

Secondly, in later half of 1943 russians were improving La5FN by actualy cleaning its aerodynamics. This improvements were:

- * The spinner shape was made shorter and the hucks starter dog removed.
- * The oil cooler was housed more aerodynamically and relocated on the fuselage behind the wings
- * Engine cowling was simplified and number of panels reduced.
- * A new main wheel door was added to reduce drag over the wheel well.
- * The exhaust cover plates were reduced in size.
- * The super charger inlet was rehoused under the engine.

original La-5(F)pilot's instruction manual (Nov,13,1942) page 18:

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In order to reach a maximum speed when enemy is encountered, the following steps are necessary:

1. Close the mixture corrector.
2. Above 3500 m, supercharger should be set to 2nd stage.
3. Full throttle (2400rpm)
4. Close canopy for a 10km/h increase in speed.
5. Close cowl flaps and oil radiator (opening them reduces the maximum speed by 30-35 km/h)
6. Engage forsazh (WEP). Forsazh can be used continuously for 5 minutes.
7. Temperatures should be:
No higher than 215 C for cylinder heads
No higher than 125 C for oil

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And here's another quote from the original pilot's instruction manual, this time it's a La-5FN (July,14,1943) page 16-17:

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In order to reach a maximum speed when enemy is encountered, the following steps are necessary:

- a. Close canopy for a 15-18 km/h increase in speed.
- b. Close cowl flaps and oil radiator to get a 45-50km/h increase in speed and decrease the time necessary to make a complete turn by 2 seconds.
- c. Check the tailwheel position. If it didn't retract completely, briefly set the gear lever to "retract" position. If the tailwheel is not retracted, the speed is reduced by 8-10km/h

- d. Briefly set the flaps lever to "up" position. When flaps are not retracted firmly and got loose slightly during the flight due to the airflow suction effect in flight, the speed is reduced by 18-20 km/h.
- e. Engage forsazh (WEP), Manifold pressure - 1180 mm, engine - 2500rpm. Continuous forsazh can be engaged for 5 minutes.

Using a high manifold pressure setting (1180mm against 1000 nominal) ensures a speed increase by 30-35 km/h.

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La5FN had only 2 minutes of "WEP". La7 is suppose to have 10 minutes. But not in all the cases, al situations.

WEP is 110% of engine power.
Forzak is constant 2500 RPM.

Radial engines NEED air flow to cold down. The engine overheat depends of your SPEED. more speed = more cold.

A radial engine can't go full WEP and climbing, for instance. Because of the slow speed and low air flow = poor cooling.

IMHO there is some problems with the cooling and the overheatings, and so on. But, i think this is to want TOO MUCH from a 50 euros game.

However through out 1943 and 1944 the La-5 FN benefited from a continued weight saving program as certain wooden parts were replaced with light alloy parts. The fuel tanks were later changed to a 3 tank set (when the metal sparred wings were adopted) but this did not add to the aircrafts range which had been reduced by the heavier breathing engine. Combat mission flight duration at full power was now only 40 minutes, however this could be extended to 2 hours and 32 minutes when at reduced engine revs .

Continued development of the control surfaces and trim reduced control stick forces to a point where these "provided a considerable improvement in handling and manoeuverability".

During 1943 a total of 5048 La-5F and La-5FN aircraft were built across 4 aircraft factories. 4619 being built at GAZ-21 Nizhny-Novgorod (Gorkii). Production of the La-5FN continued until November1944 during which time a further 3826 were produced in parallel with the then latest mark the La-7.

