



# Fist of the Fleet Association

a non profit 501 (c) (19) military organization

## NEWSLETTER

April 2016

Preserving the Past Providing for Today

Promoting the Future

### SPRING EDITION

By: Jerry "Ricochet" Fritze

I love my wife beyond all measure. But sometimes she can come right out of left field and catch me by surprise with her comments. Earlier in the week I received the articles for this Edition from the Squadron along with a host of pics. I just said I didn't think I would be able to get any of them in this issue and there were so many goods ones I wasn't sure what to do. She said "We'll, aren't they all "Millennials" and all of them have smart phones?" Well, yeah, probably. And then she said " Okay, it's not like they have anything better to do with their time out there." My initial response was " Wait, that's not exactly true." I began to think back to my own cruise in '76. I had a 35mm Nikon with a standard short lens, and liked to use 400 speed film. I shot 13 rolls of film during the cruise: Flight Deck, Hanger Deck, Berthing, UNREPs, the shop and my friends and 1 roll each in Olongapo, Hong Kong and Singapore. Sadly, all negatives and pics are lost. But where the hell did I find the time to shoot at least 8 rolls during Flight Quarters? 12 on/12 off at sea didn't leave much time for leisure activity, and I remember being on Vulture's Row only once. I certainly didn't haul a camera bag around with me while working, and I certainly don't remember any days off while at sea. I can only assume it was during those brief hours between our launch and recovery times when there wasn't anything urgent to attend to, otherwise time and distance have clouded that over.

The point, however, it is the *willingness* of the Squadron to share their lives with us. Yes, technology has done a lot to make that possible, but without heart, and a sense of community, they would be unsure, and even unable to do this. In my conversations with the Skipper and PAO, however brief, I have found that, on the whole, the men and women of VFA-25 represent a portion of their generation that is rarely discussed. We often read about selfies gone wrong, accidents from phone use, or social media-inspired events that take a tragic turn, and the perils of technology in the wrong hands. But in the Fist of the Fleet it is understood that technology is a tool, and there are rules governing it's usage. Some of that comes down from Command, but again you must be willing to accept those rules. We have heard it said, and have repeated that the Fist of the Fleet is the finest squadron in Naval Aviation. It all begins with those men and women far from home, fighting an intractable enemy from the skies over foreign ground. But to take the time to share their experiences and lives with us while at the same time having to work, fight and stay in touch with family and friends a world away truly speaks to their unique attitudes and their dedication to achieving goals across a wide band of purposes. To say that we are proud or honored to know them as they walk down the same paths as we did, well, those are just words. But to feel that pride in your chest amidst all the turmoil of our lives? And as they do represent not only the finest in Naval Aviation and the very best of their generation then they give me hope for the future, and I can't ask any more of them than that.

And as for the 40 or so pictures they sent? Get ready for a Special Edition next month, the first of what will now be an annual Fist of the Fleet Pictorial. In the future this should happen right after the Summer Edition. The Skipper and I have also had some brief conversations regarding the guidance of their articles and we hope everyone will continue to enjoy them in the future.

**PROUD TO BE A FIST!**

~Ricochet~



[www.fistoffthefleet.org](http://www.fistoffthefleet.org)

#### Mission Statement

Perpetuate the history of Naval Aviation Squadrons VT-17, VA-6B, VA-65, VA-25 and VFA-25,  
Remember deceased veterans and comfort their survivors,  
Conduct charitable and educational programs,  
Foster and participate in activities of patriotic nature,  
Assist current active squadron members, and  
Provide assistance to family members in times of emergency.

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## President's Message

Your Association finds itself in fine condition as 2016 progresses from winter to spring. We have completed all necessary tax reporting to the State of California where we are incorporated as well as the required filing with the IRS. If your dues are current as an Annual Member or a Life Member, you should have received the current printed Directory and our FOFA challenge coin in the mail. If you attended Fist 15 in Dallas you already received your coin. I will be ordering a new bunch of coins for members who pay their membership dues in the future. We also present these to the Skipper and XO of the squadron as well as the Harry Jones and Sailor of the Year awardee. I am currently looking into getting a supply of VA-25 and or VFA-25 decals or stickers for those interested.

On the subject of the FOFA Directory which is printed and distributed annually by our FOFA Secretary Nick "Beef" Johnson and his lovely wife Barbara, I have approached the Board for consideration of placing the Directory on our website where it will be password protected and only accessible by dues paying members. The cost savings to the Association are significant based on the current printing and mailing expenses. Many of us have a stack of past years Directories that change very little and that can be misplaced. By having the Directory accessible online you can find the information you need from anywhere where you have web access. The other advantage is that updates to addresses, emails etc. can be entered in a timely fashion by the responsible officer assigned to keep it current. I have checked with our website developer and she assures me it is an easy and secure way to make the info available to just our selected group. If anyone wants their info removed they can contact me and it will be done. I will advise the membership later in the year if we decide to go ahead with this project.

