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April ♦ May 2013  
Volume 4, Issue 3

# *The Magazine*



- ✈ National Museum of the Marine Corps
- ✈ Royal Thai Air Force Museum
- ✈ MCAS Miramar Media Day
- ✈ Red Flag 13-2
- ✈ Museum of Flight
- ✈ Australian International Air Show





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Cover: "Tinstix of Dynamite" at the Australian International Air Show, photo by Ricardo von Puttkammer

Index page: JAS 39C Gripen at Nellis AFB during Red Flag 13-2, photo by Ricardo von Puttkammer



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From the Editor: Behind the lens and to the point...

**Welcome** to our redesigned environmentally friendly April – May 2013 on-line issue of *The Magazine* by [www.AirShowsReview.com](http://www.AirShowsReview.com).

The 2013 North American air show season will be very different to all of us when compared to the past years. Due to huge budget cuts by the U.S. Congress that took effect as of March 1, the schedules for just about all air shows have been turned upside down forcing many cancellations and scrambling to replace the U.S. military participation at many venues.

On March 1, the Air Force issued a press release explaining changes that it was making to normal operations to accommodate sequestration budget cuts. The release said, in part, "Effective today, active-duty, Reserve and Guard units will cease all aviation support to the public. This includes the cancellation of support to all air shows, tradeshow, flyovers (including funerals and military graduations), orientation flights, heritage flights, F-22 demonstration flights and open houses, unless the event includes only local static assets. Additionally, the Air Force will cancel the Thunderbirds' entire 2013 season beginning April 1."

On March 2, the Navy made public an internal memo sent on March 1 by Secretary of the Navy Ray Mabus to all Navy and Marine units. That memo said, in part, "We will also immediately announce intent to cancel Blue Angels shows scheduled for April 2013." (Note: Though the Navy secretary's memo said that the Navy would, "...immediately announce intent to cancel Blue Angels shows scheduled for April 2013," the Navy has not yet done so and shows scheduled to host the Blue Angels in April are still preparing until formally notified otherwise.) This appears to leave open the possibility that the team may begin practicing and performing again if sequestration cuts are "undone" or rolled back.

I hate to be the bearer of bad news but to me it looks like there will be no Thunderbirds, Blue Angels, ACC single-ship demonstration teams or any U.S. military aircraft participation at air shows! The draconian cut will change air shows, and I suspect a lot less people will attend, and that will have an economic impact for localities where these events are held. For now Europe and the Far-East shows will not be so drastically affected by the noted changes. Although the Swiss "Patrouille Suisse" aerobatic team will be on the chopping block by 2016 too.

We at *The Magazine* have to adapt to new realities and we will bring more aviation related articles such as museum and if we can a couple of base visits too in the forthcoming months. We added additional photographers to expand our coverage and to attend and review as many events as we can!







# From the Halls of Montezuma... National Museum of the Marine Corps

Article and photography by Dan Adams







The National Museum of the Marine Corps is a sprawling 135-acre tribute to more than 200 years of Marine Corps history adjacent to Marine Corps Base Quantico (Virginia). Strikingly visible from the main North-South artery of Interstate 95, the museum's soaring design evokes the image of the iconic flag raising on Iwo Jima. Every inch of the museum and its grounds is a monument to the Marines' credo *Semper Fidelis*, "Always Faithful," as it stands as a testament to the bravery, service and sacrifice of the Marine Corps. Since opening in 2006, 1.7 million visitors have taken in the sights and sounds of the museum, which is directly associated with the Marines.

Upon entering the 120,000-square-foot museum, one is immediately greeted with world-class exhibits that include interactive displays and actual Marine Corps equipment, uniforms and other historical items. The museum is home to over 60,000 artifacts that chronicle the Marines' history from 1775 to the present day. The equipment includes everything from weapons used by the USMC throughout their history to a Harrier jump jet and F4U corsair hanging from the ceiling. Several displays include lifelike mannequins in authentic USMC gear in action alongside tanks and helicopters, giving visitors the feeling of being within the scene and on the battlefield.

