THE A-4 EVER

Skyhawk Association Journal Vol 27-1

Contents:

HOOK 2021, September 9-11
Skyhawk Association Annual Meeting
Nugget Casino, Sparks, NV

Spring 2021
http://skyhawk.org

THE PREZ SEZ

By George "Woodpecker" Blosser

George "Woodpecker" Blosser

As I write this spring edition of the Prez Sez the Skyhawk Association Board of Directors has just completed our Winter Board Meeting. In keeping with the restrictions of Covid-19 we did not meet in-person, but rather resorted to our way of life these days using Zoom. Details of the meeting are reported below. I am pleased to report our association is on solid footing and our goal of continuing the legacy of the A-4 is still the top priority as we enter 2021.

BOD Meeting

The Winter Board Meeting was held on 3 March 2021 and all directors were present except Director Gene Atwell who was represented by association member and assistant Webmaster Dick Nielsen. Normal committee reports were given and a few highlights are outlined below.

- Association Secretary Terry Cooney reports that as of 1 March 2021our association paying membership was 748. This represents a net loss of 48 members. The renewal rate at the end of 2020 was 74%. Finding and retaining members continues to be a priority for all of us.
- The association has received a letter from The Distinguished Flying Cross Society suggesting that our two respective organizations exchange ad's advertising our activities. Skyhawk Association will send our Tailhook 21 ad to the DFC Society and they will do the same for our spring issue of the A-4 Journal. We will continue discussions with the DFC Society to complete this arrangement.
- Our Webmaster Gene Atwell, along with his new assistant, member Dick Nielsen, continue to work on the overall security and presentation of the website. The system is currently operating with Drupal 8 and a transition to Drupal 9 is under consideration. The heading for the SDO section will soon be moved to a more central location in the interest of making it easier to find. So that we do not lose any of our valuable 70GB of critical information, the system is backed up every evening in two separate hard drives. If the system is "hacked" with this safeguard in place the website could be restored with limited difficulty.
- Association Treasurer Mark Williams reported that we finished 2020 with a budgetary surplus of $1843. We are projecting a small surplus for 2021 and the actual amount will depend on Tailhook 2021. A briefing on the proposed budget for CY 2021 was discussed and a vote to approve the motion was passed.
- A discussion was conducted on the need for Director and Officer Insurance for the association. The current annual premium is $617. Preliminary information indicates this additional insurance is not necessary in addition to the existing liability insurance policy that is inforce. A motion was presented to withhold this payment, starting with the 2022 invoice unless further research indicates otherwise. The motion passed.

THE DISTINGUISHED FLYING CROSS SOCIETY

SDOs

Our Squadron Duty Officers (SDO) program remains an important part of communications within the organization. The vast majority of the SDO slots are filled, but there are a few that need filling. If you see one that you would like to work, please step up and help out. The primary contact for the Navy SDO Program is Director Terry Wolf (tairwolf@comcast.net) and the Marine/International SDO contact is Director Bill Egen (bill.egen123@gmail.com)

Tailhook 2021

Our fall BOD Meeting will be during Hook21 which has now been officially announced. This year's gathering will be at the Nugget in Reno as usual and will be on 9-11 September 2021. Our BOD meeting will be Friday morning September 10 at 9:00 am. The luncheon will be held at the Poolside Chalet Terrace at 12:00 noon and the "Attack Ready Room" will also be open again this year each day. Our usual booth will be in the vender area on the 2nd floor of the Nugget. Our key note speaker at the luncheon will be POW/Motivational Speaker Charlie Plumb. Please mail your reservation for the luncheon plus $35 to Mark Williams 10432 Button Willow Drive, Las Vegas, NV 89134,

cont. page 5...

BOMBS AWAY!

• Spring 2021 •

REGULAR FEATURES:

IRREGULAR FEATURES:

JOURNAL STAFF

THE A-4 EVER

Bob "Raven" Hickerson – Chairman/Co-Editor.
Dave "Hide" Dollarhide – Co-Editor.
Gene "Blade" Atwell – Webmaster.
Feature Contributors: George Blosser, Bill "Jigger" Egen, Todd "Hun" Frommelt, Peter Mersky, Boom Powell, Joe Turpen, Gary Verver, Mark "Senator" Williams, Jack "Puresome" Woodul.

Contributions

We actively seek contributions from members, including news, photos, historical documents, anecdotes and other items of interest. Submissions may be edited due to space limitations in the newsletter. Contributions may be emailed to the Journal Editor at sa-journal-editor@skyhawk.org mailed to Bob Hickerson, 1222 Balcones Drive, Fredericksburg, TX 78624.

Stephanie Davis, graphics, skyhawk@ncflight.com. Printed by Acculink, Greenville, NC.

On the Cover: 149973 A-4E VMA-121 Chu Lai. USMC photo.

TAKE NO PRISONERS

Letters to the Editor

sa-journal-editor@skyhawk.org

FROM: Jim Vitale
TO: Historic Research

A pan am classmate, Harold "Pete" Peterson, was killed in an A-4 accident, Jacksonville area, probably 1970 plus a few years. I've tried in the past and never found anything. Can anyone help?

FROM: Bill Egen

This is from our VA-831 page: February 24, 1970: Pete Peterson was killed in A-4B BuNo 148515, the night of 2-24-1970 at Whitehouse OLF. *"I remember walking around in the light rain and mist looking for him in the black night. We found the a/c, but couldn't find him for a long time. Then he was found still in his seat. It was a lousy night for FCLP's. I don't remember who was waving. I know that I was tired. My log shows that I had flown 3 periods on the 24th. Two were day periods of 8 FCLP's each and one night period of 8 FCLP's all launched from NIP. The next night I logged 27night FCLP's. The day after that I logged 24 FCLP's.*
Those were the days. I hope this helps. Skip Wood" (Peterson was killed following an engine flameout and unsuccessful ejection-Ed)

FROM: Mark Doering
TO: Webmaster

Your site asked if anyone had the patch *(for VF-713 Ed)*. My grandfather was Robert Doering with the 713 and I have his original flight jacket with the patch still on it. Would love to talk and love to get some info on the 713 if anyone has info.

FROM: Dave Dollarhide

Mark, I'm not sure if you've received a reply from us yet, but I'll offer my comments.

It appears you've been to the VA-152 page on our site, where you saw the invite for anyone who has a cloth patch for VF-713 to make contact with David Sheeley, son of a former CO of VA-152. Unfortunately, we're not sure when that was posted, but Sheeley is not a current member of the Skyhawk Association and we have no contact information for him.

Our mission requires that our focus be on the A-4 Skyhawk years, but we do post some data for previous versions of squadrons. I see that your grandfather's name was added to the VA-152 page in the COs listing, "*February 1, 1951 - - - - - - - LCDR Robert L. Doering was Commanding Officer of Reserve Fighter Squadron SEVEN HUNDRED THIRTEEN prior to activation.*"

Our other problem is that we're all dying off, with fewer members who might recall the kind of information you seek.

What we can do is place your letter in our Letters to Editor section of our quarterly magazine, which I will take care of. It will show your email address and be published in our spring issue in a few months.

I hope this might produce a contact for you. The following link was provided by Gary Verver. It may help in your research. Dictionary of American Naval Aviation Squadrons.

(Editor Note: If anyone can assist Mark Doering, his email is enigma40@icloud.com)

FROM: Roy Simmons
TO: Historical Research

My name is Roy Simmons I am helping do the history for all the aircraft here at Castle *(Castle Air Museum – Ed)* and I'm on the hunt for photos of our A-4L. She was with VA-22, VA-144 and VA-95 before she made her way to NAS Memphis. I was hoping that someone might have a few snap shots of this fine aircraft sitting or flying with anyone of these groups.

FROM: Dave Dollarhide

I see that A-4L 149532 is located at Castle Air Museum. You probably have the history of the airplane, but just in case, I've provided a cut-n-paste below *(Not included due space - Ed)*. The airplane spent 8 years with active duty squadrons, until converted to a Lima model. 200 A-4Cs were converted to A-4Ls for the use of Marine and Navy reserve units, where 149532 flew for its last 7 years.

