



Hobby & Engineering Supplies Pty Ltd

**Hobby Supplies
Engineering Supplies**

ABN 54 125 001 541



**Nitro RC Car
Basics**

3239 Old Cleveland Road Capalaba West Queensland 4157

Phone: 07 3245 7977

Fax 07 3245 1017

NITRO RC CAR BASICS

People often see Radio Controlled models being used at their local park, and the operators of the models make it look like heaps of fun and very little work. Well the "fun" part is right, but if you aren't prepared to put in some effort, the fun won't last long.

Nitro RC cars are a hobby. That means that you need to be able to spend some time making repairs and adjustments, cleaning and generally getting to know your car.

First Things First

When you unpack your new RC car, make sure you read and familiarise yourself with the instruction manual.

Check to make sure that all the parts are in the box. At Hobby & Engineering Supplies we check this before the parcel leaves the store, but it is still recommended that you do the same when you receive the parcel.

Make sure you have batteries for the car servos and for the radio transmitter. Did you remember to buy some nitro fuel and a glow plug starter, and some air filter oil? These parts don't normally come supplied with the car.

Prior to Starting

New engines need to be run in. Ask the staff at Hobby & Engineering Supplies for tips on running in your new engine.

Now you have all the pieces you are almost ready to get started.

Oil your air filter foam to prevent dust from entering the engine. This is a very important step as dirt entering the engine can cause a new engine to fail in minutes.

Charge your batteries.



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Fuel the car and prime the fuel line.

If you are not familiar with nitro engines you will need to ask your hobby store for advice on the best percentage of nitrogen and oil to run in your car.

When pulling the starter cord, be careful not to pull it all the way out. It's not a whipper-snipper. Use short quick pulls of about half the length of the cord.

Solutions to Common Problems

Hand Controller Doesn't Work

Hand controllers will be a little finicky if the batteries are not fully charged. You may get symptoms like the throttle working but not the steering. Make sure your batteries are fully charged and try again.

Check the battery compartment on the car and make sure all the plugs are attached correctly and securely.

If you are still having problems, try re-seating the crystals on the car receiver and the hand controller, checking also that the two crystals are the same frequency.

Car Won't Start

Common mistake number one for the first time hobbyist is not realising that you need a glow plug starter to ignite the glow plug before trying to start the car. You can pull the starter cord all you like, but nothing will happen until you ignite the glow plug. Talk to the Hobby & Engineering Supplies sales staff about this when you buy the car.

If you have the glow plug starter attached, make sure the leads are connected securely to the starter battery, the battery is charged and a secure connection is made with the glow plug.

Is fuel getting through to the carburetor? Remove the glow plug starter and hold your finger over the exhaust outlet. Give the starter cord a few short pulls. This will suck fuel up the fuel line and into the carburetor. Reattach the glow plug starter and try starting again.



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Have you flooded the engine? Remove the glow plug and turn the car upside down. Pull the starter cord clear out the fuel then try again.

Check your needle valve settings. These shouldn't need too much adjusting straight out of the box, but at some stage you're going to need to learn about them. See our info sheets on Nitro Engine Tuning and Nitro Engine Starting Problems.

<http://www.hobbyparts.com.au/catalogue/info/Nitro%20Engine%20Tuning.pdf>

<http://www.hobbyparts.com.au/catalogue/info/Nitro%20Engine%20Starting%20Problems.pdf>

Car Keeps Stopping

Your needle valves most likely need some tweaking. See the info sheets below for guidance on solving this common problem. The engine is most likely running too lean. Open up the high speed idle valve so more fuel gets to the engine. Running an engine lean may produce a little better performance, but you risk overheating and killing the engine.

If the car stalls when you hit the throttle, then it is most likely running too rich. Repeatedly turn the needle valve clockwise about 1/8 turn and test after each adjustment. Unless you are racing your car and looking for every bit of performance you can get, you should set the valves to run just a little rich.

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Engine Locks up When Pulling Starter Cord

The engine is flooded. Pulling on the cord while the engine is in this condition will break the cord or damage the engine. Remove the glow plug and pull the cord several times short and sharp. Replace the glow plug and try again.

Car Spits Oil from Exhaust

Your needle valves most likely need some tweaking. See the info sheets below for guidance on solving this common problem.

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Car Stalls when Braking

Your needle valves most likely need some tweaking. See the info sheets below for guidance on solving this common problem. Specifically you will need to open up the idle valve a little.

<http://www.hobbyparts.com.au/catalogue/info/Nitro%20Engine%20Tuning.pdf>

<http://www.hobbyparts.com.au/catalogue/info/Nitro%20Engine%20Starting%20Problems.pdf>

Car Loses Power

Your needle valves most likely need some tweaking. See the info sheets below for guidance on solving this common problem.

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<http://www.hobbyparts.com.au/catalogue/info/Nitro%20Engine%20Starting%20Problems.pdf>

Lots of Smoke

This is normal at full throttle - lots of blue-white smoke should be visible. At idle, lots of smoke could mean your car is running too rich.

Stopping the Engine

Simply block the exhaust hole with a rag, taking care not to burn yourself on the hot exhaust. Alternatively, you can pinch the fuel line between the tank and the engine.

Cleaning

The air filter foam should be cleaned with soapy water. When all the dirt has been removed, make sure you squeeze out and re-oil the foam ready for the next use. If you don't do this immediately you may forget, and end up damaging the engine next time you run it.

Make sure to clean off dirt and dust from all moving parts using a good plastic safe dry solvent degreaser, and immediately re-lube the parts for protection against moisture.



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It's also a good idea to place a few drops of After Run oil directly into the engine and give the engine a couple of turns to spread the oil. This will help to prevent corrosion inside the engine.



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