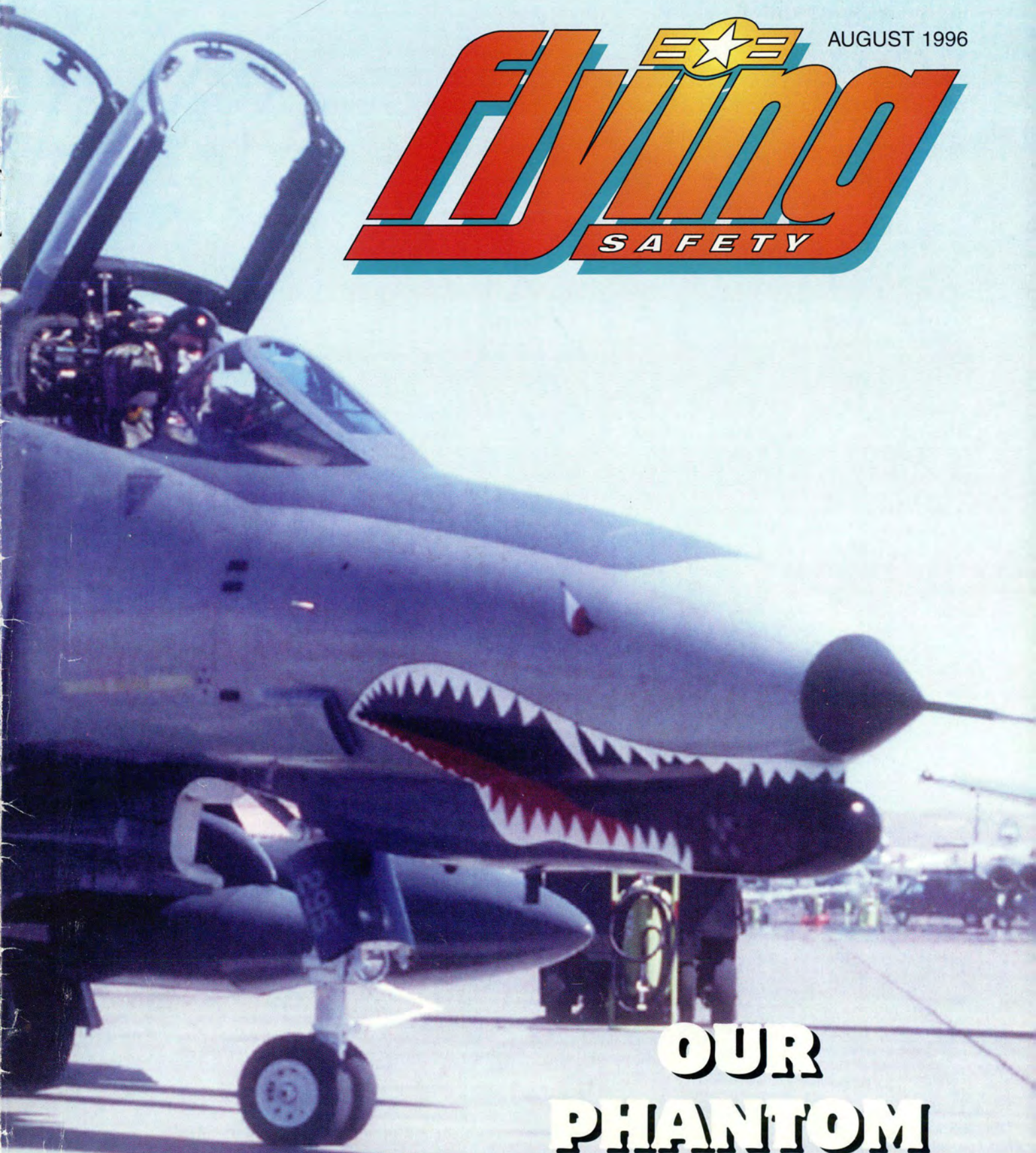
AUGUST 1996

flying SAFETY



OUR PHANTOM PHAREWELL

"She's a Lady"

Photo courtesy Paul Minert

ROBIN OLDS
Brig Gen, USAF (Ret)

■ Like a brooding hen, she squats half asleep over her clutch of eggs. Her tail feathers droop and her beak juts forward belligerently. Her back looks humped and her wing tips splay upward. Sitting there, she is not a thing of beauty. Far from it. But she is my F-4, and her nest is a steel revetment — her eggs M-82 750-pound bombs. This avian has fangs — very unbirdlike. They nestle under her belly and cling to her wings. She is ready to go, and so am I.

She receives me and my backseater, and we become a part of her as we attach ourselves to her with straps and hoses and plugs and connectors. A surge of juice and a blast of compressed air and she comes alive. We are as one — tied together — the machine an extension of the man — her hydraulics my muscles — her sensors my eyes — her mighty engines my power.

She screams and complains as we move through shimmering heat waves along an endless expanse of concrete. Final checks, then her nose pointed down nearly 2 miles of runway, and we are ready. Throttles forward, then outboard — THUMP, THUMP — the afterburners kick in. Now my bird roars and accelerates rapidly toward her release from mother earth, leaving a thunder behind that rattles windows and shakes the insides of those who watch.

I look over at my wingmen as we climb effortlessly toward a rendezvous with our tanker. All is well with them, and I marvel again at the transformation of our ugly duckling into a thing of graceful beauty — yet she's businesslike and menacing, thrusting forward and upward with deadly purpose.

Refueling done, we drop off and lunge forward, gathering speed for this day's task. We hurtle across the Black, then the Red Rivers, pushing our Phantoms to the limit of power without using afterburners, weaving and undulating so as not to present a steady target for the gunners below. Then a roil of dust down to our left, and the evil white speck of a surface-to-air missile rises to meet us. We wait and watch. That missile is steady on an intercept course, and we know we are the target. Then, on signal, we start down. The missile follows — and now HARD DOWN — stick full forward — the negative G forces hanging us in our straps. The missile dives to follow, and at a precise moment we PULL, PULL — as hard as we can — the positive Gs now slamming us into our seats with crushing force. Our heavy bird with its load of bombs responds with a prolonged shudder, and we are free for the moment, the missile passing harmlessly below, unable to follow our maneuver.

On to the target — weaving, moving up and down, leaving the bursts of heavy flak off to the side or down below. The F-4 is solid, responsive, heeding my every demand quickly and smoothly. We reach the roll-in point and go inverted, pulling her nose down, centering the target in the combining glass as we roll into our 70-degree dive toward the release point. My Phantom plunges toward the earth through an almost solid wall of bursting flak. Then "PICKLE!" And the bird leaps as her heavy load separates and we pull with all our force around to our egress heading.

There are MiGs about, and my F-4 becomes a brutal beast, slamming this way, then that, snarling with rage, turning, rolling, diving, hurtling skyward like an arrow, plunging down with savage force. The melee over, the rivers crossed, and headed for our post-strike refueling, and my bird is once again a docile, responsive lady, taking me home, letting my heart beat slow, giving me comfort in having survived once again. I gather the flock close by, and we slowly circle each other — top, bottom, and each side, looking for flak damage, rips, leaks, jagged holes. None found, we press on to meet our ticket home and gratefully take on fuel from our tanker friends.

A bit of follow-the-leader up and over the beautiful mountains of dazzling white nimbus, just to relax — to enjoy the special privilege given us in flying this magnificent bird — and the home runway lies ahead there near the little town of Ubonratchitani.

Landing done, post-flight checks finished, engines shut down, and my F-4 vents its tanks with a prolonged sigh, speaking for both of us, glad it's over, anticipating a brief respite before the next day's work.

It's an unusual pilot who doesn't give his bird a private touch of loving gratitude before he leaves her nest. ✈

UNITED STATES AIR FORCE

AIR FORCE
SPECIAL PUBLICATION 91-1

AUGUST 1996
VOLUME 52, NUMBER 7

SPECIAL FEATURES

Front cover: USAF Photo by
SrA Kim Price

CONTRIBUTIONS
Contributions are welcome as are comments and criticism. No payments can be made for manuscripts submitted for publication. Call the Editor at DSN 246-0936 or send correspondence to Editor, *Flying Safety* Magazine, HQ AFSC/PA, 9700 G Ave., S.E., Ste 282, Kirtland Air Force Base, New Mexico 87117-5670. The Editor reserves the right to make any editorial changes in manuscripts which he believes will improve the material without altering the intended meaning.

Phantom Phaces - First Flights

MCDONNELL DOUGLAS Photo

CMSGT DON A. BENNETT
Technical Editor

PEGGY E. HODGE
Managing Editor

An issue on the F-4 would not be complete without talking to the test pilots who flew the F-4 for the first time. Mr. Bob Little made the very first flight on 27 May 1958. He flew aircraft #259, and the flight lasted 22 minutes. Mr. Bill Ross made the first test flight for the Air Force on 24 January 1963 in aircraft #12171. The flight lasted 1 hour and 50 minutes. Mr. Little was in the backseat on this flight.

FS: *Probably your most-asked question is what was that first-ever F-4 flight like? Tell us your experiences that day.*

Mr. Little: "It was a short flight because I lost a main hydraulic system on takeoff. If you lose one that quick, you wonder when the second one might go. It was about a 20-minute flight. All I had to do was fly around until I could land it without embarrassing myself. I flew around with the gear down and came in and successfully landed the airplane. I think the drag chute didn't work. I think it fell out on the runway. It wasn't a problem though."

Mr. Ross: "It was very routine — interesting in that the pilot who made the first flight for the Navy, Mr. Bob Little, was in the backseat. We flew for a little over an hour, and everything was working fine. The main difference between the F-4B (the Navy aircraft) and the Air Force aircraft was the fact that we had larger tires, wheels, and antiskid brakes which allowed us to stop much shorter and much quicker. We made about a 1,200-foot landing roll on that first flight. There were a lot of people watching that day who were very excited, but it was just routine for those of us in the office."

FS: *What advantage did the F-4 have over other aircraft of that day? Any disadvantages?*

Mr. Little: "The F-4 had two very good engines. They really gave the airplane a lot of kick. It had more performance and would go faster and higher and fly better than anything else in the sky. It blew everything else out of the sky. It had range and payload. It just had it all put together. So I think we learned from the earlier aircraft we built on how to put together a twin-engine fighter that would

really make people notice. And, of course, it became the standard by which all other aircraft in the world were measured. It held all of the records.