There is nothing to report on next years Fist 17 Reunion at this time. I would prefer that the next president have the major input on the time and place that we get together. On that subject I must remind members that we will be electing a new president, secretary and member at large to assume office January 1, 2017. Please contact me directly if you are interested. A few of you attending Fist 15 showed interest in serving. We need your expertise to keep this great organization moving forward. I will be happy to help, but not as president after 6 ½ years.

The articles from the squadron in this newsletter remind us all of the real reason this Association exists. The young men and women who daily serve their navy and nation within the dangerous environment that surrounds them is testament to the long and storied history of the Fist of the Fleet. As they make their contribution to secure the safety of us here at home and endure the questionable leadership that exists in Washington, please keep them in your thoughts and prayers. Wishing you all the very best.

Gary "Dome" Kerans

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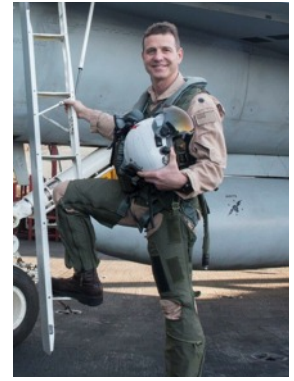
### Blue Angels Tour Dates

May 1 MCAS Cherry Point Air Show NC	7/8 Guardians of Freedom Air Show, Lincoln NE
14/15 Spirit of St Louis Air Show MO	25 USNA Air Show MD
21/22 Lynchburg Regional Air Show VA	28/29 Jones Beach Air Show NY
27 USNA Graduation Fly Over MD	
June 4/5 The Great Tennessee Air Show Smyrna TN	
11/12 Syracuse International Air Show NY	18/19 Dayton Air Show OH
25/26 Vero Beach Air Show FL	
July 2/4 National Cherry Festival Air Show Traverse City MI	9/10 Gary Air Show IN
16 Pensacola Beach Air Show FL	
23/24 Sioux Falls Air National Guard 70th Air Show SD	
30/31 Arctic Thunder Open House Elmendorf AFB AK	

## SKIPPER'S CORNER

Greetings from the Arabian Gulf where we continue to fly, fight, and perform from USS Harry S. Truman (CVN 75)!!

Since November 2015, there have been over 325 significant acts of terror all around the world purported by the Islamic State, Boko Haram, Al Shabaab, Hamas, Taliban, Al Qaeda, and others. The violence has had a profound impact on the lives and culture of hundreds of thousands of innocent civilians. These senseless acts of violence have also had a significant impact on those of us in the US military and the families that support us, including the Fist of the Fleet Association. Freedom is something we all enjoy as Americans and the spread of our way of life around the world is something we are all committed to. To that end, VFA-25 has been doing their part over the skies of Iraq and Syria for nearly five months in an epic and historic fashion. We've flown over 2,500 combat flight hours with an effective mission completion rate of 100%. In fact, Team 25's readiness rates have been 21% above entitlement the entire deployment making us the "go to" squadron when CAG needs another jet



in-country or filling a combat air patrol overhead. For the Ready Room, we've logged over 800 arrested landings yielding better experience, increased discipline, and enhanced combat lethality. The tonnage of ordnance expenditures continue to mount as well; not a day has gone by when we are not asked to execute our Nation's call by way of Joint Direct Attack Munitions (GBU-54, GBU-38, GBU-32, GBU-31, J-109), AGM-65 Mavericks, and even PDU-5 Leaflets. Greater than 250 kinetic events have occurred since checking on station back in late December. It is both humbling and rewarding to have this unique opportunity to push back against a determined enemy and take back lost ground.

