

your plane, and repair it perfectly.

## FUEL

To obtain good results with ENYA R120-4C, it is recommended to use high quality fuel for glow plug engine which contains 5 ~ 15% of nitromethane.

STANDARD VOLUMETRIC RATIO OF FUEL COMPONENTS	
Castor oil or high quality synthetic oil	15 ~ 20%
Nitro-methane	5 ~ 15%
Methyl-alcohol	80 ~ 65%

## GLOW PLUG

ENYA glow plug No.3 and No.4 are suitable to R120-4C.

## PROPELLER

ENYA R120-4C will perform best with the propellers of high quality which run 9,000 ~ 11,500 r.p.m. on the ground. Do not use too big propellers.

At first choose a well balanced 15 x 6, 14 x 8, or 13 x 9 propeller of high quality for your R120-4C. You can get smooth running and good idling with the propellers made of glassfibre as they perform as an adequate fly-wheel. When you use a wooden propeller of rather light weight, it is recommended to use a spinner as fly-wheel. It is important to screw up the prop. nut tightly.

In case your propeller has a tendency to loosen by the engine knocking, attach 2 knock-pin screws (enclosed in the box) on the drive washer. In this case, it is needed to drill 2 holes of 3mm dia. in the boss of propeller in which the knock-pins are to be fixed.

## FUEL TANK

The fuel consumption is about 35cc per minute. Then, about 400cc ~ 500cc fuel tank is recommended for usual flight. To make the engine start easy, set the fuel tank at nearly same level as the carburetor.

## PREPARATIONS BEFORE STARTING

1. Connect a piece of vinyl pipe of about 10 cm length on the breather-nipple, to lead the excess oil in the crank-case out of the fuselage.
2. Attach the muffler tightly, and set the engine on the test stand or plane securely. Usually it is needless to pressurize the fuel tank.
3. Set the glow plug and propeller tightly. Choose the best setting angle of propeller at the compression stroke to flip it with your finger.
4. Close the needle valve, and fill the fuel tank with fuel.

## STARTING AND RUNNING

1. You can start ENYA R120-4C most easily by an electric starter. In this case, starter system is needless. Open the needle valve 4 ~ 5 turns, and close the throttle valve by 50 ~ 70%. Then, make the battery connection on the glow plug, and run the engine by the starter counter-clockwise. The fuel will be sucked into the carburetor, and the engine will begin to pop and start in several seconds.
2. After your engine starts, detach the battery connection, and open the throttle valve fully. Adjust the needle valve slowly to the best running position. But it is very important to run the engine always with a slightly rich mixture to get the best performance.

## STARTING BY HAND FLIP

When you start R120-4C by your hand flipping, do it carefully in all respects, because the compression and torque are much stronger than usual smaller model engines. To use a tight glove or some other protector is indispensable to guard your hand.

The GC carburetor of ENYA R120-4C has a newly designed starter system of unique and simple construction same as that of 46-4C. Handle this carburetor properly, and you will be able to start your R120-4C rather easily.

### In the case of cold weather below 10°C

1. Make sure your battery can heat the glow plug sufficiently.
2. Fill the fuel tank with fuel. Open the needle valve 4 ~ 5 turns.
3. Close the throttle valve down to the idling position. (The carburetor of R120-4C is adjusted in the factory to get fairly good idling.)
4. Pull the choke rod by your fingers. Then the throttle valve will slide about 3mm, and be closed completely. At the same time, the jet hole of priming fuel is opened at the inner side of the carburetor body where the vacuum of the inlet stroke is most strong.
5. Flip the propeller counter-clockwise 2 ~ 3 times against the compression stroke until the proper amount of liquid priming fuel is sucked into the cylinder and your flipping finger feels weak knocking. In cold weather the liquid fuel priming is very effective for starting.
6. Push the choke rod back to the normal position, and open the throttle valve a bit. (10 ~ 15%)
7. Connect the battery to the glow-plug and flip the propeller counter-clockwise quickly against the compression stroke. When the priming and other conditions are proper, the engine will start within several flips and continue to run at the medium speed of about 4,000 ~ 5,000 r.p.m.

### In the case of mild or warm weather above 15°C

1. Fill the fuel tank with fuel and open the needle valve 4 ~ 5 turns.
2. Open the throttle valve a bit from the idling position, (about 10 ~ 15% of the stroke of the throttle lever.)
3. Pull the choke rod. Then the throttle valve will be almost closed remaining a very narrow slit.

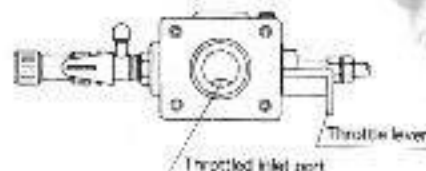


Fig. 1-a  
The throttle valve is opened a bit from the idling position.

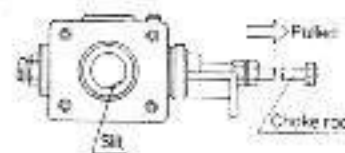


Fig. 1-b  
The choke rod is pulled. And the inlet port becomes a narrow slit.

4. Flip the propeller counter-clockwise quickly 4 ~ 5 times same as the starting. Then the fuel from the jet hole of priming is sucked into the cylinder together with the high speed air through the narrow slit making rich mixture suitable for starting. (We will name this process "Priming flip".)
5. Push the choke rod back to the normal position.
6. Connect the battery to glow plug and flip the propeller to start the engine same as mentioned in the above item No.7. Usually the engine will start very soon.

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