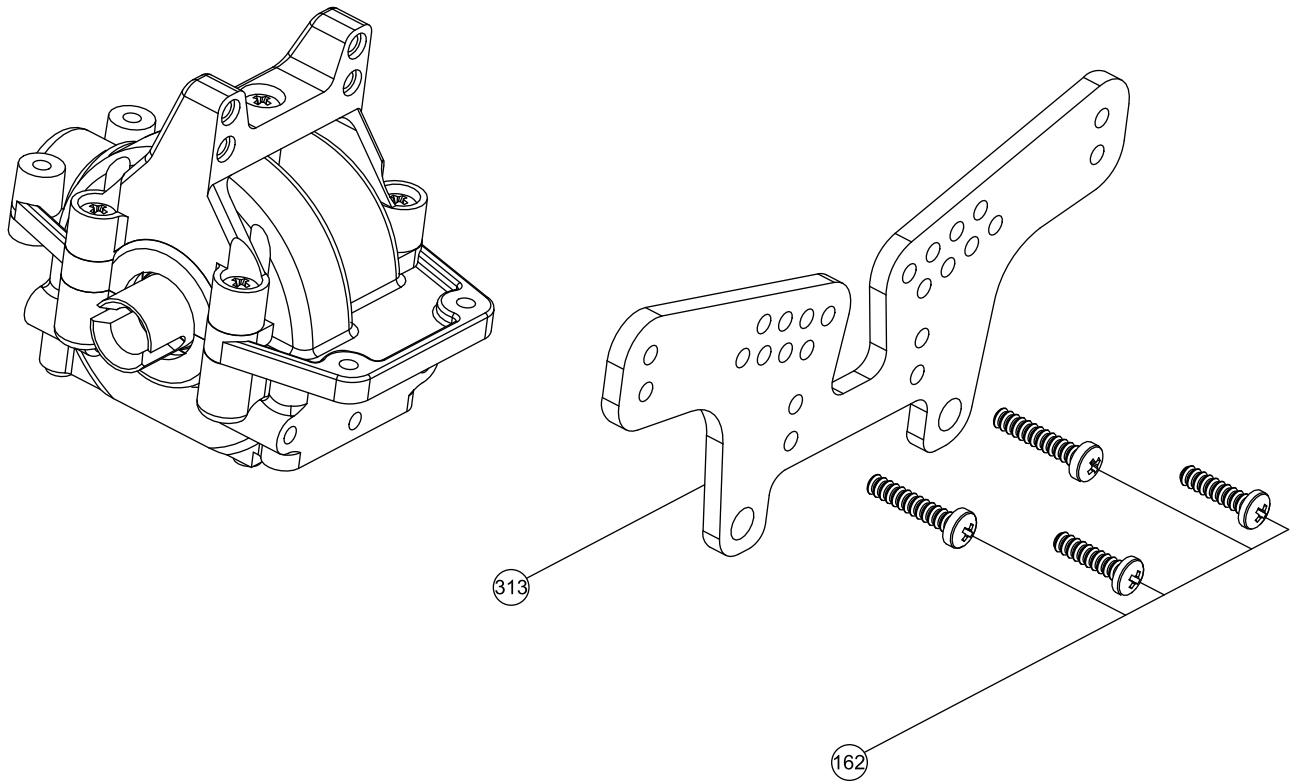


Servo Saver Linkage



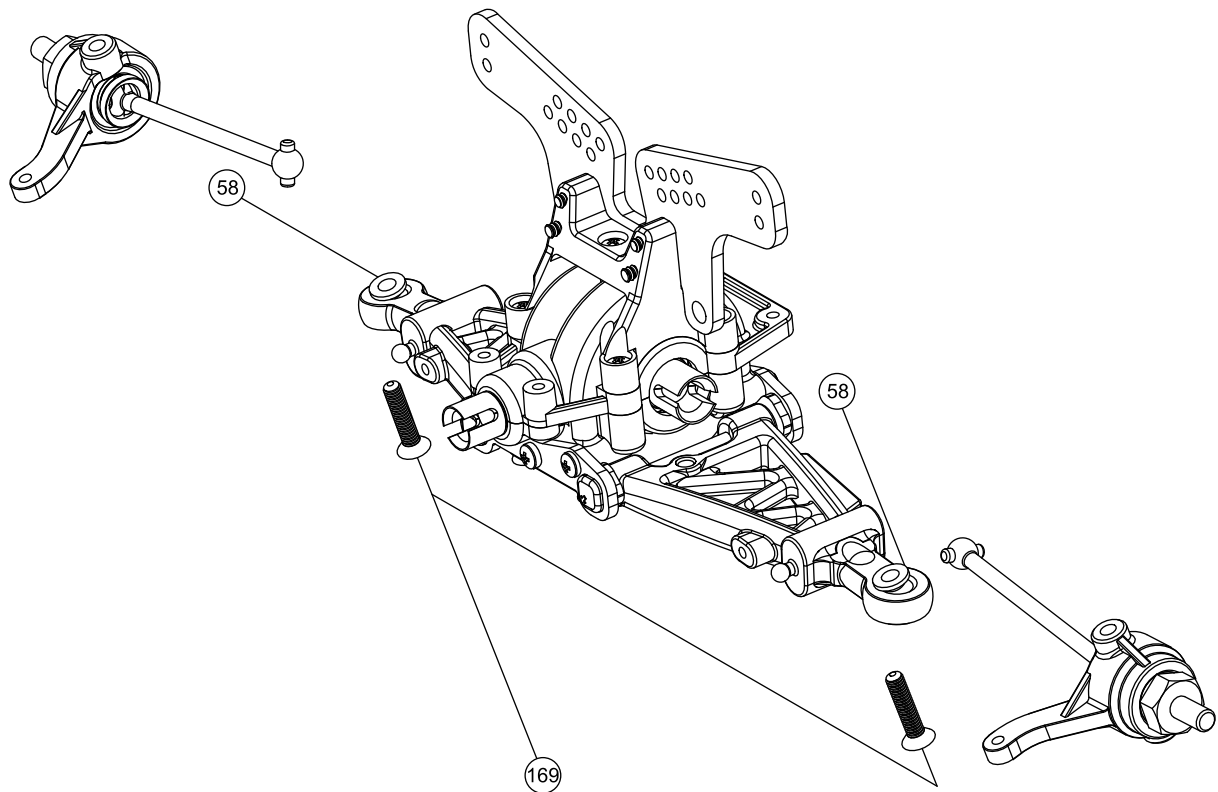
Snap the 5.8x6.3mm pivot ball studs into each end of the steering linkage. Slide the end of the arms into the steering mount (RD) and steering mount (L). Fasten them through the outside holes using 3x15mm RHT screws.

Front Shock Tower Assembly

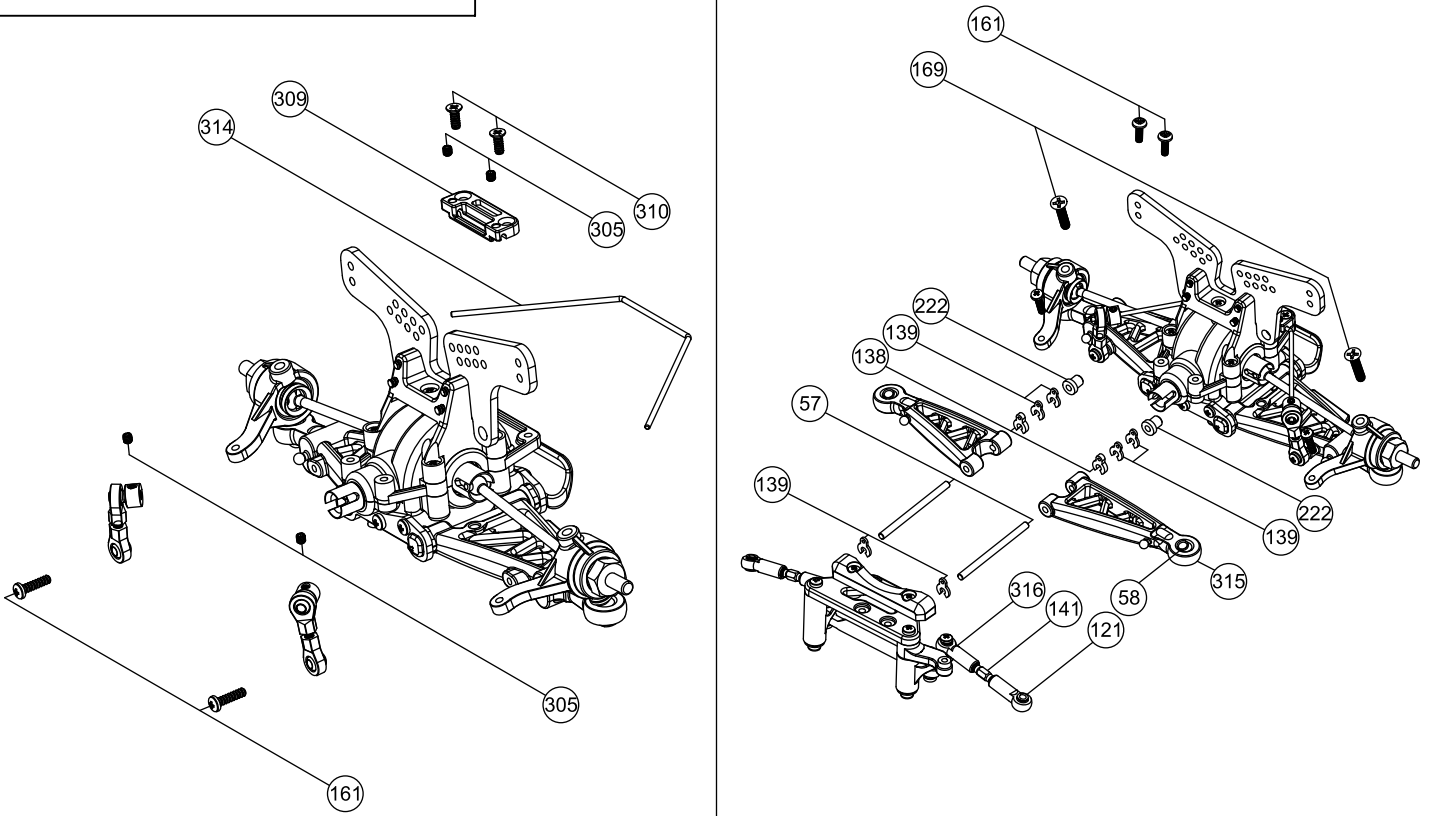


Fit the front shock tower and servo save system using screws as shown on the drawing.