Our innate focus on doing routine things very well led to VFA-25's selection as the top Maintenance Department on the NAS Lemoore flightline. In late February, Commander, Strike Fighter Wing, US Pacific Fleet awarded the *Fist of the Fleet* the coveted LTJG Bruce Carrier Memorial Award for Maintenance Excellence. All of the blood, sweat, and tears that went into our work-ups cycle in preparation for this combat deployment paid off. Building, modifying and grooming jets, CWTPI, MCI, MPA, AMI, and much, much more was accomplished in accordance with the publication and professional standards that only VFA-25 could bring. We are rightfully very proud of this award. I'd be remiss if I didn't also recognize the efforts of our Admin and Safety Departments. Their stewardship and discipline taking care of others was vital in handling personnel and programmatic issues so our maintenance experts could accomplish their jobs with a laser focus. Although we are on the downward slide, this deployment will predictably be filled with advancement and promotion opportunities, high-level unit and personal awards, and dozens of enlisted warfare specialist designations. Of the 130 Sailors onboard in pay-grades E-5 and below, 79 of them took the Navy-wide Advancement Exam last month. I am looking forward to frocking them all in May in the final weeks at sea. Additionally, as it is every year, the Master Chief results will post first week in May and Senior Chief results the first week in June. This team has a lot of talent in our senior enlisted and will no doubt be recognized by the Navy through their advancement in the coming weeks. Furthermore, all squadron personnel were awarded the Operation Inherent Resolve Campaign Medal; Global War on Terrorism Expeditionary Medal; Sea Service Deployment Ribbon; and the Navy Unit Commendation is awaiting signature by Commander, US Naval Forces Central Command. From a personal award perspective, we recently recognized the top 35 performers on this deployment with Navy Achievement Medals, Flag and CO Letters of Commendation. The leadership demands much of our Officers, Chiefs, and Sailors and it is awe inspiring to see everyone step in, step up, and do what is necessary to ensure our success – and then be recognized for a job well done! With this backdrop, I would like to personally thank all Fisties, past and present, for establishing a legacy of excellence for this team to emulate. Every day we wake up with a smile on our face, knowing we are part of something very special, something aimed at making this world a better place tomorrow than it is today.

Proud to be a Fist,  
Skipper

**FROM THE COCKPIT** By: LT Chad "IRIS" Duncan

Greetings from the 5<sup>th</sup> Fleet area of responsibility! Combat operations are now in full effect with daily air support and strike tasking supporting Operation INHERENT RESOLVE (OIR). Though workups are over, pilots continue to go to school daily refining their tactics and receiving intelligence updates. In addition to supporting combat operations, the pilots have participated in coalition exercises in Oman and United Arab Emirates in an effort to strengthen international relationships and increase combat standardization. As aircraft are pushed to their limits, it is impressive to see our amazing maintenance team keep them fully combat capable. Since the New Year, VFA-25 has enjoyed three Dubai port calls for some much needed time off. It's hard to believe that we are already well past the half way point with only a couple months remaining at sea. Time is literally flying by!

### My First Combat Hop

As the first combat cruise for many of the Junior Officers, we could not have asked for a more rewarding experience. In order to best articulate this experience, I will talk you through some of the finer details of my first OIR flight. As is tradition, my first combat flight was with the Skipper. Prior to the flight, we received a comprehensive intelligence briefing complete with threat laydown as well as friendly force movements and recent troops in contact with the enemy. On this day, village elders, guided by coalition forces, were scheduled to take back their village from ISIS fighters. (Cont'd Page 4)

**Have you paid your 2016 Dues?**

Annual Dues: \$25/YR

Life Time Dues \$200

Mail dues to Financial Officer:

Chuck Webster 39224 132nd St. Bath SD 57427

**Only Voting Members receive a copy of the Directory**

**Become a Voting Member!**

**Visit the Membership Page**

**[www.fistofthefleet.org](http://www.fistofthefleet.org)**

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After starting up the jet and conducting a full-systems check of my weapons, FREEDOM 43 and 44 (VFA-25's tactical callsign) launched off of the deck of the USS Harry S Truman at 0400, long before the sun thought about rising. Enroute to our first assigned KC-135 aerial refueling (AR) tanker, the lights of Baghdad, Fallujah, and Ramadi lit up the ground as if flying over cities and towns we are familiar with back in the States. I recall thinking how nice this county could be if it was not for the political and military unrest at the hands of Islamic Extremism. Night tanking on the KC-135 was nothing short of difficult. I'll be honest, staying in the "basket" as we call it for the 10-15 minutes it takes to fill up my tanks felt like an eternity!

Once AR complete, we proceeded to our assigned station, checked our weapons systems once more, and established two-way communications with the Joint Terminal Attack Controller (JTAC). Upon receiving the "situation update" we placed our ATFLIR sensors in the target area and provided over watch of the village. Then, just prior to sunrise, the assault began and our role shifted from primarily defensive to one that was offensive. We clearly and aggressively called out enemy movements to give our friendly forces the best situational awareness they could have. Once complete, we increased our scan to the lines of communication leading into the village looking for additional enemy fighters flowing into the fight from neighboring villages. As coalition forces advanced, enemy personnel retreated to their defensive firing positions. Given the significant collateral damage concerns and "danger close" firefight, HELLFIRE missiles were called and successfully employed by remotely piloted aircraft (RPA) suppressing the enemy. These munitions provided minimal damage to neighboring buildings while simultaneously enabling the SEAL Team and village elders to advance and ultimately take the village without a single friendly loss of life. In this particular situation, if Skipper or I had employed one of our many 500 pound smart weapons, there would have been significant collateral damage and possible injury to those we were supporting. That being said, you never know what the guys on the ground are going to want so our 6-barrel gun as well as GPS- and laser-guided weapons were ready to go.