"I can't think of any disadvantages. It was a superb machine. It didn't have any bad habits the pilots couldn't handle. They weren't getting into trouble with it and crashing. You know those things can happen with hot new jet fighters. But the F-4 was a very, very flyable airplane — very comfortable to fly — very safe. It could operate on a single engine without any concern. It was a real jewel."

Mr. Ross: "It was the first time we combined the performance and the handling characteristics into one package. Other airplanes had very good handling but not much performance, and a few airplanes had very high performance, such as the F-104 and the F-101, but very poor handling characteristics. At long last, we combined them both into the same aircraft which made a very useful and safe system for all concerned. I can't think of any disadvantages."

FS: *Do you think the F-4 exceeded its original expectations?*

Mr. Little: "Yes — no question about it! We won a head-to-head flyoff competition with the F8U-3 built by LTV. That was big-time stuff. The F-4 became the backbone of McDonnell Aircraft. Instead of building 400 or 500, which was the projection of production back in those days (1958), we built over 5,000 — an amazing production run over 22 years."

Mr. Ross: "Yes, because we changed some significant parts. The Air Force's early experience with the F-4 was with some aircraft borrowed from the Navy. We took about 30 aircraft to Tyndall, and a number of company test pilots went down as instructor pilots for the Air Force. Not too long after we arrived, Col Pete Everest (eventually Gen Everest) took over the operation. We used F-4B aircraft, which were obviously very good for training for the F-4C since they were very similar. That was the first involvement for the Air Force. I don't think training with borrowed aircraft had ever been done before or has since. All the aircraft were returned to the Navy undamaged. It was a good experience! We finally started feeding F-4Cs into that operation, and the rest is history."

FS: *The F-4 in Vietnam . . . what does it compare to in past U.S. air wars?*

Mr. Little: "Clearly, it would compare to a P-51 in WW II — the top-of-the-line fighter. I knew some Russians who classed it as the best aircraft in the business. The F-4 was what they measured their own aircraft against. They measured their own fighter capability against what the F-4 was doing in Vietnam."

MCDONNELL DOUGLAS Photo

Mr. R. C. Bob Little is shown here about to make the first flight on 27 May 1958. Although he experienced a couple of minor problems, Mr. Little successfully landed the aircraft...and the rest is history!

Mr. Ross: "It probably doesn't, unless you go back to WW II when we used the fighter aircraft in multiple roles of air-to-ground and also air-to-air. The F-4 did both of those jobs very well and was probably the first of the jet aircraft that really did both jobs well. Others performed both missions but were designed for one or the other, and, therefore, the secondary mission wasn't performed all that well. The F-4 did whatever was demanded of it and did it very successfully."

FS: *Was the F-4 a "forgiver" in the air?*

Mr. Little: "Yes. I thought it was very forgiving."

Mr. Ross: "I think its mishap history speaks for itself — yes, very much so!"

continued on next page

F-4 Milestones

6 Dec 1960
New world altitude record of 91,557 feet set over Edwards AFB.

October, 1961
USAF decides to buy the F-110 (F-4) Phantom.

21 Feb-12 Apr 60
Phantom sets eight world time-to-climb records.

MCDONNELL DOUGLAS Photo

Mr. Bill Ross made the first test flight for the Air Force on 24 January 1963. He is pictured here preparing for a test flight early in the F-4C development program.

FS: *What lessons did we learn with the F-4 that enhanced future technologies?*

Mr. Little: "Progress has been made well beyond the technology of the F-4 in terms of flight control systems which are all fly-by-wire now. You aren't hooked up to hydraulic actuators with push and pull rods. Pilots do it all electronically. We flew versions of that in the later F-4s, but it had not been a production item. Critical to any new airplane is having a good set of engines. We followed the F-4 with the F-15, which is a brilliant success. It also has two good engines and has a control system that is outstanding. I guess if you worked real hard, you could do something wrong in an F-4. In an F-15, it's almost impossible to because it has a fly-by-wire electronic circuitry that literally does not let the pilot make a mistake. I've flown the F-15, and it's just unbelievable."

Mr. Ross: "I think we learned that crew coordination is all important. Through digital technology, we were able to make things work even better. The F-4E, for example, simplified the single mission of air superiority which the F-4 did very well, but it took two aircrew to do it. The F-15s and F-16s perform this mission with a single-person crew."

FS: *What do you consider the F-4's most important role in U.S. and military histories?*

Mr. Little: "I think I would have to say it was what it did in Vietnam. It performed all kinds of roles — it flew off Navy carriers, it flew air-to-ground, aerial fighting, air-to-air, and it was a recce. The reconnaissance mission was flown in Vietnam all of the time. The Germans bought recce versions by the hundreds. We built a state-of-the-art recce that the Marines, Navy, Air Force, Germany, and three or four other countries used in the reconnaissance role as well as the fighter role. It was absolutely a multipurpose aircraft."

Mr. Ross: "I think it's very simply stated — force projection. There was nothing else in the world that could compare with the F-4 at that time. All of the potential aggressors sat up and took notice. No aggressor nation wanted to tangle with air forces who had F-4s because they were so much superior to anything else."

FS: *Do you have a single word or short phrase that sums up the F-4?*

Mr. Little: "Phabulous Phantom!"

Mr. Ross: "Magnificent workhorse."

FS: *How do you feel at this closure in aviation history?*

Mr. Little: "I think it's made its mark. It's absolutely one of the top fighter machines ever flown, built, and used in combat. It's been flown all over the world by all kinds of different air forces — probably unmatched. You just couldn't find a match for it. It can do everything! Other aircraft are more focused — they're either lightweight fighters or strictly air-to-ground machines. But the F-4 did it all!"

Mr. Ross: "I think it's great! All of us associated with the F-4 have been positively involved in developing the most capable and safest system in Air Force history. Everything comes to a conclusion and retires — the length of service of the F-4 speaks to the quality and safety of the product." ✈

AN ACE'S STORY

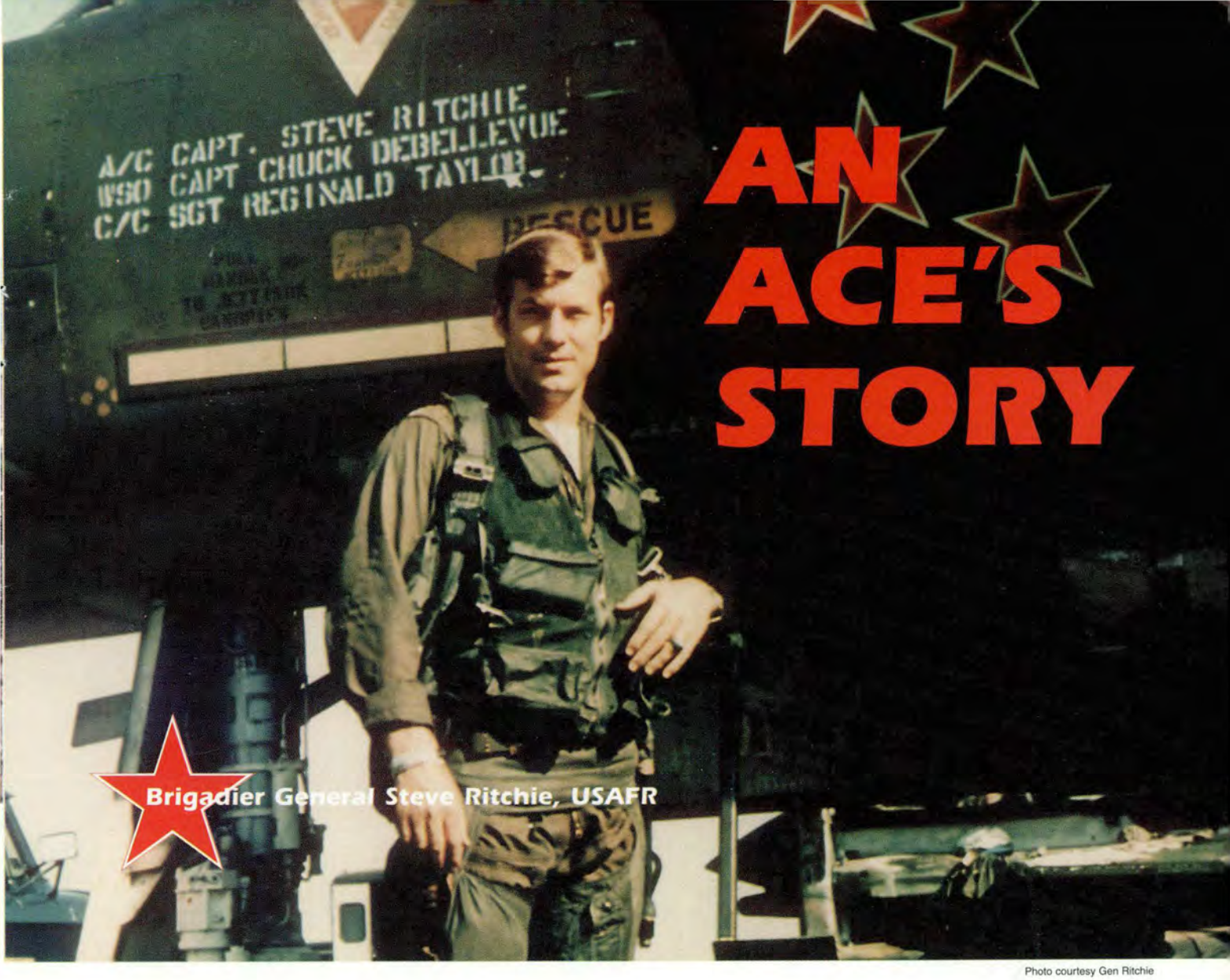


Photo courtesy Gen Ritchie

Despite its devisiveness and unpopularity, the Vietnam War had its heroes and its success stories. Twenty-four years ago on 28 August 1972 in his F-4 Phantom II, Captain (now Brigadier General) Steve Ritchie downed his fifth MiG-21 to become the Air Force's only pilot ace of the war and the only American pilot in history to down five MiG-21s. Gen Ritchie remembers his most exciting flight occurred on 8 July 1972 when he downed two MiG-21s in 1 minute and 29 seconds. (See "The Day was 8 July 1972.")

What It Took

According to Gen Ritchie, "In the final analysis, it's people who ultimately make it possible for us to win rather than to lose." He refers to the eighth of July as a "classic example of teamwork. On this mission, and on others to varying degrees, everything I ever learned or experienced came together in those few seconds. It required drawing on every life experience during that 89 seconds. Years of preparation, teamwork, and discipline made the difference for Paula flight on the eighth of July.

