

PIONEERS OF STEALTH™

NEWSLETTER

LETTER FROM THE PRESIDENT

Greetings Pioneers,

I hope everyone had a safe and fun-filled summer. Debbie and I did with family picnics, offshore fishing, and the Florida sunshine. The highlight being an extended vacation on Islamorada in the Keys with our sons and their families. Our oldest son, Michael, caught his first Sailfish. The family was proud to hoist the capture flag for our return into port as well as displaying the day's catch of over eighteen Mahi-mahi.



The fall season is a time to reminisce about several major events during the last 50 years of stealth history:

- *November 10th - USAF acknowledges the existence of the F-117A, 36 years ago;*
- *December 1st - First flight of Have Blue 1001, 47 years ago;*
- *December 17th - First Operational B-2 delivered to Whiteman AFB, 31 years ago.*

Since the Summer Edition of the Newsletter, the Pioneers of Stealth (POS) Leadership Team has been focused on the 2025 Reunion and initiating plans for preserving our organization's history. I commend the reunion team for their commitment to ensuring this event will be

highly successful and memorable. The selection of Denny Jarvi as the POS Historian was a major step towards launching the latter effort.

With regards to the Reunion, we sent out a questionnaire to the membership requesting they indicate their preferences on a variety of reunion choices. The response was outstanding with 89 members indicating they were Very or Somewhat Likely to attend the Orlando event. This newsletter includes the results of the membership responses to the questionnaire. These responses are being used in the final 2025 Reunion planning. The Reunion details and sign-up information is expected to be available late January on the POS website.

As a final note, the Pioneers of Stealth™ trademark request is on track

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for late 2024 approval. Once approved we will be the only organization to officially use the *Pioneers of Stealth* title with the ® mark. After we receive the copyright approval, the team will assess the value of copyrighting the POS official logo developed by Joe Reiman. Joe Reiman published a slide show in 2015 which shows the concept he used in designing the official logo for our Pioneers of Stealth

organization. This 2015 slideshow is still available at the POS "Members Only" page on the POS website.

Everyone have a nice fall and enjoy the upcoming holidays with your families and we will visit with you in mid-January with the Winter Edition of the Newsletter.

Cheers,

John Summerlot

TEAMWORK - Security

Just One Example of How We All Pulled Together

Altho the vast majority of program documents were moved between SENIOR HIGH program offices by couriers and secure DACOM, a limited category of the many Special Access Required documents could be mailed via the USPS between program locations. Each such package was required to be double wrapped and sent via Registered Mail - Return Receipt Requested. A suspense and tracking system was maintained for each such mailing.

On both sides of the exterior of each inner package was an attention grabbing pre-printed label which boldly stated that any person reading this warning was instructed not to proceed further and to immediately call a clearly printed telephone number 24/7 under the penalty of the law not to do so. Various impressive US Code citations followed.

In the years I was involved (1978 thru 1984), we received only one such call. It was from a manager at the Enterprise Rental Car counter at LAX, eagerly

complying with the instructions on the inner label.

We immediately dispatched Ken Hassen, the USAF Program Security manager assigned to the nearby Skunk Works, to pick up our bundle and interview the manager who was all too happy to pass it to Ken. He then signed our special and impressive U.S. Government Confidentiality Agreement.

(Ken was an Air Force Academy athlete and graduate, an Office of Special Investigations Special Agent and the victim of an incurable illness that took him away from his young wife, daughter, and us much, much too early, while he was still with our programs.)

Forensic analysis of the package concluded it had not been opened further, thus freeing Ken of the necessity of having to return to LAX in all that traffic later in the week and terminating our conscientious finder.

Peter Knauth



2025 Reunion Questionnaire Results

The purpose of the "2025 Reunion Activities Questionnaire" was to ask for POS members' preferences, both group and non-group, to aid in the planning of the next POS Reunion in Orlando, on 20-24 October 2025.

We asked you to submit your responses to the questionnaire by 31 August 2024. There were 9 items in the questionnaire, all multiple choice. Also there were text entry boxes for adding information, comments, questions, and whatever. The reunion team accepted all responses received by 31 August 2024.

Questionnaire Results

A). How likely are you to attend the 2025 Reunion in Orlando Florida?

Results - Of the 89 total responses received:

Very Likely - 43

Somewhat Likely - 29

Not Likely - 17

B) Which would you prefer for transportation to/from group reunion events?