As the mission progressed, I recall watching HELLFIRE missiles and coalition small arms fire engage ISIS with great success. At the end of the three-hour siege, the FREEDOM flight flew to our last AR and headed back to TRUMAN for a day trap. Although we were not called upon to employ this time, the mission was a success and the town was clear of all enemy personnel. This was a small victory in a vast war, but events like these are happening every day and coalition forces are having a significant impact. Every pilot in VFA-25 has delivered ordnance on enemy positions and will continue to do so as America's frontline Naval Strike Fighter Squadron.

#### **Hail and Farewell**

As is tradition, every pilot progresses through their operational tour and eventually moves on to their next assignment. The *Fist of the Fleet* is proud to pass on pilots, ground officers, and Sailors to other fleet commands knowing that they will carry on the legacy of excellence. Once a Fist, always a Fist. Last month we bid farewell to LT Andrew "Dustwun" Castillo. Dustwun is now a flight instructor in VFA-122 where he will train the next generation of Strike Fighter pilots for years to come. His leadership and work ethic will have lasting impact on the squadron. We miss him already. Additionally, joining Team 25 as Dustwun's relief is LTJG Gerald "FNG" Anderson. LTJG Anderson grew up in Colorado and earned a commission through the US Naval Academy. Things are happening fast for our new guy as he joins us just 10 days after completing the F/A-18 CAT 1 replacement pilot syllabus at VFA-122! It's very exciting for all of us to welcome a new pilot to operate these amazing flying machines. Welcome aboard FNG!

## **FROM THE HANGAR DECK**

Greetings from the Deckplate!

My goodness, is it time for another *Fist of the Fleet* Association newsletter already? They say time flies when you are having fun and, I must admit, we are having fun. I'm not suggesting that being on a combat deployment is not without challenge, but because we have trained hard and kept a positive attitude about what we do, we have been able to accomplish the previously unimaginable. It makes being on deployment much more bearable and even inspiring at times. Over the last five and a half months, the Sailors on the deckplates have had many days filled with daily and turnaround inspections, 84 day special inspections, replacing of parts, and a few jobs requiring jets on jacks down in the bay. Still, we march on towards operational efficiency ensuring every sortie and every mission is met by the best and only West Coast Strike Fighter squadron in Carrier Air Wing SEVEN.

A few highlights of some of the accolades our Sailors have achieved starts with the award that encompasses all that is good in today's Naval Aviation maintenance activity, the winner of the 2015 LTJG Bruce Carrier Award for Maintenance Excellence (aka CSFWP Golden Wrench). Doing things right, the first time, with the right part, procedure, and personnel throughout 2015 made this possible. Each of our aircraft proudly display a Fist grasping a golden wrench to remind those Sailors working in and around the jets that their hard work has not gone unnoticed. Along with the illustrious LTJG Bruce Carrier award, the command also received honorable mention for having top scores during our Conventional Weapons Technical Proficiency Inspection (CWTPPI). CWTPPI demonstrates the proficiency, professionalism and safety in ordnance handling and delivery displayed from day one on the flight deck as our ordnance men and women enthusiastically work to distribute standard combat loads onto the proper jets in time for their respective launch events. This deployment has also given the deckplate Sailors an opportunity to accomplish many personal goals, as well. Aside from qualifying as Enlisted Aviation Warfare Specialist (EAWS), we have had several Sailors qualify as an Enlisted Surface Warfare Specialist (ESWS) and the newly implemented, Enlisted Information Dominance Warfare Specialist (EIDWS). There are even a handful of Fistles that have accepted the challenge of achieving all three warfare pins while on deployment - they are what we call "highly motivated" Sailors! (Cont'd Page 5)



As I am sure you know, being on deployment isn't all work and no play. Although it is mostly work, we have been fortunate enough to have three port visits since we last talked. All three happened to be at the same location, but after 30 plus days at sea with an extremely high and stressful operating tempo, pulling into any port, even the same one was a welcomed relief. The city of Dubai is very welcoming to the U.S. Navy with its ultramodern architecture, luxury shopping, and lively nightlife scene. The place seemed to grow on us a bit with each subsequent visit as we learned about more places to go and more interesting facts about the beautiful city in the desert, with arguably some of the best restaurants and food found anywhere in the world. It's only a short period of rest and relaxation though before we are back out on the high seas of the Arabian Gulf answering the call.

