

L-39 Pilot Report

by Barry Hancock

Sexy good looks, easy of maintenance, great handling characteristics, and modern amenities have made the Aero Vodochody (Vo-do-ho-dee) L-39 “Albatross” the most popular jet warbird in the country - but what’s it really like to fly an L-39? Find a comfy couch, grab your favorite beverage, and join me for “ride” in a plane that just gets more fun every time I fly it.

GETTING STARTED

We’ll get to the start procedure in a minute, but the question often comes up of how do you get started flying a jet warbird? What you really need are two things:

- 1) Experimental Type Rating. The standard qualifications are 1000 hours of PIC and an instrument rating. Actual training time will vary from 10 to as much as 30-40 hours depending on background and aptitude. A pilot with a significant war bird background (including Yaks and Cjs) will take 10-15 hours, on average, to get ready for a checkride.
- 2) Fuel money. Once properly adjusted, the L-39 is basically a “consumables” airplane. At 150-180 gph, however, it doesn’t take long to convert Ben Franklins into fun.

Additional needs include a supportive spouse, or one who’s kept in the dark – did I just say that? – 5000 feet of runway, and a professional approach to every flight (what airplane doesn’t?)

PREFLIGHT

Just as with all warbirds, the L-39 was designed to be operated by a crew. Attention to numerous routine maintenance checks is the only way to insure consistently safe and problem free operation. That being said, it’s an airplane – the typical walk around to ensure everything is secure, no fluids leaking, proper tire and strut inflation, etc. - takes about 5 minutes to do it right. The main thing is to make sure there is no potential for FOD damage (check the intakes) and that the nose compartment doors are secure. Forgetting to close these up can lead to the compartment opening at rotation and whatever is in there will head straight for the turbine blades. This scenario is responsible for at least 3 fatal accidents. We have gone to installing a micro-switch in our airplanes with an enunciator light in the cockpit to help prevent this.

Once you’ve secured the rear cockpit and/or completed your passenger brief, it’s time to strap on 10,000 pounds of the best performance for the dollar in high end warbirds.

START / TAXI

No pulling through 12 blades, puking oil, priming, or other sweat inducing activities necessary...AND you can get airborne without black oil stains on your flight suit! After

ensuring all switches are in their proper place and all indications for start are normal, you simply depress the “Turbo” button, hack your clock, and wait for the “Sapphire” APU to come online within 20 seconds. When the “Turbine Starter” light comes on, the Sapphire is ready to spool up the engine. Hit the “Engine Start” button, immediately advance the throttle to idle and wait for the start cycle to complete while monitoring RPM, CHT, your watch, and for the “Turbine Starter” light to go out at the proper time (keeping your thumb on the throttle guard in case you need to go to SHUTOFF to prevent a hot start – in over 200 starts, I’ve not seen anything close to a hot start. They are rare...but you don’t want to take the chance of frying a \$100,000 engine!). Once at idle, throw the rest of the necessary switches forward, including the pressurization and, ahhhh, air conditioning!

Before leaving the chocks it’s time to check the flap and speed brake operation, making sure to check the hydraulic pressure gauge for a healthy system. Spool up to about 70% momentarily to depart the chocks with flaps in takeoff position and do a quick brake check. The rest of the taxi exercise is very similar to the Yak or CJ...getting slow around corners turns the brake dance into a battle of wills.

RUNUP / TAKE OFF

By now the ECU (Environmental Control Unit) has the cockpits stable at the selected temperature. For the first flight of the day there is a run-up procedure to check for bleed valve operation and normal EGTs. A left to right flow around the cockpit followed by a checklist confirmation and you’re all set to go.

On a standard day an L-39 loaded for a typical local flight (290 gallons and two passengers) requires about a 6000 ft. balanced field length. The plane will get airborne, depending on technique, in about 3000 feet. After aligning the aircraft on the centerline and squeezing the brake handle, smoothly advance the throttle, giving one more check of the EGT as the nose strut compresses, no blinking red lights, RPM stable at 106%, and you’re ready to go! At brake release you are gently pushed back in your seat as 3800 lbs of thrust propels you down the runway. At 40 knots the airspeed comes alive and directional control is easily maintained, typically with rudder only. At 90 knots apply back pressure with about 2 inches aft stick and wait for the nosewheel to come off at about 100 knots. Assume a 7-8 degree nose high attitude and the plane will “unstick” at about 110 knots. Positive rate, gear up. Hold the nose down and accelerate to 140 knots, where the flaps come up. This is a little disconcerting to do at first, but the object is to get to 165 knots (initial turn speed) as quickly as possible to give you options in the event of an engine failure (more on that later). As you begin your turnout and initial climb, the plane quickly accelerates to 210 knots (Vy) and a 2500 fpm climb rate can be sustained through about 8000 feet MSL. Remember, however, that at 200-ish knots, you’ve covered a lot more ground than you would in a Yak, so planning climb outs, particularly in mountainous areas on a high DA day is critical. The most critical part of the flight is over...and the real fun is just about to begin... (Part Two coming next quarter)

About the author: Barry Hancock is a commercial pilot who holds a multi-engine instrument rating. He began flying CJ's with only 70 hours total time and has amassed over 900 hours in various warbirds including the CJ-6, Yak-50/52, T-6, T-28C, and L-39. He is the owner of Worldwide Warbirds, Inc. in Chino, CA, which specializes in the restoration, sales, and service of jet and piston warbirds.