

1/8 Scale Radio Controlled Gas Powered Off Road 4wd Racing Buggy

Length/490 mm(19.3")

Width/305 mm(12.0")

Height/182 mm(7.2")

Gear Ratio/11.72 : 1

Ground Clearance/27 mm(1.1")

Wheelbase/320~325 mm(12.6"~12.8")

Track (F,R)/F: 258 mm(10.2"), R: 261 mm(10.3")

**STORM**™

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This radio controlled racing buggy is not a toy!

This high-performance R/C model is recommended for ages 14 and older.

# STORM™



Thank you for purchasing the GS Racing Storm radio controlled model. Please read through this instruction manual carefully before you attempt to assemble or run your Storm buggy.

This manual contains building steps and instructions you will use to set up your RTR, ARR, Sport, or Pro Storm buggies. Follow the directions in this manual closely so you don't encounter any problems on start up. We hope that you will enjoy your new GS Racing gas buggy. If you ever have any questions or need set-up help, please feel free to contact us.

See you at the track!

**-GS Racing-**

# Required Equipment for Operation

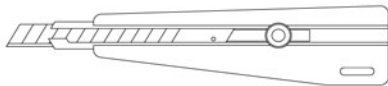
## 1. Tools required for building and maintenance:

- Hobby knife
- Needle nose pliers
- Precision ruler or caliper
- Phillips screwdriver (#0, #1, #2)
- Hobby scissors
- Wire cutters
- Thread locking compound
- CA glue
- Rubber cement

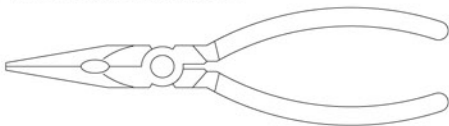
- Precision Ruler or Caliper



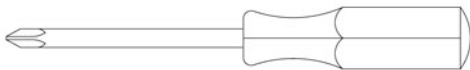
- Hobby Knife



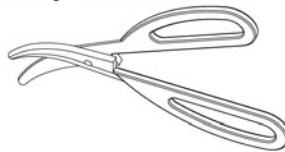
- Needle Nose Pliers



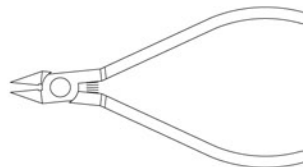
- Phillips Screwdriver (#0, #1, #2)



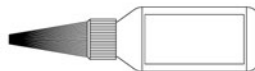
- Hobby Scissors



- Wire Cutters



- Thread Locking Compound

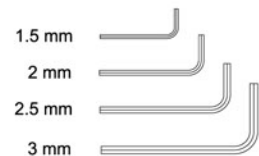


- CA Glue & Rubber Cement

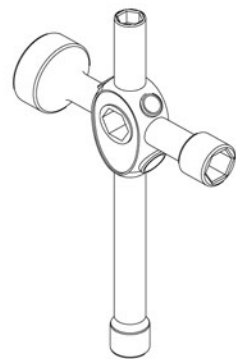


## Tools Included:

- Hex Wrench



- Cross Wrench



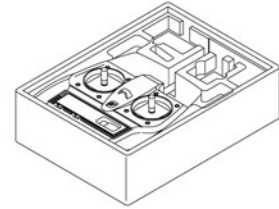
## WARNING!

Do not use a power screwdriver to install screws into nylon, plastic or composite 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 needed for operation:

### RTR #GS 2003 -- Ready-To-Race w/GS-21B01P pull-start engine

- Glow igniter
- Glow fuel (20% nitro recommended!)
- Fuel bottle
- 12 AA size batteries



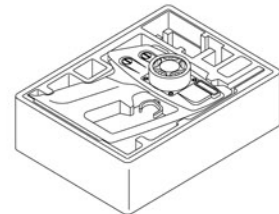
### ARR #GS 2002 -- 90% Pre-assembled w/GS-21B01P pull-start engine

- R/C 2-channel surface frequency radio system with 2 servos (FM recommended!)
- Glow igniter
- Glow fuel (20% nitro recommended!)
- Fuel bottle
- 12 AA size batteries (5-cell hump type Ni-Cd battery pack for receiver is recommended.)
- Polycarbonate Paint



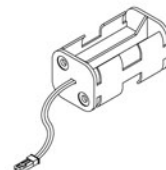
### ARR #GS 2000 -- 80% Pre-assembled w/o engine

- R/C 2-channel surface frequency radio system with 2 servos (FM recommended!)
- 12 AA size batteries (5-cell hump type Ni-Cd battery pack for receiver is recommended.)
- .21 glow powered rear exhaust R/C engine
- Glow igniter
- Glow fuel (20% nitro recommended!)
- Fuel bottle
- Starter box (GS Racing Turbo Box recommended!)
- 12-volt battery or two 6-cell 7.2-volt battery packs for starter box
- Polycarbonate Paint



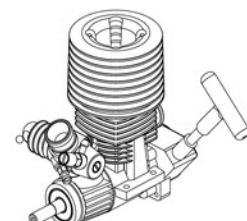
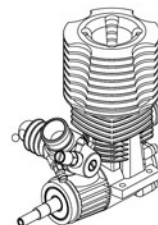
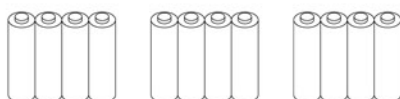
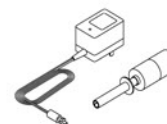
### Sport Kit #GS 2001

- R/C 2-channel surface frequency radio system with 2 servos (FM recommended!)
- 12 AA size batteries (5-cell hump type Ni-Cd battery pack for receiver is recommended.)
- .21 glow powered rear exhaust R/C engine
- Glow igniter
- Glow fuel
- Fuel bottle
- Starter box (GS Racing Turbo Box recommended!)
- 12-volt battery or two 6-cell 7.2-volt battery packs for starter box
- Polycarbonate Paint



### Pro Kit #GS 2004

- R/C 2-channel surface frequency radio system with 2 servos (FM recommended!)
- Ni-Cd battery pack (5-cell hump type)
- .21 glow powered rear exhaust R/C racing engine
- Glow igniter
- Glow fuel
- Fuel bottle
- Starter box (GS Racing Turbo Box recommended!)
- 12-volt battery or two 6-cell 7.2-volt battery packs for starter box
- Polycarbonate Paint





# Before You Start

- 1 Check all parts to ensure that there are no missing or defective parts. If you do find any problems regarding this issue, please contact your local dealer or our GS Racing Distributor.
- 2 Symbols used throughout this instruction manual:



Apply CA glue.



Ensure smooth non-binding movement while assembling.



Assemble front and rear sides the same way.



Assemble left and right sides the same way.



Check set-up sheet.



Attention!



Soak air filter oil.



Apply threadlock (screw cement).









Front of buggy.

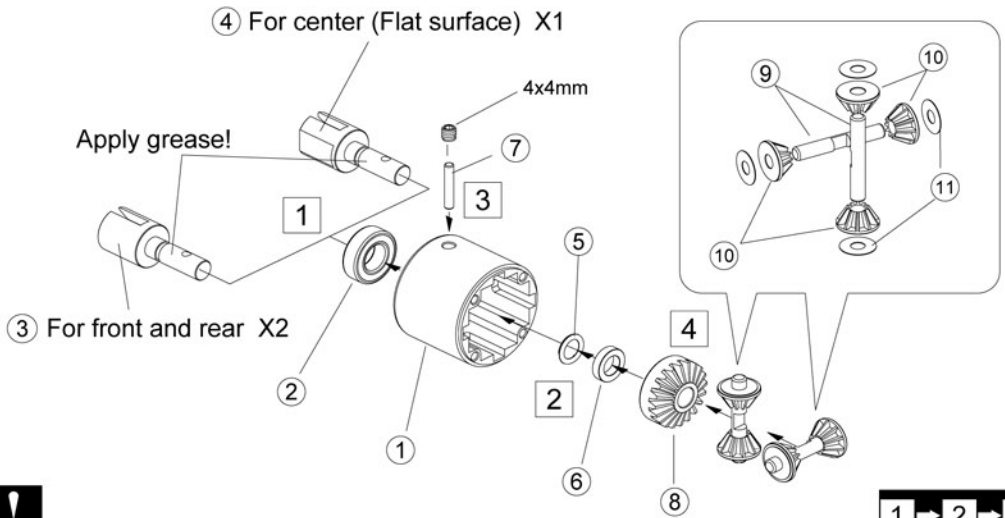


Assemble in the specified order.

- 3 The assembly is arranged so that you will open and finish that bag before you go to the next one. Sometimes you will have parts remaining at the end of a bag. These will become part of the next bag.
- 4 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.
- 5 The instructions in each step are numbered in the order you complete them, so please follow the key numbers (the numbers in circles) with the words in each steps. The key numbers are also in the drawing to help you locate them faster.
- 6 When we refer to left and right sides of the buggy, we are referring to the driver's point of view inside the car.






# 1 Gear Differential

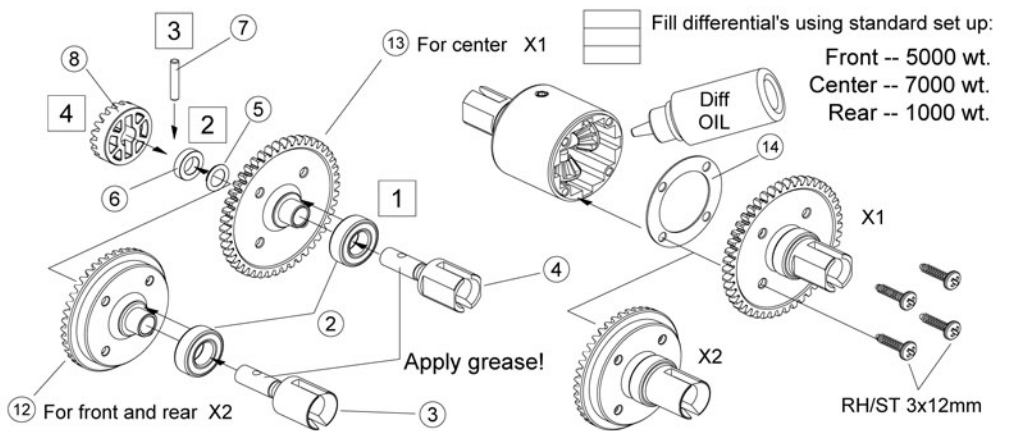
-  X3  
4 x 4mm Set Screw
-  X12  
11. 4 x 10.x 0.3mm Shim
-  X3  
5. O-ring AS009
-  X3  
6. 6 x 10 x 2.5mm Bushing
-  X3  
7. 2.5 x 13.8mm Pin
-  X3  
2. 8x16mm Ball Bearing



**!** Build three differentials: front, center, and rear.





# 2 Gear Differential

-  X12  
3x12mm RH/ST Screw
-  X3  
5. O-ring AS009
-  X3  
6. 6 x 10 x 2.5mm Bushing
-  X3  
7. 2.5 x 13.8mm Pin
-  X3  
2. 8x16mm Ball Bearing

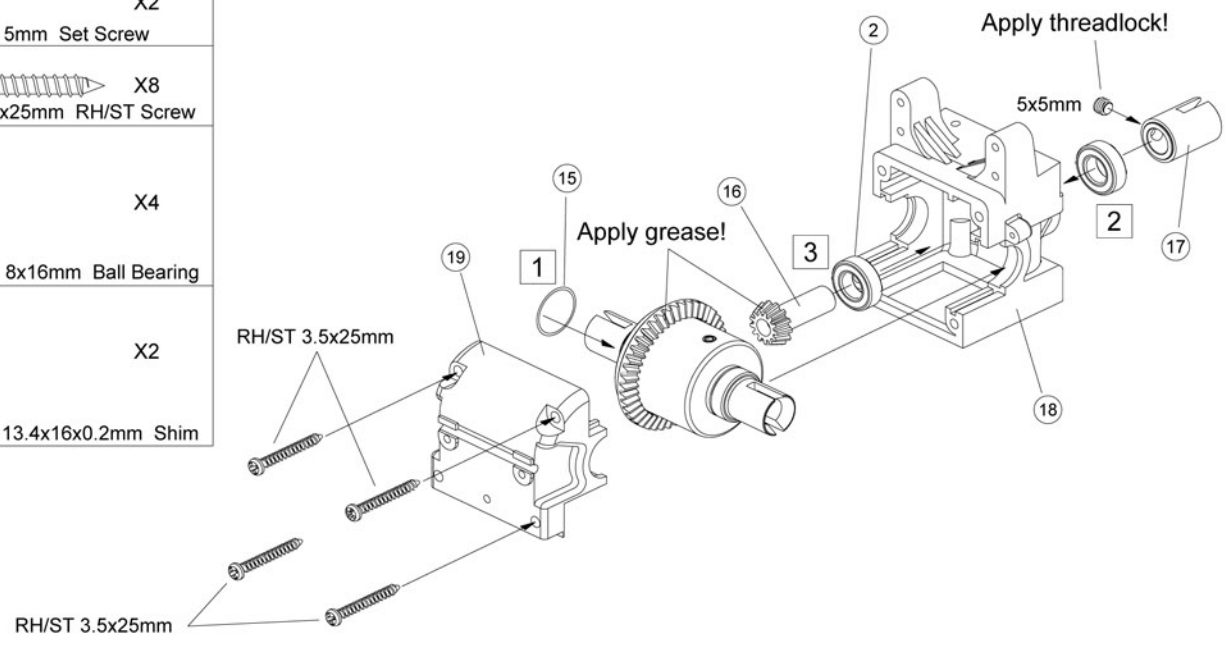


**!** Fill oil up to where the differential gear pins cross.

# 3 Gear Box

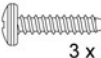

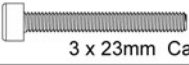

-  X2  
5 x 5mm Set Screw
-  X8  
3.5x25mm RH/ST Screw
-  X4  
2. 8x16mm Ball Bearing
-  X2  
15. 13.4x16x0.2mm Shim

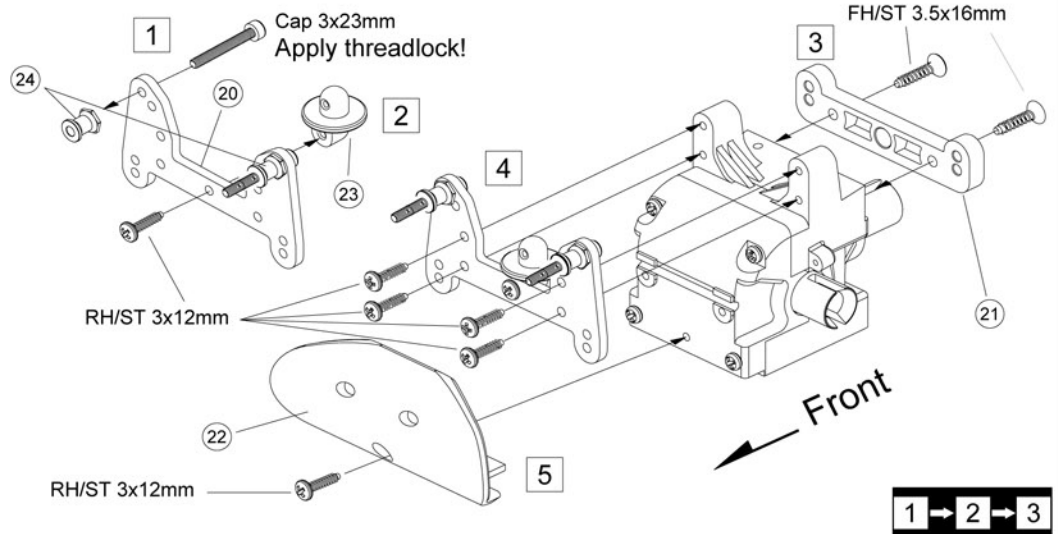
Build two gear boxes.  
Mark gear boxes front and rear.



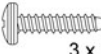
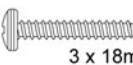
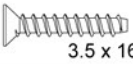
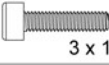
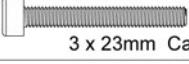


1 -> 2 -> 3

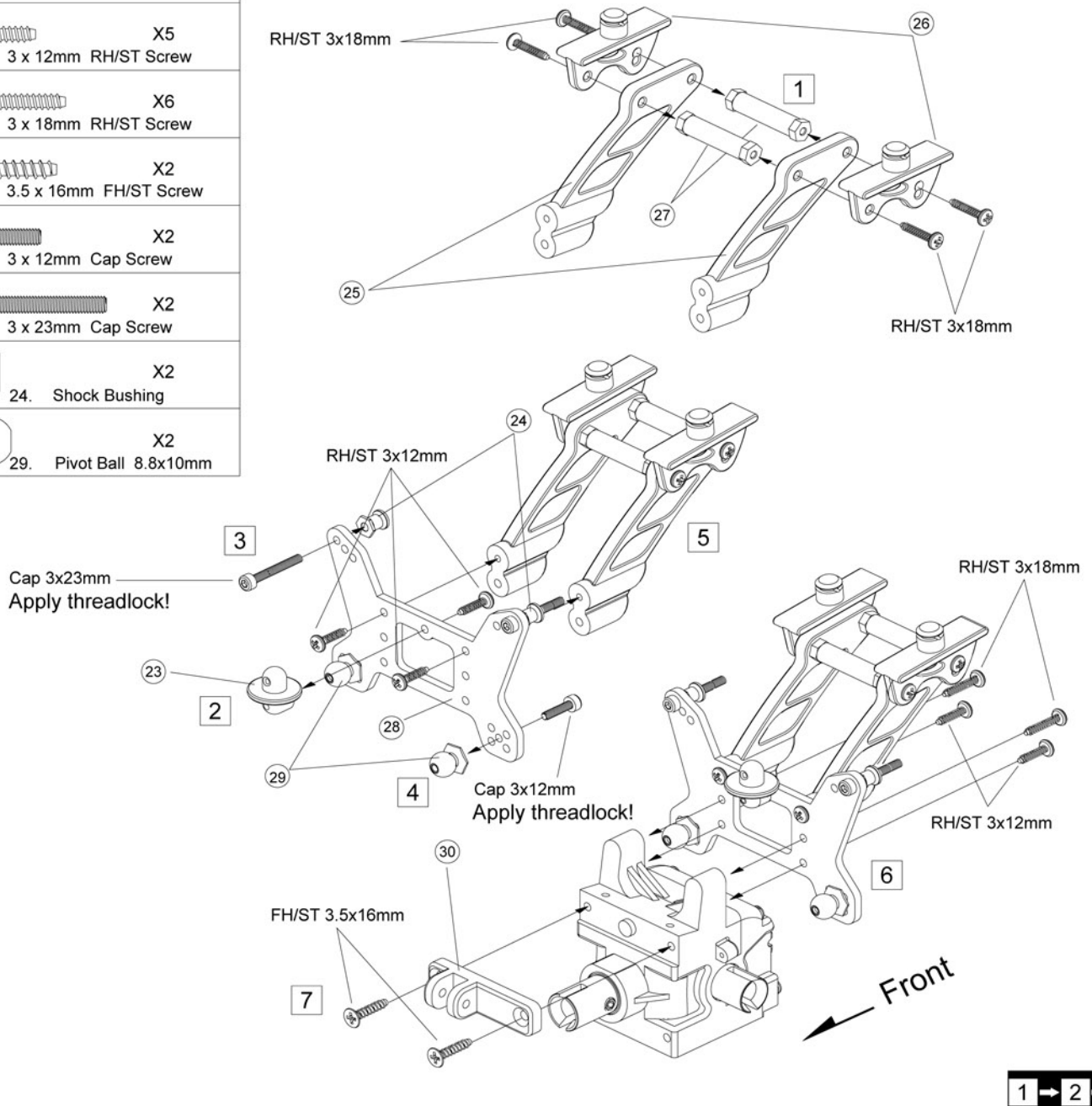
## 4 Front Gear Box

	X6 3 x 12mm RH/ST Screw
	X2 3.5 x 16mm FH/ST Screw
	X2 3 x 23mm Cap Screw
	X2 24. Shock Bushing



## 5 Rear Gear Box

	X5 3 x 12mm RH/ST Screw
	X6 3 x 18mm RH/ST Screw
	X2 3.5 x 16mm FH/ST Screw
	X2 3 x 12mm Cap Screw
	X2 3 x 23mm Cap Screw
	X2 24. Shock Bushing
	X2 29. Pivot Ball 8.8x10mm

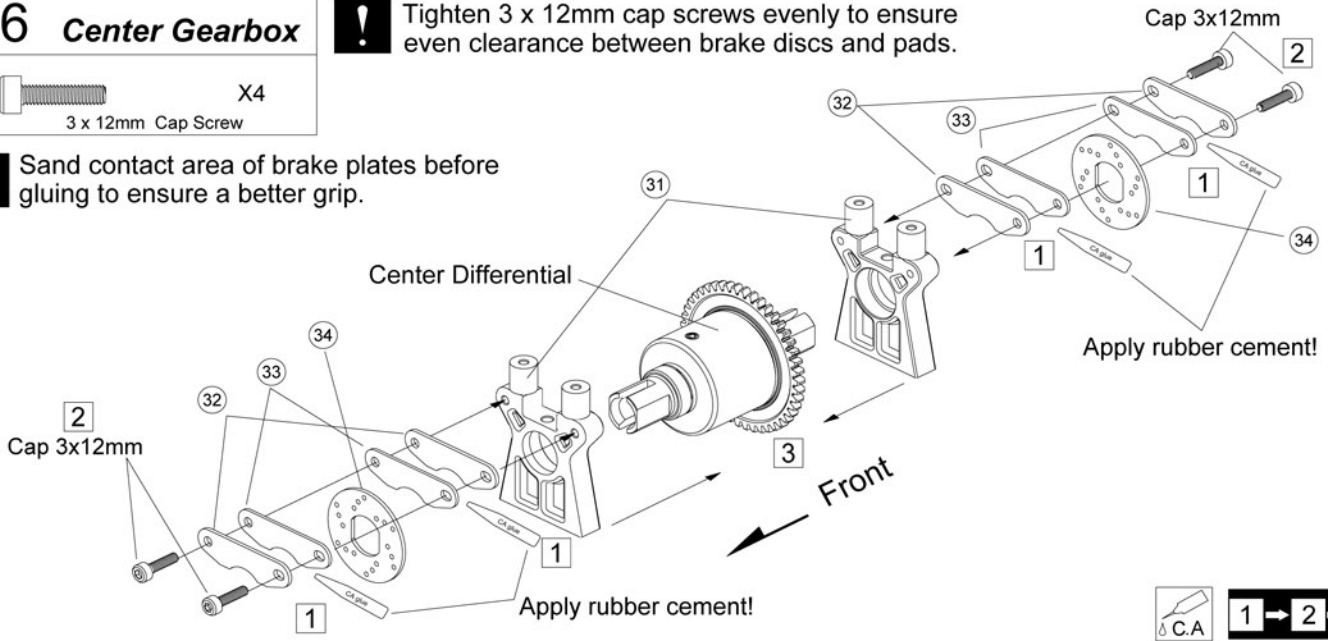


## 6 Center Gearbox

 X4  
3 x 12mm Cap Screw

**!** Tighten 3 x 12mm cap screws evenly to ensure even clearance between brake discs and pads.

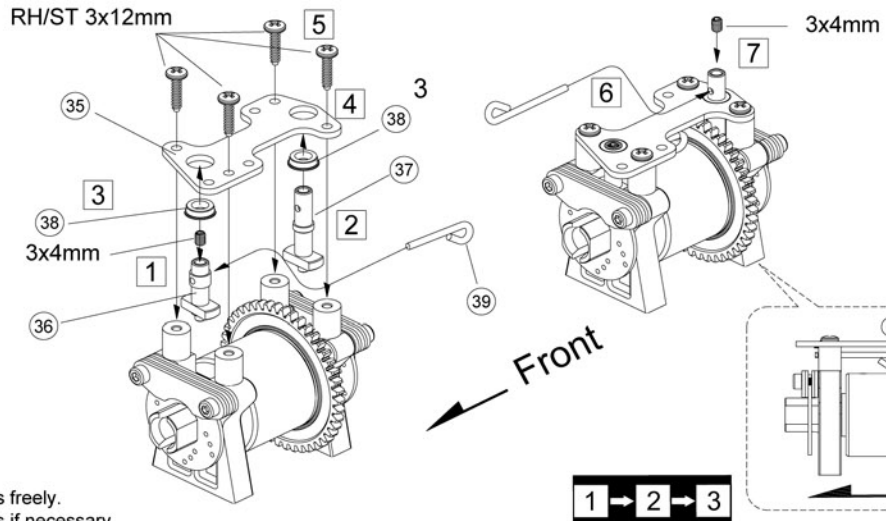
**!** Sand contact area of brake plates before gluing to ensure a better grip.