The thoughtful layout of the museum takes visitors on a path that outlines the history of the Marines from the American Revolution, through WW1, WW2, Korea, Vietnam and other recent conflicts up through the Global War on Terror. Before taking this path, however, one passes through the "Making Marines" exhibit which provides the viewpoint of new recruits as they are confronted by stern drill instructors who eventually mold them into elite warriors.

Throughout the museum, hands-on exhibits provide a glimpse into the lives of Marines from the newest recruits stepping off of buses in boot camp to Marines fighting during the Revolution, during the siege at Khe Sahn or in the Battle of Fallujah. Across the museum's lush grounds is Semper Fidelis Memorial park, with monuments to the bravery, service and sacrifice of all Marines.

The National Museum of the Marine Corps is open from 9:00 AM to 5:00 PM every day except Christmas Day and admission is free. The museum has an excellent store for Marine themed gifts or mementos and has two options for dining, Tun Tavern and the Devil Dog Diner. The museum hosts many special exhibits throughout the year so to get the most out of your visit it is advisable to check the museum's website at [www.usmcmuseum.com](http://www.usmcmuseum.com).







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The visit to the Air Malta Maintenance hangar was organised by the Aircraft Owners and Pilots Association - Malta on Thursday 15th November 2012. AOPA is a voluntary, non-profit making organisation which constantly works to safeguard the interests of pilots and aircraft owners involved in General Aviation in Malta and is a member of IAOPA, the international chapter of AOPA.

The visit was one of a series that AOPA Malta organises throughout the year for its members. To further enrich interest in the aviation sector, AOPA have this year introduced an affiliate membership scheme for aviation enthusiasts.

Meeting place was at AOPA's HQ on Park 1, where, after we were each given some tokens courtesy of Air Malta and aviation magazines courtesy of AOPA, we were briefed about the visit by our guide, Air Malta First Officer and committee member Marco Lucia. Later we boarded an Air Malta coach in pouring rain to Park 8 where the Maintenance hangar is located.

As had been briefed, inside the hangar we found the Air Malta Airbus A320-214, registration number 9H-AEF which was the first New Airbus to go in service in 2004. We witnessed the final work of an ongoing maintenance programme on the aircraft. The aircraft returned to Air Malta's schedule last summer after the airline it was leased to, OLT ceased operations due to bankruptcy. 9H-AEF is now due to depart to South America at the end of the month on a short lease.

Mr Lucia took us through and skilfully explained the various components of the aircraft and answered the many questions asked by those present. For most of us, this was the first ever close encounter with the engineering side of a passenger aircraft.

Marco started by showing us the static wicks and explained that "as the aircraft flies through the air, it builds up a static charge due to the friction of the air and moisture which in return needs to be discharged, and the method used is a discharge through the static wicks, known as static dischargers".

Next was an explanation regarding the landing gear. The landing gear consists of two main gears (which retract inwards) and one nose gear (which retracts forward). The retracting system is electrically controlled but hydraulically operated and controlled by two LGCIU (Landing Gear Control and Interface Unit) computers. The nose wheel steering is controlled by the BSCU (Brake and Steering Control Unit). When it is operated from the flight deck, it can be steered through an angle of 75 degrees. The rudder pedals can move the nose wheel through a much smaller angle as they are usually only utilised during take-off and landing.

The nose wheel has 4 light units, two of which are turn-off lights which light either side of the aircraft to aid exiting from runways, whilst the other two are a taxi light and a take-off light used during the respective phases of flight. The powerful landing lights which are mounted on the inboard wing are flush during the cruise, but are usually lowered when flying below FL100. They are used also when the aircraft is required to be highly visible, for example during TCAS avoiding action when it is imperative that the other aircraft establishes visual contact as early as possible.





During towing, the aircraft is normally powered by the APU. This can provide both electricity and bleed air. The APU uses about 50 kgs of fuel per hour, but this varies depending on the load being demanded on it. A number of suppliers are now working on developing electrical systems for taxi which will significantly reduce costs as the engines each burn about 300kgs per hour just idling. There are various systems in the pipeline, some will be attached to the main gears whilst others are attached to the nose wheel.

