NOTE: While the Mixture Control Valve and the Metering Valve are set at the standard position when the engine leaves the factory, adjustment may be necessary, occasionally to allow for changes in environmental conditions. Adjust the controls only when satisfactory running is not obtained with the standard positions following the instructions mentioned in the "YOUR ENGINE - ASSEMBLY" section.

INSTALLATION OF THE CARBURETOR
As delivered, the engine has its carburetor lightly tightened in the intake boss tube as follows:
1. Loosen the retainer screw, rotate the carburetor to its correct position and make sure that it is pressed well down into the intake boss, compressing the rubber gasket, before tightening screw.
2. Rotate the retainer screw gently until it stops, then tighten a further 90° to 120°-150° over the screw as this will damage the throttle insulator.

WARNING!
Do not damage the O rings when removing the carburetor from the engine. First, remove a perforated screen from the retainer. Do not push the part in or damage the O rings. The retainer Retaining screw, then pull out each part.

For adjusting idle and acceleration feeling.

(Counter-clockwise)

2 liters of fuel have been consumed, extending gradually after one tank of fuel has been consumed) until approx.
15~30°. Run the car on the track until one tank of fuel is consumed. If the engine still stalls, close the metering needle or throttle at the correct position and back increasing the rpm to medium speed and back to the original position. When the engine does not start or stops right after starting, or if it stalls, make sure that the transponder in the fuel tank is not in contact with the ground. It will rapidly over-heat and may be destroyed.

The engine bottom may interfere with chassis of some car models, fix any case, file some notches, so that the engine may not interfere with the chassis when it is installed.

1. Set the carburetor controls at the standard positions when the engine is first started.
4. Connect glowplug battery lead to heat the plug and start the engine. Do not push the part in or damage the O rings.
5. When the engine is warmed up, disconnect the glowplug battery and try running the car on the track. If the engine stops soon after running a few seconds, the mixture is too rich. Close the needle-valve screw about 1 turn.
7. Repeat this procedure (close needle-valve very little after one tank of fuel has been consumed) until approx. 2.5mm ID

O.S. SPEED FLYWHEEL KEY
O.S. CLUTCH WRENCH & ADJUSTER
O.S. SPEED FLYWHEEL PULLER
O.S. SPEED PULL WRENCH

NOTE: When applying an electric starter
Do not over-prime. This could cause a dangerous condition and the engine life will be shortened.

Mixture Control Valve
Carburetor body
Carburetor Slide Valve
Basic Engine Parts

2. Make sure that the connection of the starter box is correct (counter-clockwise screw) from the front edge of the starter box to the engine. Insert the starter box with the starter box to draw in the fuel.
4. Connect glowplug battery lead to heat the plug and start the engine.
5. When the engine does not start or stalls right after being started, operate the carburetor controls with the throttle screw longer by approx. 0.1mm than the standard setting.

1. Set the throttle opening a little wider (approx. 1mm) than the standard setting when using a throttle screw.
2. Set the throttle valve opening approx. 1mm for the throttle screw.

Attention:
It is vitally important to set the throttle at the correct position before starting engine. If the engine is allowed to run with the throttle screw open under "no load" conditions (i.e. with the engine not in contact with the ground) it will rapidly over-heat and may be severely damaged.

7. When the engine is warmed up, disconnect the glowplug battery and try running the car on the track. If the engine stops soon after running a few seconds, the mixture is too rich. Close the needle-valve screw about 1 turn.
8. If the engine still stalls, close the metering needle 15~30° from the standard position, then one tank of fuel has been consumed, then close the needle-valve very little (approx. 10°).

Now the RUNNING-IN (Breaking in) is completed.

In the event of any major working parts (e.g. piston/cylinder liner assembly) being replaced or the fuel being changed, especially to high nitro fuel, the complete running-in should be repeated.

The procedure is suitable for fuel containing 20% nitro-methane is used.
1. Set the carburetor controls at the standard positions when the engine is first started.
2. Switch the transmitter and make sure that each linkage moves correctly.

How to stop the engine
Stop the engine, close the throttle to idle speed and shut it off completely by the stop lever on the transmitter then cut off the fuel supply by pushing the fuel delivery tube to the carburetor.
1. NEEDLE VALVE ADJUSTMENT

Finally, beyond the normal break-in period, a slight movement in the needle-valve and metering needle slightly on the rich side may cause rusting and damage to the engine. Remember, if the engine is operated with the fuel/air adjustment 1.-3. patiently until the engine responds to the throttle stop screw, the engine will gradually feed the required amount of fuel into the engine. It is advisable to close the needlevalve further if a fuel containing less nitromethane is used, the needle-valve setting aiming to achieve the highest performance. Power has dropped extremely. Dirt and dust may lodge in marked places.

Removal of dirt/stain

The note on cleaning the outer head

The graphic design on the outer head is laser engraving but special primer is recommended. When you clean it, do not use paint remover or engine cleaner, otherwise the print may be damaged. Clean it with alcohol after cooling down.

Installing dust caps

When installing, the cap on the exhaust port, carbonator, etc. to prevent dust from entering the engine.

Checking the engine

If the engine will not develop normal performance after time running due to wearing of parts. It is suggested to replace necessary parts when the following symptoms appear.

1. The minute particles of foreign matters that are present in any fuel may, by accumulating and failing to pass through the fuel filter, cause engine performance to become erratic and unreliable. O.S. Systems Inc. (Large) and other fuel filters are available, as optional extras, to deal with this problem. One of these filters can be connected to the pickup tube inside your fuel container, will prevent the entrance of foreign matter into the fuel line. It is also recommended that a good in-line filter be installed between the tank and carburetor.

2. Do not forget to clean the filters regularly to remove dirt and grit that accumulate on the filter screens. Also, clean the carburetor itself occasionally.

3. At the end of each operating session, drain out any fuel that may remain in the fuel tank. After drainage, clean the glow-plug and by to resist the engine, to burn off any fuel that may remain inside the engine. Repeat these procedures until the engine fails to fire. Do this while the engine is still warm. Clean it with alcohol after cooling down.

4. Then, inject some after-runner into the engine, and rotate the engine with an electric starter for 4 to 5 seconds to distribute the oil to all the working parts.

Note: Do not inject after-runner into the carburetor as this may cause the Orings inside the carburetor to deteriorate. These procedures will reduce the risks of starting difficulties or corrosion after a period of storage.

5. Finally, when cleaning the exterior of the engine, use methanol or a household cleaning agent. Do not use gasoline, kerosene, or any petroleum-based chemical which can damage silicon carburetor fuel tubing. Do not inject after-run oil into the carburetor as this may damage silicone fuel tubing.

If the engine will not develop normal performance after time running due to wearing of parts. It is suggested to replace necessary parts when the following symptoms appear.