F-14 TOMCAT TALES

The most interesting stories of the F-14 in U.S. Navy service
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**Introduction**

The Grumman F-14 Tomcat is, by far, the most iconic fighter in the world. Made famous by the 1986 blockbuster about elite U.S. Navy fighter pilots, the Tomcat has long been considered the symbol of Naval Aviation.

Developed at the end of the 1960s, to protect the U.S. Navy Carrier Battle Groups from the Soviet long-range bombers, the F-14 replaced the F-4 Phantom and deployed aboard U.S. aircraft carriers from 1974 to 2006, when it was retired from active service.

Throughout its about 30-year long career, the F-14 has served as the U.S. Navy's primary maritime air superiority fighter, tactical photo reconnaissance platform (using the Tactical Airborne Reconnaissance Pod System – TARPS – fielded on the Tomcat in 1981) and, beginning in 1990s, as a fighter bomber (a variant dubbed “Bombcat”) capable of performing air-to-surface missions carrying PGMs (Precision Guided Munitions).

From the Gulf of Sidra incidents, which saw USN F-14s kill Libyan Mig-23 and Su-22 jets, to the Achille Lauro operation; from Top Gun to the participation in Desert Storm and Iraqi Freedom, this ebook contains a series of articles that will provide a rare insight into the operational history of the legendary Tomcat.

David Cenciotti  
Founder & Editor
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Few days ago, Dario Leone, a long time reader and a huge F-14 Tomcat fan, sent me an email to point out what he had noticed about the date Tony Scott, the famous director of “Top Gun”, chose to commit suicide.

He had observed that Aug. 19 was the 31th anniversary of the day when two F-14s downed two Libyan fighters in 1981 (something that Scott, most probably, didn’t even know) and provided some interesting news about the fate of the two Tomcats involved in the dogfight and their crew members.

“Top Gun is the film that made the F-14 famous all around the world. Downings and crashes aside, aircraft depicted in the movie were true and they were driven by real pilots of the U.S. Navy
belonging to VF-51 Screaming Eagles [...] In a certain way, Tony Scott brought on the big screens what had happened on **Aug. 19, 1981**,” Leone wrote to me.

On that day, two F-14A Tomcats belonging to the VF-41 Black Aces and launched from the aircraft carrier USS Nimitz (CVN-68) were attacked on the Gulf of Sidra by two Libyan Sukhoi Su-22 and shot them down with two AIM-9L air-to-air missiles just 45 seconds after the first Libyan fighter opened fire (Rules Of Engagement were the same as in the film, namely: “do not fire until fired upon”).

One of the two aircraft was the BuNo 160403, callsign “Fast Eagle 102”, with Cdr. Hank Kleeman and RIO (Radar Intercept Officer) Lt. Dave Venlet on board.

“It is famous in the Tomcat community not only for being the first pilot to score a kill with the F-14 but also for getting the Secretary of the Navy’s approval for the F-14D four years later. Unfortunately he died in a landing accident (*plane hydroplaned off the side of the wet runway, then flipped over*) at NAS Miramar on an F/A-18A Hornet (BuNo 162435).”

The other Tomcat involved in the Aug. 19, 1981 dogfight was BuNo 160390, callsign “Fast Eagle 107”, piloted by Lt. Larry “Music” Muczynski and Lt. Dave Anderson as RIO.

“That plane earned the headlines again on Oct. 25, 1994 when, piloted by Lt. Kara “Revoln” Hultgreen, U.S. Navy’s first female F-14 pilot, crashed into the sea while landing aboard USS Abraham Lincoln, off San Diego. While her RIO, Lt. Matthew P. Klemish, ejected safely she didn’t survive the ejection.”

As a consequence of the incident, two separate investigations were conducted.

“The Judge Advocate General (JAG) cited a technical malfunction as the root cause of the crash whereas the Navy Mishap Investigation Report (MIR) came to the conclusion that it was a pilot error to induce the fatal left engine stall.”

Until the latter was leaked, the JAG version was Navy’s official position on the mishap.

“There are dates that seem to mark the path of the life of people and their destiny. In this case, August 19th has not only marked in a way or another one the fate of some people, but also the history of a legendary plane, the Grumman F-14 Tomcat.”

*Image credit: U.S. Navy*
THERE WAS A TIME WHEN THE F-14 TOMCAT WAS BETTER AT BOMBING IRAQI GROUND TARGETS THAN THE F-15E STRIKE EAGLE

On Sept. 22, 2006 after 36 years of service, the last F-14 Tomcat was retired by its main operator, the US Navy, at NAS Oceana. Although six years have passed since then, there are many unknown facts to be told or simply to be remembered about the last Grumman’s (now Northrop-Grumman) fighter.

One of these often untold stories dates back to Apr. 2003 when, in the midst of Operation Iraqi Freedom (OIF), the Tomcats of the VF-154 Black Knights were embarked aboard the USS Kitty Hawk (CV-63).

The US Central Command (CENTCOM) ordered to VF-154 to detach five of its F-14A (BuNos 158620, 161296, 161288, 161292 and 158624) and five of its crews to Al Udeid air base, in Qatar. This was the first time in history that US Navy aircraft were tasked to fight a war from both ashore and at sea at the same time.

The five Black Knights’ Tomcats were dedicated to provide Forward Air Controller (Airborne) or FAC(A) and Strike Coordination and Reconnaissance (SCAR) for Coalition fast jets (such as USAF F-16CGs and F-16CJs, RAAF F/A-18As and RAF Tornado GR-4s) deployed to Al Udeid.

The VF-154 Tomcats crews also had to train USAF F-15E crews to conduct FAC(A) and SCAR missions.
During this shore-based period a VF-154 F-14A (BuNo 158620 callsign “Nite 104”) crashed because he suffered a single engine and fuel transfer system failure forcing the crew to eject.

However during this special period the five Black Knights’ crews were able to accomplish more than 300 combat hours dropping more than 50,000 lbs of ordnance.

These results were possible even if the Tomcat had some disadvantages when compared directly to some of the attack planes mentioned above: for example, the Strike Eagle has a maximum payload far superior than the one of the Tomcat and the F-14A could only employ Laser Guided Bombs (LGB) and it was not able to use Joint Direct Attack Munitions (JDAM) due to a lack of a digital databus (the Bs and Ds-models Tomcat could use JDAMs).

Still, the F-14 had also some advantages: the AN/AAQ-25 LANTIRN (Low Altitude Navigation and Targeting, Infrared, for Night) pod used by Tomcat crews was more capable than the USAF’s AN/AAQ-14 and also than the first AN/AAQ-28s Litening II. In fact the AN/AAQ-25 provided the Tomcat with the capability to point the pod to chosen waypoints without the employment of radar, an ability that the F-15E didn’t have. The F-14s were also equipped with a Programmable Tactical Information Display System (PTIDS) and 20 cm X 20cm screen that provided the Radar Intercept Officer (RIO) with a better display than the Weapons System Officer (WSO) in the F-15E.

All these features made the F-14 a really impressive attack platform- as a Tomcat driver once explained: “With the Strike Eagle you can put the bomb on the building. With the Tomcat you’re putting the bomb into the third window from the left, from miles away”.

*Dario Leone for The Aviationist.com*

*Image credit: U.S. Navy*
27 YEARS AGO TODAY, THE Achille LAURO INCIDENT: WHEN THE U.S. NAVY FORCED AN EGYPTAIR BOEING 737 OFF COURSE

In the night between Oct. 10 and 11, 1985 a scarcely known mission took place in the skies above the Mediterranean Sea.

That night, several combat planes belonging to the Carrier Air Wing 17 (CVW-17) launched from USS Saratoga (CV-60) to intercept the Egyptair Boeing 737 which was carrying the terrorists who had hijacked the Achille Lauro liner off Egypt.

On October 7, 1985, four PLF militants men had hijacked the cruise ship. Holding the passengers and crew hostage, they directed the vessel to sail to Tartus, Syria, and demanded the release of 50 Palestinians then in Israeli prisons.

After two days of negotiations (and the killing of Leon Klinghoffer, a Jewish retired businessman who was in a wheelchair) the terrorists agreed to abandon the ship in exchange for safe conduct and were flown towards Tunisia aboard an Egyptian commercial airliner.

On Oct. 10, while the Boeing 737 was taking off from Cairo, the “Super Sara” catapulted four F-14A (two belonging to VF-74 Be-Devilers and two belonging to VF-103 Sluggers), one E-2C (belonging to
VAW-125 Tiger Tails), two KA-6D (belonging to VA-85 Black Falcons) and one EA-6B (belonging to VAQ-137 Rooks) that had the task to intercept the airliner which transported the Achille Lauro hijackers.

Another E-2C, three more F-14s and two electronic intelligence aircrafts (one EA-3B and one RC-135) took part in the mission planned by the CAG (Commander Air Group) of the CVW-17, Robert “Bubba” Brodzky.

The mission was planned to be a night, lights out interception. The F-14s were vectored to the Boeing 737 by the E-2C and one VF-103’s Tomcat, exactly the BuNo 160904 side number 205, approaching the 737 from rear and below, was able to made the positive identification getting very close to airliner (about fifteen feet!!) to read its registration.

The E-2C vectored five more Tomcats (even though some sources say that there were only three) to join the lights out formation just above the island of Crete. From that moment on, each communication with the Egyptian Boeing was done by the E-2C which used a VHF frequency to transmit the order to divert to Sigonella, in Italy.

Only when the liner refused to comply with the order to divert, the E-2C ordered “LIGHTS ON, NOW!” that lit up all the F-14s surrounding the Boeing 737. The Hawkeye told to airliner crew that in one way or another they had to reach Sigonella and the 737 had to proceed to the airbase in Sicily.

Once on the ground, the Tomcats closed the airspace overhead for all incoming aircraft, except two USAF C-141 cargos which were carrying Navy SEALs team. As the American forces surrounded the Boeing, they were surrounded by the Italian military security (belonging to the Air Force and Carabinieri - the Military Police) forces that claimed Italian territorial rights over the base.

The diplomatic crisis was resolved after five hours of negotiations. The hijackers were left to the Italians that had to bring them to Rome with a special flight whereas the other passengers on the plane (including the hijackers’ leader, Muhammad Zaidan) were allowed to continue on to their destination, despite protests by the United States.

At around 22.00 local time, on Oct. 11, the Egyptair B737 took off from Sigonella to Rome Ciampino airport. The special flight got a special escort by two F-104S Starfighter of the 36° Stormo (Wing) from Gioia del Colle, later joined by two additional F-104s from Grazzanise airbase.

The 737 with its escort flight were later joined by some unknown aircraft, most probably U.S. F-14s, that approached the F-104s from behind. Although what happened next has never been fully disclosed, a sort of dogfight is believed to have taken place in the Tyrrhenian Sea while an EA-6B was jamming Italian radars.

As the formation approached Rome, the USN fighters turned back.
Even though the events influenced the US-Italian diplomatic relations very negatively for quite some time, most probably, the night intercept was, until then, the most complex aerial anti-terrorist mission ever planned.

The Be-Devilers of VF-74 were disbanded on 28 April 1994 after they spent their last days as Adversary Squadron simulating aircrafts as MiG-29, MiG-31 and SU-27. Instead in the 1995 the Sluggers of VF-103 taking the skull and bones left by the disbanded VF-84 and changed their name into Jolly Rogers.

_Dario Leone for The Aviationist.com_

_Image credit: U.S. Navy_
The Strike Fighter Squadron (VFA) 103 is one of the most famous squadrons in the U.S. Navy. The unit has gained a certain popularity over the year thanks to the famous squadron markings they gained when the Sluggers (as the squadron was nicknamed until then) became the Jolly Rogers and adopted the most recognizable symbol in Naval Aviation: Ensign Jack Ernie’s skull-and-crossbones on all-black tails.

VFA-103 is actually the third squadron to use the name and symbol of the Jolly Rogers: despite being different units, with no “lineal descent” from one another, both VF-61 (originally VF-17), VF-84, and VFA-103 have shared the same name, insignia and traditions.

When the Jolly Rogers were still equipped with the F-14 Tomcat (they now fly the F/A-18F Super Hornet) the Fighter Squadron (VF) 84, they took part in two movies.

