# **INSTRUCTION MANUAL**

# 1/8TH SCALE 4WD RADIO CONTROLLED NITRO POWERED OFF-ROAD BUGGY /OFF-ROAD TRUGGY

A. 1/8th scale off-road buggy

B. 1/8th scale off-road pro. buggy

#### **Specifications:**

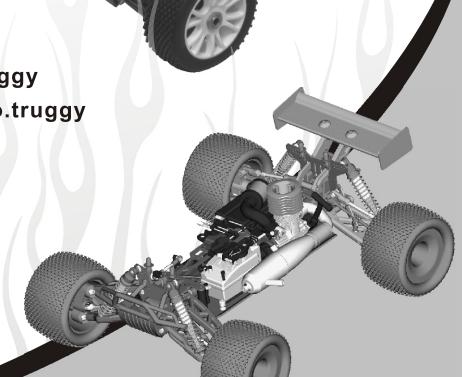
Overall Length	490mm
Overall Width	305mm
Height	190mm
Wheelbase	320~325mm
Front Wheel Track	258mm
Rear Wheel Track	261mm
Weight	3.3kgs
Gear Ratio	1:9.6
Wheel Diameter	115mm
Wheel Width	42mm
Ground Clearance	30mm



D. 1/8th scale off-road pro.truggy

### Specifications:

Overall Length	550mm
Overall Width	440mm
Height	190mm
Wheelbase	370mm
Front Wheel Track	270mm
Rear Wheel Track	274mm
Weight	4 kgs
Gear Ratio	1:13.02
Wheel Diameter	130mm
Wheel Width	85mm
Ground Clearance	42mm



#### Notes:

- ➡ The radio controlled racing models is not toy. It is suited for experienced operators. Read and understand the instructions carefully before operating or assembling your racing model.
- ⇒ Specifications are subject to change without prior notice, and actual received model may vary from the images and/or descriptions in this manual.



Congratulations on your purchase of this racing model. This models represents a new generation of 1/8 scale off-road buggy/off-road truggy. The models brings together years of racing experience to provide the best handling, most durable, and easiest to drive off road Ready-To-Run.

This manual contains all the basic instructions for assembly, operation, and maintenance. Please read and understand all instructions thoroughly before operating and building your model.

## Features:

- > Easy changeable wheelbase and vehicle body width
- > Suspensions provide quick multi-angle changes to permit the vehicle to perform on any racing surface.
- > Easy and quick user serviceable installation
- > Four disc brake system
- > Powerful shock protection performance
- > Solid steel gears and Differentials gears
- > Three Differentials and four wheel drive system
- > Blackened universal joint, chrome dogbones and ball head bearings
- ➤ Solid 6061/T6 anodized soild aluminium chassis
- > Lightweight engine, flywheel& solid universal joint cups
- > Good quality wheel rims&Cube-nailed tread tyres provides a long service period.
- > Soft plastic parts & high foam element air filter sponge
- > Front/rear metal sway bars
- > Leak proof fuel tank with the long overflowed pipe.
- > Oil filled shock absorbers

This is a high performance radio controlled model which needs to be operated withcaution and common sense. Failure to follow the safety instructions could result in personal injuries and/or property damage.

### **Important Safety Precautions**

- Replace the shield body after adjustment and before driving.
- ➤ Do not abruptly alter the speed during running.
- > Carefully check whether all screws or nuts are loose or not after running.
- ➤ Handle the fuel ONLY OUTDOORS!
- Never measure the fuel close to open fire or any source of heat.
- Never run the vehicle without a clean air filter installed.
- > Do not run the model lean and do not allow the engine to overheat.
- ➤ Use the special fuel for models.
- > Do not drink fuel or allow it to get into your eyes.
- > Store fuel in cool, dry and dark places away from Children's reach!
- > Tighten the cap of the fuel bottle when not used.
- Never throw the empty fuel bottle into fire! Otherwise, it may explode.
- > Do not put your finger or any object into the rotating or moving parts.
- > To avoid the danger of burns, do not touch the engine and muffler immediately after they have stopped running.
- ➤ Always check transmitter battery power. You may lose of control of your model due to low battery level.
- > Never operate your model at the same frequency with someone else. Failure to do so will casue signal confusion or even accidents.
- > In the event that the model behaves abnormally, stop running it and check.

  The model is not allowed to be used until all problems have been settled.
- ➤ Use a neutral cleaner and soft clothes to clean the model surface.

### **Before Starting Your Vehicle**

- Verify that all retainers are well fastened (screws, nuts, bolts and clips)
- Verify proper function of steering, drive-line and engine/braking control.
- Lubricate appropriately all bearings, bushings and maintain proper shock performance.
- Always run engine with a clean oiled air filter.
- Inspect fuel tank for cracks and/or kinks in silicone tubing. Correct problem if required.
- Inspect tune-pipe for damage; make sure it is well fastened to engine/chassis.
- Operate radio system with fully charged batteries; perform radio frequency/range check.
- Inspect terrain for hard/non-movable objects that may become a hazard for your vehicle.
- Provide adequate clearance between your vehicle and your observers.
- Do not operate in the presence of domestic animals (dogs and/or cats)
- Do not operate vehicle on public roads, or obtain adequate authorisation to permit usage.

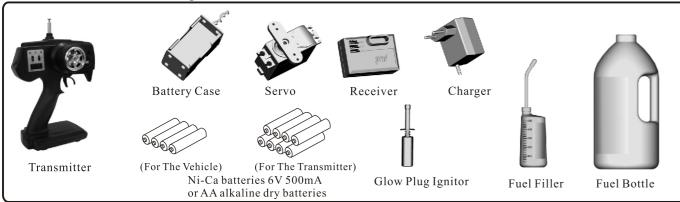
### Before assembling or operating your model...

Carefully read and understand all instructions before operating the vehicle.

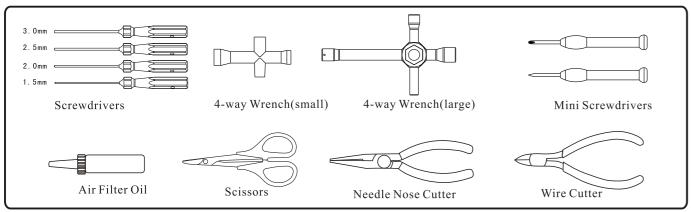
Correct adjustment of high speed needle and idle adjustment are required before operating your vehicle. Refer to carburetor adjustments before operating vehicle.

The following items (not included unless specified) are required to operate your vehicle and are available from your model dealer or the local hobby shop.

#### Additional Items For Running Your Model



#### Tools For Assembling Your Model



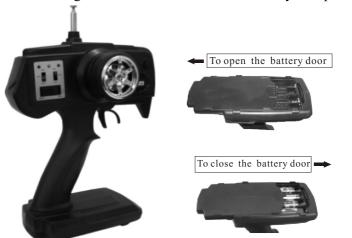
#### The following accessaries available from your model dealer are for optional purchase to faciliate your operations.



### Use of transmitter to control your vehicle...

#### Install the batteries in the transmitter

Insert the eight "AA" batteries into the battery compartment on the bottom of the transmitter.



#### **Battery Precaustions:**

- 1.In order to keep continue better performance under operations, we strongly recommend you to use the 1.5V alkaline batteries instead of the 1.2 V chargeable
- 2. The batteries may leak in the event that they are installed with wrong polarities.
- 3.Do not use batteries of different types.
- 4.Do not mix old and new batteries.
- 5.Do not leave the batteries if not in use for long periods.

#### The function switches on the transmitter

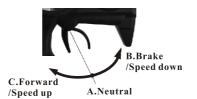


- 1.Antenna
- 2. Throttle Inching Control 7. Working Indicator (Throttle Trim)
- 3. Steering Inching Control 8. Steering Reverse Switch (Steering Trim)
- 4.Crystal
- 5. Throttle Trigger

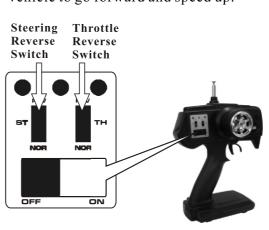
- 6. Power Switch

- 9. Throttle Reverse Switch
- 10.Steering Wheel

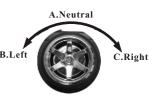
#### **Throttle Trigger**



- 1. Push the trigger forwards to allow the vehicle to speed down to brake.
- 2. Pull the trigger backwards to allow the vehicle to go forward and speed up.

