

Master Warbird Pilot Steve Hinton

flies the world's only original airworthy Fw 190

BY JAN TEGLER

On a chilly December day, master warbird pilot and Planes of Fame Air Museum President Steve Hinton pulled back on the stick of the Flying Heritage Collection's (FHC) freshly restored Focke Wulf Fw 190A-5/U3 and took to the air in the only airworthy, original example of the legendary German fighter.

"It hit me right away," Steve says. "Holy smoke! I'm flying a real 190! I was thrilled to death that I could fly a piece of history like that."

Hinton has amassed thousands of flight hours, piloting almost every WW II piston-engine fighter you can think of plus a host of Korean War era jets as well as WW I fighters, championship-winning Unlimited class air racers, and more. But for the man who's flown more than 50 P-51 Mustangs, taking the late Paul Allen's Focke Wulf aloft was a unique experience.

It was also the first time the fighter had been in the air since its forced landing near Leningrad, Russia in 1943. Hinton is one of the only living pilots in the world with a true impression of what flying a real Fw 190 is like. Here are his thoughts.

PREFLIGHT

Prior to any initial test flight, particularly in an aircraft type he hasn't flown previously, Hinton does a fair amount of studying. To prepare himself for the Fw 190A-5, he relied on a number of information sources, including pilot reports from Allied pilots who were able to fly captured Fw 190s during WW II.

"In this case, there's a lot of information from the Wright Field test pilots and a good in-depth report from Eric Winkle Brown [famed British fighter/test pilot]," Hinton says.

Hinton also studies an aircraft's systems and their operation in various ways before flying.

"I always look it over real good, put it up on jacks and swing the gear. Look at the weight and balance and become familiar with how it's all set up, the controls and systems. Then I taxi it."



He points out that first flights in a warbird are "all about reliability, understanding if the wings work, the engine is running well, if the landing gear works correctly. It's not like you're inventing anything on a warbird, you're just looking to confirm that it operates the way it's supposed to."

THE BMW 801 AND KOMMANDOGERÄT

Aside from its original, German-built airframe, the most distinctive element of the FHC's Focke Wulf fighter is its twin-row 14-cylinder BMW 801 engine, rated to produce 1,700 hp in the A-5 ground-attack version of the Fw 190. None of the Fw 190 replicas currently flying, including Planes of Fame's Flug Werk Fw 190A-8/n—powered by a Pratt & Whitney R-2800—have an original, correct German powerplant.

The air-cooled radial engine has several clever engineering features including its *Kommandogerät*. German for "command device," it's essentially a single-lever power control system that automates much of the engine management that pilots of other WW II piston engine fighters were responsible for.

"It's a very complicated, intricate mechanical computer," Hinton explains. "It measures manifold pressure, rpm, fuel pressure and induction temperature and mechanically adjusts the fuel-air ratio for the engine. It's programmed to manage the engine at certain manifold pressures to have

certain rpm for efficiency. It even does spark advance."

"But it's not complicated to operate," he adds. "You just push the throttle and it manages most functions. When you pull the throttle back, whatever rpm it needs, it adjusts for. There are parameters like at 0.1 bar [boost pressure] it should be at 2050 rpm or something and at less than that it goes to 1,400 rpm or something at reduced power."

Hinton notes that the *Kommandogerät* can be overridden if necessary.

"The propeller has a selector switch that allows you to manually run the rpm where you want to run it if there's an issue. If it's not running good at half throttle you can push it up to full throttle or vice-versa.

Steve says the BMW 801 seems to be very reliable although the museum's A-5 "doesn't run perfect because it doesn't fly enough."

The airplane's early test flights were done in Arizona he adds. "It took several test flights for engine adjustments to get the engine where it was happy. You could get it to idle smoothly like a car, but it wouldn't run properly otherwise, and then you get it to where it doesn't idle very well but it runs good. There's a finite adjustment."

Hinton says oil temperature is "never an issue" due to the radial's unique cooling system combining a ring-shaped oil cooler at the front of the engine sitting behind a cooling fan aft of the propeller that spins faster than the prop, directing airflow over the cooler and to the supercharger intake.

"There's a slit around the outside of the leading edge of the cowling. That's where the air exits for the oil cooler. It isn't even a quarter inch open all the way, but it works great."

One thing Hinton stresses is that his thoughts about the FHC "Wurger" apply primarily to this particular airplane. For instance, he says the engine "is not real smooth but not real rough either." It's a characteristic that may not be true for all Fw 190 A5s "but it is of this one—the

only one. So what can you say?"

With the BMW running, the airplane has another unique trait.

"It smells like a Harley-Davidson or an old Triumph that burns oil when you're flying it," Hinton laughs. "It spits oil out when you start it and the nose case gear to the cooling fan leaks a little bit when you shut down, so it's always got that oil smell across the engine."

TAKEOFF

"For all of the horsepower it has, on takeoff, it doesn't really accelerate very hard," Steve explains. "But as you break ground and put the gear and flaps up, and you're climbing out at 170 or 180 mph, similar to what we're used to in other warbirds, and you watch the altitude, it's climbing really good—better than you expect given the takeoff acceleration."

