

# QUICK-START SHEET

## **NOTE:**

Before you start running your Nitro TC3 RTR, read your engine break-in instructions on the next page thoroughly. If you run your NTC3 without following proper break-in procedure, you may damage your engine, fail to get maximum performance from your engine, or void your warranty.

### Install radio system batteries...

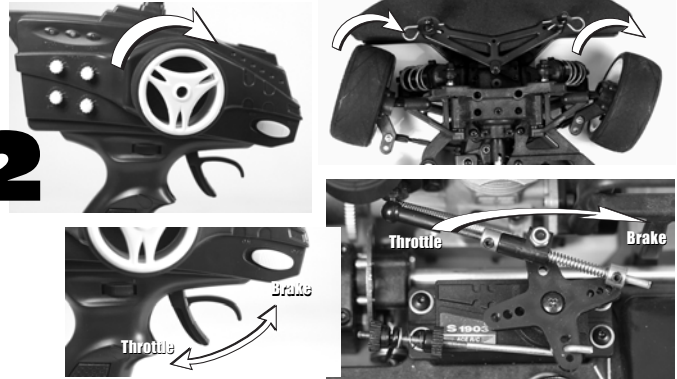
**1**



...Into the transmitter (8 cells) and car (4 cells) as shown above. Be sure to use only high-quality alkaline or rechargeable Ni-Cd AA-size batteries.

### Check operation of radio system...

**2**



...Turning your transmitter wheel makes the car's front wheels steer left and right, and automatically return to center when transmitter wheel is released. Make sure that pulling transmitter trigger opens the carburetor throat, and pushing the trigger forward applies the rear wheel brakes.

### Oil the foam air cleaner element...

**3**



...by treating the foam elements of your air filter with a few drops of pre-filter oil. Work the oil into the filter inside a small plastic bag to minimize the mess.

### Carefully check pull start rope length...

**4**



...making sure you never pull out the rope to its full length. Doing so can cause damage, and the rope may not retract. Quick, short pulls (12") on the starter are the best technique for starting your engine.

### Fill the tank with one of the approved fuels...

**5**



Lift the lid on your car's fuel tank, insert the fill tube, and slowly squeeze until tank is full. Be careful not to overflow, as spilled fuel may damage radio gear or brakes.

### Get ready to fire it up!

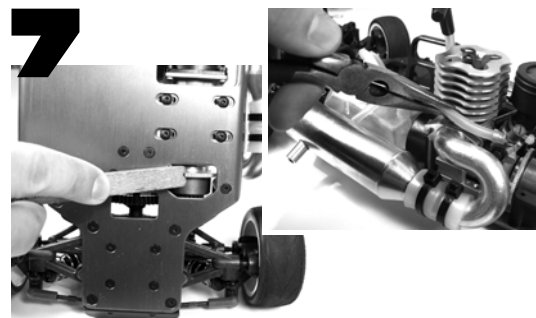
**6**

Turn on the transmitter FIRST, then the car's receiver switch. Attach glow plug igniter to the glow plug. Hold the front of the car a little higher than the rear to aid fuel flow to the engine. Pull the starter with short, quick pulls until engine fires, then remove glow plug igniter.



### Stopping the engine.

**7**



Always stop the engine before you turn the radio switches off. You can stop the engine by pushing a piece of wood against the flywheel underneath the car or by pinching the fuel line leading to the carburetor. Do NOT try to stop the engine by plugging the exhaust outlet or by stopping the flywheel with your finger or thumb.

**Everything Okay?  
Check out the  
BREAK-IN TIPS on  
the next page  
before running  
your engine  
further.**

**Having Starting  
Problems?  
Check our QUICK  
TROUBLESHOOTING  
GUIDE, next page!**

# TROUBLESHOOTING

*If you have trouble starting or keeping your RTR running, here's a quick checklist of what to look for first.*

## Description

Engine will not start

## Problem

Out of Fuel..... Refill fuel tank  
 Contaminated fuel..... Replace fuel  
 Glow plug igniter not charged..... Charge Glow igniter  
 Glow plug bad..... Replace glow plug, see "Glow Plug Problems" section below  
 Fuel not getting to carburetor..... Open and close fuel tank lid twice  
 Engine flooded..... See "Flooding" section below  
 Engine overheating..... Allow engine to cool, richen fuel mixture, see "Fuel Mixture" section below  
 Carburetor incorrectly adjusted..... Readjust carburetor, see "Fuel Mixture" section below  
 Exhaust blocked ..... Check exhaust to remove blockage  
 Air cleaner blocked..... Check air cleaner, remove blockage