Results - Of the 72 Very and Somewhat Likely responses received:

Reunion Provided - 42

Member Provided - 25

No Preference Selected - 5

C) How would you rank your interest in attending the following Group Activity Options?

Results - Of the 72 Very and Somewhat Likely responses received, the *weighted interest* of the options, lowest score being the highest interest was:

Kennedy Space Center - 129

Lockheed Martin MFC - 157

Epcot Disney Park - 199

Self-Guided - 201

D) Check the boxes if you have interest in the following attractions in the Orlando and Central Florida area.

Top Seven Results - Of the 72 Very and Somewhat Likely responses received, the attractions ranked for most interest to least are as follows:

1. Cirque du Soleil - 23

2. Museums - 20

3. St. Augustine - 18

4. Aquariums - 16

5. Space Coast - 15

6. Universal Studios - 12

7. SeaWorld - 11

E) Do you have any special needs or accommodation requirements?

Results - Of the 72 Very and Somewhat Likely responses received: there were seven positive responses which will be assessed as part of the reunion planning.

F) Do you have any general or overall recommendations/comments that you would offer to the POS 2025 Reunion Team?

Results - Of the 89 total responses received, there were 23 comments which will be assessed as part of the reunion planning.

The POS 2025 Reunion Team thanks the members that participated in answering the *Questionnaire*. These results are being reviewed, analyzed, and will be used in the planning, preparation, and execution of next year's reunion in Orlando, Florida, scheduled for 20-24 October, 2025.



A Russian Perspective on Stealth

Every now and then one stumbles across some written material that grabs your attention. Such was the case with the *Russian Aviation* article "Visible - Invisible: Stealth Technology History" by Rostec, which you can view at this link,

<https://rostec.ru/en/news/visible-invisible-stealth-technology-history/>

My first thought was, "Who or What is Rostec?"

On November 23, 2007, Russian President Vladimir Putin signed into Federal Law the creation of "State Corporation for the Promotion of the Development, Manufacture, and Export of High Tech Products "Rostec." As stated at Rostec's english language website, its Core Business Areas include Aircraft engineering, Metallurgy, Optics, Radioelectronics, Composites and other advanced structural materials. Rostec, according to their corporate website and the article, has a capability and products portfolio ranging from NDI inspection technology to helicopters.



Photo: United Aircraft Corporation (UAC)

Reading the article, it was interesting to note with regard to the application of stealth technology to Russian military aircraft, the USSR was not "lagging behind" the U.S., they merely concluded that too much attention to stealth technologies affected the combat capability and production costs unless done sensibly. Thankfully, that attitude/philosophy still appears to dictate their approach on their fifth and sixth generation fighters!

I welcome any comments on this article. Send your thoughts to:

jrsummerlot@gmail.com



Excerpts: “The Pioneers of Stealth,” By John M. Griffin

Chapter 7 - Other Stories Thru the Years

F-117 & the GBU-27

By Chuck Pinney, F-117 CTF

The GBU-10 Paveway II 2,000-pound laser guided bomb, the key IOC weapon, had two issues that limited its performance against hardened targets. First, guidance corrections involved energy-bleeding full-deflection movements of the canards that often led to overshoots about the optimum trajectory, lower impact speeds, and poorer impact angles—factors that degrade the accuracy and penetration capability of the bomb against hardened targets. Second, the shape and integrity of the bomb body was not suitable for penetrating buried, reinforced concrete targets. Ricochets, premature case breakup, and fuse failures were not uncommon. Considering the F-117’s mission to penetrate heavily defended areas to surgically attack high value targets, these weapon shortcomings would limit the F-117’s effectiveness.

Fortunately, two independent development efforts offered solutions: the GBU-24 offered proportional navigation that improved accuracy and conserved energy (but wouldn’t fit in the weapons bay), and the HAVE VOID BLU-109 bomb design that enabled hardened target penetration. Those involved in those programs were unaware of the F-117 need. That became a lunchtime “wouldn’t



it be great if” topic between three involved in flight test: Captain Chuck Pinney, CTF program manager for avionics and weapons integration, Ray Little, a Lockheed ADP weapons separation consultant, and MSgt

Roland (Pete) Peterson, CTF armament crew chief. Before our desserts were finished, we schemed to substitute a back channel GBU-24 seeker with a shortened adapter into an otherwise GBU-10 weapon, and perform a slow-motion fit check into the cramped F-117 weapons bay. It worked!