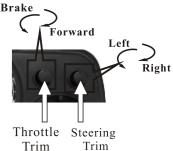


#### **Steering Wheel**



Turn the steering wheel to the left or right to let the vehicle turn left or right.

#### Throttle/Steering Trim



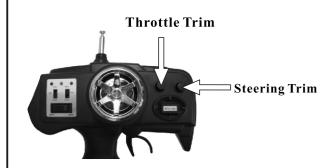
#### Throttle Trim

Inching adjust it to control brake or forwarding operation at Neutral (Idle) position.

#### **Steering Trim**

Inching adjust it to control steering (left/right)operation at Neutral (Idle) position.

If you are a reverse operator, set the steering/throttle switch to REV. Position first.



Throttle Trim is used to slightly trim the throttle servo when the trigger is at Neutral position.

Steering Trim is used to slightly trim the front wheels steering.

Note:

If the front wheels are not straight when the trigger is set at Neutral postion, you can adjust the steering trim to make them straight.

#### 2-Channel Radio System

Please read the following instructions before operating your vehicle. Servos must be centered before operating. Performance of vehicle will be affected if this procedure is not completed.

To perform initial servo adjustment, rotate both trim controls on transmitter to center position. Power on the transmitter then power on the receiver (switch is located on top cover) Servos are now centered, linkage adjustment can now be completed.

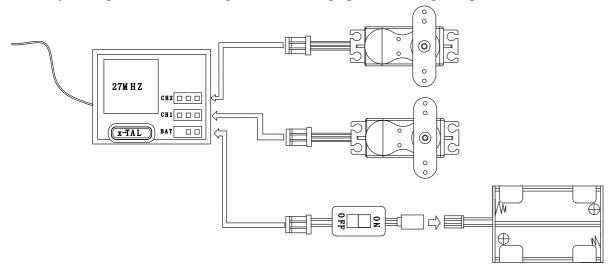
Steering linkage: With trim knob at center position front wheels should point in a straight ahead. If wheels point in either direction remove control horn from servo and center the wheels (along drive-line axis) replace control horn and observe corrections and re-adjust if necessary. Trim knob and servo are now centered, fine tuning of steering control can now be adjusted with steering trim knob on transmitter.

Throttle/Brake linkage: With trim knob at center position, throttle will be closed. If carburetor linkage is open at center position remove control horn from servo and center the linkage, replace control horn and observe corrections and re-adjust if necessary.

Trim knob and servo are now centered, fine tuning of throttle control can now be adjusted with steering trim knob on transmitter.

Brake adjustment is performed via the thumb wheel on the end of the throttle linkage, brakes should not be applied at neutral position (vehicle must free-wheel when trigger is released)

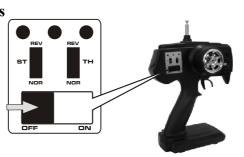
Before operating your new engine please perform required break in procedure otherwise performance and durability of engine shall be compromised. See page 7 for complete procedure.



#### Pre-Run Check

Please check your model before each driving.

1 Transmitter Switches

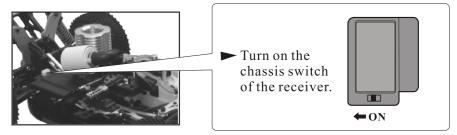


#### **A**Caution!

Make sure antenna is properly inserted and screwed in the transmitter. Antenna should be fully extended.

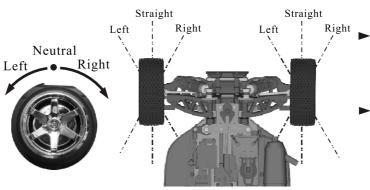
Performance and control range of transmitter may be affected.

2 Chassis Switch



### 3 Check Steering Performance

Operate the steering wheel to check if the front wheels move correctly.

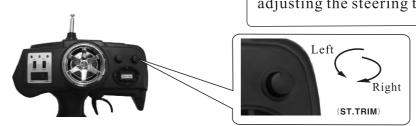


- ► The front wheel movement is controlled by the steering wheel.
- For instance: When moving the steering wheel to the left, the vehicle front wheels will also turn left.
- ► If the moving direction of the wheel is opposite to above mentioned, please change the Steering Reverse Switch position.



Gently lift up the front wheels while adjusting the steering trim.

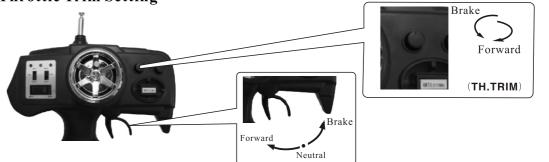


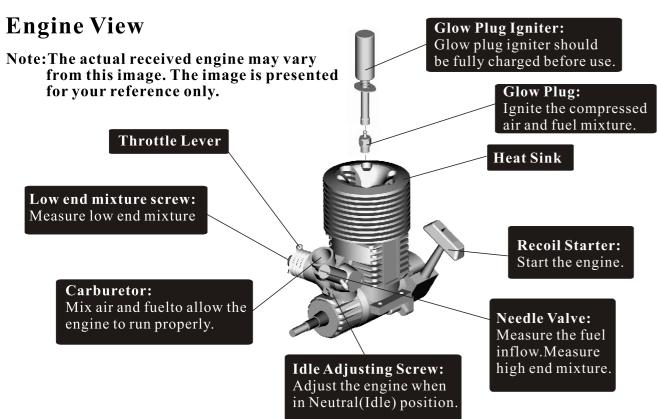


#### Note:

Adjust the steering trim to center the front wheels of the vehicle when the steering wheel is at center position.

5 Throttle Trim Setting





#### Note

The engine includes many high-precision parts. The original performance may be reduced due to incorrect operation or assembly and disassembly.

### **Engine Break In**

Many hobby type glow engines require a break in period to provide final adjustment of internal parts after manufacturing. This procedure is required and must be completed by you/the user. To prevent excessive initial wear on internal engine parts a rich air/glow fuel mixture is required to perform your engine break in.

### Very important procedure must be followed!!

Break-in period 2 and 1/2 turns from full closed position (4-5 tanks of 10-15% nitro/20% oil content) must be used to perform break in, do not run engine full throttle for long periods during break-in. Once break-in has been performed lean out engine to best performance (2 turns to 1 and 1/2 turns from full closed position) you must **always** observe a trace amount of oil smoke from tune-pipe, if you do not see any smoke **stop immediately** and re-adjust needle valve till smoke is observed.

Always perform needle valve adjustment first, and then perform idle adjustment on a warmed-up engine. Environment conditions may require further adjustments.

Clean-out engine and exhaust system by applying high throttle (3/4 throttle) for 2 seconds after adjustment to permit effectiveness of adjustment to be observed.

We **highly recommend** replacing the engine "Glow Plug" (part #70117) after you have completed the break-in.

It is of normal occurrence during the break-in that miniscule particles of metal adhere to the glow element. The particles of metal isolate the glow element and affect overall engine performance or short engine service time.

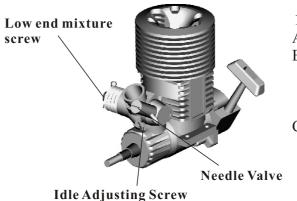
You may also be required to replace your glow plug during your break in procedure.

Normal nitro content: Once break-in has been performed 20% - 35%

Lubrication: We highly recommend a Premium glow fuel with a Synthetic/Castor blend of a minimum of 16% and maximum of 20% combined lubricant content.