## 7 Center Gearbox

 X2  
3 x 4mm Set Screw

 X4  
3 x 12mm RH/ST Screw



**!** Make sure that the differential assembly spins freely. Loosen 3 x 12mm cap screws to free up discs if necessary.

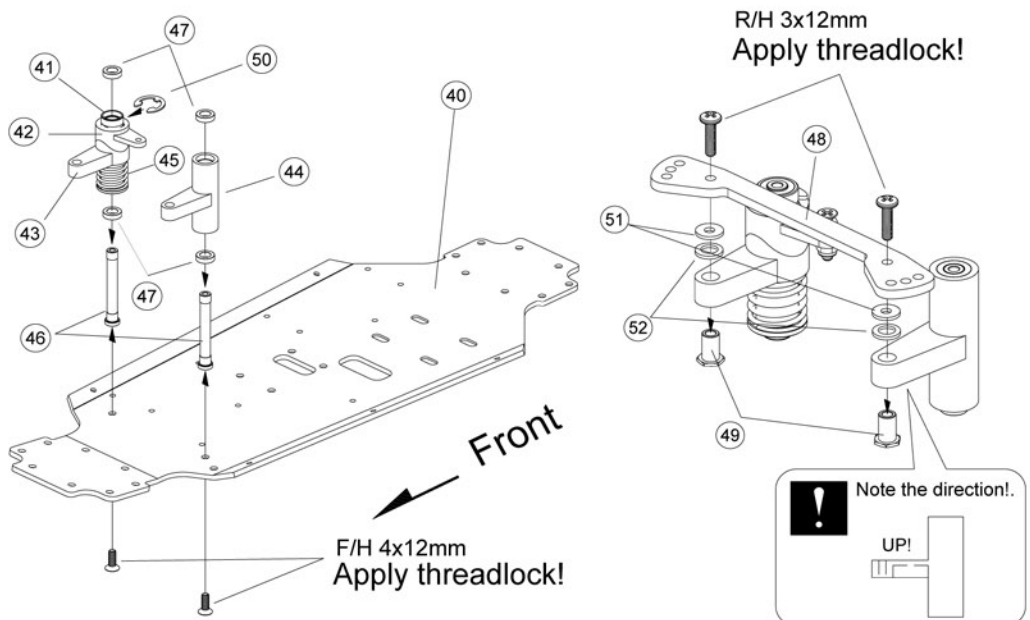
## 8 Steering

 X2  
3 x 12mm R/H Screw



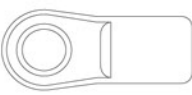
 X2  
4 x 12mm F/H Screw

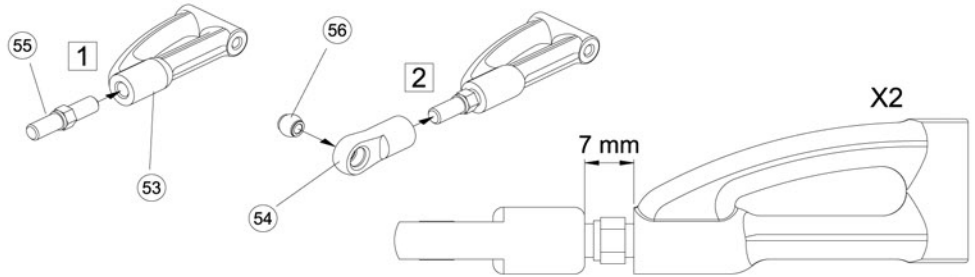
 X2  
51. 3 x 8 x 0.5mm Shim

 X2  
52. 5 x 7 x 0.2mm Shim



## 9 Front Suspension

-  56. 6.8 x 7mm Ball X2
-  55. 5x25mm Turnbuckle X2
-  54. 6.8mm Ball End(S) X2





**1 → 2 → 3**

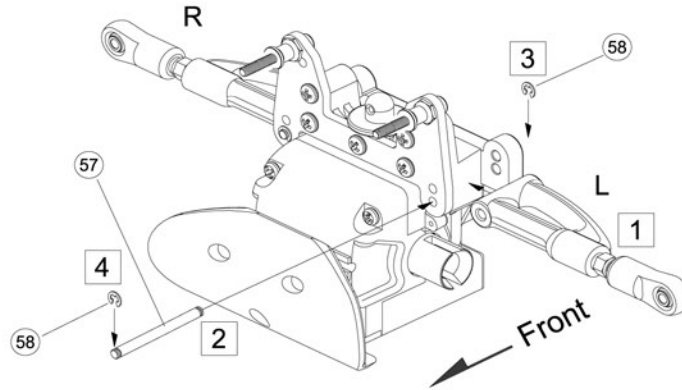
Assemble Right and Left sides.

1:1



## 10 Front Suspension

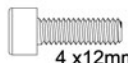


-  58. E-clip E-2.5 X4
-  57. 3 x 34mm Hinge Pin X2

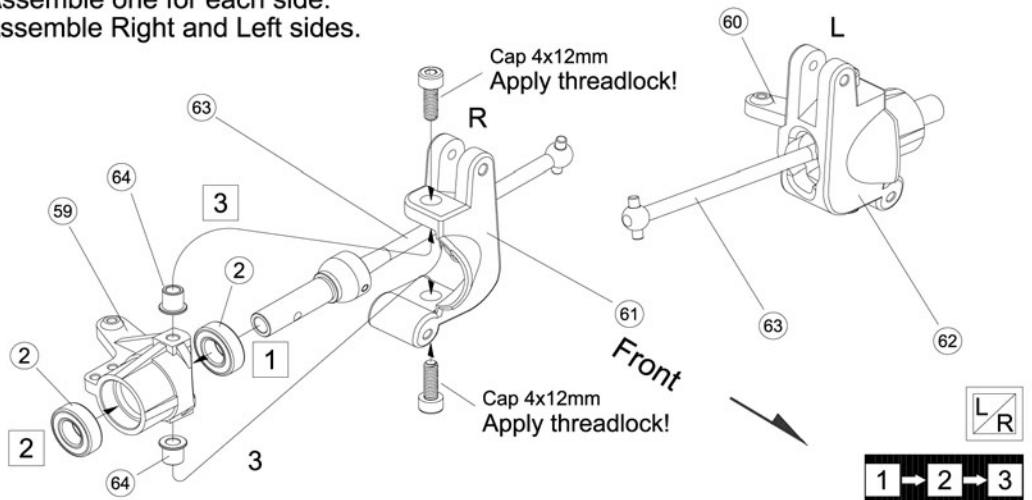


**1 → 2 → 3**

## 11 Front Suspension

Assemble one for each side.  
Assemble Right and Left sides.




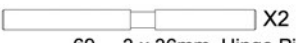

-  4 x 12mm Cap Screw X4
-  64. Knuckle Collar X4
-  2. 8x16mm Ball Bearing X4

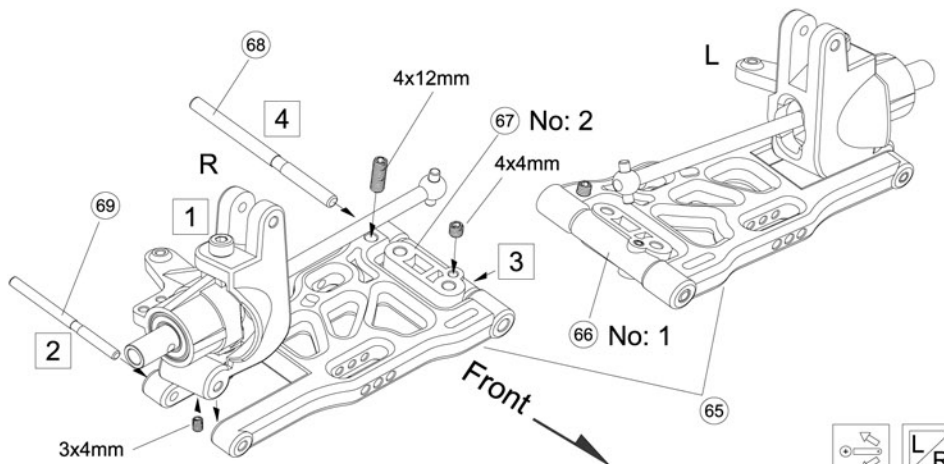


**1 → 2 → 3**

## 12 Front Suspension

Assemble Right and Left sides.

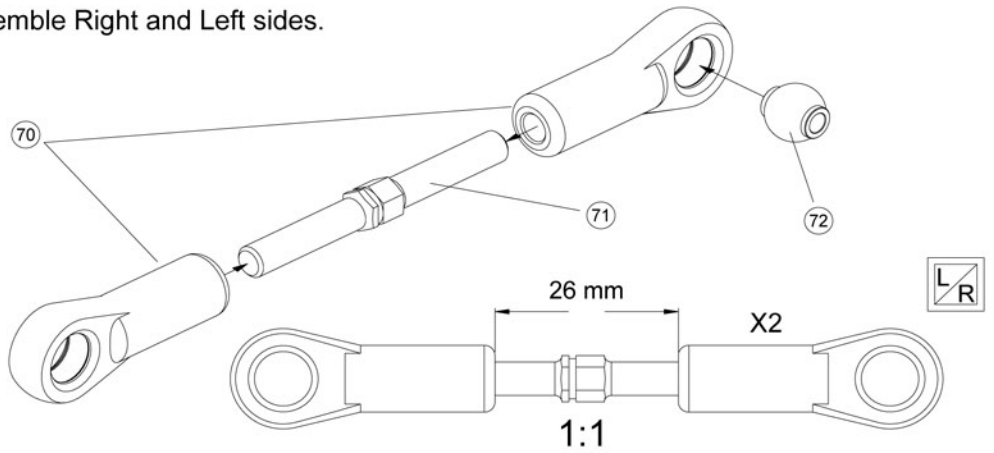
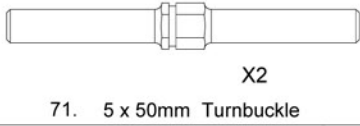
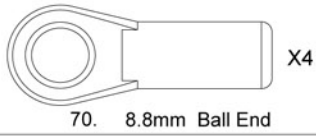
-  3 x 4mm Set Screw X2
-  4 x 4mm Set Screw X2
-  4 x 12mm Set Screw X2
-  69. 3 x 36mm Hinge Pin X2
-  68. 4 x 57mm Hinge Pin X2



**1 → 2 → 3**

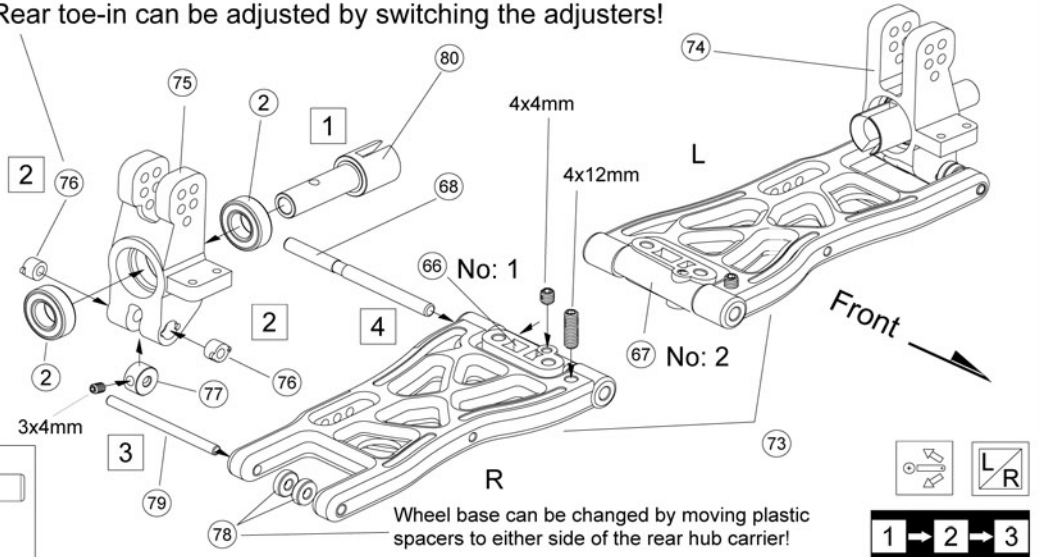
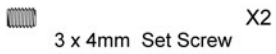
# 13 Rear Suspension

Assemble Right and Left sides.

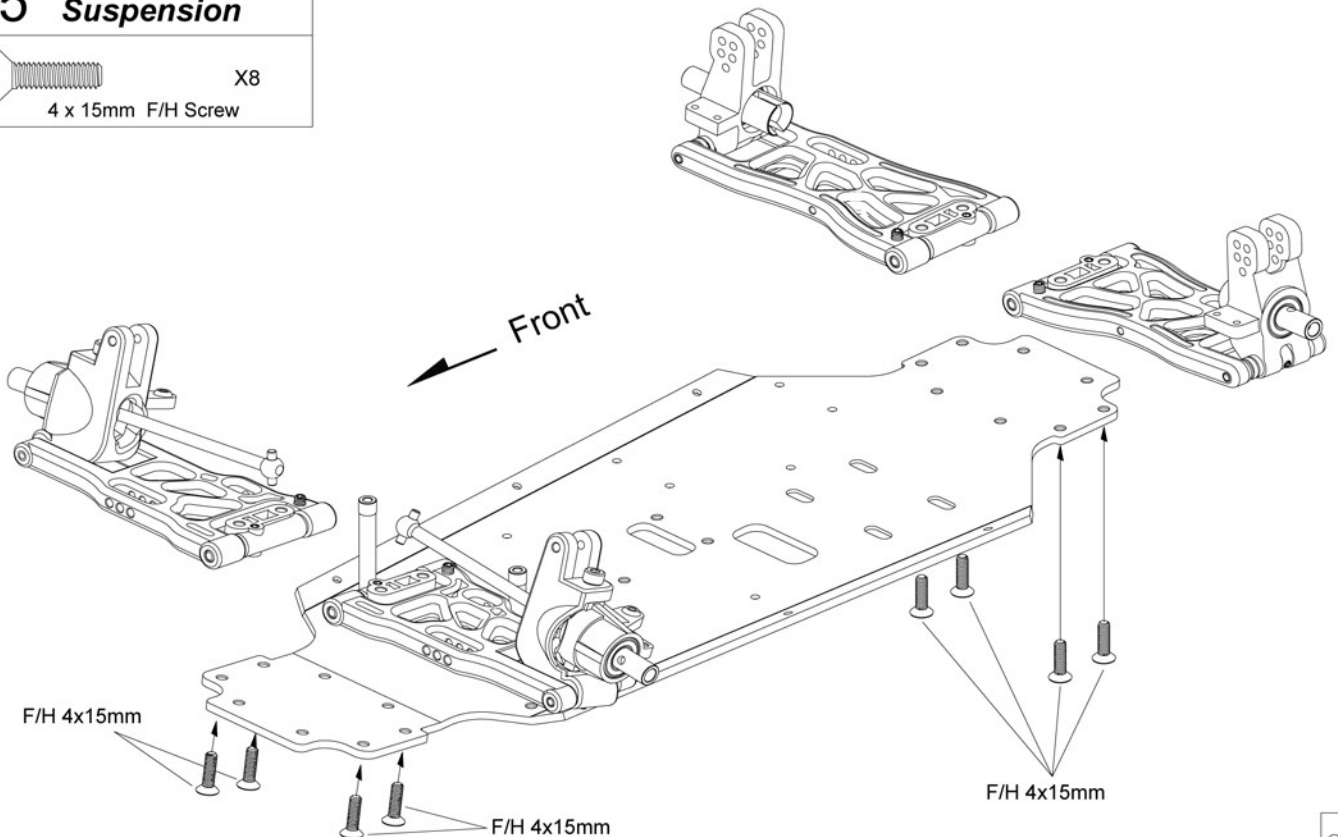


# 14 Rear Suspension

Rear toe-in can be adjusted by switching the adjusters!



# 15 Suspension



# 16 Chassis

X2  
3 x 12mm F/H Screw

X8  
4 x 12mm F/H Screw

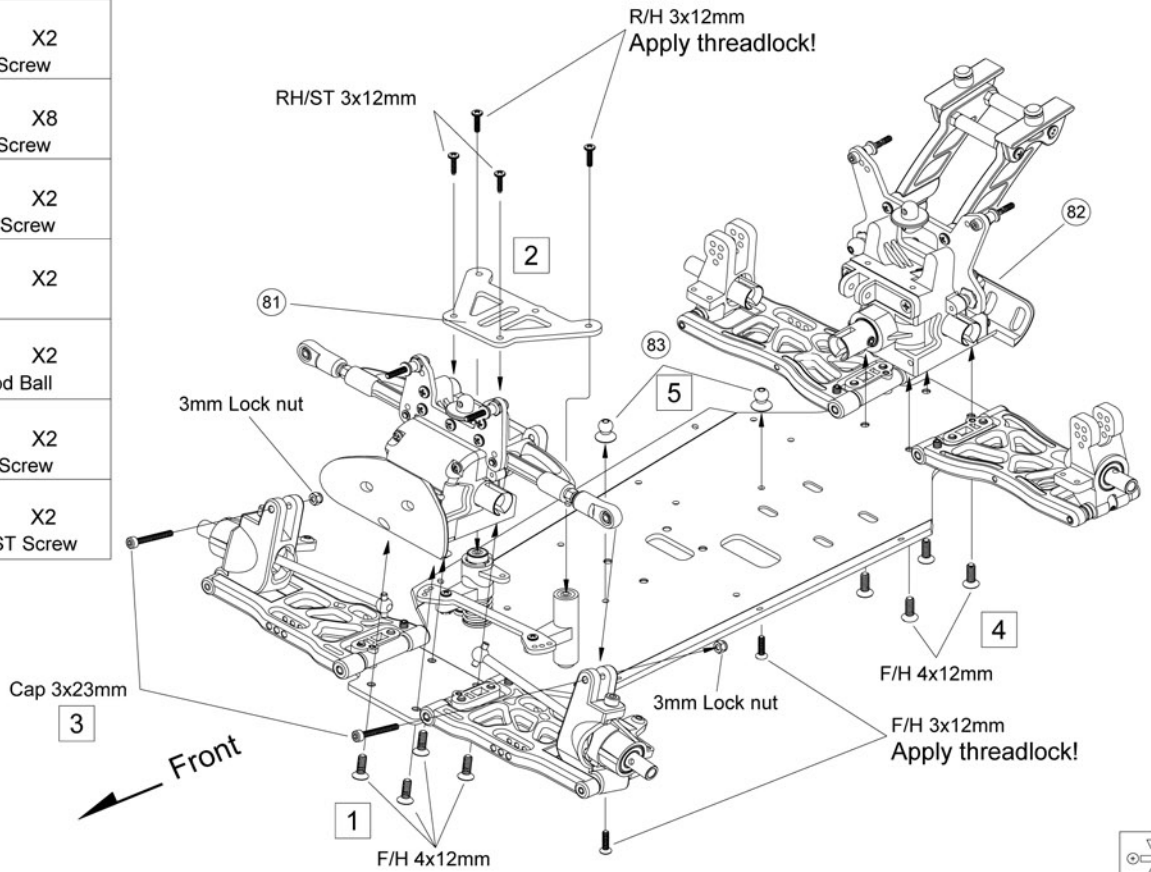
X2  
3 x 23mm Cap Screw

X2  
3mm Lock Nut

X2  
83. Torque Rod Ball

X2  
3 x 12mm R/H Screw

X2  
3 x 12mm RH/ST Screw



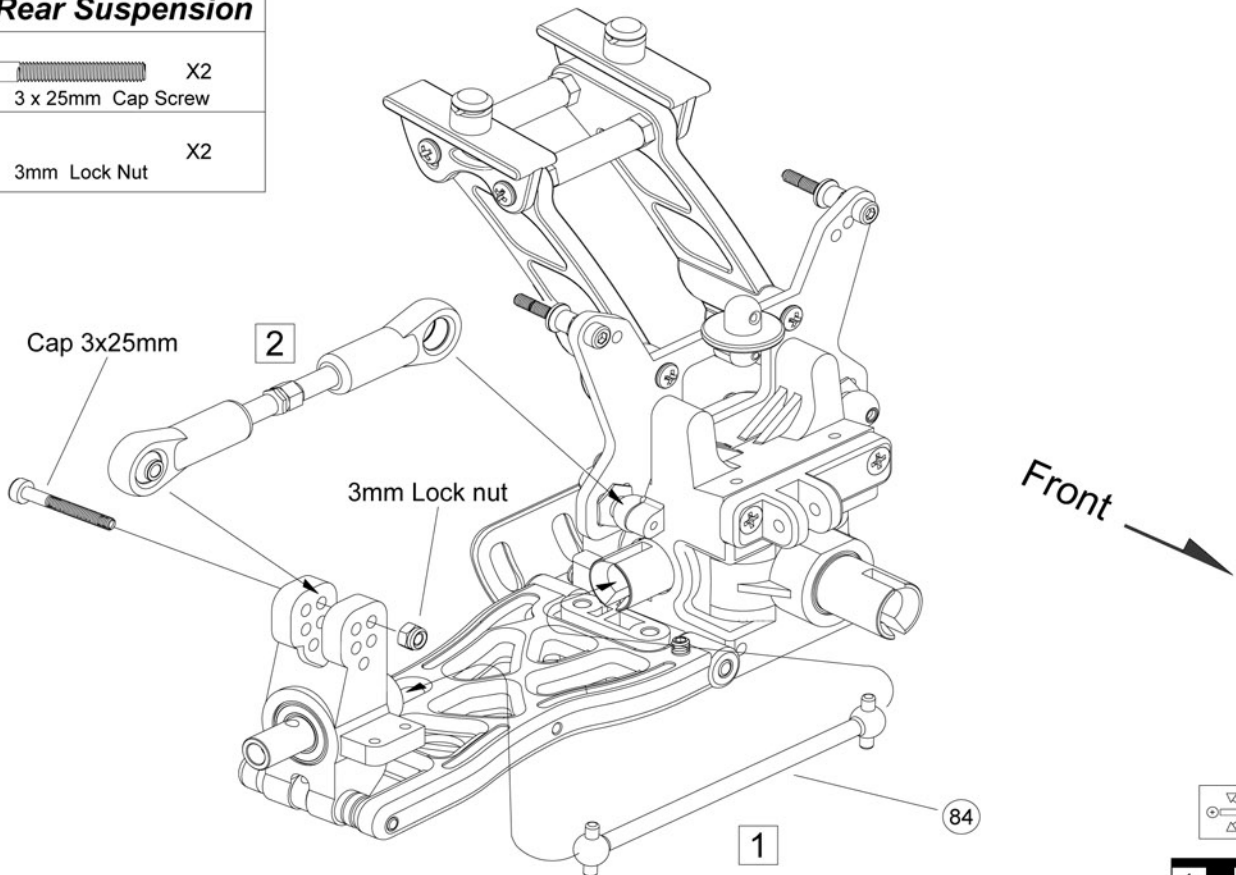
**!** Check for binding after final assembly of all suspension parts!

1 → 2 → 3

# 17 Rear Suspension

X2  
3 x 25mm Cap Screw

X2  
3mm Lock Nut



1 → 2 → 3

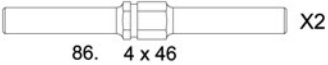


# 18 Steering

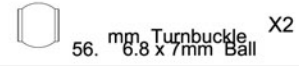
Assemble Right and Left sides.