Knowing that our hard work, dedication, and everything we do out here has a direct impact on the security of our nation and our way of life is plenty of motivation to keep us going for another two months. I would like to send a special thanks to all of the FOFA alumni for leading the way and laying the ground work for what VFA-25 is today. Because of you, and the pride and professionalism exuded by all of us, we will continue to set the example of what a world class organization is all about!

With the Utmost Respect,  
CMDRCM Claude "Hendu" Henderson



## *Departure Notifications*

LCDR Gerald "Jerry" E. Burrows

VA-25 1972-1974

LCDR Gerald Burrows of Oak Harbor died suddenly on Sunday, Feb. 28, 2016, in Yuma, AZ..

Jerry was born in November of 1940 in Denver, CO. Jerry, aka "Gunner," was a dedicated aviation ordnanceman, wonderful husband and a great dad.

Jerry joined the U.S. Navy in 1957, and honorably served 30 years with pride, dignity and integrity. His Naval career started as a young enlisted sailor and advanced up the ranks (Mustang) and retired as a LCDR. He served on multiple aircraft carriers, traveled to many different countries and was well-decorated for his services. Jerry was a great leader and dedicated himself to helping those that wanted to succeed. He had an abundance of great friends throughout his career that carried forward.

Jerry and Sue were married in Oakland, Calif., in 1965.

Survivors include his wife Sue; daughters Rhonda Bletner (husband Bill) of North Carolina, Stephanie Burrows of Washington and Diana Bommelyn of California; and Paul Burrows (wife Leigh) of Colorado. He is also survived by sister Shirley Gibb (husband Jack) of Oregon, brother Bud Burrows (wife Ruby) of Arizona and sister Judy Mackintosh (husband Lonnie) of Colorado. Jerry had numerous grandchildren and great-grandchildren and a great-great-grandchild, as well as nieces and nephews.

Jerry enjoyed traveling, fishing and golfing. He was always in his RV with Sue, visiting family and friends and going to old and new destinations. He was a life member of the Veterans of Foreign Wars Post 7392. We will be having a celebration of life at the VFW in Oak Harbor. The date will be determined at a later date.

Jerry loved his family, his country and the United States Navy. Fair winds and following seas shipmates!

Gilbert Wallace Anderson VA-65

Gilbert was born at his maternal grandmother's home in Sausalito, Calif. to William and Sybil Anderson on April 6, 1931. At age 14, he moved to Nyssa, Ore., to live with his paternal grandparents. After graduation from Nyssa High School, he joined the U.S. Navy where he saw action in the Korean Conflict. After his discharge from the Navy, he worked for a number of businesses in the Nyssa area and became a sheet metal worker. He was employed by Arrow Mechanical and worked for its owner, Joe Chamberlain, for 30 years.

In 1956, he married Diane Madrid Burres. They were blessed with a son, Jeffery Lee (Rosemarie), of San Antonio, Texas and a daughter, Wendy Ann (Mark) Cadwell, of Lake Oswego, Ore., and five grandsons. He is also survived by a stepdaughter, Kathleen Lawrence, of Ontario, Ore.

## DID YOU KNOW: NAVY, MILITARY AND OTHER INFORMATION

Officials Confirm Construction of First Domestic Chinese Aircraft Carrier By: Sam LaGrone Jan 4, 2016

China is in the midst of building its first domestic carrier, Ministry of National Defense officials confirmed last week. During a press conference, spokesman Col. Yang Yuju told reporters construction was underway. “After taking into account a range of factors, the relevant authorities launched work on developing a second aircraft carrier, and we are now undertaking our own indigenous design and construction,” he said, according to a translation of a Chinese language transcript of the Dec. 31 press conference.

“We have a long coastline and a broad maritime jurisdiction... Defending national maritime security, safe-guarding sovereignty over territorial seas and over maritime rights and interests, are sacred duties of China’s armed forces.” Follow on reports from Chinese state-controlled press said the People’s Liberation Army Navy’s (PLAN) new carrier was to field its Shenyang J-15 Flying Shark – an unlicensed copy of the Russian Sukhoi Su-33 Flanker – displace about 50,000 tons and retain the short take-off but arrested recovery (STOBAR) configuration of its Soviet-era carrier test platform – *Liaoning*.