"There are many complex elements and decisions that go into an air combat sortie — each interrelated and all critical to the success of the mission. Teamwork is the only way to make all of the pieces come together."

The F-4 — "Queen of Battle"

"The Vietnam War was the F-4's greatest test," said Gen Ritchie. "It prevailed under fire, and the success of the Phantom in combat was one of the few bright spots of an otherwise dismal period in American history. Most of us who flew the Phantom in combat, under a wide variety of circumstances and across a

continued on next page

F-4 Milestones

27 May 1963
First flight of F-4C. Air Force Phantom made its maiden flight, achieving a speed in excess of Mach 2 and landing in only 1,900 feet.

December 1964
Four F-4Cs complete 18 hour, 10,000 mile endurance flight for new world's record.

spectrum of missions and conditions, came to appreciate the F-4's many advantages and quickly learned to allow for its deficiencies.

"The Phantom was designed to be operated from two cockpits. There was equipment in the back but not in the front, and a second crewmember was required. Assuming that conditions of crew qualification, compatibility, and coordination could be consistently met, the 'guy in back' (GIB) was a definite asset, particularly for special missions.

"MacAir (McDonnell Douglas Aircraft Company in St. Louis, Missouri) learned rapidly to listen to those who operated and came to know the aircraft and was anxious to continue to improve its performance and reliability. In fact, many of the great advances built into the F-15 are the result of lessons learned in the F-4.

General Ritchie by his trusty steed on the Air Force Academy parade grounds.

"All in all," adds Gen Ritchie, "the Phantom proved itself in what was probably the most sophisticated defensive environment in the history of air combat and under the most restrictive operating constraints ever known. The F-4 clearly emerged as 'The Queen of Battle' in Southeast Asia, and along with so many others, I am very proud to have crossed the 'Red River' in the Phantom II."

"The Harder We Work . . ."

"High tech combat was initiated in Southeast Asia," said Gen Ritchie. "We have entered a dynamic, uncharted era for the world, our nation, and our combat forces. We now realize that safety is using your head, being smart, and training in a realistic manner. Training the way we plan to fight will never be completely safe. However, if we take a step-by-step, building-block approach, ultimately we reach a point where an even greater degree of safety and training can be achieved. If we teach people to fly the machine to its maximum performance, they will, in the long run, be safer pilots and have fewer accidents.

"I really believe that in a career, whether it's the fighter business, bomber business, tanker business, or in any other career field, one tends to create opportunities through preparation, attitude, and tempered aggression. In other words, the harder we work, the luckier we get." ✈

■ "We did not fly the first 6 days in July due to weather. The eighth of July started out as if it would be another one of those days. We were scheduled as the egress flight. The egress flight was the last MiG CAP (Combat Air Patrol) flight inbound with a full load of fuel and armament intended to provide protection for the initial flights coming out low on fuel. There was normally little action for the egress flight. MiG activity generally occurred early on. We (Paula flight) were grousing about having to get up at 0330, go through all of the briefings, prepare ourselves, the airplanes and weapons, suit up for combat, refuel en route to North Vietnam, jettison the centerline tanks, coordinate with Red Crown and Disco, take a chance of getting shot down and probably not even have the opportunity to engage, and the weather still looked really scroungy.

"Paula flight headed inbound with everyone assuming it would be a routine mission. We'll get in and out, and tomorrow we'll be on the schedule as the ingress flight. About 60 miles from Bullseye (Hanoi), No. 4 in one of the MiG CAP flights was damaged by a hit-and-run MiG attack. He broke formation, headed out, and announced on Guard his position, heading, altitude, and the fact he was losing

The Day Was 8 July 1972...

hydraulics, thus violating a cardinal rule and definitely attracting the attention of the North Vietnamese air controllers. We immediately changed course and headed in that direction.

"About 30 miles southwest of Hanoi, we began getting calls from Disco (the forerunner of AWACS) that there were two Blue Bandits (MiG-21s) in the area. At approximately 5,000 feet on an easterly heading, Paula flight received the 'heads-up' call. 'Heads-up' meant the MiGs had us in sight and had been cleared to fire. That information was at least 40 to 60 seconds old, and we had no visual on the MiGs. At that point, the Disco controller, some 150 miles away, looking at his radar scope, dispensed with the normal lengthy radio procedure and announced, 'Steve, they're 2 miles north of you.' I made an immediate left turn to north, picked up a 'tally ho' on the lead MiG-21 at 10 o'clock; then rolled further left, blew off the external wing tanks, went full afterburner, and passed the MiG at about a thousand feet, just under the Mach. At this point, we saw only one MiG, but we knew there were two. I rolled level, pushed the nose down, and waited. Sure enough, the second MiG was about 6,000 feet in trail.

"As we passed No. 2, I came hard left into a nose-down slicing turn, about 6.5 Gs, and lost sight of both MiGs. About halfway through the turn, we were very surprised to see the No. 2 MiG high in a level **right** turn. To reduce the high angle-off, I barrel rolled left to his low 5 o'clock position and at about 6,000 feet, maneuvered to put the target in the gun sight, achieved a quick auto-acquisition lock-on (one pulse), and fired two Sparrow missiles. There was a 4-second wait from radar lock-on until trigger squeeze and another 1.5-second delay until the missile launched. Over 90 electronic and pneumatic steps had to take place in sequence before the missile would fire. A 4-G turn was necessary to keep the MiG in the radar field of view as he turned down into us. (The book said 3 to 4 Gs max for a successful launch.) The first missile came off at about 4,000 feet and more than 40 degrees angle-off. We were at minimum range and maximum performance conditions for the Sparrow. The lead missile hit the center of the MiG's fuselage, and the second went through the fireball.

"At this point, Paula No. 4, pulling as hard as he could, managed a radio call, 'Steve, I've got one on me!' The lead MiG had made it all the way around the circle and was almost in Atoll firing position behind Tommy Feezel. We unloaded over the top of the fireball after a piece of debris from the MiG nicked the leading edge of our left wing, selected full afterburner, and cut across the circle to gain a rear quarter position on the remaining MiG, again at about 5 o'clock low. The angle-off was very similar to that on the first MiG, but we were closer. The lead MiG-21 was highly polished with bright red stars (every other MiG I saw was a dingy silver). The MiG pilot saw us, forgot about Tommy, and started a hard turn our way. He was a lot better than his wingman and rotated the airplane very quickly. I fired at about 3,000 feet with almost 60 degrees angle-off (the radar breaks lock at 60 degrees) pulling about 5 Gs. Only one missile was fired because we were inside minimum parameters with minimum probability for a hit. The missile appeared out in front, snaking back and forth like a sidewinder, and seemed not to guide. All of a sudden, the missile pulled every available G (approximately 25) and hit the MiG dead center in the fuselage at just about missile motor burnout which accelerated the 435-pound Sparrow to approximately 1,200 mph above launch velocity. 'SPLASH TWO!'"

Reprinted from ACC's *Combat Edge*, August 1992.

"WE HAD A LOT OF FAITH IN THE F-4"

USAF photo via Col (Ret) Bernie Hollenbeck

CMSGT DON A. BENNETT
Technical Editor

PEGGY E. HODGE
Managing Editor

■ *An interview with Col Chuck DeBellevue provides us another interesting view of the F-4. Col DeBellevue was an F-4 WSO and Ace in Vietnam. He then went on to fly the F-4 as a pilot for another 13 years. He is currently a Professor of Aerospace Studies at AFROTC, University of Missouri, Columbia.*

FS: *What was it like flying an F-4 in Vietnam? Would you address your success in that area for us? How did the F-4 perform for you?*

Col DeBellevue: "The F-4 was a real workhorse. It was an airplane that came before the advent of a lot of the big computer-generated capabilities in airplanes today. You had to do a lot of thinking with the F-4. But it was a great airplane to fly. It was very solid, very honest, and if you understood it, it would do exactly what you wanted it to. The F-4 was originally built for the Navy as a fleet interceptor. The Air Force then bought it and used it for *everything* they could think of. We used it for air-to-air, close air support, strategic strikes, for precision bombing, and for reconnaissance — you name it — we used it for that. And the airplane did very well. Like I said, it was a very honest airplane and was well built. McDonnell Douglas built a great product when they built the F-4. It always got us back — or at least it tried! Sometimes it couldn't. We had a lot of faith in the airplane. If there was an engine fire, I knew the aircraft wasn't going to explode. If the engines were burning, we could fly the F-4 until the engines melted. The airplane would not blow up. We had a lot of faith in the airplane!"

FS: *How do you think aviation historians will treat the role and mission of the F-4?*

"We started off building an airplane and ended up building a history." Col DeBellevue

Col DeBellevue: "The F-4 was used by a lot of different countries. It was used by the Marines, the U.S. Navy, and the U.S. Air Force for a variety of different roles and missions. We built over 5,100 of the airplanes so it had a very significant impact on free-world aviation. I think historians will treat it very well. When one takes a close look at the F-4, it's a little short — at least, in flight it looks a little stubby. It was designed probably by the same people that designed the bumble bee — and you know scientists say the bumble bee can't fly. It's a real brick with two engines on it! But it did a hell of a job. It came back from its missions. The crews had a lot of confidence in it, and the airplane generally did what you wanted it to do. So I think historians will treat it very well. I know the pilots will!"

FS: *Maintenance-wise — how will the F-4 fare historically? Its safety record? Its reliability?*

Col DeBellevue: "Maintenance-wise, it was a nightmare! The skin was part of the structure of the airplane, and it was held on with a million screws. When you wanted to work on it, you took the skin off of the airplane. It took you a while. To change the battery, you had to pull the backseat out, so the backseat was always coming out to do work on the back instrument panels. Consequently, it wasn't an easy airplane to work on. But a lot of crew chiefs loved it. The F-4 was a great airplane! The way I preflighted the airplane is I would walk up to it and look at the ground. If it wasn't red, the airplane was going to fly. If the ground was red, it would probably fly. (The red was the hydraulic fluid.) The F-4 was a hydraulic mule — everything worked on hydraulics. If the ground wasn't red, it was holding pressure.