85. 6.8mm Ball End X4



86. 4 x 46 X2



56. 6.8 x 7mm Ball X2



87. 6.8 x 9mm Pivot Ball X2



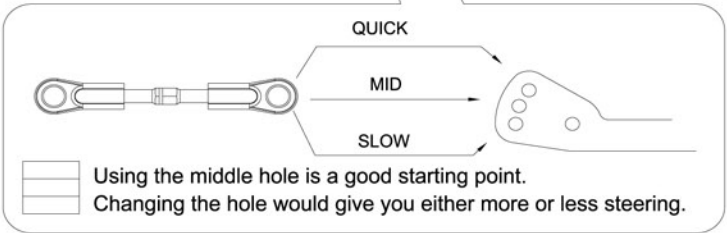
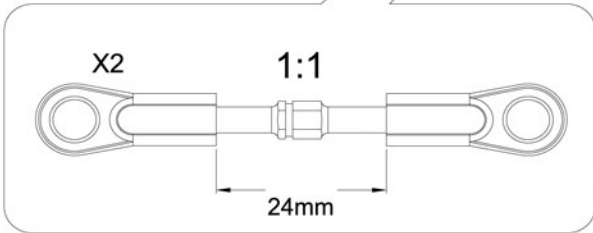
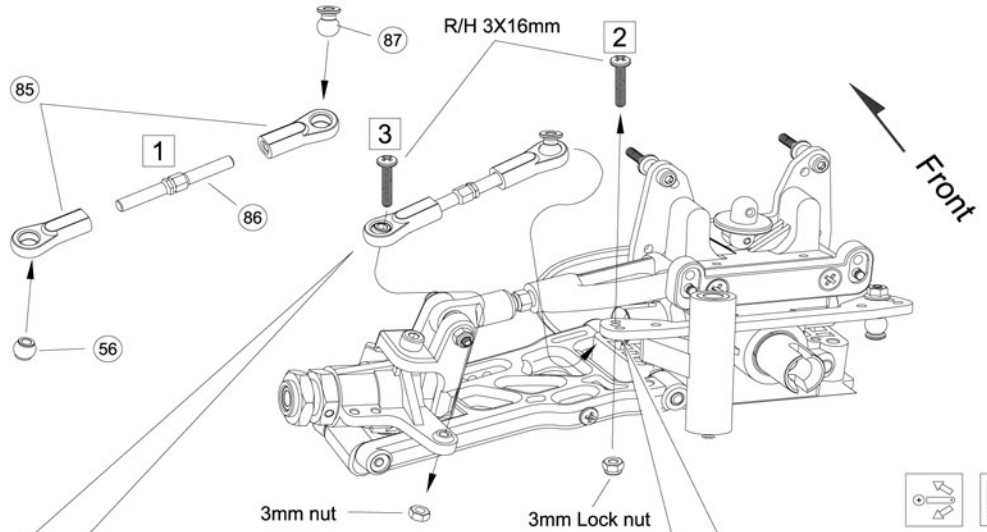
3 x 16mm R/H Screw X4



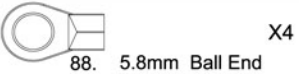
3mm Nut X2



3mm Lock Nut X2



# 19 Sway Bars



88. 5.8mm Ball End X4



89. 5.8mm Ball End X4



3 x 12mm Set Screw X4



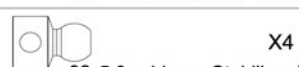
3 x 4mm Set Screw X4



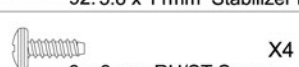
93. 5.8 x 4.6mm Ball X2



94. 5.8 x 5.4mm Pivot Ball X2



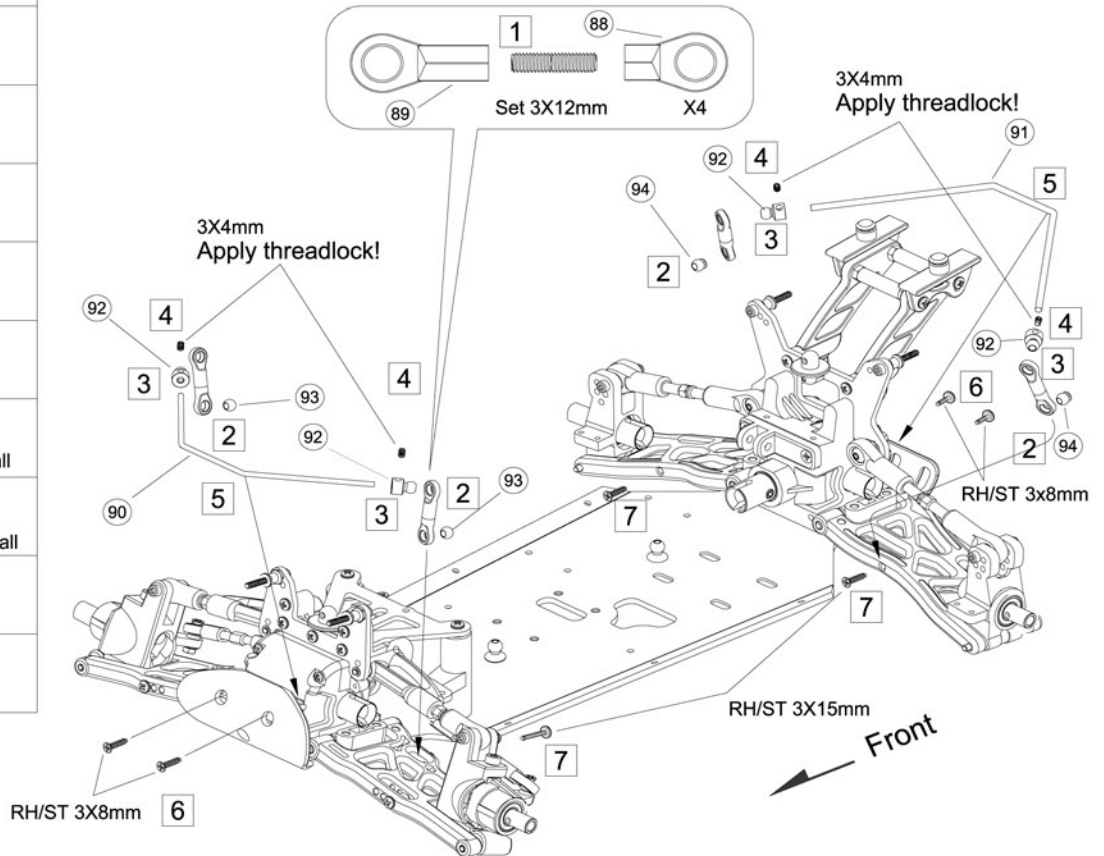
92. 5.8 x 11mm Stabilizer Ball X4



3 x 8mm RH/ST Screw X4



3 x 15mm RH/ST Screw X4




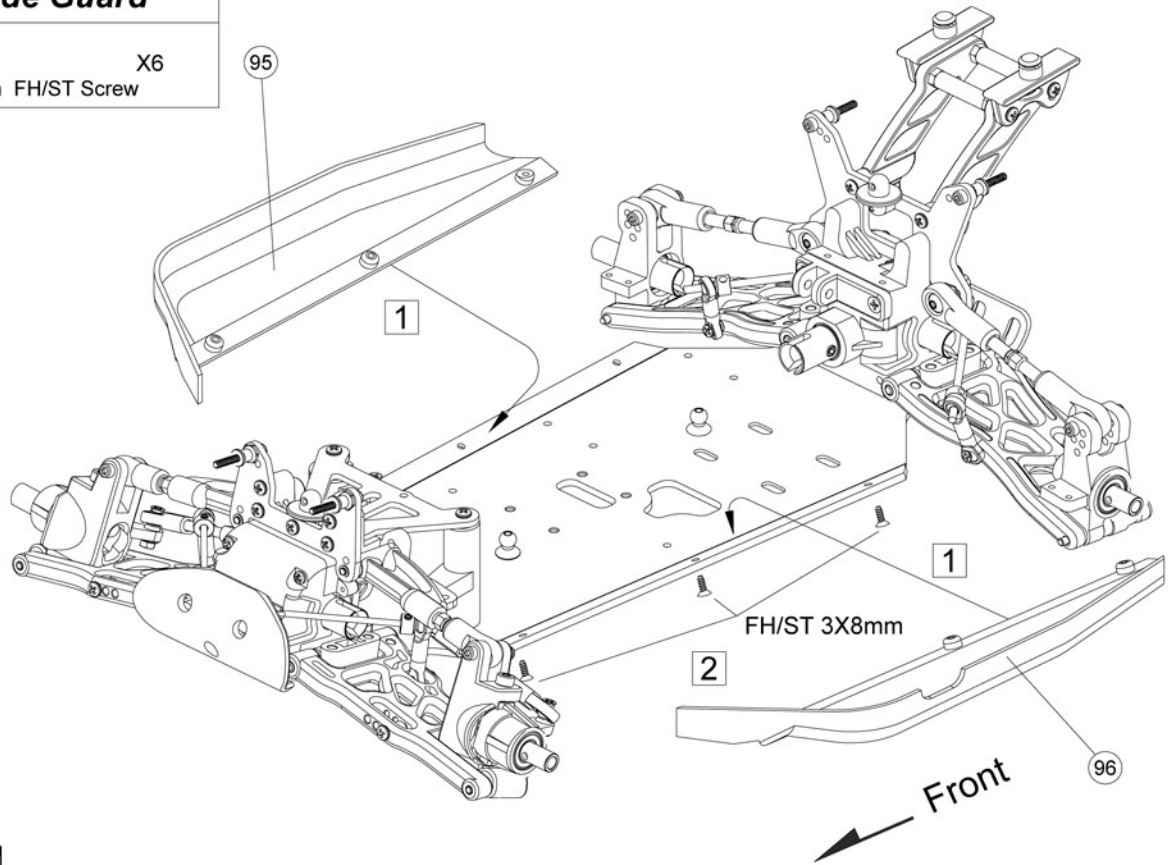
1 → 2 → 3

**!** Do not over tighten 3x8mm RH/ST screws. The sway bars should move freely.

## 20 Side Guard

Assemble Right and Left sides.

 X6  
3 x 8mm FH/ST Screw

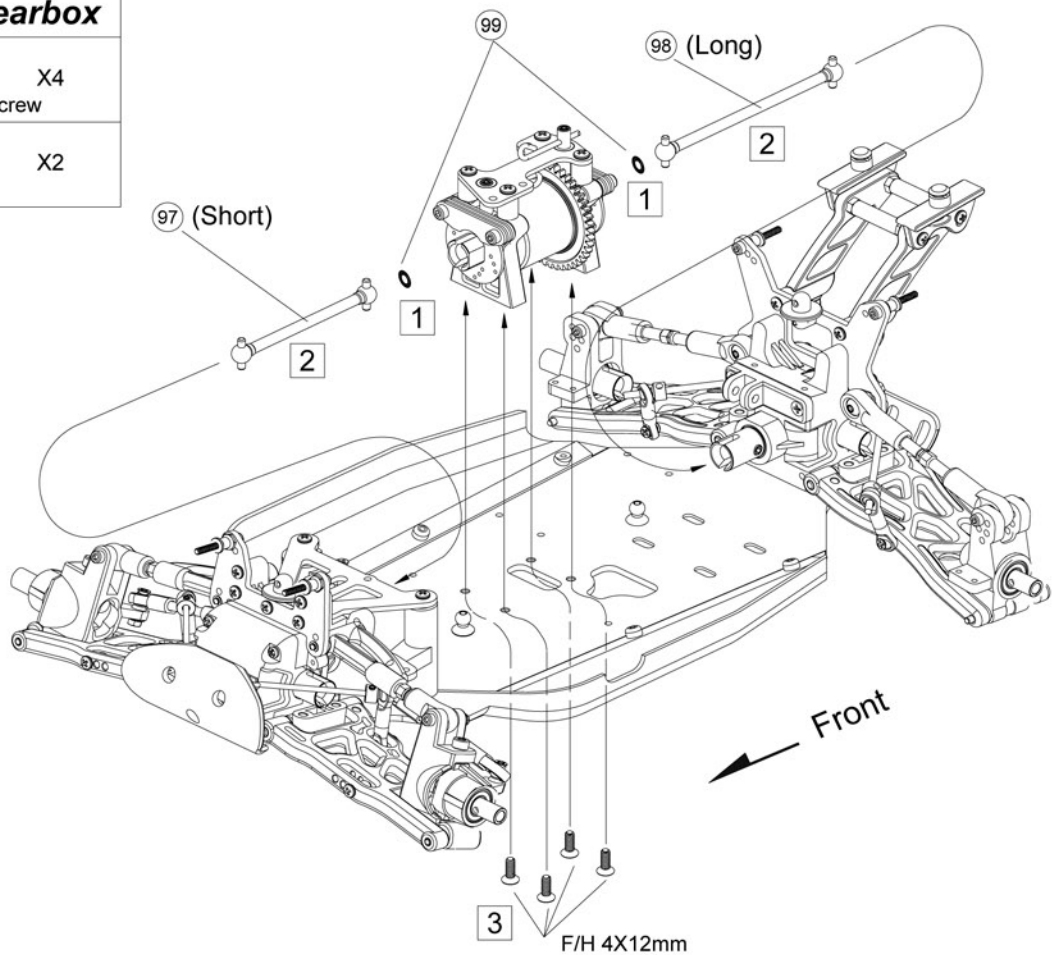


1 → 2 → 3

## 21 Center Gearbox

 X4  
4 x 12mm F/H Screw

 X2  
99. O-ring P4



1 → 2 → 3

## 22 Torque Rod

X1  
3 X 12mm R/H Screw

X1  
3 x 20mm Cop Screw

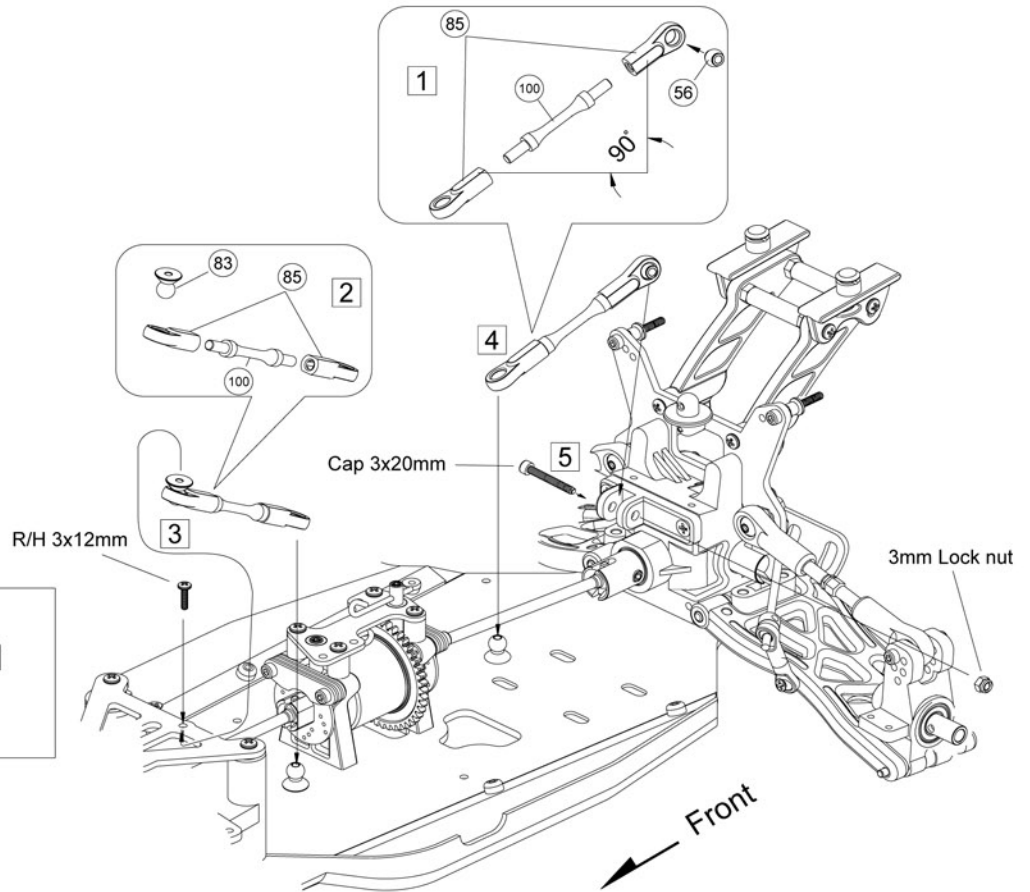
X1  
56. 6.8 x 7mm Ball

X1  
3mm Lock Nut

X1  
83. Torque Rod Ball

X4  
85. 6.8mm Ball End

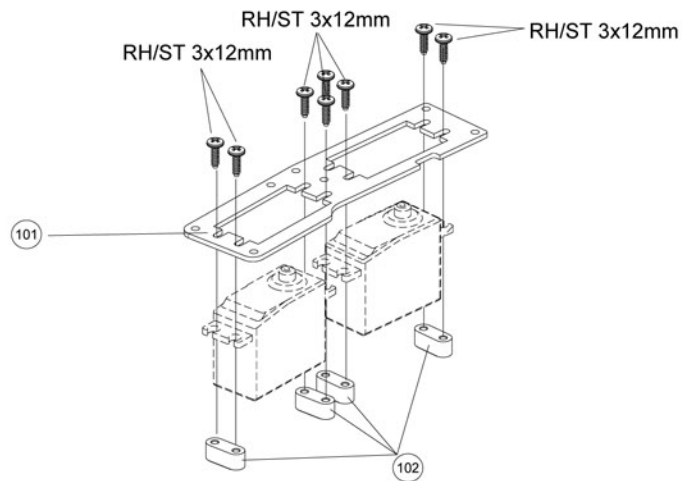
X2  
100. Torque Rod



1 → 2 → 3

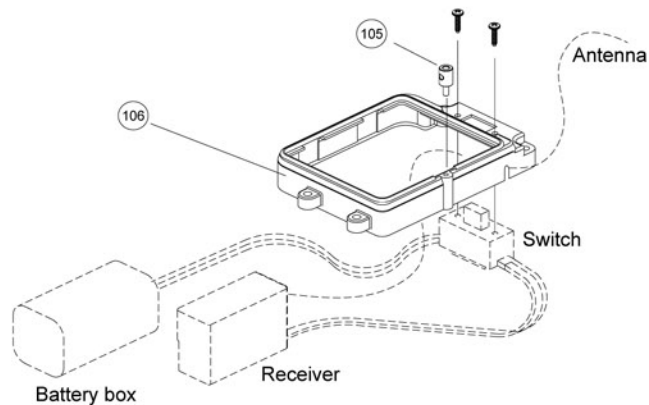
## 23 Radio

X8  
3 x 12mm RH/ST Screw



## 24 Radio

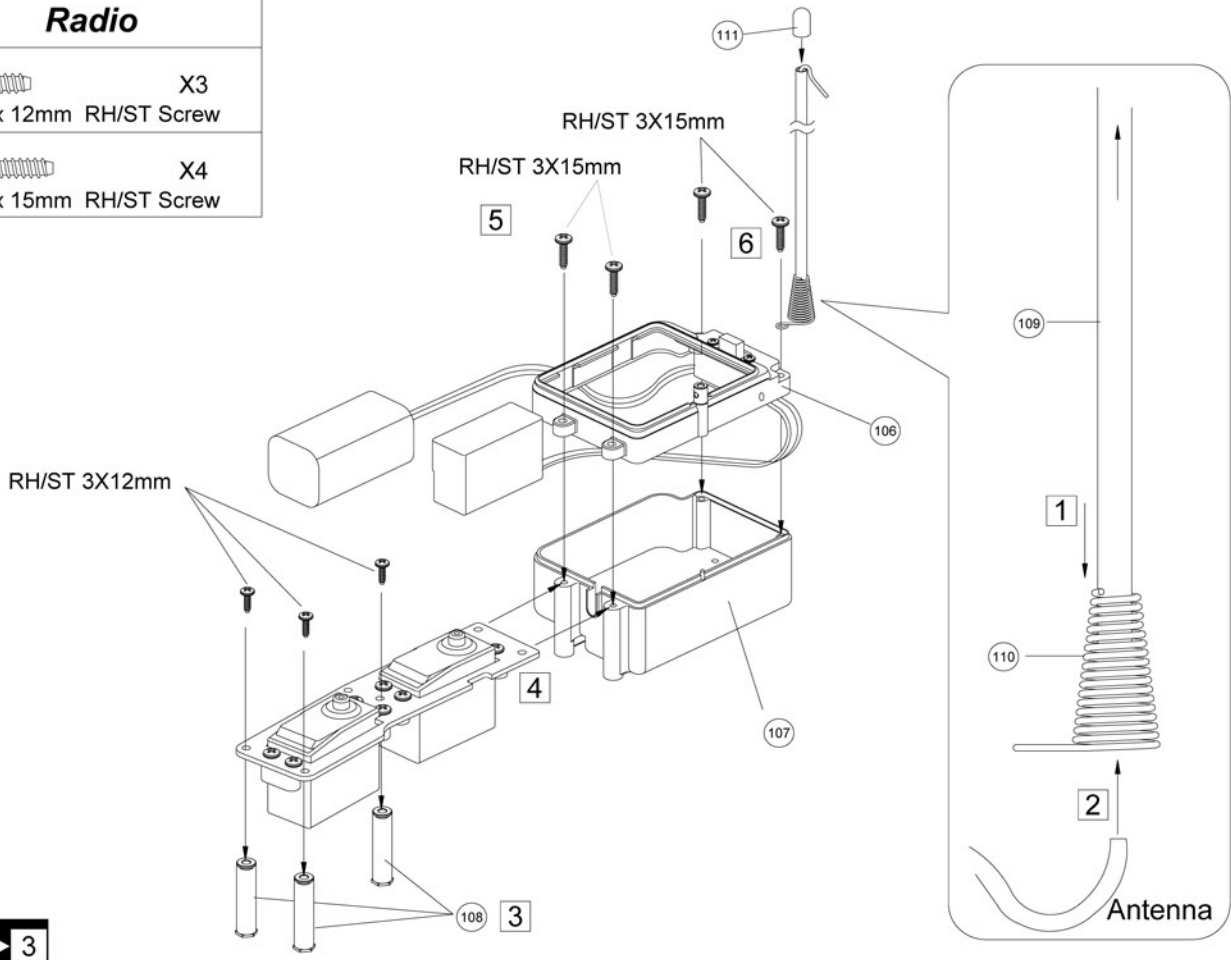
X1  
105. Pin Holder



# 25 Radio

 X3  
3 x 12mm RH/ST Screw

 X4  
3 x 15mm RH/ST Screw

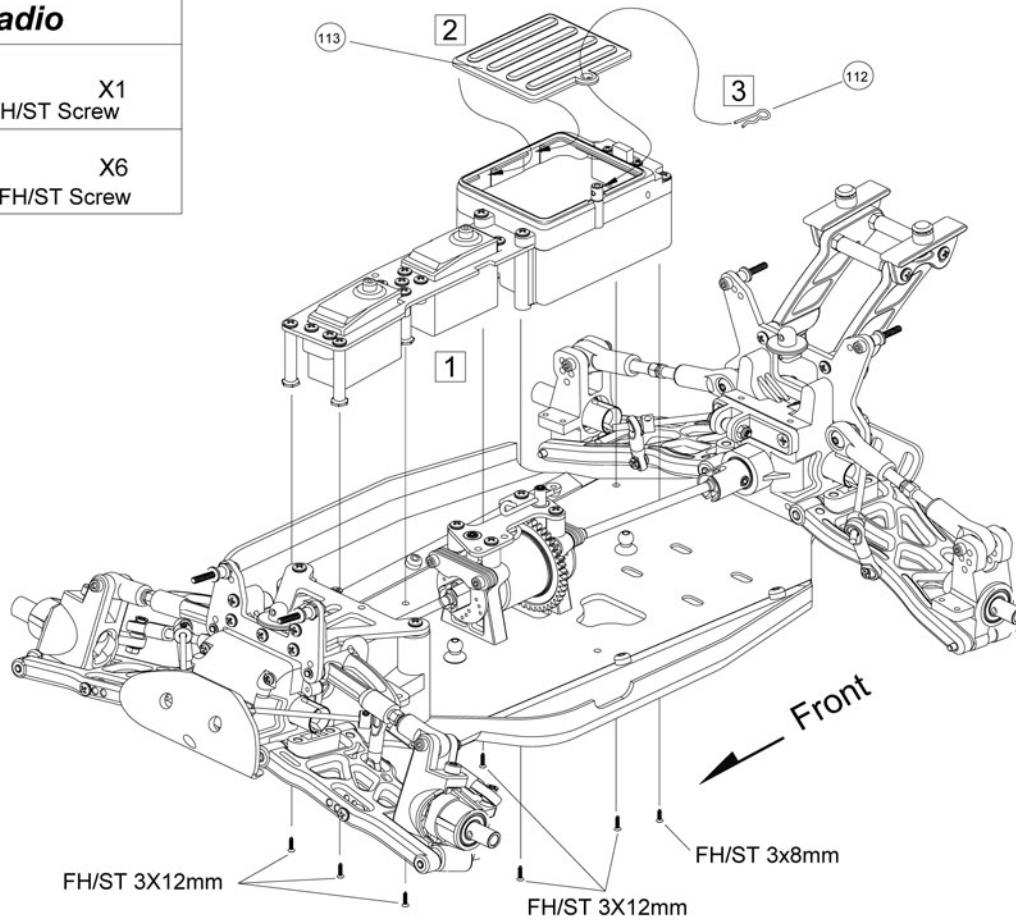


1 → 2 → 3

# 26 Radio

 X1  
3 x 8mm FH/ST Screw

 X6  
3 x 12mm FH/ST Screw



1 → 2 → 3

## 27 Engine

X1  
3 x 6mm Cap Screw

X4  
3 x 16mm Cap Screw

X2  
126. 5x10mm Ball Bearing

X1  
3 x 8 x 1mm Washer

X3  
52. 5 x 7 x 0.2mm Shim

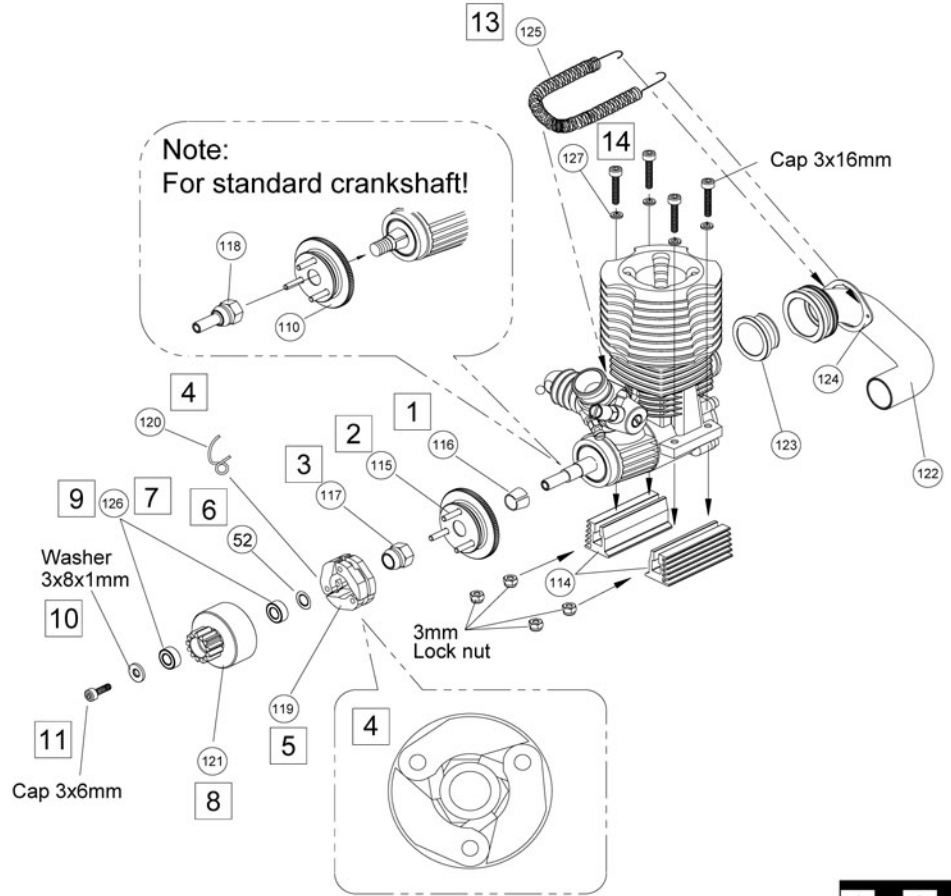
X1  
116. Corn Collar

X1  
118. Pilot Shaft (Standard)