### Engine Adjustment/Maintenance

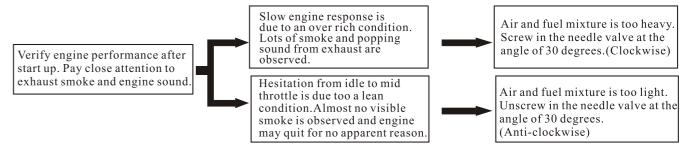
### Engine Adjustment



#### 1. Needle Valve Adjustment

- A. Start the engine to run your car
- B. Keep an eye on the current running speed when the car is running straight with the throttle control set to High. The speed will go up when you screw in the needle valve at an angle of 10 or 20 degrees.
- C. When continuing to screw the needle valve further in, the engine will overheat and subject to damage. If it is the case, immediately unscrew the needle valve at an angle of 10 or 20 degrees to allow the engine to return to normal running.

#### Acceleration from idle position.



#### 2. Low end Adjusting Screw

Low end adjusting screw is used to trim the air and fuel mixture to flow into the carburator.

#### 3. Idle Adjusting Screw

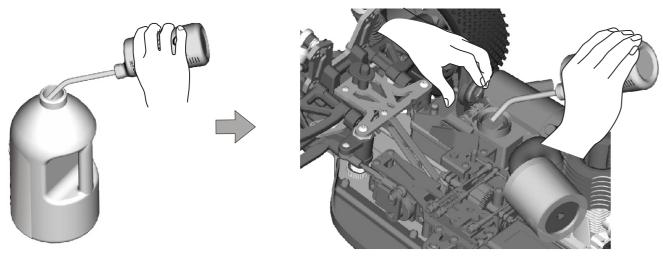
Idle adjusting screw is used to measure the air and fuel mixture to flow into the carburator when the engine is at Idle position.

### **Engine Maintenance**

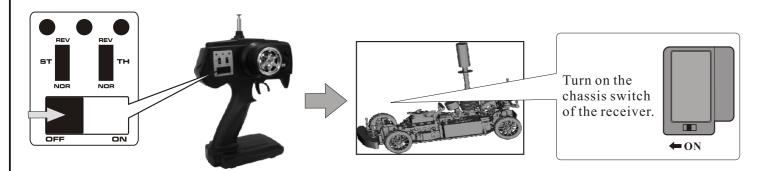
- 1.Empty fuel tank and fuel lines before storing your vehicle.
- 2.Use premium "After Run Oil" this lubricant is utilised for storing of your engine Observe manufacturers instructions.
- 3. Remove all dirt and debris from vehicle with small brush (tooth brush) and/or with compressed air (observe proper personal security when operating air equipment)
- 4.Inspect and adjust all moving parts for excessive play, if adjustment cannot remove all excessive play observe part integrity and replace if required.
- 5. Proper lubrication of all bearings and moving mechanism is necessary for proper operation.
- 6.Disconnect and inspect batteries for leakage, recharge as required, do not store vehicle with batteries in unit for prolonged periods.
- 7. Operating radio controlled devices in wet/damp conditions is not suggested, vehicle may lose traction abruptly, and vehicle may observe water infiltration in receiver compartment or in servos and loss of control of vehicle is imminent.

8

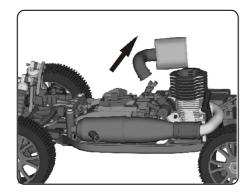
II Fill the fuel tank with fuel



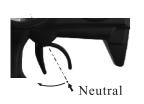
2 Switch on the transmitter, then the receiver.



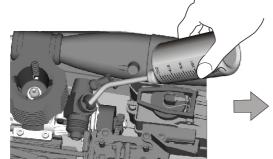
Remove the air filter.



4 Pull throttle trigger and add 2-3 drops of glow fuel in carburetor throat.



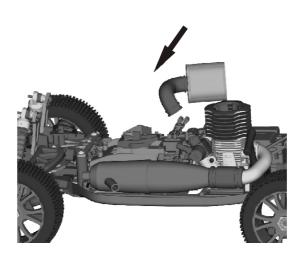
Pull the trigger back to accelerate to the Full speed.



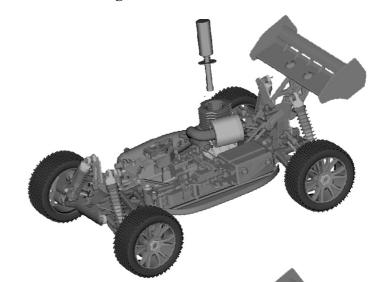


The throttle level returns to Neutral.

5 Attach the air filter



**6** Use the glow plug igniter to excite the engine



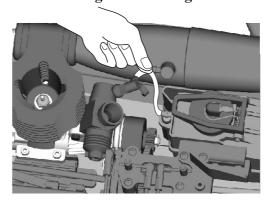
**7** Hold the car securely while pulling the recoil starter cord.

### **∆**Caution!

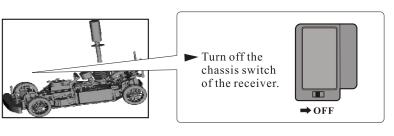
To avoid engine damage, never force hard to crank engine, remove glow plug and ventilate engine by pulling the pull cord a few times. Install glow plug and try starting.

#### STOP RUNNING THE ENGINE

1. Pinch fuel line with a peg to stop fuel from flowing into the engine.

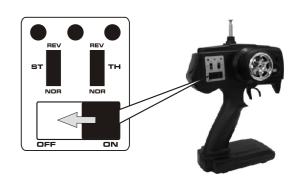


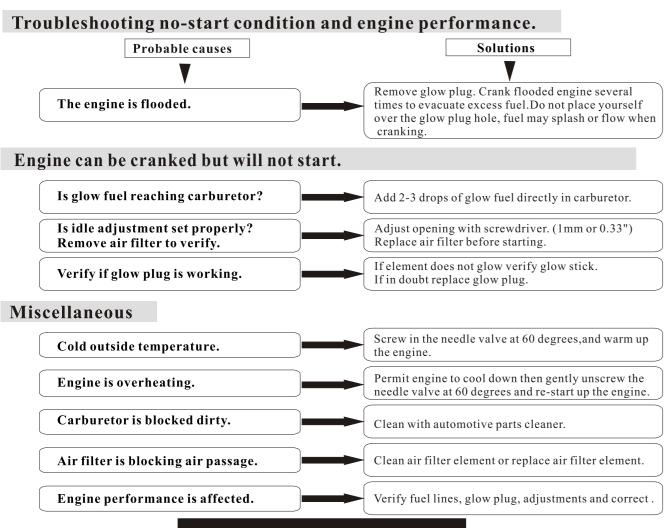
2. Turn off the receiver then the transmitter.





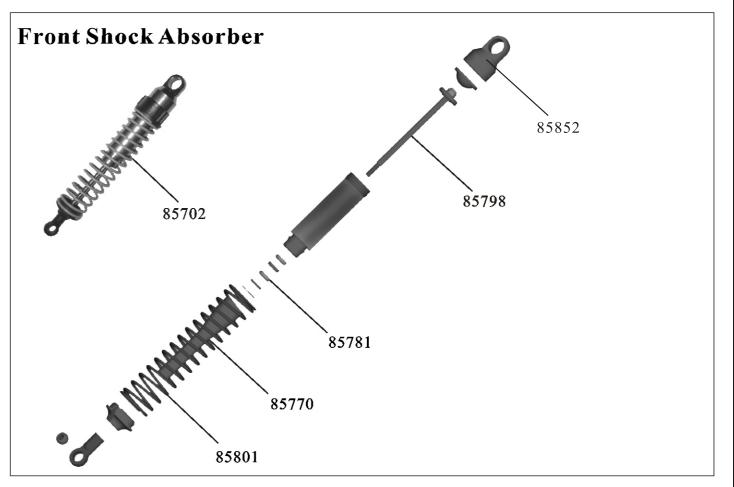
The engine, exhaust manifold and the tune-pipe are hot after running your vehicle and can burn your fingers. Do not touch any of these components immediately after runing. Permit them to cool down first.