When advised of this unauthorized fit check, the SPO was initially displeased, but asked, “How did it go?” Thus, was born a new weapon concept, initially dubbed the “GBU-XX” and much later the GBU-27. For no good reason, we simply called it the “Hoagie” in open conversations.

From there, the pace quickened. The TAC requirements document was drafted on two pages of green graph paper. GBU-24 seeker software was modified to the F-117 mission. Early BLU-109 production bodies were redirected. Soon came the first test drop, which split the heated 55-gallon barrel in half.

The F-117 DLIR videos from the opening night of DESERT STORM that

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F-117 & the GBU-27 - Continued from Page 5.

showed the GBU-27's going down the vent shafts of hardened command bunkers in Bagdad brought infinite satisfaction. The F-117's ability to reach heavily defended, high-value targets,

coupled with the GBU-27's accuracy (95% P_{hit} per official records) and penetration capability, created a weapon with tremendous military value.

Color of the F-117

By Alan Brown, Lockheed

Another item concerns the color of the airplane. This was settled long before Sherm came on board as follows. I was totally responsible. We worked with a small company headed by Bob Kinzley (I think I have the spelling right) that was an offshoot from Cornell Labs. The purpose of the selected scheme (multiple shades of grey) was not deceptive camouflage (i.e. what direction is the airplane coming from, or which way up it?) but Threshold of Visibility, i.e. at what point coming over the horizon can you first see the airplane. Color is not important for this, only contrast, so shades of grey were selected, all the way from near white underneath to mid-grey on top. The aircraft needs to blend into the sky background, regardless of weather conditions.

The two four-stars I worked with were Al Slay of Systems Command and Bob Dixon of TAC. The latter was a classic, very handsome fighter pilot. He was in my office one day (probably 1980) and wanted to see what we were doing about visual camouflage. I showed him two models, one in the multiple shades of grey, and the other all black.



His reply was very simple; "Brown, I've got my top fighter pilots to fly this airplane. Trainers are painted white! I'm not having any of my pilots flying anything remotely like a near-white airplane. The airplane is going to fly at night, isn't it? "Yes", I said. "Well, paint the god-damn thing black!" And that was the sum of the conversation on what color the F-117A had to be!

Bob was also the reason why the F-117A had the "F" designation. "I'm having my top fighter pilots flying this airplane, and none of them is going to be asked to fly an "A" or worse yet a "B" airplane. That's an insult to my pilots. So make it an "F" airplane". On both the color scheme and the designation, I'm very good at agreeing with four-stars, so that's how the F-117A came out the way it did.

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The Story of Walt Barber

By Jerry W. Baber

My son, I guess it was after they let out the information about the bombing of Bagdad, and nobody had ever seen the damn thing. My son called me and he said, "Dad, they started bombing Bagdad." I said, "Oh, God." And he said, "Yeah, and it was the F-117s doing it." I said, "How do you know?" He said, "Well, they didn't start shooting until after the bombs went off. They didn't know anybody was there, until the bombs were dropping on their head." Yes, it is an incredible feeling. We did a number on the Russians. As Bill Perry said, "We will spend them into the dirt." And that's what we did. We made it so expensive for them to keep up that there was no way. They had to stop. That was their downfall. And having been a part of that, it was neat too.

Won the war. But I am glad to have the opportunity to do this. I'm not very organized in the way I approach it, but this whole thing is—one story leads to six stories, which leads to ten. Of course, a lot of them only mean something to the people that were involved, like Walt Barber. I'm Walt Barber. Everybody misspells my last name. And my middle name is Walter. So, there are guys on the program like Jack Twigg and Joe Ralston and those guys who normally call me Walt. It had to do with [Lieutenant] General [Thomas] Stafford. When he would speak to various people he would always say, "This is Major Barber." I would say, "Oh, God." But I never corrected him until we went up to see General [James A.] Hill one day. He was the Vice Chief of Staff of the Air Force. This was on the briefing of the data rights issue on the stealth project. General

Stafford introduced me to General Hill as Major Barber. He looked right at my name tag and said, "Get your name tag spelled right, major." I said, "This is not going to be a good day." So, we got back down to the office and Joe Ralston started telling that story about the guy who knew everybody. He went through the whole litany of all the look-alikes and whatever and then he got to the guy was standing in the Vatican Square next to this guy who knew everybody, he thought he knew everybody. And he said, "I bet you don't know who that is up there in that window." And the guy said, "I don't know the guy with the funny little white cap on, but the guy next to him is Walt Barber."