X1  
117. Pilot Nut (SG)

X4  
3mm Lock Nut

X4  
127. M3 Spring Washer

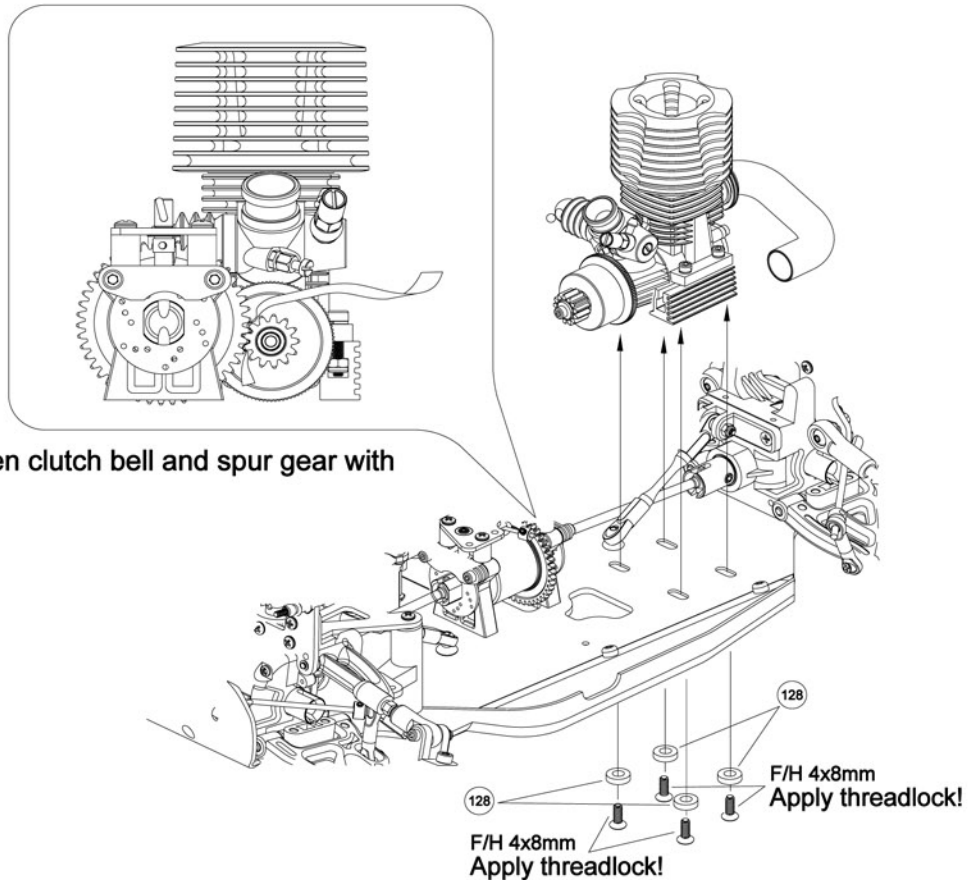


## 28 Engine



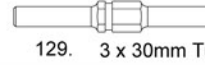


X4  
4 x 8mm F/H Screw

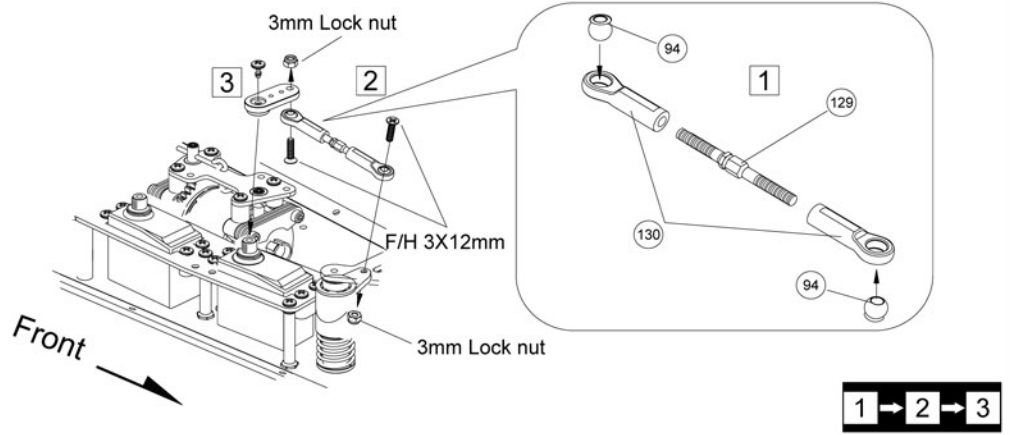
X4  
128. M4 Countersunk Washer

**!** Check gear mesh between clutch bell and spur gear with a piece of paper!








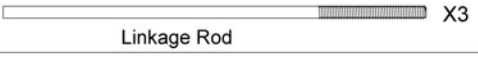


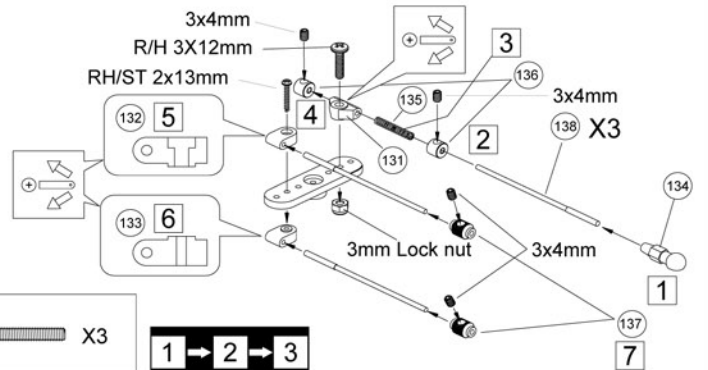
## 29 Radio

	X2
94. 5.8 x 5.4mm Pivot Ball	
	X2
3 x 12mm F/H Screw	
	X1
129. 3 x 30mm Turnbuckle	
	X2
3mm Lock Nut	
	X2
130. 5.8mm Ball End	



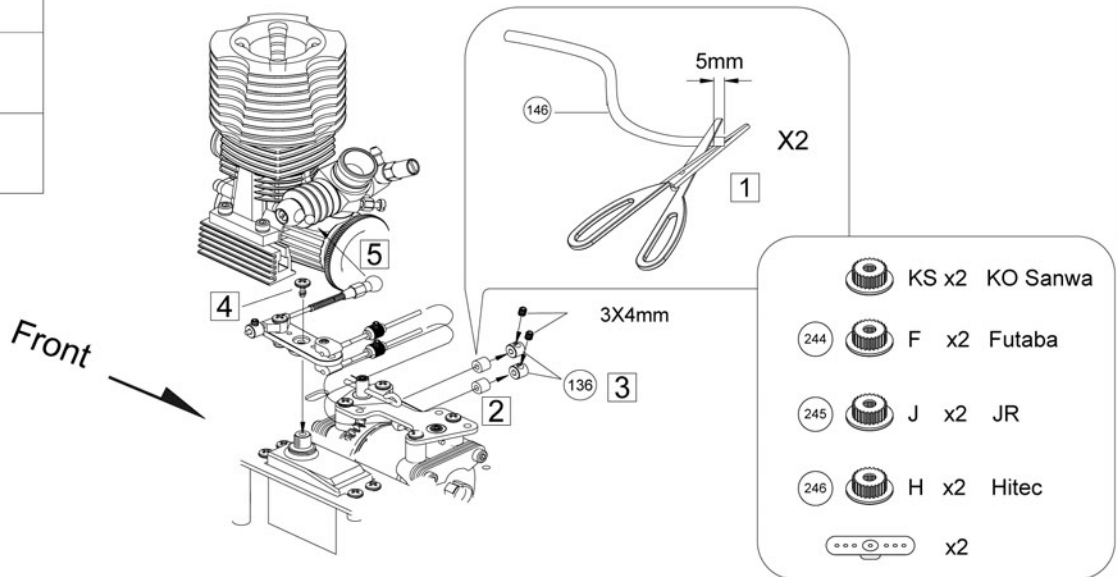
## 30 Throttle & Brake Linkage

	X4		X2
3 x 4mm Set Screw		136. 2mm Stopper	
	X1		X2
2 x 13mm RH/ST Screw		137. Adjuster Knob	
	X1		X1
135. Linkage Spring		3mm Lock Nut	
	X1		X3
3 x 12mm R/H Screw		Linkage Rod	



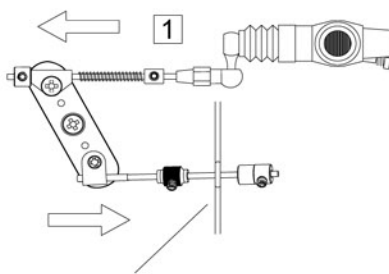
## 31 Radio

	X2
3 x 4mm Set Screw	
	X2
136. 2mm Stopper	

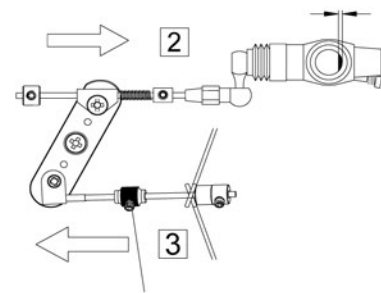


## 32 Linkage Adjustment

\*\*At full brake the carburetor should only open 0.7 ~ 1mm!



\*\*Adjust so brake is at neutral position at full throttle!

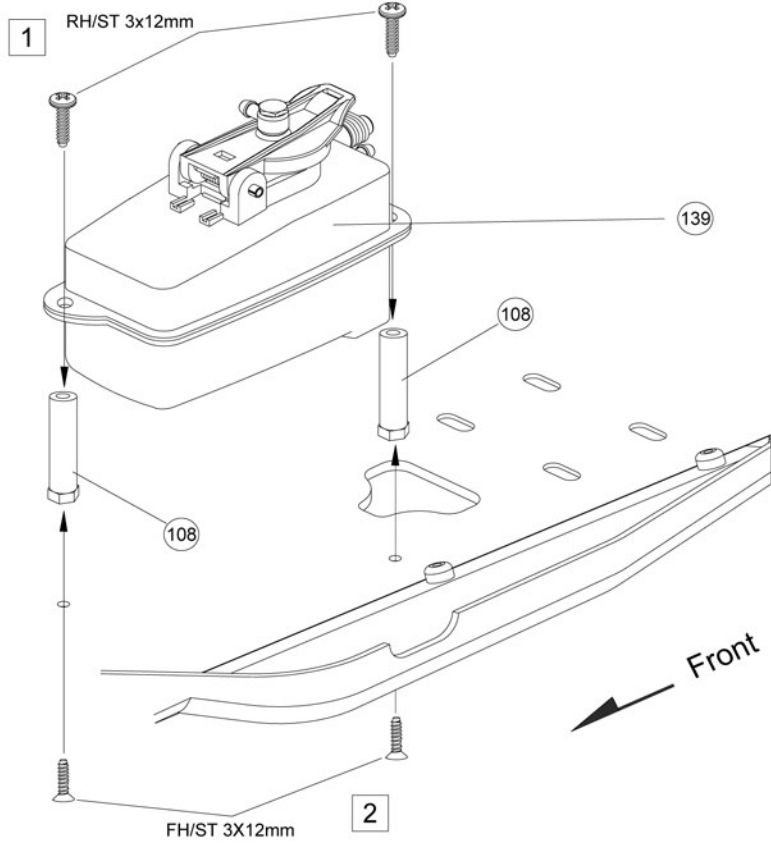


\*\*Tighten or loosen adjuster knob to adjust brake action!

# 33 Fuel Tank

 X2  
3 x 12mm FH/ST Screw

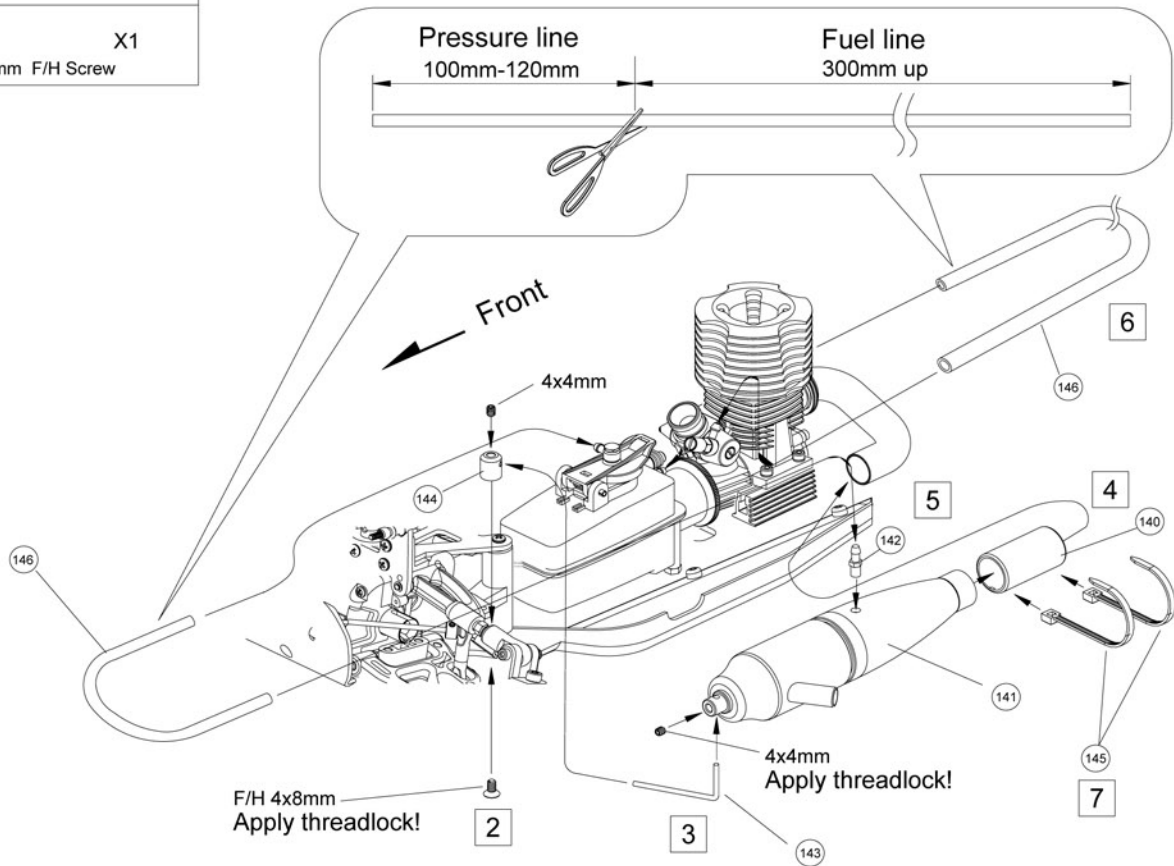
 X2  
3 x 12mm RH/ST Screw



1 → 2 → 3

# 34 Fuel Tank

 X1  
4 x 8mm F/H Screw

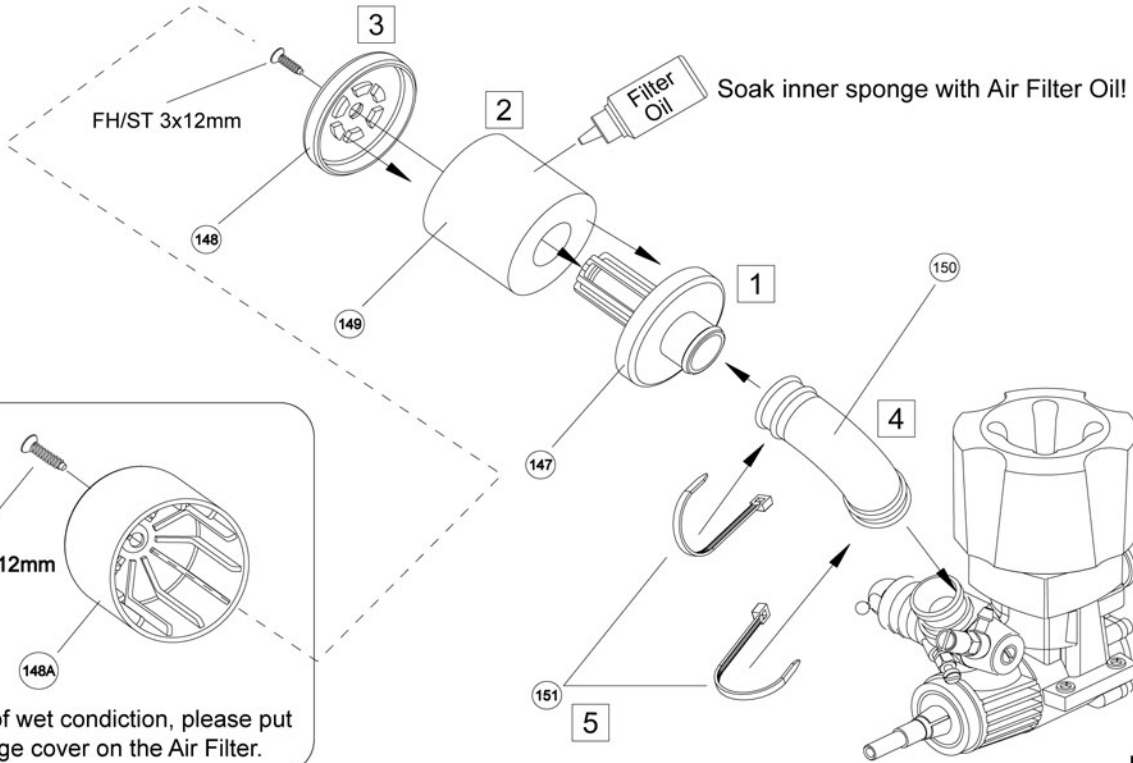


1 → 2 → 3



# 35 Air Filter

 X1  
3 x 12mm FH/ST Screw

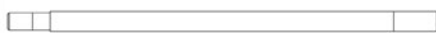










**FH/ST 3x12mm**  
148A

In case of wet condition, please put the sponge cover on the Air Filter.

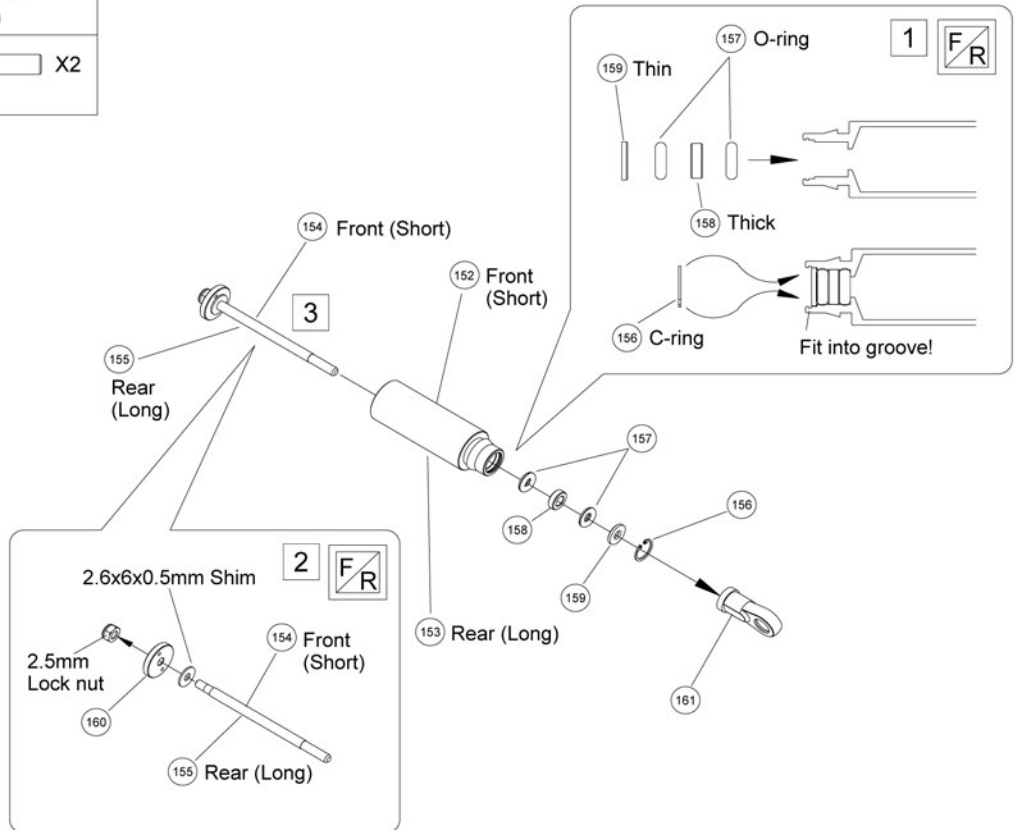
# 36 Shock

 X2  
154. Front Shock Shaft 52mm

 X2  
155. Rear Shock Shaft 61mm

-  X4  
156. C-ring
-  X8  
157. P3 Silicone O-ring
-  X4  
158. Collar (Thick)
-  X4  
159. Collar (Thin)
-  X4  
2.6 x 6 x 0.5mm Shim
-  X4  
160. Shock Piston
-  X4  
161. 5.8mm Ball End
-  X4  
2.5mm Lock Nut

**!** Build four shocks!



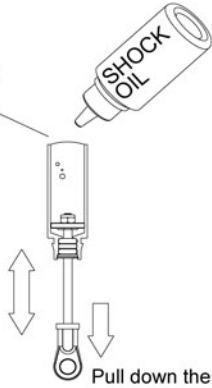
# 37 Shock



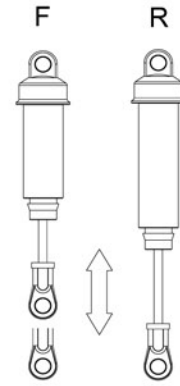
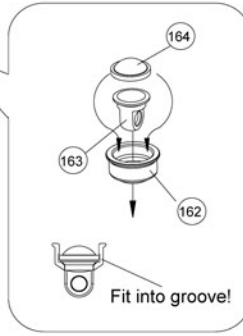
Use 35wt. oil on standard setting. **GS Racing Silicone Shock Oil** recommended!

Fill with oil to the top of the shock body.

Slowly move the piston up and down to get rid of the air bubbles.



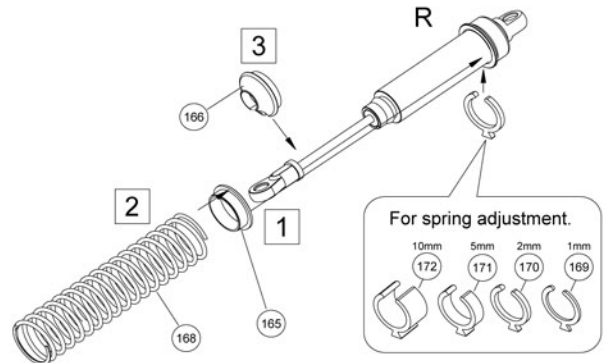
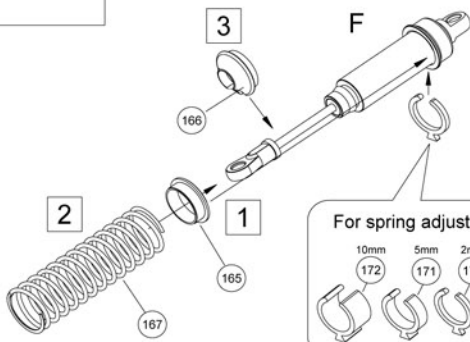
Pull down the piston.




The piston should move smoothly!