Wheel Hub Assembly

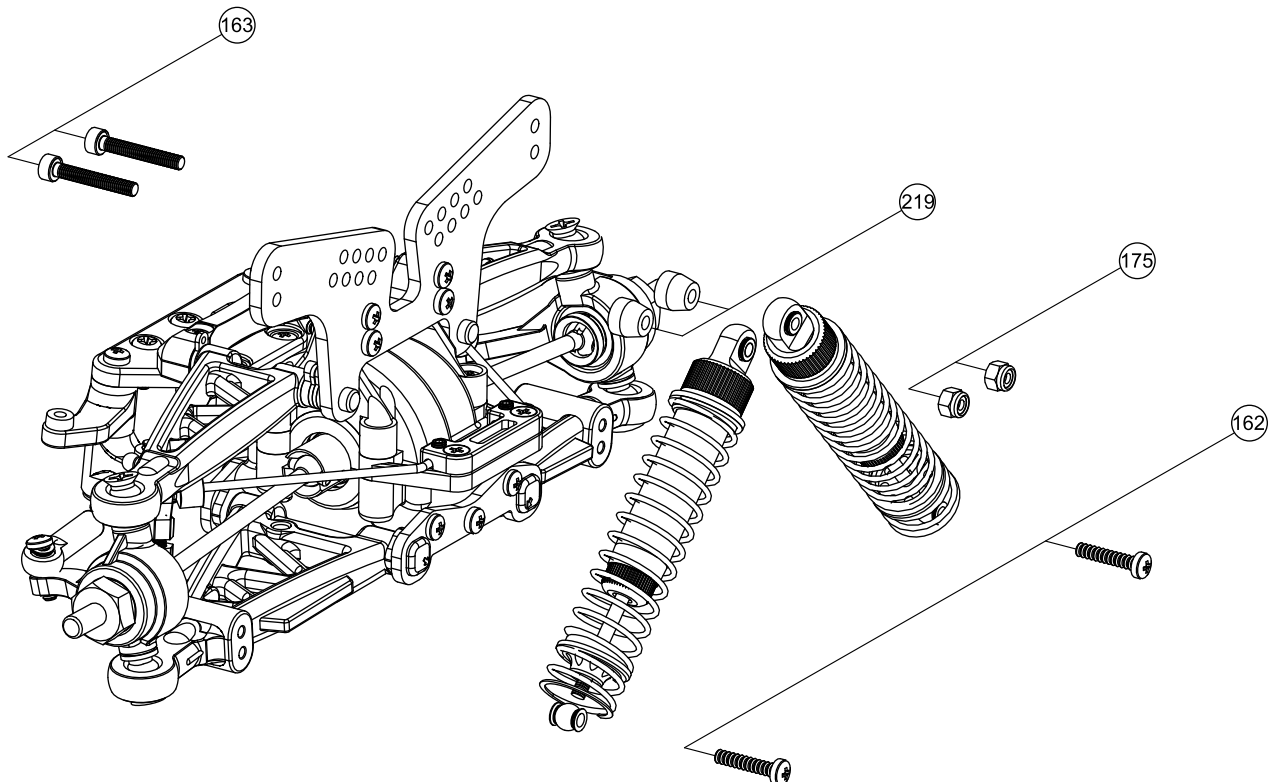


Front Upper Arms Assembly



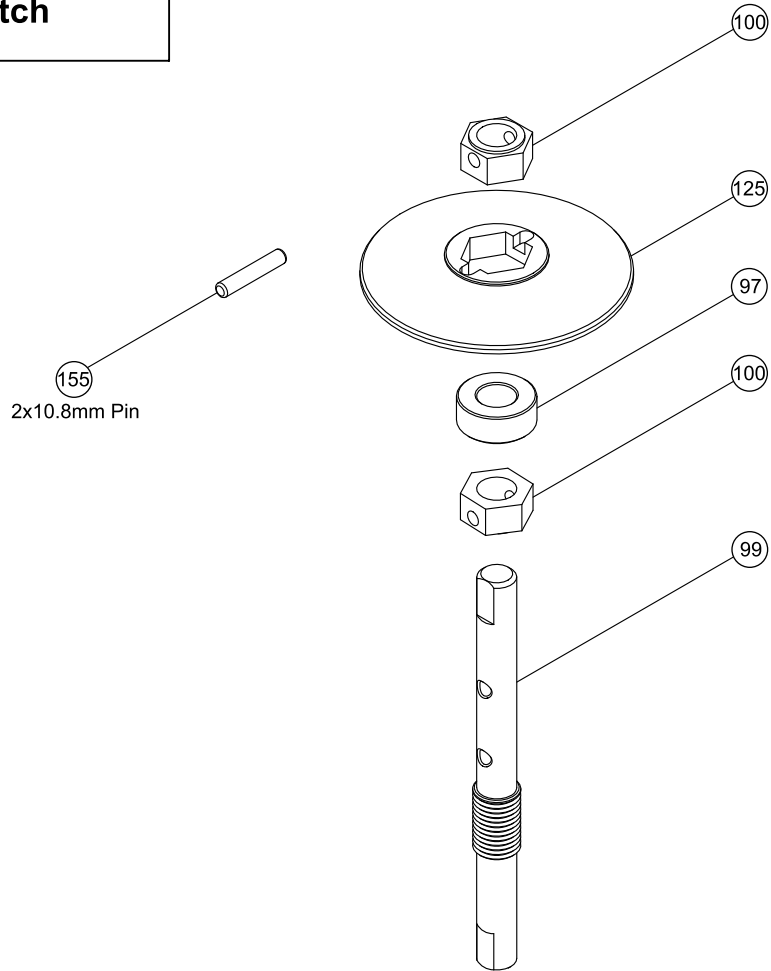
Front Upper Arms: The front upper arms on the Conqueror Rally are identical and can be used on either side. Slide the hinge pins into the front shock tower and slide the upper arm assemblies over the hinge pins. Slide the front upper arm mount, with the inserts attached over the hinge pins.

Front Shock Position

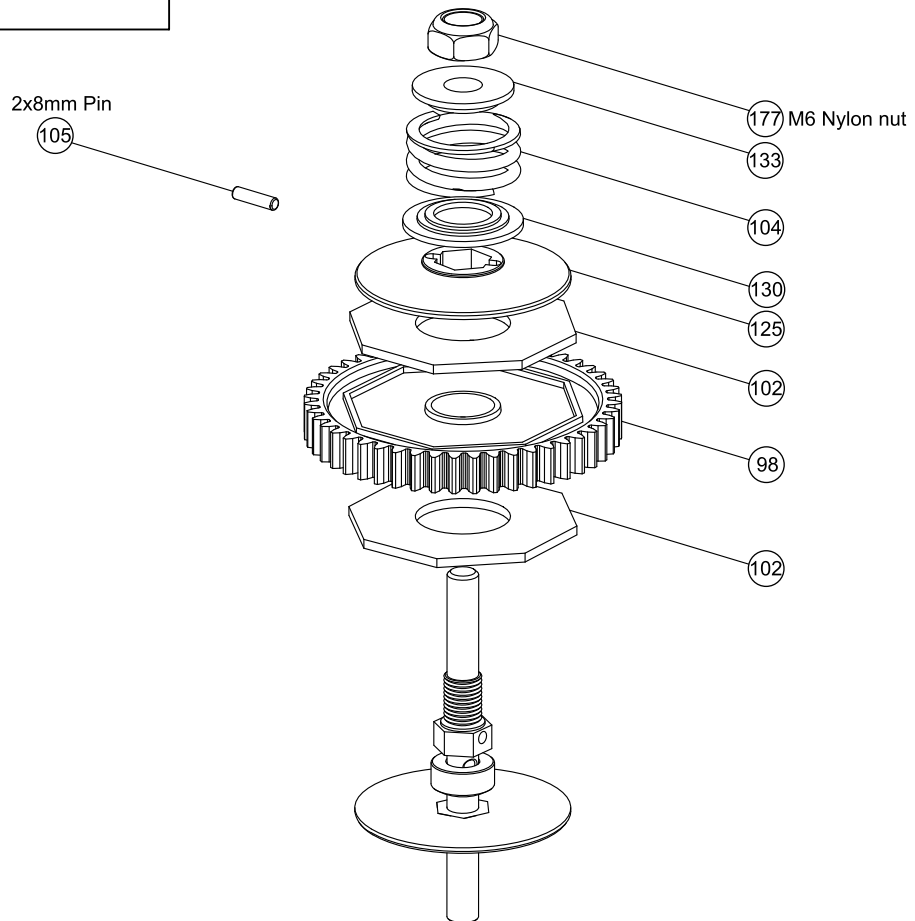


Front Shocks: Attach the shocks to the shock tower and lower arms at the upper holes of the arms using 3x15 RHT screws.