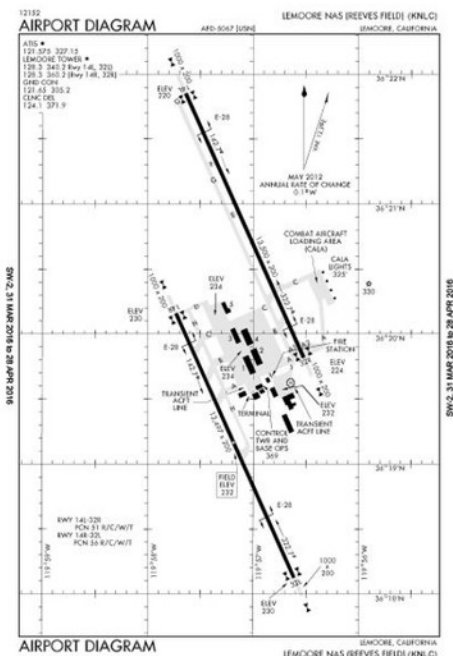
The decisions the Chinese made in their new carrier point to a measured approach to the new ship – Type 001A. “Compared with China’s first carrier... the second carrier will have more mature technology and performance, with better coordination between its systems,” wrote China’s state controlled *Xinhua* news wire. From the information released by Chinese media, the carrier will be mostly similar to the Kuznetsov-class template of *Liaoning* and absent a catapult launching system. Future Chinese carriers will be fitted with catapults for fighter jets to take off on deck, but the process will be gradual since catapult take-off involves more complex technology,” wrote *Xinhua*. The details of Type 001A confirms months of speculation and analysis around construction of a ship in a dry dock in China’s Dailan shipyard.

The construction of the ship resembled the builds of Soviet Kuznetsov-class carrier, reported *Jane’s* in September – a ship with a beam of 115 feet and a length of 866 feet. *Jane’s* stopped short of declaring the ship the Type 001A but several experts confirmed to USNI News in September the ship was China’s first domestic carrier. The unexpected confirmation of the Type 001A follows China’s irregular efforts of transparency in its military acquisition. Buried in its 2010 Ocean Development Report, China declared it would pursue development of its own domestic carrier program. It took six months for the detail to make it into the Western press.

Two years ago, a Chinese party official declared construction of the first domestic aircraft carrier already underway with an eventual goal of four PLAN carriers but those comments were quickly scrubbed from state press. A four-carrier force would mimic traditional carrier deployment patterns in which there are three carriers in maintenance or workups for every carrier deployed.

## FIST OF THE FLEET ASSOCIATION REQUEST FOR ACTION

Stephen Emerson, a son of Jesse R. Emerson (VA-22 in 1964-65), is seeking research material for a book he is writing about NAS Lemoore during the Vietnam War. He is interested in interviewing VA-25 members about their and their families' experiences at Lemoore and during WestPac/Vietnam deployments. Any information or stories (hopefully true ones!) that you can provide that cover the 1961 to 1975 period would be greatly appreciated. Contact Steve Emerson at: [saebooks@yahoo.com](mailto:saebooks@yahoo.com) or 407-413-2334. Thanks.





# THE EVOLUTION OF WARFARE: MODERN INVENTORIES AIR-TO AIR

## AIM-9X Sidewinder

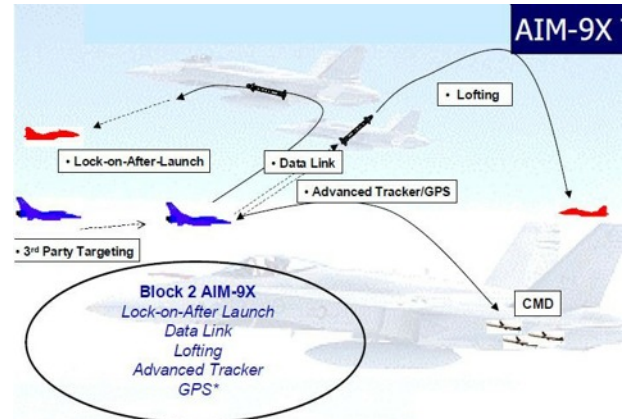
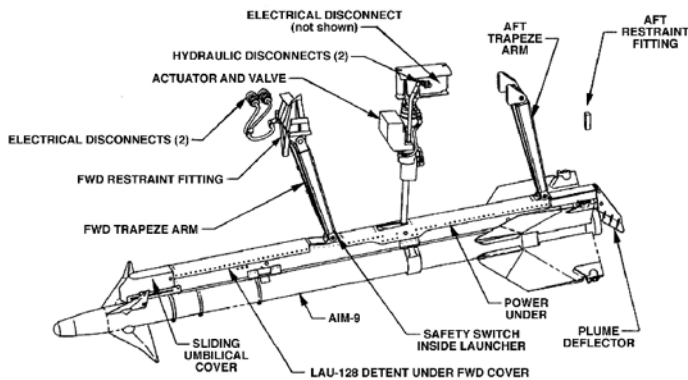
Since the 1980's, the DOD had been searching for a new missile to replace the AIM-9 as its standard short-range "dogfight" air-to-air missile. Original plans to procure the European AIM-132 Advanced Short-Range Air-to-Air Missile were dropped, and various test programs were conducted during the late 1980's and early 1990's. From 1991 on, efforts to develop a *Sidewinder* follow-on were generally known as "AIM-9X". Following cancellation of the AIM-9R, development of a future dogfight missile based on the AIM-9M began in earnest. In 1994, a Demonstration/Validation program for the AIM-9X started, with Hughes and Raytheon as competitors, and in December 1996, Hughes was announced as winner. However, because Raytheon has since acquired the Hughes missile division, Raytheon is now prime contractor for the AIM-9X.