During the 1995, VF-84 starred in Executive Decision, a movie about the hijacking of a Boeing 747 transporting enough nerve agent to wipe out the entire United States East Coast, intercepted by VF-84’s Tomcats loaded with Sidewinder, Sparrow and Phoenix air to air missiles.

The Jolly Rogers took part to the movie with two Tomcats (BuNo 160391 and 160655). On Oct. 1, 1995, few days after filming the flying sequences, the Jolly Rogers of VF-84 were disbanded.

However, the motion picture that gave the world recognition to the Jolly Rogers, was the 1980’s “The Final Countdown”.
Not only the VF-84, but also the aircraft carrier USS Nimitz (CVN-68) which steamed in the Pacific Ocean for the first time, were featured in the movie.

In this film the ship and its Carrier Air Wing (at that time, the Nimitz had the CVW-8 on board) are transported back in time till Dec. 6 1941, when they have a chance to face the Japanese Fleet ready to attack Pearl Harbor.

Along with a beautiful RF-8G Crusader belonging to VFP-63 (which is the one and only appearance of this kind of aircraft on the deck of a Nimitz class carrier) ”The Final Countdown” features some F-14 of the Jolly Rogers, two of those find themselves in a dogfight against two Japanese Zeros replica.

The scenes of the “close encounter” between the Tomcats and the Zeros are among the highlights of the movie.

You may find the dogfight in the videos below a bit anachronistic, but watching the Tomcat maneuvering in all its “feline grace” against another legendary WWII warbird, is both unusual and cool.

_Dario Leone for The Aviationist.com_
Take a look at these two images.

The first (above) shows an F/A-18C Hornet parked on the deck of the aircraft carrier USS Constellation (CV-64) as a VF-2 Bounty Hunters F-14D Super Tomcat in the background is launched from the steam catapult.

The second (below) shows a VF-143 Pukin Dogs F-14B Tomcat in formation with a F/A-18E of the same squadron during the unit transition to the Super Hornet.
What the two pictures have in common is that they both feature the some of the most famous (current and past) aircraft in the U.S. Navy inventory.

Until 2006, the “Wing King” of Naval Aviation was the F-14 Tomcat. The legendary plane on September 22 of that year made its last flight. Since then, the backbone of every Carrier Air Wing (CVW) is the F/A-18 both Hornet and Super Hornet.

Although it was retired from the U.S. military service, the F-14 is still in service with the IRIAF (Islamic Republic of Iran Air Force). However, this article does not focus on the outcome of an eventual close encounter between Iranian Tomcats and American Hornets; it is just a comparison between two fantastic flying machines.

So which aircraft would you take to a fight?

The question, of course, it’s very difficult to answer. It depends on the way you see it and may significantly vary from pilot to pilot.

However, some assumptions can be made in accordance with the most widely known characteristics of both weapon system, as the author as done in this article with the aim to give readers a comparison between the Hornet and its predecessor.
If the mission is strictly fleet defense, the F-14 was a perfect platform. In fact, the six wing mounted pylons of the Super Hornet (or the four of the Hornet) impose a higher drag on the F/A-18 that couldn’t match the Tomcat performance as a very high speed interceptor.

Indeed, the Tomcat is known to be a very fast airplane, with great sustained energy performance and, since it carried a great quantity of fuel which gave it a good endurance, the F-14 was also very good for high speed strike missions.

But the Cold War ended a couple of decades ago and ”its” Bears bombers are no the threat that led to the Tomcat possessing those attributes in first place. Furthermore, while the F-14 was an older aircraft in which some newer technologies were integrated, the F/A-18 Super Hornet is a more modern airplane with newer equipment, easier to maintain: a great advantage in times of budget constraints.

In close air combat, the Super Hornet is much maneuverable (with a good authority at slow speed and high AOA - angle of attack) and, even if it lacks the AIM-54 Phoenix for the long distances in BVR (Beyond Visual Range) engagements, it has got the JHMCS (Joint Helmet Mounted Cueing System)and the AIM-9X Sidewinder for the dogfights which the F-14 didn’t integrate.

In FAC(A) Forward Air Controller (Airborne) mission both aircrafts have some strengths and weaknesses: while the Tomcat had a greater on-station time than the Super Hornet, the F/A-18 has an integrated cockpit and for air-to ground missions has the capability to carry not only Laser Guided Bombs (LGBs) and Joint Direct Attack Munitions (JDAMs), but also High Anti-Radiation Missile (HARM) and Joint Standoff Weapons (JSOWs) which the F-14 could not carry. Still, the F-14 could carry a reconnaissance pod whereas the F-18 can fly as a buddy refueler.

Anyway, thanks to its eleven weapon stations, the Super Hornet is more flexible than the Tomcat and it can carry a larger array of air-to-ground ordnance.

So the F/A-18E/F is a great aircraft and a very versatile strike fighter. Still, it’s a Legacy Hornet evolution and it’s not as revolutionary as the F-14 was when it entered the active service in the ’70s, as the most experienced Tomcat driver, Capt. Dale “Snort” Snodgrass, once said.

And, although it was an old plane, according to a female U.S. Navy RIO (Radar Intercept Officer) the F-14 was also a sexy aircraft: ”The Super Hornet is a wonderful jet, and it’s only going to get better. But it will never be cool. The Tomcat was cool. I know sexy when I see it.”

Image credit: U.S. Navy
The special way U.S. Navy F-14 Tomcats wished Merry Christmas to sailors deployed at sea

Christmas is an ordinary day when you are embarked on an aircraft carrier for maritime security operations. Still, this doesn’t mean there are no alternate ways to celebrate it, as the following images show.

The first photo depicts an F-14D Tomcat belonging to the ”Bounty Hunters” of Fighter Squadron Two (VF-2), while it performs a high speed flyby over the USS Constellation (CV-64) on Dec. 25, 2002, ten years ago today.

During that cruise, the ”Connie” steamed in support of Operation Enduring Freedom (OEF) in Afghanistan and though it was Christmas, the deck of the aircraft carrier was very busy due to war.

The second picture was taken on Dec. 30, 2005 and shows another F-14D Tomcat belonging to the “Tomcatters” of Fighter Squadron Three One (VF-31), which flies over the USS Theodore Roosevelt (CVN-71).

At that time the Carrier Air Wing Eight (CVW-8) was embarked on the Teddy Roosevelt and “celebrated” the end of the year and the beginning of the new one, ensuring Close Air Support (CAS) missions for the ground troops during Operation Enduring Freedom (OEF).
In 2000, VF-103 Jolly Rogers painted their F-14 with Modex 103 with a special emblem: the traditional Skull was given a Santa Hat while a Season’s Greeting text was written on the side of the black drop tanks. The special painted F-14 became known as the “Santa Cat”.

*Image credit: VF-103 via Almansur.com blog*

As we all know the aircraft carriers have the task to guarantee, with their presence, the theater security in every world’s major conflicts: peace and freedom need to be guaranteed also during Christmas holidays.

*Top image credit: U.S. Navy*
Several years since it was eventually retired from the U.S. Navy, the Grumman F-14 Tomcat remains one of the most loved planes by aviation enthusiasts.

Any article about the iconic fighter plane, still operating with the Islamic Republic of Iran Air Force, its story, capabilities, records and surrounding anecdotes, always become a much debated and commented post on The Aviationist.

For this reason, we will continue writing about this legendary plane and its replacement: the F/A-18E/F Super Hornet.

On Dec. 21, 1970, the first Full Scale Development (FSD) Grumman F-14A Tomcat (BuNo 157980) took off for its maiden flight from Grumman’s flight test center at Calverton.

That day, Grumman chief test pilot Robert Smythe and project test pilot William Miller decided to take off in spite of the bad weather: the poor wx conditions, however, forced the test pilots to cut the flight (consisting in a couple of visual patterns with the wings in the forward position) short.

Although the flight lasted less than initially planned, the first Tomcat took the air a month ahead of the contracted data and showed the great potential of the aircraft.

The F-14 BuNo 157980 took off for the second time on Dec. 30 and that day Miller sat in the front cockpit since in the first flight Smythe had been in front.
It was during this flight that a chase plane noted that the Tomcat was leaving a trail of smoke: shortly thereafter the F-14 experienced a primary hydraulic system failure forcing Miller to head immediately back home.

While they were preparing to land, the secondary hydraulic system also failed, due to the use of the emergency nitrogen bottle to blow down the landing gear: once it failed, the crew tried to rely on the Combat Survival System which had to supply the power to the rudders and tailerons only.

However this last limited control system showed signs of failing as well, the pilot lost control all over the aircraft and the crew was forced to eject.

The breakdown was caused by a fatigue failure of both titanium main hydraulic lines due to a coincidence of pump resonance and a loose connector: ironically, the F-14’s hydraulic system was fixed by changing from titanium to stainless steel hydraulic lines only.

As you can see from footage (around 03:20 min) available on Youtube, the crew ejected only few meters above the trees but, luckily, they suffered only minor injuries.

Sadly, Miller died on 30 June 1972 when its Tomcat crashed into Chesapeake Bay during preparation for an air display with the tenth FSD F-14 (BuNo 157989), while Smythe passed away this year.

Both Smythe and Miller contributed in bringing to life the last in a long tradition of Grumman Cats.

Written with David Cenciotti

Image credit: U.S. Navy
Operation Iraqi Freedom (OIF) was a huge success for the U.S. Navy's F-14 squadrons: over Iraq, Tomcat pilots and radar intercept officers (RIO) flew different kinds of missions such as air defense, precision bombing, FAC (A) - forward air control airborne, strike coordination and reconnaissance (SCAR) and photo-reconnaissance.

Among the squadrons that took part to OIF there was the VF-2“Bounty Hunters” that were embarked on the USS Constellation (CV-64). Some of their Tomcats were equipped with the Tactical Airborne Reconnaissance Pod System (TARPS) for recce missions, but when the needs for close air support (CAS) grew, VF-2 TARPS jets were also fitted with 500 lb Mk 82 slick bombs.

The Bounty Hunters Tomcats, armed with these dumb bombs, accomplished a spectacular mission on Mar. 27, 2003, when, as described by Tony Holmes in his book US Navy F-14 Tomcat Units of Operation Iraqi Freedom, two VF-2 crews attacked Saddam Hussein’s yacht.

Saddam Hussein’s presidential yacht was named Al Mansur (The Victor). It was launched in 1982 and amazingly escaped damage during the Iran-Iraq War between 1980 and 1988.

The Al Mansur was decorated with silver and gold fittings and it was Iraqi largest ship, but it had no military use. Before the start of the war the yacht was moved to Basra port for a better protection.
and it was constantly overseen by Republican Guards troops. The vessel had been attacked only after the Combined Air Operations Center (CAOC) knew that the radio equipments of the ship were used for battlefield communications.

On Mar. 27, 2003 a couple of F-14Ds belonging to the Bounty Hunters of VF-2, were flying near the Euphrates River for a standard TARPS mission. Each jet was also armed with a pair of Mk 82, allowing the two Tomcats to act as gap filler for strike missions.

Suddenly, a British Army forward air controller (FAC) asked the Tomcat crews to attack Saddam’s yacht. The ship had already been hit by a Maverick shot by a S-3B Viking but missed by two laser guided bombs (LGB) released by F/A-18 Hornets.

The attack was conducted by the lead Tomcat flown by Lt Mark Callari and Lt Jeff Sims (RIO), while the second F-14, flown by Lt Pat Baker and Lt Sean Mathieson (RIO), provided the cover at high altitude.

The pair of Mk 82 dropped in two bomb runs by Callari and Sims struck the Al Mansur, then the lead F-14 exchanged its place with the other Tomcat. Baker and Mathienson dropped their bombs in a unique run and the two Mk 82 hit the hull above the waterline and the ship’s superstructure.

The two Tomcats headed to the Constellation while the Al Mansur was on fire, but the F-14s crews knew that their bombs did not sink the vessel: since the bombs were armed with instantaneous fuses which they were ideal for the ground support but not for sinking a ship, the Mk 82s exploded before coming into contact with the yacht.