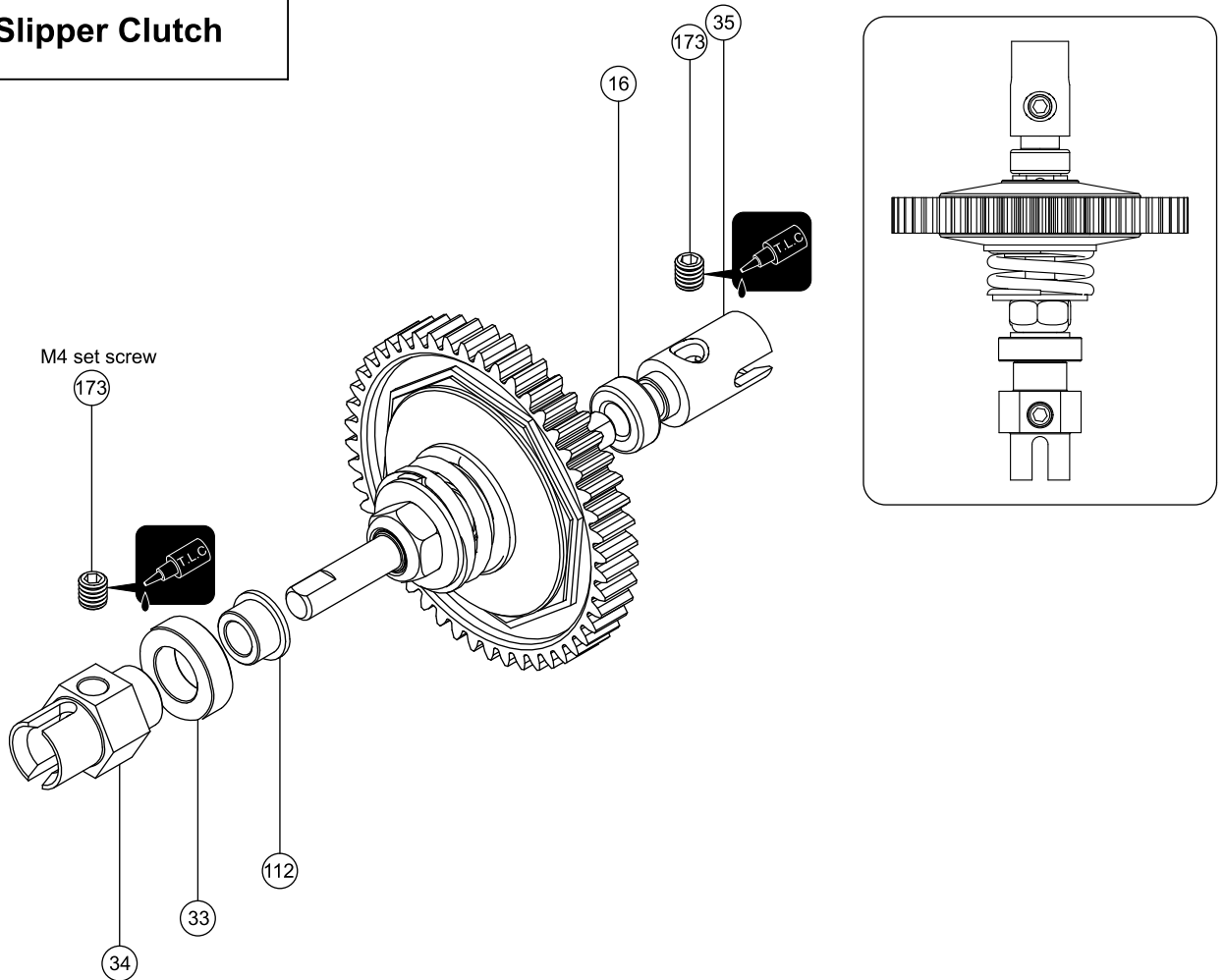
Center Slipper Clutch



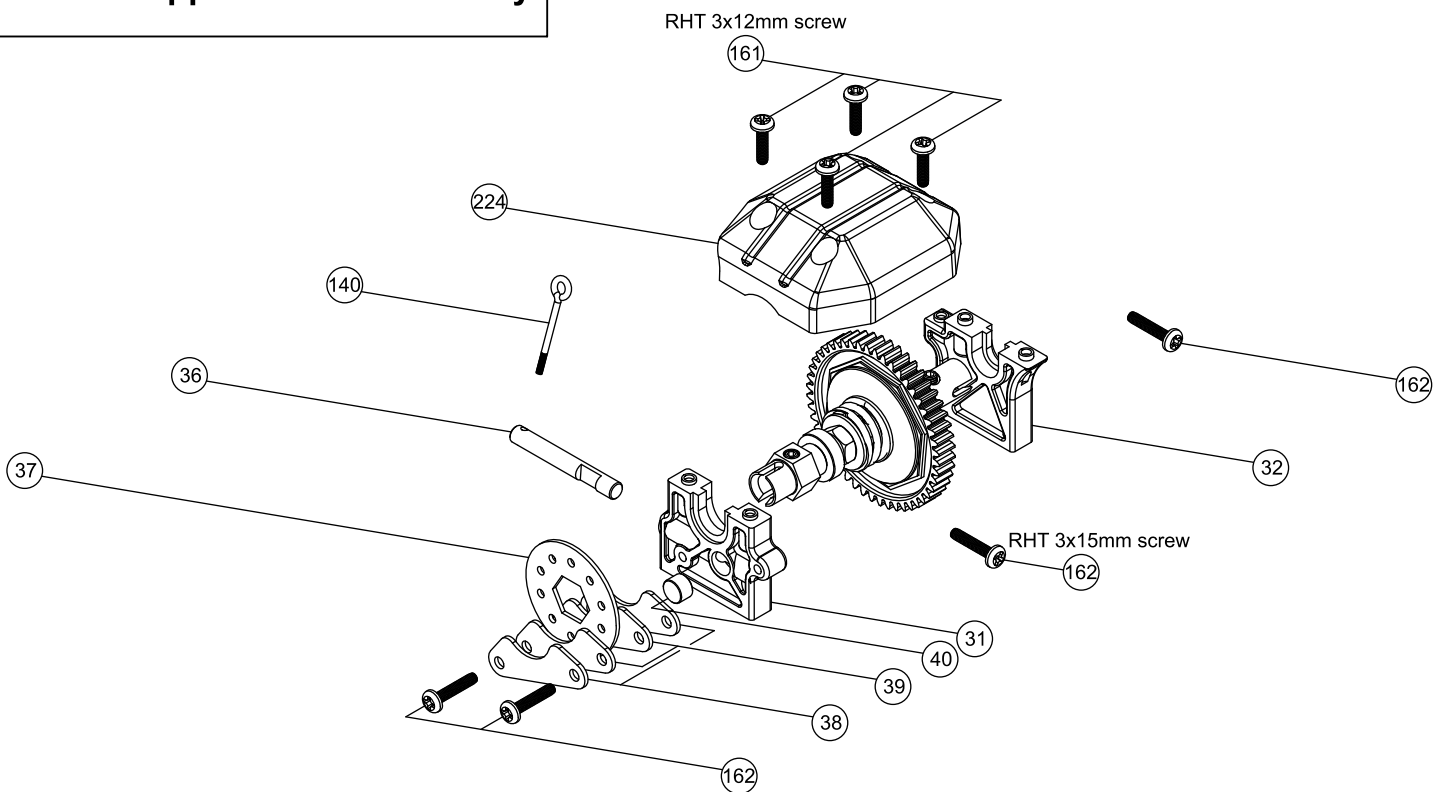
Center Slipper Clutch



Center Slipper Clutch

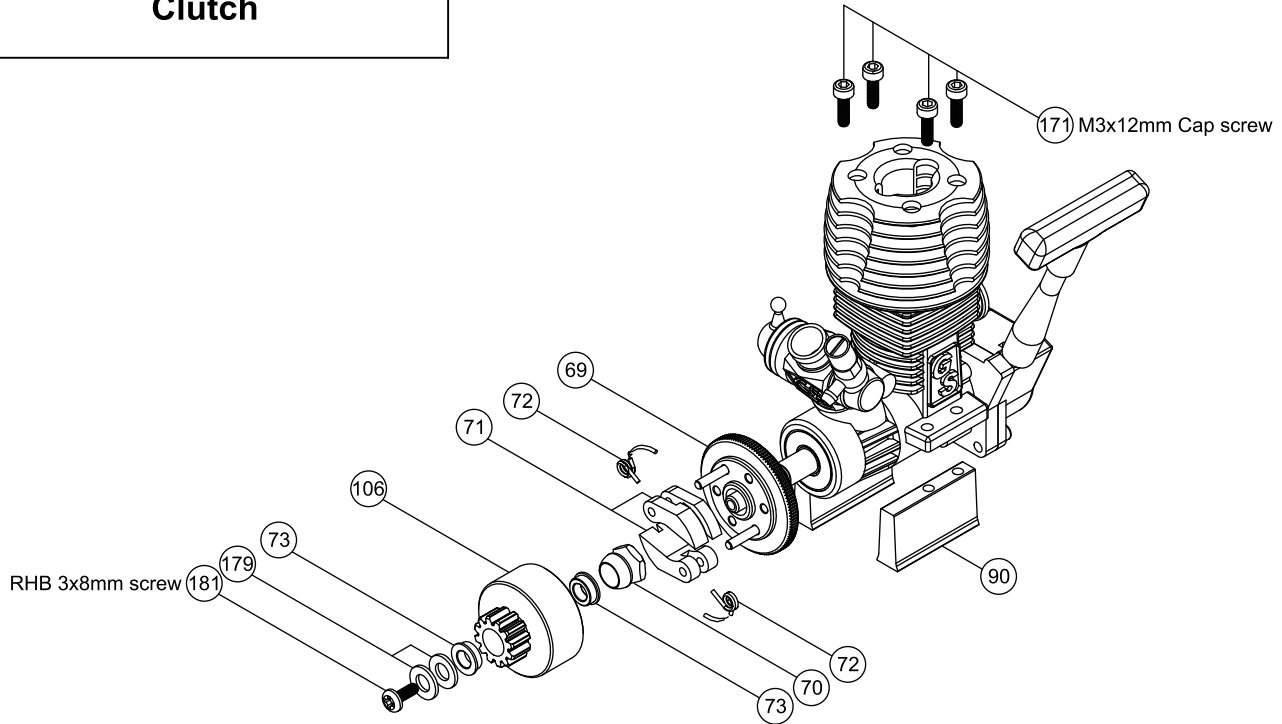


Center Slipper Clutch Assembly



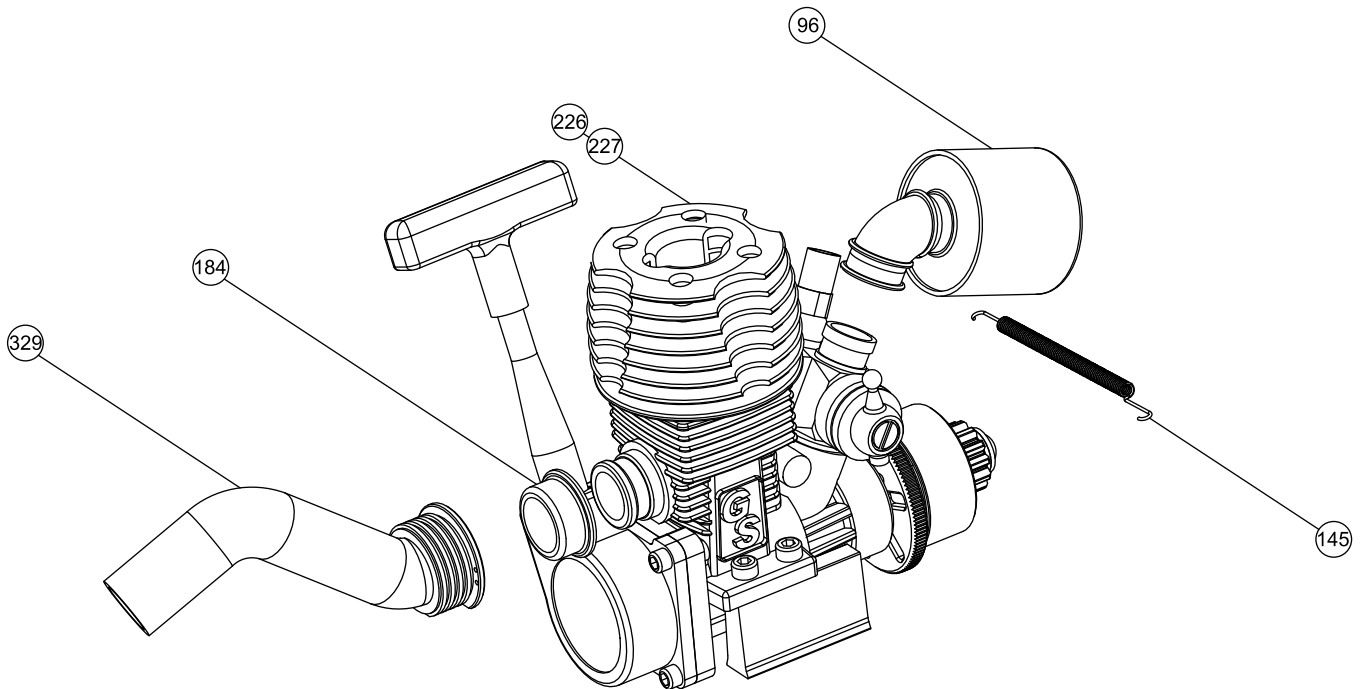
Center Diff and Brakes: Place the center diff over the front/rear gear plate assembly, as shown. Slide the center diff cover over the center diff out drives. Slide the brake assembly on the front gear plate. Fasten the assembly together with two 3x15mm RHT screws.

Clutch



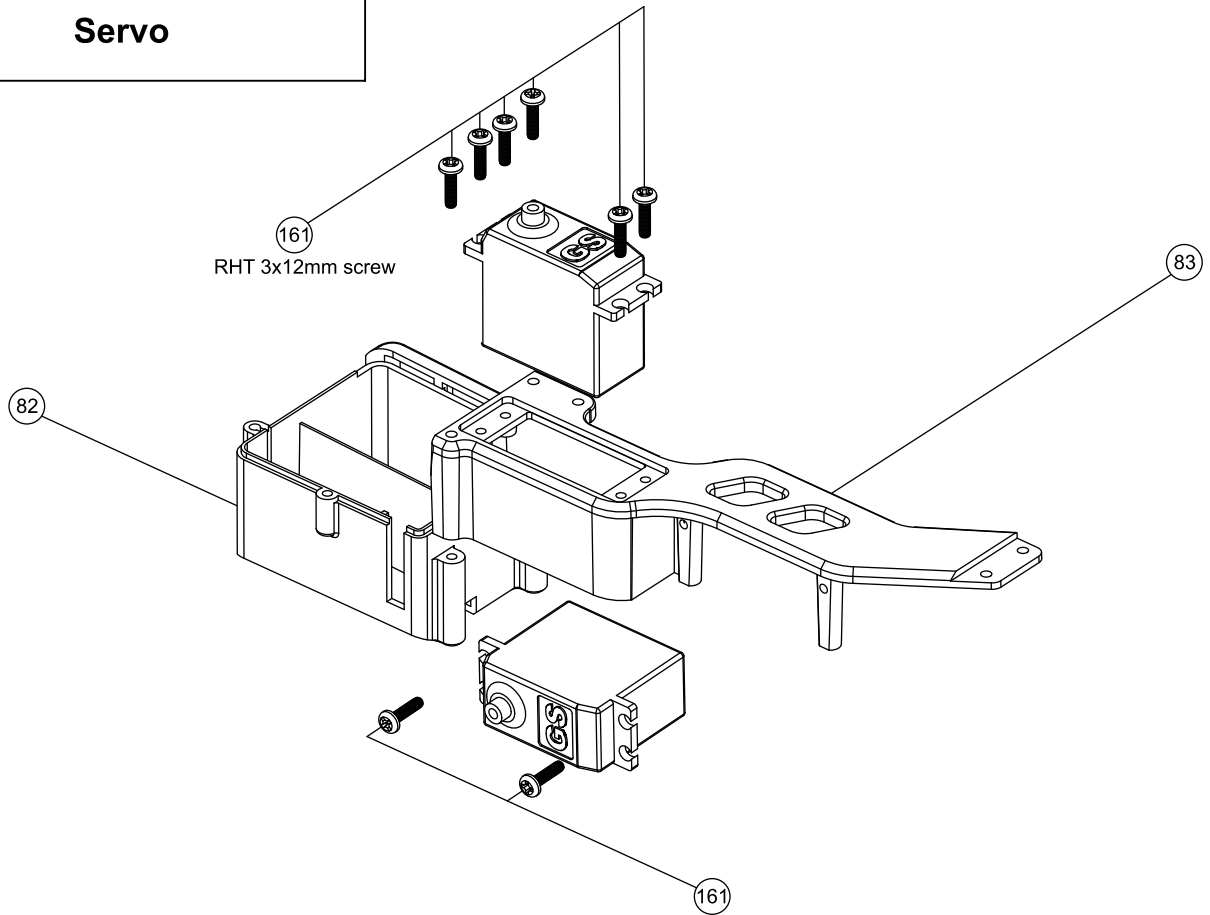
Clutch: Slide cone collet and flywheel over crankshaft, followed by the pilot nut. Secure the flywheel and tighten the pilot nut firmly. Place the clutch springs into the groove of the clutch shoes. Align the clutch shoe and spring assembly down onto the post on the flywheel until the tip of the clutch spring snaps into the groove on the pilot nut. You may need to use a small flathead screwdriver to help guide the spring into the groove on the pilot nut. Work in a counter-clockwise direction until all 2 shoes are installed. Next, slide in order, the bearing, clutch bell, bearing, 5x10 washer and tighten with the 3x8mm RHB screw. Make sure the clutch bell spins freely on the engine. The clutch bell should slide back and forth on the shaft no more than 1mm. Use the shims to adjust this setting.

Air Filter & Mainfold



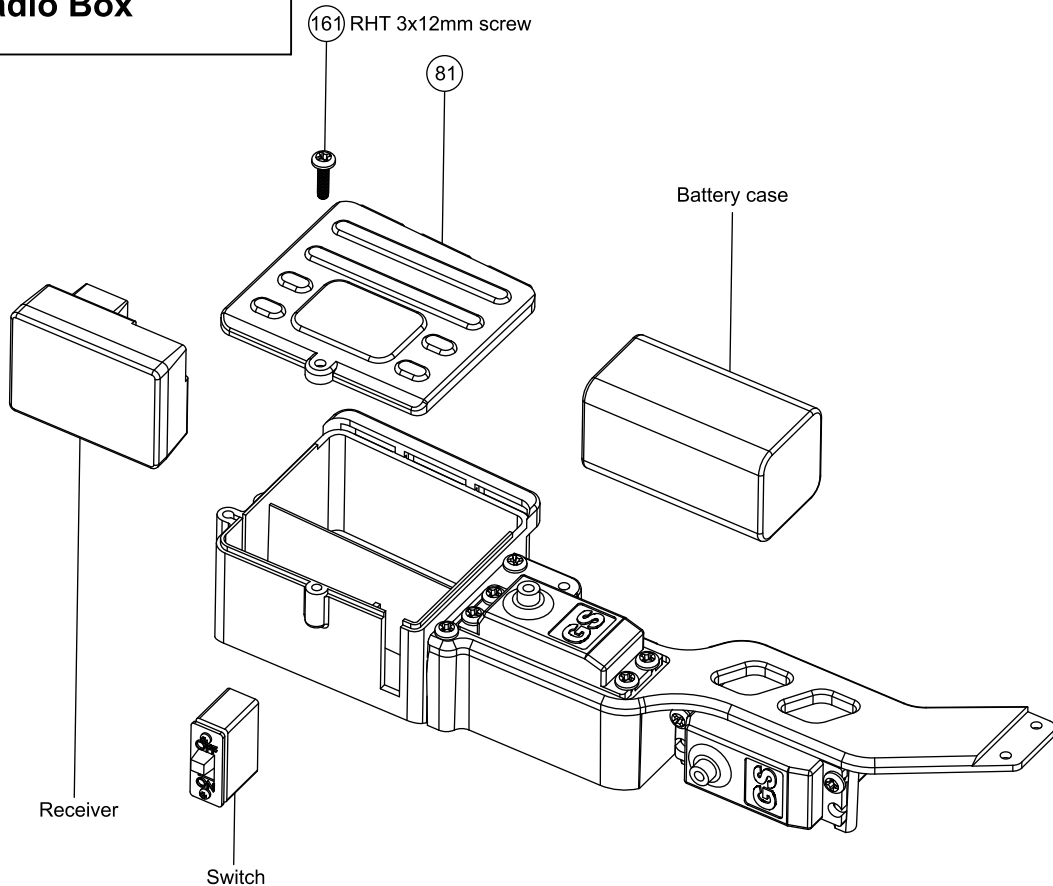
Air Filter: Push the air filter base onto the air filter adapter and secure with a small tie wrap. Apply a liberal amount of air filter oil (not included) to the air filter foam element and slide onto the air filter base. Attach and tighten the air filter end cap with a 3x6mm FHT screw. Wait until your radio settings are complete to attach and secure the air filter.

