W E B R A

OPERATING INSTRUCTIONS

Congratulations on the purchase of your Webra model engine!
Robust, powerful and efficient - these are the attributes of all engines produced by the most successful manufacturers in Germany and Austria. Our claims of quality and performance are underlined by numerous victories at world championships and other large competitions.
Webra model engines are strong and utterly reliable.
We manufacture inexpensive, glow-ignition, cross scavenged engines. For better performance, we make the "Speed" series which are Schnürle ported.
All Webra engines are precision machines and should be handled with care. The following recommendations will give you all necessary mounting and adjustment details.
The full inventory of spare parts for your engine can be found in the large Webra catalogue which can be purchased from your dealer.

GENERAL INFORMATION (MOUNTING AND STARTING)

1. Engine Installation

The engine should be mounted firmly in the model so that it cannot vibrate. An aluminium engine mount is recommended and the engine should be bolted to this mount using the following bolt sizes:- (Metric Thread)

M 3,5 - Speed 90, 61, 40 Webra 61 Blackhead
M 3 - Webra 40 Blackhead
M 2,6 - The Speedy

If the engine is rear mounted, the mounting bolts must enter the crankcase to a depth of at least 8 mm.
For technical reasons, side flange mounting is preferable to rear mounting.

2. Tank positioning

The centre of the tank should be level with the centre line of the carburettor, and as close as possible to the engine. To prevent fuel foaming wrap the tank in sheet sponge rubber. Choose a tank which can be pressured, by connecting fuel tubing from the pressure nipple on the silencer to the tank. In the case of the Pylon 40 take the pressure from the crankcase. Ensure that the pressure system is sealed.

3. Running-in

Mount the engine in the model, using the correct propeller (see Table A). The running-in fuel mixture should contain at least 20 % oil (maximum 30 %).

4. Operation of Engine

On the ground run at least one tank of fuel through the engine. Set the high speed needle so that the engine is "2-stroking" and set the idle needle so that the idling speed is approx. 4 - 5000 r. p. m. Put the model in the air, gradually weakening the mixture until sufficiently "lean" to enable the engine to "peak" at full throttle.
The piston ring/liner surfaces are extremely hard and the engine will not be fully run-in until it has been used for many hours.

5. Starting the engine

Inject a few drops of fuel into the carburettor air intake. Prime the engine by turning the propeller a few times anti-clockwise. Connect a battery (1,5 - 2 V) to the glow plug, the filament should glow bright-red. Flick the propeller anti-clock-wise as quickly as possible until the engine fires. Should the engine start, run at high speed - then stop, open the needle valve one full turn and repeat the starting procedure.
Should the engine start, run at low speed - then stop, close the needle valve onefull turn and repeat the starting procedure.
To stop the engine disconnect the fuel supply.

IF AN ELECTRIC STARTER IS USED TAKE CARE TO ENSURE THAT THERE IS NO EXCESS FUEL IN THE ENGINE! THIS CAN PERMANENTLY DAMAGE YOUR ENGINE

6. Engine Maintenance

Do not permit foreign bodies to enter the engine. If this should happen, remove the cylinder head and back plate and wash out with fuel or gasoline. The engine should be dismantled only when absolutely necessary. When repairs are necessary the engine should be returned to an authorised service station.
Good Luck and have fun with your Webra Engine.

OPERATING INSTRUCTIONS FOR WEBRA DYNAMIX CARBURETTOR

The Webra Dynamix Carburettor has several advantages when compared to conventional carburettors.
1. It has an automatic mixture control which is effective across the total range from idling to full throttle. The oftimum mixture is therefore supplied to the engine for each throttle position.
2. An accelerator pump injects fuel when required. This effects very fas acceleration and increases the reliability of the engine.
3. The carburettor throat is not restricted by a barrel or spray bar and in consequence fuel injection is batter which improves the engine performance.
4. The carburettor slide is controlled via a universal ball joint. This is infinitely adjustable and permits easy connection of the servo control rod.
5. After removing the control rods, the carburettor can be detached and cleaned without interfering with its adjustment.

THE WEBRA DYNAMIX CARBURETTOR MUST BE OPERATED IN CONJUNCTION WITH A PRESSURED FUEL TANK OR WITH A FUEL PUMP. IT WILL NOT OPERATE BY VENTURI ACTION.

ADJUSTMENT OF THE DYNAMIX CARBURETTOR

(See illustration of carburettor in German leaflet).

