



A Pinto with Punch!

Lewis Shaw's TT-1 Super Pinto

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Close your eyes and imagine just for a moment that you're cruising at 20,000 feet, indicating 375 knots, and gulping 140 gallons of Jet A fuel per hour when suddenly, out of the corner of your eye, you spot a "bandit" in a jet very similar to

yours. In fact, it is the same make and model, one of hundreds that were built by Texas Engineering and Manufacturing Co. (Temco) during the 1960s to train new U.S. Navy and Air Force pilots. The bandit is below you, unaware of your

presence or intentions. Your heart rate begins to increase as you quickly scan for other bandits and traffic. Seeing none, you roll right, putting the sun at your back as you begin to dive at the unsuspecting prey below. As you close in for the



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kill, the sun reflects off your polished metal wings. The bandit, now fully aware of your presence, frantically rolls and split-S's downward. You have altitude and speed as you stay with your quarry. He banks right, then left with a hard turn, but you're there with him, right on his tail. The bandit attempts a climbing turn, a fatal mistake. With three long clicks of your mike button echoing in his headset, your now fallen prey wags his wings in defeat. You pull up alongside, give each other a quick salute, and turn for home. Another long and fulfilling day playing "Swoop Daredevil of the Sky."

Like all good dreams, this one seems to end when things are just getting good. The same "dream" en-

visioned by Temco ended a mere four years after conception. In the mid-1950s, the U.S. Navy tasked Temco with developing a tandem two-seat jet trainer for the service's proposed all-jet training program. On March 26, 1956, 75 days from the first metal being cut, the Model 51 Turbine Trainer-One (TT-1) Pinto Jet took to the skies. Excellent handling qualities and reasonable costs

paved the way for the acceptance by the U.S. government, which contracted Temco to build 14 TT-1 Pintos for additional testing. During the initial design of the Pinto, Temco strengthened the airframe to allow for an engine of greater power than that of the Continental J-69-T-9 turbojet that was used in the prototype. Temco had wanted to use the more powerful General Electric J-85/CJ-610 engine, but because the J-69 was commonly used in other military aircraft at the time, the government would not allow for the more effective J-85 in the Pinto. (Supposedly the military didn't want a stockpile of different engine parts confusing mechanics and maintenance personnel.) This decision turned out to be the beginning of the end for the Pinto. In 1960 the Navy quashed the TT-1 Pinto program, citing defense cutbacks and deficiency in the J-69 during initial training (that is, lack of power in warmer weather). The Navy's retention of the mixed prop and jet curriculum dealt the final blow to the Pinto. Temco built a total of 14 TT-1 Pinto Jets including one prototype.

About this same time, a young man named Lewis Shaw had just been accepted to USAF pilot training. When most of the other pilot candidates showed up for training in cars, buses, or trains, Lewis arrived in the Globe Swift that he had purchased a few years earlier to compete in aerobatics. Lewis' warm reception by USAF officers concerning the Swift was to "get that little plane out of here! Don't you know those things can kill you?"

Upon receiving his commission, Lewis became a T-38 Talon instructor. He left the Air Force in 1972 and began a career in hospitality, high-tech, and industrial construction, where he remains today as president of Jackson-Shaw Construction in Dallas, Texas. In 1998, Lewis acquired un-restored Pinto Jet

NX4229, the 11th example built, from Nelson Ezell of Ezell Aviation, Breckenridge, Texas. The task of deciding who would rebuild and restore the Pinto was a very easy decision for Lewis. “If you want to learn to fly, you take lessons from Bob Hoover. If you want to learn how to throw a football, you play catch with Brett Favre, and if you want your airplane restored, you take it to Nelson Ezell,” Lewis said. “Knowing the quality and professionalism that goes into every restoration, and having previously worked with Nelson on my award-winning P-51 Mustang, the choice was very easy for me.”

According to Lewis, he and the Ezell restoration gang “took all of the major shortcomings of the original Pinto Jet and converted those deficiencies into exceptional performance characteristics. By replacing the original J-69 engine with the potent GE J-85-17A, we obtained three times the original thrust of the previous engine. We solved the short-range fuel component of only 124 gallons by building new wings configured to carry fuel and fashioned using Boeing wet wing techniques. With the addition of the tip tanks, the entire fuel capacity more than doubled to 320 gallons.”

During restoration, the team stripped the entire Pinto fuselage to a bare hull and then replaced all original ductwork with a unit developed from previous J-85 modifications. Nelson made one aerodynamic change in increasing the area on the vertical stabilizer to improve yaw stability. Replicating current military criteria, the team then primed and repainted the fuselage with light gray in the cockpit and white in the wheel wells and engine bay. Since the ejection seats were found to be unserviceable and only marginally safe, even with all pyro mechanisms removed, new Butler parachute equipment was fitted to the seat packs. In addition to bailout bottles and first aid kits, the new parachutes include a patented



The modernized instrument package and fire warning system required more than 7,000 feet of wire.

Slung underneath the fuselage, NX4229's GE J-85-17A engine provides three times the thrust of the original J-69 engine.



JIM BUSHA PHOTOS

high-speed delay-opening modification to the chute risers, which makes this safety equipment essential to jet flight operations, according to Lewis.

The Ezell team installed a new 3/8-inch Plexiglas canopy into the frame, with a thicker Lexan windscreen also installed for added protection against bird strikes. Lewis ordered a full IFR avionics package, including a BF Goodrich series 900 Stormscope, a Garmin 327 transponder, and Garmin 530 and 250 redundant comm/navs. More than 7,000 feet of wire was required to complete the addition of the new instrument package, including a fire warning circuitry system with a halon fire suppression system in the engine bay. Another unique safety

feature found on the Super Pinto is the addition of the front gear cover. Originally a British design, the gear cover deflects any foreign objects or debris while on takeoff or landing and prevents water ingestion to the jet intakes on wet surfaces.