This photo of VA-204 A-4Ls, from my personal files, includes 149532. I spent 12 years in the same Air Wing, with VA-203, sister squadron to 204.

FROM: Jim "Sandy" Sandberg
TO: Skyhawk Journal staff

UNITED STATES NAVY
AND UNITED STATES MARINE CORPS

STATION TRARON-24 NO. B-005-76
ISSUE DATE EXPIRATION DATE

This Is To Certify That

NAME SANDBERG, J.R., CAPT, USMC RANK CORPS

has met the requirements for a **STANDARD** instrument clearance rating.
(Current ~~directive~~(s) for clearance regulations listed on back.)

SIGNATURE (Commanding Officer) E. V. TETER, CDR, USN
SIGNATURE (Pilot)

OPNAV FORM-3740-1 (REV. 3-52) (over)
S/N 0107-730-1000

Re the VT-24 discussion in the Fall 2020 Letters to the Editor, I just came across the attached VT-24 Instrument Cards signed by COs E.V. Teter and R.H. Barker indicating that their change of command (Teter to Barker) might have occurred sometime before 29 July 1976. I can't remember Barker's first name – probably because we all called him Ted (behind his back). Meanwhile, FLY SAFE!

FROM: Dave Dollarhide

Thanks a lot for sharing that. We'll post your input in the Journal, confirming Teter was there…and that Barker followed. I remember Teter as a LCDR at NAS Cecil, but didn't know where he went from there.

FROM: Richard Dowers
TO: Historical Research

I am an aviation enthusiast living in the UK and am trying to find out the identity (the BuNo.) of a Skyhawk that was on the gate at New Orleans NAS. I believe it was present from (at least) 1976 until 1980 and was coded 7X but with no other external marks. Would any of your archivists be able to identify this aircraft at all?

FROM: Gary Verver

Hello Richard, the only Skyhawk we show at JRB New Orleans is A-4C BuNo 147750 which in 2002 had an AF tail code. Any chance you have a photo of the Skyhawk you're looking for info on?

FROM: R C Dowers

Gary, very many thanks for your email and the subsequent photograph from one of your colleagues. I deliberately didn't respond immediately to your request for a photo as I knew I didn't have one. I put out some feelers on a Military Spotting Forum here in the UK, asking if anyone had a photo that they were willing to share. Unfortunately, no one replied with a shot of the A4.

From the feelers I put out two suggestions came back, 147750 and 147790. Paraphrasing the replies I received and I am unable to verify these (Joe Baugher site) 147750 only arrived at NAS New Orleans in 2002. In respect of 147790, you have a picture of that on your Flickr feed before it was restored and put on display at Quonset Point but where was it before your photo and its restoration?

Separately, one of my friends had 147790 penciled in his log from way back when. He was not sure where that came from but the name he mentioned (another friend) was a very reliable source.

So, at the risk of pointing you towards the A4 at New Orleans in the period 1976 - 1980 (at least) being 147790, have what I said above about 147750 not appearing before 2002 and would you have any intelligence on the whereabouts of 147790 before its Quonset Point appearance?

FROM: Dave Dollarhide

I found this photo in my files, so if you're needing a photo of 147750, the attached photo came from my camera circa 1972. I flew it many times with Attack Squadron Two Zero Three. It's a poor scan from the grainy paper of a small photo print, but you can use it as you see fit.

THE PREZ SEZ continued. from page 2..

Odds and Ends

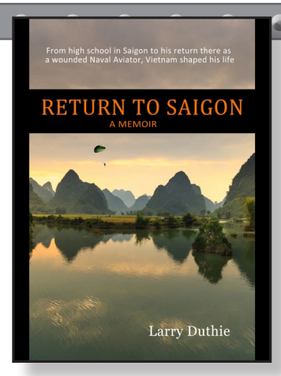
- The A4 Journal Editor Bob Hickerson and Co-Editor, Dave Dollarhide, are working tirelessly to keep the Journal up and running. Articles are always welcome and we encourage members to consider submitting material to Bob and Dave for the Journal.
- As previously announced the Skyhawk PayPal account is back up and available. To date this has proven to be a simple and easy way to renew your membership.
- A critical part of staying in touch within the organization is via the contact information we have on file for each member. If your contact information has changed please forward that information to Secretary Terry Cooney (skyhawkasn@gmail.com) so we can update our records.
- Director Todd "Hun" Frommelt advises that there is no change in his Membership Committee Report from the last BOD Zoom Meeting. (As our membership is getting significantly older, we're naturally loosing members who can't be easily replaced. The roster has gone down by 48 in the past year.) Also, Hun's "Still Flying" total shows one less, with 44 A-4s still airworthy.

As I sign off with this addition of the Prez Sez, Covid-19 cases are decreasing nationwide and the vaccinations are increasing. Hopefully this will lead to a virus free 2021. Kind regards to all.

A-4s Forever
"Woodpecker" sends

Send your letters to sa-journal-editor@skyhawk.org

Read? you think we *read?*



Return to Saigon
A Memoir

Author: Larry Duthie
Publication date: 09/07/2020
306 pp.
Paperback and ebook versions can be found at Amazon and elsewhere.

Most of us have read books of aerial combat and exploits over Vietnam and know the most authentic stories are those told first hand. As these stories go, this personal experience, told by Larry Duthie, has a different twist, as he arrived in Saigon as a high school student who followed his parents to Vietnam when his Father took a job with a military contractor. This was an incredible culture shock, from being a kid in the U.S. to living in downtown Saigon. Teenage boys are notorious for finding trouble, but this was a bit different than just crawling on top of the local mall with your buds back in the "States." Saigon was full of dangers around every corner and Duthie's experiences puts the reader on the edge of his seat early on.

After leaving Saigon, Duthie had great difficulty in making life decisions concerning college and career, but flying had become at least a vague goal. There were many ups and downs in finding his way, but he wound up joining the Navy with two years of college to become a Naval Flight Officer, not a pilot. As fate would have it though, when reporting to flight training, he was mistakenly placed into pilot training and miraculously that became his accepted course of training, so without a word, off he went with a smile.

Even at this point as I read the book, I realized how much I was enjoying Duthie's easy way of storytelling.

Following flight training and earning his wings, the Navy sent him to NAS Lemoore, California to learn the A-4 Skyhawk, then on to Attack Squadron One Sixty Four, flying combat missions aboard the USS *Oriskany* off the coast of Vietnam. As a brand new "Nugget," Duthie's first flight with the squadron was a combat mission and his flying adventures then began in earnest. He expertly takes the reader through it all in riveting detail, while relating lessons learned for later life, when there was no sky filled with flack. He tells of his experience with the infamous "Oriskany Fire," that took so many lives of fellow pilots. The reader is taken through detailed descriptions of the combat experiences of other shipmates, then to Duthie's own shoot down and ejection at over 500kts.

I confess to having a personal experience with Larry Duthie, as I was reminded in reading his book. Following my injuries in the fire and explosions aboard the USS *Forrestal* in 1967, I was offloaded in the Philippines at Subic Bay and put in a hospital room at NAS Cubi Point. My roommate was Larry, who had been rescued from the jungles of Vietnam and taken "back" to Saigon before making it to "Cubi." However, two or three days after my arrival, he was "let out of jail," so it was a brief encounter. I was amazed that he remembered my name in writing his book, but I suspect he had kept an extensive diary through all of those adventures.

That's reflected in his detailed book, which also talks about his life after the Navy, which included going to journalism school and owning several small newspapers during his life. I've never read such a well written story of Navy exploits and couldn't put it down. I'm sure you will enjoy it the same way. "Hide" says this is a must read!

Reviewed by Captain Dave "Hide" Dollarhide, USNR(Ret)

NEW MEMBERS

Thomas Fant, Pinckney, MI
Michael Gill, Little Rock, AR
Edward Grunwald, Annapolis, MD
Roy Jarrell, Lewisburg, WV
Anthony Meeks, Indianapolis, IN

Join or renew, and give someone a one-year gift membership for $20 more.