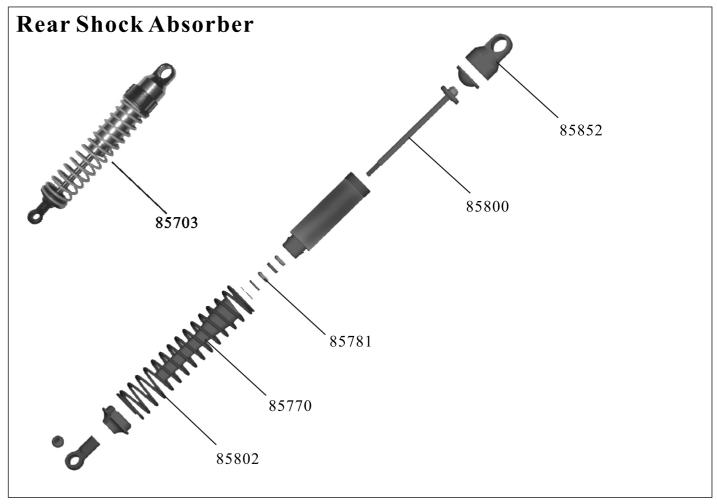


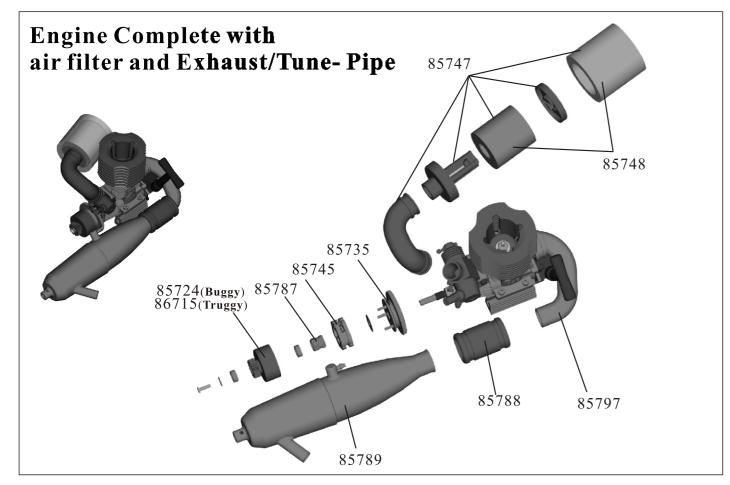


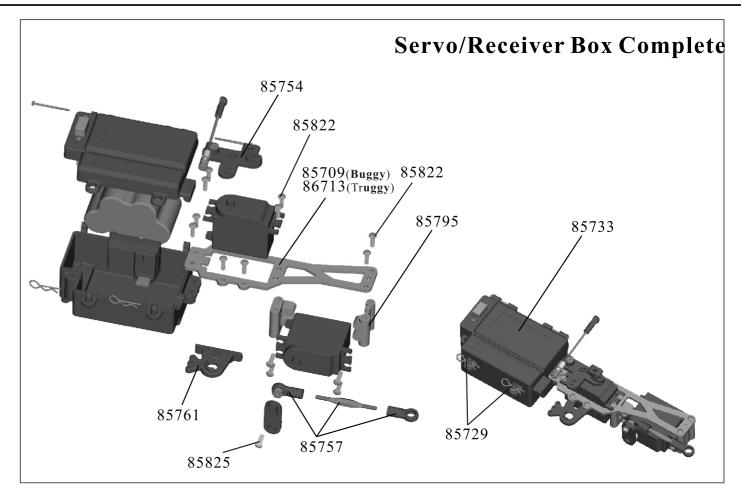
# TROUBLESHOOTING LIST

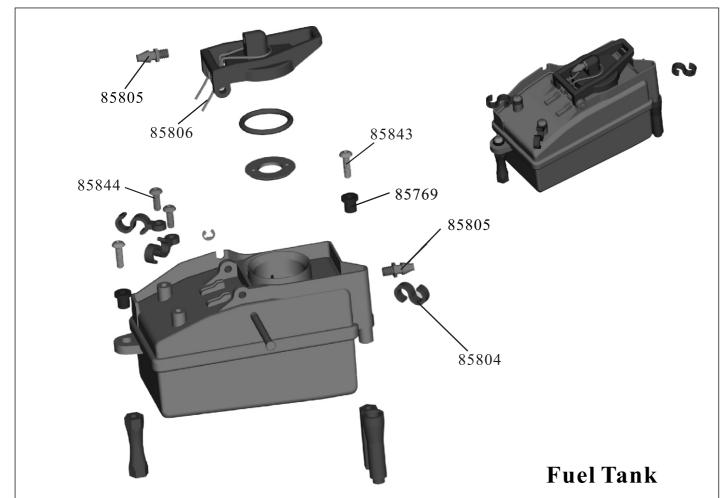
ISSUES	REASONS	SOLUTIONS
THE ENGINE FAILS TO START.	1. The fuel tank is empty or the carburetor is not primed properly.  2. The glow plug is bad or the batteries are dead.  3. The fuel lines, the air filter, or the muffler is clogged.  4. The engine is flooded.  5. The carburetor is not adjusted properly.  6. The servo linkage is not adjusted properly.	1. Fill the fuel tank up or prime the throttle. 2. Replace the glow plug or charge the batteries. 3. Clean or replace the clogged part(s). 4. Remove the glow plug and discharge fuel. 5. Set the Needle Valve/Low End Mixture Screw and the Idle Adjusting Screw to the Original position. 6. Set the servo to Neutral then re-adjust it.
THE ENGINE CAN START BUT STALL IMMEDIATELY.	<ol> <li>The fuel tank is empty.</li> <li>The fuel lines, the air filter, or the muffler is clogged.</li> <li>The carburetor is not adjusted properly.</li> <li>The engine is flooded.</li> </ol>	1.Fill up the fuel tank. 2.Clean or replace the clogged part(s). 3.Re-adjust Idle Adjusting Screw and Needle Valve/Low End Mixture Screw. 4. Allow the engine to thoroughly cool down and turn the Needle Valve open at the angle of 30 degrees.
POOR REACTION RESPONSE ON THE ENGINE.	1. The carburetor is not adjusted properly.     2. Low fuel pressure level was found on the muffler.	1.Re-adjust Needle Valve/Low End Mixture     Screw.      2.Install the pressure line from the muffler to the fuel tank correctly.
THE VEHICLE BECOMES DIFFICULT TO CONTROL.	1. The batteries on the transmitter/receiver are weak.      2. Radio antenna performs bad receptions.      3. The servo linkage is not adjusted properly.	Replace or charge the batteries.     Extend the transmitter antenna fully to obtain better receptions.     Set the servo to Neutral then re-adjust it.