Servo



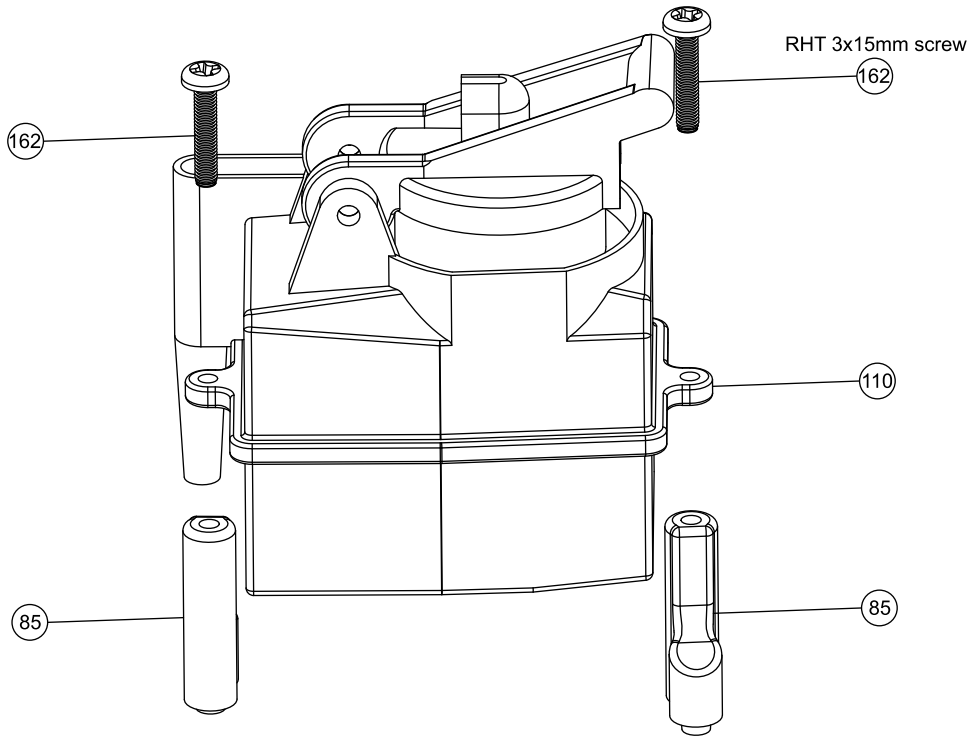
Servos: Attach throttle servo (shown at top of drawing) to radio tray using 3x12mm RHT screws. Attach the steering servo (shown at the bottom of the diagram) to radio tray posts. Do not over tighten any of the screws, only tighten until snug.

Radio Box

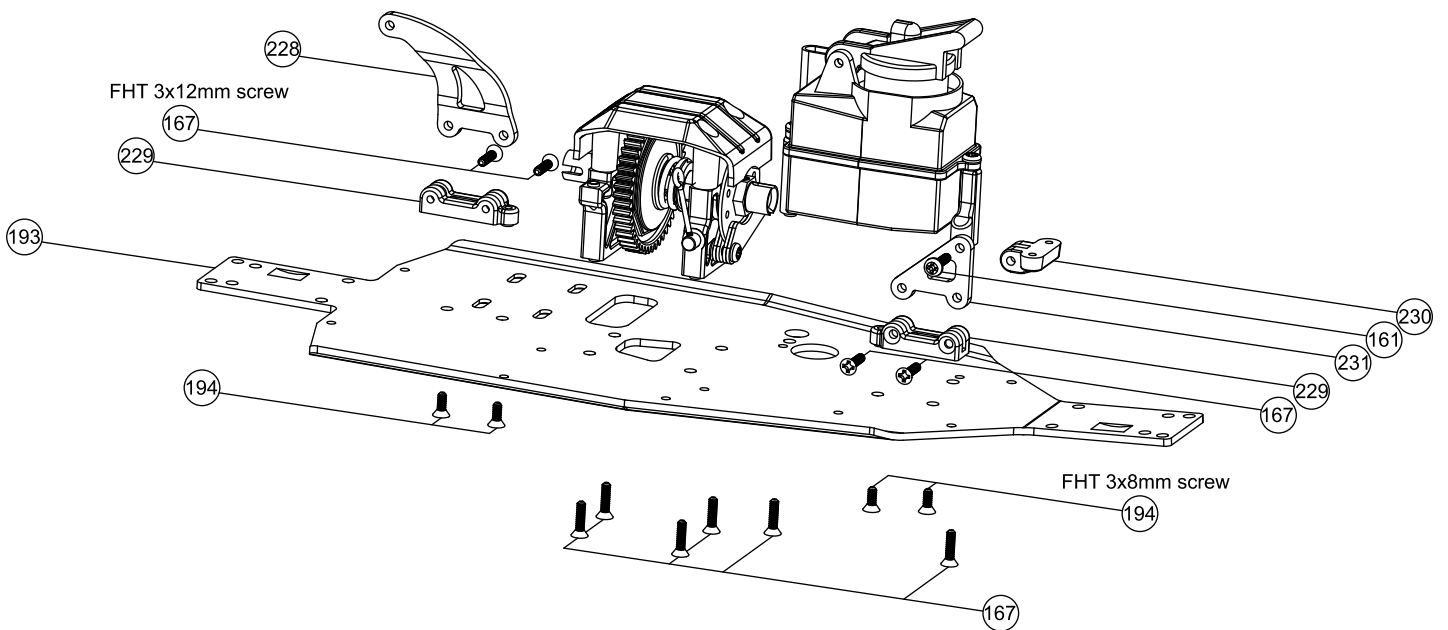


Radio Box: Mount the on/off switch into radio box bottom with the “on” side facing toward the ground. You may install the silicone switch cover included in your kit over the switch before installation.