The new missile is also officially designated as AIM-9X, so that suffixes -9T/U/V/W are all skipped. Test firings of the AIM-9X began in 1998, and in June 1999, the first guided live firing succeeded to hit a QF-4 target drone. Low-rate initial production was authorized in September 2000, and the first production AIM-9X reached the USAF and USN evaluation units in summer 2002. Initial operational capability with the U.S. Air Force was officially achieved in November 2003, and in May 2004 full-rate production of the missile was approved. By mid-2008, about 3000 AIM-9X missiles had been delivered. The AIM-9X retains the MK 36 motor and the WDU-17/B warhead of the AIM-9M. The airframe is new, however, and has much smaller fins and canards for lower drag and higher flight performance. The guidance section is completely new, and features an IIR (Imaging Infrared) seeker. The new WPU-17/B propulsion section has a jet-vane steering system for significantly enhanced agility. The missile is compact enough to fit into the internal weapons bays of stealthy fighters like the F/A-22 *Raptor* and the F-35 Joint Strike Fighter, but can also be used on existing AIM-9 launchers (like the LAU-7/A series, and the LAU-127/A, -128/A and -129/A series of Common Rail Launchers). The AIM-9X is also fully compatible with the new JHMCS (Joint Helmet-Mounted Cueing System) for target acquisition. Non-tactical versions of the AIM-9X include the captive (non-launching) CATM-9X, the non-flying DATM-9X for handling and loading practice, and the NATM-9X, which is equipped with special test and evaluation telemetry equipment.

Until 2001, more than 150000 AIM-9 *Sidewinder* missiles of all variants have been built in the USA by Raytheon (current prime contractor), Ford Aerospace (Philco), General Electric, and Motorola. Foreign built missiles raise this number to more than 200000, and production will almost certainly continue for many years. About 270 air-to-air kills worldwide are attributed to the AIM-9.

## LAU-141/A Trapeze Launcher with Missile



## AIM-120 AMRAAM Advanced Medium-Range Air-to-Air Missile

The AIM-120 AMRAAM (Advanced Medium-Range Air-to-Air Missile) is a fire-and-forget air-to-air missile, and has replaced the AIM-7 Sparrow as the U.S. military's standard BVR (Beyond Visual Range) intercept missile.

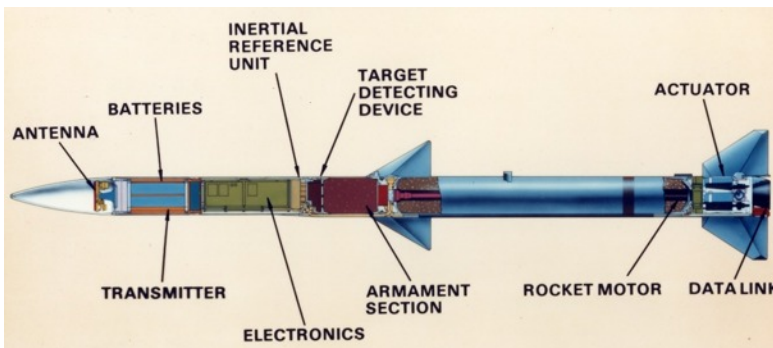
In the late 1970s, the U.S. military services decided that they needed a medium-range air-to-air missile with a true fire-and-forget capability. The SARH guidance of the AIM-7 Sparrow required the launching aircraft's radar to illuminate the target until impact, which made the aircraft a target itself and also limited its ability to engage several targets simultaneously. In February 1979, Hughes and Raytheon were selected as finalists for the YAIM-120A AMRAAM competition, and in December 1981 Hughes was declared winner. In February 1984 the first production-representative AIM-120A missile was launched from an F-16 aircraft, but it was not before September 1987 that the first supersonic launch succeeded. The AMRAAM program was troubled by all sorts of technical and political problems, not the least of which was severe cost overrun because of the protracted development period. The first Low-Rate Initial Production AIM-120A was delivered in October 1988, but it took until September 1991 that IOC was finally achieved.