However the damages caused by the Mk 82s were enough to make Al Mansur unusable: it was eventually decommissioned on Jun. 12, 2003 and scrapped at Basra in early 2005.

That deployment was the last one for both the USS Constellation, which was decommissioned on Aug. 6 2003, and for the VF-2 Bounty Hunters with their F-14Ds: in fact on Oct. 6 2003 the unit took delivery of its first F/A-18F Super Hornet and changed its designation from Fighter Squadron (VF) to Strike Fighter Squadron, becoming VFA-2.
SPITFIRE VS BF 109 AND F-14 VS SU-27: THE DIFFERENCE IS ALWAYS THE PILOT

Posted on May 31, 2013

It’s not always the best aircraft that wins in an air-to-air engagement.

Most of the times it is the training the pilot has received and his/her skills, experience to make the difference: that’s why a well trained pilot with a less capable aircraft can defeat a more powerful plane piloted by a scarcely trained airman.

During World War II two of the most successful fighters of aviation history faced one against the other, in a duel that began over the coasts of Dunkirk and ended on the last days of the war: this two aircraft were the legendary Supermarine Spitfire and its German counterpart, the formidable Messerschmitt Bf 109.

During the dogfights that raged in the skies several examples of both planes fell into the hands of the opponents giving both the Royal Air Force and the Luftwaffe, the opportunity to test the enemy plane.

The first intact Spitfire Mk I was captured by the Germans during the Dunkirk evacuation and immediately used by the Germans against Bf 109E in mock aerial combat.
The Spitfire, that was test flown by Maj Werner Mölders in persons, which was at the time the leading ace of the Luftwaffe with 25 aerial victories, was fitted with the old two-speed propeller and had a rate of climb inferior to that of the Spitfire Mk I fitted with the constant-speed propeller.

However German pilots discovered that if the pilot pushed down the nose of the Spitfire and applied negative “G”, the carburetor float of the Merlin engine stopped to deliver fuel with the result that the engine cut out.

On the contrary, the Bf 109E did not suffer from the same problem since his Daimler Benz DB 601 was fitted with the fuel injection system. Due to this defect, Mölders thought that, even if the Spitfire had general performance approaching that of the Bf 109, it was not that good as a fighter.

A Messerschmitt was captured intact by the RAF in November 1939, when a Bf 109E was forced down in France and taken to Farnborough for test flights against the Spitfire Mk I.

The results of the test showed that Reginald Mitchell’s fighter at altitudes around 4,000 feet was far superior to the Messerschmitt Me 109E: but the captured Messerschmitt had problems with the engine cooling system and it could not prove its ability to out-climb the Spitfire at most altitudes.
So the British discovered that the Spitfire was better at medium altitude in a turning fight, while the Germans that the Bf 109E was better at high altitude in a high speed combat.

But those trials were valid only up to a point because when these two variants of the fighters faced one against the other was during the air battle over Britain, where the dogfights took place at altitudes between 13,000 and 20,000 feet, the altitude where the escorts for the German bombers were flown: at that height the performance of the two fighters were much closer.

However during the Battle of Britain the German fighters had a slightly advantage due to the high level of training of Luftwaffe pilots: in fact most of them, along with Mölders or Adolf Galland, were extraordinaire pilots who had gained significant experience flying with the Condor Legion during the Spanish Civil War. On the contrary the British pilots were less experienced but they flew in the skies above of their country and they fought to defend it: these two reasons, along with some strategic German mistakes, gave them a lot of motivations and brought the air duels on the same level.

During the war many other variants of these two fighters fell in the hands of each opponents, but another test was conducted early in 1944 by the RAF at Duxford. In 1944 the latest subtype of the Messerschmitt was the Bf 109G (the latest variant of the Bf 109 was the K, but it was built in small numbers and developed too late to play an important role during the war) and one of this kind of Bf 109 was tried against the new and more potent Spitfire Mk XIV powered with the Griffon 61 engine.
The result was that the Spitfire was faster than the Bf 109G at all heights, the rate of climb was the same for the two aircraft around 16,000 feet, while at the other altitudes the Spitfire Mk XIV exceeded the Bf 109G.

50 years later, in the midst of the 1990s, the technology changed the way in which the fighters fought. Air to air combat was still an important part of the training for every pilot of any air force and it is still the better way to understand how an aircraft can perform against those of their counterparts.

During the last decade of the twentieth century one of the deadliest adversary for the western air forces was the Sukhoi Su-27 Flanker.

The Su-27 belongs to the same class of the US F-14 and F-15, but unlike the American fighters it can fly at an angle of attack of 30 degrees and can also perform the “Pugachev Cobra”, an aerobatic maneuver in which the aircraft pitches the nose beyond the vertical at a rate of 70 degrees per second and after that recovers to level flight. Thanks to this maneuver, the Flanker has been the highlight of every air shows from the end of the 80s to the middle of the 90s.

On April 20 this year an article written by Dave Majumdar for Flightglobal DEW Line, talk about Gerry Gallop, a former TOP GUN instructor and an experienced US Navy pilot who flown F-4, F-14A and B, F-15, F-16, F-18 (both Legacy and Super Hornet) and also A-4.
Once Gallop ended its career he became senior vice president and chief operating of Tactical Air Support, a private operator which operated the Su-27 for short time and during this period he had the chance to fly the Flanker.

During one of his sorties over the Ukraine, Gallop was very impressed by the acceleration and by how fast was the Russian fighter at high altitude. The power of its engines, along with its superb aerodynamics and with short range IR missile AA-11 Archer (which in the ’90s was the best short-range AAM in the world that can be linked to the pilot’s helmet fire control system and is capable to be fired at targets until 45 degrees off the axis of the aircraft: both these capabilities were not possessed by the AIM-9M Sidewinder, the main western short range missile at the time) made of the Su-27 probably the best dogfighter of the 90s, a very tough adversary for every western jet.

When strictly compared to the F-14, the Tomcat is not less fast than the Su-27, but for the American fighter the Flanker is more than a match in a close combat. In fact, against a more maneuverable fighter like the Su-27, the Tomcat is disadvantaged even if the F-14 is a B or a D model powered with the extremely potent General Electric F110-GE-400 engines.

Sometimes the advantage of an agile adversary can be reduced thanks to the presence of a well trained backseater, but the Tomcat gives the best of itself on long distances where the AIM-54C Phoenix can be used. As explained by some Tomcat drivers, it doesn’t matter how a more agile fighter can get a F-14 in a dogfight, because thanks to Tomcat’s combination of tactics, sensors (such
as the F-14D’s AAS-42 which it has a greater range and resolution than the IRST seeker mounted by the Su-27) and weapons every enemy fighter is going to be destroyed at an unparalleled distance.

So, which was the best among these two fighters?

It is very hard to answer to this question, but as explained by the most experienced F-14 pilot, Dale “Snort” Snodgrass, in some ways the Su-27 is superior to the F-14 and to the F-15 while in some others, American fighters are better than the Flanker: but what really makes the difference is how well a pilot is trained.

*Top Image credit: RAF BBMF*
CHAPTER 2

TOP GUN'S MAVERICK TURNS 51 TODAY. WITH A HUGE AVIATION EXPERIENCE: FROM F-14S TO A WWII P-51 MUSTANG

Here below is an interesting guest post by film and television blogger Alex Smith. The article focuses on Tom Cruise’s experience in Top Gun and the 51-year old today Maverick’s love for aviation. Enjoy!

On Jul. 3 we wish a Happy 51st Birthday to Tom Cruise, international movie star, heartthrob, and aviation enthusiast! Cruise loves flying the friendly skies: not only is he a certified pilot, but he also owns five private jets and a P-51 Mustang WWII-era fighter he keeps in perfect flying condition.

Tom Cruise has always looked toward the heavens, from his time as a teenage seminary student named Thomas Cruise Mapother IV to his real-life training flying an F-14 for the role that launched him to international stardom, fighter pilot Maverick in Top Gun, a movie that did more for naval aviation than any film since The Battle of Midway.

For Top Gun, one of the most famous movies directed by Tony Scott (that commit suicide last year), Cruise - along with Anthony “Goose” Edwards and Val “Iceman” Kilmer - received what are known as “back seat rides” in F-14s in order to get a feeling of what it really feels like taking G’s and going through mid-air maneuvers. To add even more verisimilitude to the movie’s flight scenes, many shots of the three actors in their fighters were taken while the Tomcats were actually in the air.
The cast and crew were always aware of the risks pilots face, and that helped them present a more realistic story in Top Gun. Sadly, they were reminded once again of the dangers of aerial careers when veteran Hollywood stunt pilot Art Scholl was killed filming scenes for the movie from a vintage Pitts S-2 biplane. The 1986 movie was dedicated to this stunt aviation pioneer.

Cruise was only 24 when Top Gun was released in theaters - and enough time has passed that he would be better cast as one of the flight school instructors than as the hotshot young Navy pilot! - and saw his career take flight due to the heroic role. But his acting profile wasn’t the only thing that received a huge boost from the movie: some naval recruitment offices saw their call volume jump 500 percent over the summer that the movie came out.

Although the Navy was prohibited from recommending the movie, some Navy recruiters manned information tables outside theaters showing Top Gun, and many would-be recruits reportedly mentioned the movie as what sparked their interest about opportunities in naval aviation. One wag called Top Gun "the greatest recruiting video of all time."

No doubt many people thought about becoming pilots after the experience of Top Gun, but none more than Mav himself, Tom Cruise. Even though that at 5’7”, he’s one inch too short to qualify for flying for the Navy, the actor made up for that by earning in pilot’s license in 1994 and collecting aviation history like the P-51 fighter that had “Kiss Me, Kate” painted on the side for his then-bride Katie Holmes, mother of their daughter, Suri.

Cruise has received some flak - not from aerial dogfights, but instead from environmental groups, who dubbed him “Emissions Impossible” after rumors leaked of his using his Gulfstream jet to pick up groceries for Katie. His camp hasn’t denied the rumor, but if you can’t have a little fun with your airplanes as you turn 51, what’s the point of being an internationally beloved film icon who knows how to fly? Or maybe annoying eco-warriors is pilot Tom Cruise’s way of staying in the “danger zone.”

Author Bio: Alex Smith is a film and television blogger for Direct2TV.com, where he writes about everything from new releases to the campy sci-fi classics of the 1970s and 80s. He has been a big fan of Top Gun since childhood, and still hopes to one day pilot an F-14. He lives and works in Washington, D.C.
One year ago today, Tony Scott, the famous director of "Top Gun", chose to commit suicide.

But Aug. 19 was an important date for the Tomcat community, because that day in 1981 US Navy F-14s were employed for the first time in an air-to-air combat.

For better understanding the facts that led to the downing of two Gaddafi Su-22 Fitter we have to recall the political situation that increased the tension between USA and Libya.

When in 1974 Colonel Gaddafi declared territory of the Libyan Arab Republic the waters below 32° 30’, violating the international laws, the U.S. only response was an ignored official protest.

Even when six years later an American reconnaissance aircraft was attacked in the zone, President Carter ordered the Sixth Fleet to stay away from the area.

When Reagan succeeded to Carter, things changed. In fact he ordered the Navy to conduct the “Freedom of Navigation” (FON) exercises which culminated in the Open Ocean Missile Exercise (OOMC).
Conducted in August 1981 by USS Forrestal (CV-59) and by USS Nimitz (CVN-68), this training had the aim to show Tripoli that America was serious about its right to project its naval power in international waters.

The rules of engagement (ROE) stated that to protect his assets the on-scene commander could take any necessary action without waiting for a clearance from a higher authority. For fighter pilots this meant “do not fire until fired upon.”

Against the US Navy, Libya could deploy modern and powerful fighters and fighter bombers such as the Soviet-built Su-22 Fitter, MiG-23 Flogger, the Mach 3 interceptor MiG-25 Foxbat and the French-made Mirage F.1 and 5D.

In fact, when the exercise began on Aug. 18, 1981, a flight of MiG-25s immediately approached the carrier groups but were intercepted by VF-74 F-4J Phantoms belonging to the USS Forrestal and by VF-41 and VF-84 F-14s launched from USS Nimitz.