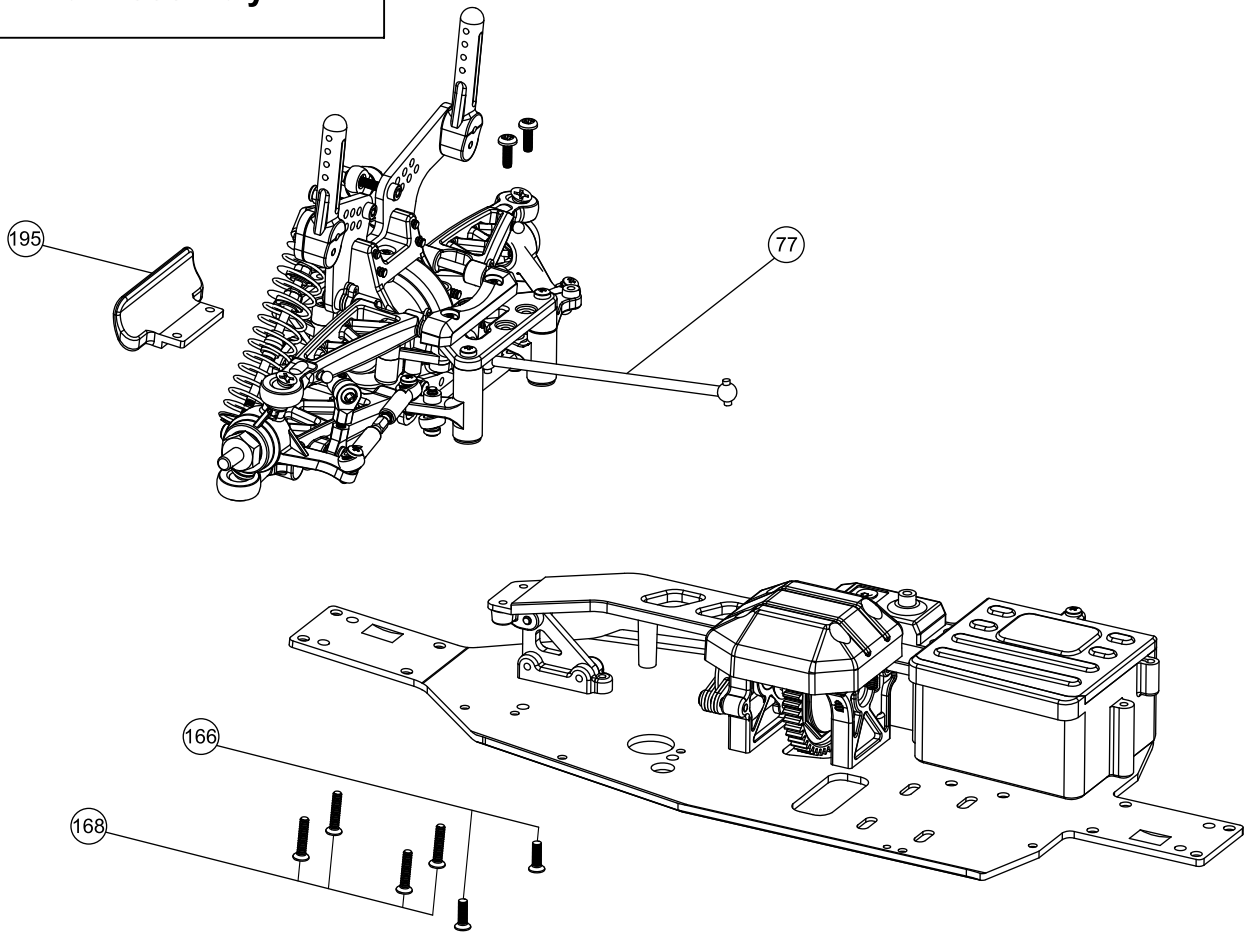
Fuel Tank



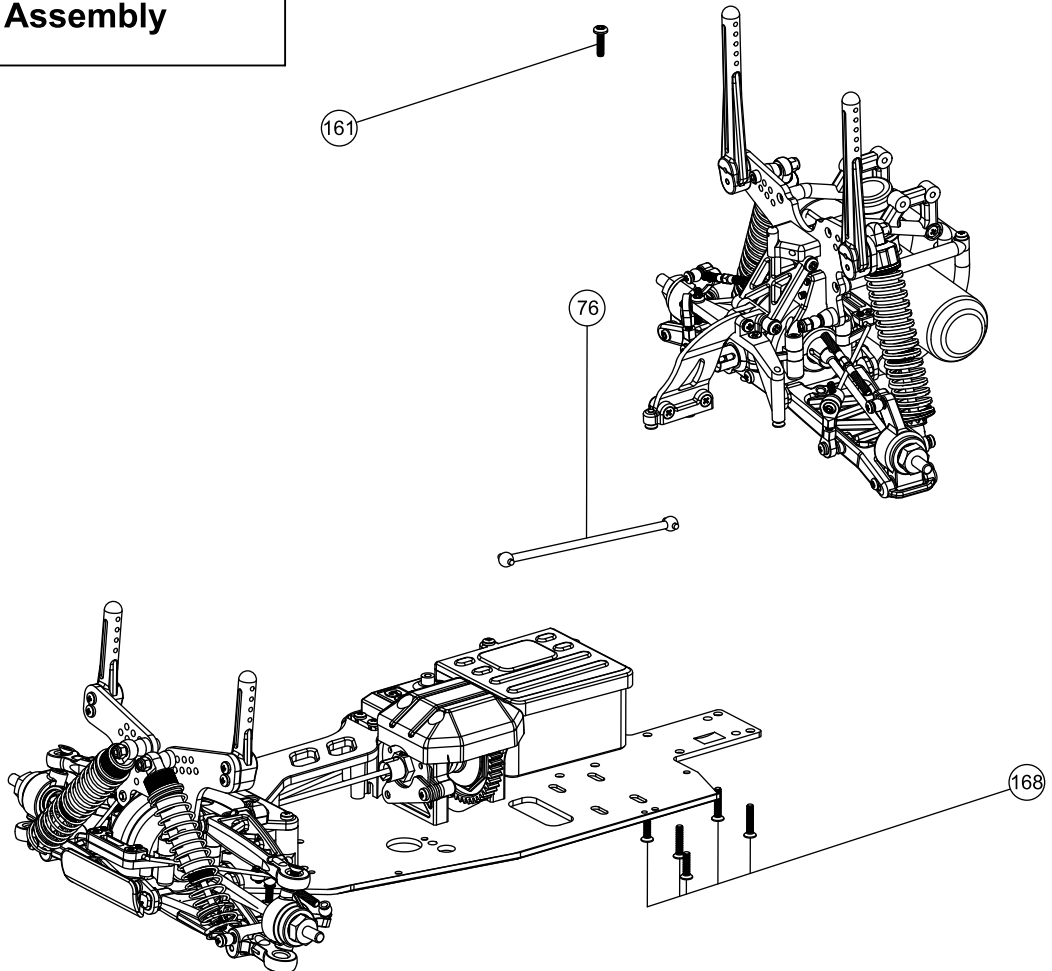
Front/Rear Chassis Brace Assembly



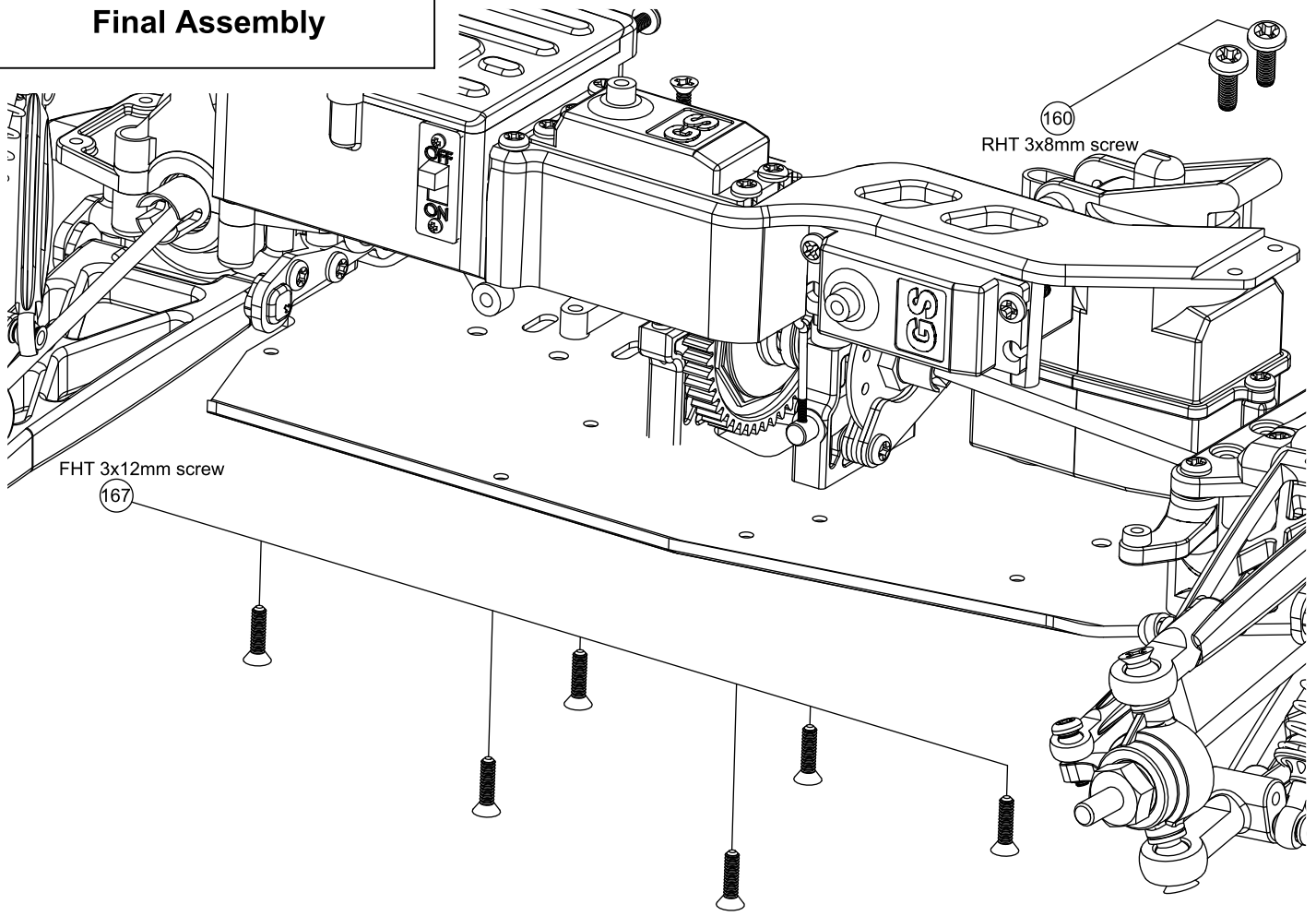
Final Assembly



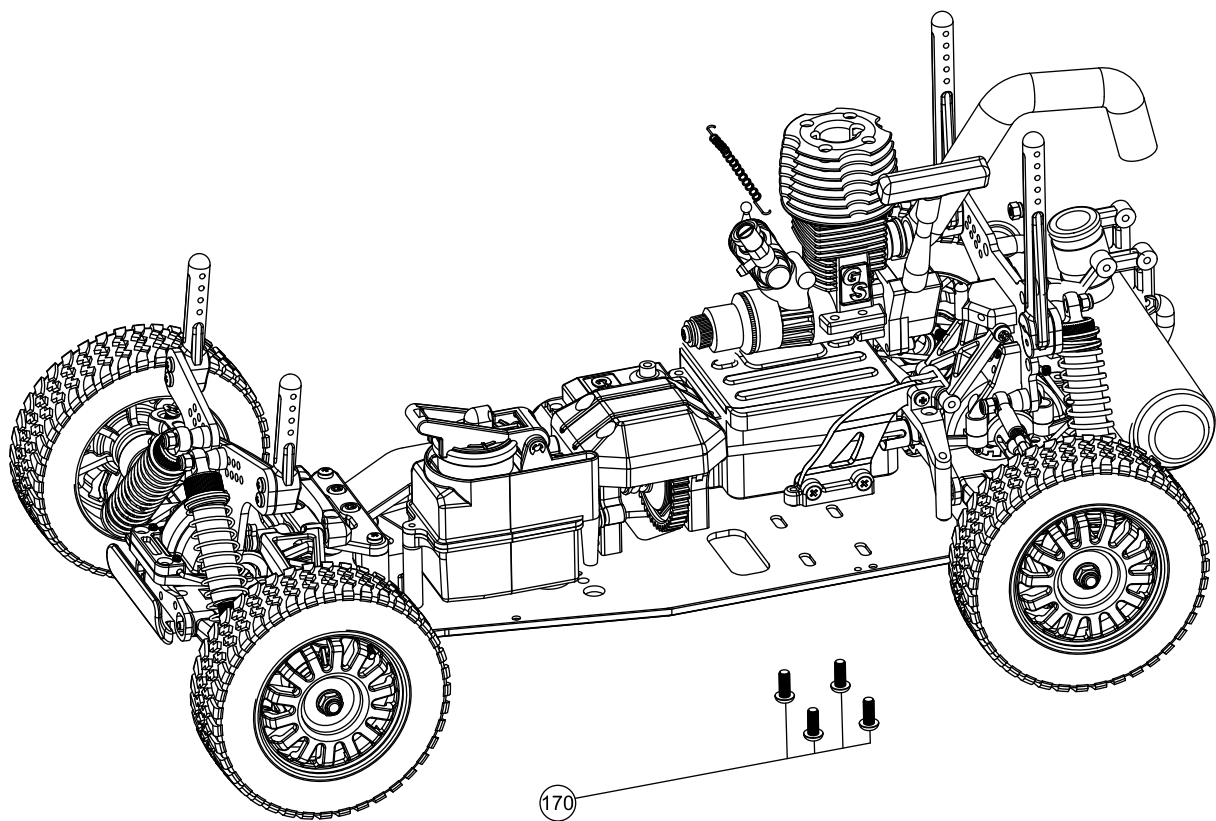
Final Assembly



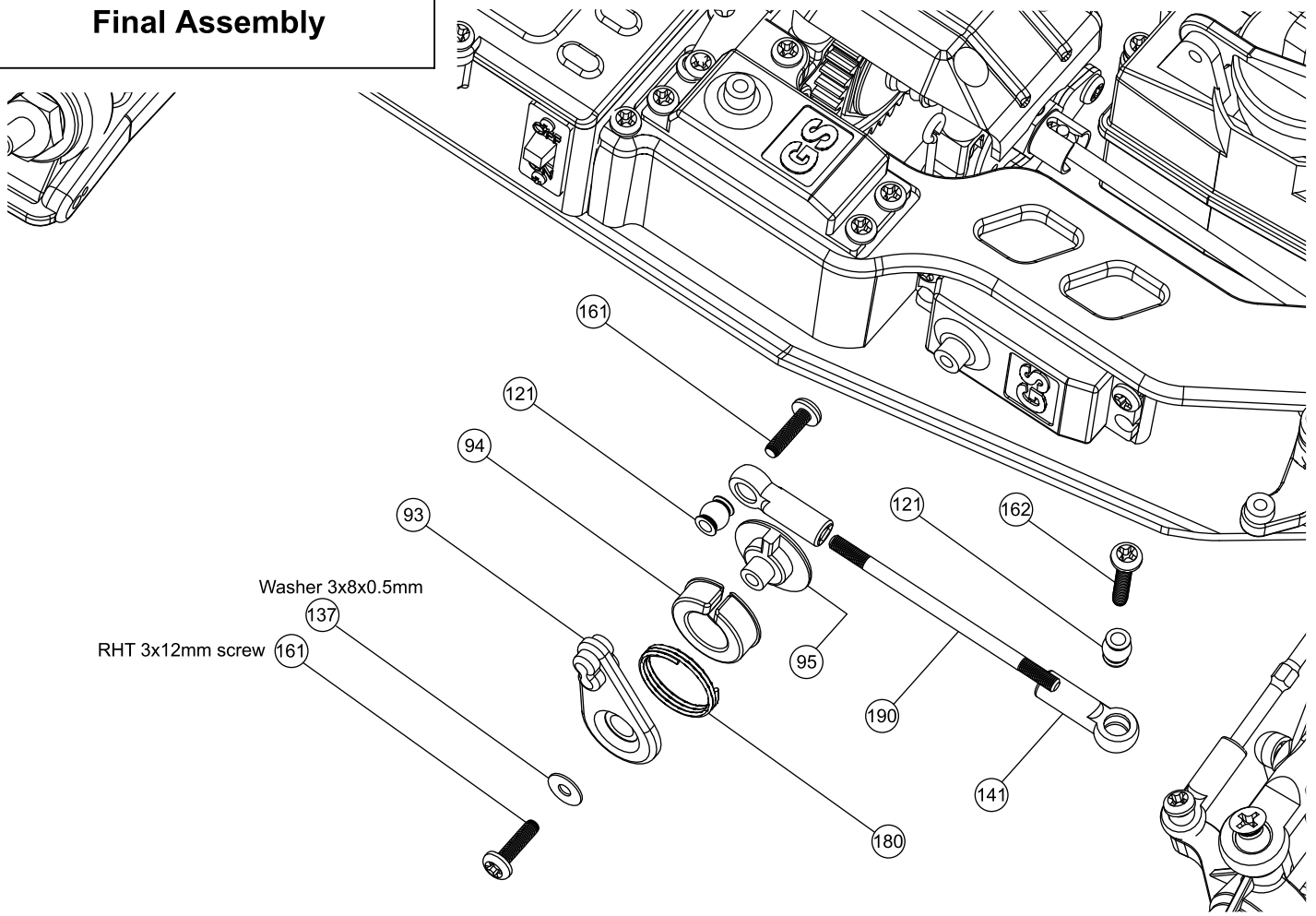
Final Assembly



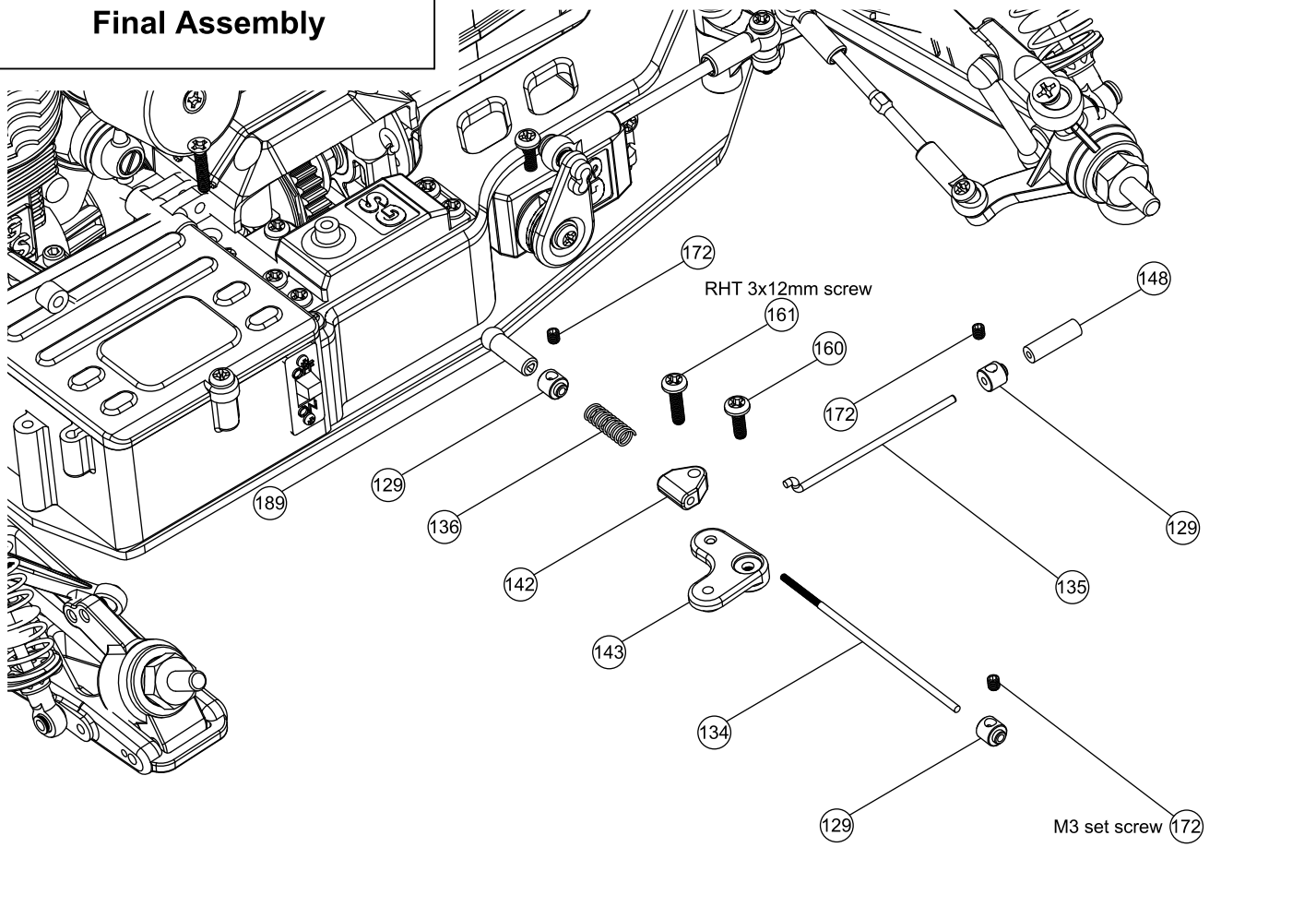