# 38 Shock



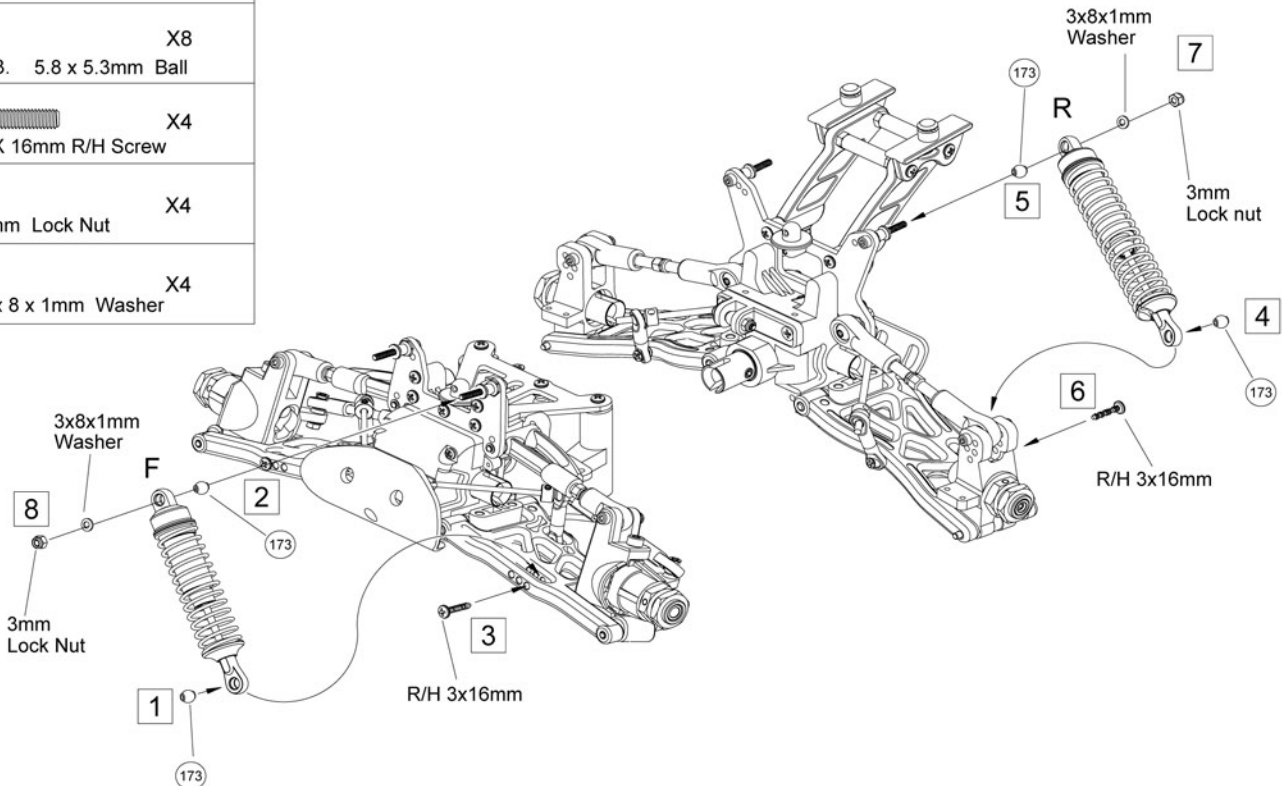
# 39 Shock


 X8  
173. 5.8 x 5.3mm Ball

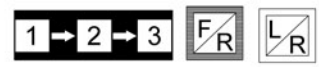
 X4  
3 X 16mm R/H Screw

 X4  
3mm Lock Nut

 X4  
3 x 8 x 1mm Washer



 Start to assembly the shocks on outside holes of both the front and rear shock towers and suspension arms!

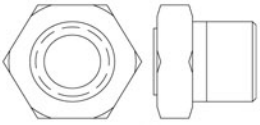


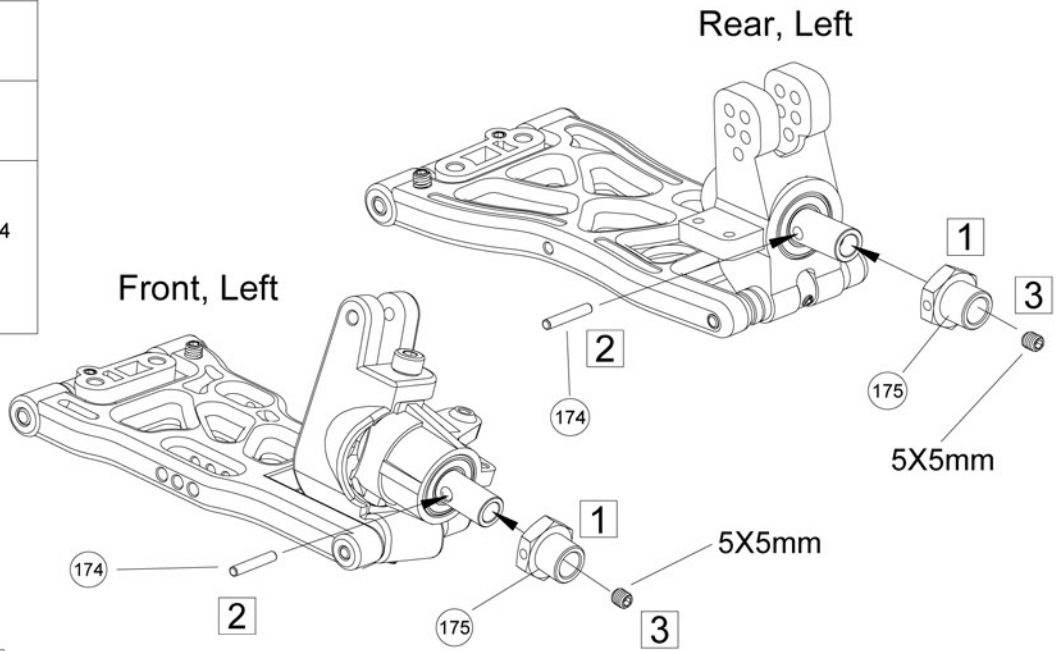
# 40 Wheel Hub

Assemble Right and Left Sides.

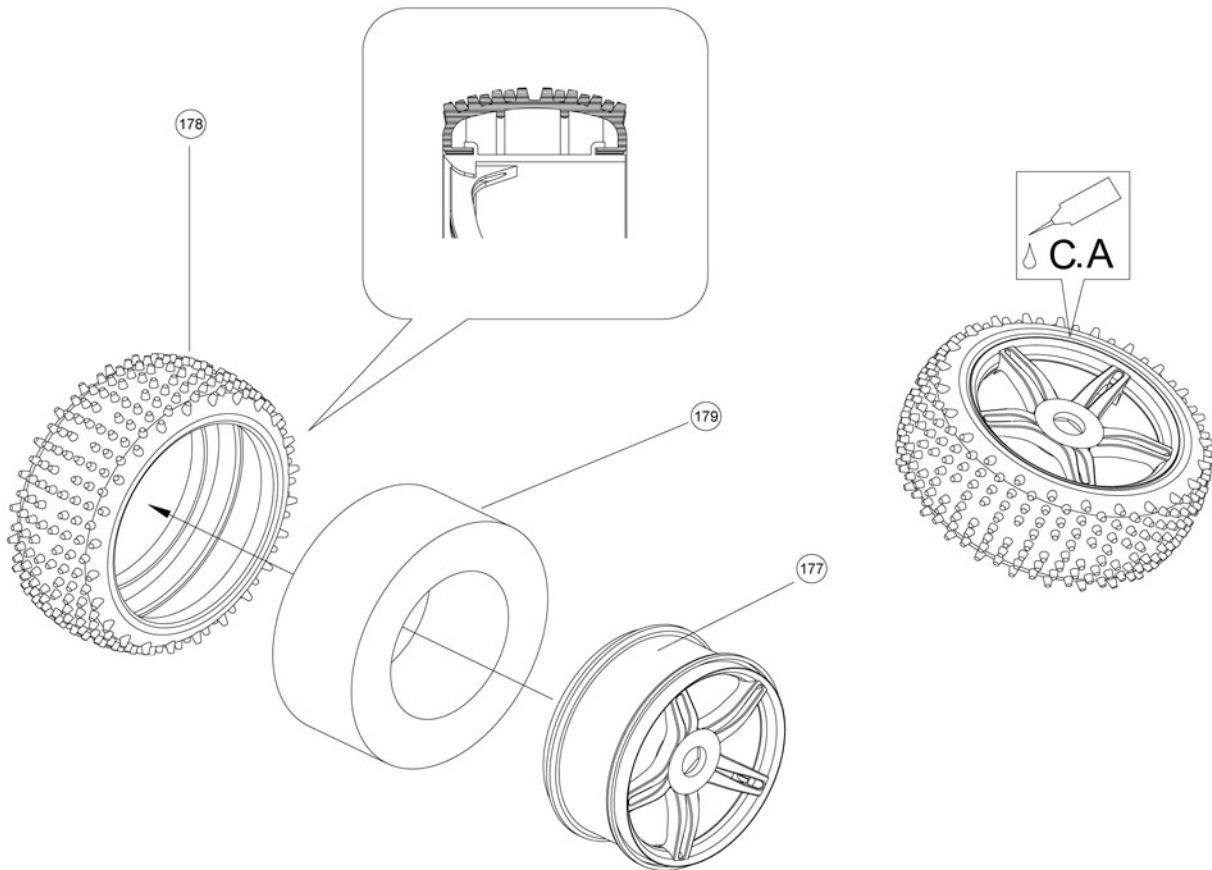
 X4  
174. Pin 3X16.8mm


 X4  
5 x 5mm Set Screw

 X4  
175. Wheel Hub

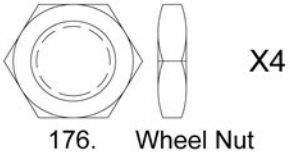


# 41 Tire & Wheel

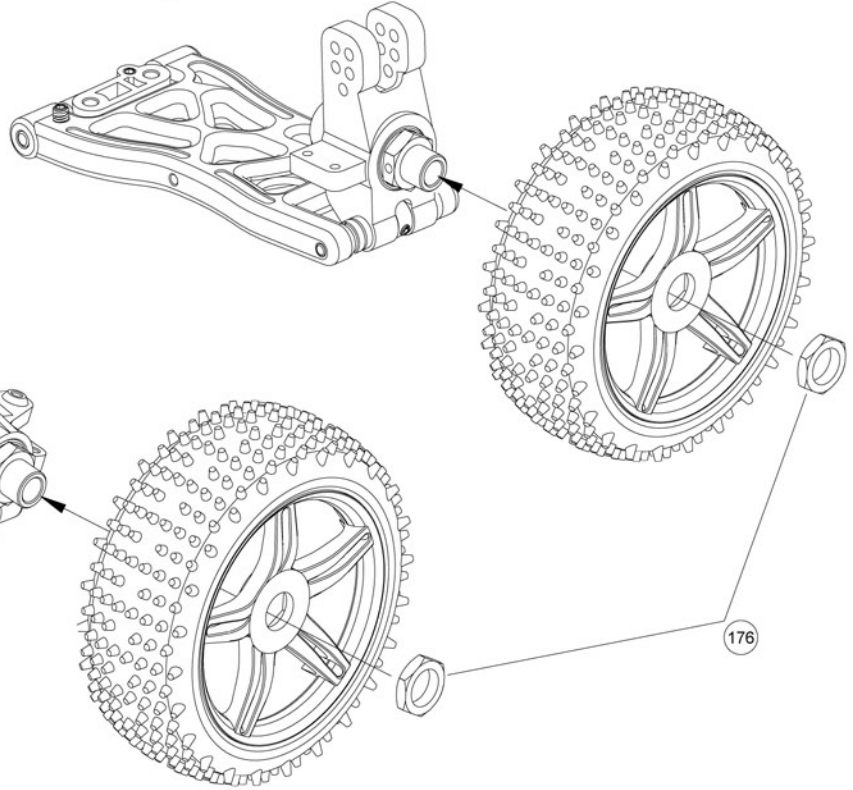


 Clean contact area of the wheels and tires with rubbing alcohol or window cleaner before gluing!

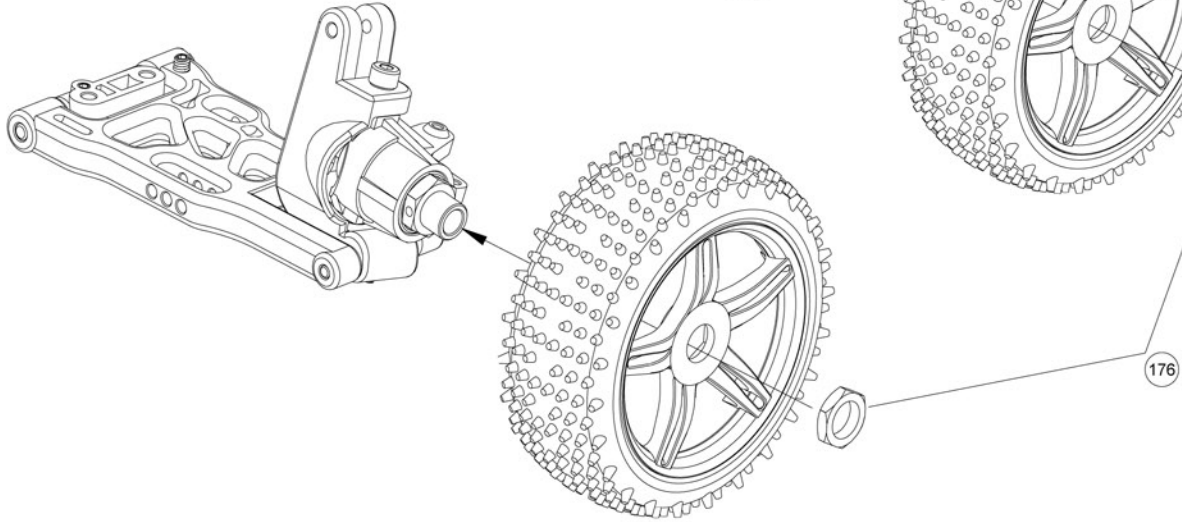
# 42 *Tire & Wheel*



Rear, Left

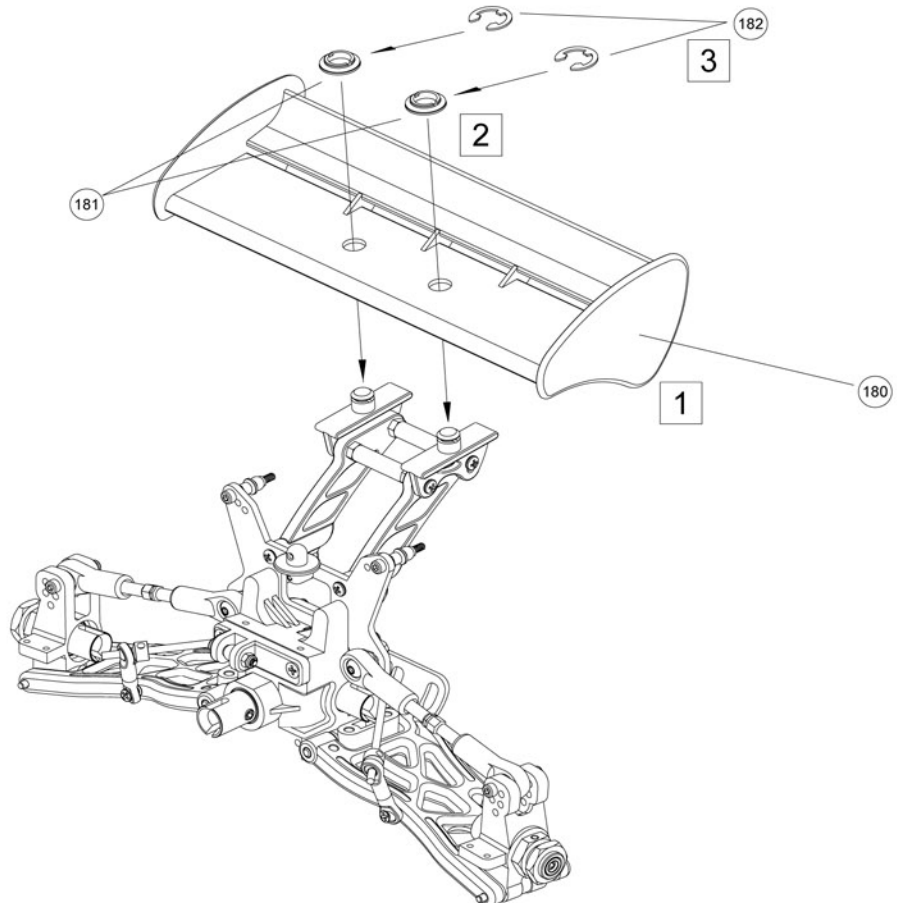


Front, Left



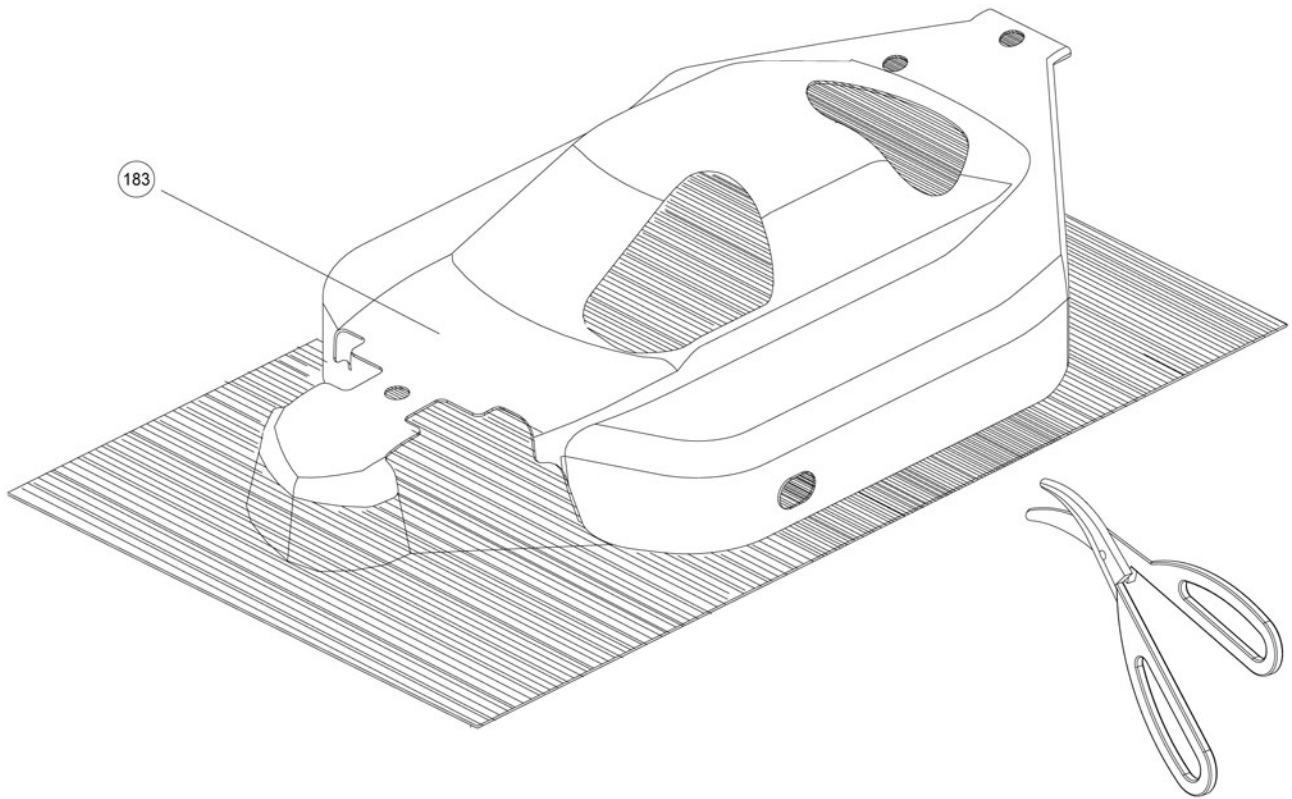
  Assemble Right and Left Sides.

# 43 *Wing*



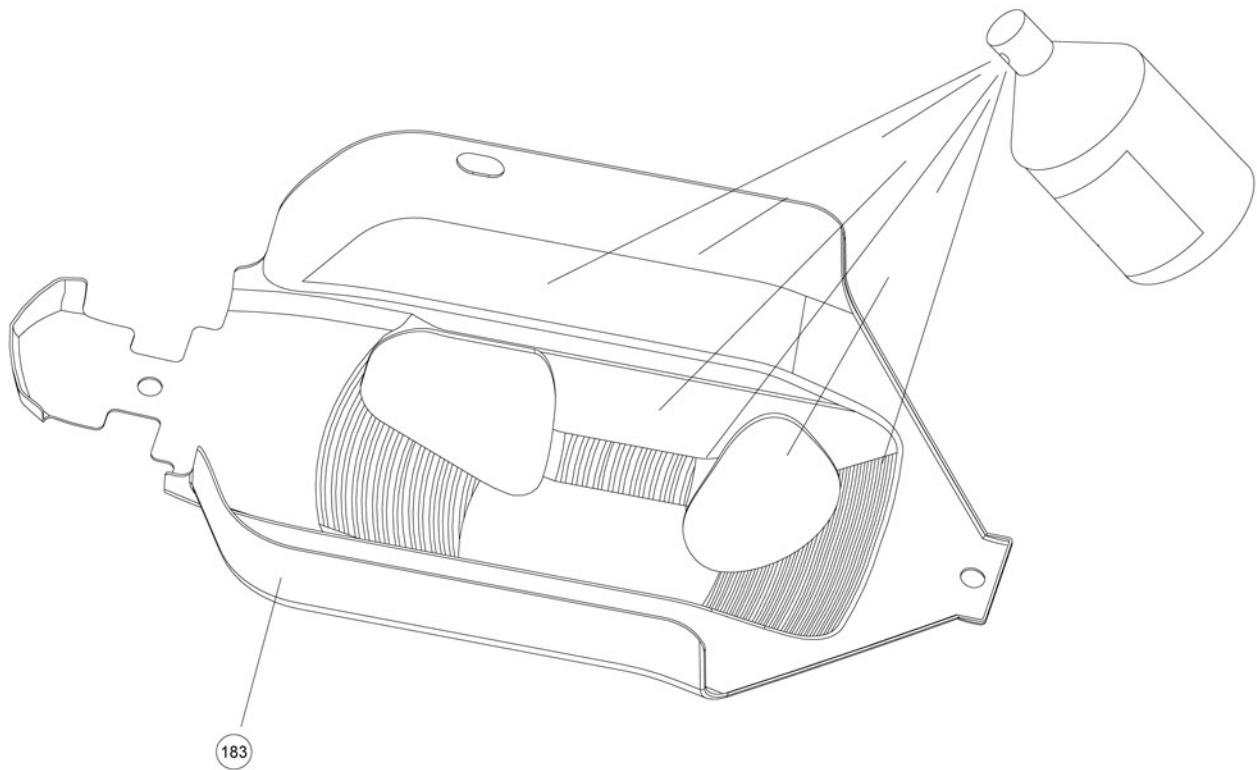
1 → 2 → 3

## 44 *Body*



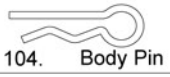
**!** Cut off shaded portion!

## 45 *Painting*



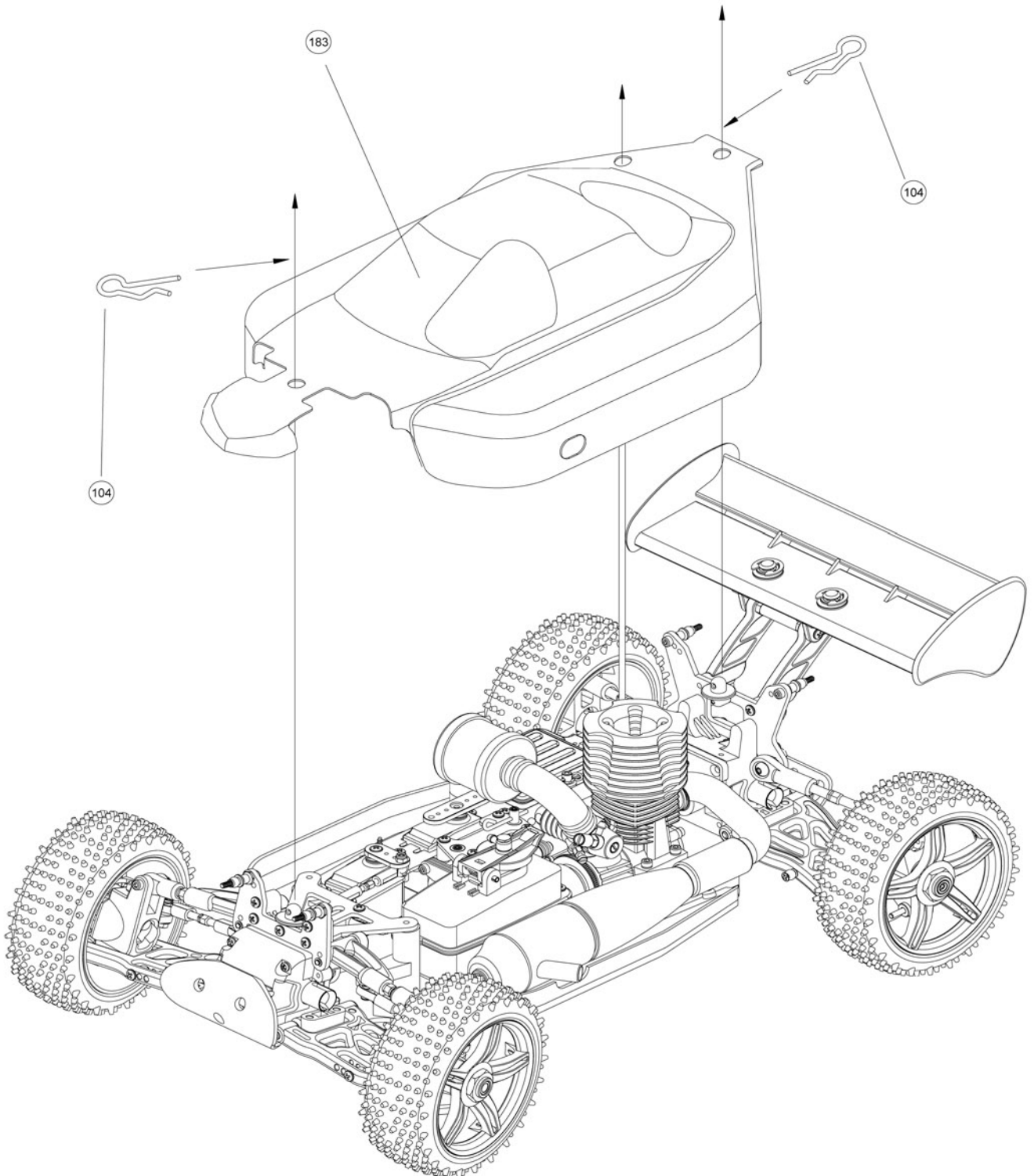
**!** Clean the inside of the body with warm water and dish soap before applying paint. Remove the protective film from the body shell after painting.