## Solution

Engine starts, then stalls

Idle speed set too low..... Adjust idle speed screw, see "Fuel Mixture" section below  
 Air bubbles in fuel line..... Check for leaks in fuel line  
 Glow plug is fouled..... Replace glow plug, see "Glow plug problems" section below

Starter rope will not pull

Engine is flooded..... See "Flooding" section below  
 Engine is seized ..... Examine engine for damage

**Glow plug problems.** The glow plug in your engine must be replaced periodically to maintain peak performance and easy starting. Most starting problems or erratic performance can be traced back to the glow plug. The easiest way to check for a faulty glow plug is simply install a new one and see if the problem goes away. However, to test the glow plug, remove the glow plug from the cylinder head with a 5/16" nut driver. (Make sure there is no dirt on top of



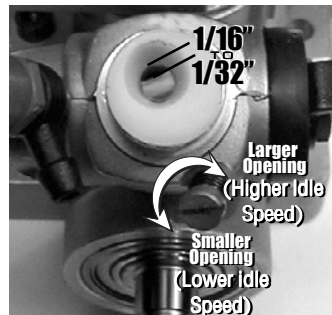
the head which could fall into the engine. Do not lose the copper gasket which seals the glow plug.) Connect the glow plug to the glow igniter. All of the coils should glow bright orange. Sometimes, the first few coils will not glow, while the rest are bright orange. This indicates a bad glow plug or low igniter battery. Try recharging the igniter, or replacing the glow plug.

**Flooding.** Symptoms of a flooded engine include difficulty in starting, muffled sounds coming from the exhaust, pull

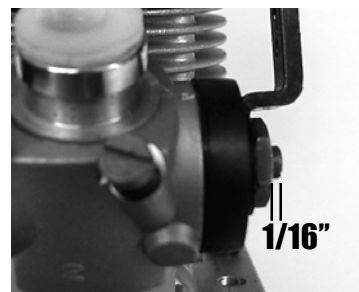
starter won't operate, and excess fuel draining from the exhaust outlet. Remove the glow plug with a 5/16" nut driver and also remove the air cleaner. Turn the car upside down and pull the starter a couple of times to drain any excess fuel out of the engine and carburetor. Reinstall the glow plug and try starting again.

**Fuel mixture.** The fuel mixture is controlled by three different adjustments on the carburetor, and come pre-set from the factory (see photos below). Your engine should start and run slightly rich with these settings (rich is good for break-in). Tuning Tip: Always make sure you can see some exhaust smoke coming out of the exhaust outlet during operation. This is a good sign that enough fuel is getting to the engine.

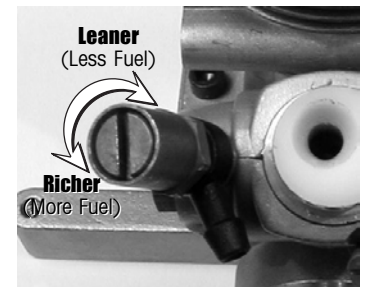
## FACTORY CARBURETOR SETTINGS



Idle Speed: 1/32" to 1/16" opening (.8 to 1.5 mm)



Low Speed Mixture: 1/16" of screw showing (1.5 mm)



High Speed Mixture: 2 1/2 turns out

*If you suspect internal engine damage, refer to your warranty card for service instructions.*

# Engine Break-In Tips

## What to look for when running your first tank of fuel

The key to breaking in your engine is patience. During the break-in period, your engine may appear to malfunction with problems such as stalling, inconsistent performance, and fouling out the glow plug. Don't give up... just keep running, applying the throttle on and off as smoothly as you can. Here are some points to remember during break-in:

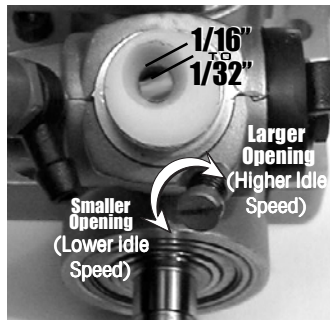
1. Expect to replace the glow plug during the break-in period, and definitely when the engine is fully broken in.
2. Run the car without the body for extra engine cooling during the break-in period. Then cut out body's front windshield and side window after the break-in period.
3. The idle speed should be set as fast as possible without causing the car to move. If necessary, adjust the idle speed screw as shown in the photo below.
4. The standard high speed mixture and low-speed mixture settings of the carburetor vary slightly with each engine. The standard settings are shown below. Your engine should start and run somewhat rich with these settings (rich is good for break-in). Blue-white smoke coming from the exhaust is a good sign that the settings are rich. If there is little or no smoke, the settings are probably not rich enough. In this case, turn the high-speed mixture screw counter-clockwise 1/8 of a turn (see photo).
5. As the engine reaches normal operating temperature, it will speed up and performance will increase. This occurs because the fuel mixture is becoming more lean with the increased engine temperature. You might need to richen the fuel mixture 1/16 to 1/8 of a turn so the engine continues to run rich as described above.

6. Constantly test the engine for overheating. Use either an accessory head temperature gauge (these are expensive, but worth every penny) or as an alternative, use the water method: place a drop of water on top of the cylinder head. If it sizzles away immediately, stop your engine and let it

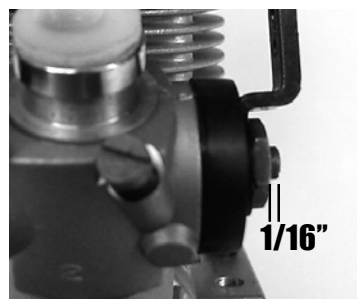
cool down. If it takes about 3 to 5 seconds for the water to boil away, the engine is within normal operating temperature. When using a temperature gauge, the temperature should always be between 220 and 280 degrees.

7. Run your engine this way (rich) until you're just about out of fuel, bring your car to a stop and shut off the engine, allowing it to cool for 8 to 10 minutes before starting it up again. **Correct break-in will take about four tanks of fuel.**

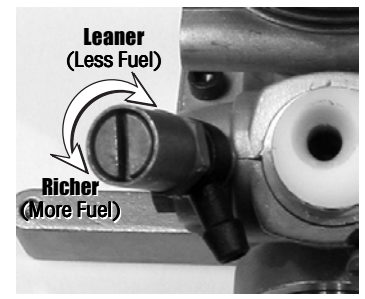
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## What to look for during tanks 2-4 as the engine breaks in:

**Engine may start running more rich as it breaks in.**

**Signs of running too rich will include:**

- More and more smoke may be seen coming from the exhaust outlet
- Engine may have a difficult time idling.
- The Engine top speed may decrease, and engine pitch will sound lower
- Engine continually fouls glow-plugs

**If you encounter any of these symptoms, you may need to lean the high speed mixture setting by turning it 1/8 clockwise (see photo above).**

**Watch for signs of overheating. These will include:**

- Steam or smoke coming from the engine surfaces
- Engine hesitates during hard acceleration, as if it's running out of fuel
- Popping or clattering sound when slowing down
- Idle speed will surge or possibly diminish to the point of stalling.
- Engine stops running and glow plug wire is burned, deformed, or missing.

**If you encounter any of these symptoms, you may need to richen the high-speed mixture 1/8 to 1/4 counterclockwise or until symptoms stop. (see photo above).**

**Caution:** if the engine stalls while you are driving due to an overheating condition, severe engine damage may have already occurred. Overheating is caused by the following errors:

- Fuel mixture is not rich enough
- Air leak around carburetor
- No air filter
- Loss of muffler pressure (line falls off, etc.)
- Excessive nitro content in the fuel
- Incorrect oil content in the fuel or poor quality of fuel
- Excessive loads on the engine (bound drive train or brakes engaged when throttle is on)

**Your engine will be short-lived if any of these conditions are allowed to occur for any length of time.**



# A COOLing Tip for the NTC3!

We have some tips for you on how to keep your Nitro TC3 running *cool!*

1. Cut out half of the the front windshield, making sure you round off the corners of the hole instead of having sharp corners. This will prevent the body from cracking at the corners.
2. If you are running in hot weather, you may want to even cut out the side windows. Again, take care to round off the corners of your cut-out window, and start the cutout approximately 1/2" behind the window body post to give the body enough support strength.
3. Be sure you have enough access areas in the body to use your glow-plug igniter, and enough clearance to be able to make your engine adjustments.