Contact Terry Cooney at skyhawkasn@gmail.com or at 2421 Clubside Dr., Beavercreek, OH 45431

★TAPS★

For lists of A-4 KIA and operational losses, members can sign into http://skyhawk.org and go to the "Ready Room."

Michael Abajian, March 3, 2021, Kerrville, TX
Bobby L. Coleman, February 21, 2021, Knoxville, TN
Loran, Eldred, February 24, 2021, Sonoma, CA
Jon 'Racquet' Ingersoll, Dec 31, 2020, Tucson, AZ,
Merrill Newbill, Pensacola, FL
Brooke Paulger, February 2021, Saugatuck, MI

TAPS notices may be sent to Bob Hickerson, Journal Editor at sa-journal-editor@skyhawk.org or mail to Bob Hickerson, 1222 Balcones Drive, Fredericksburg, TX 78624

THE EVOLUTION OF A-4 ECM GEAR

Why is that Skyhawk eating all those ice cream cones at the same time?

By Tommy H. Thomason

Full disclosure:
I wasn't there; all I know is from research. On the other hand, the few A-4 pilots who were there that I've corresponded with don't remember much (it was a long time ago).

It became quickly obvious to the Russians that North Vietnamese antiaircraft guns and a few fighters were not enough to deal with the U.S. air armada in the early 1960s. Since the enemy of my enemy is my friend, the Russians began to support North Vietnam with surface-to-air missiles (SAMs), the big SA-2 *Guideline*, albeit reluctantly because of the risk that one would fall into the hands of the Americans.

The SA-2's existence was known to the U.S. as early as 1957 but its capability was emphatically demonstrated when Francis Gary Powers was shot down over Russia by a SAM in 1960 and again when another U-2 was shot down during the 1962 Cuban Missile Crisis.

A SAM site under construction in North Vietnam was photographed by a U-2 on 5 April 1965, only a month after *Rolling Thunder* began. It was confirmed by pictures taken by a *Coral Sea* RF-8 pilot. In late July, an Air Force Phantom flying northwest of Hanoi was shot down by one. Less than a month later, a *Midway*-based VA-23 A-4 was shot down by a SAM with the pilot, LTJG Donald Brown, killed.

SAM sites immediately became a high-priority target albeit one not easily locatable, since not only were they camouflaged, the SAM launchers and control vans would be easily packed up and moved, leaving behind dummies. One attention-getting indication of the existence of a site was a formidable reaction from an assortment of radar-directed anti-aircraft guns to the over flight of an area not located near any other obvious target, like a bridge. Losses were out of proportion to successes initially.

The Soviet-developed missile defense system utilized two radars, one for search that provided the big picture of an incoming raid and the other for targeting an airplane. Electronic reconnaissance aircraft, including drones, were used to determine the radars' operating frequency, particularly that of the *Fan Song* targeting radar. China Lake had been working on hardware to address SAM defenses for several years before the Viet Nam War began. As a result, a few A-4s would be modified quickly to add the Melpar AN/APR-23 *Redhead* radar threat receiver that could be used to generally home in on a *Fan Song* (SAM guidance) or *Fire Can* (antiaircraft) radar emitter through the intensity of the raw PRF sound of those radars. There was no direction indicator in the cockpit.

SA-2 Guideline.

Both the first Air Force retaliation strike and that of the Navy resulted in aircraft being shot down without having destroyed any SAMs. One of them was the Navy A-4 equipped with an APR-23 that was path-finding for the Air Force strike. The first successful strike on a SAM site, now known as *Iron Hand* missions, was not until 17 October.

Various tactics were adopted to evade the SAMs. One of the first was to ingress and egress at low altitude, below 3,000 above the ground, believed to be the lower limit of the targeting capability of the SAM operators, which it was initially. However, it was soon realized that this put the aircraft into the effective kill zone of all of the radar-directed, optically aimed, and barrage-fired guns, not to mention somebody getting lucky with a rifle.

One of the SAM's shortcomings was that if the visibility were good, its launch was readily apparent by the big cloud of dust and initial smoke trail made by the booster stage. Once it dropped off, the missile was approaching at Mach 4, trailed by a long, bright red plume from the sustaining rocket motor. Even before that burned out, the big SAM was usually close enough to no longer require any exhaust signature to be obvious. Those visual cues led to a tactic of approaching the target at 5,000 feet or so and diving when the SAM was spotted, thereby risking small arms fire, a collision with another airplane in the strike group, and/or disruption of the strike-group formation.

However, it was soon recognized that the SA-2 was originally purposed to knock down the much less maneuverable Strategic Air Command bombers attacking Mother Russia. As long (35 feet including the eight-foot booster) and big around as a telephone pole with very small stabilization and control surfaces, the *Guideline* had limited turn capability compared to tactical fighters and bombers. After this became apparent, one of the first defensive counters was to dive until the SAM had also begun a dive to maintain a collision course. The targeted pilot would then abruptly pull up, whereas the SAM, with its little wings and control surfaces, would be unable to before it hit the ground; even if it didn't, it no longer had the energy to reengage.

continued...

SA-2 detonation, Photo from Pete Munro.

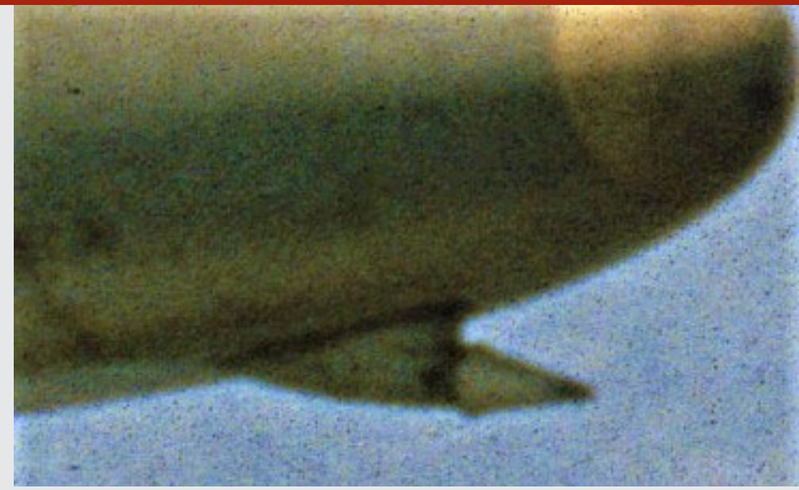
The next more logical evasive maneuver was for the pilot to simply execute a sharp turn as the SAM closed in, again assuming that he saw the missile approaching in time. (The missile's time of flight from launch to detonation was only 20-30 seconds.) Again, the SAM couldn't follow the rapid change of flight path closely enough, hopefully displacing the airplane far enough away that detonation of the warhead wouldn't result in shrapnel reaching the airplane. At some point, pilots were advised to execute a timely "high G barrel roll" to evade the missile.

However, if the visibility were poor, then the targeted pilot was at a significant disadvantage, having far less time to react to the threat if he saw it at all. And with a 400-lb warhead, a detonation within 300 feet was usually enough to render an airplane unflyable, although as LTJG Alan Crebo and others discovered, the A-4 was pretty tough. The SAM site could also launch as many as three missiles at a single target. Having to deal with multiple missiles at the same time significantly increased the degree of difficulty.

Another tactic to deal with unseen missiles was to fly a loose V formation with the aircraft about 800 feet apart and stepped down 400 feet. A similar tactic sometimes used on *Iron Hand* missions was for the A-4 and its fighter escort to fly about 700 feet apart. In theory, the targeting radar could not separate targets that close together so the missile would guide between them, hopefully too far from either to do any damage.