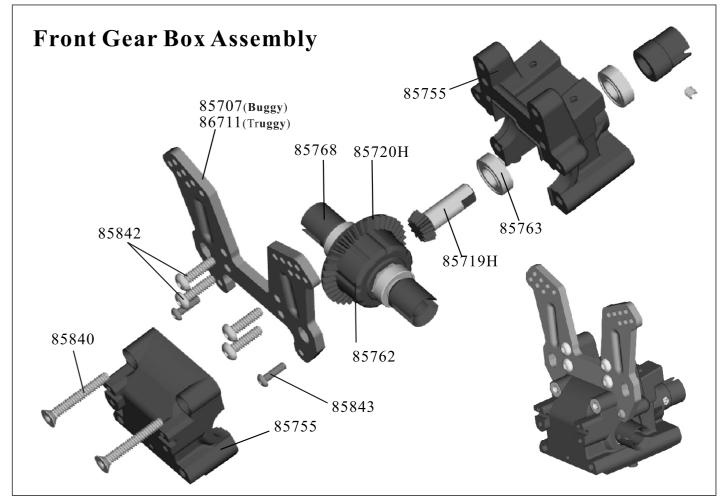


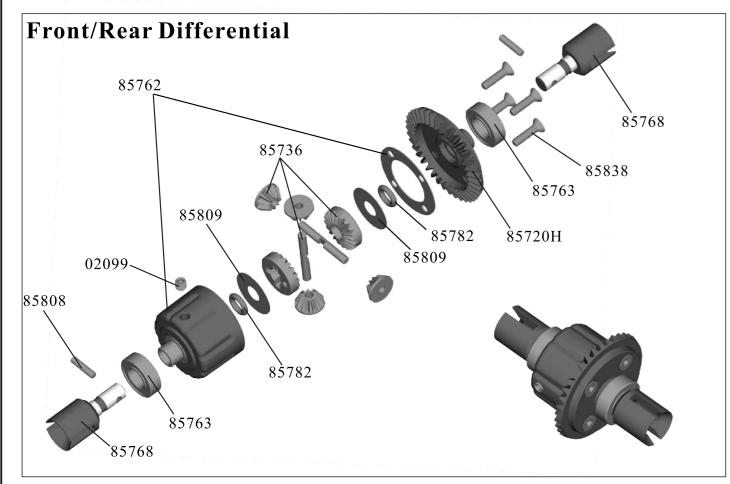


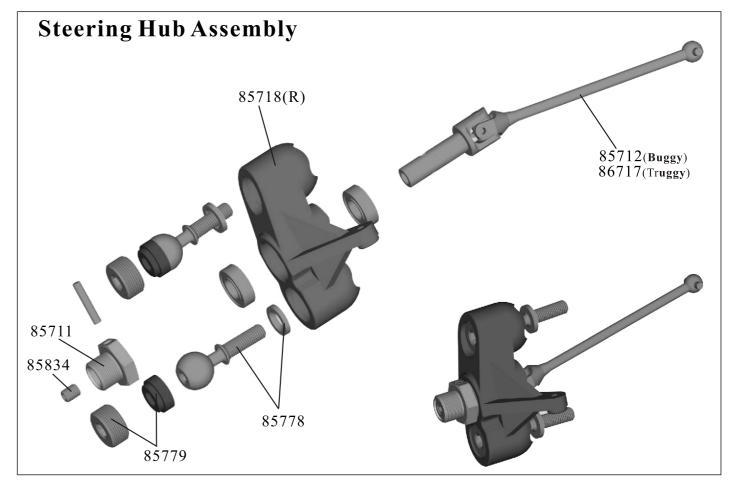


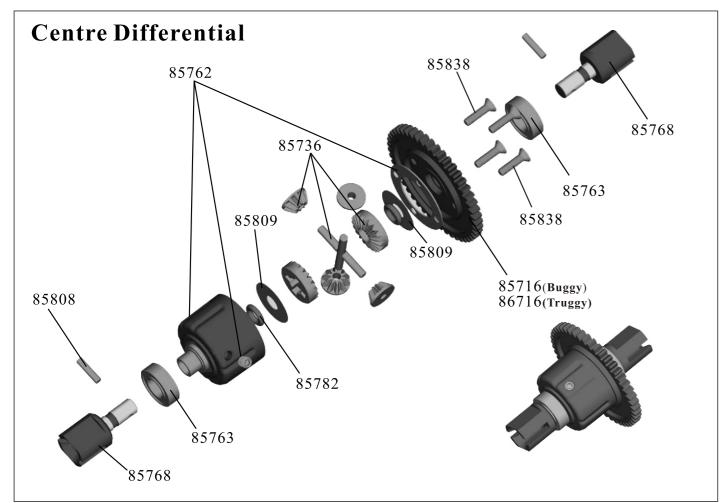


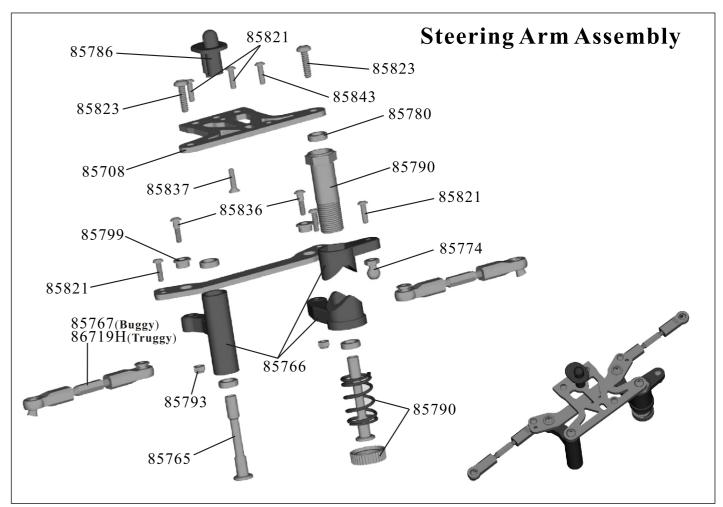


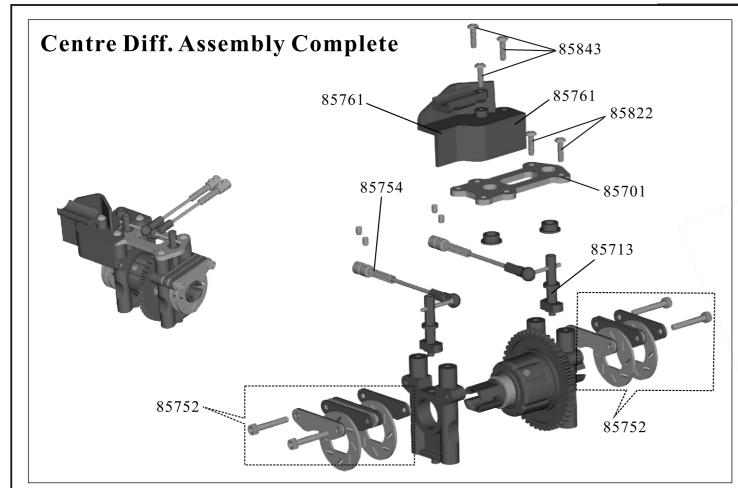


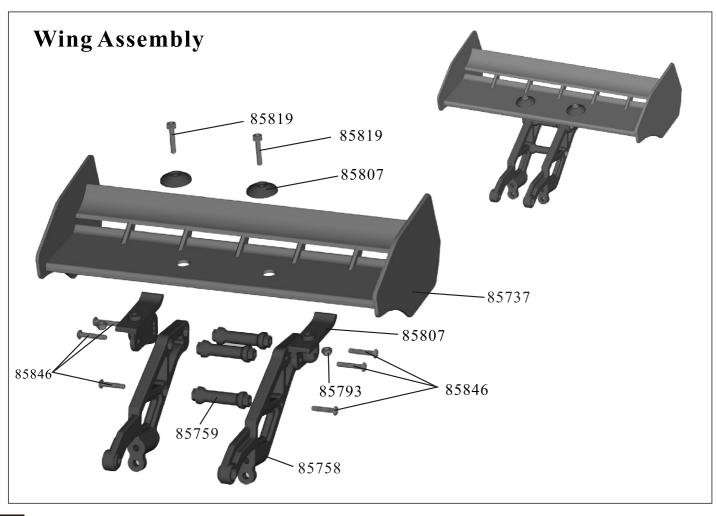


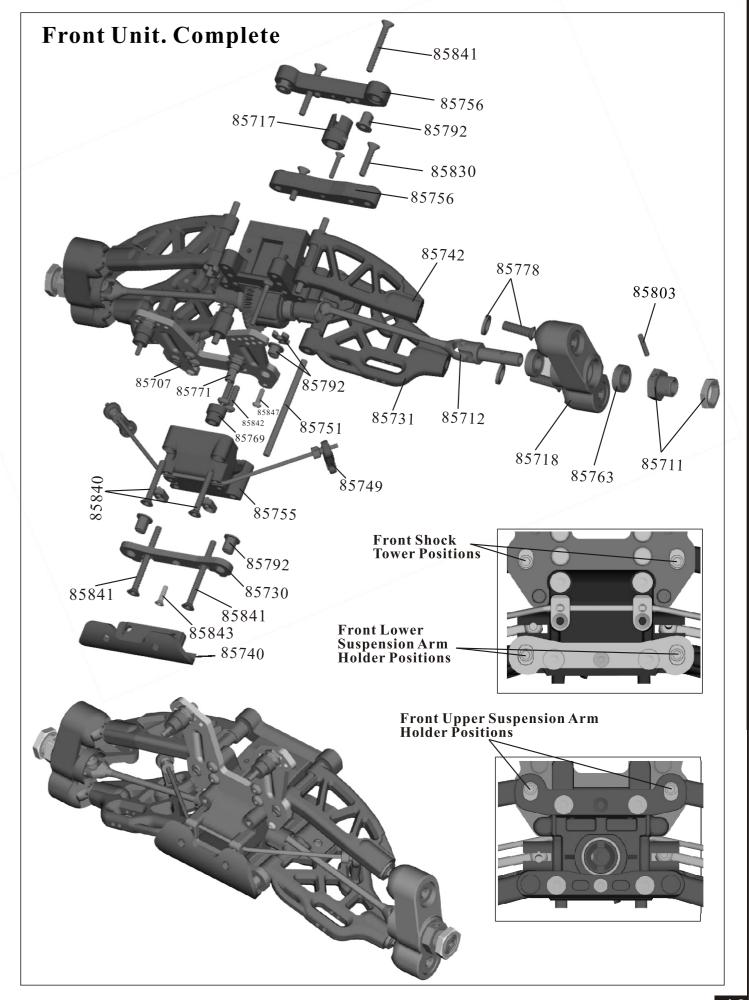


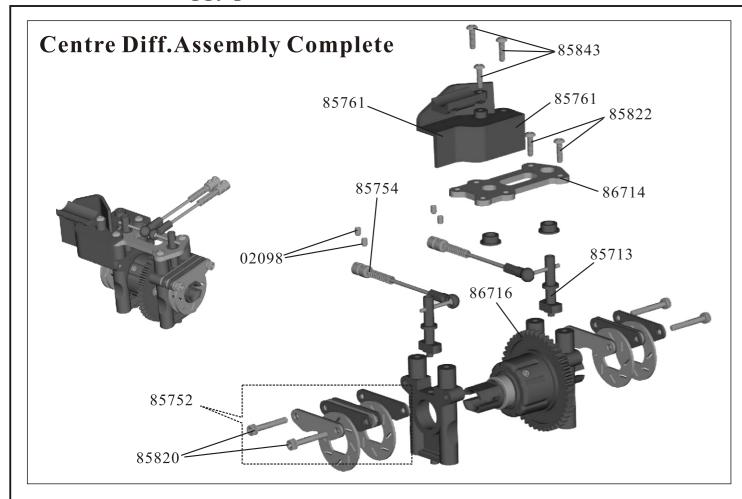


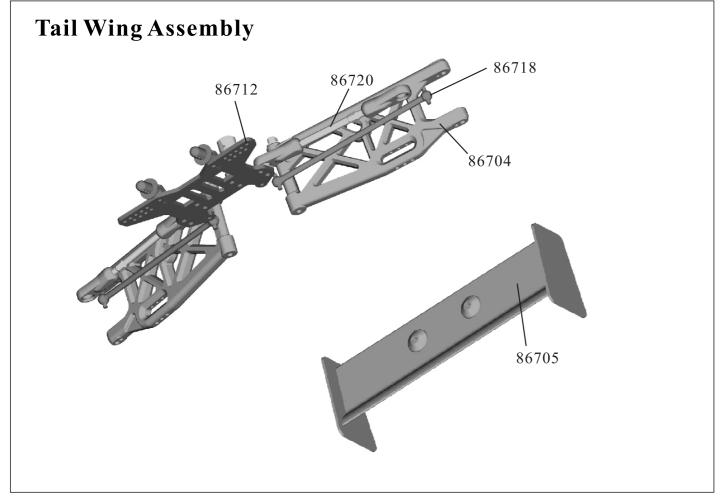


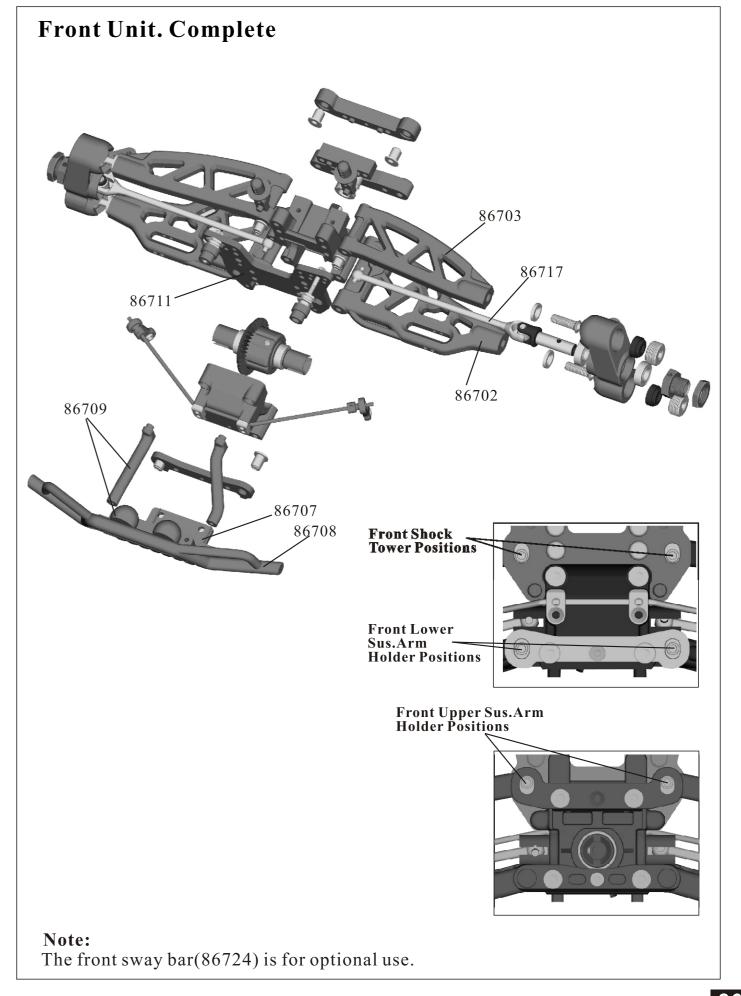


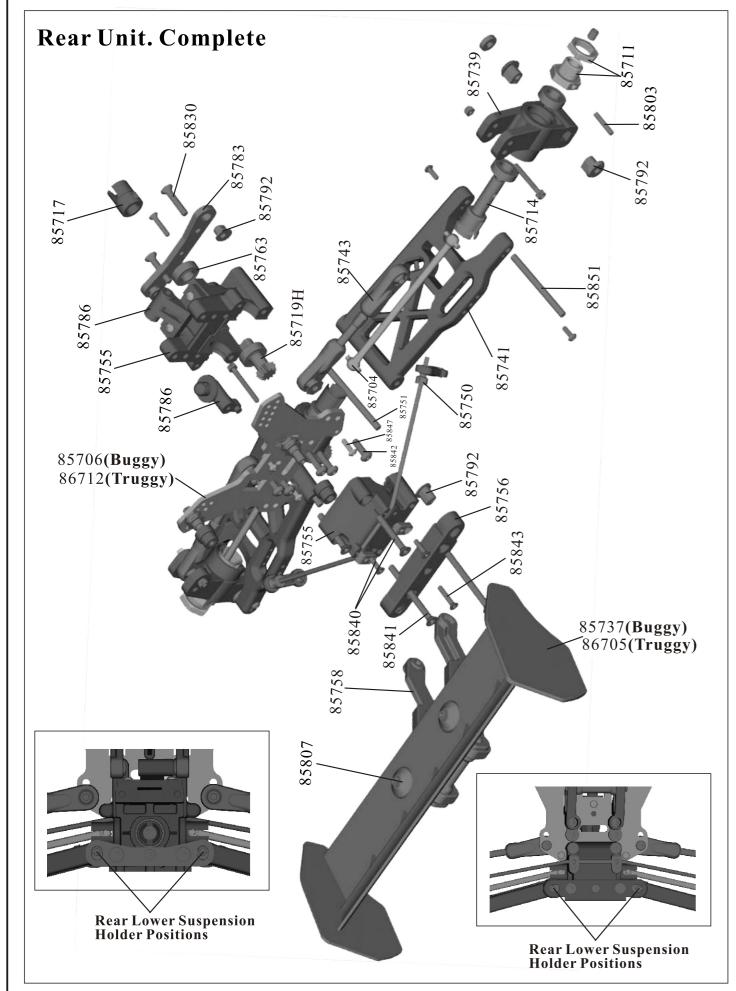




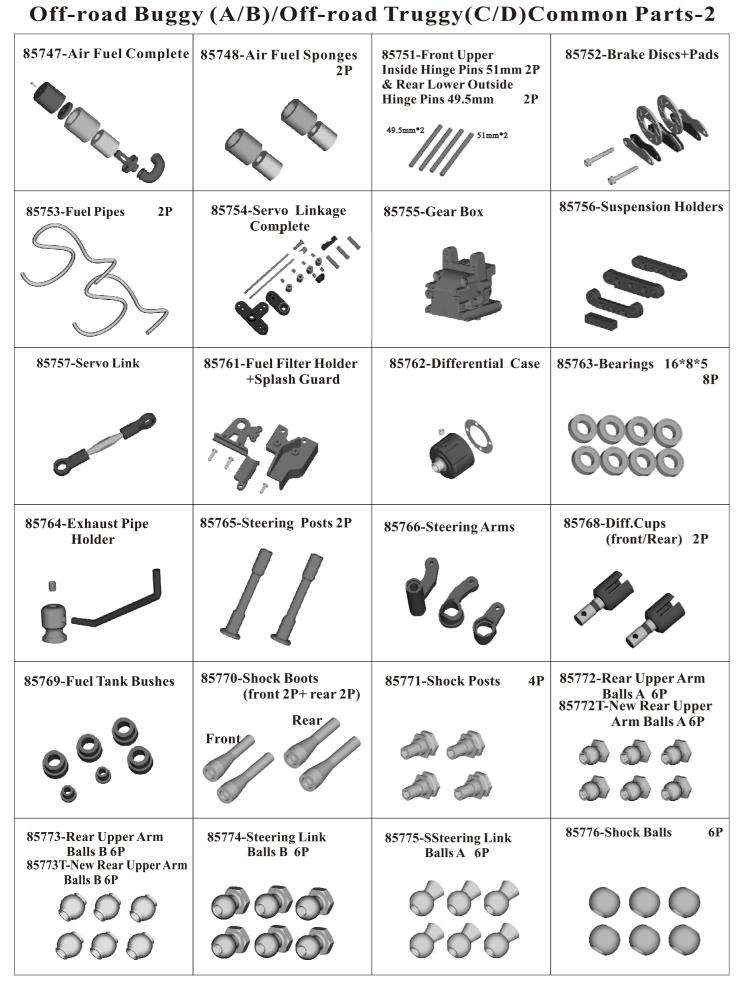












# Off-road Buggy (A/B)/Off-road Truggy(C/D)Common Parts-3

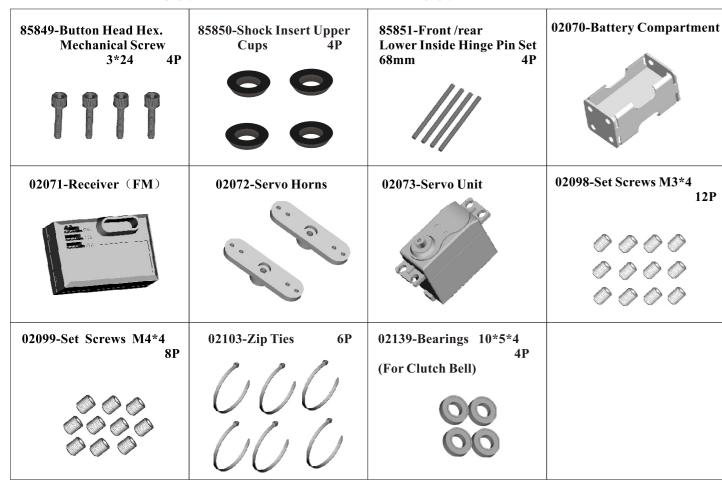
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85777-Sway Bar Balls 6P	85778-Front Suspension Arm Balls 4P	85779-Front Hub Caps 4P	85780-Steering Post Bushings 4P