The Libyans were trying to detect the aircraft carriers, and to find them they sent no less than 35 pairs of combat aircraft of each type in their fighter inventory. No shots were fired, but there was a lot of aggressive maneuvering between US Navy and Libyan Air Force fighters.

However a higher state of readiness was placed by the Libyan Air Force in the second day of the exercise.
In fact in the morning of Aug. 19, two VF-41 Black Aces Tomcats, callsigns “Fast Eagle 102” (BuNo. 160403) and “Fast Eagle 107” (BuNo. 160390) stationed in Combat Air Patrol (CAP) off the Libyan coast.

Towards the end of their patrol, at 07.15 Commander Henry “Hank” Kleemann and its RIO Lieutenant Dave Venlet in “Fast Eagle 102” wit Lieutenant Larry “Music” Muczynski and its RIO Lieutenant James Anderson in “Fast Eagle 107” detected a pair of Su-22 Fitter approaching the two US fighters with their AN/AWG-9 radars.

Two years after these facts, Lt. “Music” Muczynski released the account of the dogfight for Bert kinzey Detail & Scale F-14A&B Tomcat book, so we can read its explanation for better understand how the engagement was won by the Tomcatters:

“We arrived down there and went into an orbit pattern on CAP station. The day before, this station had only one intercept, so we were not real happy about being sent down there. In fact we were trying to think of ways to get off of that station and go someplace else. What we had determined was that once we got down to what we call our combat fuel load, we would call for relief on station, go back and hit the tanker, and then go to another station”.

After forty-five minutes on station ”Music” said that” We turned south one more time, and Dave Venlet, Commander Kleemann’s radar officer, picked up a target coming out of the airfield we were watching in Libya. Shortly thereafter, my radar officer, Jim Anderson, picked up the same target. It immediately became obvious that they were coming towards us, because they were heading right at us and climbed to 20,000 feet which was our altitude. They accelerated up to 540 knots. Commander Kleemann was flying lead, and I was flying wingman on his three o’ clock position, about a mile or two out so it was easy to see him. […] As we closed on the Libyans […] it became obvious
that they had good GCI (Ground Control Intercept), in that every time we would take a cut, they would take a cut to neutralize what we had done.”

At this point it became clear that it was impossible for the two Tomcats to gain an initial advantage on the two Fitters and the F-14s went into zone five afterburner (which was the maximum afterburner thrust setting for TF-30 engine) accelerating up to 500 knots.

As recalled by Muczynski “When Commander Kleemann was 1,000 feet in front of them and about 500 feet above them, he rolled his left wing to pass directly above the section so he could get visual ID on them. At that time, the left side of the lead Libyan aircraft lit up with a big flame as the missile motor ignited. I was on that side, so it was very obvious to me with a tremendous orange flash and smoke trail coming off the plane and going under Commander Kleemann’s plane. It then did sort of a banana up toward my plane, but it was also immediately obvious that neither one of us was going to get hit by the missile, so it didn’t bother either of us.”
Since the Tomcats had been fired upon, both Su-22s were immediately declared hostile by the American crews and the two F-14s could now engage the bandits.
“Music” explained that “Commander Kleemann initially had also gone after the leader, but when he saw me closing on him, he reversed his turn back toward the wingman. [...] Commander Kleemann got behind the wingman very quickly, but being early in the morning the sun was low on the horizon. The wingman [...] happened to fly across the sun as he was making his hard starboard turn. So Commander Kleemann just waited on his shot for the guy to clear the sun. [...] As the wingman cleared the sun, Commander Kleemann was about forty degrees off the guy’s tail, at about three-quarters of a mile. He fired an AIM-9L off of station 1A (left glove pylon, shoulder station). The missile pulled lead, then did a ninety degree reversal and hit the aircraft in the tail. [...] The aircraft started to roll, the drag chute deployed and the guy immediately ejected. He got a good chute and started down.”

After the wingman it was now the turn of the lead Fitter to face the other Tomcat, this time driven by “Music” himself who recalled “The leader, whom I had gone after, had completed his climbing turn, and was heading straight away north-northwest. He started a slight right hand reversal, but I had obtained a good firing position behind him. I armed up my AIM-9L, and also fired from station 1A. The Sidewinder went right up the guy’s tailpipe and blew off everything from the wing roots rearward in a tremendous fireball. Since I was only one-half mile at the guy’s dead six, the thing that scared me the most was that I would shoot myself down because of the FOD going down the engines. I did a 6 g pull-up, straight into the vertical, and when I cleared the debris pattern, I rolled inverted. I looked down and could see everything from the wings forward spinning on its way down and the plane on fire. After about two turns, I saw the pilot eject from the aircraft, but we did not see him get a good parachute.”

Muczynski ended his account talking about the training and how much it is important in the modern air combat “One thing I would like to say is that I feel that anybody in my squadron could do the same thing that I did. It was simply me being in the right place at the right time with the right results. I am sure that Dave, the Skipper (Commander Kleeman), and Jim Anderson all feel the same way. We are all trained the same, we all do the same flying, we all fly the same aircraft. [...] None are any better than the others, and I think the maintenance in VF-41 is Fantastic.”

The two crews returned safely to the Nimitz, while the Libyans began a search and rescue mission to recover their pilots.

One hour later two Foxbats headed at Mach 1.5 towards the carriers, but as the F-14s were launched to intercept them and lit the MiG-25s with their AN/AWG-9 radars, the Libyan fighters turned away and they did not come back.

Anyway, the dogfight between the Tomcats and Fitters marked the first use in combat of the F-14 and it was the first air-to-air combat between swing wing fighters.

And one more thing is remarkable. The time you have spent reading this article is much more than how long the dogfight lasted: no more than 45 seconds from when Libyans shot the missile to the downing of the second Fitter.

David Cenciotti has contributed to this post
Developed in the late 1960s to protect US Navy Carrier Battle Groups (CVBG) from the raids conducted by the Soviet bombers armed with long-range cruise missiles, the F-14 was the best fleet defender thanks to its weapons system, the AWG-9 radar.

This radar featured a large antenna, giving to the radar the possibility to scan huge part of airspace and the ability to track up twenty-four targets. Furthermore, the AWG-9 could support six AIM-54 missiles attacking six different targets simultaneously at unmatched distance of one-hundred mile range and each Phoenix included a small onboard radar to guide itself during the last part of the run against the target.

No contemporary aircraft, friend or foe, can match Tomcat since all these features gave to the F-14 unprecedented and unparalleled mission capabilities.

But to have an edge above its adversaries by using this complex weapon system, the pilot was not sufficient on board the F-14: in fact it requires another skilled crew member in the back seat, called Radar Intercept Officer (RIO).
The RIO had the responsibility to choose among four search radar modes, he selected the scan pattern of the radar from a dozen choices and assured the radar antenna search the correct portion of the sky. Once the targets are detected, the RIO advised the pilot where to fly to optimize radar performance and set up for the attack. He could also launch long-range missiles pushing the red button in the rear cockpit.

In other words a trained RIO would have been essential against a Soviet bomber raid. But the F-14 RIO was also responsible for communication and navigation and he assisted the pilot for the checklists. But also during a dogfight the RIO can make the difference giving its contribution reporting airspeed or fuel state and reporting to the pilot even more important information like the position of the bogey during the air to air combat.

“Even though you’re doing the flying, I’m right here with you in the fight”, with these words a real Tomcat RIO, Dave “Bio” Baranek, in his book Topgun Days: Dogfighting, Cheating Death and Hollywood Glory as One of America’s Best Fighter Jocks, describes the crew coordination, the term which became an essential skill for every Tomcat crew.

According to Topgun Days, a large fighter like the F-14, thanks to its design could win an engagement also against a smaller and more maneuverable fighter: a result that can be achieved only with an aggressive and trained crew.

To help the reader to understand the challenge of flying the F-14 Tomcat, Bio provides inside his book not only the full story of his career as Naval Flight Officer (NFO), but also some short
intelligence briefings where you can even find several details about the history of the legendary Fighter Weapons School, the official name for the unit known as Topgun.

But the book is not only a detailed source of F-14 technical information since, as the title implies, Topgun Days also covers some never revealed before features about the realization of the most famous aviation movie, Top Gun.

So we discover that the first intercept of the MiG-28 (the movie fictional name of the F-5) was filmed over the Pacific from a Learjet 25 belonged to the air-racing legend Clay Lacy on board of which there was film’s director, Tony Scott.

After two head-on passes between the F-14s and MiG-28s, during which the two formations had been much closer than the normal 500-foot of separation generally required for safety purposes during training flights, the adrenaline that filled pilots was enough to make unforgettable that kind of experience.

But Tony Scott commented on the radio “Can we do it one more time, only a bit closer?”

Film’s director request was due to the fact that during the crucial passes between the black-painted bandits and the American Tomcats there was too much space between the aircraft and the two sections could not be fitted in the same frame.

For pilots this meant that they had to fly an even closer pass.

So, after the Tomcats made their turn, the lead Tomcat’s RIO called the distance every two miles, every twelve seconds and after this third thrilling faceoff at 700 MPH, Tony Scott eventually came up on the radio saying “That’s great gents! Super!”

Baranek’s book also includes more secrets about the making of the movie, because “Bio” took part to Top Gun flying in the rear cockpit of the only F-5 in a two seat configuration among those used in the movie and this is perhaps the best feature of Topgun Days: the perspective whose flew with the best trained American fighter pilots.

Dario Leone for TheAviationist.com
Image credit: Dave “Bio” Baranek
Still in service with the Islamic Republic of Iran Air Force, where it was recently spotted with a beautiful splinter color scheme, the F-14 Tomcat was retired by the US Navy seven years ago.

Even if, officially, the last flight of a U.S. Navy Tomcat took place on Sept. 22, 2006 during the ceremony that was held at NAS (Naval Air Station) Oceana, the real last flight of a Tomcat in the USN colors was on Oct. 4, 2006.

Seven years ago today, a VF-31 Tomcatters F-14D (BuNo 164603) was transferred from Oceana to Farmingdale Republic Airport, on Long Island, New York and you can see its last landing in the following video.

The airframe that reached such a milestone was a Grumman F-14D and it was last but one Tomcat (or Super Tomcat, as the D version was also known) built.

The BuNo 164603 was first delivered on May 29, 1992 at NAS Miramar to VF-124 Gunfighters, the West Coast Tomcat Fleet RAG (the Replacement Air Group, the naval training squadron for a specific aircraft).
Then, in June of the following year, the BuNo 164603 was one of the first F-14D to be assigned to VF-2 Bounty Hunters.

By February 1998 it was flying with the VF-213. As “Black Lion 101” this Tomcat achieved another important milestone on Oct. 7 2001, when this F-14D along with some other Tomcats and Hornets belonging to the CVW-11 (the Carrier Air Wing 11, embarked on the USS Carl Vinson (CVN-70) destroyed an SA-3 SAM battery near Kabul’s international airport, conducing the first strike of the Operation Enduring Freedom (OEF).

The BuNo 164603 stayed with the Black Lions until early 2002 when it was passed on to VF-101 Grim Reapers, originally the East Coast Tomcat Fleet RAG and became the entire Tomcat Fleet RAG after Gunfighters disbandment on 30 September 1994.

However, it was during the summer of 2003 that the BuNo 164603 reached its last squadron and was transferred to VF-31 Tomcatters.

The Tomcatters made of the airframe their “Felix 101” jet, meaning that it became the colorful CO (Commanding Officer) aircraft.

With VF-31 this Tomcat completed two cruises including the Mediterranean Cruise 2005-2006 embarked on the USS Theodore Roosevelt (CVN-71), in support to Operation Iraqi freedom (OIF), that signed the end of Tomcat career.

The last chapter of the US Navy F-14 life was closed on Oct. 4, 2006, when the BuNo 164603 completed the ultimate flight, with the last of the U.S. flying Tomcats transferred from Oceana Naval Air Station to Farmingdale Republic Airport.

Then the BuNo 164603 was ferried on the road from Farmigdale to Bethpage and displayed in front of the Northrop Grumman Plant 25 where all the Tomcats were built and where it still rests today.