The RAT (Ram Air Turbine) is automatically deployed when required to provide hydraulic or electrical power. Should the system not deploy automatically, it can be deployed by the pilots. The RAT gives limited supply to the critical systems of the aircraft to enable a safe landing.

Inside the cabin, Marco explained changes which could be adopted on the aircraft after returning from its lease so as to increase passenger capacity by 3 seats. This would involve shifting of one of the rear WC's to the back galley and relocation of part of the same galley.

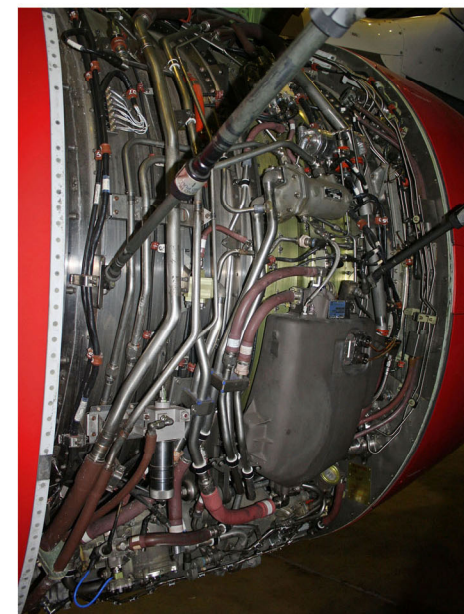
We were told and shown what is normally done when the aircraft would require to carry a stretcher. 9 seats have to be removed before the flight to cater for the stretcher and the medical team accompanying the patient. Apart from stretcher cases, Air Malta also gives the possibility of utilising an incubator. In this case a row (3 seats) is physically removed and the special incubator is anchored to the aircraft's floor. This is a one of a kind incubator which Air Malta's engineering team built from scratch.

Marco showed us the location of the oxygen tanks and the number of masks in each row and explained that "The crew oxygen masks are full face masks which enable the pilots to function even in heavy smoke conditions. It supplies oxygen from a pressurized cylinder with a mixture of oxygen from this tank and ambient air. If fumes are present, the pilot can choose to have air supplied under pressure thus eliminating the ambient air and consequential risk of incapacitation."

We were then taken into the cockpit in pairs and Marco patiently explained the equipment found there and the going on's before, during and after a flight. Whilst this was being done, to our surprise and pleasure, we were informed that the aircraft was going to be towed out from the hangar to a parking space on Park 8 since it was due for a flight later in the evening.

After the visit, we were again taken by coach to the AOPA HQ once again in pouring rain. I asked Marco on his impression regarding the visit and participation and he replied "I think that participation was very good, with many interesting questions being asked."

I would like to thank AOPA, Air Malta and Mr. Marco Lucia for making this visit possible.







# ROYAL THAI AIR FORCE MUSEUM

By the Editor with photography by Takeshi Shinoda

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The Royal Thai Air Force Museum was established in 1952 in Bangkok, the capital of Thailand, with the purpose of collecting and restoring defense articles of different periods, including equipment and aircraft in use during the early period of Thai aviation history up to the present.

Aviation in Thailand has an interesting history dating back to 1911, when the Belgian pilot Charles Van Den Born displayed the first aircraft in Siam at the Sa Pathum Horse Racing Course. The Siamese authorities were impressed enough that on 28 February 1912 they dispatched three officers to learn to fly in France, the main center of aviation development of the time. While they were in training, the Ministry of War ordered four Nieuport monoplanes (Nieuport IIN and Nieuport IVG) and three Breguet biplanes (Breguet III) from France. Later a fourth Breguet III was donated to the Ministry of War, bringing the number to eight aircraft and establishing one of the earliest air forces of Asia. On March 27, 1915, the Aviation Section was organized as the Army Flying Corps. The Royal Thai Air Force celebrates this date as “Air Force Memorial Day.”