The SAM's Achilles Heel was its guidance system. The SAM-site radars (one for azimuth/range and the other for elevation/range) tracked both the targeted airplane and the SAM. A ground-based computer compared the two tracks and then issued guidance commands to the SAM to intercept the airplane. The two-crew A-6, A-3, and A-5 bombers had the ALQ-51 defensive electronic-countermeasures equipment that automatically manipulated the *Fan Song* radar return so that the airplane seemed to be in a slightly different point in space, far enough away from its actual position that it was outside the kill zone of the missile's warhead. The pilot of the diminutive A-4 however, initially only had his Mk 1 eyeball and the Skyhawk's excellent maneuverability to cope with the SAM.

Al Crebo, VA-212 following SA-2 damage. He managed to eject successfully. (US Navy photo)"



The ALQ-51 antenna resembled a ice cream cone.

Sanders Associates quickly created an ALQ-51A DECM installation for the A-4. It was initially evaluated in combat by putting it on a USAF Ryan 147F Lightning Bug drone that was successfully sent in harm's way several times. The program was called *Project Shoehorn* because it figuratively took one to install the requisite black boxes and wiring. The first A-4s to be so protected were deployed on *Constellation*; they were modified mid-cruise at Cubi Point in the Philippines in late 1965. The only space available in the Scooter was the ammo compartment in front of the engine and above the guns, resulting in a significant reduction in the already limited supply of bullets. In some installations, one or both guns were also deleted. One version kept both guns but each was only provided with 20 rounds in a short feed chute. Another reportedly deleted one gun with the other having 75 rounds of ammunition.

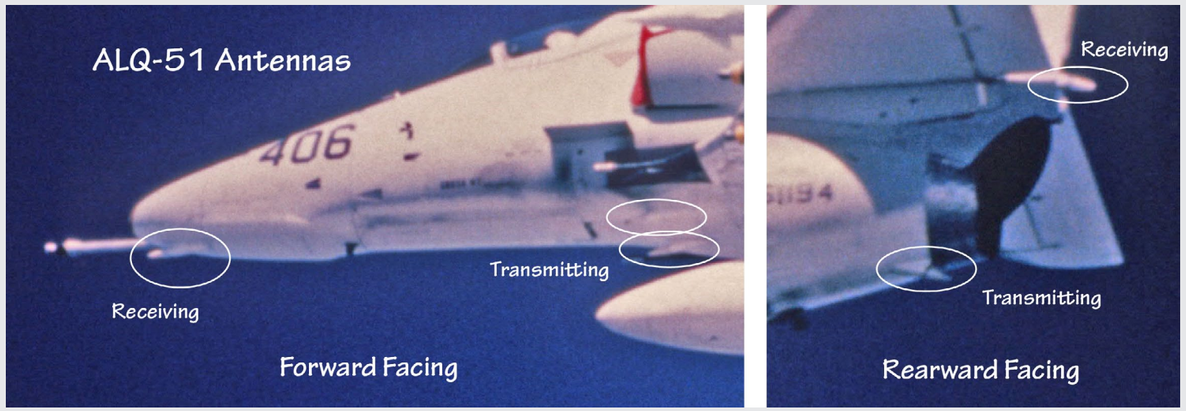
The exterior change was the addition of five antennas, three forward and two aft. These looked like ice cream cones stuck ice cream first into fuselage. The ones farthest forward and aft detected the incoming radar pulse of four different kinds of fire-control radar. The ALQ-51 electronics then automatically transmitted a response to a pulse received by the forward antenna from the other two forward antennas on either side of the aft end of the nose landing gear well; conversely a pulse received by the aft facing antenna on the tail fin above the sugar scoop resulted in a response from the antenna under the tailpipe. The responses, which were stronger and therefore masked the actual returns reflected off the airplane, prevented automatic guidance of the SAM to it.

Two forward-facing antennas transmitting the spoofed return rather than one were probably required because either there was no place to install one aft of that point or the airframe or stores might block/affect the signal from that location.

The antennas were relatively easy to damage or even break off. When that happened (or when the DECM function wasn't needed) they were replaced by a round black rubber plug.

A 1986 Sanders Associates advertisement claimed that Shoehorn reduced the SA-2's effectiveness from one aircraft lost per 10 missiles fired to one per 50. A subsequent addition to the Skyhawk's ECM suite provided the pilot with a warning that a fire-control radar was tracking him to improve his chances of spotting a SAM fired at him and evading it in case it wasn't being adequately spoofed. This was the APR-25(V). It utilized four antennas about the size and shape of small drink coasters, two facing forward and two aft. They were angled outward to either side so the APR-25 electronics could analyze the strength of the pulse being received at each antenna, determine the direction it (and therefore the SAM) was coming

continued...



A-4 ALQ-51 Antennas.

A-4 Forward Facing ECM Antenna Fairing Comparison

Narrow
ALQ-51 Only

Wide
Colocated ALQ-51 and APR-25

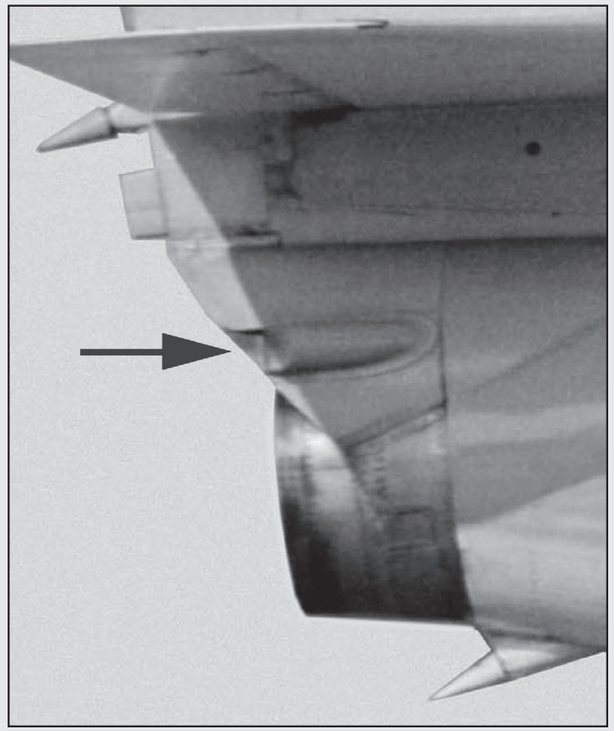
from, and display that to the pilot on a scope in the cockpit. The two aft facing antennas were located on either side of the sugar scoop. The two forward facing ones were co-located with the forward-facing ALQ-51 receiving antenna in a larger fairing.

The information provided by the APR-25 was augmented by the AN/APR-27 Launch Warning Receiver that monitored the SAM guidance and control frequency; it could detect the change in signal power that heralded a launch and illuminate a red light in the cockpit. The radar's PRF signature was also converted to an aural signal provided to the pilot's headset, which allowed him to monitor when the *Fan Song* radar changed from tracking (uh oh) to guiding (look out).

A later Airframe Change resulted in the addition of the ALE-29A chaff/flare dispensers to counter radar-directed and infrared-guided threats respectively under the A-4's aft fuselage in an ongoing effort to minimize the effectiveness of the North Vietnamese air defense network.

Thanks to Dave Dollarhide, Bill Egen, Carlton Floyd, and Jim Winchester for their help with this article; any errors in the above were made by me, however. Comments, corrections, and additional information are welcome.