Dario Leone for TheAviationist.com

Image credit: U.S. Navy
The Grumman Aerospace Corporation, acquired in 1994 by Northrop Corporation to form the Northrop Grumman, was one of the most respected aircraft manufacturer in the world and leading airplanes builder for the U.S. Navy in the 20th century.

But among the fighter pilots community it was known as "Grumman Ironworks", due to its aircraft ability to come back to the carriers or bases after having been heavily damaged, thanks to their strength and durability.

These incredible achievements were the result of the main Ironworks rule: pilots are far more valuable than planes.

The last product of the Grumman was the F-14 Tomcat which was not only one of the deadliest fighter in the aviation history, but also one of the sturdiest airframe ever built: in fact, like the Wildcat, Hellcat and Avenger in the Pacific theatre during the Second World War, the Tomcat was able to bring back home its aircrews even if badly damaged.

Look at the impressive pictures in this post.
The first photo depicts the F-14A BuNo 159832 side number 205 which on Jun. 29, 1991 experienced a mid-air collision over South Chinese Sea with another Tomcat, the BuNo 161597 side number 201. Both aircraft were from Black Lions of the VF-213, at the time embarked on the USS Abraham Lincoln (CVN-72) and while the “201” crashed into the sea where the crew was rescued, the “205” was able to land to Singapore after losing part of its right wing.

Another proof of the F-14 strength is given by the BuNo 161433, at the time assigned to the VF-142 Ghostriders, that is here photographed while landing aboard the USS Eisenhower (CVN-69) in the Persian Gulf. This picture was taken on Nov. 13, 1991 when the Tomcat lost its radome which hit the canopy, broke the windscreen and injured the pilot, LCdr. Edwards: however Edwards and its Radar Intercept Officer (RIO) LCdr. Grundmeier were able to make a successful landing back aboard the “IKE”. For their skills both aircrew members received the Distinguished Flying Cross decoration and the Tomcat, which was the seventh A model to be modified to F-14B standards that mounted the new General Electric F-110 engines, was repaired and continued to fly until its retirement in 2004.

Most probably, the best recognition to the Grumman Ironworks and to the F-14 came from Cmdr. James E. Howe, the commanding officer of the VF-31 Tomcatters, the last Tomcat Squadron, who brought the last flying F-14D (BuNo 164603) to Farmingdale Republic Airport on Oct. 4, 2006: “It is
truly a comfortable feeling when I man the aircraft and look down at the rudder pedals and it says Grumman. I know that I am going to make it back.”

Dario Leone for TheAviationist.com

*Image credit: U.S. Navy via M.A.T.S.*
After two F-14 Tomcats from the VF-41 Black Aces shot down two Su-22 Fitters on Aug. 19, 1981 and, above all, after Operation El Dorado Canyon, the air strike launched on Apr. 15 1986 against Libya, Colonel Gaddafi and its regime went off the U.S. high priority agenda.

But in late 1988, tensions between Washington and Tripoli raised again. In fact the United States government accused Libya of building a chemical weapons plant near the town of Rabta and once again Gaddafi warned the U.S. against interfering in Libyan affairs, reiterating the threat of military actions. In response to Gaddafi’s menace, the USS John F. Kennedy (CV-67) and its battle group were dispatched to conduct a “freedom of navigation” exercise off the Libyan coast.

On Jan. 4, 1989, in the morning, four pairs of F-14s, two of those belonging to the VF-14 Tophatters and two with the VF-32 Swordsmen, were flying Combat Air Patrols (CAP) close to the Gulf of Sidra, while a single E-2C from the VAW-126 Sea Hawks supported them.

For several years, due to terrorist concerns, the crews had to remain anonymous and their names withheld from reports, but today we know that the two VF-32 Tomcats on the southernmost CAP station, were the BuNo. 159610, call sign “Gipsy 207” flown by Swordsmen skipper Commander
Joseph B. Connelly and by Commander Leo F. Enwright as Radar Intercept Officer (RIO) and the BuNo. 159437, call sign “Gipsy 202” crewed by Lieutenant Hermon C. Cook III and Lieutenant Commander Steven P. Collins as RIO.

The two F-14s were armed with four Sparrows and two Sidewinders, since they were launched before the intended loadout of four AIM-7s and four AIM-9s was complete. After being refueled by a KA-6D Intruder, the two F-14s with Gipsy 207 leading the section, returned to their CAP station, when the Hawkeye, call sign ”Closeout”, warned them that two Libyan aircraft had taken off from Al Bambah airfield.

Almost immediately the contact was picked up by the Tomcats radars at a distance of about 72 miles and locked up: this procedure was aimed at alerting the Libyan fighters that they were monitored by armed F-14s.

Several times this was enough to persuade them to turn away, but this time the bogeys kept coming.

The Tomcats began the engagement at 20,000 feet descending toward the bogeys that were descending from 10,000 to 8,000 feet. The two F-14s performed also a thirty degrees turn away from the enemy fighters but the bogeys countered it with a turn which placed them in a fast collision course against the Tomcats.
But the turn executed by the American fighters also to put the F-14s between the bogeys and the aircraft carrier, giving to the Tomcats an advantage position to provide protection to the USS Kennedy.

What nobody could know, was that in a matter of few minutes the events that had started as an almost normal close encounter would turn into a real air to air combat, as reported by the Rear Admiral Paul t. Gillcrist in his book Tomcat! The Grumman F-14 Story.

At 11:58:43 the US fighters leveled off at 3,000 feet and 475 knots, while the bogies were closing on a collision course at a range of 53 miles and descending. To avoid a head-on engagement with the enemy aircraft armed with radar guided air to air missiles, the F-14s turned a second time trying to offset themselves from the bogeys, hoping to gain a tactical advantage.

Less than one minute later, at 11:59:16 the Libyans, controlled by their own ground controlled radar, had already turned back towards the Tomcats with a closure speed of about one thousand knots. The air warfare commander on Kennedy transmitted to the two Swordsmen crews the coded signal “Warning yellow, weapons hold, I repeat, warning yellow, weapons hold”.

This radio call caused some misunderstanding since it was interpreted that the F-14s were not cleared to fire, but a “yellow, weapons hold” is used to alert the fighters that there is a possible threat to the battle group (warning yellow), and weapons hold reminds that peacetime ROE (Rules Of Engagement) still apply and the fighters must assess hostile intent or threat, or act in self defense in order to shoot.
At 12:00:53 Enwright reported that bogies had jinked at him for the fifth time and that the Libyans were inside of twenty miles: at this point he directed the section to turn “on” the master armament switches. At a range of exactly 12.9 miles Enwright aboard Gipsy 207 fired a Sparrow missile and Connelly executed thirty degree turn to the left while Cook III onboard Gipsy 204 performed the same maneuver to the right.

In this way, at 12:01:20 the two F-14s turned back into the bogeys and Enwright fired a second Sparrow. Connelly still couldn’t see the enemy fighters but he noticed that on its right Gipsy 202 fired a Sparrow and at the same time Cook III called “Tally-ho, eleven o’clock high. They are turning on me” and he casually told to Collins “They got one off”.

This statement caused some confusion, since Enwright believed that the now detected MiG-23shad fired and he began to release defensive chaff bundles. Meanwhile Connelly followed Gipsy 202 missile flight which exploded into the right intake duct of the second Flogger.

At 12:01:57 Gipsy 207 began a hard right turn to position himself to the six o’clock position of the lead MiG-23 which was passing in front of him from left to right. The second damaged Flogger instead, streaming black smoke entered a right turn and was lost from view after its pilot ejected.

At 12:02:06 Connelly was at six o’clock position of the first MiG-23 and reported “Good kill, good kill, I’ve got the other one” while switching on his stick to select Sidewinder. But no familiar tone came from the missile’s seeker head on his head set. While Enwright was shouting “Select Fox 2, shoot Fox 2”, Connelly switched back to Sparrow, but since they were overtaking the Flogger, he shifted again to Sidewinder which eventually emitted the right tone.

Connelly pulled the trigger, the missile left the left wing station and hit the MiG-23in the fuselage just behind the cockpit.

At 12:02:36 Connelly reported to the E-2C that they had “splashed two Floggers and that there were two good chutes in the air.”
In the days after the engagement Libya tried to confuse things by asserting that the Floggers were unarmed reconnaissance aircraft, but the video footage recorded in the Tomcats TCS (the Television Camera System, the camera mounted under F-14’s nose which enhanced crew ability to identify the enemy early in an engagement) clearly showed that the MiG-23s were armed with air-to-air missiles, proving that Libyan fighters represented a real threat.

David Cenciotti has contributed to this post.

Image credit: U.S. Navy
THAT TIME AN F-14 TOMCAT PILOT MADE A SUPER LOW FLYBY ON USS AMERICA

IN 1988 A NAVAL AVIATOR PERFORMED A REMARKABLE FLYBY WITH HIS F-14 TOMCAT

The stunning image in this post will probably remind our readers the famous scene of Top Gun (when Maverick buzzes the tower with his F-14 Tomcat during a high speed flyby):

*Maverick:* "Tower, this is Ghostrider requesting a flyby."
*Tower:* "Negative Ghostrider, the pattern is full."
*Goose:* "No no, Mav this is not a good idea."
*Maverick:* "Sorry Goose, but it’s time to buzz the tower."

But the true story behind the picture above is quite different. In fact this photo was taken on the 1988 Dependents’ Day Cruise of the USS America (CV-66) and the F-14 Tomcat driver who performed this incredible super low, super close pass is Dale “Snort” Snodgrass, a pilot who has become synonymous of Tomcat.

Grown at Long Island, Dale’s dad was a test pilot and “Snort” set a new standard within the naval aviation program becoming the first flight school graduate to be selected for the newly formed F-14 pipeline as explained by Snodgrass himself in the book Grumman F-14 Tomcat Bye-bye, Baby...!
“I was the first ensign to complete day/night Tomcat quals, right out of flight school. I was rewarded with the privilege of picking up a brand-new Tomcat at the factory for delivery to the west coast. To make the flight truly historic we stuck another ensign in the RIO (Radar Intercept Officer) seat.”

Before arriving to the Naval Air Station (NAS) Miramar, Dale and his RIO made a fuel stop at Luke Air Force Base (AFB): “We’d let the Air Force get a close-up look at the Tom. We were the first F-14 ever seen at that huge base. A general came to greet us at the VIP parking ramp. Luke was scheduled to receive its first F-15 Eagles the next day. At that time no one under the rank of O-4 major had flown the Eagle. Let’ em get a load of a real fighter, Navy style! The final flight over to Miramar was short, so we whacked the Air Force a final time with a sunset takeoff. Zone V (which was the maximum afterburner thrust setting for TF-30 engine) burner to 20,000 feet and still over their runways! The departure controller watched in amazement and then asked our aircraft type. My RIO responded, “We’re an Eagle Eater, Baby...!”

In the Navy, Dale amassed more hours in the F-14 than any other pilot, and is considered the “highest time Tomcat pilot”, with over 4,800 hours and more than 1,200 arrested carrier landings and for 14 years he has flown F-14 demos that people still talk about today.

Nowadays “Snort” is still in the air shows circuits and he is qualified in the F-86 Sabre, P-51 Mustang, F4U Corsair, T-6/SNJ Texan, MiG-15, MiG-17 and MiG-21.

About the low pass over the USS America, “Snort”, at the time Executive Officer (XO) of VF-33 Starfighters, released this interview to John Sponauer:

“It’s not risky at all with practice... It was my opening pass to a Tomcat tactical demonstration at sea. I started from the starboard rear quarter of the ship, at or slightly below flight deck level. Airspeed was at about 250 knots with the wings swept forward. I selected afterburner at about ½ miles behind and the aircraft accelerated to about 325-330 knots. As I approached the ship, I rolled into an 85 degree angle of bank and did a 2-3 g turn, finishing about 10 - 20 degrees off of the ship’s axis. It was a very dramatic and, in my opinion, a very cool way to start a carrier demo. The photo was taken by an Aviation Boson’s Mate (by an ABE3 who was the petty officer of third class Sean E. Dunn that was in charge in Launching & Recovering Equipment) who worked the flight deck on the USS America. Just as an aside...the individual with his arms behind his back is Admiral Jay Johnson” who became the Chief of Naval Operations for the Navy.”