The museum consist of five building and with an outdoor display area with approximately 50 aircraft. Inside the buildings one can find several rare aircraft in good condition: one of only 2 surviving Japanese Tachikawa Ki-36 trainers, the last surviving Vought O2U Corsair, one of 3 surviving Curtiss BF2C Goshawks. While in the outdoor area they vary from acceptable to chopped up corroding wrecks. Admission is free, and if you are in Bangkok, it is well worth the visit. Mr. Shinoda, our Far East corresponded, visited the museum on November 2012, and took the images appearing here.



Tachikawa Ki-36 above and below.



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T-6 Texan



Curtiss SB2C Helldiver



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# MCAS Miramar Media Day

Report and photography by Norman A. Graf



The Marine Corps Air Station Miramar Air Show attracts well over half a million visitors every year and was voted the “World’s Best Military Air Show” by ICAS in 2007. The success of this event rests in no small part on outreach to and interaction with the media. On Thursday, October 11, 2012, right before the three-day air show began, ASR Media was privileged to attend the Media Day activities.

The day began before dawn under a crescent moon and bright Jupiter. After assembling in a parking lot outside the main gate, media credentials were checked by flashlight. Once everyone had arrived, instructions were given on how to proceed and we headed off to the flightline in a convoy. There we were greeted by Special Events Manager Denise Fairbanks who briefed us on the morning’s activities. The highlight of the day was flights provided by most of the civilian performers for media, sponsors, donors and Marines. Aircraft ranged from the usual trainers and warbirds to more modern mounts such as the Beechcraft T-6A and the Patriot Jet Team’s L-39. Chuck Aaron was even giving flights in the Red Bull Helicopter! Over sixty flights were scheduled in two dozen aircraft in three waves, all laid out with military precision on the “Big Board.” Everyone rushed to see with whom they had been paired. I was scheduled to go up in a T-34A Mentor in the dawn patrol at 0800. But first there was an opportunity to meet with many of the performers. The Hyatt Regency provided a wonderful buffet and it was nice to meet up with familiar faces and meet new people over a hearty breakfast.



Soon my name was called and I rushed over to meet my assigned pilot; I would be flying with John "Flipper" Flippen in his T-34. After a quick briefing to inform me of the flight plan and some basic safety procedures to follow on the active runway, we proceeded to his beautiful Mentor, painted in bright yellow NAVY markings. I found out that we would be flying in formation with another Mentor, painted in USAF markings, piloted by his brother Dan. I could hardly wait, but listened closely and attentively to the final briefing before climbing into the rear cockpit and strapping in. A quick check of the radio headset was followed by the closing of the canopy. The air traffic controller quickly had us taxiing onto the active runway and then we were airborne, wingtip to wingtip with Dan Flippen and his lucky backseat passenger. I had expected a fairly calm and sedate flight, but "Flipper" flew an aggressive series of maneuvers, banking tightly as we made several passes over the runway, including one very low pass with the smoke on. Dan flew formation the whole time. The visibility in the Mentor is very good and the view of MCAS Miramar, especially the air show flightline was spectacular. I alternated between squeezing off as many photos as I could with just looking around in all directions and enjoying the view. The last pass over the runway ended with a hard break, the acceleration forcing me deep into my seat and the steep bank momentarily disorienting me. But just as quickly I saw runway 24R appear over John's left shoulder just before he levelled off and nailed the landing. The ATC hustled us off the runway, and just like that my first Mentor flight had ended. What a thrill!



A number of the print, radio and TV media left immediately after their flights to file their reports. Many of them would be seen, heard or read that day or evening by the millions of residents of the San Diego metropolitan area. Getting the word out about the weekend's air show is, after all, the primary goal of the Media Day. However, with so many media flights occurring, and many of the military performers and static display aircraft arriving, I remained to enjoy the flying and take a few extra photos. Before long I was approached by Denise Fairbanks asking if I had already gone up in a flight. After hearing that I had and how much I had enjoyed it she asked "Want to go up again?" I couldn't say "Yes!" fast enough and with enough emphasis. I was very shortly sent to meet Jim Ostrich who was providing media flights in a C-45H Expeditor from the Warbirds West Air Museum.