"As far as the F-4's safety record, we had all kinds of people flying the airplane in Southeast Asia. I flew with people who had flown bombers and transports all of their lives. They were fairly senior, and they were now transitioning to the F-4. It didn't fly like those airplanes. It doesn't fly like the -38s we flew in pilot training. The F-4 had some things the older airplanes didn't — especially when you weren't used to using ailerons. If you forgot, it could be deadly. You had to understand the airplane to fly it well. As long as you did, you could make it perform. In fact, I was making the rejoin in my first F-16 ride, and as I started, I was going a little fast. I said to myself, "No problem. I will just do the same thing I did in the F-4" (which is cross control — right rudder, left aileron, or whatever — get it sidewise a little bit — and get it to slow down). As soon as I put the rudder in, which was what I normally flew the F-4 with, the pilot I was flying with got real skittish — you don't use rudder in the F-16 very much. The F-16 didn't like loads, I guess. I guess it confuses the computer. In the F-4, the only flight control computer we had in the airplane was me or who I was flying with.

Photo courtesy Col DeBellevue

Adversarial fly-off. A 1995 photograph of Col DeBellevue about to mount up in a MiG-19 BIS at Edwards AFB CA.

"And finally the F-4's reliability. It's like anything else. You have to have parts to fix the airplane. It's often been said that an F-4 you set down — you fix it, and it's fully mission capable and ready to fly — if you don't fly it for a while, it will sit there and break. But if you fly it hard, it will probably stay in good maintenance shape. If you fly them hard, they stay fixed. I know we had an ORI at Seymour about 11 years ago. We weren't expecting it quite as soon as they gave it to us, and the birds weren't quite peaked yet. We had not started getting them ready. By the third day of the ORI, we were flying each F-4 in our fleet over three times a day. By the end of the third day of the ORI, we were fixing jets, and the fleet was in better shape than they were when we started. We had a backline to repair broken jets. They were

continued on next page

F-4 Milestones

February 1965
USAF logs 60,000 flight hours in the F-4.

10 July 1965
MacDill AFB based 45TFS produced the first air victory for the Air Force by shooting down two MiG-17s over Vietnam.

Photo courtesy Col DeBellevue

F-4D number 463, aka "OYSTER 3," poses proudly with four gallant "Sky Knights" (Left to Right): Capt Stephen L. Eaves, 1Lt D. Markle, Capt Charles D. DeBellevue, and Capt Richard S. Ritchie

doing such a good job of fixing the broken F-4s that everything was fully mission-capable and ready to go. It was really amazing."

FS: *What legacy is the F-4 leaving behind?*

Col DeBellevue: "Its record for doing a lot of jobs well — its ability to come back — take a lot of damage and still get us home, and the pilots' faith in the airplane. I think it's leaving a very good legacy. It's going to be hard for the next generation airplane to replace it. But there will be a replacement for it. As far as an airplane that can perform the wide variety of missions that the F-4 did, the F-15E comes to mind. There will be other airplanes. I personally like twin engines for deep strike missions. I like having two people on board. That extra set of eyeballs just makes good sense."

FS: *When was the F-4 at its height of glory?*

Col DeBellevue: "I think in 1972 when we were going into Hanoi every day. To me, that was the height of glory for the airplane. We were flying D and E models and doing a great job with it. The F-4 is a great airplane, but it was part of the team. The whole team concept when you're fighting a war is not just the pilots — it's the crew chiefs, the munitions people, the maintenance people and the cooks and the finance people and everybody that makes up the team. Everybody has to do their part — it's not just the pilot. We worked together with maintenance. Generally, I flew the same jet in Vietnam — F-4D463 — which sits at the Air Force Academy now. If I had something to write up on that airplane, I talked to the maintenance techs that were going to work on it to make sure they knew what I wanted done. The airplane might still be working well, but the systems were starting to drift, so we would get it 'tweaked.' Steve Ritchie and I got four kills together! After Steve made Ace and wasn't allowed to fly any more combat, I started flying with John Madden, and about 2 weeks later, got two kills north of Hanoi with him. That airplane, F-4D267, sits on a pedestal at Homestead AFB, Florida."

FS: *What would you say if you had to sum up the F-4 in only a few words?*

Col DeBellevue: "We started off building an airplane and ended up building a history.

"I have very fond memories of my time in the F-4. It was a great fighter to fly and to fly combat in." ✈

"In my three combat tours that involved 'hauling iron,' aerial combat, and one 11-G SAM break, the F-4 never let me down. We could count on the F-4 to accomplish the mission and get us home."

"Whether by design or luck, it was great that the F-4 engines would keep on running even if engine mounts broke."

Col John Madden, USAF Retired F-4 C/D/E/G Pilot

THAT COULD/SHOULD NOT HAVE HAPPENED TO ME!

GAF Photo provided by Lt Col Aschenberg

LT COL KARL-HEINZ ASCHENBERG, GAF
HQ AFSC/SEFF

This issue of *Flying Safety* honors the PHABULOUS PHANTOMS, all the maintainers who kept them flying for so many years, all the men who flew this beautiful machine and did not return, and all the men who are still here to talk about a story that could/should not have happened to them.

Flying the F-4 since 1974, there are two distinct events I would like to share with you. You can carry the lessons learned from my experiences to any airplane you fly now or in the future. If you agree with my summary later on, you will be able to apply lessons learned to any career field you work in.

The First Event

This experience left me with quite an impression and started me reading TO 1F-4F-1 in more detail. It was a double-engine flameout and a powerless glide which lasted — in my mind — several hours. It happened on a clear June afternoon in 1975, 110 miles north of the German mainland, with just 40-degree Fahrenheit water below us.

The task at hand was to practice a minimum-time supersonic intercept on a target some 200 miles out heading south towards the German coast. The target was measured at 48,500 feet and at subsonic speed. With my 1,400 hours of flying experience (100 hours in the F-4F), having performed this task many times before with the F-104G *Starfighter,* it was just another sortie in a new and exciting airplane.

And yes, the guy in the back (GIB) — with experience in the RF-4C — was doing all the radar work. I just had to fly, pick up the tally, and fire the missile, or maybe go for an underside gun attack if Ground Control Radar (GCI) identified the target as a "Bison" or "Bear."

Everything went as planned. We coasted out, simulated jettisoning the tanks, and accelerated to 1.5 M while descending to 28,000 feet. The GIB picked up an early contact, took a "judy," and I even picked up a tally-ho at 8 miles very high. The target was indeed categorized by GCI as a bomber-type (simulated by a friendly F-4) and the plan was for the underside gun attack.

We rolled out somewhere behind — burners cooking — and still 20,500 feet below the target. Concentrating on keeping a good tally-ho, waiting on the "pull-up — hold — locked on — break away" call, I was totally relaxed. We pulled up, and I heard the "locked on" call while trying to fly the pipper, just a reticle in front of the target getting bigger. A minor adjustment was necessary to pull the pipper more towards the target — and boy was the F-4 getting big fast! And what is the MASTER

continued on next page

CAUTION light for? And this light low to the right? And what does "Sepp" in the back mean by "double-engine flameout"?!? And — and here we zoomed by our target at FL 48.5.

MCDONNELL DOUGLAS

Well, even 21 years later, I know exactly what my next actions were. NONE. I was totally surprised with what and why it happened until "Sepp" woke me up and calmly said, "We are passing 51,500 feet. Just maintain the stick slightly forward. We will come down and get the engines started again."

To shorten the story, we did come down, passing our target with about the same vertical rate, this time in a different direction. We did get the engines started, one at 30,000 feet, and the other one at 26,000 feet.

We did fly home, and my heartbeat was under control when I made a beautiful solid F-4 landing on brick one. And yes, we did talk to a few friends in 1975 about what happened, but who wants to spread a stupid story like this one to a lot of people and why it happened?

Let me assure you, this was what happened on the outside. Inside myself, I was shaken up because I was so ill prepared and stunned by what happened and why it happened. The next days, months, and I believe throughout my career, I studied a few more sections in technical orders than before. I didn't stop after reading Section I and Section III. I dug into details of double-engine flameouts, afterburner blowouts, engine and airstart envelopes. (I found out you just can't start a J-79 at Mach .6 above 33,000 feet.)

I started reading any F-4-oriented articles I could grab in regard to zoom climbs, climb angle recoveries, pitch vs. flightpath angle, snap-up attacks, stability and control, and general performance parameters. I learned at that time that the F-4 had a lot of performance potential. To realize this potential is a matter of how well we aircrews understand performance parameters of the aircraft we fly.

Four months later, in October 1975, I attended the F-4 USAF/GAF Air Warfare Instructor Course at George AFB, California. I learned a lot more about the F-4 and how to combine knowledge, skill, and experience. With that experience and the constant motivation to learn more about the weapon system I fly, I enjoyed flying the Phabulous Phantom safely for many, many years.

The Second Event

This second impressive experience was totally different. It happened in 1992 while I was already serving at HQ German Armed Forces Safety Center.

I was assigned to a fighter wing as a "staff flier" and was flying pretty regularly every 4 to 6 weeks for a week. On the second sortie of that particular week, feeling comfortable after a poor-weather sortie the previous day, we returned to base via a VFR straight-in for a touch-and-go landing. About 2 miles on final, I noticed something different on the right-hand side of the runway, just about at the touchdown zone.

Since gear and flaps/slats were out and down, power, glidepath, and speed established, I had time to think about what this difference to the runway could be. I had so much time — and proficiency — that I focused only on the difference until I could finally identify it as a part laying on the right-hand side of the runway. Coming closer — ready to sense the ground effect — I noticed the foreign object was a part of a drag chute. Boy! Was I glad I finally figured it out while touching down.

A quick internal call to the guy in the back and a radio transmission to tower to clean the runway — too late! The handle was already up and my hands were at the throttles when my conscious brain caught up with my actions. The gear handle came down again, power was advanced, and we accelerated to takeoff speed, while my GIB confirmed the drag chute part on the runway.

While continuing the touch-and-go, I — in my mind — acknowledged to myself I had just "crashed" an F-4. Having flown different airplanes which did not have a ground safety switch to prevent the gear from raising when there is weight on the main gear, I realized I was just lucky that day — thanks to the maintainer who adjusted the safety switch the last time.

Well, this time I talked to the backseater and the squadron about what happened. The GIB didn't like hearing he hadn't even noticed the gear handle coming up and down while — like me — looking at the "part" on the runway. Most of the squadron crewmembers listened very carefully during the next morning briefing (remember, I was a staff flier from the safety center), but their faces told me what they were thinking: *That could not have happened to me.*

Lessons Learned

Let me summarize. In both cases, I learned a few things. We "fighter pilots" — or all pilots — hate to admit our mistakes openly. When we get older, it gets easier because we realize experience is not something that just happens to us. Experience is what we analyze and gain after the incident happened. To ensure we become old and bold pilots, we need to evaluate our performance honestly. If not in a formal mission debrief, we need to do it by ourselves and seriously face the facts.

