


Checking Out in a New Warbird

BY DOUGLAS GILLISS



All of us have checked out in a new aircraft at one time or another. Flying your first former military round-engine or turbine-powered fighter or trainer is definitely an experience that will get your attention. Whether you have flown military aircraft for years or decades, or you are ready to begin that extension of your pilot skills, every time you get into a new cockpit to fly a high-performance aircraft for the first time, particularly alone, there are some fundamental guidelines. Let me share some of the ones I have identified that might make a checkout in a new and different aircraft easier and safer.

Get the Book

It is challenging to try to check-out in a new aircraft without having studied the flight manual. Few aircraft are available today that do not have a flight manual you can get your hands on. In fact, before I would purchase an airplane I would want to see the manual—to learn about the plane. I bought the manual before I acquired my airplane, and found it to be valuable. Additional training materials are also worthwhile. They can help prepare you for ground school. So, find a manual. Even if you are not going to buy an aircraft and are just adding the rating to your license, you need the book.

Read the Book

Once you have the manual, read it. Most military manuals are organized similar to the U.S. military manuals, such as the U.S. Air Force “Dash One” or U.S. Navy NATOPS manuals. They tend to be complete and describe not only the systems, but the recommended procedures for flying the airplane as well. I often hear pilots say, “Tell me the numbers.” They are referring to the important numbers representing the stall speed, maximum gear extension speed, flap extension speed, final approach airspeed, etc. Naturally, you will want to know more about the plane than those skeletal bits of information, but they should be committed to memory early in the training process. The better prepared you are when you arrive for ground training, the easier (and probably more economical) your checkout will be.

These days, with required ground training, you will be following a curriculum approved by the FAA, so you will need to study the important data about the aircraft you are checking out in and the flight procedures and emergency procedures. It’s okay to get a head start.

One observation I have made after checking out pilots with a wide range of skills and experience: the most skillful and those with the most experience always show up prepared and familiar with the flight manual, *before* training begins. You can always count on professionals.

Ground Work

There is no airplane that you can fly that will never be out of limits for all possible combinations of performance, runway length, weight, and loading capacities, fuel weights or other flight parameters. We are fortunate in the fact that most of the airplanes we fly hold only one or two passengers, so passenger loading is relatively predictable—although you still could end up with a light pilot and a heavy backseater. However, the remainder of the performance limits need to

be examined for every flight. High altitudes and high temperatures frequently challenge even military aircraft. Stopping distances vary widely with different fuel weights and field elevations.

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The Cockpit

Most military pilots will recall the “blindfold cockpit check” required of pilots and student pilots new to an airplane. If you couldn’t point to a switch, lever, or instrument on demand with your eyes closed, you didn’t fly until you could. Not a bad

idea. Being generally familiar with a cockpit layout is not good enough. When something goes wrong you may have seconds, or less, to take the proper action. That’s not the time to search, or even hesitate and start looking for switches.

For example, locations for microphone buttons, speed brake switches, gear and flap handles, and other common switches should be available at your fingertips—and they are located in different places from airplane to airplane.

Not only do different types of airplanes have different locations for these switches, but individual airplanes of the same type have switches located in different places. That’s one situation that can get you in trouble. Flying a friend’s airplane with a different cockpit layout will slow your crosscheck of instruments and can lead to problems. Pilots have permitted safety to suffer as a result of not knowing enough about the cockpit layout of the airplane they were in, despite the fact they had flown other airplanes of the same or similar type before.

One of my favorite cockpit surprises, if you want to call it that, is the pilot who gets into an airplane with the airspeed indicator calibrated in kilometers instead of knots. Since many of the airplanes we fly were originally flown in Europe, some still have airspeed indicators that show kilometers (it’s legal), while many have been converted to knots. Some have one calibration in the back and a different one in front. Confirm and discuss the instrument indications before flying your new airplane or getting in anyone else’s airplane. If you switch back and forth between airplanes, or front and back seats, or fly a friend’s airplane, which happens often at fly-in events, get your mindset right before jumping in the cockpit.

In the Air

Before exploring the outer limits of the performance envelope of an airplane, it makes sense to first determine the basics: What does it



feel like as it approaches a stall? How does the plane perform in a stall (if permitted by the flight manual)? Does it depart controlled flight or does the nose simply drop? Do the wings rock when a stall is approaching? As important as the indications in the stall recovery are, what will it take to stop the stall and get the plane flying again?

You may also want to explore the plane's handling characteristics in turns. Start with shallow turns and then work up to steep turns. If you have a two-seat airplane where an instructor will accompany you on the first flight and guide you through training, have him demonstrate the airplane's handling characteristics before you try it yourself. When you fly by yourself for the first time, don't perform any maneuvers that you have not seen or flown before. You don't want to get in any situations that will challenge your comfort or skill with the plane. Admittedly, it is tempting to take the plane to its limits—pull lots of g's, combine rapid-rate turns, roll and pulls, etc., but that may prove more of a threat to your safety than anticipated. In time you can expand both your comfort level with the plane and your flying prowess.