It, too, was painted up in bright NAVY markings: white, grey and international orange markings from Manila. One of his passengers had failed to show up and he very graciously offered to add me to his group. In addition to media, sponsors and donors, Marines were also being given the opportunity to take rides. Despite claims of having been “voluntold” (i.e. told to volunteer), all of the Marines with which I spoke were truly deserving and relished the opportunity to go up in something other than military issue equipment. I was joining Sergeant Walmsley, Sergeant Decarney and Corporal Page on this flight. Also on board was José Suárez Valdez, director of EnElAire, a Mexican aviation website. We climbed aboard, settled in and were soon taxiing in formation with John Collver in his AT-6 Texan “War Dog.” This flight was more straight and level than the Mentor flight, but we flew farther afield, passing over parts of the city and remote parts of MCAS Miramar. We made a few passes over the base before breaking sharply to land.



Back on the ground, I busied myself once again taking photos of the incoming aircraft, watching the massive E-6B Mercury thread its way carefully through the rows of parked aircraft and being amazed at the way the Marine pilot manoeuvred his AH-1Z Super Cobra into place with seemingly only inches to spare. Peripherally I heard someone nearby counting out “four, five and ... six.” Looking over, I saw someone pointing at me. Looking more closely, I saw “Executive Sweet” monogrammed on his polo shirt. It was John “Weebs” Wiebener, pilot of the B-25 Mitchell of that name from the American Aero-nautical Foundation in Camarillo, CA. Three Marines had been overlooked during the morning’s scheduled flights and John insisted on making another flight to take them up before the flight window closed. With three remaining spots, he simply looked around and picked an additional three lucky passengers. I’d been “voluntold!” While waiting for final flight preparations, John gave us a safety briefing and filled us in on the history of the aircraft. A retired USAF Lt Colonel, he flew F-16s over Iraq during Desert Storm and is a current FedEx pilot, but it was clear that flying this warbird was something special for him. Seats were assigned and we all climbed aboard where we were issued ear protection. We were warned it was going to be loud. I couldn’t believe that I was seated right behind the cockpit. Although we were assigned seats for takeoff, we would be allowed to move around during the flight, walking (or crawling) from station to station. A quick thumbs-up and we were on our way, the two Wright R-2600-13 Double Cyclone fourteen-cylinder air-cooled radials, rated at 1700 hp each for takeoff, thundering noisily, even through the head sets. The landing gear came up with a reassuring “clunk.” Upon reaching level flight, the co-pilot signalled that we were free to move about the plane. I stood up to look out the dorsal turret. The original plan had called for a flight out to the coast, down to the city and then returning, but by this time the weather had turned, it began to rain and we were informed that the flight would be cut short.



Corporal Page, Sergeant Walmsley, Sergeant Decarney, Norman, José Suárez Valdez and Jim Ostrich, above left to right. View from C-45H Expeditior, film strip left middle. Taxiing with the AT-6 Texan “War Dog” below.







I immediately crawled down and forward into the bombardier's station in the nose. The view through the Plexiglas glazing was spectacular. I could have stayed there for the rest of the flight, but quickly departed to allow others to also enjoy the experience. In the rear of the aircraft the side window had been removed, providing an unobstructed view of the sprawling base below us. Just as I began to crawl back to the rear gunner's station the klaxon sounded, informing us that we would be landing soon and to take our seats. All too soon we were back on the runway. The pounding rain sounded like thousands of ball peen hammers banging away on the fuselage. I thanked "Weebs" and the crew once again and made my way over to the media area, which was by now deserted. With the weather worsening and the activities at an end it was time to call it a day. But what a day!