We use the words ***professional, proficiency,*** and ***experience*** very loosely. We all want to be professional pilots, maintainers, or air traffic controllers. But we need to realize the definition of a professional expert, artist, or master is characterized by our conforming to the technical or ethical standards of a profession.

In the first story above, I rapidly improved my tech-

Continued on page 30

Phantom Phamily Photo Album

Official USAF Photo

"Since its inception, the Phantom II has been a winner, in war and peace, around the globe. From pitching carrier decks, snow-swept Alaskan runways, jungle airstrips, and countless locations around the world, the Phantom II has always been there when needed. There have been those who claimed the F-4 was ugly and lacked aerodynamic efficiency, but it wasn't designed to win a beauty contest — it was designed to fight and win, and it has always done both very well."

"For all the Phlyers, Pherrets, and Phixers, the Phantom II will never be replaced but just retired to a place of honor and glory in our hearts and well-earned respect in the souls of our enemies."

Mr. John J. Harty
Principal Technical Specialist
F-15/F-4 Support Programs

MSgt Michael J. Haggerty

Paul Minert collection

Official USAF Photo

"To you! And all you've done!"

Brig Gen Robin Olds, USAF Retired, after his fourth MiG kill

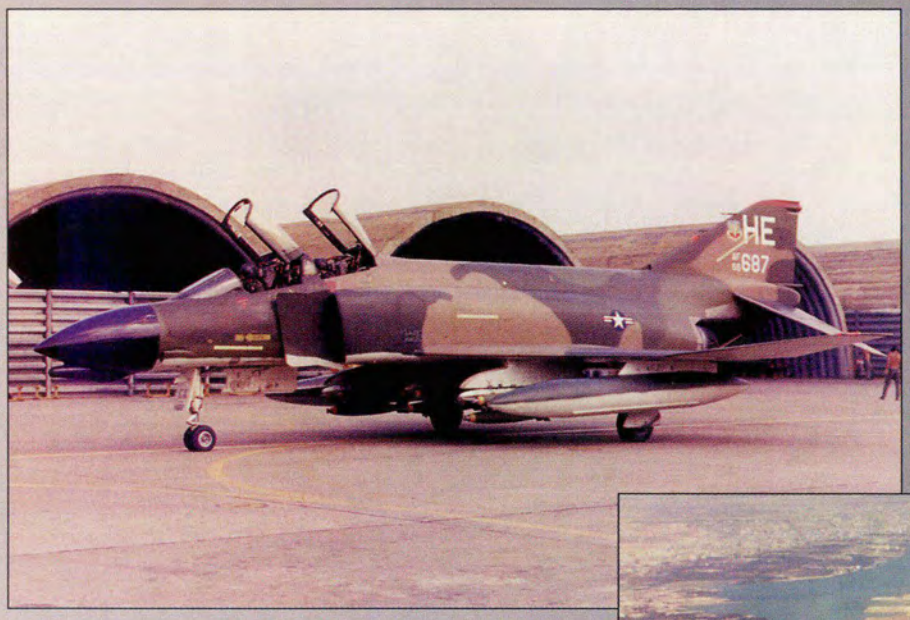
MSgt Michael J. Haggerty

A Legend in Many Colors

"If I had to perform a specific mission and perform it all of the time, I would pick an aircraft other than the F-4. But if I had to do everything a fighter pilot has to do, the F-4 is the only machine I would want. Its capability to perform diverse missions is unsurpassed."

Col Cliff Krieger, USAF Retired
AC and PSO F-4C/D/E/G

J. E. Rotramel



"While it's true the aircraft has often been called "ugly," due primarily to its bent-wing broken-tail appearance, we must realize it was not designed to win a beauty contest. The F-4 was designed to fight and win, and it's always been there when our country needed it. From pitching carrier decks, to snow-swept runways, to isolated jungle strips, to hot desert bases, the aircraft's durability has been phenomenal..."

Col (Ret) J. J. Winters
Senior Representative
McDonnell Douglas

Photos courtesy John Harty, MCDONNELL DOUGLAS, and Paul Minert

Phantom Phixers - A Maintainer's View Operation BOLO

Official USAF Photo

U.S. Air Force F-4s shot down seven communist MiGs over North Vietnam in the largest air battle of the war — Operation BOLO. For almost 30 years, much has been written about this battle. The following is a maintenance man's view. It was written by Robert Clinton, a 23-year-old two-striper involved in this operation. — Ed.

Word came to us as we arrived for our 0800-2000 shift, 1 January 1967 that we were to download everything on all aircraft in our squadron. This meant all MERs, TERs, missiles, launchers, and guns. In other words, everything! The downloaded missiles (AIM-7s and AIM-9s) were then loaded on weapons trailers and sent to the missile shop for a complete operational test and systems checkout.

During this period of the war, we were extremely short of weapons load crews. Our squadron had a total of only six or seven crews at this time for all work shifts. It was a hardship we had to endure. You know the old phrase, "Underpaid and overworked."

We were extremely surprised to find the night shift (2000-0800) was called in early, and everyone was restricted to base. We also ceased all normal flying activities. The troops knew something was up, but no one had a clue as to what was to take place.

Only aircraft outfitted with the MAU-12 B/A inboard armament pylons were selected for the mission. Some of the older aircraft were still fitted with the earlier LAU-17 pylon at this time and were not used. We were later to find out this was due to the attachment and electronics of the electronic countermeasure (ECM) pod. All other aircraft were then gone over with a fine-tooth comb. All aircraft in for phase inspections were also completed and sent to the line. All day the maintenance people swarmed over these chosen aircraft, ensuring every mechanical aspect was in tip-top order.

As each aircraft became Code 1, it was turned over to the ECM troops and was fitted with a QRC-160 ECM pod. The loading and checkout of the ECM pods was done somewhat in secrecy. This was also the first time I had ever seen the pod as we had never flown ECM before. In all of our weapons load training, the pod was used only when the aircraft was configured for special weapons (i.e., nukes). We then started our routine of hanging LAU-7 launchers for the AIM-9 Sidewinder missiles and wrung out all the missile firing circuits (ASM-11 test, etc.).

Then came an order to perform GWM-4 checks on all the aircraft. If you know about the F-4 systems tests, the GWM-4 is a *special* weapons system test. This is when all the rumors began to fly. GWM-4 + QRC-160 meant only one thing in our books — Big

continued on next page

F-4 Milestones

30 June 1965
First flight of the F-4E was made two months ahead of schedule.

November 1968
First Air Force F-4E squadron deployed to SEA with 20 aircraft.

September 1969
Air Force logs the two millionth hour of flight in the F-4.

Apples, Big Bombs, Nukes, 28s, 61s, or whatever you want to call them. We really didn't know what was going on (maybe they planned it this way?). Most of us worked from then on with a hard lump in our throats. Well, you already know the end of the story. We didn't load nukes. To this day, I don't know the reason for the GWM-4 test! It sure scared the hell out of us, though.

Official USAF Photo

Later at night, trailers of AIM-7s and -9s began to come to the line from the missile shop. The real work was about to begin. At this time, we probably had 20 to 25 aircraft assigned to each squadron. Let's see, 20 times 8 missiles equals lots of work, and we were also expected to help out the other squadrons. Three squadrons were involved in the operation — the 433 TFS, 555 TFS, and 497th tactical fighter squadrons.

To the best of my recollection, the FRAG order was three tanks, four AIM-9s, four AIM-7s, and the POD on #2 station. No guns were flown.

The flightline was still closed, and most of us had been working for some time with no breaks and no chow which, as you well know, is the best way to tick off an enlisted man. After lots of moaning and complaining, our line chief got the chow hall to send some food for us. We were still not allowed to leave the flightline. All of us were hot, tired, and very dirty. No one complained about the food or how it tasted. We all ate in silence, each deep in his own thoughts of what was happening. As the night progressed, things slowly began to come into shape. As more and more aircraft were finished, crews were finally given some short, welcome breaks, but these were all too brief to ease much weariness. In all, we spent about 28 hours nonstop getting ready for BOLO.

At daybreak, the Phantom drivers and their GIBs showed up to take charge of their waiting steeds. Soon the shrill moan of the Wolverine power units (dash sixties, as the modern troops call them) replaced the scurry and activity of the night before with their high-pitched scream. One by one, the J-79s roared to life. The distinct little noise they make as they settle down and go in idle repeated itself over and over again as three squadrons of Phantoms prepared themselves for the deadly business of war.

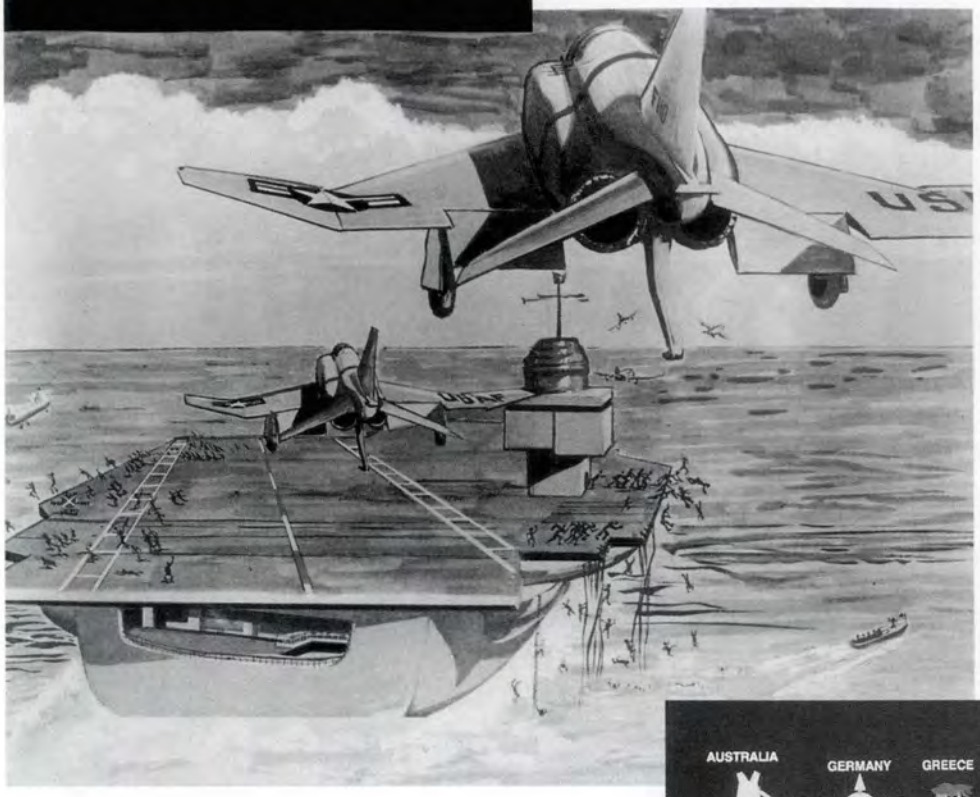
We all stood, no matter how tired, and watched in awe. First one, then another battle-anxious F-4 pulled out of its parking spot and headed for the taxiway. Here and there an airman would move forward and pop a hand salute or a thumbs-up good-luck gesture to one of the pilots he might know as the aircraft slowly paraded by.