Final Assembly



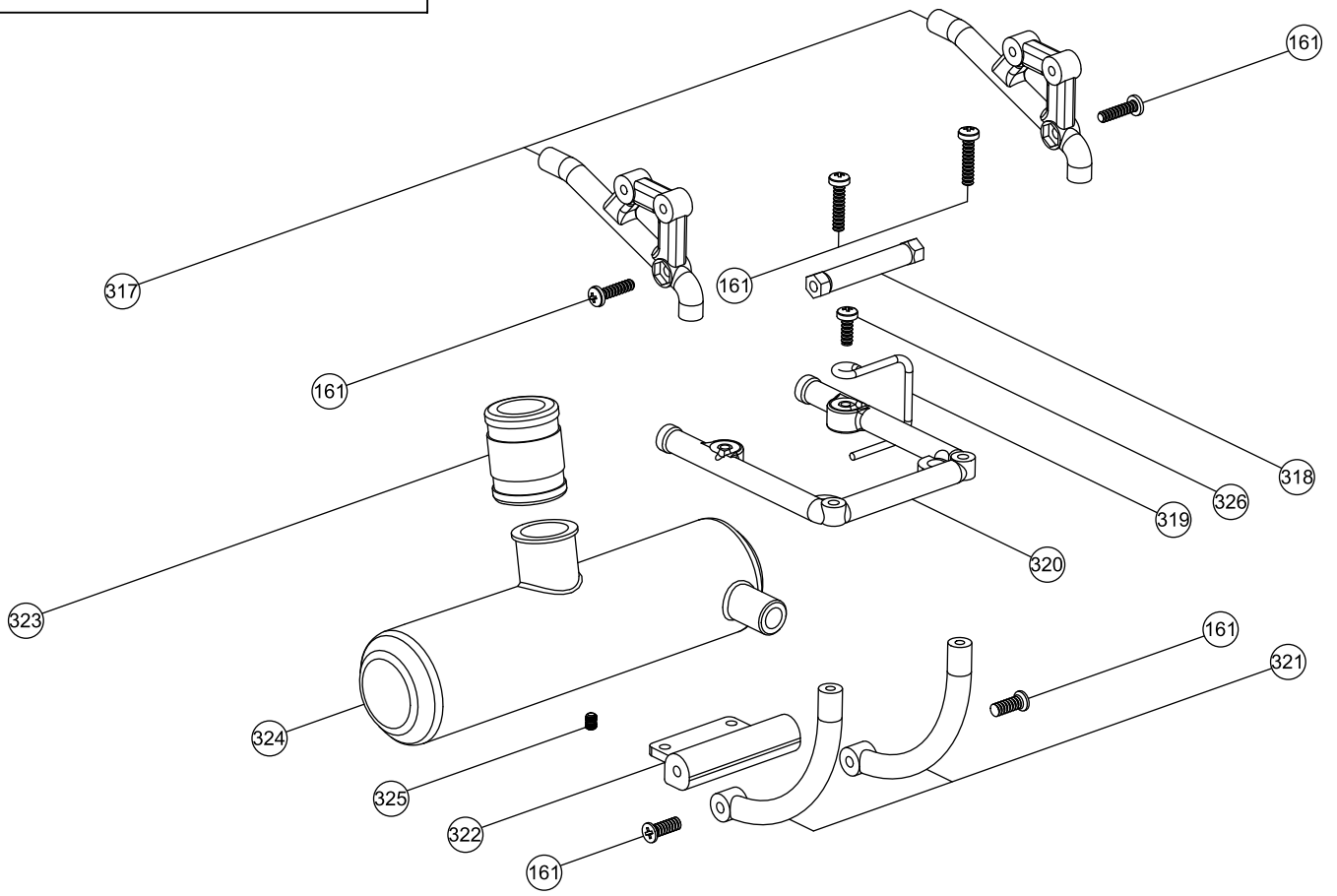
Final Assembly



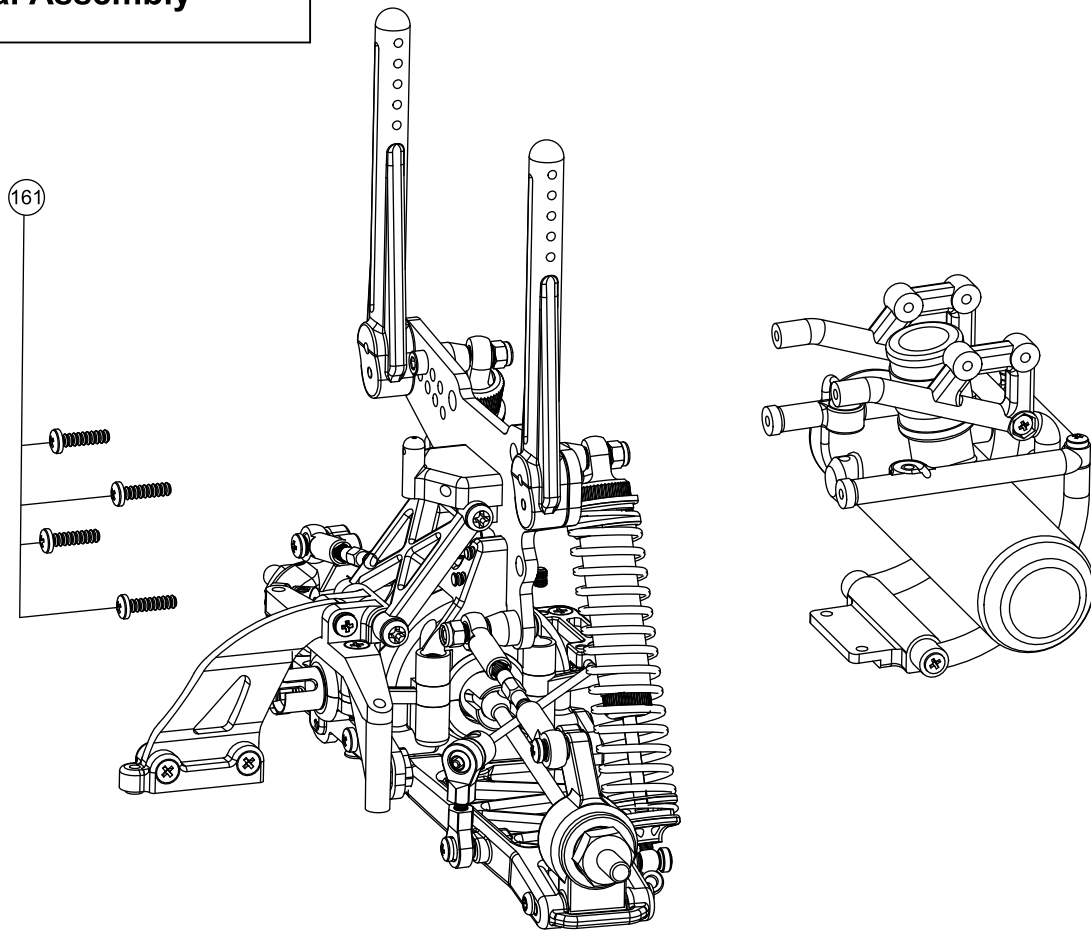
Final Assembly



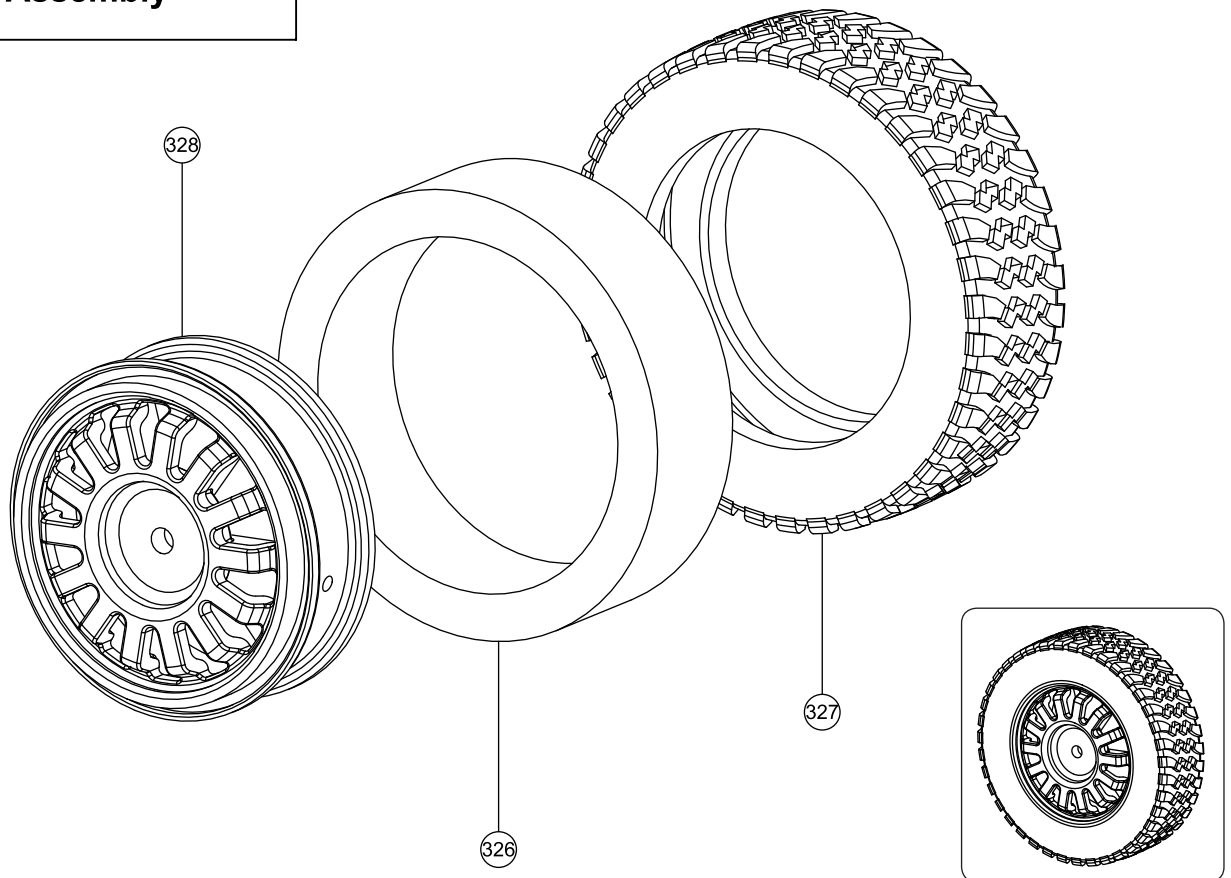
Final Assembly



Final Assembly



Tire Assembly



Clean contact area of the wheels and tires with rubbing alcohol or window cleaner before gluing!