# 46 Body



X2

104. Body Pin



# ***Before You Run Your STORM***

## ***About Glow Fuel:***

The engines used for the GS Racing Storm require glow fuel. To get the proper fuel is very important for long engine life. Improper fuel can cause starting problems, poor performance, and excessive wear on the engines. There are many brands of glow fuels; however, they must meet the following requirements:

1. Use a popular name brand of glow fuel.
2. Try to keep the nitro (nitro methane) between 10% ~ 30%!
3. Do not use any type of airplane or helicopter fuels. The fuels for airplanes and helicopters may not have the necessary oil types and ratios needed for R/C cars.
4. Be careful not to purchase gasoline or kerosene by mistake. Both cannot be used! Also, be very careful when handling glow fuel, which is highly flammable and explosive!

## ***About Radio System:***

Read the instructions that come with your radio. You should understand the operation of your transmitter. Place eight AA batteries in the transmitter, and put four in the receiver pack (Ni-Cd battery pack for receiver is recommended!) It is important that all the batteries are fresh or fully charged.

Always check the path and the condition of the battery pack wires as well as the switch wires. A broken wire can cause a short circuit and lead to a loss of control.

**Always turn your transmitter on first and off last.** If you start your car before turning on your transmitter, you will lose control of the car and cause damage to property and your engine.

Test the following radio functions without the engine running:

1. Turn on the transmitter.
2. Turn on the car receiver battery pack switch. Both the steering and throttle servos should move to their respective neutral settings.
3. Turn the steering wheel on the transmitter left and right. The front wheels should turn left and right (when viewed from behind). Use the steering trim adjustment to set the neutral (wheels pointing straight ahead) setting on your car. If your servos are slow, check your batteries.
4. Pull the throttle trigger. The carburetor should open on the engine.
5. Push the throttle trigger open and forward. This will activate the brakes.
6. Use the throttle trim adjustment to set the neutral (carburetor closed, brakes starting to engage) setting on your car.
7. Hold the throttle open and roll the car on the ground. The car should roll freely. While it is still rolling, push on the brakes. The car should come to an immediate stop. If these steps do not produce these results refer to the linkage assembly setup in this manual.

## ***About the Carburetor:***

Let's check the carburetor linkage before you fire up the engine for the first time.

Pull off the air filter. Turn the transmitter on first, followed by the car.

With your finger off the throttle, which is the neutral position, the throttle should be almost closed, with an opening about 0.7 ~ 1mm.

Pull the throttle wide open and look into the carburetor and see if it's opening all the way up. If you don't see the gap, adjust the "Throttle End Point Adjustment" on your transmitter according to the radio manual, or adjust the linkage shown earlier in this manual to achieve full throttle. When everything is adjusted OK, turn the switch off in your car first, followed by your transmitter. You must remember to turn off your car's electronics everytime in this order.

Now, place the air filter back on your carburetor and fasten it with a tie wrap.



## ***Checklist before Running***

- Ensure all screws are securely tightened.
- Ensure all moving parts move without binding. Are they greased for non-binding movement?
- Install an oiled air filter. Ensure it is clean and not clogged.
- Ensure the fuel line is leak proof, with no cracks. Ensure it is not clogged.
- Ensure the muffler and exhaust are damage-free.
- Ensure the radio batteries are fresh. Ensure they are securely installed.
- Ensure servos and linkages move without binding.
- Ensure the area of operation is safe.
- Ensure no one is on your frequency.

## ***Break-in the Engine***

The break-in step is required for brand new engines. If you fail to properly break-in an engine, you will cause permanent and premature damage to your engine. Engine operation and tuning will become difficult and engine life will be shortened. During the break-in period, do not operate the engine at high rpm's!

Please check the following steps for breaking-in your engine.

1. Start the engine using either a Starter Box or Hand Starter.
2. Place the car on top of a stand with the wheels off the ground.
3. Slowly raise the throttle and check to make sure the tires spin and the brakes work.  
(If the tires do not spin at all, or they spin poorly, refer to the assembly instruction manual.)
4. Break-in the engine. 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, begin to run the car at low speeds. After each tank of fuel is consumed, tighten the main needle valve  $10^{\circ} \sim 20^{\circ}$ . Monitor engine temperature during this process. You want to slowly bring the temperature of the motor up to around 200F. Make sure there is plenty of smoke coming out of the exhaust. During this time you may need to adjust the idle and bottom end needle valves setting as well. Bottom end setting should be set so that the engine "blubbers" on take off. Idle should be just high enough to prevent the engine from shutting off.
5. Run the engine a total of 5 tanks of fuel to complete the brake-in.

# ***Engine Adjustment***

Adjust in the order 1, 2, and 3 after completing the break-in.

## **1. Needle Valve Adjustment (Top End R.P.M. Adjustment)**

- Start the engine and run your car until motor reaches operating temperature.  
NEVER MAKE NEEDLE VALVE ADJUSTMENTS UNTIL MOTOR REACHES OPERATING TEMPERATURE!
- Monitor the top speed of your car at full throttle. When tightening (leaning) the main needle valve 10° ~ 20° degrees, speed increases. As your car reaches top speed, the needle valve setting is optimal.
- Tightening the main needle valve further will cause a decrease in both engine rpm and exhaust emissions. Running the engine with this setting (too lean) will cause engine damage. Unscrew (richen) the needle valve at once. Note that for normal operation, unscrew the main needle valve 10° ~ 20° from the optimal setting position! Normal operating temperature for most motors is between 200F to 250F.

## **2. Idle Adjustment Screw (Idle R.P.M. Adjustment)**

- Set throttle position to neutral (carburetor in closed position.)
  - I. The engine stalls. --- Tighten by 1/8 ~ 1/4 turns.
  - II. The car rolls forward or idle is too high. --- Unscrew by 1/8 ~ 1/4 turns.
- Adjust the idle so the car will not speed off when the throttle is in neutral and the brakes are not applied.

## **3. Bottom End Adjustment Screw (Low end R.P.M.)**

- Allow motor to reach maximum rev's for 1 ~ 2 seconds then set throttle position to neutral (carburetor in closed position.)
  - I. Idle stays high for 5 ~ 6 seconds, then drops to normal idle, then shuts off.  
--- Tighten by 1/8 ~ 1/4 turns (bottom end too rich.)
  - II. Idle drops to normal then rises.  
--- Loosen by 1/8 ~ 1/4 turns (bottom end too lean)
- Adjust bottom end so that engine idles smooth for at least 30 seconds. Upon applying throttle, the engine should emit a good amount of exhaust smoke. After applying full throttle and returning to the neutral position, engine should return to normal idle within 1 ~ 3 seconds.

## ***IMPORTANT!***

NEVER run your nitro powered R/C cars without an oiled air filter on. The air filter is essential for keeping dirt out of the engine. The air filter should be inspected carefully every time you refuel. When the air filter starts to get dirty, do the following steps:

1. Clean the foam out with fuel or alcohol. Do this by pouring a small amount in a small can and kneading the filter in it. When the foam is clean, dispose of the fuel or alcohol properly.
2. Squeeze out the fuel with a paper towel until it's dry.
3. Apply the air filter oil around the filter, put the filter in a plastic bag and knead it until the filter is saturated, but not soaked.

# Maintenance

- Before storing your car away, draw out any fuel from the fuel tank.
- Next, restart the engine to combust remaining fuel. Leaving fuel inside the engine will make engine starting difficult and may cause rust to form. Apply after-run oil to the engine.
- Wipe off dirt and oil.
- Check all parts for loose screws.
- Grease all moving parts.
- Disconnect the receiver batteries.

## Operating Your Model Safely

### 1. Operate the model in open areas with no people around! Do not operate it:

- on public roads!
- in places where children and people are present!
- in residential districts and parks!
- indoors and in confined areas!

*Non-observance may account for personal injury and property damage!*

### 2. Always check the batteries in the transmitter and the battery pack for the receiver!

When the batteries get weak, the transmission and reception of the radio decrease. You may lose control of your model when operating it under such conditions. This may lead to accidents!

### 3. Keep in mind that people around you might also be operating a radio control model!

**Never** share the same frequency with somebody else at the same time! Signals will be mixed and you will lose control of your model. This may lead to accidents!

### 4. Always use approved ground frequencies!

### 5. When the model is behaving strangely...!

Immediately stop the model and check for the cause. As long as the problem is unclear, do not operate the car! This may lead to further trouble and unforeseen accidents!

### 6. Handle fuel outdoors only!

Fuel vapors and exhausts are toxic and are bad for your health!

### 7. Do not put fingers or any objects inside rotating and moving parts!

Parts rotate/move at high speeds, you may be seriously injured!

### 8. After using, do not touch equipment on the model such as the engine and muffler, because they generate high temperatures!

You may cause severe burns to yourself by touching them!

### 9. Use only glow fuel for this radio control model!

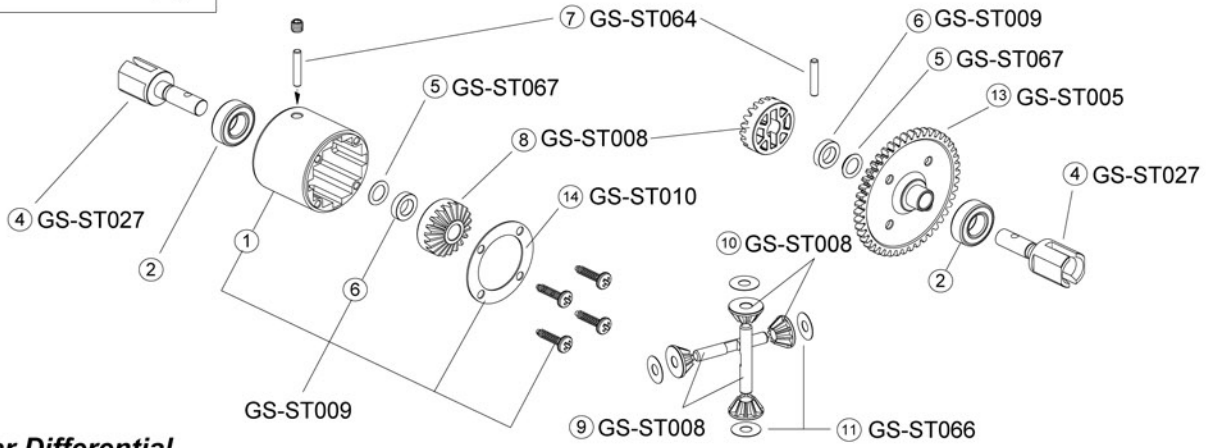
### 10. Fuel is highly flammable and explosive!

- Never use fuel indoors or in places with open fires and sources of heat!
- Store fuel in cool, dry and dark places. Keep out of children's reach! Shut the cap tightly!
- Do not dispose of empty fuel cans into a fire! There is danger of explosion.

### 11. Do not swallow fuel. Do not allow for contact to eyes, nose, face and ears!

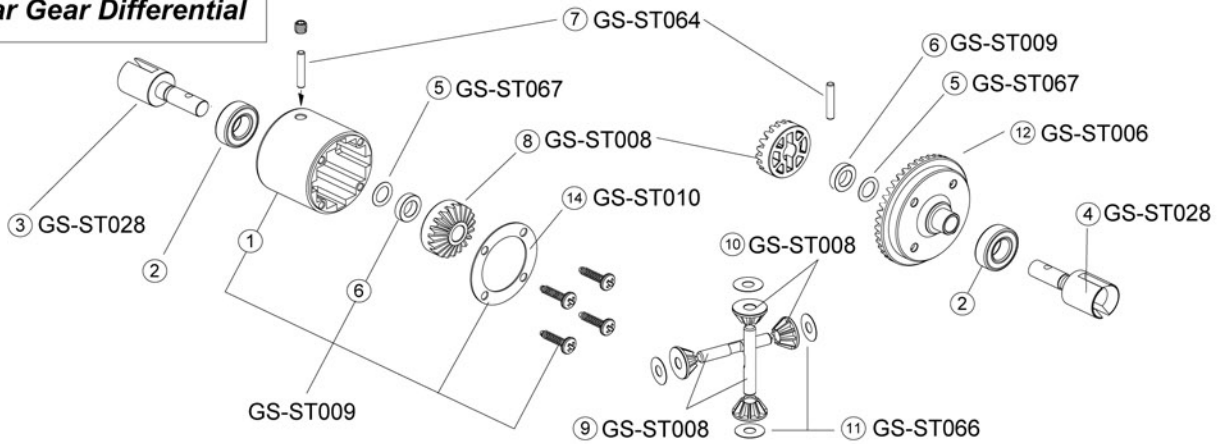
If fuel is swallowed, induce vomiting. If fuel gets into eyes, rinse them with water and seek medical help.

# EXPLODED VIEW (1)

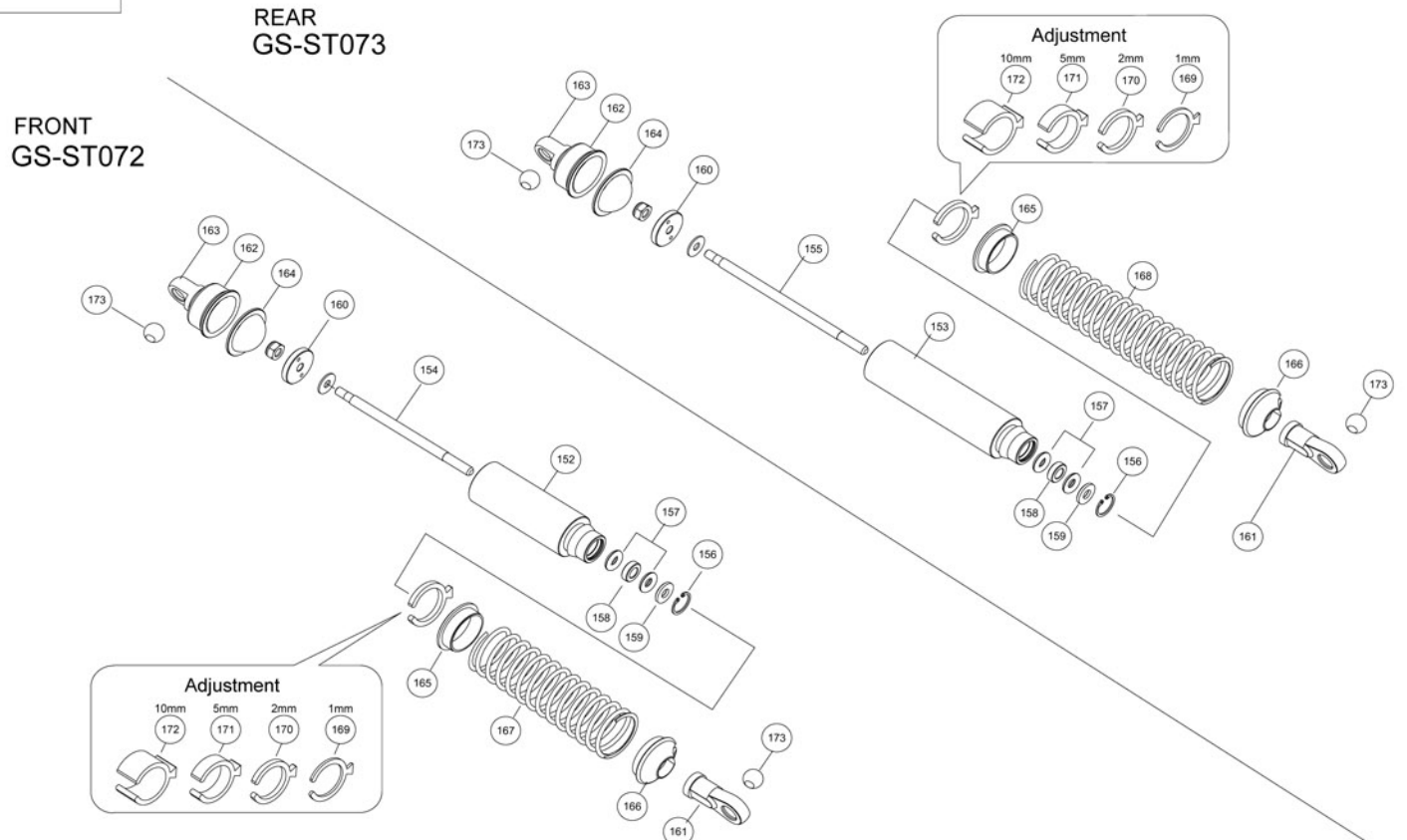


## Center Gear Differential

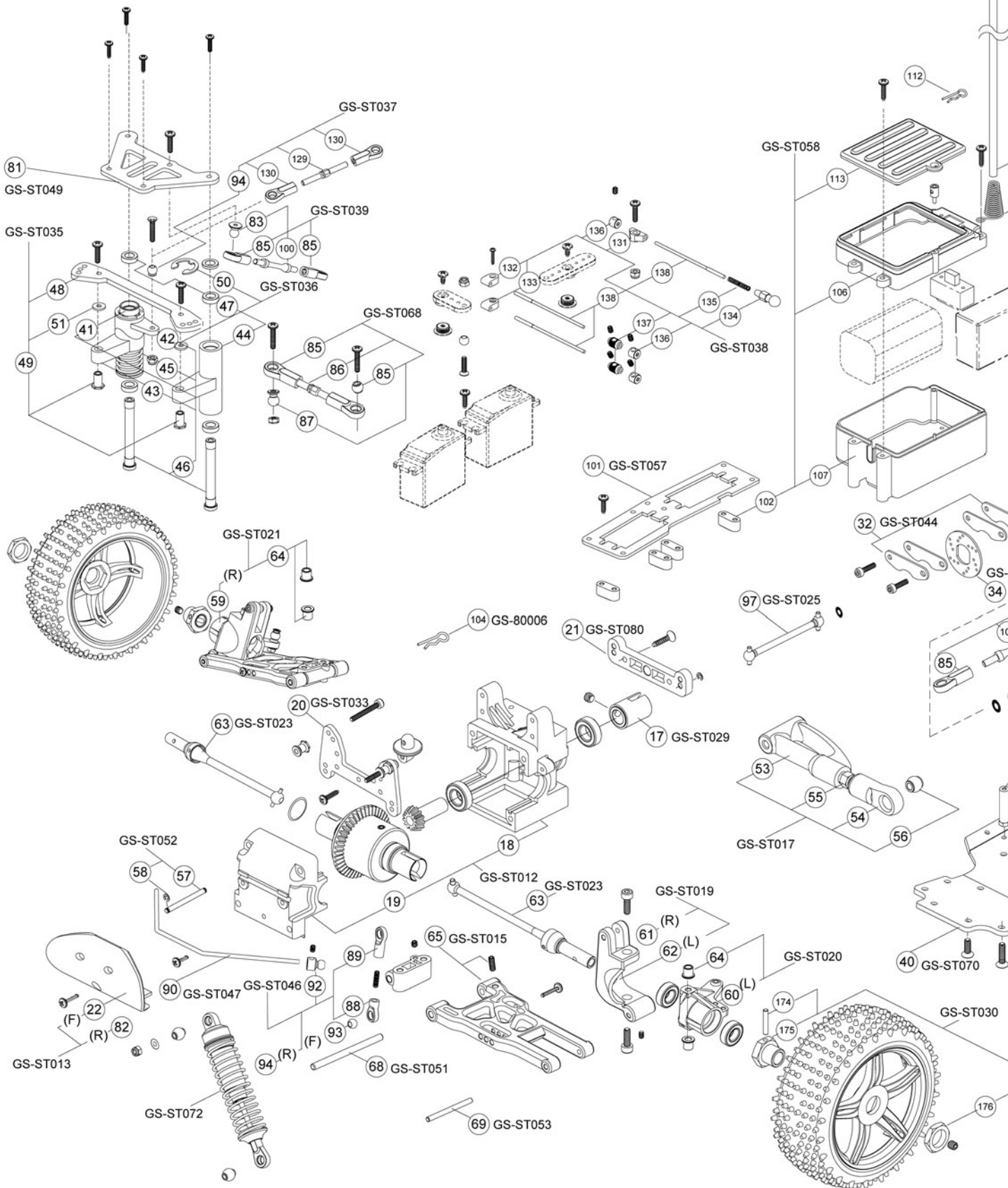
## Front/Rear Gear Differential

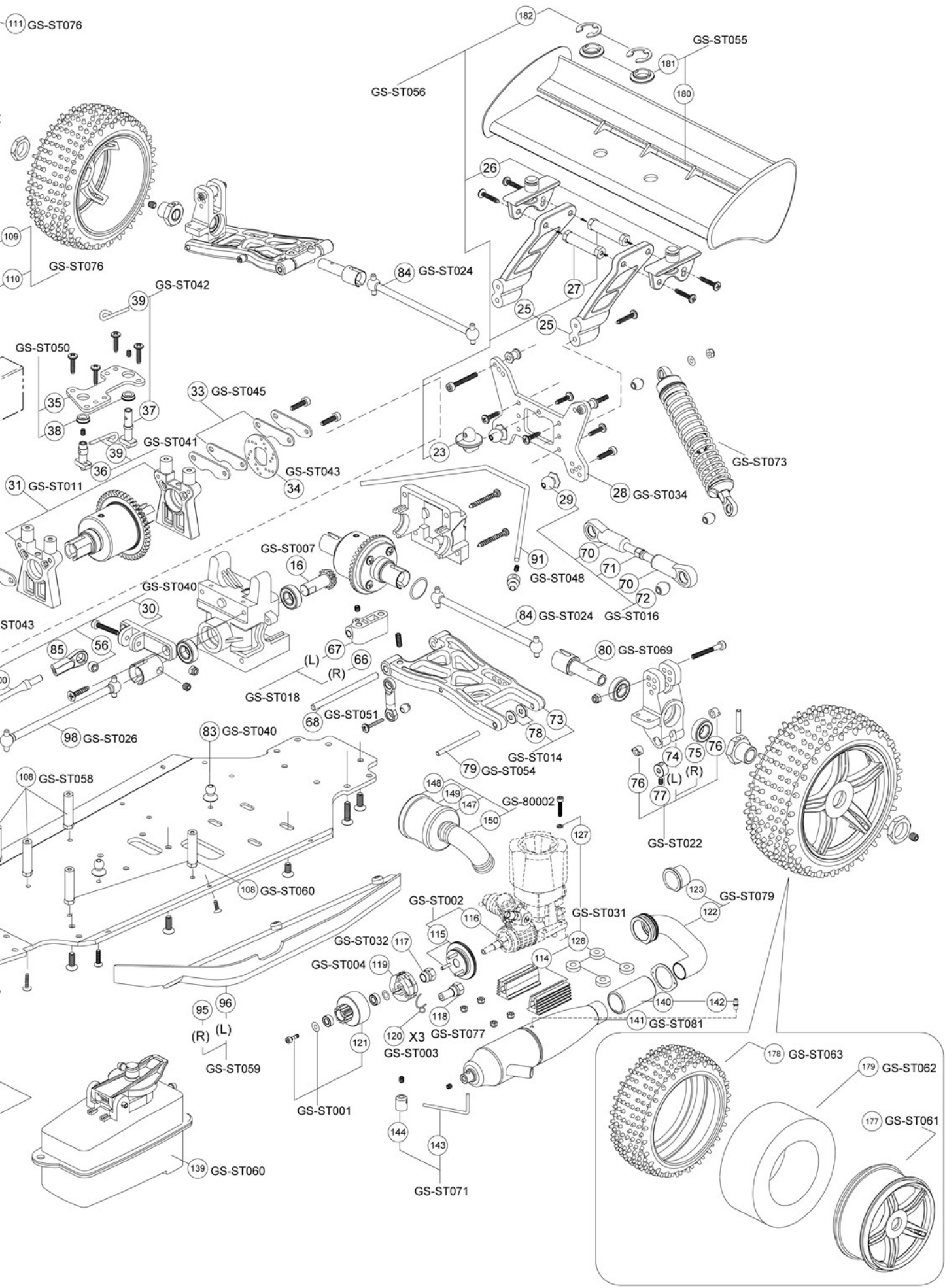


## Shock



# EXPLODED VIEW (2)







# STORM Set-up Sheet

Name of Driver		Date	Track		Engine
Fuel	Plug	Clutch Bell	Tire	Inner	Muffler
	/ No.	Teeth			

## Shock Set-up

Silicone Shock Oil Brand:

	Front	Rear
Shock Piston (Optional Parts)	φ 1.2mm X 2 holes	φ 1.2mm X 2 holes
	φ 1.2mm X 3 holes	φ 1.2mm X 3 holes
	φ 1.4mm X 2 holes	φ 1.4mm X 2 holes
Shock Oil	wt.	wt.
Shock Spring (rate)		
Spring Adjuster	mm	mm

## Wing Angle

Upper . Under

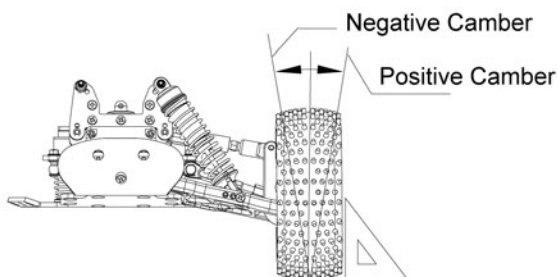
## Ground Clearance

	Front	Rear
Height	mm	mm



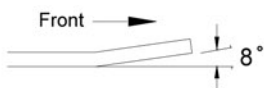
## Camber Angle

	Front	Rear
Camber Angle		



## Anti-squat

Front	A . B
Rear	A . B



Front, UP = 6°

Rear, UP = 1°

L-1

R-2

L-2

R-1

A



Front, UP = 10°

Rear, UP = 2°

2

1

1

2

B



## Steering Plate

A . B . C



## Shock Mounting Position

	Front	Rear
Shock Tower	I . C . O	I . C . O
Suspension Arm	I . C . O	I . C . O

I = Inside Hole  
C = Center Hole  
O = Outside Hole

## Diff. Gear Set-up

Silicone Diff. Oil Brand:

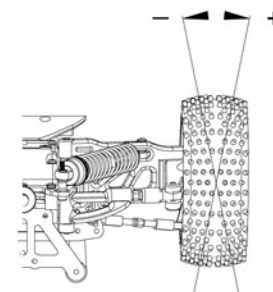
	Front	Center	Rear
Diff. Oil	wt.	wt.	wt.