Moments later, all that remained were the tell-tale smoky exhaust trails criss-crossing themselves in the blue morning sky as the mighty armada of BOLO formed up and headed north into the unknown.

It was kind of funny to observe an almost empty flightline where just a few moments earlier three squadrons of F-4s had sat with hundreds of people frantically preparing them. The silence rang in our ears. This was the first time since I had been at Ubon that the flightline was not a beehive of activity. It was all quiet. Everyone was bone tired. And for once, there was not a sound as we waited. ✈

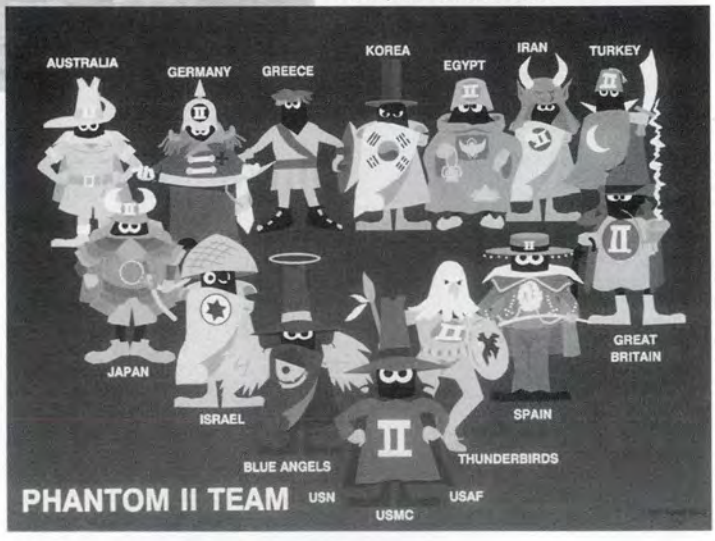

Official USAF Photo

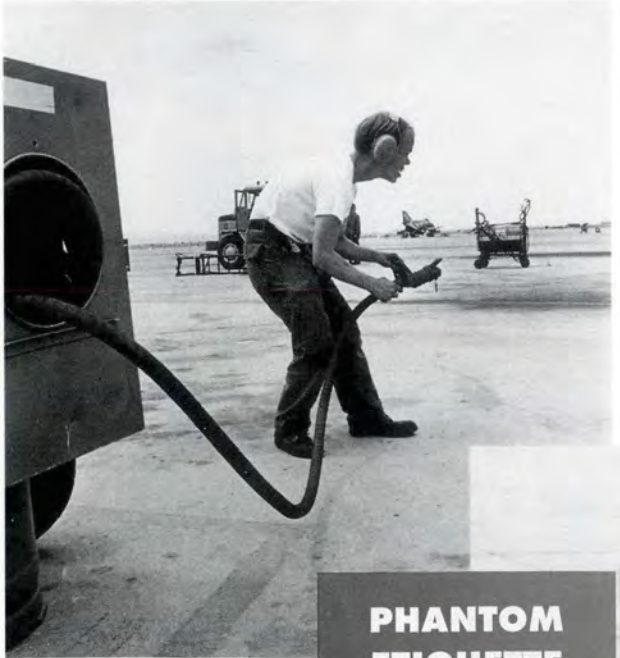
Phantom Phunnies -



Abandon ship! The Air Force doing CARQUALS? In 1963, the Air Force was weighing all the safety requirements it would need for its F-4 buy. So the Navy loaned them a couple of F-4Bs all dolled up in AF serials and markings. Of course, some sharp-eyed artist at MacDoug got hold of the idea, and the rest is history.

Courtesy MCDONNELL DOUGLAS





PHANTOM ETIQUETTE

Proper way to stalk a Phantom for hookup.

Official USAF Photos

Improper way to mount up a Phantom.

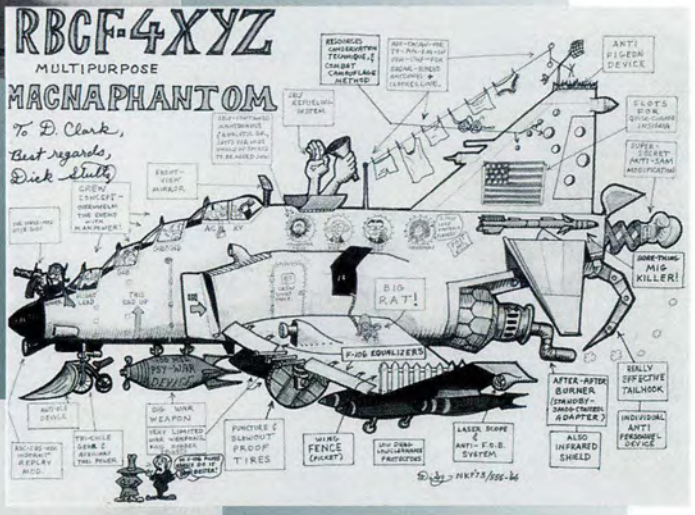
continued on next page

Say what!? F-4s in the SAC inventory? NOT! Col Chappie James talks to Lt Col Robert Copley as he prepares to mount his "SACked" steed. Those in the know tell of Col James giving the troops at Carswell AFB an evening briefing at the "O" club on how fighter pilots do business.

Meanwhile, some enterprising troops from the flightline showed Col James how SAC does business. There's no record as to how long the SAC emblem stayed on his ship.

Photo courtesy Mr. A. T. Lloyd at Boeing, Seattle

There is no truth to the rumor a prototype of this was built. However, 400 engineers applied for positions...



A revealing photo of how F-4 drivers adjusted the attitudes of disgruntled ground crewmembers.

Special thanks to Mr. John Harty, (Lt Col, USAF, Ret) at McDonnell Douglas, St. Louis, for his superb assistance in helping our staff with the preparation of this special issue.

THE LAST FLIGHT OF THE F-4

Official USAF Photo

COL CHUCK DEBELLEVUE
AFROTC DET 440
Columbia, Missouri

■ Saying good-bye to the F-4, a fighter that has served the United States and the Air Force with distinction for many years, is not and will not be easy. The F-4 has been around for a long time. It's been a super workhorse for the United States. The F-4 was originally developed for the Navy as a fleet interceptor. We brought it on in the Air Force, and we've used it for everything — every mission we could think of — and it has done a great job at all the different missions we have asked it to do.

Personally, I have some 2,700 hours in the aircraft. A lot of people have more than that. I was fortunate enough to get a chance to go into combat in the F-4. And what a great aircraft to fly combat in! If you look at it, it's a super design.

The nicknames that have been affectionately given to this aircraft include Double Ugly, Rhino, and Phantom II, to name a few. It was given these names for good reason. It was too short for the wing span — it looked squatty. The wings were bent down near the fuselage and up at the end, and the tail drooped down. The same guy who designed the bumblebee must have designed the F-4. From an engineering point of view, the bumblebee is unable to fly.

If you look at the F-4, it doesn't have the appearance of a sleek, high performance fighter. However, it does look like a brute-force machine. It looks like it was designed to go to war. But beauty is in the eyes of the beholder. And to those of us who flew it, the F-4 was a beautiful design. This aircraft could do it all.

I flew 220 combat missions in the F-4, 96 of which were in North Vietnam. From the numerous missions I flew into the Hanoi area, and from the damage I experienced from flying combat in the F-4, and from damage I saw other F-4s land with, I felt this airplane was well built, well engineered, and could get the job done. No matter how much damage we took, I was always confident the aircraft was going to do its best to get me home.

Now, if you look back through history, Orville Wright delivered the first aircraft to the Aero Service on 3 September 1908. The F-4 first flew 38 years ago. We have been flying the F-4 for over 40 percent of the time we have had airplanes. That's quite a record. We've come up with some new designs and new systems that ease the workload on the pilot. But this airplane was a real brute-force airplane. It was a brick with two engines. The early F-4s weren't packed full of computers to help with the mission. The aircraft commander and the weapon systems officer provided that capability. To fly it well, you had to understand it. You had to be able to listen to what it was telling you in order to make it perform. A lot of people understood the F-4, both in the maintenance and on the ops side of the house. It was a great airplane to fly and work on, and I've done both.

My heart is sad to see the F-4 leave because it has been a part of me and a part of the Air Force for a long time. I can still remember the first F-4C I climbed into. I was going through F-4 training at Davis Monthan AFB as a weapon systems officer over 26 years ago. My first flight was in F-4C 411, the oldest operational F-4 in the fleet. I again flew 411 when I went to Luke AFB for upgrade training as an F-4 aircraft commander. It was still a great jet. A lot of fighter crews learned to fly in F-4C 411. It was an old jet the last time I saw it, which was at Gunsmoke '85. It was part of the team from the Air National Guard unit at Fort Smith, Arkansas. It looked like it was hand-polished. It was still getting the job done, and it was still fast.

I have a lot of faith in the F-4. Whether it was on a conventional attack mission on the deck at high speed or high altitude intercept missions, we always knew it would do its damnedest to get the job done and get us home. The jet I flew in Southeast Asia was an old D model — F-4D 670-463 — an old D model that had the hottest engines on the base and could outrun anything either the Americans or the North Vietnamese put up. This jet ended the war with six kills. I am proud to say I got two of the kills the aircraft has to its credit. The aircraft now sits at the Air Force Academy.