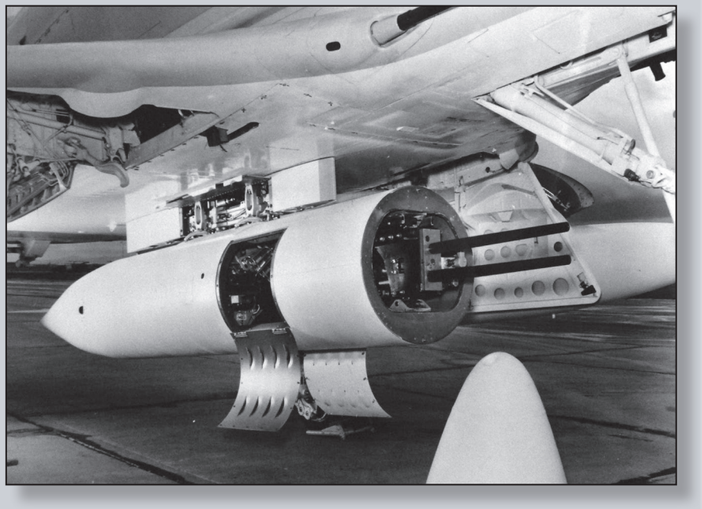
T
http://tommythomason.com/



FROM THE ATTIC

Mailbag

MK-1 GUN POD



NEWS RELEASE: The Mark 11, 20mm Aircraft Gun, installed in the Mark 1 GUN POD, is attached to the bomb rack of a Douglas A4D-2 aircraft, April 14, 1958. The U.S. Navy today unveiled a new pod-mounted weapon, a 20mm aircraft gun capable of firing 4,000 rounds per minute. This gun, built by the Hughes Tool Company, was shown to Naval Aviators and representatives of the press at the Third Annual Naval Air Weapons Meet, held at NAAS El Centro, CA. *Official U.S. Navy photos.*

Hit by Ground Fire!

By Frank Adams

Chu Lai, Republic of Vietnam
January 6, 1967

It was cool and rainy as we briefed for the strike mission against an enemy target in the Demilitarized Zone (DMZ) between North and South Vietnam. I was assigned as the flight leader and First Lieutenant Ken Warren was assigned as my wingman. We were flying the A-4E Skyhawk, the frontline fighter-bomber used in the Marine Corps and each was loaded with four rocket pods. Each pod contained nineteen 2.75" rockets with high explosive heads. This was to be my 26th mission.

The eastern runway at Chu Lai was short and narrow, being constructed of aluminum strips interlocked together and laid on the dirt/sand. Therefore, each takeoff was made using JATO (Jet Assisted Take Off). This was to provide additional thrust in order to get airborne with the ordnance loads we carried. Each landing was made using the SATS, which acted identically to the catapult and arresting cable on a carrier.

We received our briefing on the target and the other aspects of the flight at the Marine Air Group headquarters from a Marine officer who was assigned the duty as the Briefing Officer. Following this, I briefed Ken on the anticipated conduct of the flight, including safety issues, aircraft assignments, communications, emergency procedures and other salient features of our mission. Following this, we suited up in our flying togs, pre-flighted our aircraft, started engines and taxied to the arming area for the ordnance crew to arm our rockets and JATO bottles. We then taxied onto the runway for takeoff. The weather was marginal, so we each climbed out through the clouds as a single plane and rendezvoused above the overcast.

Now a flight of two, we proceeded to our assigned target area. We had been briefed that the weather in the target area was bad enough to probably preclude us from working it, and the briefing was correct. Unable to work our target, I contacted the Direct Air Support Center for a secondary mission. It happened that they needed us to strike a village inland from Danang, which was known to harbor the enemy and from which we often received fire. The weather was still marginal, so we penetrated below the ceiling using Danang Approach Control radar and then proceeded to the target area.

When arriving, we contacted Lopez 50, an Air Force Forward Air Controller (FAC), flying an O-1 observation plane. He was just finishing working with a flight of two Marine F-4 aircraft and advised us that we could expect fire from the village as they were shooting at him and the F-4s. I instructed Ken that we would make two runs each, shooting two pods of rockets per run…38 rockets per run. I rolled in first at an altitude of 4,200', which was lower than normal for the type of delivery we were to make, due to the lower cloud layer. However, I compensated for the lower roll in altitude by increasing my airspeed as much as I could in order to arrive at the proper release altitude and dive angle with the necessary airspeed. This worked as programmed and I had 420 kts at the release point.

Just as I was squeezing the trigger to fire the rockets, my aircraft was hit by ground fire. I fired the rockets and immediately turned toward Danang, which was the closest airfield to me, about 20 miles away. There was no doubt that I had been hit hard. When the rounds hit the plane, it was like it had been hit by a huge bat. I could see two holes in my right intake, a couple of feet behind my head, about the size of a .50 caliber round. The rounds hit the engine and it immediately started shedding pieces, the plane was shaking badly and lights were coming on in the cockpit, telling me that things were not normal. (As though I hadn't already realized that!) I called Ken on the radio informing him that I had been hit, was turning for Danang and probably would not be able to make it. I instructed him to join up on me, to which he replied that he did not have me in sight. I then switched to Guard channel and transmitted a Mayday call. No one answered, so I transmitted again, then switched back to tactical frequency and asked Lopez 50 to make the call for me, as I did not appear to be transmitting on Guard. (I later found out that I had been heard normally throughout the area.) In the meantime, my airspeed was dropping off rapidly, the aircraft was continuing to shake violently, and I was losing altitude. I wanted to get the plane as far from the village as possible, before ejecting, as I knew I would not get a friendly reception there. I also was determined to ride it as low as possible prior to the ejection in order to limit the time in the chute exposed to possible ground fire while descending. About this time, Ken had acquired me and came sailing by. I heard Lopez 50 make the first Mayday call and pulled the ejection handle. At the time, I had managed to get the wounded bird about three miles from the village and was well below a thousand feet, with barely enough airspeed to continue flying.

The ejection sequence worked as advertised. I made a forward somersault and the chute actually deployed while my feet were above my head. About the time the chute was totally open, my plane hit in a rice paddy and exploded.

I had a few seconds to look around and noticed three or four men, armed with rifles in a tree line advancing toward me and the downed plane. I could see what appeared to be a friendly position on the other side of the river a couple of miles away. This was the position I was trying to get to prior to ejecting, but I didn't make it. I landed on the riverbank and rolled into the water, soaking myself and ruining my survival radio.

The river was the Song Vu Gia and I later learned that the position I was trying to make was the Company Command Post of Hotel Company, Second Marine Battalion, Fourth Marine Regiment, commanded by Captain Walt Boomer. Captain Boomer later became a friend and ended his career with the rank of General and was the Assistant Commandant of the Marine Corps.

I got out of the chute and started to move downstream, away from the Cong I saw in the trees. Soon, two boats were underway from the opposite shore of the river and started making their way toward me. They were armed with rifles, which caused me to draw my .38 caliber pistol. To this day, I do not remember getting it out, but training was now ruling my actions. I had told myself that if I went down in North Vietnam, I would evade as long as possible, but would not fight to the death, as I felt I would be captured and spend a few months in prison until the war was over. That was a gross misjudgment on my part, as the war lasted for many more years. Additionally, I had tried to program myself that if I went down in South Vietnam, I would fight to the death rather than be captured. There were stories of flyers being captured there and paraded through villages, tortured and killed after the locals had had their revenge. Evidently, the mental preparation worked, as I found myself with gun in hand and ready to fight the men coming after me.

continued...

A-4C with rockets taxiing. Credit unknown.

Frank Adams by A-4 from cruisebook.

Hit by Ground Fire! continued...

By this time, Ken was orbiting me, along with two other aircraft that had heard the Mayday call and arrived to assist in any way they could. As my radio didn't work, I couldn't tell them of the men in the trees coming for me, but they could see them in the boats and were ready to fire if they could determine if they were enemy. They were!

While all this was going on, I was moving south, away from the boats and tree line. However, I was very exposed as the riverbank in this area was wide and sandy, leading up to the dikes for the rice paddies. I expected to come under fire at any time and knew there was very little chance if that happened. I think having the airplanes circling me with obvious ordnance aboard was the deterrent that kept them from opening fire immediately.

Fortunately, a Marine Helicopter on a resupply mission had heard the distress calls and headed in my direction. This was a CH-46 from HMM 265, call sign Bonnie Sue, piloted by Captain Bill Waterbury. I heard the helo coming before I saw it. As quickly as I could, I got a smoke grenade from my survival vest and pulled the pin, sending the message to the helo where I was located and wind direction. Captain Waterbury landed on the wide expanse of the riverbank, very near my position and I scrambled aboard. He lifted off immediately and turned toward Danang. After landing at "C Med," I was whisked into the medical facility for examination and treatment of the minor injuries I sustained in the episode. I was later told the Marines bombed the village into rubble and as soon as the helo had me aboard, the enemy in the tree line were killed and the boats sunk.