Everybody knew Walt Barber. He became a kind of personification for the programs. Walt Barber in LA holding up two colonels in their T-39 and a general at March Air Force Base because I was out shopping for presents for my kids and I miscalculated Zulu time and thought it was local. I had these guys cooling their heels. I come rolling up to catch the airplane and I've got my open-collared shirt and briefcase manacled to my wrist and a tan jacket. These guys are thinking I work for the White House. I mean, these guys just couldn't believe it. The pilot said, "Do you do this very often? But Walt Barber was alive and well. They got to the point where they would always make reservations for Walt Barber at various places and try to convince people that I was Walt Barber.

— (Prepared from an interview with Jerry Baber, aka Walt Barber, by Dennis Jarvi)



Skip's Stealthy Book Corner

BOOK REVIEW: "Radar Man" by Edward Lovick, Jr.; Published by iUniverse, Inc.

This is a fascinating biography of Edward Lovick, Jr., who was involved in the effort to reduce the radar backscatter from the U-2 and the A-12 OXCART. I was particularly interested with his description of the effort to reduce the radar return on the A-12. He also contributed to the success of Have Blue, the F-117, and the Sea Shadow, Lockheed's experimental stealth ship.

Admittedly the discussion of technical solutions may be detailed and daunting to readers who are not electrical engineers (like me), but the difficulties are ameliorated by drawings and the explanations in the appendices.

There were several takeaways that struck me about this book:

- The first was his ability to find innovative solutions to each of the many technical issues described;
- The second was his attitude: "IT WAS FUN!!";
- The third was he was unstinting in giving credit to those that helped him find the answer.

This is a great book for those engineers involved in Low Observable technology and I believe this book would make a great gift to any electrical engineering student.

I would rate this as 3.5 out of 4.

Skip Hickey

BOOK REVIEW: "Stealth, The Secret Contest to Invent the Invisible Aircraft"
by Peter Westwick; Published by Oxford University Press

Peter Westwick's book provides an accurate account of the history of modern stealth starting with technology demonstrator Have Blue, transitioning to the F-117A Stealth Fighter, demonstrator Tacit Blue, and finally the B-2 Stealth Bomber. The author is a research professor of history, University of Southern Cal., and director of the Aerospace History Project at Huntington Library. His view of the history relies heavily on the Library interviews of stealth pioneers, such as John Cashen, Irv Waaland, Jim Kinnu, and Alan Brown, noted by the over 450 footnotes.

The author does a good job of addressing the political and defense posturing at the time which supported an environment conducive to the development of stealth technology. His suggestion that "...stealth technology offered a revolutionary implication, as an alternative to Nuclear Weapons," gives pause for thought.

As a final testament to the book's accuracy, the acknowledgements include, "I would also like to thank the Pioneers of Stealth organization for preserving the stories of the participants and sharing their work." I recommend Westwick's work, and give it a 3.5 out of four stars.

John Summerlot



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A Blast From the Past



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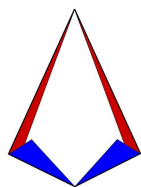
Jack Twigg

**Pioneers of Stealth™
Charter**

Purpose. The purpose of the Pioneers of Stealth organization is to perpetuate the spirit and achievements of a relatively small number of government and industry people in the early days of low observables technology and development. These "pioneers" believe the bonds created through their sharing of these successful achievements will always be an important part of their life experiences. They are proud of their accomplishments and enjoy being together to visit and revisit with those who all made valuable contributions to these challenging and revolutionary programs. Maintaining this social relationship is extremely important and a primary objective of this organization. The Pioneers of Stealth also believe that their value to the current defense acquisition establishment is best accomplished by using their strong record of achievements to be advocates and mentors for industry-government teamwork, streamlined management procedures, and minimal oversight and reporting requirements – all factors that significantly contributed to the historic successes of the low observables programs.

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POS 2025 Reunion Details



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Published Quarterly