## PARTS AND ACCESSORIES

### For the Nitro TC3 Touring Car

1402	Factory Blue 1.375 Turnbuckles	1773	Torque-tuned Side Exhaust Black Muffler (kit std.)
1414	Factory Blue 1.125 Turnbuckles	1774	RPM-Tuned Side Exhaust Blue Muffler
1415	Factory Blue Rear Toe Turnbuckles	1775	RPM-Tuned Side Exhaust Natural Muffler
1450	Factory Blue Ride Height Gauge, set ride height easily	1776	RPM-Tuned Side Exhaust Black Muffler
1596	Factory Team Thread Locking Adhesive	2236	NTC3 Carbon Front Arm Set
1597	Factory Team Tire Adhesive	2241	NTC3 Carbon R/L Steering / Hub carriers
1598	Factory Blue Shock Caps, Blue anodized alum.(4)	2244	NTC3 Carbon Rear Arm Set
1700	NTC3 Lightweight 2-speed One Way Hub	2248	NTC3 Carbon F/R Shock Tower
1701	NTC3 Lightweight 2-Speed Housing	2255	NTC3 Carbon Chassis Braces
1702	NTC3 Lightweight 2-speed Clutch Bell	2259	NTC3 Carbon Radio Tray
1704	NTC3 Solid F/R Axle	2261	NTC3 Carbon Handle
1705	NTC3 Front One-Way assembly	2325	NTC3 Pull Start 3 Shoe Flywheel
1706	NTC3 FT Blue Alum. Center Bulkhead	2371	NTC3 Complete Carbon Chassis Kit
1707	NTC3 One-Way Outdrive Cups	3888	Factory Blue TC3 / NTC3 Aluminum CVD Bones (2)
1708	NTC3 FT Blue Alum. Pull Start Motor Mounts	3939	TC3 / NTC3 Front One-way / Solid axle Differential Ring Gear w/Mounting Screws
1709	NTC3 FT Brake Cam Bearing Kit	3941	TC3 / NTC3 Green Spring, 12.0 lbs
1711	NTC3 FT PTFE-Sealed Bearing Set	3943	TC3 / NTC3 Blue Spring, 17.0 lbs.
1712	NTC3 FT Blue Alum Main Drive Shaft	3945	TC3 / NTC3 Red Spring, 22.0 lbs
1713	Factory Blue NTC3 Turnbuckle Kit	3946	TC3 / NTC3 Copper Spring, 25.0 lbs.
1714	NTC3 FT Swing Rack Bearing Kit	3949	TC3 / NTC3 Wheel Hex Adapters (4), Graphite
1715	NTC3 FT Front Blade Roll Bar Kit	3952	TC3 / NTC3 Purple Spring, 30.0 lbs.
1717	NTC3 FT Blue Alum. Blade Roll Bar Mounts	3953	TC3 / NTC3 Yellow Spring, 35.0 lbs.
1719	Factory Team Camber + Track Width Tool	3954	TC3 / NTC3 White Spring, 40.0 lbs.
1721	Clutch Nut Wrench 3/8"	3960	TC3 / NTC3 Rear Anti-roll Bar Kit.
1722	Factory Team Graphite Radio Tray	3962	TC3 Factory Blue-Anodized Threaded Body Shock Kit (set of 4)
1726	NTC3 Titanium Pivot Balls	3963	Factory Blue-Aluminum Threaded Shock Bodies w/collar (pair)
1749	Factory Team Nitro Fuel Bottle	3964	TC3 / NTC3 UNOBTANIUM Shock Shafts (2)
1752	NTC3 Hard Chassis, Black	3968	Factory Blue Counterfeit Transponder
1754	NTC3 Hard Chassis, Natural	3972	TC3 / NTC3 Blue Aluminum Hex Drives
1767	NTC3 Side Exhaust Blue Manifold	3988	Complete TC3 / NTC3 Tuning Spring Set (9 pair)
1768	NTC3 Side Exhaust Natural Manifold	6439	FT Blue Aluminum Shock Cap (1 piece)
1769	NTC3 Side Exhaust Black Manifold	7710	Pre Filter Treatment
1771	Torque-tuned Side Exhaust Blue Muffler (kit std.)		
1772	Torque-tuned Side Exhaust Natural Muffler (kit std.)		