"A Mustang puts you back in the seat really good on takeoff like most of the WW II fighters do but this didn't have that feeling. Still, it climbs a little bit better than a Mustang I'd say. A Corsair could out-climb or be similar to it at least."

Visibility over the 190's nose is not very different to other tail-dragger fighters on takeoff, but when the tail comes up you can see very well out the fighter's distinctive cockpit, Hinton says.

"When you're sitting in it the canopy ledge is below your shoulders. You can look down and around or look back and see what's behind the trailing edge of the wing. Once you're airborne it's great."

Fuel management is important in this version of the Fw 190 Hinton observes. From takeoff to landing, you have to be a bit more aware of how much fuel you're consuming.

"It's a fuel injected system," he explains. "You take off on one of the fuselage tanks, but the airplane's consuming fuel and transferring fuel to another tank at the same time. So there's a little more managing of the fuel system than just picking one tank and running it until it gets low then switching to another tank."

"There are many comments about not running the airplane out of gas because sometimes it won't catch in the air. That was a big no-no for the German pilots. Don't run the tank dry."

PERFORMANCE

"It definitely feels nice" in flight, Hinton says. "It's smooth on the controls. The rudder is very light and there's no rudder trim."

In fact, the only trim adjustment available in-flight is elevator trim, he notes. That's because the Fw 190's designer, Kurt Tank, basically configured the airplane to be in-trim.

"It doesn't really need much trimming. For instance, the vertical stabilizer is squared straightaway just like the engine. I don't think there's any offset in it. The engine is set in a way that it was built for speed. I'm just impressed by how it feels and it doesn't change trim very often."

The Fw 190's control surfaces are actuated by pushrods and bearings, adding to the smooth feel of the German fighter in flight. "It's a way to get rid of all the slop in the controls and the Germans were good at that."

Hinton says the A5 feels fast but the impression of speed is a bit difficult to compare to other WW II fighters because its instruments read in metric measurements.

"The top speed isn't what I feel is as fast as a Mustang maybe. It's kind of hard to relate speedwise. It wasn't until we were up at Everett, Washington [where FHC is located] with Steve-o, my son, flying a Mustang chasing me around that I could realize the Fw 190 is a pretty fast airplane. He said he'd been running most of the time around 40 to 45 inches to stay on my wing."

The A5's short wing can high speed stall when pulled into a tight turn aggressively Hinton observes. "But it's really controllable. It's not like it snaps or goes out of control immediately. It buffets a lot and you can hold it in a buffet pretty good if you want."

The Wurger's turn capability is "nothing special" he says but it does have a good rate of roll.

"You can roll into a turn pretty smartly and pull Gs. But it's not an airplane that likes flying slow. It's not a Japanese Zero for goodness' sake, or Hellcat in the sense that you can just crank it around and pull it as hard as you want."

Hinton says he put the airplane through some light aerobatics during test flying. "We did stalls, loops and rolls without being abusive to it, using

it like you would a regular airplane. The rudder is light and never really gets heavy. It's easily pushed. If you compare it to a Mustang, Mustang rudders are like cement practically."

LANDING

One of the design features that sets the Fw 190 apart from the Me 109 is its wide-track landing gear. Hinton says the gear work well but "the struts are like rocks, not very shock absorbing. But there again, that's this 190 although the Flug Werk airplanes seem to be that way, too."

"It lands a little faster than a 109. You make a wheel landing and it's not that difficult. It's got good rudder control and it has a locking tail wheel which only locks when the stick's all the way back. If the stick is neutral it won't lock so if you do a wheel landing you have to remember to put the stick in your gut so the tail wheel will lock."

"You can squeak it on nice and gentle with a wheel landing. Three-point landings aren't as smooth. There's a noticeable 'clunk' when you touch down because the gear is so rigid."

FLYING THE REAL THING

Steve says he thinks the Fw 190 would have been a formidable fighter in combat. But, never having been a military pilot, he's happy to let others debate its place in the pantheon of fighters. One thing's for certain, however.

"This one flies a lot better," Hinton remarks.

He says the Flug Werk replica the museum has flies well, too, but "I guess because I flew that one first and having read all the notes I'd read, I had the impression this airplane would fly like that one."

It didn't he says. "The controls are lighter. It trims nicer. It seems faster."

But the caveat mentioned above applies.

"I've flown over 50 Mustangs so I know how Mustangs fly, but I've flown only one real Focke Wulf. I've only flown one real Japanese Zero," Hinton concludes. "So even if it's the same type of airplane, they all have their own personalities. Skip Holm has the best summation I've ever heard of why Mustangs fly different. He says, 'Well, it's got the name of a Mustang. Two horses don't ride the same, either.' →

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—STEVE HINTON, PLANES OF FAME



The Flying Heritage and Armor Combat Museum's Fw 190 A-5/U3 is the only original Focke-Wulf 190A fighter flying today with a genuine BMW 801 engine. The aircraft crash-landed near Leningrad in July 1943. The pilot, *Feldwebel* (Staff Sergeant) Paul Rätz, became a POW. The undisturbed and remarkably intact aircraft was recovered in the early 1990s and later restored. Steve Hinton was at the controls during its first flight in 2010. (Photo by John Dibbs/Facebook.com/theplanepicture)