

CARBURETOR CONTROLS

With a fixed-wing model, power failure is rarely a serious threat to the safety of the aircraft since it can usually glide down to a safe landing. In a helicopter, on the other hand, it is vitally important that the engine keeps running and that there is a quick and reliable response to the throttle in order to ensure safe ascent and descent of the model.

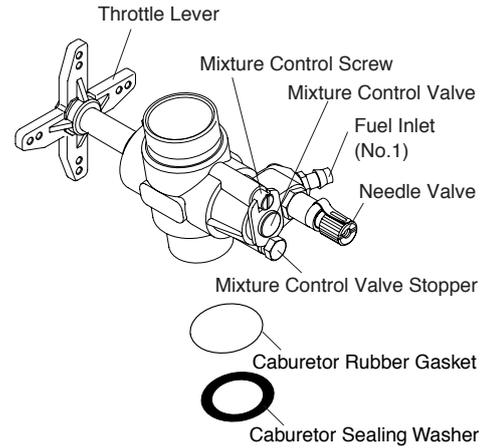
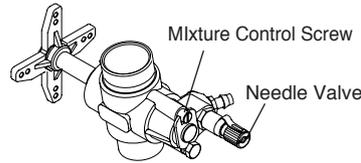
Two adjustable controls are provided on this carburetor.

• **The Needle Valve:**

When set to produce maximum power at full throttle, this establishes the basic fuel/air mixture strength. This is then maintained by the carburetor's automatic mixture control system to cover the engine's requirements at reduced throttle settings.

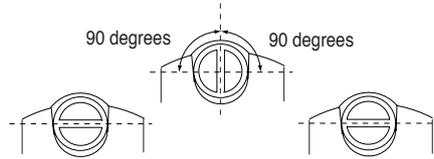
• **The Mixture Control Screw (Mixture Control Valve):**

For adjusting the mixture strength at part-throttle and idling speeds, to obtain steady idling and smooth acceleration to medium speeds. The Mixture Control Valve has been factory set for the approximate best result. First, run the engine as received, and re-adjust the Mixture Control Valve only when necessary.



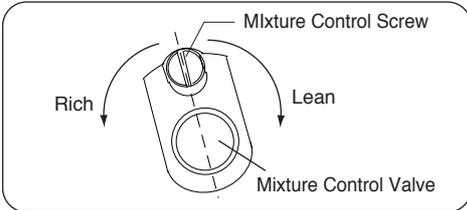
NOTE

As the idle mixture control screw is installed with **LOCTITE**, it may initially feel stiff, and it is suggested to use a littli larger screwdriver. The screw can be turned only 90 degrees either way. Do not force to turn further, or it may break or cause trouble.



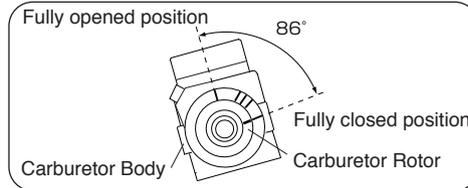
■ **BASIC POSITION OF MIXTURE CONTROL SCREW (Mixture Control Valve)**

As delivered, the Mixture Control Screw is positioned at approximately the center as shown in the sketch. Mixture gets lean when the Mixture Control Screw is turned right, while mixture gets rich when the Mixture Control Screw is turned left. With a model helicopter, adjustments vary with combined various factors such as climatic conditions, fuel, muffler, main rotor, weight of the model, gear ratio, etc. Therefore the Mixture Control Screw position varies with each model and set-up, and it is normal if the Mixture Control Screw position is off the center.



■ **GRADUATIONS ON THE CARBURETOR BODY**

As shown in the sketch, the carburetor has graduation marks.



When the triangle mark on the carburetor rotor meets the most right mark, throttle is fully closed. When the triangle mark meets the top mark, throttle is fully open. The range is 86 degrees. You may use other three marks as the reference marking of throttle opening to your preference when hovering.

WARNING!

Never try to check the triangle mark position while the engine is running and rotor is rotating, or you may be hit by rotating rotor which results in serious injury. Stop the engine and rotor before checking the triangle mark position.

■ **SUBSEQUENT READJUSTMENTS**

Once the engine has been run-in and the carburetor controls properly set up, it should be unnecessary to alter the mixture settings, except to make minor adjustments to the Needle Valve occasionally, to take account of variations in climatic conditions.

The use of a different fuel, however, particularly one containing more, or less, nitromethane and / or a different type or proportion of lubricating oil, is likely to call for some readjustment of the Needle-Valve.

Remember that, as a safety measure, it is advisable to increase the Needle Valve opening by an extra half-turn counter-clockwise, prior to establishing a new setting. The same applies if the silencer type is changed. A different silencer may alter the exhaust pressure applied to the fuel feed and call for a revised Needle-Valve setting.

The use of a different glowplug, or changes to the mainrotor and its pitch angles may also require compensating carburetor readjustments.

■ **CARBURETOR CLEANLINESS**

The correct functioning of the carburetor depends on its small fuel orifices remaining clear. The minute particles of foreign matter that are present in any fuel can easily partially obstruct these orifices and upset mixture strength so that engine performance becomes erratic and unreliable. It is recommended that fuel is passed through a filter when the tank is filled and that a good in-line filter is installed between the fuel tank and carburetor and, furthermore, that this filter is frequently cleaned to remove foreign matter that accumulates on the filter screen. Finally, occasionally remove the needle-valve holder from the carburetor as shown in Photo and extract any remaining foreign matter that may have lodged in the location shown in Photo, right.