After medical treatment and intelligence debriefing at the 1st Marine Air Wing Headquarters in Danang, I was flown back to Chu Lai, arriving in the late afternoon. Needless to say, that evening was spent celebrating with my fellow pilots and friends at the Officer's Club into the wee hours of the morning.

POSTCRIPT

Several months later, in a very unusual turn of events that was stranger than fiction, I actually met one of the members of the force that shot me down. He was a "Chu Hoi," which literally means "Turncoat," who had renounced the Viet Cong and came over to our side to be used as a scout and for intelligence purposes. He was seventeen years old. It happened that when he surrendered to the U.S., he did it to a unit of the Fourth Marines, where I was then the FAC/ALO for the Second Battalion, Fourth Marine Regiment. During the course of his debriefing, he told of shooting down an American plane. The date and circumstances verified that it was my plane. The debriefing officer was an acquaintance of mine, and when it was determined that I was involved, asked if I would like to meet him. I agreed and did so. He said he was a member of a "VC" company and his superior had put the company in a line and barrage-fired into the air when I rolled in. I flew into the hail of fire and got hit by at least two of the rounds. It was revealed that a piece of one of my rockets had gone through his hat, very nearly killing him. He did say that over twenty-five were killed in the attack. Whether this is true or not, I do not know, but I think that I certainly got some of them with the rockets.

Editor note:

Frank ended his tour in Vietnam with 105 missions, flown over North and South Vietnam and Laos. He earned the following awards: Distinguished Flying Cross, Bronze Star Medal with V, Air Medals, Navy Commendation Medal with V, Purple Heart, and two PUCs.

Frank Adams and the Viet Cong who shot him down.

TINS!*

As told by Bo Smith

(It may not be true, but it's how I remember it.)

VA-15 Prank

August 27, 1967

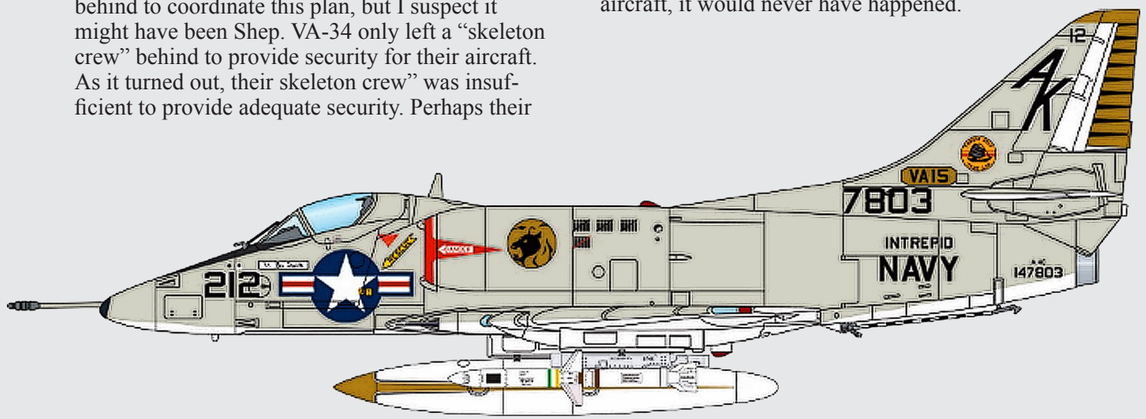
I flew off the ship from the Tonkin Gulf in A4C 148446 to NAS Cubi Point (2.2 hours). *Intrepid* arrived at Cubi Point on August 28th or 29th for a day or so and then went to Hong Kong for about a week. *Intrepid* returned to Cubi Point for a day or so before leaving Cubi about September 13 and returning to the Tonkin Gulf about September 15. It was typical for an aircraft carrier to go to Hong Kong from Cubi and then return to Cubi before returning to the Tonkin Gulf (some political thing).

This schedule gave Jerry Tuttle (*Maintenance Officer of VA-15 - Ed*) an opportunity to play a practical joke on CDR "X" (name withheld), the CO of VA-34.

Because the ship was required to come into port at Cubi before and after going to Hong Kong, it provided the Maintenance Department the opportunity to leave a corrosion control detachment at Cubi Point while the *Intrepid* was in Hong Kong. So, Jerry Tuttle not only decided to repaint one of our aircraft, but also to execute another more nefarious plan. I don't know who he left behind to coordinate this plan, but I suspect it might have been Shep. VA-34 only left a "skeleton crew" behind to provide security for their aircraft. As it turned out, their skeleton crew" was insufficient to provide adequate security. Perhaps their people were more focused on liberty in Olongapo than standing the required line security watches.

When the VA-34 security people "had their backs turned," our people drove an aircraft tractor up to one of their aircraft and towed it into our corrosion control hangar. They stripped the existing paint with the VA-34 markings, did whatever corrosion control was required, and repainted the aircraft with the VA-15 paint scheme with side number 313 (the last two side number digits, 08 and 13, were not traditionally used for some reason, preventing any duplication). When the work was complete, they towed the aircraft to the VA-15 line. When it was time to fly the aircraft back to *Intrepid* for the third line period, VA-15 flew the disguised aircraft back to the ship. VA-34 sent 14 pilots to fly back to the ship but they were one aircraft short. The 14th pilot had to fly out to the ship on the COD.

CDR X was more than upset, he was livid. He went to CAG Burrows and demanded that Jerry Tuttle be court martialed. CAG threw him out of his office saying that if he had better control of his aircraft, it would never have happened.



BIG MUTHA

By Lieutenant Commander Ernest Mares, U.S. Navy (Retired)

In the way of background, the mid-60s were considered the golden years for China Lake. Combat in SE Asia surfaced many new requirements and exposed problems associated with our weapons and weapon delivery tactics. Scientists at the Lake worked over-time fixing problems and fielding new weapons. In that environment, no idea was too stupid and was worth a try if it could help the war effort.

Perhaps one of the most challenging problems was delivery accuracy when people were shooting back. One solution was multiple carriage bomb racks that allowed loading up to six bombs on a single external store station. This permitted release of a string of bombs and the resultant impacts straddled the target allowing at least one bomb to hit the target.

Unfortunately, hitting a point target resulted in wasting a lot of bombs. A-4s usually carried MK-81 250 lbs low-drag GPs hung from multiple carriage bomb racks (MCBRs). If memory serves me correctly, stations 2 and 4 on the A-4E (1 and 3 on A-4C) were limited to 2,000 lbs and further to only 1,200 lbs when coming back aboard ship with an asymmetrical load. The latter was a problem usually associated with hung ordnance.

Another problem was weapon effectiveness against certain targets. For example, we flew many sorties (and lost a lot of aircraft) going after the Thanh Hoa Bridge. A direct hit with a MK-81 isn't going to do a helluva lot of damage to this structure. The Air Force used MK-117 750 lbs bombs with similar results and they lost many F-105s in the process.

In 1967 we had the TV guided fire and forget AGM-62 Walleye that was about to reach initial operational capability status. The missile carried a linear shaped charge warhead and could hit any point target that had a sharp optical contrast—but the 1,000 lbs warhead could not be expected to vaporize all targets it went after.

The other missile was the visually-guided radio-controlled Bullpup with an even smaller warhead. In combat this missile was a complete disaster! The idea that you could watch and steer an air-to-ground missile while people were shooting at you was preposterous.

In an attempt to improve Bullpup capability, Bullwinder was an experimental project to test the heat seeking Sidewinder guidance and control unit's ability to steer an air-to-ground missile. Larger canards used with semi active radar alternate head (SARAH) -guided AIM-9C provided more control authority and their use was the only change from the basic AIM-9D (Infra-Red) version of Sidewinder.