We are not just saying good-bye to a great fighter. We are saying good-bye to an era. There are prettier fighters flying today, and there are fighters better suited for the missions they perform. But there has not been an aircraft designed that can take the place of the F-4 — at least, not in the hearts of the people who flew and supported them.

My heart will always be with the F-4. ✈

G Is for Grand, Guard, and Good-bye

MR. BERNIE HOLLENBECK
HQ AFSC/SEFL

Few fighter aircraft in history will be remembered and revered as much as the Phantom II. I am sure in the transport community C-47s or DC-3s are as well thought of. However, in the fighter community, the F-4, with its various models, is truly remembered fondly by many fighter crews and maintainers the world over. The Phantom II has served in the air forces and navies of many countries.

I used to enjoy hearing the godfather of operational human performance, Chaytor Mason, recount how he became a (tongue-in-cheek) World War II Ace in the F-4 through a series of thrilling near-death mishap brushes in his early Marine career. He would tell his audience of young aviators, many times F-4 crews, about the F-4 he flew during and after World War II. He would ask who had flown the U model (F-4U Corsair). The audience would look perplexed, and he would remind them of a page from yesteryear's aviation history. The modern versions of the F-4 Phantom II had no direct lineage, but the gull-winged fighter of the Pappy Boyington era was every bit as exotic, and it caused aviators to reflect in awe much the same as the Phantom II.

I remember, in the early 1960s, the first time I saw an F-4C make a low approach at Kirtland AFB, New Mexico. I thought the roots of both aircraft must be connected. The aggressive engines with the then-common dual smoke trail and a front quadrant plan-form that seemed to defy flight using standard aerodynamic principles made one reflect on fighter aviation. It had turned the corner from the slick F-104 Starfighter and the then-common delta-wing Convair products. You had to think that with enough power, you could fly anything.

Over the next 20 years, I wondered what it would be like to fly the Phantom. About 20 years later, at Edwards AFB, California, I flew my first Phantom II — an F-4D. Soon thereafter I was in the transition program from the F-106 to the F-4D and F-4C. During that first ride, I thought the Phantom was a "ruff and ready" heavy-duty aircraft with stability augmentation required and speed brakes not required. I questioned the characterization of the airplane as an interceptor after many years as a cone-head (and I mean that in a good way) delta-wing pilot. I did not gain the proper respect for the Rhino until I sat my first alert tour with a "wall to wall," fully armed Phantom. When you preflight eight missiles (four AIM-7F and four AIM-9L missiles) and a loaded 20mm gatling gun and still have room for several bombs, you realize that this is a real fighting machine.

Later in my career, I was checked out in the air-to-ground mission. I then really came to respect the lethality of the Phantom. It should be noted that I only felt

these exciting and heroic legends of military aviation. In a small way, I felt like a part of the soul of military fighter aviation history. Their exploits in World War II were the stories that motivated many of us to become fighter pilots. The combat exploits of Col Hub Zemke and Gen Olds in the legendary Wolf Pack's F-51s and P-47s are the stuff dreams are made of.

As I watched the final four-ship flyby of F-4Gs from the 124 FW, it seemed to me we may never again witness the glory of the Phantom. I had to remind myself we were just a part of the continuing history of military aviation, and the young people we all have been mentors and models for over the years will pick up the gauntlet.

The 124th had been called upon over the years to support real-world missions everywhere U.S. presence was required. The unit responded to the Persian Gulf in support of Southern Watch and Provide Comfort.

The 124 FW will continue to support the nation's interests. It will continue to provide for the nation's defense in the A-10 and C-130 aircraft. They have created a remarkable record that will be hard to emulate. In the past 21 years, they have compiled a very impressive

Photo courtesy 124 FW, Idaho ANG

good about bomb dropping after the ring laser gyro F-4E was fielded with its CCIP (constant computing impact point) and super navigation capability. Even I could look fairly good with that model Phantom II on the range.

At the Phinal Phantom Pharewell at Boise IAP, Idaho, I reflected on the history of this great aircraft as I talked with Phantom aircrews from everywhere in the nation. Of course, none of those present could match the thrilling experiences General Robin Olds had during his "gun fighting" career. As he gave his speech at the pharewell dinner, I remembered the first time I met him and thought then he looked too young to have done so much as a fighter pilot. At age 74, he still looked and sounded like he could do it again.

I had the same feeling when I was around General Chuck Yeager during the making of the movie *The Right Stuff*, and also Col Hub Zemke at his retirement from the Air Force at the then Reno Air Defense Sector at Stead AFB, Nevada. I felt privileged to talk and socialize with record in the RF-4C and the F-4G Phantom II. On the flightline during the final flyby, I talked to two old friends — Dale Hendry, Brig Gen (Ret), and SMSgt Jimmy Storey as they relived over 40 years of service in the 124th. These two, like many others, were seeing the eight fighter aircraft make their final Boise IAP ceremonial flight, leaving the unit to take their individual places in history.

I had just been to Tyndall AFB, Florida, a few weeks earlier and had seen some of the Phantoms that were converted for drone duty, supposedly for their final missions. Just as I had conflicting emotions when I saw the F-102 and F-106 converted to drone duty, it was a sad sight. I guess this is further evidence the story of military fighters doesn't stop, and we are all just lucky to have been a part of the continuum. I would bet the Rhino (He don't need a reason!! He will kill you just because you're there!!) will be a very wily adversary for the next generation of young drone killers. ✈

They Can't Take Away The Memories

COL (Ret) J. J. WINTERS
Senior Representative
McDonnell Douglas

Paul Minert collection

■ The F-4 Phantom II has earned its place in history as the "world's finest" for at least two decades and is, therefore, one of the premier fighters of all time. Since the Phantom's first flight in 1958, over 10 million flying hours have been logged and countless international performance and readiness records established. Phantoms are responsible for 280 confirmed air-to-air victories, including all of those recorded by America's aces during the Vietnam War. Incredibly, over 900 F-4s are still flying (5,195 were produced by McDonnell Douglas in St. Louis) in foreign military services worldwide.

However, an even greater F-4 attribute has been its awesome adaptability. Phantoms have flown virtually every mission a fighter can be asked to do — Air Superiority, Interdiction, Close Air Support, Reconnaissance, and Defense Suppression. Consequently, even though they are being retired from the U.S. fighter inventory, with technological upgrades, they will undoubtedly maintain a formidable presence in foreign countries for some time in the future. Just ask any Viper or Eagle driver who's taken on a well-flown F-4 during training.

My personal acquaintance with the Phantom began in June 1967 when I received my first choice assignment from pilot training as a GIB (guy in back) backseat pilot in the F-4. After 4 months of intensive training at George AFB, California, like hundreds of others, I was pipelined to Southeast Asia. I joined Hoot Gibson's famous 433d Tactical Fighter Squadron, "Satan's Angels," at Ubon Royal Thai AFB, flying the F-4D.

Many say war stories get better over time, but some of my experiences are so vivid in my memory that it seems like they happened only yesterday. For example, my first combat mission over North Vietnam was flown in early July 1968. I was the lead backseater of a four-ship flight targeted against a low-profile bridge. On reflection, it was a "milk run," beautiful day, "one pass — haul ass," dropping a full load of general-purpose 750-pound bombs, no ground fire observed, and bomb damage obscured by smoke. I clearly remember thinking "This is not so bad after all." Boy, was I in for a shock!

My next 67 missions in a row were flown over North Vietnam — at night. We lost several aircraft during that period, and I had very serious doubts I would survive until Christmas. However, we did learn some valuable lessons during the process. For instance, we validated once again that when you do

F-4 Milestones

22 January 1970
3,700th F-4 delivered.

3 June 1970
3,800th F-4 delivered.

29 January 1971
4,000th F-4 delivered (F-4E) .

11 February 1972
First flight of F-4E with production slats installed.

something frequently, you usually get very good at it. Unfortunately, the bad guys seemed to get better also, so we were in a constant struggle with tactics trying to develop a winning edge. Since the Phantom is a two-place airplane, I'm convinced we had some significant advantages over the single-seat aircraft at that time. As an aside, I'm eternally grateful for the F-4's two engines. Reason? I limped home three times after losing one engine, one time on fire.

In the 433d and in our sister squadron, the 435th, several paired crews were identified to be night fliers. We dubbed ourselves the "sewer rats" and became very skilled as well as reasonably comfortable with our tasks. Surprisingly, there are some things you can actually see better at night, most important of which is antiaircraft fire. Fortunately, the enemy always used a combination of tracer ammunition. Our reaction to AAA, and the occasional SAM, even though it was generally barrage fire, became instinctive. If the fireball moved on the canopy, you tried to disregard it. If it remained stationary, you were either on a collision course or inviting a very near miss, and you had better do something different in the next microsecond, or else!

Regrettably, I'm convinced the vast majority of our night losses in the F-4 were not caused directly by the enemy. They were mostly due to ill-conceived tactics, lack of proficiency (read pilot error), and on occasion, downright overaggressiveness — that is, the aircraft lost at night flew into the ground and were not actually shot down.

The reasons are tragic and partly understandable, but never acceptable. For example, we were directed to attack truck convoys at night while flying at 200 feet above the ground when delivering CBU-2 or unfinned Napalm. Reason? The CBU-2s were the first of a series of cluster bomb munitions that were basically little bomblets with individual parachutes that were spewed out the back of a SUU-7 dispenser. Consequently, due to the considerable wind effect, it was necessary to get very low in order to be successfully accurate. But 200 feet at night, even over the flattest terrain, was too unforgiving, especially with the rudimentary terrain avoidance equipment we had at the time. Bottom line: Sounds like a good idea on paper at the numbered Air Force Headquarters, but it was terribly stupid in practice and resulted in some very good aircrews paying the ultimate price.

During my second tour as an F-4E aircraft commander with the 366 TFW "Gunfighters" at DaNang, one mission definitely sticks out as unforgettably "unique." We were launched from "Zulu" (air defense) alert at 1800 hours on 20 November 1970. The mission was classified Top Secret at the time, because unbeknownst to us, we were part of a subterfuge during the gallant, but disappointing, Son Tay prison raid.

As part of an intricate plan, the Navy's carriers were pulled south. We were launched to provide "barcap" (barrier combat air patrol) northeast of Hanoi. Almost continually during this mission, we were directed to engage hostile radar contacts. (We were later told they were MiG-19s.) But, no matter how hard we tried, we were never able to get within the maximum range of our radar missiles. We were further frustrated because we were not allowed to chase them down into Red Chinese airspace where they always sought sanctuary.