## AIM-120 AMRAAM Advanced Medium-Range Air-to-Air Missile

The AIM-120A is powered by a solid-propellant rocket motor in a WPU-6/B propulsion section. Before launch, the launching aircraft's fire control system programs the missile's inertial autopilot in the WGU-16/B guidance unit to bring it into a homing basket in the vicinity of the target. The autopilot can receive mid-course updates from the aircraft via a data link. The AMRAAM's WCU-11/B control section controls the missile in flight with the four movable tail fins. As soon as the target is within range, the AMRAAM activates its active radar seeker for autonomous terminal homing. The 50 lb WDU-33/B fragmentation warhead is detonated by an FZU-49/B fusing system consisting of a "smart" (anti-clutter) proximity fuse and an impact fuse. The effective range of the AIM-120A of course highly depends on the firing parameters, and official performance data are classified. Typical quoted figures for maximum range vary between 30 miles and 45 miles. For the lower portions of the AMRAAM's range envelope (minimum range is said to be 2200 yds), where the mid-course guidance updates are not needed, the AIM-120 is a true fire-and-forget weapon.

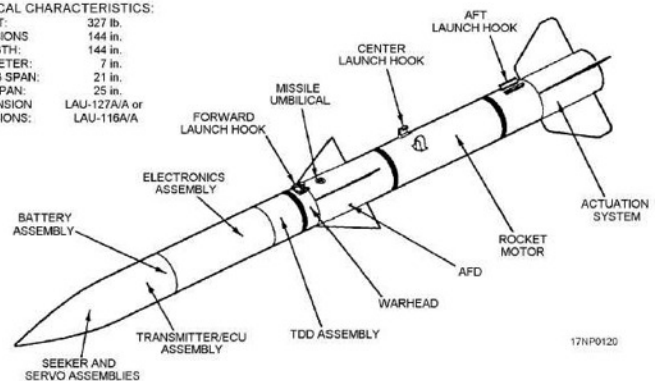
Although a few AIM-120As were deployed to the Gulf during Operation Desert Storm in early 1991, no AMRAAMs were fired in that conflict (officially, at least). The first combat use of an AIM-120A occurred in December 1992, when an F-16C shot down an Iraqi MiG-25 during Operation Southern Watch. The AIM-120B, which was first delivered in late 1994, had a new WGU-41/B guidance section. It had software in re-programmable EPROM modules, a new digital processor and other electronics updates. The AMRAAM Pre-Planned Product Improvement program led to the AIM-120C, first delivered in 1996. The major new feature of the basic AIM-120C are the clipped wings and fins. Although this feature was introduced to allow carriage in the internal weapons bays of the F/A-22 Raptor, the -120C can also be used from other AMRAAM-capable aircraft.

The guidance unit of the AIM-120C is upgraded to WGU-44/B standard. The first Phase 2 missile is the AIM-120C-4 (first delivered in 1999), which has an improved WDU-41/B warhead. The AIM-120C-5 is a C-4 with a slightly larger motor in the new WPU-16/B propulsion section and a new shorter WCU-28/B control section with compressed electronics and ECCM upgrades. Deliveries of the AIM-120C-5 began in July 2000. It was followed on the production line by the AIM-120C-6, which features an updated TDD (Target Detection Device). The AIM-120C-7 Phase 3, development of which has begun in 1998, incorporates improved ECCM with jamming detection, an upgraded seeker, and longer range. The latter feature was specifically requested by the U.S. Navy to get a suitable replacement for the AIM-54 Phoenix. The AIM-120C-7 was successfully tested against combat-realistic targets in August and September 2003, and IOC was then planned for 2004. This has slipped somewhat, but as of early 2006, the AIM-120C-7 is beginning to be fielded. Equivalent to the -120A/B, there are also CATM-120C and JAIM-120C non-tactical variants of the AIM-120C. The AIM-120D (Phase 4) is a development of the AIM-120C with a two-way data link, more accurate navigation using a GPS-enhanced IMU, an expanded no-escape envelope, improved HOBS (High-Angle Off-Boresight) capability, and a 50% increase in range. More than 12000 AIM-120 missiles of all versions have been built so far, including a significant amount for non-U.S. customers. The AMRAAM can be carried by all current U.S. fighter aircraft and is launched from LAU-127/A, -128/A or -129/A CRLs (Common Rail Launchers), which can also be used for the AIM-9 Sidewinder.



### PHYSICAL CHARACTERISTICS:

WEIGHT: 327 lb.  
 DIMENSIONS: 144 in.  
 LENGTH: 144 in.  
 DIAMETER: 7 in.  
 WING SPAN: 21 in.  
 FIN SPAN: 25 in.  
 SUSPENSION PROVISIONS: LAU-127A/A or LAU-116A/A



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