For testing purposes, the target was a 25-pound bag of charcoal that was ignited on the Baker Range impact area. To deliver, the A-4 was pointed toward the target to acquire guidance tone. With a solid tone the missile was launched by depressing the bomb button.

During the first test, the missile flew a big corkscrew path and totally missed the target. It took the engineers just a few minutes to determine that an obvious scaling error caused the failure and the problem was quickly fixed.

Five days later we tried again and Bullwinder drilled through the center of the charcoal fire. No question about it, the Sidewinder G&C worked perfectly to control the missile.

With this successful test, China Lake wanted to build a smart bomb to take on the more difficult targets in North Vietnam. We tested laser illumination devices and results looked promising if only we could package some sort of a small strap on version.

We also tested a modified Sidewinder where the lead sulfide Infra-Red detector cell was replaced by a selenium crystal tuned to the visible light frequency. Called FOCUS (Fixed Optical Contrast Universal Spectrum), this innovation had potential of allowing the seeker to guide on strong optical contrast providing a simple bomb steering solution.

So the obvious next step was to strap a Sidewinder to the nose of a bomb to see if we could also hit an IR target on the ground ala Bullwinder. This was intended as a low cost quick and dirty smart bomb experiment to precede development of a strap-on guidance unit. We called this project: Bombwinder.

We could have easily used any MK-80 series bomb for these tests; however, it was just as important to show that this concept would support a much larger bomb. NWC's Technical Officer Captain Bob Moore, USN (former CAG-2) and I both felt that a bigger bomb would get more attention. We hoped that we could demonstrate that this guided bomb could be used against targets like the Thanh Hoa Bridge.

The Air Force had the M-118—a 3,000 lb. bomb with fairly low drag. As I recall, the inert version had about 75-lbs of HBX explosive just for a spotting charge. With a little imagination and if we ignored a few normal safety issues, it would just fit on the centerline station of an A-4. Our civilian scientists felt that if we were crazy enough to fly it, they would acquiesce to our juvenile fantasy and go along with M-118s

Turns out that the bomb was almost a quarter of the size of an A-4…not really, but it sure seemed like it. The large oversize tail fins required for additional lift made ground clearance a major concern. Once airborne, the bomb needed to be dropped or jettisoned because the A-4 could not be landed safely with the store on board.

On September 21, 1967 we flew the ***"Built-In Guided M-118 Under Terminal Homing Accuracy"*** or BIG MUTHA. The drop was conducted on Baker Range and like the Bullwinder, the weapon drilled through the center of the hot charcoal target.

Both Bombwinder and Bullwinder were inspired by Dr. Tom Amilee and Captain Bob Moore. These two visionaries knew that laser guidance was just a short time away from reality and a demonstrated strap-on weapon capability could be available and waiting.

However, it's not fair to single out just Amilee and Moore because Michelson Lab was crowded with dedicated scientists that worked tirelessly to develop the precision guided weapons technology we see being used today.

Too bad we didn't have this standoff stuff available in time for Vietnam.

Skyhawks Still Flying

Dateline: Spring 2021 Update

(Changes are in red)
66 Years and still going strong….
Hun reporting

We're into our 10th year of tracking our Skyhawk flyers and we've got the 2021 update prepared. As we have in the past, we've split the still flyers into 3 main groups: militaries, contractors and private owners. Due to space constraints on most issues of the Journal, however, we need to report on those three groups separately, one group in each of three issues…and pictures included will be medium resolution. We will try to have the full report with full resolution pics posted on our web page each year.

Background: Out of some 2960 A-4 aircraft produced by Douglas Aircraft, just how many are still flying around the country and the world? As the principal record keeper and contact maintainer for the Skyhawk community, it seemed pretty logical that the Association be the one to keep the count of 'still flying'. So here we are, some 69 years after the initial government contract was awarded (June 1952), **67 years** after Bob Rahn made the first flight (June 1954), and there are **about 44** Skyhawks **still performing** with speed and agility all over the world! It's been a fine flying machine indeed! This report will feature militaries still flying the Skyhawk.

Military Service: Despite its age, the Skyhawk is a highly capable airframe, as you all well know. It's very good at missions not requiring supersonic speeds and advanced radars and avionics, although some users have refitted their Skyhawks with formidable upgrades. Its main advantage from both government and contract flyer points of view is its cost (and capability). Two militaries around the world still fly the A-4 and a total of about **10** single seaters and 2 two seaters are currently flying in their service.

Argentina: Argentina's Air Force and Navy at one time operated close to 100 A-4B's -- but retired those older airframes in 1999 after getting up to speed on their 1994 purchase of 32 A-4M's and 4 OA-4M's from the US government. Their redesignated A-4AR's and OA-4AR's are still operating in their 5th Air Brigade, now at Villa Reynolds, although at much reduced numbers due mainly to budget, parts and maintenance difficulties. This past year, budget difficulties and some remaining embargo issues have them struggling still. Without complete reporting from them, I'll leave their numbers unchanged, but expect those to reflect the very best case numbers. The 5th Air Brigade lost one of their upgraded single seaters and its pilot in August '20, so their numbers are down in this report. They have a couple of un-upgraded AR Skyhawks close enough to be flyers in an emergency, but we'll credit them with...
5 A-4AR/1 OA-4AR

Brazil: The Brazilian Navy became a Skyhawk operator when it acquired 20/3 A-4KU and TA-4KU aircraft from the Kuwaiti government in 1998. Redesignated AF-1's and AF-1A's (2-seaters), these aircraft operated off the Brazilian Navy's modernized French aircraft carrier San Paulo which was recently decommissioned rather than overhauled again. About 10 years ago, a select dozen A-4's were picked to receive a major upgrade program to be conducted by Embraer from 2009 to 2015, extended to 2020. The upgrade program has been slow but the new aircraft have now appeared on the flight line as AF-1B's and AF-1C's (2 seaters) with about 5 modernized aircraft currently available for operations. 1 modernized aircraft and pilot were lost in 2016 during security practice for the Olympics. Best estimate? Five updated AF's and possibly 1 more upgraded AF-1C. When all is said and done with Embraer, we hope to see 8-10 upgraded aircraft on the line, but for now...
5 AF-1B's and 1 AF-1C

Totals:	Single Seaters	Two Seaters
Military:	10	2
Contract:	22	4
Private:	3	3
Totals:	35	9

Grand Total:
44 Flying Skyhawks, February 2021

A-4's Still Flying!
as of March 2021
12 Military
26 Contract
6 Private
Total: 44

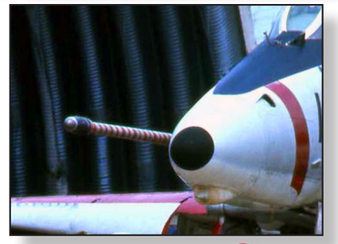
Full report available on Association Website

TRIVIA ANYONE
from Dave "Hide" Dollarhide

Spiral or Concentric Fuel Probe Marking

Some A-4s had spiral or concentric markings on their fuel probes. You can see this in old photos of Bravo, Charlie and Echo models, with most painted black, but other colors show up also. No one seems to remember what this meant, but one could speculate, since the location suggests inflight refueling.

In the B/C/L and E/F NATOPS manuals, there is a note referring to Aircraft Service Change (AFC) 317 in which a Fuel Bypass Switch was installed in the event of wing damage and loss of fuel, noting the following: "When the switch is placed in the FUEL TRANS BYPASS position during air refueling, fuel flows into the fuselage fuel tank only." This allowed for continuous "Wet Wing Tanking" with a tanker to make it to the closest landing field or carrier!



That leads one to guess that the marked probe, which is always seen from the cockpit was an obvious method of reminding the pilot that the switch was installed after taking a wing hit, but that's just a guess.

Does anyone remember the answer?