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85781-Shock Seals 8P	85782-Differential Seals 6P	85783-Rear Lower Suspension Arm Holder	85784-Front Brace
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85785-Rear Brace	85786-Body Post	85787-Engine Flywheel Nut 2P	85788-Tuned Pipe Joint Tubing(Silicone)
		<b>90</b>	
85789-Tuned Pipe	85790-Servo Saver /Spring	85791-Antenna Pipes 4pcs	85792- Adjustable Bushes Complete
			99900000
85793-Nylon Nuts M3 6P	85794-Nylon Nuts M4 8P	85795-Radio Plate Posts	85796-Ball Ends 85796T-New Ball Ends
000		RW TIE	
85797-Mainfold	85798-Front Shock Shafts +Pistons 2P	85799-Steering Plate Bushes	85800-Rear Shock Shafts +Pistons 2P

### Off-road Buggy (A/B)/Off-road Truggy(C/D)Common Parts-4 85801-Front Shock Springs 2P 85802-Rear Shock Springs 85803-Shaft Pins 2P | 85804-Fuel Pipe Holder 85805-Fuel Inlets 85806- Fuel Tank Spring 85807-Adjustable Wing 85808-Diff.Gear Pins 3P Mount 85812-Washer 6.5\*3.0\*0.5 85809-Washer 17\*6.2\*0.3 85810-Washer 16\*13.1\*0.3 85811-Washer 8\*5.2\*0.3 (For Shock Shaft) (For Gear Box Bearing Mount) (For Differientials Mount) (For Engine Crank Mount) 85813-Washer 8\*3.2\*0.5 85814-Washer 7.0\*2.6\*0.4 85816-Cap Head Hex.Screws 85815-Washer 4.2\*10\*1.0 (For shock balls Mount) (For Flywheel Pin Mount) (For Engine Mount) 85817-Cap Head Screws 85819-Cap Head Screws 85818-Cap Head Screws 85820-Cap Head Screw **4P** 4\*26 3\*16 85821-Button Head Screws 85822-Button Head Screws 85823-Button Head Screws 85824-Button Head Screws 3\*12 3\*10 10P 4\*40

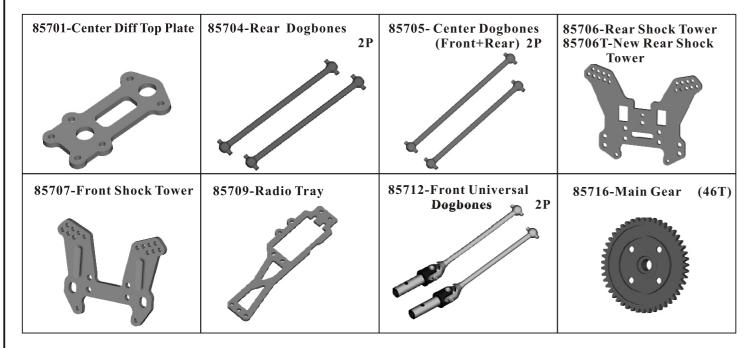
### Off-road Buggy (A/B)/Off-road Truggy(C/D)Common Parts-5