## Toe Angle (Front)

	Front
Toe Angle	

## Toe Angle (Rear)

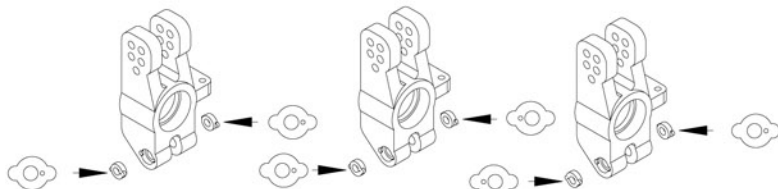
L	R	Rear
Toe Angle	A . B . C	



A=0.5°

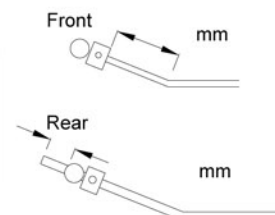
B=2°

C=3.5°



## Sway Bar

Front	Rear
φ	φ
mm	mm

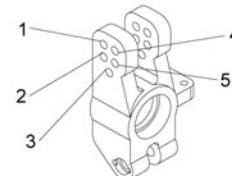
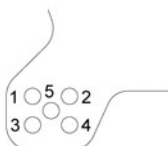


## Upper Arm Position

	Front	Rear
Shock Tower	Upper . Under	1 . 2 . 3 . 4 . 5
Hub Carrier		1 . 2 . 3 . 4 . 5

Rear Shock Tower

Rear Hub Carrier





# STORM Set-up Sheet

Name of Driver		Date		Track		Engine	
Fuel		Plug		Clutch Bell		Tire	
/ No.		Teeth				Inner	
						Muffler	

## Shock Set-up

Silicone Shock Oil Brand:

	Front	Rear
Shock Piston (Optional Parts)	φ 1.2mm X 2 holes	φ 1.2mm X 2 holes
	φ 1.2mm X 3 holes	φ 1.2mm X 3 holes
	φ 1.4mm X 2 holes	φ 1.4mm X 2 holes
Shock Oil	wt.	wt.
Shock Spring (rate)		
Spring Adjuster	mm	mm

## Wing Angle

Upper . Under

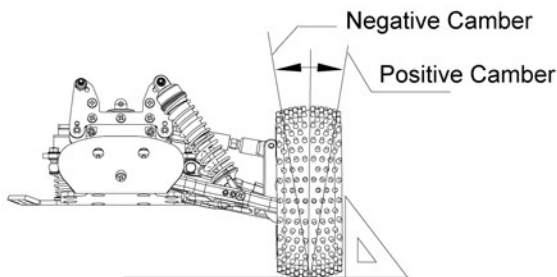
## Ground Clearance

	Front	Rear
Height	mm	mm



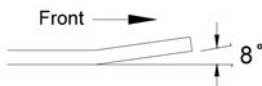
## Camber Angle

	Front	Rear
Camber Angle		



## Anti-squat

Front	A . B
Rear	A . B



Front, UP = 6°

Rear, UP = 1°

L-1

R-2

L-2

R-1

A



Front, UP = 10°

Rear, UP = 2°

2

1

1

2

B



## Steering Plate

A . B . C



## Shock Mounting Position

	Front	Rear
Shock Tower	I . C . O	I . C . O
Suspension Arm	I . C . O	I . C . O

I = Inside Hole  
C = Center Hole  
O = Outside Hole

## Diff. Gear Set-up

Silicone Diff. Oil Brand:

	Front	Center	Rear
Diff. Oil	wt.	wt.	wt.

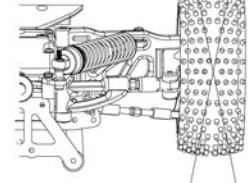
## Toe Angle (Front)

	Front
Toe Angle	



## Toe Angle (Rear)

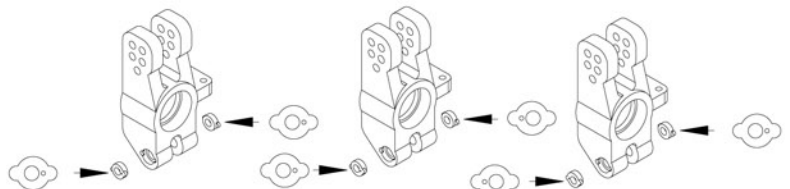
L	R	Rear
Toe Angle	A . B . C	



A=0.5°

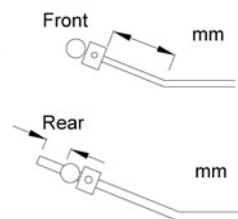
B=2°

C=3.5°



## Sway Bar

Front	Rear
φ	φ
mm	mm

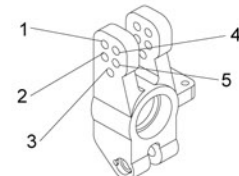
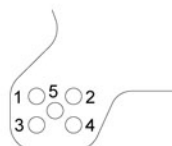


## Upper Arm Position

	Front	Rear
Shock Tower	Upper . Under	1 . 2 . 3 . 4 . 5
Hub Carrier		1 . 2 . 3 . 4 . 5

Rear Shock Tower

Rear Hub Carrier



# Parts Name List

Key No.	Part Name	Q'ty	Key No.	Part Name	Q'ty	Key No.	Part Name	Q'ty
001	Diff. Case	3	074	Rear Hub Carrier, Left	1	147	Air Filter Sponge Holder	1
002	Ball Bearing, 8 x 16 mm	18	075	Rear Hub Carrier, Right	1	148	Air Filter Cap	1
003	Diff. Outdrive, F/R	4	076	Rear Toe-in Adjuster	4	149	Air Filter Sponge	1
004	Center Diff. Outdrive	2	077	Stopper, 3 mm	2	150	Air Filter Adapter	1
005	O-ring, AS009	6	078	Spacer, Plastic	4	151	Nylon Tie Wrap, 2.5 x 98 mm	2
006	Bushing, 6 x 10 x 2.5 mm	6	079	Lower Suspension Hinge Pin, Short	2	152	Shock Body, Front	2
007	Pin, 2.5 x 13.8 mm	6	080	Rear Wheel Axle	2	153	Shock Body, Rear	2
008	Diff. Bevel, Large	6	081	Front Support Plate	1	154	Shock Shaft, 52 mm	2
009	Bevel Shaft	6	082	Rear Bumper	1	155	Shock Shaft, 61 mm	2
010	Diff. Bevel, Small	12	083	Torque Rod Ball, 6.8 x 10 mm	3	156	C-ring	4
011	Shim, 4 x 10 x 0.3 mm	12	084	Rear Drive Shaft	2	157	Silicone O-ring, P3	8
012	Crown Gear, Large	2	085	Ball End, 6.8 mm	8	158	Shock Collar, White	4
013	Steel Main Gear	1	086	Turnbuckle, 4 x 46 mm	2	159	Shock Collar, Black	4
014	Diff. Gasket	3	087	Pivot Ball, 6.8 x 9 mm	2	160	Shock Piston	4
015	Shim, 13.4 x 16 x 0.2 mm	4	088	Ball End, Medium, 5.8 mm	4	161	Ball End, 5.8 mm	4
016	Pinion Gear, Small	2	089	Ball End, Long, 5.8 mm	4	162	Shock Sealed End Cup	4
017	Drive Joint	2	090	Front Sway Bar	1	163	Shock End Cap	4
018	Bulkhead (B)	2	091	Rear Sway Bar	1	164	Silicone Shock Bladder	4
019	Bulkhead (A)	2	092	Stabilizer Ball, 5.8 x 11 mm	4	165	Spring Collar	4
020	Front Shock Tower	1	093	Ball, 5.8 x 4.6 mm	2	166	Spring Cup	4
021	Front Upper Suspension Holder	1	094	Pivot Ball, 5.8 x 5.4 mm	4	167	Shock Spring Set, Short	2
022	Front Bumper	1	095	Side Guard, Right	1	168	Shock Spring Set, Long	2
023	Body Mount	2	096	Side Guard, Left	1	169	Spring Adjuster, 1 mm	8
024	Shock Bushing	2	097	Front Center Drive Shaft	1	170	Spring Adjuster, 2 mm	8
025	Wing Stay	2	098	Rear Center Drive Shaft	1	171	Spring Adjuster, 5 mm	4
026	Upper Wing Stay	2	099	O-ring, P4	2	172	Spring Adjuster, 10 mm	4
027	Wing Joint, Plastic	2	100	Torque Rod	2	173	Ball, 5.8 mm	8
028	Rear Shock Tower	1	101	Radio Plate	1	174	Pin, 3 x 16.8 mm	4
029	Pivot Ball, 8.8 x 10 mm	2	102	Servo Mount	4	175	Wheel Hub	4
030	Rear Chassis Brace Holder	1	103	Transponder Stay	1	176	Wheel Nut	4
031	Center Diff. Mount	2	104	Body Pin, R8	3	177	Wheel	4
032	Brake Plate	4	105	Pin Holder	1	178	Tire	4
033	Brake Pad	4	106	Receiver Box A	1	179	Foam Tire Insert	4
034	Brake Disc, Steel	2	107	Receiver Box B	1	180	Nylon Wing	1
035	Center Diff. Support Plate	1	108	Fuel Tank Post	5	181	Wing Stay Spacer	2
036	Brake Cam, Front	1	109	Antenna Tube	1	182	E-clip, E-6	2
037	Brake Cam, Rear	1	110	Antenna Tube Holder	1	183	Body	1
038	Brake Cam Bushing, Flanged	2	111	Antenna Tube Cap	1	184	Decals	1
039	Brake Level	2	112	R-pin, R4	1		M3 x 12 Cap Screw	6
040	Chassis Plate, 6061 T6	1	113	Receiver Box Cap	1		M3 x 16 Cap Screw	4
041	Servo Saver Pipe	1	114	Engine Mount Set, 17 mm	2		M3 x 20 Cap Screw	1
042	Servo Saver Arm B	1	115	Flywheel	1		M3 x 23 Cap Screw	6
043	Servo Saver Arm C	1	116	Corn Collar	1		M3 x 25 Cap Screw	2
044	Servo Saver Arm A	1	117	Pilot Nut	1		M3 x 6 Cap Screw	1
045	Servo Saver Spring	1	118	Pilot Shaft	1		M4 x 12 Cap Screw	4
046	Servo Saver Shaft	2	119	Clutch Shoe	3		M3 x 12 Set Screw	4
047	Servo Saver Bushing, Plastic, 6x10mm	4	120	Clutch Spring	3		M3 x 4 Set Screw	17
048	Steering Plate	1	121	Clutch Bell, 13T	1		M4 x 12 Set Screw	4
049	Servo Saver Arm Bushing	2	122	Manifold	1		M4 x 4 Set Screw	9
050	E-clip, E-9	1	123	Silicone Exhaust Gasket	1		M5 x 5 Set Screw	6
051	Shim, 3 x 8 x 0.5 mm	7	124	Manifold Spring Holder	1		M2 x 13 RH/ST Screw	1
052	Shim, 5 x 7 x 0.2 mm	5	125	Manifold Holding Spring	1		M3.5 x 25 RH/ST Screw	8
053	Front Upper Suspension Arm	2	126	Ball Bearing, 5 x 10 mm	2		M3 x 12 F/H Screw	10
054	Ball End, 6.8 mm	2	127	Spring Washer	4		M4 x 12 F/H Screw	14
055	M5 x 25 Turnbuckle, Front Upper Arm	2	128	M4 Countersunk Aluminum Washer	4		M4 x 15 F/H Screw	8
056	Ball, 6.8 x 7 mm	5	129	Turnbuckle, 3 x 30 mm	1		M4 x 8 F/H Screw	5
057	Upper Suspension Hinge Pin, Front	2	130	Ball End, 5.8 mm	2		M3.5 x 16 FH/ST Screw	4
058	E-clip, E-2.5	4	131	Throttle Rod Support	1		M3 x 12 FH/ST Screw	2
059	Steering Knuckle, Right	1	132	Brake Rod Support, Upper	1		M3 x 8 FH/ST Screw	7
060	Steering Knuckle, Left	1	133	Brake Rod Support, Lower	1		M3 x 12 R/H Screw	6
061	Front Hub Carrier, Right	1	134	Throttle Rod End	1		M3 x 16 R/H Screw	8
062	Front Hub Carrier, Left	1	135	Linkage Spring	1		M3 x 8 RH/ST Screw	4
063	Universal Drive Shaft, Front	2	136	Stopper, 2 mm	4		M3 x 12 RH/ST Screw	44
064	Knuckle Collar	4	137	Adjuster Knob	2		M3 x 15 RH/ST Screw	14
065	Front Lower Suspension Arm	2	138	Throttle Rod	3		M3 x 18 RH/ST Screw	4
066	Lower Suspension Hinge Pin Holder, Left	2	139	Fuel Tank	1		M3 Nut	2
067	Lower Suspension Hinge Pin Holder, Right	2	140	Silicone Coupler	1		M2.5 Lock Nut	4
068	Lower Suspension Hinge Pin, Long	4	141	Muffler	1		M3 Lock Nut	18
069	Lower Suspension Hinge Pin, Short	2	142	Pressure Tap	1		Shim, 2.6 x 6 x 0.5 mm	4
070	Ball End, 8.8 mm	4	143	Muffler Stay Wire	1		Washer, 3 x 8 x 1 mm	6
071	M5 x 50 Turnbuckle, Rear Upper Arm	2	144	Muffler Stay	1			
072	Ball, 8.8 x 9 mm	2	145	Nylon Tie Wrap, 3.5 x 150 mm	2			
073	Rear Lower Suspension Arm	2	146	Silicone Fuel Tubing	1			

## Parts Name List (by Page No.)

Page No.	Key No.	Part Name	Q'ty	Page No.	Key No.	Part Name	Q'ty
6	1	Diff. Case	3	8 (countinued)		Washer, 3 x 8 x 1 mm	2
	2	Ball Bearing, 8 x 16 mm	3			M3 x 12 R/H Screw	2
	3	Diff. Outdrive, F/R	4			M4 x 12 F/H Screw	2
	4	Center Diff. Outdrive	2	9	53	Front Upper Suspension Arm	2
	5	O-ring, AS009	3		54	Ball End, 6.8 mm	2
	6	Bushing, 6 x 10 x 2.5 mm	3		55	M5 x 25 Turnbuckle, Front Upper Arm	2
	7	Pin, 2.5 x 13.8 mm	3		56	Ball, 6.8 x 6 mm	2
	8	Diff. Bevel, Large	6		57	Upper Suspension Hinge Pin, Front	2
	9	Bevel Shaft	6		58	E-clip, E-2.5	4
	10	Diff. Bevel, Small	12		2	Ball Bearing, 8 x 16 mm	4
	11	Shim, 4 x 10 x 0.2 mm	12		59	Steering Knuckle, Right	1
		M4 x 4 Set Screw	3		60	Steering Knuckle, Left	1
	2	Ball Bearing, 8 x 16 mm	3		61	Front Hub Carrier, Right	1
	5	O-ring, AS009	3	62	Front Hub Carrier, Left	1	
	6	Bushing, 6 x 10 x 2.5 mm	3	63	Universal Drive Shaft, Front	2	
	7	Pin, 2.5 x 13.8 mm	3	64	Knuckle Collar	4	
	12	Crown Gear, Large	2		M4 x 12 Cap Screw	4	
	13	Steel Main Gear	1	65	Front Lower Suspension Arm	2	
	14	Diff. Gasket	3	66	Lower Suspension Hinge Pin Holder, Left	1	
		M3 x 12 RH/ST Screw	12	67	Lower Suspension Hinge Pin Holder, Right	1	
2	Ball Bearing, 8 x 16 mm	4	68	Lower Suspension Hinge Pin, Long	2		
15	Shim, 13.4 x 16 mm	4	69	Lower Suspension Shaft, Short	2		
16	Pinion Gear, Small	2		M3 x 4 Set Screw	2		
17	Drive Joint	2		M4 x 4 Set Screw	2		
18	Bulkhead (B)	2		M4 x 12 Set Screw	2		
19	Bulkhead (A)	2	10	70	Ball End, 8.8 mm	4	
	M5 x 5 Set Screw	2		71	M5 x 50 Turnbuckle, Rear Upper Arm	2	
	M3.5 x 25 RH/ST Screw	8		72	Ball, 8.8 x 9 mm	2	
7	20	Front Shock Tower		1	2	Ball Bearing, 8 x 16 mm	4
	21	Front Upper Suspension Holder		1	66	Lower Suspension Arm Mount, Left	1
	22	Front Bumper		1	67	Lower Suspension Arm Mount, Right	1
	23	Body Mount		1	68	Lower Suspension Hinge Pin, Long	2
	24	Shock Bushing		2	73	Rear Lower Suspension Arm	2
		M3 x 12 RH/ST Screw		6	74	Rear Hub Carrier, Left	1
		M3.5 x 16 FH/ST Screw		2	75	Rear Hub Carrier, Right	1
		M3 x 23 Cap Screw	2	76	Rear Toe-in Adjuster	4	
	23	Body Mount	1	77	Stopper, 3 mm	2	
	25	Wing Stay	2	78	Spacer, Plastic	4	
26	Upper Wing Stay	2	79	Lower Suspension Hinge Pin, Short	2		
27	Wing Joint, Plastic	2	80	Rear Wheel Axle	2		
28	Rear Shock Tower	1		M3 x 4 Set Screw	2		
29	Pivot Ball, 8.8 x 10 mm	2		M4 x 4 Set Screw	2		
30	Rear Chassis Brace Holder	1		M4 x 12 Set Screw	2		
	M3 x 12 RH/ST Screw	5		M4 x 15 F/H Screw	8		
	M3 x 15 RH/ST Screw	6	11	81	Front Support Plate	1	
	M3.5 x 16 FH/ST Screw	2		82	Rear Bumper	1	
	M3 x 12 Cap Screw	2		83	Torque Rod Ball, 6.8 x 10 mm	2	
	M3 x 23 Cap Screw	2			M3 x 12 F/H Screw	2	
24	Shock Bushing	2			M4 x 12 F/H Screw	8	
8	31	Center Diff. Mount		2		M3 x 23 Cap Screw	2
	32	Brake Plate		4		M3 Lock Nut	2
	33	Brake Pad		4		M3 x 12 R/H Screw	2
	34	Brake Disc, Steel		2		M3 x 12 RH/ST Screw	2
		M3 x 12 Cap Screw		4	84	Rear Drive Shaft	2
	35	Center Diff. Support Plate	1		M3 x 25 Cap Screw	2	
	36	Brake Cam, Front	1		M3 Lock Nut	2	
	37	Brake Cam, Rear	1	12	56	Ball, 6.8 x 6 mm	2
	38	Brake Cam Bushing, Flanged	2		85	Ball End, 6.8 mm	4
	39	Brake Level	2		86	Turnbuckle, 4 x 40 mm	2
	M3 x 4 Set Screw	2	87		Pivot Ball, 6.8 x 9 mm	2	
	M3 x 12 RH/ST Screw	4			M3 x 16 R/H Screw	4	
40	Chassis Plate, 5052 T6 Aluminum Alloy	1			M3 Lock Nut	2	
41	Servo Saver Pipe	1			M3 Nut	2	
42	Servo Saver Arm B	1	88		Ball End, Medium, 5.8 mm	4	
43	Servo Saver Arm C	1	89		Ball End, Long, 5.8 mm	4	
44	Servo Saver Arm A	1	90		Front Sway Bar	1	
45	Servo Saver Spring	1	91	Rear Sway Bar	1		
46	Servo Saver Shaft	2	92	Stabilizer Ball, 5.8 x 11 mm	4		
47	Servo Saver Bushing, Plastic, 6 x 10 mm	4	93	Ball, 5.8 x 4.6 mm	2		
48	Steering Plate	1	94	Pivot Ball, 5.8 x 5.4 mm	2		
49	Servo Saver Arm Bushing	2		M3 x 4 Set Screw	4		
50	E-clip, E-9	1		M3 x 12 Set Screw	4		
51	Shim, 3 x 8 x 0.5 mm	2		M3 x 8 RH/ST Screw	4		
52	Shim, 5 x 7 x 0.3 mm	1		M3 x 15 RH/ST Screw	4		
	Shim, 6 x 8 x 0.8 mm	1					

# Parts Name List (by Page No.)

Page No.	Key No.	Part Name	Q'ty
13	95	Side Guard, Right	1
	96	Side Guard, Left	1
		M3 x 8 FH/ST Screw	6
	97	Front Center Drive Shaft	1
	98	Rear Center Drive Shaft	1
	99	O-ring, P4	2
		M4 x 12 F/H Screw	4
14	56	Ball, 6.8 x 6 mm	1
	83	Ball, 6.8 x 10 mm	1
	85	Ball End, 6.8 mm	4
	100	Torque Rod	2
		M3 x 12 R/H Screw	1
		M3 Lock Nut	1
		M3 x 20 Cap Screw	1
	101	Radio Plate	1
	102	Servo Mount	4
	103	Transponder Stay	1
104	Body Pin, R5	1	
	M3 x 12 RH/ST Screw	10	
15	105	Pin Holder	1
	106	Receiver Box A	1
	107	Receiver Box B	1
	108	Radio Plate Post, Plastic	3
	109	Antenna Tube	1
	110	Antenna Tube Holder	1
	111	Antenna Tube Cap	1
		M3 x 12 RH/ST Screw	3
		M3 x 15 RH/ST Screw	4
	112	R-pin, R4	1
113	Receiver Box Cap	1	
	M3 x 6 F/H Screw	1	
	M3 x 12 F/H Screw	6	
16	114	Engine Mount Set, 17 mm	2
	115	Flywheel	1
	116	Corn Collar	1
	117	Pilot Nut	1
	118	Pilot Shaft	1
	119	Clutch Shoe	3
	120	Clutch Spring	3
	121	Clutch Bell, 13T	1
	122	Manifold	1
	123	Silicone Exhaust Gasket	1
	124	Manifold Spring Holder	1
	125	Manifold Holding Spring	1
	126	Ball Bearing, 5 x 10 mm	2
	127	Spring Washer	3
	52	Shim, 5 x 7 x 0.3 mm	1
	51	Shim, 3 x 8 x 0.5 mm	1
		M3 x 16 Cap Screw	4
		M3 Lock Nut	4
		M3 x 26 Cap Screw	4
	128	M4 Countersunk Aluminum Washer	4
	M4 x 8 F/H Screw	4	
17	94	Pivot Ball, 5.8 x 5.4 mm	2
	129	Turnbuckle, 3 x 30 mm	1
	130	Ball End, 5.8 mm	2
		M3 x 12 F/H Screw	2
		M3 Lock Nut	2
	131	Throttle Rod Support	1
	132	Brake Rod Support, Upper	1
	133	Brake Rod Support, Lower	1
	134	Throttle Rod End	1
	135	Linkage Spring	1
	136	Stopper, 2 mm	2
	137	Adjuster Knob	2
	138	Throttle Rod	3
		M3 x 4 Set Screw	4
		M2 x 10 RH/ST Screw	1
		M3 x 12 R/H Screw	1
		M3 Lock Nut	1
	136	Stopper, 2 mm	2
	M3 x 4 Set Screw	2	
18	108	Fuel Tank Post	2
	139	Fuel Tank	1

