

IL-2 STURMOVIK: Battle of Stalingrad

LaGG-3

Engine start and warm-up.

- Set mixture selector to shut position (fully backward);
- Close water and oil radiator shutters.
- Set prop pitch control fully backwards (low pitch).
- Set throttle control to low.
- Start the engine and wait for stable engine operation with low RPM.
- Engine warm-up RPM during winter time is between 900-1200 RPM, normal coolant temperature is 60°C without relation on oil temperature.
- Check wheel brakes operation during taxi by pressing brake clutch and slowly advancing the throttle, keep airplane tail in down position. Airplane should start moving with 1850-1900 RPM, after check - pull back throttle and depress brake clutch.

Taking-off.

- Fully open water and oil shutter.
- Set propeller control fully advanced (night pitch).
- You may use flaps down 15-20 degrees position for shorten take-off roll.
- Make sure that runway is clear before rolling.
- Softly advance throttle to its maximum position.
- When rolling, keep your run straight and perform take off with slightly lowered tail.
- Push left rudder correspondingly to airplane tendency to yaw to the right. With rapid throttle increasing and tail up - airplane tendency to right yaw is higher.
- When taking-off with side winds the airplane will try to keep its nose into the wind.
- To make your take-off roll straight check forward view by leaning to the left from gunsight.
- Airplane gets airborne at around 180-190 km/h. Do not force airplane to go airborne at lower speeds as airplane controls are ineffective and it may lead to ground bumping by main wheels.
- After take-off at 250 km/h you may lower you flaps at 100m height. Perform climb at 270 km/h.
- Retract your gear and control it with cockpit light indicators and double check by mechanical indicators on wings.

Climbing.

- climb speed is 270 km/h with 2550-2700 RPM depending on water and oil temps.
- At altitudes higher than 4000 meters lower your climb speed by -10km/h with every 1000 meters of height.
- Maximum water temperature is 110°C. In case of engine overheat lower engine RPM to 2300 and perform climbing with higher speeds.
- Recommended water and oil temperatures are between 90-100°C.
- Switch supercharger to 2nd gear after 2000m height.
 - When climbing you may use mixture selector to lean the engine after 3000m of height.

Level flight.

- Perform switch from climb to level flight by following steps:
 - *set your speed with throttle position but no lower than 250 km/h indicated at all altitudes;

- *after that adjust engine RPM correspondingly to airspeed with propeller pitch control; if airspeed drops due to lower pitch RPM setting, increase your throttle setting.
- In case when re-set from low speed flight to higher speed flight:
 - *close mixture selector;
 - *set prop pitch control correspondingly to speed needed;
 - *only after that advance throttle control.
- In case of combat and maximum speed flight steps to follow is:
 - *close mixture corrector;
 - *set RPM to 2650-2700 for all altitudes;
 - *set radiator shutters control by airflow position;
 - *in case when flight higher than 2000m set supercharger to 2nd gear position.
- Routine flights, ferry flights, for best fuel consumption before entering combat areas and such, follow next recommendations: Set RPM to 1700, indicated airspeeds: for 5000m alt - 280 km/h, over 5000m – 270km/h.

Gliding and landing.

- Before gliding approach set RPM to 2600 with your pitch control, that makes touch and go easier in case of go-around after faulty landing attempt.
- Gliding speed with gear down is 250-260 km/h indicated, with flaps down to 60° - 210-220 km/h; minimal gliding speed with flaps down to 60° - 200 km/h.
- You should always beware that during maneuvering LaGG-3 bleeds its speed badly and gains it very slowly.
- On approach set gear down before Zith turn with speed 300-320 km/h. Glidepath is much steeper with flaps down than with flaps up.
- Go-around decision alt is no lower than 50 meters. When go-around apply throttle gently and keep airspeed over 250 km/h, flaps up on alts over 100-150 meters.
- Correct landing approach is a key for safe landing, follow next steps with LaGG-3 on landing approach:
 - * glidepath after 3rh turn should be with 90° to landing course;
 - *when gliding after 3rd turn with 90° to landing marks on side you can correct your flight parameters on final approach;
 - *last turn (to final approach) make with 90° turn; all of these makes your final approach position parallel to landing signs;
 - *when approach correction after final turn allowed to bank airplane but not higher than 115° (left or right).
- Keep your airspeed before pull for leveling, keep alt around 8-6 m.
- Final leveling before touch down should be not higher than 1 m with follow down to 0,5 - 0,25 m. Leveling should be performed with slow stick back movement. Airplane with flaps down loses its speed fast and performs three point landing.
- When at high alt leveling is not allowed to push stick forward. In this case - keep your stick position fixed and depress stick gently following by airplane position to runway and altitude drop.
- Its forbidden to rapidly pull stick back on final landing (for three point landing) in any situation, as it may lead to bump of runway or stalling on wing.
- Apply brakes only after three point landing after fully applied stick back and airplane rolling straight (estimated brakes apply is around 1/3 of ground landing roll distance).
- Do not apply brakes and rudder movements rapidly as it may cause airplane ground looping or to change direction. When landing on snow apply brakes carefully.