85825-Flat Head Screws 3*10 5P	85826-Flat Head Self Tapping Screws 3*16 4P	85827-Flat HeadScrews 3*18 3P	85828-Flat Head Screws 4*10 4P
85829-Flat Head Screws 4*18 12P	85830-Flat Head Self Tapping Screws 4*22 4P	85831-Flat Head Self Tapping Screws 4*30 4P	85832-Set Screws M3*3 12P
85833-Set Screws M4*10 4P	85834-Set Screws M5*4 6P	85835-Ball Head Self Tapping Screws 2*24 4P	85836-Steering Plate Srcews 6P
85837-Flat Head Self Tapping Screws 3*10	85838-Flat Head Self Tapping Screws 3*18	85839-Flat Head Screws 4*10 8P	85840-Flat Head Screws 4*26 4P
85841-Flat Head Screws 4*42 4P	85842-Button Head Self Tapping Screws 4*14 6P	85843-Button Head Self Tapping Screws 3*12 4P	85844-Ring Head Self Tapping Screws 3*8 4P
		TTTT	
85845-Button Head Self Tapping Screws 3*8 4P	85846-Button Head Screws 3*14 8P	85847-Button Head Screws 3*18 8P	85848-Ball Head Self Tapping Screws 2*6 4P

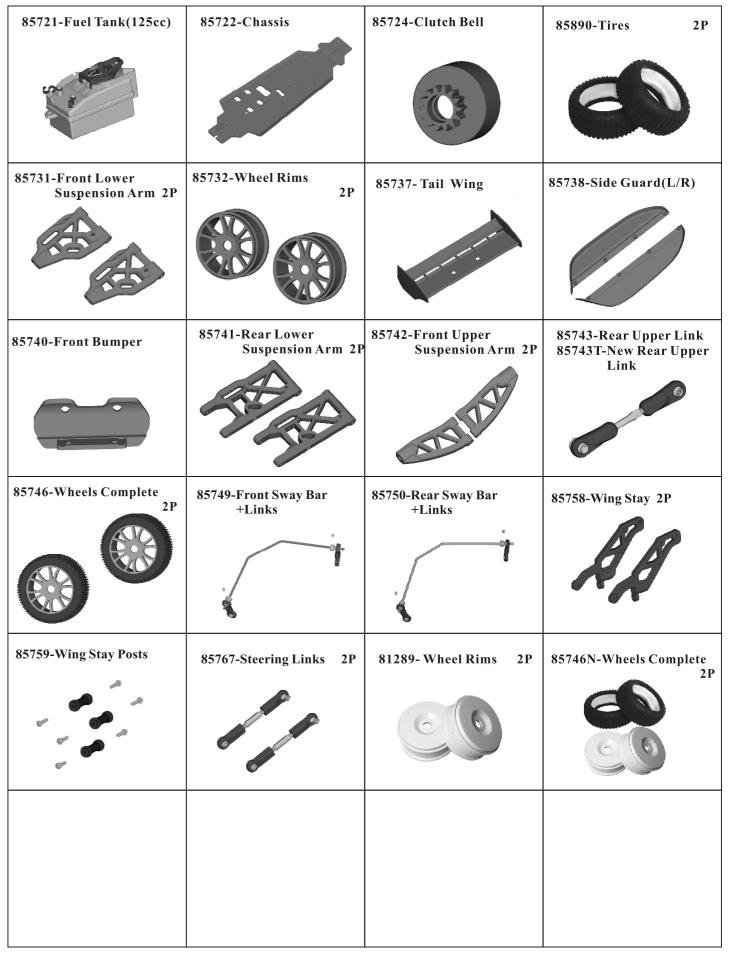
### Off-road Buggy (A/B)/Off-road Truggy(C/D)Common Parts-6



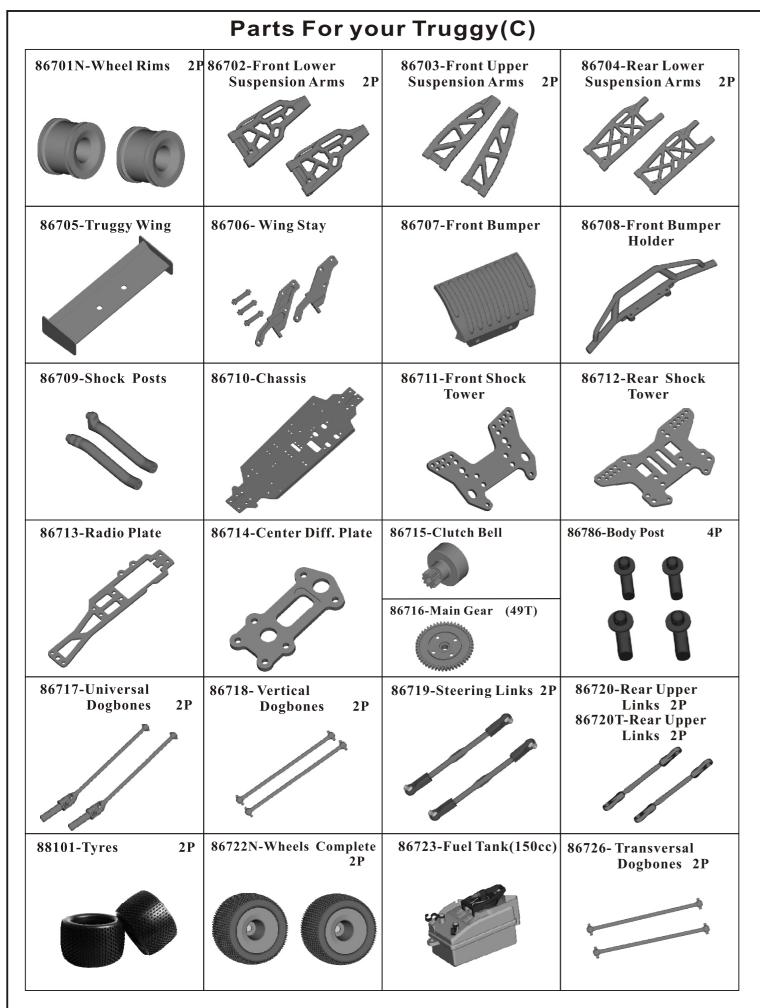
### Parts For your Buggy(A)



# Parts For your Buggy(A)



27

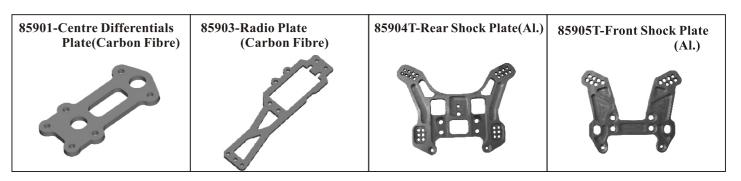


### Upgradable optional Buggy (B)/ Truggy(D)Common Parts

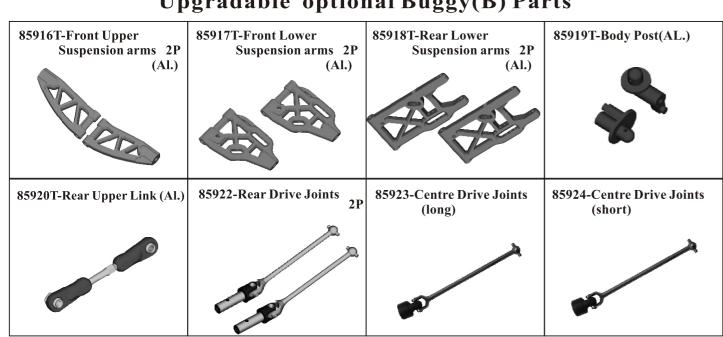


# Notes Optional Parts No with T stand for Titanic color.

### Upgradable optional Buggy(B) Parts



# Upgradable optional Buggy(B) Parts





# **Upgradable optional Truggy(D) Parts**

86724- Front Sway Bar + Links	86725- Rear Sway Bar + Links	86901-Central Diff. Device Plate (Carbon Fibre)	86902-Radio Plate (Carbon Fibre)
86903T-Rear Shock Plate (Al.)	86904T-Front Shock Plate (Al.)	86905-Front Upper Suspension Arms 2P (Al.)	86906-Front Lower Suspension Arms 2P (Al.)
86907-Rear Lower Suspension Arms 2P (Al.)	86908-Rear Upper Link 2P	86909-Center Vertical Drive Joints(long)	86910-Center Vertical Drive Joints(short)