

Did you know the F-106 “supercruised” before the F-22? Former “Six” pilots explain why the Delta Dart was the perfect bomber interceptor.

By Dario Leone
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“The 106’s speed and range gave us the ability to ‘...get there the firstest with the mostest,’ which of course is how the Cold Wars were won,”
Mark Foxwell, former F-106 Delta Dart driver.



The F-106 all-weather interceptor was developed from the [Convair F-102 Delta Dagger](#). Originally designated F-102B, it was redesignated F-106 because it had extensive structural changes and a more powerful engine. The first F-106A flew on Dec. 26, 1956, and deliveries to the Air Force began in July 1959. Production ended in late 1960 after 277 F-106As and 63 F-106Bs had been built. The F-106 used a Hughes MA-1 electronic guidance and fire control system. After takeoff, the MA-1 could be given control of the aircraft to fly it to the proper altitude and attack position. Then it could fire the Genie and Falcon missiles, break off the attack run and return the aircraft to the vicinity of its base. The pilot took control again for the landing.



McDonnell Douglas Air-2A Genie Rocket on display at the National Museum of the U.S. Air Force.

Developed to avoid the saturation of the U.S. skies with large formations of Soviets bombers, [the AIR-2 Genie](#) would be launched on a lead-collision flight path against its target and thanks to its relatively large lethal envelope at its time of detonation would either enfold the target or the target to fly into it. With its 1,5 kilotons warhead, the maximum AIR-2 lethal radius for an airframe was about 1,000 feet. The U.S. Air Force Brigadier General Bill Rutledge, USAF (Ret.), was a former F-106 pilot and even if he never carried a “live” Genie shot, he fired an ATR-2A, a Genie with some ballast replacing the warhead but with the tracking equipment installed. Rutledge released its impressions about firing the ATR-2A to Ted Spitzmiller, who reported them in his book [Century Series The USAF Quest for air supremacy 1950-1960](#): “It was amazing, an 832-pound rocket with a 35,000-pound thrust rocket motor. When that rocket motor fired, there was an instant contrail out in front of my aircraft. The standard load for an F-106 was four AIM-4 Falcons (two G models-heat seeking; and two F models-radar guided) and a Genie. Primary weapon was the Genie-a nuclear air-to-air rocket.” According to Rutledge the fire control system calculated a launch point and heading to effect proper launch, set the time of flight before detonation, and automatically launched the AIR-2A Genie given that the pilot had switches properly set. Then the pilot did one of several escape maneuvers, depending on altitude to keep himself out the fireball and overpressure shock wave.

Another former Delta Dart pilot, Daniel R. “Doc” Zoerb recalled his experience with the ATR-2A: “We fired the (practice) Genie against high-speed, high altitude drones, most challenging of which was the Bomarc at about 70,000 feet and Mach 2.5. The experience of feeling the weapons bay doors open, the “clunk” as the 850 pound rocket fell from the bay, and the audible (even in the cockpit) roar as the rocket motor lit was quite an experience, as was the speed and smoke trail that allowed you to maintain visual contact with the rocket til the spotting charge exploded. As I recall, the distance to the target at rocket launch...was about 7 or 8 nm at high

altitude. The Genie accelerated to twice the launch Mach (which was circa 1.5 Mach) in a two-second rocket motor burn...a real bullet!”



As Zoerb explained, since the Genie was a nuclear warhead rocket, its detonation in the vicinity of any type of enemy aircraft would have had a negative effect on its electronics, on its structural integrity or on the desire of the target to continue its mission. The effects on friendly fighters, unaware of the Genie launch, would have also been unpleasant, with (at least) temporary blindness being the biggest fear. Hence the eye patch carried by the F-106 aircrews in the survival vest in hopes of preserving sight in at least one eye.

The F-106 was also a very fast aircraft which featured a supercruise ability as Mark Foxwell, another former Delta Dart driver, explained: “I recently visited the 27 Fighter Squadron at Langley, flying the F-22. They touted the Raptor’s supercruise capability, where they use AB to take it well supersonic and then cruise supersonic in military. Well I/we did that routinely on the Six (as the F-106 was called its pilots); I would take it in full AB to 49,000 and Mach 1.5, then go to full mil and cruise supersonic for 500 miles or more.”

Finally, Foxwell believe that the F-106 was also a bomber interceptor better equipped than today airframes, since the Delta Dart was optimized for its job of anti-Soviet bomber defense more than anything in its day and more than anything today. In fact, as he explains, even if [the F-15](#) and [F-16 had \(and still have\) greater firepower](#), radar and computer capabilities [as does the F-22](#), these fighters are not optimized for the Strategic Air Defense mission and the F-106 could match or exceed them in speed, range and endurance. According to Foxwell in fact “the 106’s speed and range gave us the ability to ‘...get there the firstest with the mostest,’ which of course is how the Cold Wars were won.”

Century Series The USAF Quest for air supremacy 1950-1960 is published by Schiffer Publishing and is available to [order here](#).

Photo credit: Air National Guard and U.S. Air Force

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