

Let me **show** you



Steve Schmidt loves demonstrating capabilities of Boeing fighter aircraft

By Kathy Cook

Of the many pilots worldwide, there are aviators—those who fly for pleasure or as a profession; test pilots—aviators who fly new or modified aircraft in specific maneuvers for the purpose of evaluation; and show pilots—those who fly in air shows to display the capabilities of an aircraft and, in the process, their own flying abilities.

Steve Schmidt—a 24-year veteran pilot—has done it all, and is currently a test pilot and an air show pilot for Boeing.

Schmidt dates his fascination with flying to childhood when his Korean War-veteran father told him stories about life on an aircraft carrier. “I knew early on I was not only going to fly, I was going to take off from a carrier,” Schmidt said.

He began his flying career in the U.S. Navy, flying F-14 Tomcats out of Oceana, Va. “As much as I loved the Tomcat, there were some things about the airplane I thought could be better. I figured the best way to influence the needed changes would be as a test pilot, so I applied for and was accepted into the Navy’s test pilot school,” he said.

As a test pilot, he played a role in the improvement of the Tomcat. His work also included tasks on several Boeing prod-

ucts: development of the Navy’s F/A-18E/F Super Hornet and testing of another Boeing product, the Joint Helmet Mounted Cueing System.

When Schmidt retired from the Navy in 2004 he joined the Boeing flight test team. As a test pilot, his duties range from flying the first flight of an aircraft fresh off the assembly line or evaluating new systems on existing aircraft. As a Boeing test pilot, he’s flown the T-45 jet trainer and F/A-18 and F-15 fighters.

“Besides checking out aircraft function and components, a test pilot’s primary job is putting the aircraft through maneuvers it hasn’t flown before and determining the safe edge of the envelope,” Schmidt said. The envelope, in flying, refers to the limits in which aircraft can safely be flown in terms of maximum altitude, angle of attack (how sharp an angle the airplane can be flown in relation to the wind), and maximum and minimum airspeed.

Test pilots also test the number of g’s an airplane can withstand, a measure of the force of gravity on an aircraft as it maneuvers. One g equals the normal force of gravity at ground level; the greater the number of g’s an aircraft can pull, the more maneuverable it can be in combat situations.

While Schmidt continues to test Boeing aircraft, his additional

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role as a show pilot allows him to demonstrate the company's jet fighters to current and potential customers as well as the general public, showing them, as he puts it, all the really cool things the airplane can do.

“We perform these maneuvers in an entertaining way, but entertainment is not the ultimate objective,” Schmidt said. “Everything we do is to demonstrate a key maneuver that a customer would want the airplane to perform in a combat situation.”

Unlike synchronized flight demonstrations by the Navy's Blue Angels or the U.S. Air Force Thunderbirds where the mission is recruitment, Boeing air show displays focus strictly on demonstrating an aircraft's combat capabilities. For example, one maneuver, which looks like the aircraft is painting a vertical square in the sky, demonstrates the F/A-18 can turn on a dime, anytime.

“This shows the plane's maneuverability, which is very important in a dogfight,” Schmidt said. “Being able to turn that quickly at such a high pitch rate means the pilot can achieve a missile shot at an opponent or avoid an oncoming missile shot.”

Schmidt is quick to point out that an air show is a lot more than a plane and a pilot. “To spectators, the show might look seamless, and of course the pilot is out front. But behind the scenes there are countless support personnel who help make a show successful. As a team, we do a lot of planning and work-

ups before a show,” he said.

Most of the work that goes into an air show begins four or five months beforehand. The planning team includes business development, aircraft maintenance, contracts, flight test, flight safety and customer relations representatives from across Boeing.

Schmidt said safety is the top concern at air shows, and pilots test maneuvers multiple times in simulators before ever taking to the skies. For instance, before this past summer's Farnborough International Airshow, Schmidt flew 20 simulator sessions training for the show format. The simulations cover every possible scenario, including emergencies such as engine or hydraulic failures at critical points in the show's flight routine.

Once a show routine is designed and the pilot has run sufficient simulations, workups begin. For Farnborough, the team spent five weeks at Cecil Field, Fla., testing and refining planned maneuvers. “Even then, we start out slow,” Schmidt said. “We don't go on our first flight flying Mach 2 and pulling 7 g's. Just as in flight tests, we nibble at the corners, and when something doesn't work, we stop and evaluate.”

Although most show displays are performed at exceptionally low altitudes, the workups begin much higher. According to Schmidt, the routines are first practiced at 5,000 feet (1,520 meters) and gradually brought down to the show altitude of 500 feet (152 meters), where spectators can see the routines. In comparison, the Gateway Arch in St. Louis is 630 feet tall, and the Sears Tower in Chicago is 1,450 feet tall (192 and 442 meters, respectively). “The obvious risk of flying at lower altitudes is less recovery time if something goes wrong,” he said.

Schmidt is well aware of the risks, but he's confident the team does everything possible to minimize them and ensure the plane is in tip-top condition. He says he absolutely loves the thrill of precisely flying low maneuvers. “How could you not love this job?” he said. ■

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PHOTOS: After retiring from the U.S. Navy in 2004, Steve Schmidt (left) joined the Boeing flight test team. He's expanded his portfolio of duties to include making demonstration flights, such as the flights he made in an F/A-18F Super Hornet at this past summer's Farnborough International Airshow in the United Kingdom (right).

(LEFT) PETER GEORGE/BOEING, (RIGHT) KEVIN FLYNN/BOEING