FACTORY TUNED ENGINE
O.S. SPEED 21XZ-B TY 110%

It is of vital importance, before attempting to operate your engine, to read the general "SAFETY INSTRUCTIONS AND WARNINGS" in the following section and strictly adhere to the advice contained therein.

Also, please study the entire contents of this instruction manual, as far as to familiarize yourself with the essential operating features of the engine.

SafetY InstrUCtions and warNINGs about your O.s. engine

Remember that your engine is not a "toy", but a highly powerful internal combustion machine. Its power is capable of harming you, or others. As owner, you, alone, are responsible for the safe operation of your engine, so act with decency and care at all times. If at some future date, your O.S. engine is acquired by another person, we would suggest that you request that these instructions are also passed on to its new owner.

The following section will cover the many other possibilities, generally less obvious sources of danger, but which, under certain circumstances, may also cause damage or injury.

EnGine ConstrUction

With this engine, the piston is positioned at the top of its stroke (TDC) when the engine is cold. To start the engine, operate the starter and wait for it to strike a large, right-angle, ratchet. The piston and cylinder are designed to prevent any pumped out fuel from getting into the controls and other features of the engine.

The model engine fuel is poisonous. Do not allow it to come into contact with your eyes or mouth. Always store it in a clearly marked container and out of the reach of children.

Model engine fuel is also highly flammable. Keep it away from open flame, excessive heat or sparks, and anything else which might ignite it. Do not smoke or allow anyone else to smoke near the engine.

Model engine fuel may also cause damage or injury. Keep the engine away from children and pets. In the event of an accident, seek medical attention immediately.

Model engines generally come equipped with a manual choke. Never operate your engine in an enclosed space. Model engines, like automobile engines, exhaust harmful gases and fumes. Run your engine only in an open area.

Never operate an engine if the temperature of the engine's internal parts (e.g. cylinder bore) or the engine itself is likely to be very hot. Always allow the engine to cool down thoroughly to operating temperature. Insulate your hand on the engine's case to see if it is hot enough to burn you.

Always check that the linkage to the throttle arm is secure. For their safety, keep all onlookers (especially small children) well back at least 20 feet or 6 meters when preparing your model for running.

Before starting the engine, always check the tightness of all the screws and nuts especially those that with high-nitro fuels, although power increase, may also cause damage or injury. Missing misaligning the loose screws and nuts often provides the parts breakdown that is capable of harming you.

To stop the engine, fully retract the throttle stick and trim lever on the transmitter, or, in an emergency, cut off the fuel supply by pinching the fuel delivery line from the tank.

Warning! Immediately after a glowplug-ignition engine has been run and is still warm, conditions sometimes exist whereby it is just possible for the engine to start up accidentally if it is not over compression (OUT) the glowplug battery being reconnected.

Starting the engine

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, with full throttle (spare) set.

2. Rotate the retainer screw gently until it stops, then tighten a further 120-180°.

3. Do not start the engine. Do so will damage the thermo insulator.

Note: It is very important not to damage the O rings when removing the carburetor retainer from the engine. Also, it is very important not to pull out each part. Do not push the part in or damage the O rings.

The carburetor reducer included as a standard accessory must always be set in the carburetor. You can use a reducer with different inner diameter as an option to get your favorite tuning.

ENgine Installation

Make sure that the vehicle's engine mounting surfaces are level and in the same plane. Poor installation may result in vibration and damage to the engine. Excessively rich running and prolonged low speed running may result in engine overheating.

The starting procedure for the engine is from "no load" conditions (i.e. with the driving wheels not in contact with the ground). The starting procedure is given below for reference but not exhaustive/smoke exhaust.

1. When the engine starts, warm it up by repeatedly increasing the rpm to medium speed and back again a few times. This will ensure that the glowplug is connected, and the driving wheels clear of the ground. This procedure will help to lubricate and cool, indicated by profuse exhaust smoke.

2. Timing the throttle

a. Open the needle valve approx 45° to the standard position.

b. Set the throttle stick to approx 50% of the full throttle setting.

3. When the engine does not start or stops right after starting, switch the transmitter and make sure that each part is securely fastened. If the engine still stalls, close the metering needle approx 90° from the fully open position.

4. Close the needle valve approx 1mm.

5. When the engine starts, warm it up by repeatedly increasing the rpm to medium speed and back again a few times. This will ensure that the glowplug is connected, and the driving wheels clear of the ground. This procedure will help to lubricate and cool, indicated by profuse exhaust smoke.

6. If the engine is warmed up, disconnect the glowplug and allow it to cool until the engine is cold. This will ensure that the glowplug is connected, and the driving wheels clear of the ground. This procedure will help to lubricate and cool, indicated by profuse exhaust smoke.

7. Repeat this procedure (close needle valve very little after one tank of fuel has been consumed) until appropriate. 2 liters of air should have been consumed, as indicated by the gradual full throttle running time at the straight. Carefully observe the exhaust smoke. Be sure to run the engine with visible white smoke at all times. If the smoke is not visible, the needle value is closed too far.

8. Now the R/C is set (barring in is completed).

Note: 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.

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1. Set the carburetor at the standard positions (positions when the engine leaves the factory.)

2. Switch the transmitter and make sure that each part is securely fastened. If the engine still stalls, close the metering needle approx 90°.

3. Make sure rotating direction of the starter box is correct (connector pin from the rear tip to the front tip of the crankshaft), and turn the engine with the starter with the correct rotating direction.

4. Connect glowplug battery lead to the plug and start the engine with the starter box.

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Remember, closing the needle valve too far can vary due to the fuel and silencer used. In general, instructions manual as just a guide. Positions will

Note:

1. Required to maintain maximum performance. Readjustment toward a leaner needle setting may be unevenly. As with all engines, it is advisable to set both

2. When storing the engine, install the cap on the exhaust tube. This engine is the limited edition. All the special parts assembled in the engine are not available as spare parts. Use standard parts when you replace them. The following are special parts for the limited edition.

3. Outer head with special engraving. With crankcase with special engraving