At this point one question may raises in our minds: was the tactical demonstration well performed the day after this training? Take a look at the photo and judge by yourself.

By the way, the image on top is the one of the flyby, the one here below depicts the rehearsal.
Image credit: U.S. Navy /Aviation Boson’s Mate
THESE PHOTOS PROVE F-4 PHANTOM AND F-14 TOMCAT COULD TAKE OFF AND LAND WITH FOLDED WINGS

YOU WON’T BELIEVE IT BUT U.S. NAVY LEGENDARY PLANES (F-4, F-8 AND F-14) COULD FLY WITH FOLDED WINGS, ASYMMETRIC CONFIGURATIONS.

To save space aboard the deck of U.S. flattops, aircraft built for carrier operations can fold their wings making room for more planes.

Obviously wings must be extended before catapult launch.

But what happens if the wings aren’t unfolded before take off?

Even if the pictures in this post show aircraft that were safely brought back without any trouble, for sure no aircraft can fly in those configurations.

One case in which the wings were forgotten folded occurred in August 1960, when a US Navy F-8 took off from Naples and climbed to 5,000 feet, when its pilot felt an amount of pressure on the
Immediately, he started to look around to discover why its Crusader was facing the pressure amount and noticed that the wings were still folded.

Instantly he started to dump as much fuel as possible, and after 24 minutes of flight he was able to come back to Naples, landing safely.

He said that his Crusader faced no serious problems during the unusual kind of flight and the landing had been very fast but uneventful.

At least seven more times F-8s took off with wings folded, in several occasions at night, but without any mishap, proving Crusader strength and revealing the great job done by Vought engineers.

Six years later was the turn of an F-4B (BuNo. 152327) aircrew belonging to VF-14 Tophatters to experience a “wings folded” flight: in fact, on May 10, 1966, LT JG Greg Scwalber and his RIO (Radar Intercept Officer) Bill Wood were launched from USS Roosevelt (CVA-42) and once airborne they discovered that their Phantom II was flying with outboard wings folded.
They immediately understood that the locking mechanism was not properly set before launch. They quickly dumped all external stores, dropped the flaps and after declaring an emergency they diverted to the nearest airport that was Navy airfield in Cuba.

After 59 miles of flight Scwalber and Wood were able to make a successful arrested landing at a speed of 170-180 knots. As happened with the Crusader the F-4B BuNo 152327 returned into service few days later.

At least one Air Force crew had the chance to experience this strange kind of flight with their F-4, but the Rhino revealed to be a very robust airframe and it always brought its aircrew back home even without its wings fully opened.

The last impressive picture depicts the third F-14 prototype (BuNo 157982) with its wings swept asymmetrically: with the starboard wing locked fully forward and the port wing swept fully aft.

To reduce deck spotting area its wings could be “overswept” to 75°, eliminating the need for the folding mechanism of the wings. However in this photo the wings position is the result of tests undertaken to explore how the Tomcat could return back to the carrier with this asymmetric configuration.

Six flights were made between Dec. 19 1985 and Feb. 28, 1986 in this unusual configuration and landings were conducted with the aft-swept wing at up to 60°. These trials were conducted after four fleet aircraft found themselves in this difficult situation.
CHAPTER 3

TWO UNKNOWN F-14 TOMCAT WING SWEEP STORIES TO CELEBRATE TOP GUN DAY

MAY 13 IS TOP GUN DAY. LET’S CELEBRATE IT WITH TWO UNKNOWN TOMCAT STORIES TOLD BY THE FORMER F-14 TOMCAT RIO DAVE “BIO” BARANEK.

Developed in the late 1960s as a multi-mission fighter, the F-14 Tomcat’s mission was to protect U.S. Navy Carrier Battle Groups (CVBG) from raids conducted by the Soviet bombers armed with long-range cruise missiles.

On a typical sortie, the aircraft would keep a combat air patrol station located several hundred miles from the carrier. The loiter and radius advantage of the Tomcat were achieved thanks to its swept wings, which have been the greatest engineering challenge in F-14’s development, as explained to The Aviationist by a very special reader.

“One of the most distinctive and memorable features of the F-14 Tomcat was its variable geometry wings “says Dave “Bio” Baranek, author of the book Topgun Days: Dogfighting, Cheating Death and Hollywood Glory as One of America’s Best Fighter Jocks and a twenty-year experienced Tomcat Radar Intercept Officer (RIO).
Bio explains that the F-14’s wings were controlled by “a microprocessor known as the Central Air Data Computer (CADC) - world’s first microprocessor (designed and developed by Steve Gaeller and Ray Holt from 1968-1970 for the F-14A Tomcat).

As Baranek explains, the variable geometry wings brought several advantages to the Tomcat: “At their forward sweep position of 20 degrees (the angle of the wing leading edge), they allowed the F-14 to have a relatively low landing speed, an important consideration for safe operations from an aircraft carrier. As speed increased, they would automatically sweep back based on indicated Mach number (IMN) to a fully-swept position of 68 degrees, reducing drag for high speed flight”(and also to reduce wingspan for aircraft movement and storage - Bio told us that on the flattop’s deck the wings could be swept back to 75 degrees in a position called “oversweep”).

The F-14’s wings could also be manually swept, even if, according to Baranek, the Tomcat’s driver had to consider several factors since “The pilot could manually sweep the wings aft of the position determined by the CADC, but not forward of that position, as that could cause structural damage due to the tremendous lift it would generate. Manually sweeping the wings back could confuse an adversary by giving a false indicator of F-14 airspeed. But it also provided much less lift and less maneuverability, so it was a “tactic” or trick that would be used very carefully.”

This last statement is confirmed by Bio himself who recalled exclusively for The Aviationist, the tale of a Tomcat’s driver who forgot the wing swept aft in the middle of a furball in the F-14 simulator.

“One time in the F-14 simulator (the name of which was 2F112), we completed our planned work and still had time, so we were messing around. A very good pilot was flying, I don’t remember the RIO, and I was out at the control console. The pilot wanted to try to get out of flat spins by manually sweeping the wings aft. I don’t remember if it helped, but after he did it a few times we still had some time left, so he said, “Let me fight a MiG-21.”

The operator set up the simulator and they started a dogfight. After about two minutes, the pilot said, “Wow, this is the best MiG-21 I’ve ever seen, I should have killed him by now!”

Then I looked at a display that showed an external view of the F-14 and told the others at the control console :“Look, he still has the wings swept aft!” They couldn’t contain their laughter and told him, “Check your wings weep!” The pilot put the wings in Auto and the engagement ended soon after that with a kill by the Tomcat.”

Besides being a Naval Flight Officer, Baranek completed an assignment as Top Gun instructor at the Navy’s elite Fighter Weapons School (based at the then Miramar Naval Air Station), hence his chance to see how the F-14’s swept wings could be used as an advantage during a real dogfight, also against more maneuverable aircraft.

In particular Bio recalls an episode involving a Naval Aviator flying his 1 vs 1 Graduation hop against a Top Gun instructor flying a very particular adversary aircraft.
Before telling the story, Baranek explains how a typical 1 vs 1 Graduation flight took place: “For the “Graduation 1 vs 1 flight in the Top Gun class, instructors arranged for students to fight an aircraft whose identity would be unknown until merge plot.

Everyone briefed against everyone, so it was legal. This was in the 1980s, and students didn’t know if they were going against an A-4, F-5, or something else. The set up was a 30-mile intercept, so you discovered the identity of your opponent when you could visually ID him, maybe 4-5 miles before the merge.

To keep things interesting they sometimes arranged for an outside aircraft, such as a QF-86 from the Pacific Missile Test Center that would be flown by a live pilot for the event.”

In the second half of the 1980s the Hornet drivers alongside with their then new F/A-18s, began to join Topgun classes and some of them believed they had a huge advantage over the bigger Tomcat during a real air-to-air engagement.

“Around 1987, an F/A-18 pilot went through the Topgun class, and he kept trash-talking F-14s. He called them ”interceptors” and bad-mouthed them at every opportunity,” says Bio.

“Most instructors at this time had been F-14 pilots and RIOs, and they decided to teach him a lesson. So they had a former instructor participate in the Graduation 1 vs 1 secretly, and he was flying an F-14A. This Hornet pilot went out for his 1v1 flight, ran the intercept, and as he approached the merge saw an F-14 with wings fully swept.

The Hornet pilot thought, “The F-14 is going 450 knots or more, I’m going to win.” So at the merge he pulled hard into the vertical. What he did not know: the F-14 had burned much of its fuel, so it was light. Plus, it was only doing 300 knots. At the merge, when the Hornet pulled into the vertical, the Tomcat selected wings to Auto, lit afterburner, and did a max performance turn into the vertical. Since the Hornet was much faster, the Tomcat ended up dead six on the Hornet at one mile and called “Fox2, kill.”
Following this first engagement “To get max training benefit from the opportunity they followed up with a regular one “but as Baranek recalls” the story was a big hit around Miramar, which of course was home to West Coast F-14s. It also reiterated one of Topgun’s main teaching points, which is credited to the Red Baron himself: “It’s not the crate, but the man sitting in it.”

*Image credit: U.S. Navy*
The story of a legendary F-14 pilot and the gun kill on an F-15 that could sell Tomcats to Japan

Known and unknown stories of a legendary F-8 Crusader and F-14 Tomcat pilot

If you Google “F-14 gun kill” or “F-14 Hoser”, you can find a 8” x 10” frame of a 16 mm gun film shot which shows an F-15 Eagle locked through an F-14 Tomcat Head Up Display, at 250 feet, with piper on the Eagle’s pilot, gun selected, master arm on.

Even if the photo itself is already very interesting, the story behind it, is by far more fascinating. In fact, the naval aviator at the controls of the Tomcat can be considered a sort-of legend.

As explained by Alvin Townley in his book Fly Navy, most probably other pilots have scored more kills, held higher ranks or more prestigious commands, but few living aviators embody the untamed nature of aviation like the one-of-a-kind legend known to decades of F-8 Crusader and F-14 Tomcat pilots: Joe “Hoser” Satrapa.

A skilled rifleman, Joe joined the Navy with the aim to fly a jet fighter. His passion for guns guided him after the flight school graduation, in 1966, when he was called to opt for the F-4 Phantom or
the F-8 Crusader. The Phantom had no guns and Satrapa thought: "No guns? What kind of aircraft is this with no guns?" and he immediately chose the “Last Of The Gunfighters” as the Crusader was dubbed by aircrews.

But the "Satrapa legend" began the day he was given the callsign “Hoser” (even if he is also known as “Da-Hose” or “D-hose”), during a mission at the gunnery range in which he was flying the tail position in a flight of four Crusaders. He cut off the preceding aircraft as they approached the target and started shooting from two thousand feet up, one and a half miles out, hosing off all his bullets in one pass.

His flight leader J.P. O’ Neill told him to return to the airfield at El Centro and the same night O’ Neill had the final say on the incident when he nailed Satrapa: “Lieutenant junior grade Satrapa, for hosing off all his bullets in one pass, will hence forth be known as Hoser. That’ll be five bucks.”

Hoser was also widely known during the Vietnam War as a fearless F-8 pilot who regularly carried a good forty pounds of lethal ordnance, in case he was suddenly forced to eject from his aircraft and face an entire platoon of North Vietnamese Army regulars.

As explained by George Hall in his book Top Gun - “The Navy’s Fighter Weapons School, Hoser’s interest for guns continued when he transitioned to the F-14 Tomcat.

During the AIMVAL/ACEVAL (the Air Combat Evaluation/Air Intercept Missile Evaluation) fighter trials that put the F-14s and the F-15s against the F-5Es to test new weapons and tactics which took place from 1974 to 1978 at Nellis Air Force Base, Hoser (assigned to the VX-4 evaluators) was put in a 1 vs 1 against an F-5.

As the two combatants sat side-by-side on the Nellis runway, awaiting tower clearance for takeoff, Hoser looked over at his opponent, reached his hand up over the control panel, and mimicked the cocking of machine guns in a World War I Spad. A thumbs up came from the other cockpit, meaning that guns it would be, the proverbial knife fight in a phone booth, forget the missiles.

Both jets took off.