What was even more worrisome at the time, though, was every time we turned back toward the tanker for needed aerial refueling, the enemy fighters would immediately turn back toward us. I remember thinking what a hell of a note to get shot off of the refueling boom. Because of this, we were only slightly distracted by an unbelievable "fireworks" display near Hanoi (learning later the true significance of the Vietnamese antiaircraft reaction to the prison raid).

Anyway, this cat-and-mouse game continued for almost 5 hours! (We logged 7 hours on the flight.) I was the flight leader, and I'm still amazed my wingman was able to hang on "fly formation" for that long at night. And I'll never forget logging 12 hours of combat time (including three additional missions back to North Vietnam) in an F-4 in a 24-hour period!

As previously mentioned, my combat flying experiences were not particularly unusual. Literally hundreds, if not thousands, of guys have similar stories to tell. But some of us do have one common, very special bond — the F-4 Phantom II. So the good news is, as these wonderful aircraft are finally taken to the boneyard, *no one will be able to take away the fabulous memories the Phantom has provided to those of us who maintained and flew them.* ✈

Col (then Capt) Winters beside F-4 #867 "Silencer", during a 1968 SEA tour.

"I dedicated 30 years of my life to this magnificent flying machine. There has never been any other aircraft that has touched so many lives."

MSgt Robert F. Clinton, USAF Retired
F-4 Weapons Technician
Editor — *Phantom Lair*

THE LEGENDARY F-4 PHANTOMS: THEY DID IT ALL!

USAF Photo by SrA Kim Price

CMSGT DON A. BENNETT
Technical Editor

PEGGY E. HODGE
Managing Editor

■ "It was and remains a tremendous airframe," said Lt Col Jim Uken, the last Commander of the 561st Fighter Squadron at Nellis AFB, Nevada, and an F-4 Electronic Warfare Officer for 20 years. Eight F-4Gs — known as the "Advanced Wild Weasels" — ended a legendary era for the F-4 when they were flown to Davis-Monthan on 26 March 1996 and retired. The Air National Guard's 124th Fighter Wing at Gowen Field, Boise Air Terminal near Boise, Idaho, flew their four F-4Gs to Davis-Monthan on 20 April. (See page 24 of this issue.)

Flying Safety was fortunate to talk to Lt Col Uken about his impression and "feelings" at the closure of this significant Air Force aviation era.

FS: *Some considered the F-4 as a "survivor"... meaning it could take a lickin' and still keep on tickin'! Would you agree with that, and, if so, would you provide a personal account?*

Lt Col Uken: I was up in Iceland in the 1977-1978 time frame, and we were practicing for the William Tell Competition. When our No. 2 man took off, both of the wing folds folded because the wings were not locked. To the best of my knowledge, we made one of the first "Conference Hotel" calls to McDonnell Douglas to ask for emergency procedures to fix the situation. We were told they had heard of this situation only two other times — both of which were off an aircraft carrier. One had gone into the water on departure, and the crew was lost. The crew managed to keep the aircraft airborne in the other incident, and they flew up alongside the carrier and bailed out. Although the F-4 was obviously not designed to fly that way, our crew still managed to get airborne, keep it airborne, and brought themselves and the aircraft back.

Photos courtesy Lt Col Uken

"The closest I have come to real trouble was back in 1982. We ended up asymmetrically over-G'ing the aircraft in a dogfight and ripped the right stab off of the aircraft. It naturally didn't handle the best, but we were able to bring it into Edwards and land it.

"The closest I've ever come to jumping out of an F-4 was back in 1986. We had the right engine come apart on us — it was basically a catastrophic failure. We had a fire on one side and some fan blades were thrown through the

firewall — that is what separates the two engines from each other. A hole was punched into the other engine, also causing that engine to overheat. We also severed some lines which caused utility hydraulic failure. When you get to this point in the emergency checklist, you have the option to either land or bail out. And luckily, the pilot (I'm a backseater) had planned far enough in advance that once the field was in gliding distance, we chopped the throttle to idle and landed it like a space shuttle."

FS *How will aviation historians treat the role and mission of the F-4?*

Lt Col Uken: "I would expect with reverence, of course. I think it's destined to go down as one of the great legends in aviation history — for a number of reasons — among which are popularity, longevity, the variety of roles it has performed, and the sheer numbers of aircraft produced. Probably hundreds of thousands of people have either worked on or flown the aircraft over the years."

FS: *If another world crisis like the Gulf War came along and the Air Force was hard pressed, what role or mission would the F-4 best be suited for if it were to be pulled out of mothballs?*

Lt Col Uken: "Exactly what the 'Weasel' has been doing for the last 15 years. It is still a very capable aircraft — particularly in the defense suppression role which is the Wild Weasel's mission. The correct terminology is SEAD — Suppression of Enemy Air Defenses. Our primary role is to go in ahead of a strike package and take out the enemy defense so that our guys don't get shot down. The F-4G is a very capable aircraft in that role particularly."

FS: *How does it feel to be the Commander of the last operational active duty F-4 squadron?*

Lt Col Uken: "There's a lot of sadness because there's something different about a Phantom squadron — it's a little bit of a throwback to the Air Force of 20 or 30 years ago. The people who fly and work on the F-4s have to work very hard on this aircraft because the technology is a little bit older. Also, the F-4s do not have the newer type line replaceable units. The maintainers don't just take one box out and put another one in. They have to actually learn how to troubleshoot and work problems on the aircraft. They must follow wiring diagrams, etc. So, I firmly believe that a maintainer having worked on an F-4 will be a much better maintainer for the rest of his career.

"The F-4 is a tremendous aircraft, but it's not as maneuverable as the latest generation of fighters. In air-to-air training, we still competed very favorably because of our experience level and because guys have learned to really fly the aircraft."

FS: *How will the F-4 fare historically — its safety record — its reliability?*


Official USAF Photo

Lt Col Uken: "I've already mentioned it's been a hard aircraft to work on. It's labor intensive compared to the newer aircraft, and a lot of things they did on the Phantom evolved into easier-to-maintain aircraft like the F-15 and the F-16. For example, if you want to change the battery in the F-4, you


Paul Minert Collection

have to pull the rear cockpit ejection seat. This can be a 4- to 6-hour job. The newer aircraft have airlock fasteners you can push and a particular panel will fold out. On the F-4, a lot of your panels have to have all of the screws removed one by one to take it off.

"I'm tremendously proud of our maintainers at Nellis. We have had Air Force leading, or among the very best, mission-capable rates for all fighters. We had the highest mission-capable rate in the Air Force in 1994, and we did very well again last year. And our numbers for this year were absolutely phenomenal! That says a lot for the maintainers. But it's also a testimony to the F-4 design as a rugged and well-constructed aircraft.

continued on next page

"We also went through 10 deployments in 10 quarters to operations VIGILANT WARRIOR, SOUTHERN WATCH, and PROVIDE COMFORT. VIGILANT WARRIOR was the rotation in the Gulf, SOUTHERN WATCH was the standard in Saudi Arabia, and PROVIDE COMFORT was in Turkey."

FS: *When was the F-4 at its height of glory?*

Lt Col Uken: "Certainly during the Vietnam years when it was THE premier air-to-air aircraft for the Air Force. Some of the aircraft that were in Weasel squadrons were MiG killers from Vietnam. But it was still a very viable weapon system well into the late 1980s and as a 'Weasel' going in the 1990s as demonstrated in the Gulf War. We flew them at rates that were not even flown during Vietnam. We were flying a phenomenal number of missions during the Gulf War, and the average sortie length was 4 1/2 hours as opposed to a standard training mission which is around an hour — an hour and 15."

Official USAF Photo

FS: *What would you say if you had to sum up the F-4 in only a few words?*

Lt Col Uken: "It was an aircraft loved by those who flew it and worked on it. It performed virtually every mission the Air Force performed — from reconnaissance to strike to air superiority to weasel to close air support to interdiction — **the F-4 did all of it!!**

"I remember coming out to RED FLAG exercises years ago, and you could see a ramp full of nothing but F-4s. There would be F-4s for air superiority, F-4s hauling bombs, and F-4s doing reconnaissance. They did it all! It was pretty amazing!"

FS: *What legacy is the F-4 leaving behind?*

Lt Col Uken: "I will tell you what I told my folks here. Because we worked hard on the aircraft, I also feel it makes you a better aviator or maintainer. What I challenged my guys to do is take that same work ethic with them when they go to their next unit. I think that's what the legacy would be — take some of that Phantom pride with you, and it will make you stand head and shoulders above your peers." ✈

THAT COULD/SHOULD NOT HAVE HAPPENED TO ME...continued from page 14

nical standards after the event. We are really not proficient until we have manifested the knowledge, skill, and experience needed for continuous success in a particular field or endeavor. Proficiency implies a thorough competence derived from constant training and practice.

In my second story, I was not in constant training and practice and disregarded my experience and common sense for an early go-around to a low approach to identify the object on the runway. Experience, described as the fact or state of having been affected by or gained knowledge through direct observation or participation, comes with the flight hours and years. But let's be careful. Another definition of experience talks about the constant practical knowledge, skill, or practice derived from performing tasks. What we need to realize is that a PROFESSIONAL needs PROFICIENCY and EXPERIENCE to be good. Whenever we use these words, we need to remember they actually must work together at all times. We need to push ourselves daily to adhere to the standards set. They are formed by positive and negative experiences of the past. We need to give ourselves and the people we are responsible for the chance to gain and maintain proficiency. By doing these first two steps, we will increase our experience and will become a valuable asset to the organization for which we work. ✈

Pharewell

My return to Germany in July 1996, after being assigned for 3 years to the Air Force Safety Center in Kirtland AFB, New Mexico, as the action officer for the F-4, will follow shortly after the phase-out of the F-4 from the active inventory of the USAF. I do not like to leave your beautiful country and the "Land of Enchantment" (New Mexico), but life goes on. Back home we are still flying the F-4, and I am looking forward to contributing the experience I gained here at AFSC to the German Armed Forces Safety Center. I had the pleasure of working with great people in the USAF safety community, and I had the pleasure of flying with a group of professional pilots in the 7 FS at Holloman AFB. To all of you, thank you for your cooperation, your trust, and your friendship.

Lt Col Karl-Heinz Aschenberg, GAF

☆ U.S. GOVERNMENT PRINTING OFFICE 1996-679-016/43011

Farewell, Dear Friend


1963 PHAREWELL 1996