



Engine Break In Period

New engines require a break in period to exercise a final adjustment of internal parts after manufacturing. For our models, we have already perform this procedure before putting them on the market. However, you will use your own engine to drive our models. 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 a break in procedure for your engine.

Important notes:

Break-in period 2 and 1/2 turns from full closed position (4-5 tanks of 10-15% fuel/ 20% oil content) must be used to perform break in.

Please do not run engine full throttle for long periods during break-in.

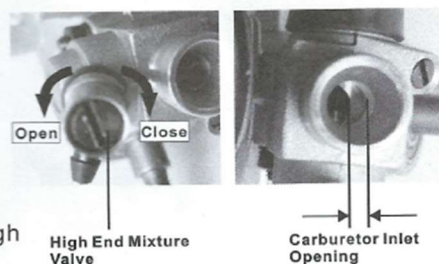
Once break-in procedure has been performed lean out engine to best performance (2 turns to 1 and 1/2 turns from full closed position) you must always observe a trace amount of oil smoke from exhaust pipe, if you hardly see any smoke please stop immediately and re-adjust high end mixture valve till smoke is observed.

Always perform high end mixture valve adjustment firstly, and then perform idle adjustment on a warmed-up engine.

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.

It is of normal occurrence during the break-in procedure that minuscule particles of metal adhere to the glow element. The particles of metal isolate the glow element and affect overall engine performance.

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.



Using The Proper Fuel And Glow Plug

Using the proper fuel and glow plug is important to achieve maximum performance and reliability. You must use fuel, glow plugs and air filters that are specifically designed for remote control model car. The engine is brand new, it must go through proper break-in procedure to perform reliable and achieve maximum performance. During the break-in procedure, it is common to go through one or two glow plugs failure. All car engines must use a properly oiled air filter to keep dirt out of the engine. Any dirt that enters the carburetor can immediately damage your engine. Clean the air filter after every hour of running, You can wash the foam filter with warm water. Dry the filter then re-apply air filter oil to the foam filter.

Starting Your Engine For The First Time

The first start of your engine is the most important time of the engine's life, dictating how well it will perform. Do not skip the break-in process of a new engine! Without proper break-in procedures, you risk damaging your engine during the first tank of fuel. Your patience during these procedures will be rewarded by an engine that performs reliably and to its maximum power potential. Patient and knowledge are the key for a successful break-in process. Glow plug failure is a common occurrence when breaking in a new engine. When tuning the needle valves for maximum performance, adjust them in small increments, 1/16 turn at a time. An engine should not be run too lean; doing so severely shortens the life of the engine. It is better to run a little rich than too lean.

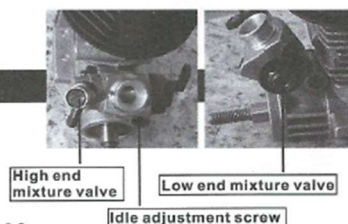
Engine Maintenance

You need to perform periodic maintenance in order to keep your engine in proper operating condition. After each day of running, it's important to do the following steps:

- 1) Empty all fuel from the tank and fuel lines.
- 2) Remove the glow plug and air filter and add 5 to 6 drops of a quality after-run oil into the carburetor and cylinder head openings.
- 3) Turn the engine over a few times to distribute the oil throughout the engine.
- 3) Clean and inspect the engine, air cleaner and fuel system.

Checking After Start

- Verify engine performance after start up. Pay close attention to exhaust smoke and engine sound.
- Observe the speed of your running car with throttle set to high. Your car will still speed up when you screw in the high end mixture valve at an angle of 10 or 20 degrees.
- If you screw in the high end mixture valve further, the engine will become overheated and subject to damage.
- Slow engine response is due to an over rich condition. When air and fuel mixture is too rich, lots of smoke and popping sound from exhaust will be observed. You should screw in the high end mixture valve at an angle of approx. 30 degrees (turning clockwise).
- Hesitation from idle to mid throttle is due to a lean condition. When air and fuel mixture is too light, almost no visible smoke is observed and engine may quit for no apparent reason. If it is the case, you should also unscrew in the high end mixture valve at an angle of approx. 30 degrees (turning anti-clockwise).



Engine Adjustment

High end mixture valve

To measure the fuel inflow and provide high end mixture. If screwing it further in, the high end mixture volume will decrease. Once you unscrew it in, the high end mixture volume will increase.

Low end mixture valve

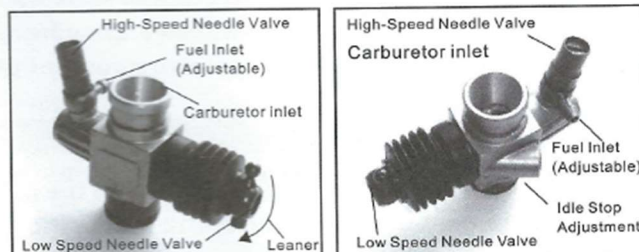
To measure the fuel inflow and provide low end mixture. You are required to adjust low end mixture valve to provide an even process for running your engine from low speed to high speed.

Idle adjustment screw:

To control the air and fuel mixture which flows into the carburetor while the engine is at Idle. It will be an essential adjustment that prevents your engine from stalling at an extremely low.

Carburetor inlet:

To mix the air and fuel to permit a proper running of your engine. After attached with an air filter, it is used to ensure a good proportion.



Take a moment to review the figures on the right to familiarize yourself with the various functions of the engine. Although preset at the factory, some changes in the needle setting can occur during shipping.

Engine image is represented for reference only. It may vary from the actual received engine.

The engine includes many high precision parts. Incorrect operation or rash assembly and disassembly will compromise the proper performance of your engine.