

Mig-3 Mostly per The Sheriff

(https://www.youtube.com/watch?v=wRyni_xGjpl&index=2&list=PLc4tmHaPyjww6PesMpxqRrCh10G_U4FQt) with further notes from Bismarck

(<https://www.youtube.com/watch?v=dst2Z7buSI4>)

Takeoff and landing. For a different approach see Requiem (The Air Combat Tutorial Library), https://www.youtube.com/watch?v=Zh-6oQF4l9I&index=3&list=PLnyigzFtHeNoZw4NdT4jjwY5rFET4_cBf (Requiem is a commercial pilot and uses a more technical/civilian "pattern" approach to take off and landing.)

Configuration:

- 2 - 12.7 mm Berezin MGs over default 1 - 12.7 plus 1 - 7.62 ShKAS
- No gun pods, rockets or bombs (better ground attackers available). Actual Mig-3 pilots did not like them either. (Commenter Петар Витановић recommends 12.7 pods, configure to shoot them first)
- 350 liters of fuel for about 1 hr flight time (but watch "boost" per comments below). The full 480 liters gives 1.5 hrs flight time. Can be extended with throttle/mixture settings.

Start up:

- Radiators, 35% both (Bismarck 50%)
- Flaps limiter to 50% (LSHft + "F")
- RPM to maximum
- Mixture to 60%. (Supposedly mixture is automatically controlled at 50%, but in practice power is lacking)

Taxi:

- Tailwheel is locked until 40% rudder deflection
- 50% throttle to get going, 30% to maintain speed
- No toe brakes - differential braking is by rudder position. (Default wheel brake key is "/".)

Takeoff:

- Trim - slightly nose up (left trim to counter torque is optional)
- Mixture stays at 60%
- Start with 50% throttle, easing up to 80% throttle until tail lifts, then gradually to 100%
- Ease off the runway at 200 kph.
- No sudden/extreme rudder deflection. If you release ("control") the tail wheel, all hope is lost.

Cruise:

- Single-stage supercharger is optimized for 7,000 meters (i.e. get high)
- Maintain lower mixture (60% (?)) to increase fuel economy.
- Radiators:
 - Cold temperatures, ~25% water, 20% oil
 - Hot temperatures, ~45% water, 35% oil

Combat:

- Engine Management:
 - "Boost" is 85% mixture (and above). At 100% the engine may overspeed and die (seize up) if you go into a dive. Otherwise, you will have about 15 minutes in "boost" before the engine is damaged.
 - Climbing & combat: Throttle & RPM, 100%, Mixture 80%
 - Radiators (see above) - they can be closed for speed. With an overheat (120 degrees C.) you have 5 minutes to cool the engine down.
- Tactics:
 - Tactics similar to German planes - surprise attack. Get some altitude, stay on the move between enemy objectives, or between enemy airfield and objectives. (Unlike most other Russian planes, the Mig can catch a cruising Bf-109.)
 - Pick course carefully - difficult to make course changes at slow speed. Best is to get close on low 6 o'clock, burst into engine.

- Usually better to push through rather than slow down. (Note: "boom & zoom", but plane is a bit challenged in "zoom" compared with German planes.) Best to work with a wing man, so you can drag the opponent.
- Turns better than Fw-190, worse than Bf-109. Climb and acceleration are worse than both. Don't get slow with a Bf-109 - it can out-turn you and you do not have the acceleration to get away.
- Maintain speed - split-S to evade rather than turn. At slower speeds, roll (including snap roll). If you have to turn at slow speeds, use flaps. (Set flaps limiter at 50%, as above.)
- Evade - run straight, do not climb or turn. Close down radiators but you only have 5 minutes to cool down an overheated engine. (Presumably, trim to get maximum speed)
- Aiming - use elevator trim to steady the plane for lining up shots.
- Diving - better than other Russian planes, starts to shake before hitting structural limits. Open radiators and deploy flaps to slow down.

Landing:

- Check runway to confirm it is clear, land in the direction other pilots are taking off.
- Reduce speed to 300 kph and line up with the runway.
- Extend landing gear and full flaps (resetting flaps limiter if necessary)
- Line up with start of runway, reduce speed to 200 kph and maintain that speed.
- Hold the reticle on the horizon, several meters above the runway, and reduce speed. (Stall speed is 140 kph with gear and flaps down).
- Bring down speed with slight left & right rudder and tap wheel brakes.