Page No.	Key No.	Part Name	Q'ty
18 (continued)		M3 x 12 FH/ST Screw	2
		M3 x 12 RH/ST Screw	2
	140	Silicone Coupler	1
	141	Muffler	1
	142	Pressure Tap	1
	143	Muffler Stay Wire	1
	144	Muffler Stay	1
	145	Nylon Tie Wrap, 3.5 x 150 mm	2
	146	Silicone Fuel Tubing	1
		M4 x 8 F/H Screw	1
		M4 x 4 Set Screw	2
19	147	Air Filter Sponge Holder	1
	148	Air Filter Cap	1
	149	Air Filter Sponge	1
	150	Air Filter Adapter	1
	151	Nylon Tie Wrap, 2.5 x 98 mm	2
	M3 x 8 FH/ST Screw	1	
20	152	Shock Body, Front	2
	153	Shock Body, Rear	2
	154	Shock Shaft, 52 mm	2
	155	Shock Shaft, 61 mm	2
	156	C-ring	4
	157	Silicone O-ring, P3	8
	158	Shock Collar, White	4
	159	Shock Collar, Black	4
	160	Shock Piston	4
	161	Ball End, 5.8 mm	4
		Shim, 2.6 x 6 x 0.5 mm	4
		M2.5 Lock Nut	4
	162	Shock Sealed End Cup	4
	163	Shock End Cap	4
	164	Silicone Shock Bladder	4
	165	Spring Collar	4
	166	Spring Cup	4
167	Shock Spring Set, Short	2	
168	Shock Spring Set, Long	2	
169	Spring Adjuster, 1 mm	8	
170	Spring Adjuster, 2 mm	8	
171	Spring Adjuster, 5 mm	4	
172	Spring Adjuster, 10 mm	4	
173	Ball, 5.8 mm	8	
	M3 x 16 R/H Screw	4	
	M3 Lock Nut	4	
	Washer, 3 x 8 x 1 mm	4	
21	174	Pin, 3 x 16.8 mm	4
	175	Wheel Hub	4
		M5 x 5 Set Screw	4
	177	Wheel	4
	178	Tire	4
179	Foam Tire Insert	4	
22	176	Wheel Nut	4
	180	Nylon Wing	1
	181	Wing Stay Spacer	2
182	E-clip, E-6	2	
23	183	Body	1
24	104	Body Pin	2
	184	Decals	1

# Spare Parts List

Item No.	Part Name	Key No./Q'ty	Item No.	Part Name	Key No./Q'ty		
GS-ST001	Clutch Bell, 13T	121 x1	GS-ST022	(continued)	75 x1		
		52 x1, 3x8x1mm Washer x1			76 x4		
		3x6mm Cap Screw x1			77 x2		
GS-ST002	Flywheel Set	115 x1	GS-ST023	Universal Drive Shaft, Front (2)	3x4mm Set Screw x2		
		116 x2			63 x2		
GS-ST003	Clutch Spring	120 x3	GS-ST024	Rear Drive Shaft (2)	84 x2		
GS-ST004	Clutch Shoe	119 x3	GS-ST025	Front Center Drive Shaft	97 x1		
GS-ST005	Steel Main Gear, 46T	13 x1, 5 x1, 6 x1	GS-ST026	Rear Center Drive Shaft	98 x1		
GS-ST006	Crown Gear, Large	12 x1, 5 x1, 6 x1	GS-ST027	Center Diff. Outdrive (2)	4 x2		
GS-ST007	Pinion Gear, Small	16 x1	GS-ST028	Diff. Outdrive, F/R (2)	3 x2		
GS-ST008	Diff. Bevel Gear Set	10 x4	GS-ST029	Drive Joint (2)	17 x2		
		8 x2			5x5mm Set Screw x2		
		9 x2					
GS-ST009	Diff. Case Set	1 x1	GS-ST030	Wheel Hub Set (1)	175 x1		
		6 x1, 5 x1			176 x1		
		14 x1			174 x1		
		3x12mm RH/ST Screw x4			114 x2		
		4x4mm Set Screw x1			128 x4		
GS-ST010	Diff. Gasket	14 x2	GS-ST031	Engine Mount Set, 17mm	3x16mm Cap Screw x4		
GS-ST011	Center Diff. Mount Set	31 x2			4x8mm F/H Screw x4		
		4x12mm F/H Screw x4			3mm Lock Nut x4		
GS-ST012	Bulkhead Set (1)	19 x1			Spring Washer x4		
		18 x1	GS-ST032	Pilot Nut	117 x1		
		4x12mm F/H Screw x4	GS-ST033	Front Shock Tower	20 x1		
GS-ST013	Bumper Set	3.5x25mm RH/ST Screw x4	GS-ST034	Rear Shock Tower	3x12mm RH/ST Screw x4		
		22 x1			28 x1		
		82 x1			3x12mm RH/ST Screw x4		
GS-ST014	Rear Lower Suspension Arm (1)	3x12mm RH/ST Screw x1	GS-ST035	Steering Plate Set	48 x1		
		73 x1			49 x2		
		78 x2			3x12mm R/H Screw x2		
GS-ST015	Front Lower Suspension Arm (1)	4x12mm Set Screw x1	GS-ST036	Servo Saver Set	51 x2		
		65 x1			45 x1		
GS-ST016	Rear Upper Suspension Arm Set (2)	4x12mm Set Screw x1			44 x1		
		70 x4			42 x1		
GS-ST017	Front Upper Suspension Arm Set (2)	72 x2			43 x1		
		29 x2			47 x4		
		71 x2			46 x2		
		3x12mm Cap Screw x2			41 x1		
		3x25mm Cap Screw x2			50 x1		
		M3 Lock Nut x2			52 x2		
		54 x2			3x12mm R/H Screw x2		
53 x2	4x12mm F/H Screw x2						
GS-ST018	Lower Suspension Hinge Pin Holder (2)	55 x2			GS-ST037	Steering Linkage Set	94 x2
		56 x2					129 x1
		M3 Lock Nut x2					130 x2
		3x23mm Cap Screw x2	3mm Lock Nut x2				
GS-ST019	Front Hub Carrier Set (L/R)	66 x1	GS-ST038	Throttle Linkage Set	3x12mm F/H Screw x2		
		67 x1			138 x3		
		4x4mm Set Screw x2			136 x4		
GS-ST020	Steering Knuckle, Left	4x15mm F/H Screw x4	137 x2				
		61 x1	135 x1				
		62 x1	131 x1				
GS-ST021	Steering Knuckle, Right	3x4mm Set Screw x2	132 x1				
		60 x1	133 x1				
		64 x2	134 x1				
GS-ST022	Rear Hub Carrier Set	4x12mm Cap Screw x2	2x13mm RH/ST Screw x2				
		74 x1	3x12mm R/H Screw x1				
			3x4mm Set Screw x6				
			3mm Lock Nut x1				
			GS-ST039	Front Chassis Brace Set	100 x1		

# Spare Parts List

Item No.	Part Name	Key No./Q'ty	Item No.	Part Name	Key No./Q'ty		
GS-ST039	(continued)	83 x2	GS-ST058	(continued)	3x15mm RH/ST Screw x4		
		85 x2			3x8mm FH/ST Screw x1		
		3x12mm F/H Screw x1			3x12mm FH/ST Screw x6		
		3x12mm R/H Screw x1					
GS-ST040	Rear Chassis Brace Set	100 x1	GS-ST059	Side Guard Set	95 x1		
		56 x1			96 x1		
		83 x1			3x8mm FH/ST Screw x6		
		30 x1	GS-ST060	Fuel Tank Set	139 x1		
		85 x2			108 x2		
		3mm Lock Nut x1			3x12mm FH/ST Screw x2		
		3x12mm F/H Screw x1			3x12mm RH/ST Screw x2		
		3x20mm Cap Screw x1			GS-ST061	5-Spoke Wheel (2)	177 x2
		3.5x16mm FH/ST Screw x2			GS-ST062	Foam Tire Insert (2)	179 x2
GS-ST041	Brake Cam Set, Front	36 x1	GS-ST063	Tire (2)	178 x2		
		39 x1	GS-ST064	Pin, 2.5 x 13.8 mm (6)	7 x6		
		3x4mm Set Screw x1	GS-ST065	Shim, 5 x 7 x 0.2 mm (10)	127 x10, 56 x2		
GS-ST042	Brake Cam Set, Rear	37 x1	GS-ST066	Shim, 4.1 x 10 x 0.3 mm (10)	11 x10		
		39 x1	GS-ST067	O-ring, AS009 (6)	5 x6		
		3x4mm Set Screw x1	GS-ST068	Steering Turnbuckle Set (2)	86 x2		
GS-ST043	Brake Disc, Steel (2)	34 x2			87 x2		
GS-ST044	Brake Plate (2)	32 x2			85 x4		
		3x12mm Cap Screw x2			3x16mm R/H Screw x4		
GS-ST045	Brake Pad (10)	33 x10			3mm Lock Nut x2		
GS-ST046	Sway Bar Linkage Set	88 x2			3mm Nut x2		
		89 x2	GS-ST069	Rear Wheel Axle (2)	80 x2		
		92 x2			5x5mm Set Screw x2		
		93 x2	GS-ST070	Chassis Plate	40 x1		
		94 x2	GS-ST071	Muffler Holder Set	143 x1		
		3x4mm Set Screw x2			144 x1		
		3x12mm Set Screw x2			4x8mm F/H Screw x1		
		3x15mm RH/ST Screw x2			4x4mm Set Screw x1		
GS-ST047	Front Sway Bar	90 x1	GS-ST072	Front Shock Set (2)	162 x2		
GS-ST048	Rear Sway Bar	91 x1			164 x2		
GS-ST049	Front Support Plate	81 x1			152 x2		
GS-ST050	Center Diff. Support Plate Set	35 x1			154 x2		
		38 x2			161 x2		
		3x12mm RH/ST Screw x4			163 x2		
GS-ST051	Lower Suspension Hinge Pin, Long	68 x2			160 x2		
GS-ST052	Front Upper Suspension Hinge Pin (2)	57 x2			158 x2		
		E-clip, E-2.5 x4			159 x2		
GS-ST053	Front Lower Suspension Hinge Pin (2)	69 x2			165 x2		
GS-ST054	Rear Lower Suspension Hinge Pin, Short(2)	79 x2			166 x2		
GS-ST055	Nylon Wing Set	180 x1			169 x4		
		181 x2			170 x4		
GS-ST056	Wing Mount Set	25 x2			171 x2		
		26 x2			172 x2		
		27 x2			167 x2		
		182 x2	157 x4				
		3x18mm RH/ST Screw x6	173 x4				
GS-ST057	Radio Plate	101 x1	156 x2				
		3x12mm RH/ST Screw x3	51 x2				
		3x15mm RH/ST Screw x2	3x16mm R/H Screw x2				
GS-ST058	Radio Box Set	107 x1	3x23mm Cap Screw x2				
		106 x1	2.6x6x0.5mm Shim x2				
		103 x1	3mm Lock Nut x2				
		102 x4	2.5mm Lock Nut x2				
		108 x3	GS-ST073	Rear Shock Set (2)	162 x2		
		113 x1			164 x2		
		3x12mm RH/ST Screw x13			153 x2		
		112 x1			155 x2		
105 x1		161 x2					
			163 x2				



# Spare Parts List

Item No.	Part Name	Key No./Q'ty
GS-ST073	(continued)	160 x2
		158 x2
		159 x2
		165 x2
		166 x2
		169 x4
		170 x4
		171 x2
		172 x2
		168 x2
		157 x4
		173 x4
		156 x2
		51 x2
		3x16mm R/H Screw x2
		3x23mm Cap Screw x2
		2.6x6x0.5mm Shim x2
		3mm Lock Nut x2
		2.5mm Lock Nut x2
	GS-ST074	Body
GS-ST075	Decals	184 x1
GS-ST076	Antenna Stay Set	109 x1
		111 x1
		110 x1
GS-ST077	Pilot Shaft	118 x1
GS-ST078	Manifold Holder Set	124 x1
		125 x1

Item No.	Part Name	Key No./Q'ty
GS-ST079	Manifold Set	122 x1
		123 x1
		124 x1
		125 x1
GS-ST080	Front Upper Suspension Holder	21 x1
		3.5x16mm FH/ST Screw x2
GS-80006	Body Pin	104 x6
GS-100006	Ball End, 6.8mm, short	54 x4
GS-250044	Pivot Ball, 8.8x10mm	29 x4
GS-250045	Ball, 8.8x9mm	72 x4
GS-600153	Shim, 13x13.4x0.2mm	15 x10
GS-690003	Ball Bearing, 8 x16mm	2 x6
GS-900028	Ball, 5.8x4.6mm	93 x10
GS-900029	Pivot Ball, 5.8x5.4mm	94 x10
GS-900031	Ball, 6.8x7mm	56 x10
GS-ST002A	Corn Collar	116 x2
GS-ST009A	Bushing, 6x10x2.5mm	6 x6
GS-ST016A	Ball End, 8.8mm	70 x4
GS-ST016B	M5x50 Turnbuckle, Rear Upper Arm	71 x2
GS-ST017A	M5x25 Turnbuckle, Front Upper Arm	55 x2
GS-ST020A	Knuckle Collar	64 x4
GS-ST035A	Servo Saver Arm Bushing	49 x2
GS-ST036A	Servo Saver Shaft	46 x2
GS-ST056A	Body Mount	23 x2
GS-ST068A	Turnbuckle, 4x40mm	86 x2
GS-ST072A	Shock Body, Front	152 x2
GS-ST072B	Shock Shaft, 52mm	154 x2

**MEMO:**

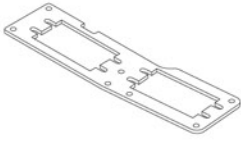
## ***Optional Parts List***

<b><i>Item No.</i></b>	<b><i>Part Name</i></b>
GS-STP01	Carbon Fiber Radio Plate
GS-STP02	Carbon Fiber Front Support Plate
GS-STP03	Carbon Fiber Center Support Plate w/Flanged Ball Bearings
GS-STP04	Aluminum Steering Plate w/Flanged Ball Bearings & Steering Pins
GS-STP05	Special Main Chassis Plate, 7075 T6 w/Hard Anodized & Teflon Coating, 394 mm
GS-STP06	Special Steering Knuckle, Right, T6 CNC Machined
GS-STP07	Special Steering Knuckle, Left, T6 CNC Machined
GS-STP08	Special Front Shock Tower, 7075 T6
GS-STP09	Special Rear Shock Tower, 7075 T6
GS-STP10	Special Front Upper Suspension Hinge Pin Holder, 7075 T6
GS-STP11	Special Lower Suspension Hinge Pin Holder Set, 3°, 7075 T6
GS-STP12	Special Lower Suspension Hinge Pin Holder Set, 1.5°, 7075 T6
GS-STP13	Adjustable Servo Saver Pipe Set
GS-STP14	Special Front Chassis Brace, 7075 T6
GS-STP15	Special Rear Chassis Brace Holder, 7075 T6
GS-STP16	Special Rear Chassis Brace, 7075 T6
GS-STP17	Universal Front Center Drive Shaft
GS-STP18	Universal Rear Center Drive Shaft
GS-STP19	Universal Rear Drive Shaft (2)
GS-STP20	Wheel Hub Nut Set w/Hard Anodized (2)
GS-STP21	Aluminum Post (3)
GS-STP22	Heat-sink Engine Mount Set
GS-STP23	Aluminum Wing Joint (2)
GS-123	High Performance Shock, Short (2)
GS-124	High Performance Shock, Medium (2)
GS-125	High Performance Shock, Long (2)
GS-25069	Special Shock Cap (2)
GS-25073	Shock Body, Hard Anodized w/Teflon Coating, Short (2)
GS-25074	Shock Body, Hard Anodized w/Teflon Coating, Medium (2)
GS-25075	Shock Body, Hard Anodized w/Teflon Coating, Long (2)
GS-25070	Special Shock Shaft, Short (2)
GS-25071	Special Shock Shaft, Medium (2)
GS-25072	Special Shock Shaft, Long (2)
GS-30022	Special P3 O-ring (10)
GS-68020	Spring Set, Short (6)
GS-68022	Spring Set, Medium (6)
GS-68024	Spring Set, Long (6)
GS-10063	Special Shock Piston Set (6)
GS-10060	Shock Accessories Kit
GS-34002	Silicone Shock Boot (4)



# Optional Parts

**GS-STP01**



Carbon Fiber Radio Plate

**GS-STP02**



Carbon Fiber Front Support Plate

**GS-STP03**



Carbon Fiber Center Support Plate w/Flanged Ball Bearings

**GS-STP04**



Carbon Fiber Steering Plate w/Flanged Ball Bearings & Steering Pins

**GS-STP05**



Special Main Chassis, 7075 T6 w/Hard Anodized & Teflon Coating

**GS-STP06**



Special Steering Knuckle, *Right*, T6 CNC Machined

**GS-STP07**



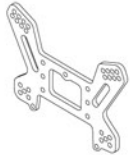
Special Steering Knuckle, *Left*, T6 CNC Machined

**GS-STP08**



Special Front Shock Tower, 7075 T6

**GS-STP09**



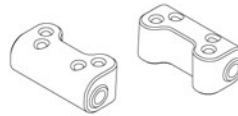
Special Rear Shock Tower, 7075 T6

**GS-STP10**



Special Front Upper Suspension Hinge Pin Holder, 7075 T6

**GS-STP11**



Special Lower Suspension Hinge Pin Holder Set, 3", 7075 T6

**GS-STP12**



Special Lower Suspension Hinge Pin Holder Set, 1.5", 7075 T6

**GS-STP13**



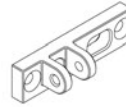
Adjustable Servo Saver Pipe Set

**GS-STP14**



Special Front Chassis Brace, 7075 T6

**GS-STP15**



Special Rear Chassis Brace Holder, 7076 T6

**GS-STP16**



Special Rear Chassis Brace, 7075 T6

**GS-STP17**



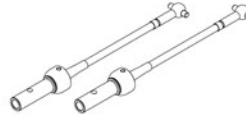
Universal Front Center Drive Shaft

**GS-STP18**



Universal Rear Center Drive Shaft

**GS-STP19**



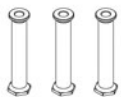
Universal Rear Drive Shaft (2)

**GS-STP20**



Special Wheel Hub Nut Set w/Hard Anodized (2)

**GS-STP21**



Aluminum Post (3)

**GS-STP22**



Heat-sink Engine Mount Set

**GS-STP23**



Aluminum Wing Joint (2)

**GS-123**



High Performance Shock, Short (2)

**GS-124**



High Performance Shock, Medium (2)

**GS-125**



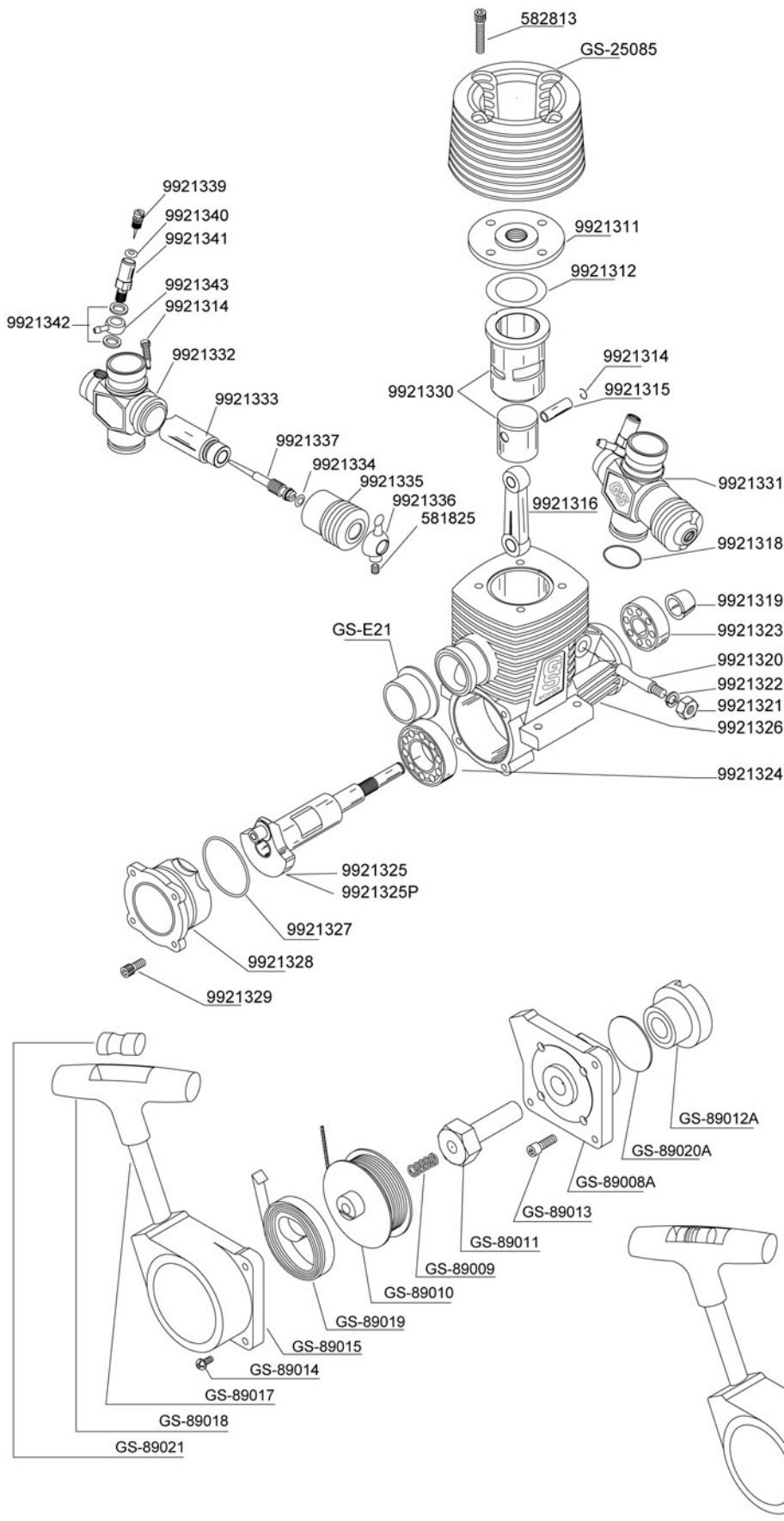
High Performance Shock, Long (2)

**GS-34002**



Silicone Shock Boot (4)

# GS 21B01(P) .21 Engine Spare Parts List



Item No.	Part Name
GS-21B01	Hi-torque Buggy Engine
GS-21B01P	Hi-torque Buggy Engine w/Pull-starter
GS-25085	Engine Cylindrical Head, Blue
582813	Cap Screw, 3 X 16mm
9921311	Combustion Chamber
9921312	Head Gasket, 0.1mm
9921313	Head Gasket, 0.2mm
9921314	Wrist Pin Clip
9921315	Wrist Pin
9921316	Connecting Rod
9921317	Outer O-ring for Carburetor, Small
9921318	Outer O-ring for Carburetor, Large
9921319	Cone Collar
9921320	Carburetor Lock Shaft
9921321	Carburetor Nut, 3.5 X 0.6mm
9921322	Washer, 3.5 mm, for Carburetor Nut
9921323	Ball Bearing, 7 X 19 X 6 mm, Front
9921324	Ball Bearing, 12 X 24 X 6 mm, Rear
9921325	Crankshaft, SG-type
9921325P	Crankshaft, SG-type, for Pull-starter
9921326	Crankcase
9921327	O-ring, for Rear Cover
9921328	Rear Cover
9921329	Cap Screw, 3 x 8mm, for Rear Cover
9921330	Piston/Sleeve Set
GS-E21	Silicone Exhaust Seal
GS-89005	Pull Starter Front Part Set
GS-89007	Pull Starter Rear Part Set
GS-89008A	Rear Cover Seat
GS-89009	Cushion Spring
GS-89010	Rope Pully
GS-89011	Shaft
GS-89012A	One-way Bearing
GS-89013	Cap Screw, 3 x 6mm
GS-89014	R/H Screw, 2.6 x 8mm
GS-89015	String Wheel Rear Cover
GS-89017	Silicone Tubing
GS-89018	Starting Shank
GS-89019	Eddy Spring
GS-89020A	O-ring Set, Complete
GS-89021	Starting String Cotter
<b>Carburetor Parts</b>	
9921331	Carburetor Set
9921332	Carburetor Body
9921333	Carburetor Throttle
9921334	O-ring, for Base Speed Needle
9921335	Dust Rubber Protection
9921336	Carburetor Ball Link
9921337	Base Speed Needle
9921338	Idle Screw
9921339	Full Speed Needle
9921340	O-ring, for Full Speed Needle
9921341	Full Speed Needle Support
9921342	Alum. Ring Set, for full Speed Needle
9921343	Intake Fuel Pipe
581825	Set Screw, 3 x 3mm



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