Maj Carl Redding, Public Affairs Director, has made amazing things happen, and ASR Media would like to sincerely thank him and all the members of his team (particularly 1stLt Jose Negrete and Cpl Steven Posy) for a fantastic and memorable experience during this Media Day. We would also like to thank Special Events Manager Denise Fairbanks and Marketing Specialist Jennifer Short for their efforts. We can't thank the sponsors and the donors of the media flights enough; it was a fantastic experience. Finally, we would like to thank all the Marines, volunteers and performers at MCAS Miramar for making the Air Show such a success.





*Executive Sweet*





# WATERLOO AIR SHOW

JUNE 1 & 2, 2013



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## RED FLAG

REPORT & PHOTOGRAPHY BY RICARDO VON PUTTKAMMER

Red Flag was born in 1975 as a way to improve the effectiveness of air force pilots and weapons systems officers during air combat manoeuvres (ACM). In the Vietnam War, the kill to loss ratio was 2 to 1. In the Korean conflict the loss ratio was much lower, for every 10 enemy aircraft destroyed there was one American aircraft lost. Today the 414th Combat Training Squadron is in charge of planning and controlling this training. Its mission is to maximize the combat readiness and survivability of aircrews participating in the exercise.

The commander of the 414th Combat Training Squadron, Colonel Tod Fingal, disclosed in his briefing that for this Red Flag there were 119 aircraft, 2,700 deployed personnel, 17 units and participation of the air forces from United States, the Netherlands, Sweden, Singapore, United Arab Emirates, and the United States Navy.

The participating units compose the Blue forces, whereas the 64th and the 65th Aggressor Squadrons from the 57th Adversary Tactics Group make up the Red Forces. During the exercise the Blue Forces fly air interdiction, close air support, defensive counter, dynamic targeting and air combat search and rescue missions. The Red forces try to stop the Blue forces from achieving its goals by deploying current tactics used by hostile air forces throughout the world.

These wargames are played out in the vast area north of Las Vegas on the Nevada Test and Training Range (NTTR) with 2.9 million acres of land and 12,000 square miles of air space, with many small ranges of mountains with desert in between. This is the perfect area for training of this sort since it is away from population, which allows for more realistic scenarios.

Nellis Air Force Base is also home of the 547th Intelligence Squadron and its Threat Systems Yard with a vast array of Soviet era equipment including a Mig-23, a Mig-29, Mil-24 and various ground to air weapons and supporting equipment. Its mission is to train airmen and joint-service personnel on adversary weapons systems.

### RED FLAG 13-2 Participants

- 119 Aircraft
- 2700 Deployed Personnel
- 17 Units
- Composition – USAF, USN, RNLAf, RSAF, SAF, UAEAF



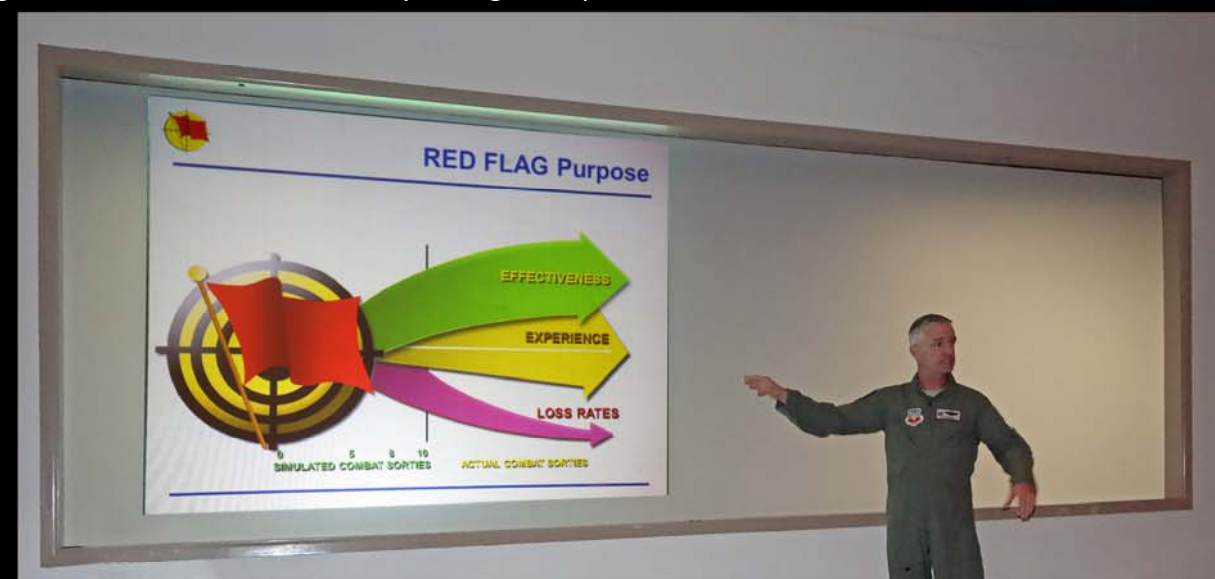
The following were participants of Red Flag 13-2