1. Set the throttle lever (3) so that at full throttle the hole in the throttle slide is fully exposed to the cross section of the carburettor. At idle this hole should be closed except for a gap of 0,3 - 0,5 mm. Lengthening the throttle lever (3) decreases the throttle slide travel, shortening the lever increases the slide travel.

2. Open the high speed needle (1) between 6 - 8 turns and start the engine with the throttle half open. After a few seconds warming up, open the throttle fully and adjust the needel (1) to give a high r. p. m. Do not make the mixture too lean - this will damage the engine.

3. Final idling adustment can only be done after the engine has been completely run-in.

The carburettor has been preset in the factory but may need slight adjustment. Adjustment is made to the low speed needle (2) which is on the end of the throttle slide.

Turn knurled screw clockwise to richen the idling mixture.

Turn kurled screw anti-clockwise to weaken the idling mixture.

ADJUSTMENT OF THE WEBRA TN CARBURETTOR

(See illustration of carburettor in German leaflet)

To understand the principles of the WEBRA 61 RC TN Carburettor it is essential to understand that:-

- The high speed needle (1) regulates the full throttle mixture only
- The low speed needle (2) regulates the idling mixture only
- The cone of the low speed needle (2) regulates the mid range mixture

The primary advantage of this carburettor system is that the level of fuel in the tank cannot effect the setting of the idle needle.

1. Check the setting of the idle needle (2) by rotating the throttle lever (4), which turns the barrel inside the carburettor body, until there is only a very small gap left open in the air intake throat.

2. Using a jeweller's screwdriver, carefully screw the low speed needle (2) in as far as it will go. Unscrew this needle (2) by two full turns.

3. Open the throttle lever (4) fully. Start the engine in accordance with the operating instructions and adjust by needle (1) to maximum speed.

4. After the engine has warmed up, throttle back to approx. 3000 r.p.m. and set the throttle stop screw (3) to this speed. If at this setting the revs graudally drop then the mixture is too rich and needle (2) should be screwed in slowly until the engine speed is constant. If the engine stopf or falters during change over to full throttle then the mixture is too weak and the idle needle (2) should be screwed out a little.

Finally adjust the throttle stop screw (3) to obtain the desired idling speed.

5. The guide screw(s) with its lock-nut serves as a lateral guide for the throttle barrel.

ADJUSTMENT OF THE WEBRA CARBURETTOR TN 20

(See illustration in German leaflet)

To understand the principle of the WEBRA RC TN Carburettor it is essential to understand that:-

- The high speed needle (1) regulates the full throttle mixture only
- The low speed needle (2) regulates the idling mixture only
- The cone of the low speed needle (2) regulates the mid-range mixture

The primary advantage of this carburettor system is that the level of fuel in the tank cannot effect the setting of the idle needle.

1. Check the setting of the idle needle (2) by rotating the throttle lever (4), which turns the barrel inside the carburettor body until there is only a very small gap left open in the air intake throat.

2. Using a jeweller's screwdriver carefully screw in the low speed needle (2) as far as it will go. Unscrew this needle two full turns.

3. Open the throttle lever (3) fully. Start the engine in accordance with the operating instructions and adjust by needle (1) to maximum speed.

4. After the engine has warmed up, throttle back to approx. 3000 r.p.m. Should the revs steadily fall away then the mixture is too rich. Screw in the idle needle (2) until the engine speed remains constant. If the engine falters or stops during change over to full throttle, then the mixture is too weak and needle (2) must be unscrewed a little.

ADJUSTMENT OF WEBRA CARBURETTOR "SPEEDY"

(See illustration in German Leaflet)

Final adjustment of the idle needle is made after the engine has been run-in. First adjust the high speed needle to give maximum speed. Then close the throttle to leave a gap of approx. 0,5 mm. This gap is set by the stop screw (2). If the engine slows down or stops altogether then the air control screw (3) is unscrewed slightly. If the engine falters or stopf when being changed to full throttle then the mixture is too weak and the air control screw must be screwed in a little.

A smooth idling speed is only possible when a silencer is fitted.

ATTENTION THE SPEEDY WITHOUT AN R/C CARBURETTOR MUST BE OPERATED WITH A PRESSURE TANK

In this case fit the enclosed pressure nipple instead of one of the two upper crankcase bolts, and connect the nipple with fuel tubing to the pressure tank.