Sticker Position



Troubleshooting Guide

Problem	Things To Check	Solution
Engine won't start	<ol style="list-style-type: none"> 1. Fuel tank is empty. 2. Bad glowplug or dead igniter battery. 3. Fuel lines, air cleaner, or muffler is clogged. 4. Engine is flooded due to over-priming. 5. Carburetor is not adjusted properly. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fuel. 2. Replace glowplug or recharge/replace igniter battery. 3. Clean or replace clogged parts. 4. Remove glowplug, turn car over to discharge fuel from cylinder. Test glowplug and replace if defective. 5. Set idle and full/slow needle adjusting screw to standard starting position.
Engine won't turn over	<ol style="list-style-type: none"> 1. Fuel tank is empty. 2. Fuel lines, fuel filter, air cleaner, or muffler is clogged. 3. Carburetor is not adjusted properly. 4. Engine has overheated. 	<ol style="list-style-type: none"> 1. Fill fuel tank with fuel. 2. Clean or replace clogged parts. 3. Re-adjust idle and full/slow needle adjusting screw. 4. Allow engine to thoroughly cool down and open main needle adjusting screw turn richer (CCW).
Bad reaction and response from engine	<ol style="list-style-type: none"> 1. Carburetor is not adjusted properly. 2. Fuel lines, air cleaner, or muffler is clogged 3. Low fuel pressure from muffler. 	<ol style="list-style-type: none"> 1. Re-adjust full/slow needle adjusting screw. 2. Clean or replace clogged parts. 3. Properly install pressure line between muffler and fuel tank.
Car isn't easy to control	<ol style="list-style-type: none"> 1. Weak transmitter and /or receiver batteries. 2. Low reception from radio antennas. 3. Servo linkages not adjusted properly. 	<ol style="list-style-type: none"> 1. Recharge or replace batteries 2. Fully extend transmitter and receiver antennas 3. Move servo to neutral then re-adjust linkage(s).
Steering does not work properly	<ol style="list-style-type: none"> 1. Weak transmitter and/or receiver batteries. 2. Bent linkages or driveshafts. 3. Loose steering components. 4. Drivetrain damage. 	<ol style="list-style-type: none"> 1. Recharge or replace batteries. 2. Check tightness of steering components and tighten if necessary. 3. Replace damaged parts.
Handling problems	<ol style="list-style-type: none"> 1. Shocks are not working properly. 2. Suspension is binding. 3. Improper tires. 	<ol style="list-style-type: none"> 1. Rebuild the shocks and replace worn or broken parts. 2. Make sure suspension moves freely. Replace worn or broken parts. 3. Use different tires.
Steering feels sluggish or vague	<ol style="list-style-type: none"> 1. Suspension is binding. 2. Damaged steering servo. 	<ol style="list-style-type: none"> 1. Make sure suspension moves freely, and replace worn or broken parts. 2. Check the steering servo for damage and wear, and replace/repair if necessary.
The car does not drive straight	<ol style="list-style-type: none"> 1. Suspension is binding. 2. Steering trim is off-center. 3. Wheels are loose. 4. Damaged steering servo. 	<ol style="list-style-type: none"> 1. Make sure suspension moves freely, and replace worn or broken parts. 2. Adjust steering trim until car drives straight. 3. Check and make sure the wheel nuts are properly tightened. 4. Check the steering servo for damage and wear, and replace/repair if necessary.

Conqueror Rally Key No. List

Key No.	Part Name	Q'ty in Use	Item No.
003	3x26mm Diff shaft	4	GSC-SB002
004	6x9mm O-ring	4	GSC-SDT004
007	Diff joint	4	GSC-SDT005
008	2x10mm Pin	8	GSC-SDT006
009	12x18x4mm Bearing	4	GSC-690018
010	FHT 2.6x10mm	8	GSC-650010
011	Diff gasket	2	GSC-VS1303
012	Pinion gear Outdrive	2	GSC-SDT007
013	Diff case	2	GSC-SDT003
014	Diff cap	2	GSC-SDT003
015	10x15x4mm Bearing	6	GSC-690010
016	5x10x4mm Bearing	3	GSC-690001
017	Gear box cap	2	GSC-SDT009
018	Gear box mount	2	GSC-SDT009
031	Front gear plate	1	GSC-SDT009
032	Rear gear plate	1	GSC-SDT009
033	8x14x4mm Bearing	1	GSC-690029
034	Brake housing	1	GSC-SDT010
035	Main shaft joint	1	GSC-SDT011
036	Brake cam	1	GSC-SDT012
037	Brake disk	1	GSC-SDT013
038	Brake clamp	2	GSC-SDT014
039	Brake pad	2	GSC-SDT014
040	Brake collar	1	GSC-SDT012
043	Steering block (L)	1	GSC-SDT016
044	Steering block (R)	1	GSC-SDT016
045	Steering mount brace	1	GSC-SDT017
046	Steering mount (RD)	1	GSC-SDT017
047	Steering mount (RU)	1	GSC-SDT017
048	Steering mount (L)	1	GSC-SDT017
049	Steering post	2	GSC-ST018
050	Front lower arm	2	GSC-SDT019
051	Front up arm	2	GSC-SDT019
052	Lower arm pin	4	GSC-SDT020
053	Shock tower mount	2	GSC-SDT021
056	Front upper arm mount	1	GSC-SDT021
057	Front up arm pin	2	GSC-SDT023
058	Pivot ball for king pin	4	GSC-SDT024
059	Rear arm	2	GSC-SDT025
060	Rear hub	2	GSC-SDT026
061	Pin holder	8	GSC-SDT027
062	Toe-in plate	4	GSC-SDT028
063	Shock body	4	GSC-SDT029
064	O-ring 3x6.5mm	8	GSC-SH-10TBL

Key No.	Part Name	Q'ty in Use	Item No.
065	Shock shaft	4	GSC-SDT030
066	Memberance	4	GSC-SH-10GN
067	Shock spring	4	GSC-SDT031
068	Rear hub pin	2	GSC-SDT032
069	Fly wheel	1	GSC-SDT033
070	Clutch nut	1	GSC-SDT034
071	Clutch shoe	2	GSC-ST004
072	Clutch spring	2	GSC-ST003
073	5x8x3mm F-Bearing	2	GSC-690004A
076	Rear central drive shaft	1	GSC-SDT036
077	Drive shaft	3	GSC-SDT037
078	Wheel axle	2	GSC-SDT038
079	Hex adapter	4	GSC-SDT039
081	Radio box cap	1	GSC-SDT041
082	Radio box bottom	1	GSC-SDT041
083	Radio tray	1	GSC-SDT042
085	Feul tank post	2	GSC-SDT044
090	Engine mount	2	GSC-SDT046
092	6x12x4mm Bearing	4	GSC-690020
093	Servo saver (L)	1	GSC-SDT048
094	Servo saver (M)	1	GSC-SDT048
095	Servo saver (S)	1	GSC-SDT048
096	Air cleaner	1	GSC-900024BL
097	5x10mm Bushing	1	GSC-SDT070
098	47T Spur gear	1	GSC-SDT050
099	Main shaft	1	GSC-SDT051
100	Hex mount	2	GSC-SDT052
101	Front arm brace	2	GSC-SDT008
102	Friction plate	2	GSC-SDT053
104	Limiter spring	1	GSC-SDT054
105	2x8mm Pin	1	GSC-SDT055
106	12T Clutch bell	1	GSC-SDT049
110	75 c.c.Fuel tank	1	GSC-VS1208
112	Bearing adapter	1	GSC-SDT058
113	Shock piston	4	GSC-SDT059
114	Upper adapter	4	GSC-SDT060
115	Spring holder	4	GSC-SDT061
116	Ball end(S)	4	GSC-SDT062
117	Spring mount	4	GSC-SDT063
118	Spacer 1mm	4	GSC-SDT064
119	Spacer 2mm	4	GSC-SDT064
120	Spacer 10mm	4	GSC-SDT064
121	5.8x6.3mm Pivot ball	20	GSC-250517
123	Steering linkage	1	GSC-SDT008

Conqueror Rally Key No. List

Key No.	Part Name	Q'ty in Use	Item No.
125	Toque limiter housing	2	GSC-SDT066
127	Upper cap for shock body	4	GSC-SDT067
128	Lower cap for shock body	4	GSC-SDT068
129	Stoper 2mm	4	GSC-SDT069
130	Center Gear spring mount	1	GSC-SDT072
132	R clip	2	GCS-60004A
133	Spring cap	1	GSC-SDT072
134	Throttle linkage	1	GSC-SDT073
135	Brake linkage	1	GSC-SDT075
136	Linkage spring	1	GSC-SDT073
137	Washer 3x8x0.5mm	1	GSC-AV099
138	Caster spacer 2mm	2	GSC-SDT074
139	Caster spacer 1mm	4	GSC-SDT074
140	Brake rod	1	GSC-SDT075
141	Ball end L	10	GSC-SDT081
142	Linkage mount	1	GSC-SDT073
143	TH servo hone	1	GSC-SDT073
145	Manifold spring	1	GSC-SDT076
147	5x8mm Bushing	4	GSC-230013
148	Brake tube	1	GSC-2455-F3TBL
149	Fuel tube (S)	1	GSC-2455-F3TBL
150	Fuel tube (L)	1	GSC-2455-F3TBL
151	151 Oring spacer	4	GSC-SDT065
152	152 Shaft groove	8	GSC-SDT077
155	2x10.8mm Pin	3	GSC-SDT078
156	Washer 2.6x6x0.5mm	4	GSC-601001
159	Washer 12x18x0.2mm	8	GSC-601028
160	RHT 3x8mm screw	6	GSC-670022
161	RHT 3x12mm screw	52	GSC-670024
162	RHT 3x15mm screw	19	GSC-670027
163	RHT 3x20mm screw	8	GSC-670030
164	RHB 2.5x5mm screw	4	GSC-640050
165	RHB 3x10mm screw	2	GSC-640023
166	FHB 3x10mm screw	2	GSC-620025
167	FHT 3x12mm screw	13	GSC-650025
168	FHT 3x15mm screw	9	GSC-650028
169	FHB 4x18mm screw	4	GSC-620086
170	RHB 4x10mm hex screw	4	GSC-640040
171	M3x12mm Cap screw	4	GSC-611023
172	M3 set screw	12	GSC-610000
173	M4 set screw	3	GSC-610020
174	M2.5 nylon nut	4	GSC-ST105
175	M3 nylon nut	7	GSC-603007
176	M5 nylon nut	4	GSC-603030

Key No.	Part Name	Q'ty in Use	Item No.
177	M6 Nylon nut	1	GSC-603035
178	4mm E-clip	2	GSC-600009
179	Washer 5x10x0.5mm	1	GSC-601007
180	Spring fir servo saver	1	GSC-SDT048
181	RHB 3x8mm screw	2	GSC-640022
184	Seal for engine exhaust port	1	GSC-E15
186	Antenna Tube	1	GSC-180001
187	Antenna Cap	1	GSC-180001
189	Ball End for Engines	1	GSC-SDT073
190	Servo Steering Rod Bar	1	GSC-SDT081
192	Shadow F/R Universal Drive Shaft	2	GSC-SDP001
193	SB1 Main chassis	1	GSC-SB018
194	FHT 3x8mm screw	4	GSC-650023
195	Front Bumper	1	GSC-SB019
196	RHB 3x12mm screw	10	GSC-640024
201	3x8x0.5mm washer	4	GSC-AV099
202	3x8x1mm washer	8	GSC-601008
203	Diff. Small Bevel Gear	8	GSC-SB002
204	Diff. Large Bevel Gear	4	GSC-SB002
205	M6.1x17.5xT0.3mm Steel Shim for Diff	4	GSC-AV102
206	39T Crown Gear	2	GSC-SB001
207	13T Pinion Gear	2	GSC-SB001
210	Rear end brace	1	GSC-SB004
211	Rear Body Mount	1	GSC-SB005
212	Wing Mount of Exhaust Pipe	2	GSC-SB006
215	Exhaust Wing Holder	1	GSC-SB006
216	Exhaust Holder	1	GSC-SB006
217	Exhaust Wing Support	2	GSC-SB006
219	Shock Cap Stud	4	GSC-SB007
222	Front Up Arm Insert	2	GSC-SB009
224	Center Diff Cover	1	GSC-SB010
226	GS R15ST .15 Rear Exhaust Engine	1	GSC-890075P
227	GS R15ST .18 Rear Exhaust Engine	1	GSC-890074P
228	Rear Chassis Brace	1	GSC-SB012
229	Rear Chassis Brace Mount	1	GSC-SB012
230	Front Chassis Brace uper Mount	1	GSC-SB013
231	Front Chassis Brace	1	GSC-SB013
232	Rear Bumper	1	GSC-SB006
301	Rear Shock Tower	1	GSC-CR010
302	Rear Lower Arm	2	GSC-CR002
303	Sway Bar Ball End	8	GSC-CR012RS
304	3x10Set Screw	4	GSC-610005
305	CR1 CVD Drive Shaft	2	GSC-CR007
306	Ball Stud	4	GSC-ST046

