



Designer of Aircraft Engines



## Common instructions for motors FM / VM

We currently have a production program engine capacity of 60, 70, 85, 120, 140, 170, 210, 250, 280, 420 and 800cc, all 4-stroke version. The engine purchased've got brief instructions for the type of engine. The description of the maintenance and further advice is pretty much all engines indiscriminately and pay attention to him. It can save you unnecessary worry, saving wasted fin. Resources and protect the health of all concerned.

Engine built into the model is very individual, it is necessary to have some experience with the installation of large petrol engines or get advice from more experienced colleagues in the area. In mind it is necessary to have especially good motor mounts both sufficiently dimensioned partition and custom motor mount to the bulkhead. High quality screws, thread adhesive and self-locking nuts are commonplace. Do not consider only the weight and motor power, but also calculate the vibrations.

Another important thing is the **perfect uniform cooling of the entire motor if possible, but mainly cylinders and heads**. Yet do not only for cooling air, but also to the hot air of the engine, which should be substantially flat larger than the inlet opening in order that a proper air flow. It can be successfully used in different partitions - rectifier air inlet to the cooling air flowing went really where we need. Remember to keep an adequate distance from exhaust pipes and combustible materials to exhaust airflow around the exhaust holes and silencers.

### Installation of a fuel system

The tank is best to place the center of gravity of the model, ensuring that the focus does not shift to fuel decreases. Better tank is placed above the line of the carburetor. For the first start (or in the case that each time hitting all the fuel) to make sure that the entire fuel hose toward the carburetor is filled with fuel and without bubbles. In theory, no matter how the fuel to the carburetor has a long way, but of course it is better when it is most direct and shortest. Install the fuel line if possible so that you could, if necessary, to see if the fuel do not air bubbles. Since the fuel tends to foam due to vibration of the tank, using a special suction tip into the tank, which also act as weights and thus ensure continuous submersion the nozzles of fuel at all times and locations of aircraft. Opinions on these terminations are different, they are pilots who use these terminals, "felt sole" used to prevent foaming of fuel and air in the fuel system, and still others argue that they can be loose thread and get into the carburetor. Therefore, using only the suction end with weight and have no problems with fuel foaming.

In both cases - and 200% in the second - it is absolutely necessary to have fuel system perfectly cleansed and purged, and then only draw the filtered fuel, preferably two stages. I.e. pour fuel into the tank through a filter to the airport and then at the airport upon model fuel still chase through the built-flow filter. Refueling nozzle to keep them closed by caps to eliminate the possibility of contamination in the fuel and subsequent engine failure in the air.

Place the fuel tank in order to minimize vibrate while elastically stored and unable to relax or chafe the fasteners. Note that a fully fueled tank is probably (after the engine), the second heaviest part of the onboard equipment model. How to assemble concrete tank, etc. is described in the manual tank, we would just like to point ventilation of tank - be careful way it is conducted and where it opens out! It can also occur in-flight fuel leak eg. to exhaust and then it can be a problem. Fuel system generally pay maximum attention both in terms of reliability and safety terms. Use a hose directly related to petrol! Others quickly be harden during operation and the risk of fuel leakage. Proven yellow tubes are called Tygon. Furthermore, they are transparent, which is useful for monitoring whether possibly not in the fuel system bubbles.

## Ignition system

When placing the ignition, keep in mind mainly two things: ignition is fully electronic and vibration did not need to do well and can be a source of interference for on-board system management model.

Therefore, the ignition is placed at a suitable position (with regard to the length of high-voltage cables to candles), but away from the receiver and wiring related to the management model. Applying a similar saving is recommended to receiver - ie. Use for unit ignition flexible rubber. Great attention should be paid to the management of the ignition voltage cables to candles. Voltage in the cable may be closer to 20,000 volts. We never kink the cable into sharp bends, will enable him, if possible, a gradual bend, in many places it we attach to the solid parts to avoid abrasion by vibration. In exposed areas or in areas where cable is more thermally stressed it can give more protection to the coil or coated with silicone tubing.

Change the spark plugs by the engine type recommendation. Use prescribed candles and candle while checking the focus on color and distance spark plug electrodes. At the same time check whether there is a partial burning of some of the electrodes. Proper candle in a properly tuned engine should not be black, better brown and no visible carbon. Condition candles assessed after longer flights in the normal speed range, not e.g. after prolonged idle - then each candle be black. In case of any doubt, replace the spark plug. In multi-cylinder engines always change all the candles at once !!!

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