If so, contact "Hide" at davedollarhide@msn.com

SIZE DOES MATTER

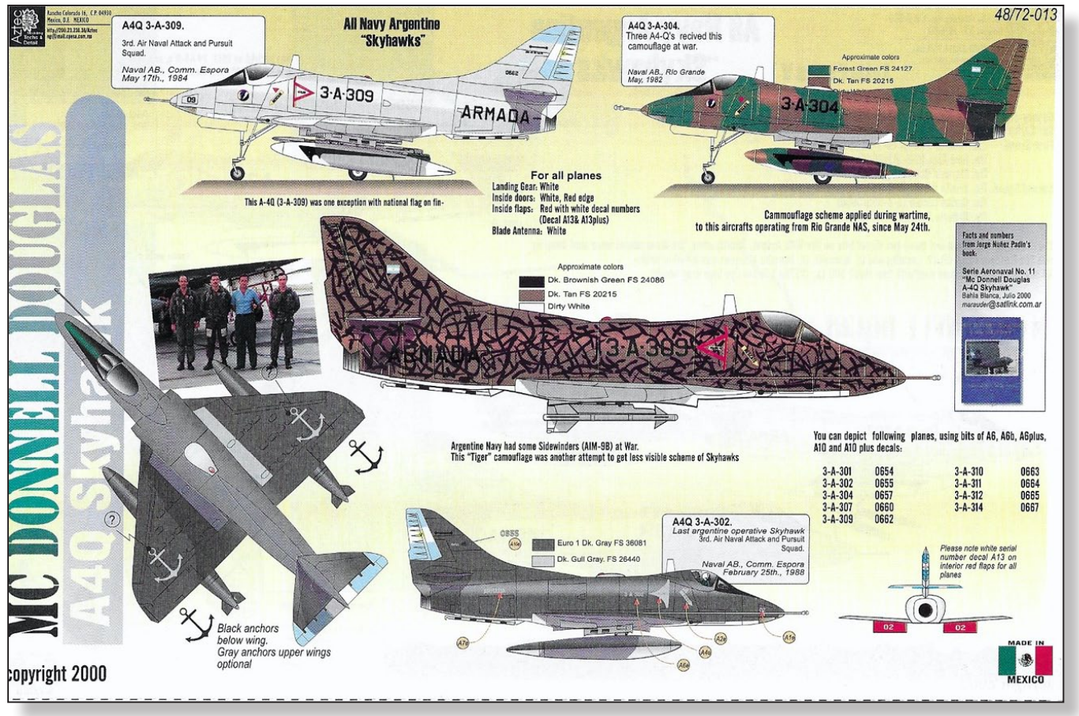
Modelers' Corner

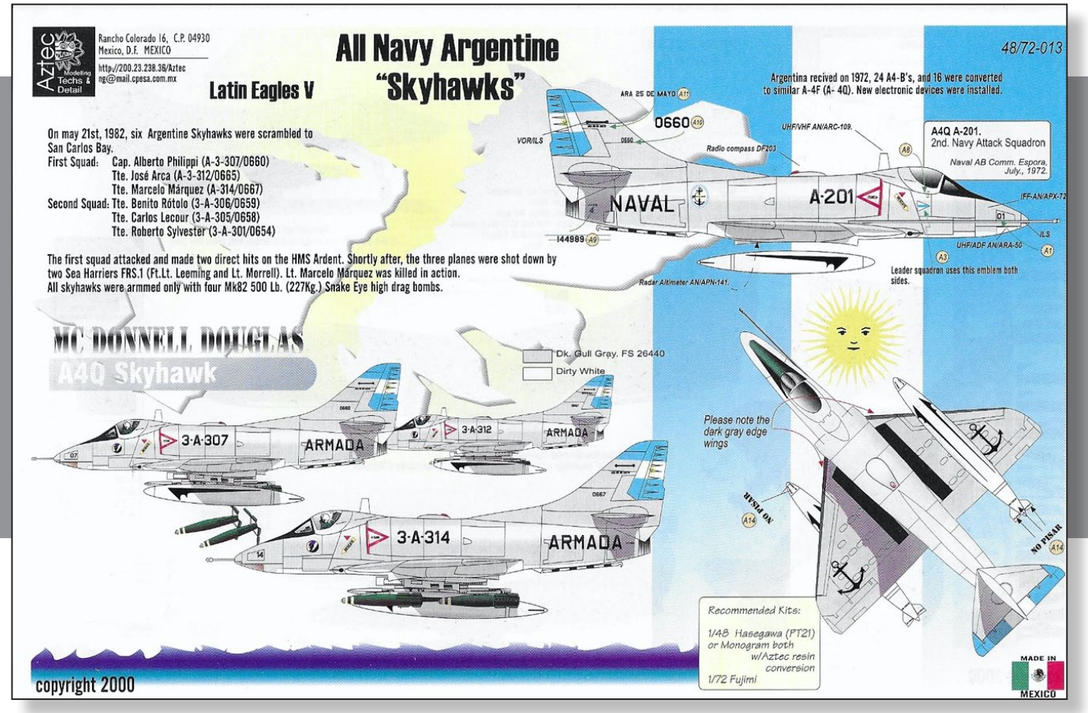
By Joe Turpen

Visit [http://skyhawk.org/article-modeling/modelers-hangar-bay]

A-4Q Decal Sheets – Latin Eagles V All Navy Argentine Skyhawks

Not only have aftermarket manufacturers in the US produced decal sheets for the Skyhawk, but there have been sheets produced outside the US. As an example, here are three sheets manufactured in Mexico by Aztec Decals. Two of them are labeled 48/72-013 and the particular sheet of decals I have is 48-013. Evidently from these sheet numbers there is also a 72nd scale sheet as well. The sheets titled *Latin Eagles V all Navy Argentine Skyhawks* offer decals covering the time period from 1972 to 1988 so the Falklands campaign is covered. The attack of May 21st 1982 aircraft markings are included. There are also instructions for combining decals to depict several aircraft. Also, it's noted that you will need to use a conversion kit to make sure the Skyhawks are accurate A-4Qs. The Bureau Numbers represented here are 144872, 144882, 144915, 144963, 144983, 144989, 145001, 145004, 145010 and 145050. If you are interested, two books that discuss Skyhawk operations during the Falklands/Malvinas war are: *Skyhawks over the South Atlantic Argentine Skyhawks in the Malvinas/Falklands War* and *Wings of the Malvinas The Argentine Air War over the Falklands*, both by Santiago Rivas.





Skyhawk Association
2421 Clubside Dr.
Beavercreek, OH 45431-2503

PRESORTED
STANDARD
U.S. POSTAGE PAID
GEENVILLE, NC
PERMIT NO. 1

THE A-4 EVER

Skyhawk Association

Spring 2021 • Journal

Volume 27 • Number 1

Order additional patches

No flight suit/jacket should be without one of these outstanding patches. Additional quantities may be purchased for $5.00 each ($6 for non-members) plus $1 postage, by sending your check or money order (no credit cards yet, sorry) payable to Skyhawk Association along with your name address and membership number (found on your card) to:

Skyhawk Patch
2421 Clubside Drive
Beavercreek, OH 45431

Join the Skyhawk Association and get a free patch

One of these outstanding patches will be included with each **new** membership. Want more than one patch? (Who doesn't?) See ordering info at left.

Memberships are **1 year - $30** ($35 Foreign)
3 Years- $75 ($90 Foreign) in US funds.

☐ New _____ Years
☐ Renewal $_____ Total Enclosed

YES, Sign me up! Send my patch and membership materials to:

Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ E-mail _____

Call sign/nickname _____ A-4 hours _____ A-4 Traps _____

Skyhawk Squadrons: _____

Referred By _____

Payment may be made with personal check or with PayPal by visiting www.skyhawk.org.
Sorry, we are no longer accepting credit cards.

Join by mail: Send payment in US funds to:
Skyhawk Association
2421 Clubside Dr.
Beavercreek, OH 45431-2503

The Editorial Staff is Cleaning House!
Back Issues of The A-4Ever on Sale!

Back issues from Fall 2004 (Vol 10, No. 4) to present are available.
The stock of some issues is very limited, so act fast.

$2
Per Issue
(minimum order of three)
postage included!
(domestic only)