In January 2002, test pilot Frank Strickler flew Lewis' newly assembled and rigged Super Pinto. “After 40 hours of flight testing, the Super Pinto was removed from flight status for evaluation and inspection,” said Lewis, who used this time to develop a paint scheme. Citing visibility concerns with the original yellow color used on the trainer, Lewis selected a deeper, darker color. While researching the paint scheme, Lewis found a photo of an F9F Pan-



PHOTO COURTESY OF LEWIS SHAW

NX4229 in pre-restoration condition.

ther Jet that had a large white “S” on the tail and the lucky number “13” on the nose, just behind the distinctive red lightning bolt found on many of the Korean War Panthers. With these characteristics added to the Super Pinto, it is hard to miss this jet, both on the ground and in the air.

Lewis chuckled when asked about the difficulty level of flying the Super Pinto. “If you can fly a Cessna 172, I could probably check you out in this in about two to three hours,” he said. “It is the ‘ultralight’ of jets, being developed with the student pilot in mind!” (Remember, this is coming from a T-38 instructor!) The Pinto has a wingspan of approximately 29 feet and an overall length of 30.5 feet, and it weighs in at 3,500 pounds empty with a gross weight of 6,400 pounds. The rated thrust of the GE J-85 is 2,850 pounds, making for some very interesting climb-out numbers. “With two on board and full fuel, I usually indicate 6,700 feet per minute, but if I’m by myself and it is a cool day, I can get 10,000 to 11,000 per minute,” Lewis said with a wink. “The Pinto can easily get in and out of a 2,000-foot strip, and I can usually rotate off the runway at between a 600- and 700-foot ground run. My normal cruise speed is between 350 and 375 knots at 23,000 to 25,000 feet with a fuel burn of about 140 gallons per hour, giving me a range of about 800 miles. On landing, I enter the pattern at 220 knots slowing to 150 knots and crossing the fence at 100 knots, touching down at between 85 and

90 knots. With a stall speed of 72 knots, the Pinto remains very stable at these low jet speeds.”

Standing next to his newly named EAA AirVenture 2002 Reserve Grand Champion Post WWII warbird, along with Nelson’s son, Ashley Ezell, who was part of the team of craftsmen that won gold wrench award honors for the Super Pinto restoration, Lewis beamed a smile as

wide as Texas. “I’ve never met an airplane I didn’t like, but this one is a dream come true,” Lewis said, looking at his pride and joy.

So if you ever find yourself day-dreaming and glance skyward noting a shiny blue jet rocketing across the sky, it’s just the “Walter Mitty” of the new millennium, Lewis “Swoop Daredevil of the Sky” Shaw and his Super Pinto! ✈

Losing Out to the Tweety Bird

By Jack Morrissey
WB #6899

One of the joys of EAA AirVenture Oshkosh is the opportunity to see something new every year. In my more than 50 years of being around aircraft, this was my first introduction to the Pinto Jet, and its ultimate modification into the “Super Pinto Jet.”

The original 14 Pinto Jets were powered with a version of the French Turbomeca Marbore engine, which was built under license by Continental in the United States. The Continental J-69-T-9 turbojet was not the most powerful engine around, as it produced only 930 pounds of thrust. The design was of an outmoded centrifugal flow system, and just didn’t have that “get up and go” that everyone was looking for.

The aircraft was equipped with tricycle landing gear, mid-wing, cantilever monoplane, and with tandem cockpit configuration. With an airspeed maximum of 345 mph, a service ceiling of just over 32,000 feet (not very high), no refueling capabilities, and a sea level endurance of only 1 hour 30 minutes, the Pinto Jet had the characteristics of a typical trainer: Go up for an hour, do your thing, and start looking for fuel!

About this same time Cessna began developing the T-37 Tweet, or as we know it, “The Tweety Bird.” It used two J-69 engines to give much higher performance parameters. Though un-pressurized, the T-37 had side-by-side seating, which made it much easier for both the instructor and the student to communicate and observe. Subsequently any competition between the Pinto and the Tweet was a “no win” situation for the Temco machine.

When the U.S. Navy canceled the contract with Temco in 1961, seven of the original Pintos went into civilian hands. NX4229 initially went to an aviation training program in the San Francisco area. It eventually turned up at Ezell Aviation, in Lewis Shaw’s hands. Ezell Aviation made several modifications that turned Lewis’ aircraft into a “super jet,” including installing the J-85 engine with its 2,850 pounds of thrust and increasing the fuel on board to 320 gallons. This resulted in a change in cruise speed to 400 mph, max speed went to 550 mph, and the rate of climb jumped to a staggering 10,000 feet per minute. Takeoff roll reduced to a mere 500 feet. The new construction on NX4229 resulted in the manufacture of new wing panels, ailerons, rudder, and vertical stabilizer. The instrument panel and all side consoles are new, as well as all avionics and hydraulic systems. New intakes, ducting, and new engine mounts for the J-85 completed the package.

Budd Davisson wrote in the April 1979 issue of *Air Progress* that this aircraft was “Your basic kick-butt airplane. If there ever was an airplane that can reach in and grab your guts, forcing out a healthy, ‘Oh, my God!’ it’s the Temco TT-1 Pinto Jet...in spades.” Lewis Shaw’s upgrades to this Pinto Jet allow it to kick butt even faster.