As soon as they reached the assigned area, the fighters set up twenty miles apart for a head-on intercept under ground control. Seven miles from the merge, with closure well over 1,000 knots, Hoser called “Fox One”, a Sparrow missile away, scoring a direct hit.

As they flashed past each other, the furious F-5 driver radioed, “What the hell was that all about?” “Sorry.” said Hoser, “lost my head. Let’s set up again. Guns only, I promise.”

Again the two fighters streaked towards the pass, again at seven miles Hoser called “Fox One.” The F-5 driver was apoplectic.

Hoser was first back to the club bar, nursing an end of the day cold one as the flushed Aggressor stomped in. “Hoser, what the hell happened to credibility?” the F-5 pilot asked. Hoser replied “Credibility is DOWN, kill ratio is UP!”
This story became very popular around Topgun, alongside the lesson learned: from 1 vs 1 to forty-plane furball, expect anything. But never expect your enemy to be a sweet guy.

Still, Hoser’s best experience during the AIMVAL/ACEVAL most probably came after the end of the trials. Even if Tomcat and Eagle drivers could not engage each other, Hoser and his RIO Bill “Hill Billy” Hill with Dan “Turk” Pentecost and Frank “Fearless” Schumacher onboard the second F-14, went 2vs 2 against a couple of F-15 instructors from 415th Training Squadron (415th Flight Test Flight).

Both Eagles were gunned down and a gun camera film which showed the F-15 locked in the F-14 HUD almost caused Japan to revert its decision to buy the Eagle.

*Image credit: U.S. Navy*
A MEMORABLE ANTI-TERRORIST OPERATION WITH U.S. NAVY F-14s AND E-2s TOOK PLACE OVER THE MEDITERRANEAN SEA IN OCTOBER 1985


On Oct. 7, 1985, four PLF (Palestine Liberation Front) militants hijacked the Achille Lauro cruise ship. With passengers and crew hostage, they directed the vessel to sail to Tartus, Syria, and demanded the release of 50 Palestinians jailed in Israeli prisons. After two days of negotiations (and the killing of an American citizen, Leon Klinghoffer, a Jewish retired businessman who was in a wheelchair) the terrorists agreed to abandon the ship in exchange for safe conduct and were flown towards Tunisia aboard an Egypt Air Boeing 737.

Of course something had to be done to intercept the commercial airliner which would have carried the terrorists who had hijacked the Achille Lauro liner off Egypt.
A brilliant operation was orchestrated by CVW 17 Commander Air Group (CAG) Robert “Bubba” Brodsky, who explained how the mission took place to Robert L. Lawson in the latter’s book “Carrier Air Group Commanders.”

On Oct. 10, after having completed a major NATO exercise in the Central Mediterranean, the USS Saratoga (CV-60), commanded by Capt. Jerry Unruh, received a phone query from Sixth Fleet headquarters in Gaeta, Italy, asking for the exact location of each ship of the battle group.

Intelligence had indicated to the National Security Council (NSC) staff that the hijackers were still in Egypt and about to be transported out on an Egypt Air Boeing 737 about to be flown to Tunisia.

According to Brodsky the idea to attempt to capture the hijackers came from a Navy captain in the NSC staff who suggested: “Why don’t we pull a Yamamoto on these guys?” referring to the Japanese admiral intercepted by American fighters over the Pacific during WWII.

Aboard the Saratoga orders were immediately received from Sixth Fleet to launch the Alert CAP (Combat Air Patrol) and despite the official “Alert 60 posture, two VF-74 F-14A Tomcats sand a VAW-125 E-2C Hawkeye were airborne in just 22 minutes.

Within minutes, confirmation of their mission came from Sixth Fleet.

Since the exact take-off time, the route and the altitude the hijackers plane would fly were unknown, other VF-103 and VF-74 Tomcats, with tracer ammunition in their 20mm cannons, were launched, while another E-2 alongside with VA-85 KA-6D tankers were alerted for a possible launch.

But, perhaps, the most difficult problem to solve was how to communicate with the airliner, once intercepted, and how to persuade the crew to divert to the NATO base at Sigonella, Sicily.

C3(Command, Control and Communication) provided by the E-2C was essential to the success of the mission. “CDR Raplh Zia, commanding officer of the E-2 squadron, widely respected for his airborne professionalism, had been kept abreast of unfolding events almost from the beginning. As much as anyone, he had a clear picture of what we were attempting to do. When directed, CDR Zia personally manned the second E-2 and was launched to assume airborne control of the operation. There wasn’t a better man for the job. His ability to quickly assess the situation and ad lib solutions to each hiccup in the evolution was the key to success,” Brodsky explains in “Carrier Air Group Commanders.”

Since, as we explained, the takeoff time of the Egypt Air airliner was unknown, the Tomcats assigned to CAP stations south of the Greek island of Crete were vectored by the E-2 to intercept all contacts that fit the profile of an airliner following the airways between Egypt and Tunisia.

According to Brodsky, on the fourth intercept of the evening, two F-14s pulled up behind an airliner and when they radioed the markings and tail number-2843- back to Saratoga (the tail number had already been discovered by Israeli intelligence agents as reported by Michael K. Bohn in his book “The Achille Lauro Hijacking: Lessons in the Politics and Prejudice of Terrorism”), the Tomcats were ordered to remain in position, keeping their lights out so the Egyptian crew and their terrorist cargo would have no idea they were under escort.
In the meantime, the State Department in Washington asked Tunisia and other friendly littoral Mediterranean nations to deny landing rights to the terrorists.

After CDR Zia in “Tigertail 603” listened the landing clearance denials to the Egypt Air pilot, he understood that it was time for the Hawkeye crew to take charge.

“2843, this is Tigertail 603, over” CDR Zia radioed. After several more attempts at communications, the Egypt Air pilot finally acknowledged.

Zia continued: “Egypt Air 2843, you are being escorted by two F-14s. You are directed proceed to and land immediately at Sigonella, Sicily. Over.”

The Egyptian pilot was shocked. “Say again. Who is calling?” Allowing the pilot to believe he was talking with one of the F-14 pilots, Zia repeated, “This is Tigertail 603. I advise, you are directed to land immediately. Proceed immediately to Sigonella, Sicily. You are being escorted by two F-14 interceptor aircraft. Vector280 Sigonella, Sicily. Over.”

The order was repeated once again before the F-14s turned on their external lights. The Tomcat crews watched as the excited Egyptian crew ran to both sides of the airliner to peer out the passenger windows. Zia now had the Egypt Air pilot’s attention.

Concerned by the close proximity of the Navy fighters, the nervous Egyptian pilot again came on the radio: “I’m saying you are too close. I’m following your orders. Don’t be too close. Please.”

“Okay, we’ll move away a little bit” Zia responded.

Since the Italian air traffic controllers vectored the 737 to land at the civilian field nearby Catania and refused the permission to land in Sigonella, the escorting F-14 commander declared a low fuel emergency and indicated the requirement for an immediate landing. But the presence of four F-14 Tomcats on his wing charged up the Egyptian pilot, who was able to land only after having going around on his first pass.

“Everyone breathed easier when he landed successfully on the second pass.” Brodsky says.

He also believed that even if the terrorists were taken into Italian custody once the mission ended, that fact did little to diminish the elation aboard the Saratoga: “The real reward, was the knowledge that they had helped bring terrorists and cold-blooded murderers of an American citizen to justice.”
Image credit: U.S. Navy
MAVERICK AND GOOSE WOULD NOT HAVE HAD TO BAIL OUT FROM THEIR JET IF THEY HAD FLOWN A F110-POWERED F-14 TOMCAT

Almost every aviation geek has seen the famous film Top Gun. But few of them know that if Maverick and Goose flew an F-14B they would not have had to eject during the flat spin they experienced in the movie.

Developed in the late 1960s as a multi-mission fighter, the F-14’s missions were to protect U.S. Navy Carrier Battle Groups (CBG - now CSG where “S” stands for Strike) from potential raids conducted by the Soviet bombers armed with long-range cruise missiles and to provide fighter cover for Navy attack aircraft.

The Tomcat was fitted with the potent AWG-9 radar which, supporting six AIM-54 missiles, gave the F-14 unprecedented and unparalleled mission capabilities.

Still, even though it was one of the most capable fighters in the aviation history, one problem that plagued the F-14A was the reliability of its TF30 engine. In fact, the fan blades of the Pratt & Whitney engine could break free, causing aircraft stalls and spins as a result of airflow induced engine stalls.

These problems were solved when the F-14B (former F-14A Plus), powered by a new engine, the General Electric F110-GE-400, began to enter in service in 1987.
As explained by Grumman’s Chief Test Pilot Kurt Schroeder to aviation artist and author Lou Drendel, in an interview released towards the end of the 1980s for his Squadron Signal Publications book Modern Military Aircraft: Tomcat:

“The TF30 engine’s highest stall margin, which means the difference between its operating line and where the engine will stall, occurs when it is stabilized at military power. If you would like to go to idle power when you are maneuvering, you stand a very good chance of stalling the engine. The F110 has tremendous stall margin everywhere and, at idle power, it’s higher than anywhere else. When you are maneuvering with the F110 engines, you can do whatever you want to do, whenever you want to do it.”

Moreover, with the new engine, the afterburner thrust went from 20,000 pounds per side up to 28,000 pounds per side, while dry power increased from 11,000 pounds per side to 16,000 pounds per side.

Thanks to the improved performances, Schroeder told Drendel that Maverick and Goose would not have had to bail out from their jet if they had flown a F110-powered Tomcat.

Indeed, Grumman’s Chief Test Pilot explained that the flat spin shown in the movie was “a very concern early in the F-14 program. When the aircraft is in a fully-developed flat spin, it’s going at a very high yaw rate and it is spinning down in a very small radius. In the ejection sequence, the canopy leaves first, then the back seat, then the front seat. […] The concern in a spin is that the canopy will be ejected straight up, followed shortly by the seats and the possibility exists for a collision. We have had several ejections in spins and I believe there was one case where the RIO brushed the canopy. So the scene (of the movie) was entirely possible.”

Some concern existed about the possibility of generating a stall or a spin even with the 110 engine in case its greatly increased thrust was applied asymmetrically, but Schroeder affirmed that “We deal with that easily in 110 powered aircraft. If the aircraft departs for any reason, we just pull the throttles back to idle, which just takes all the thrust effects out of the equation and you recover the aircraft. Since the 110 loves to run at idle, there is no problem. Unfortunately the TF30 does not love to run at idle and you can’t apply this solution.”

According to Schroeder the enhanced maneuverability of the 110 powered Tomcat was able to make the F-14B and F-14D superior to its adversaries in the Air Combat Maneuvering (ACM) arena.

Then, as the experienced F-14 driver said to Drendel, alongside with the new engine, the digital flight control system improved the handling qualities of the aircraft making of the Tomcat airframe the perfect platform for air to ground missions:

“The F-14 was designed to carry bombs. The Navy, however, chose not to develop that capability. There is now more and more emphasis on carrier deck loading and development of multi-mission aircraft, with the F/A-18 as the primary example of that. The F-14 is very capable of performing the air-to-ground mission, mainly because of our range and the fact that we carry the weapons conformally on the fuselage between the engine nacelles, which results in much less of a drag
penalty than carrying bombs on the wings. The technology to enhance the radar for this mission has already been developed in the form of the F-15E.”

The F-14 was retired on Sep. 22, 2006, but the last years spent as U.S. Navy’s premiere fighter bomber confirmed Schroeder claims and were a proof of the reliability reached by the Tomcat thanks to the improvements it had received, the most important of which was the F110 engine.
THE F-14 TOMCATS THAT NEVER WERE VS F/A-18E/F SUPER HORNET: WHO WOULD HAVE WON?

Several years since it was eventually retired from the U.S. Navy, the Grumman F-14 Tomcat remains one of the most loved planes by aviation enthusiasts.

Any article about this iconic fighter plane, still operating with the Islamic Republic of Iran Air Force, its story, capabilities, records and surrounding anecdotes, always become a much debated and commented post on The Aviationist. For this reason, we will continue writing about this legendary plane and its replacement: the F/A-18E/F Super Hornet.