One useful bit of maneuvering I encourage pilots to accomplish is to fly a simulated traffic pattern at altitude. That way, if you get a little slow on base or final, necessitating a recovery, the go-around will be protected with a large margin of safety from the higher altitude. The same is true for new aerobatic pilots. Try the rolls, loops, or other aerobatic maneuvers at a safe altitude, say 10,000 feet or more, depending upon the airplane. Any surprises during recoveries will permit a large cushion for returning the aircraft back to level, controlled flight. Never exceed your comfort level. (Want thrills? Go to an amusement park.)

Landing Patterns

Returning to the traffic pattern, plan your approach and landing.

PHIL HIGH

Even if you have flown with an instructor for several hours, going it alone requires your complete attention. Let's look at a few things that may help all your traffic and landing patterns be professional.

All of these former military aircraft consume substantial amounts of fuel, especially the jets—and many do not carry more than an hour or two of fuel. If you are not used to monitoring it you will soon find yourself low on fuel. Return to land when you have enough to divert if the weather or winds have changed, and enough to include a go-around or two in case you need to settle down and get your approach speed and glide path precise enough for a safe touchdown and rollout.

What are the winds? Taking an unfamiliar airplane up to fly in strong winds, especially crosswinds on landing, might be pushing your luck. Check the winds, and the forecast, before you go.

Certainly, if you are flying alone you will know the crosswind limits of your airplane. However, that is not the standard I suggest you use. Remember, the crosswind limit was set by the manufacturer, using test pilots who are very experienced in that airplane, and probably in many other airplanes too. Can you match their performance with a few hours in the aircraft?

Some of the former military airplanes we fly have excellent brakes and others are scary. Some have anti-skid and many do not. Anti-skid will not correct a poorly executed landing. Know what your plane will do, and what is not possible. Being familiar with the limiting factors of your airplane's performance can keep you safe.

The Variables

For example, how does it handle in a crosswind? What about landing heavyweight, carrying most of a tank of fuel? How does it handle standing water? What about the condition of the brakes after a couple practice landings in a row?

When you get rated in an airplane it is not possible to get checked for all fuel weight and weather conditions. In fact, most checkouts seem to occur in good weather with favorable winds and include a landing at a reasonable fuel weight. Keep that in mind when the conditions are less than ideal and you have little time in the plane.

Passengers

I know of no military fighter/trainer airplanes that were designed for passengers to go along for the ride to amuse themselves. Yet, when we are finally checked out, what is the first thing we want to do? Take passengers. There is nothing inherently wrong or unsafe with taking passengers. However, it is good to remember when the airplanes were owned by the military all the people who flew these airplanes were in their 20s, and were thoroughly briefed and indoctrinated in the safe operating procedures for the airplane, including ejection seat training.

So how are we going to get neighbor Sam, and on the next flight his wife, Betty, familiar enough with the rear cockpit to be safe in your airplane in a 10-minute preflight briefing? Isn't going to happen.

FAR 91.319 requires that passengers in experimental exhibition aircraft be informed about many aspects of the airplane relating both to safety and certification (your plane should have a placard announcing it is Experimental and not certified according to U.S. standards). How you accomplish that requirement is up to you.


Here's what I believe best accomplishes the task: At a minimum, start with a written briefing so you deliver the briefing, and check off items as you go. Hasty and impromptu briefings are dangerous. Never take for granted that a passenger, pilot or not, is familiar with the operation of your aircraft.

Holding a half-day ground school for interested passengers tends to accomplish many goals at once: 1)

weeds out the people seeking a fanciful afternoon; 2) permits time to demonstrate the relevant systems the person will be responsible for; 3) conveys the seriousness of such a flight; 4) allows you (and forces you) to prepare a comprehensive briefing, giving you time to think of all the relevant factors that must be briefed; 5) saves you hours by briefing all the serious passengers you have selected to fly at some time in the future at the same time.

Common items that, for safety reasons, must be covered would include canopy operation; heating/ventilation controls; the use and parameters for the ejection seat (make careful decisions on whom you invite to fly in an aircraft with a hot seat); entering and exiting the airplane; what not to touch; communication (and lost comm) procedures; the mission profile; emergency procedures; common sounds and events (pitchouts can terrify the unsuspecting). You can see the list soon becomes very long, and I have probably omitted many topics that may be unique to one type of plane or another. The conclusion on passengers is selection and preparation. A passenger panicking in the back can be one of your biggest hazards.

Enjoy

There are some cautions to observe, but when you are ready, completely prepared for the flight, it's time to go. Easy at first, but go and enjoy—fly safely enough to come back and repeat the process for many more flights. 

About the Author

Warbird member Douglas Gilliss is a former U.S. Air Force pilot, with Airline Transport Pilot (LR-JET) and CFII certificates. He is a Designated Pilot Examiner in the T-28, L-2, and L-39 with more than 5,500 flight hours. He is an FAA Safety Counselor and serves as chairman of the board of the Classic Jet Aircraft Association. He flies as lead for a four-ship jet demonstration team.