Conqueror Rally Key No. List

Key No.	Part Name	Q'ty in Use	Item No.
307	Ball Stud	4	GSC-ST046
308	Rear Sway Bar	1	GSC-CR012RS
309	Sway Bar Holder	2	GSC-CR012RS
310	M3X8 FH/ST Screw	4	GSC-650023
311	Rear Upper Arm Linkage	2	GSC-CR006
312	Front Lower Arm	2	GSC-CR001
313	Front Shock Tower	1	GSC-CR009
314	Front Sway Bar	1	GSC-CR012FS
315	Front Upper Arm	2	GSC-CR001
316	Steering Linkage	2	GSC-CR003
317	Wing Mount of Exhaust Pipe Set	2	GSC-SB006
318	Wing Mount of Exhaust Pipe Holder	1	GSC-SB006
319	Pipe Wire	1	GSC-CR013
320	Wing Mount of Exhaust Pipe Mount	1	GSC-SB006
321	Wing Mount of Exhaust Pipe Bottom Mount	2	GSC-SB006
322	Rear Bumper	1	GSC-SB006
323	Exhaust Pipe Coupler	1	GSC-CMS-10D
324	Pipe	1	GSC-CR013

Key No.	Part Name	Q'ty in Use	Item No.
325	CR1 Rear Drive Shaft	2	GSC-CR008
326	Rally Wheel	4	GSC-CR004
327	Tire Insert	4	GSC-CR005
328	CR1 Rally Tire	4	GSC-CR005
329	Rear Exhaust Manifold	1	GSC-CR013-1
330	Body Mount (S)	2	GSC-CR011
331	Body Mount (L)	2	GSC-CR011
332	Body Mount Holder	2	GSC-CR011
333	R8 Body Pin	8	GSC-80006
334	Rally Body	1	GSC-CR014
335	Rally Front Bumper	1	GSC-CR014
336	Rally Rear Bumper	1	GSC-CR014
337	Rally Body Wing	1	GSC-CR014
338	Rally Body Decal A	1	GSC-CR014
339	Rally Body Decal B	1	GSC-CR014
340	GS Twin Adhesive	9	GSC-CR014
341	GS Conqueror Rally Manual	1	GSC-CR015

Conqueror Rally Spare Part List

Item No.	Part Name
GSC-CR001	CR1 Front Upper/Lower Arm Set
GSC-CR002	CR1 Rear Lower Arm Set
GSC-CR003	CR1 Steering Linkage Set
GSC-CR004	CR1 Rally Wheel
GSC-CR005	CR1 Rally Tire
GSC-CR006	CR1 Rear Upper Arm Set
GSC-CR007	CR1 CVD Drive Shaft
GSC-CR008	CR1 Rear Drive Shaft
GSC-CR009	CR1 Front Shock Tower
GSC-CR010	CR1 Rear shock Tower
GSC-CR011	CR1 Body Mount
GSC-CR012FS	CR1 Front Sway Bar
GSC-CR012RS	CR1 Rear Sway Bar
GSC-CR013	CR1 Rear Exhaust Pipe
GSC-CR013-1	CR1 Rear Exhaust Manifold
GSC-CR013-2	CR1 Rear Exhaust Pipe Fix Wire
GSC-CR014	CR1 MITSUBISHI PAJERO Body Set
GSC-CR015	CR1 Manual
GSC-SB001	39T Crown/13T Pinion Gear Set
GSC-SB002	Diff. Bevel Gear Set
GSC-SB004	Rear end brace mount
GSC-SB006	Wing Mount of Exhaust Pipe Set
GSC-SB007	Shock Cap Stud (4pc)

Item No.	Part Name
GSC-SB009	Front Up Arm Insert
GSC-SB010	Center Diff Cover
GSC-SB012	Rear Chassis Brace Set
GSC-SB013	Front Chassis Brace Set
GSC-SB018	New Shadow Chassis (For SB1/ST1)
GSC-SB019	SB1 Front Bumper
GCS-60004A	R clip
GSC-SDT003	Diff. Case Set
GSC-SDT004	6x9mm O-ring
GSC-SDT005	Front/Rear Diff. Outdrive(2)
GSC-SDT006	2x10mm Pin
GSC-SDT007	Pinion gear Outdrive(2)
GSC-SDT008	Rod Set
GSC-SDT009	Differential Bulkhead Set (F/R)
GSC-SDT010	Brake housing
GSC-SDT011	Main shaft joint
GSC-SDT012	Brake cam/collar
GSC-SDT013	Brake disk
GSC-SDT014	Brake clamp
GSC-SDT015	Hand bar Set
GSC-SDT016	Steering block (L/R)
GSC-SDT017	Steering mount brace
GSC-SDT018	Servo Saver Shafts

Conqueror Rally Spare Part List

Item No.	Part Name
GSC-SDT020	Lower arm pin
GSC-SDT021	Shock tower mount and upper arm mount
GSC-SDT022	Front/Rear shock tower
GSC-SDT023	Front up arm pin
GSC-SDT024	Pivot ball for king pin
GSC-SDT026	Rear hub (2)
GSC-SDT027	Pin holder
GSC-SDT028	Toe-in plate
GSC-SDT029	Shock body
GSC-SDT030	Shock shaft
GSC-SDT031	Shock spring
GSC-SDT032	Rear hub pin
GSC-SDT033	Fly wheel
GSC-SDT034	Clutch nut
GSC-SDT036	Rear central drive shaft
GSC-SDT037	Drive shaft
GSC-SDT038	Wheel axle
GSC-SDT039	Hex adapter
GSC-SDT041	Radio box
GSC-SDT042	Radio tray
GSC-SDT044	Fuel tank post
GSC-SDT046	Engine mount
GSC-SDT048	Servo saver Set
GSC-SDT049	12T Clutch bell
GSC-SDT050	47T Spur gear
GSC-SDT051	Main shaft
GSC-SDT052	Hex mount
GSC-SDT053	Friction plate
GSC-SDT054	Limiter spring
GSC-SDT055	2x8mm Pin
GSC-SDT058	Bearing adapter
GSC-SDT059	Shock piston
GSC-SDT060	Upper adapter
GSC-SDT061	Spring holder
GSC-SDT062	Ball end (S)
GSC-SDT063	Spring mount
GSC-SDT064	Spacer 1mm/2mm/10mm
GSC-SDT065	Shock oring spacer
GSC-SDT066	Toque limiter housing
GSC-SDT067	Upper cap for shock body
GSC-SDT068	Lower cap for shock body
GSC-SDT069	Stoper 2mm
GSC-SDT070	5x10mm Bushing
GSC-SDT072	Spring cap

Item No.	Part Name
GSC-SDT073	Throttle linkage
GSC-SDT074	Caster spacer 2mm
GSC-SDT075	Brake rod
GSC-SDT076	Manifold
GSC-SDT077	Shock shaft groove
GSC-SDT078	2x10.8mm Pin
GSC-SDT081	Servo Linkage Set
GSC-ST003	Clutch spring
GSC-ST004	Clutch shoe
GSC-ST018	Steering post
GSC-ST046	Ball Stud
GSC-ST105	M2.5 nylon nut
GSC-AV099	Washer 3x8x0.5mm
GSC-AV102	M6.1x17.5xT0.3mm Steel Shim for Diff
GSC-VS1208	75 c.c.Fuel tank
GSC-VS1303	Diff. Gasket (3)
GSC-134	Shadow Shock Set (RTR Only)
GSC-610005	3x10Set Screw
GSC-650023	M3X8 FH/ST Screw
GSC-80006	R8 Body Pin
GSC-CMS-10D	Exhaust Pipe Coupler
GSC-180001	Antenna Tube And Cap
GSC-230013	5x8mm Bushing
GSC-24553TBL	Fuel Tube
GSC-250517	5.8x6.3mm Pivot ball (10)
GSC-600009	4mm E-clip
GSC-601001	Washer 2.6x6x0.5mm
GSC-601007	Washer 5x10x0.5mm
GSC-601008	3x8x1mm washer
GSC-601028	Washer 12x18x0.2mm
GSC-603007	M3 nylon nut
GSC-603030	M5 nylon nut
GSC-603035	M6 Nylon nut
GSC-610000	M3 set screw
GSC-610020	M4 set screw
GSC-611023	M3x12mm Cap screw
GSC-620025	FHB 3x10mm screw
GSC-620086	FHB 4x18mm screw
GSC-640022	RHB 3x8mm screw
GSC-640023	RHB 3x10mm screw
GSC-640040	RHB 4x10mm hex screw
GSC-640050	RHB 2.5x5mm screw
GSC-650010	FHT 2.6x10mm
GSC-650023	FHT 3x8mm screw

MEMO

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Warranty

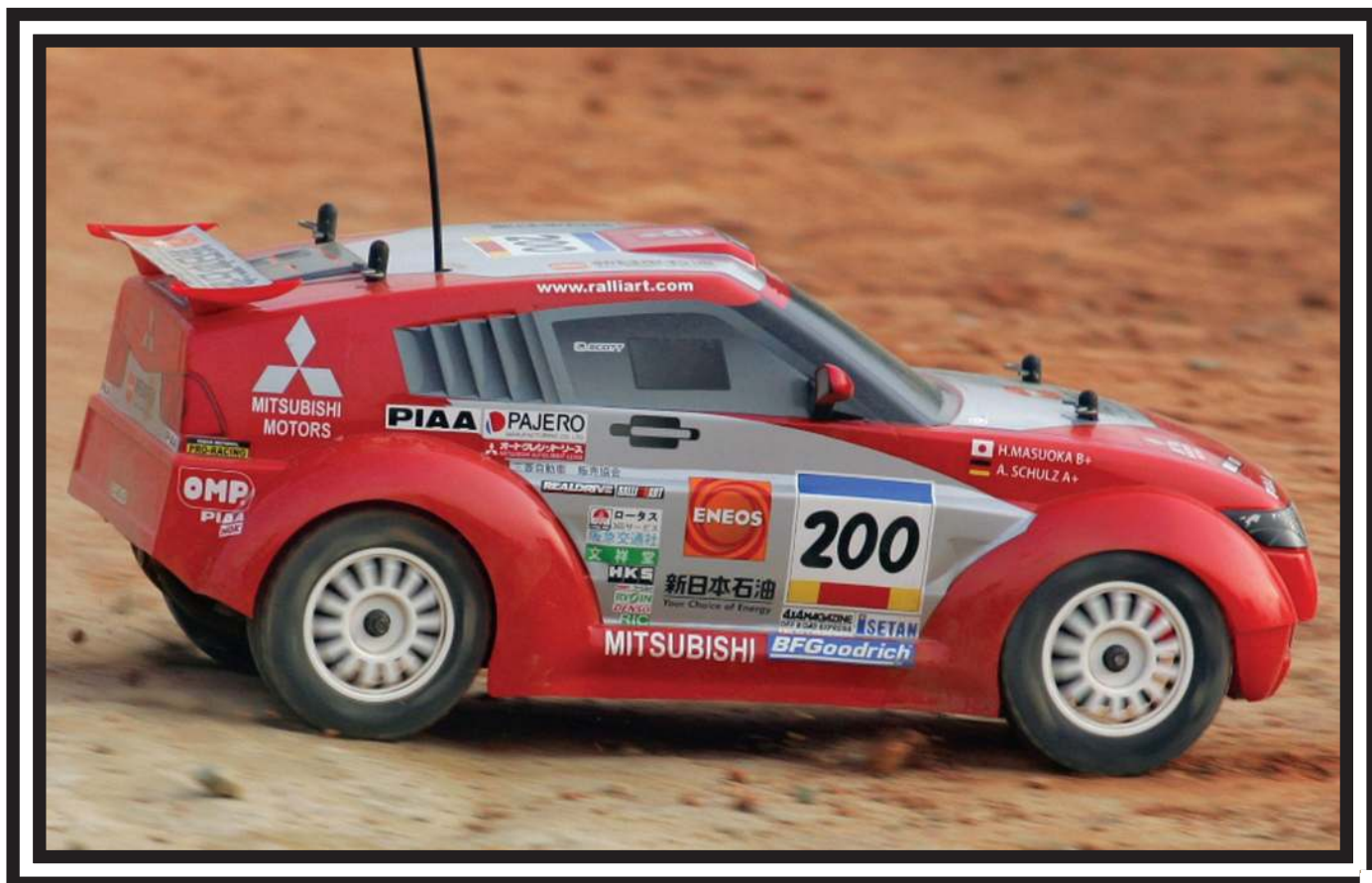


Warranty

Your Conqueror Rally warranty covers workmanship and manufacturing defects of the original and unmodified parts. Warranty claims resulting from crashes, abuse, improper operation, improper mounting, improper adjustment or lack of maintenance will not be honored.

Contact your local hobby shop or GS distributor for all claims and questions. Claims must be well documented. All Claims are subject to expert examination approval by **GS RACING**.

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