After the Tomcat retirement, the Rhino (as the F/A-18E/F is nicknamed by its aircrews) has not only quickly become the backbone of every Carrier Air Wing (CVW), but it has also replaced some of the oldest Legacy Hornets on the American flattops. Having fulfilled such a difficult task, the Super Hornet has demonstrated to be one of the best multirole jets available today. But could an advanced version of the F-14 have been even better?

LCDR Joe “Smokin” Ruzicka, who was the Radar Intercept Officer (RIO) who flew the last F-14 Demonstration before the Tomcat’s retirement in 2006, last year released an interesting interview to Foxtrot Alpha’s Tyler Rogoway. Among all the other things, Ruzicka explained that, while the
Super Hornet is a great plane, it seems like its strength mainly comes from technology. “In the Tomcat, I think you had to be a better aviator because the technology just wasn’t there. It was up to the aircrew to maximize its performance (or minimize it if you sucked).”

That said, one might wonder whether integrating the same technology in the F-14 would have been possible.

By 1987, Grumman realized that the potential for growth had not yet been reached by the F-14 airframe, and they proposed to the U.S. Navy four advanced versions of the F-14, as told by Tim Callaway in Issue 13 “Grumman F-14 Tomcat” of Aviation Classics magazine.

The F-14D Quickstrike was the first proposal: featuring an enhanced version of the APG-71 radar, this advanced Tomcat version would have carried stand off weapons such as the Harpoon, HARM and SLAM (Standoff Land Attack Missile) missiles.

Requiring only new software and minor modifications to existing F-14Ds, the Quickstrike would have been a cost-effective attack platform but it didn’t meet the Advanced Tactical Fighter specification and the U.S. Navy chose the shorter ranged F/A-18E/F.

The second proposal was the ST21, the Super Tomcat for the 21st Century. The latter would have been a structural upgrade to the existing F-14Ds, that would have introduced a new wing glove design and single piece windscreen, while sensors positioned in front of the under fuselage weapons rails would have supplemented the chin pods. Moreover the ST21 would have also received a new engine the F110-GE-129 of 13,154kg of thrust, which would have provided a supercruise speed of Mach 1.3 featuring also thrust vectoring nozzles for greater maneuverability. These new engines would have supplied to the ST21 a tremendous acceleration alongside with a greatly increased range of the aircraft.

Another modification to the standard F-14D would have been the AST21, the Attack Super Tomcat for the 21st Century.

This advanced Tomcat would have been fitted with additional extra bomb pylons under the engine nacelles, a nuclear weapons capability, a modified radar with a Forward Air Controller (FAC) mode and an Integrated Defensive Avionics Package (IDAP) to improve survivability in the air to ground environment. The last proposal, as Callaway explains, was the ASF-14 Advanced Strike Fighter.

The ASF-14 would have been a totally new aircraft with the F-14 shape and it would have taken advantages of the new materials and new technologies developed for the Advanced Tactical Fighter and Advanced Tactical Attack Aircraft programs.

None of these proposals has been built and we’ll never know if an advanced Tomcat would have been better than the actual Super Hornet, but for sure these two fighters are two different aircraft as explained by Ruzicka, who told to Rogoway that the better way to understand the differences between the F-14 and the F/A-18E/F is using the analogy of a muscle car to a mini-van, “with the Tomcat being the former and the Super Hornet being the latter. The muscle car doesn’t have much to it in the way of fancy technology, just some raw speed and the coolness of a Steve McQueen.
movie, but it gets the job done. The mini-van on the other hand is a very nice car, complete with DVR’s for the kids, Air Conditioning, power windows, and lots of places to put your sippy cup. It’s a great car—but it’s still a mini-van.”

*Image credit: U.S. Navy*
One of the most famous missions flew during the Operation Desert Storm was the Combat SAR sortie performed by A-10s Sandys and by MH-53Js from the 20th Special Operations Squadron on Jan. 21, 1991 to recover Lt. Devon Jones, an F-14B (AA 212, BuNo 161430, at the time designated F-14A Plus) pilot from the VF-103 Sluggers, callsign “Slate 46”, downed in Iraq with its RIO (Radar Intercept Officer) Lt. Lawrence Slade.

Jones and Slade were shot down by an Iraqi SAM (Surface to Air Missile) in the first hours of the morning of the fourth day of war, while they were returning to the USS Saratoga (CV-60), after a successful EA-6B escort mission. On their way back to the aircraft carrier, Jones and Slade spotted a SAM coming through the clouds: even if Jones added power and started an evasive action, the missile exploded near the Tomcat’s tail. The aircraft entered into an unstoppable spin which forced the aircrew to eject. During the descent the two men saw each other for the last time before entering the clouds.
As he descended towards the ground, Jones tried to pull out his PRC-90 radio, but due to the fact that he flew without gloves, his hands were cold and he became afraid that he would drop his radio so he pushed it back into the vest pocket. Once landed, he started to walk towards what he thought to be west, trying to reach the Saudi border, but when he saw the sun rising, he realized his mistake. Nevertheless, at that point Jones thought it was good he was quite far from the crash site. He reached a little vegetation and thanks to his survival knife scooped out a foxhole in a small mound large enough to hide.

After he had been down for about six hours, at 12:05 local time, he tried his radio again. And someone responded to his call.

As Jones recalls in David Donald and Stan Morse book Gulf Air War Debrief: “‘Slate 46, how do you read?’ That was the first time that I knew that there had been an ongoing SAR effort. [...] ‘Let me come a little closer so I can talk to you’ he said.”

Still, Jones didn’t know who was the guy that responded to his call when he came to the radio telling to Jones that he would release a flare. Since he was thinking to talk with a helicopter, Jones was surprised when the pilot revealed him that he was flying an aircraft ”‘Ok, now, I’ll come down to where you can see me,’ he said. Lo and behold, he was an A-10! He was Sandy 57, like those guys in Vietnam, trained in combat SAR. I brought him with standard aviator talk. He didn’t see me, but he flew right over me at 50-100 feet and dropped a way point in his INS (Inertial Navigation System). ‘I’ve got to get some gas,’ he called. ‘Minimize your transmissions and come back up in 30 minutes.’

The Sandy pilot directed the helicopters toward Lt. Jones. As the SAR force headed for the downed Naval Aviator, they heard MiGs being vectored toward them. An F-15 RESCAP (REScue Combat Air Patrol) chased the threat away. After they got their gas, the A-10s returned, caught up with the helicopters and brought them in. After that a farmer truck passed nearby Jones, finally the A-10s told him to shine his signal mirror south and after Jones did it, one of the A-10s told him to look for a helicopter 15 miles out, but he saw only the A-10s flying in a circle and Jones gave them instructions to his position.

But since the Iraqis were listening to their communications, while the planes came in, half a mile down the south road, Jones saw an army truck. After a moment of panic he remembered that the A-10s as well as the helicopters were heavy armed and, in fact, within 3-4 seconds, the Sandys opened fire with their 30 mm cannons, destroying the enemy truck. Then for the first time he saw a helicopter “I had never seen such a beautiful sight as that big, brown American H-53. [...] I grabbed my kneeboard cards and gear as he landed about 20 yards away. One of the special forces guys jumped out and waved me on. I jumped in and off we went, 140 miles to go at 140 knots, at 20 feet! Pretty impressive machine. Just what you’d expect from these special forces people with lots of guns hanging off them.”
Lt. Jones was brought to a forward base in Saudi Arabia, where he was hospitalized for a brief medical exam, then the next day an S-3 from his carrier flew him back to his squadron. Following a three-day rest, he returned to the cockpit.

On the contrary, Lt. Slade, Slate 46 RIO, was less lucky: he endured interrogation, torture and starvation in the Iraqi hands for 43 days.
As we have recently explained, in the early morning of Jan. 21, 1991, the F-14B (BuNo 161430, at the time designated F-14A Plus) from the VF-103 “Sluggers,” callsign “Slate 46”, flown by Lt. Devon Jones and RIO Lt. Lawrence Slade, was hit by an Iraqi SA-2 Surface to Air Missile.

The crew was forced to eject due to the violent flat spin which followed the SAM explosion.

During the descent, the two men saw each other for the last time before entering the clouds and once they put their boots on the ground their fate was quite different.

In fact, while Lt. Jones was saved with a spectacular Combat SAR mission, Lt. Slade tried to go as far as he could from the Tomcat crash site, walking for about 2½ hours in the desert using his radio every hour without receiving any reply.

Then, while Slade tried to hide himself near a little knoll, the Iraqis found him.

“At about 1030, a white Datsun pickup truck came around the knoll,” Slade says in the book Gulf Air War Debrief.
“It was probably bad luck because I don’t think they were looking for me; they were just driving by. Two men stopped and got out. One had a 12-gauge shot gun, the other, an AK-47. [...] They approached me, but it never crossed my mind to pull out my pistol. I was obviously had. They made me strip off all my gear.”

The two men were very polite and after they put Slade between them in the pickup, took him in their tent where they fed him.

Then, after the lunch, they put him again in the pickup and they asked him if he wanted to go to either Saudi Arabia or Baghdad. Of course, he told them Saudi Arabia, choosing the most northern town he could recall. Slade knew that if the trip took three hours, it would have been Baghdad; eight, Saudi Arabia. Sure enough, 3½ hours later they pulled into an army camp, and he knew it wasn’t Saudi Arabia. For the rest of the day Slade was shuttled to six different camps, blindfolded and handcuffed. Nevertheless he was for sure a subject of interest, since people came out to see him, take pictures of him and poke at his gear. They’d pick on him, kick him, and if they spoke English they’d say things like “You kill our children.”

Slade spent the following three days in Baghdad where he experienced very harsh interrogations, then he was transferred in the first of several prisons where he spent his POW (Prisoner Of War) experience.

As he recalls: “In retrospect, I was shot down on the fourth day of the war and they had already had a few prisoners: a couple of Tornado crews, an A-6crew and a Marine OV-10 crew.”

Lieutenant Slade and his fellow POWs changed different prisons in Baghdad where they also experienced several allied bombs raids, the most intense of which was the one that took place on Feb. 23, when 2,000-lb bombs almost completely destroyed their jail.

But, for sure, the most impressive experience faced by Slade were the interrogations by Iraqi jailers. He had a total of six interrogations, some of what they called soft-sell, where they just asked him questions. Then there were the hard-sells, where they pounded on him. For the most part, they didn’t use any classic torture methods. They just beat him up, tied his hands behind his back and double-blindfolded him to the point where he couldn’t even blink.

They beat allied prisoners even when they answered their questions. Slade, as well as the other POWs answered to the questions just to make beatings stop” even though the answers were complete garbage. Some I didn’t know the answer to, and I’d tell them, then I’d make up something. I could hear them writing it down. I thought, ‘You idiots!’ [...] Some time toward the end of February, they banged me up against the wall and broke my seventh vertebra.”

During these interrogations Slade was blindfolded and never saw his interrogators, probably so that he could not identify them later, or perhaps because the Iraqis understood how terrifying it is to be blind in the hands of a torturer.
Lt. Slade endured interrogation, torture and starvation in the Iraqi hands for 43 days: even if his six weeks as a POW were not anywhere as long as six years in North Vietnamese prisons, to Lawrence Slade every week must have seemed like a year.

*Image credit: U.S. Navy*
David Cenciotti is a freelance journalist based in Rome, Italy. Born in 1975, he’s a private pilot, a former 2nd Lt. of the Aeronautica Militare (Italian Air Force, ItAF) and a graduate in Computer Engineering. Since 1996, he has written for major worldwide media outlets and magazines, covering aviation, defense, war, industry, intelligence, crime and cyberwar. He has reported from the U.S., Europe, Australia and Syria, and flown several combat planes with different air forces. His work has appeared on Air Forces Monthly, Combat Aircraft, Global Aviator, War is Boring, Revista Força Aérea, Fighter Tactics, Aeronautica & Difesa, Airline, RID, Rivista Aeronautica, Airplanes, Jack, Tech News Daily and Innovation News Daily and he’s regularly interviewed by newspapers, televisions and radios. He’s the founder and editor of The Aviationist, one of the world’s most read and followed military aviation blogs, and he has written four books and contributed to several publications.