- 23rd Wing, 41st Rescue Squadron HH-60s, Moody AFB, Georgia.
- 23rd Wing, 71st Rescue Squadron HC-130s, Moody AFB, Georgia
- United States Navy, VFA-25 F-18Es, NAS Lemoore, California.
- United States Navy, VAQ-138 EA-18G Growlers, NAS Whidbey Island, Washington.
- 366th Fighter Wing, 389th Fighter Squadron F-15Es, Mountain. Home AFB, Idaho.
- 57th Wing, 64th Aggressors Squadron F-16Cs, Nellis AFB, Nevada.
- 552nd Air Combat Wing, 960th Airborne Air Control Squadron E-3s, Tinker AFB, Oklahoma.
- 22nd Air Refuelling Wing, KC-135s, McConnell AFB, Kansas.
- 57th Wing, 65th Aggressors Squadron F-15Cs, Nellis AFB, Nevada.
- 138th Fighter Wing, 125th Fighter Squadron F-16s, Tulsa, Oklahoma.
- 2nd Bomb Wing, 20th Bomb Squadron B-52s, Barksdale AFB, Louisiana.
- 7th Bomb Wing, 9th Bomb Squadron B-1s, Dyess AFB, Texas.
- 52nd Fighter Wing, 480th Fighter Squadron F-16CJs, Spangdahlem AFB, Germany.
- Blekinge Wing F 17, JAS 39C Gripen, Ronneby, Sweden
- 425th Fighter Squadron, F-16C Singapore Air Force, Luke AFB, Arizona.
- 323rd Squadron, F-16AM Royal Netherlands Air Force, Leeuwarden AB, Netherlands.
- 76th Squadron, Mirage 2000-9EAD, United Arab Emirates Air Force, Al Dhafra AB, United Arab Emirates.

The Swedish Air Force brought 8 JAS 39C Gripen to this Red Flag. For this long mission they required 2 USAF KC-10 for refuelling. They made 2 stops on the way, Azores, Portugal and Maine. The total trip took about five days and 15 flying hours. In previous Red Flag participation, up to eight stops were required. This was the first time that the Swedish Air Force used aerial refuelling for a Red Flag trip.

While inside Nellis Air Force Base there were some restrictions on what was allowed to be photographed: no photos were allowed of the UAE Mirage 2000s, of any cockpits of any aircraft, close up of munitions, any on-going maintenance, etc. Standard procedures at most active air bases we had visited in the past. Although we found it quite interesting that there was a restriction placed on the UAE Mirages 2000s, as many photographers were snapping away at all the jets, outside the premises. With a 600mm lens or better one could take close up shots of them taking off and landing.

ASR Media would like to thank Col. Tod Fingal, Red Flag Commander, Lieutenant Colonel Anders Segerby, F 17 Wing Commander and A1C Timothy Young from public affairs.



57th Wing, 64th Aggressors Squadron F-16C taking off and an A-10 from the 355th Fighter Wing, 358 FS on the tarmac, above. Our reporter Ricardo, below. Col. Tod Fingal explains Red Flag to the media, left.





F-15C of the 57th Wing, with Las Vegas in the background





57th Wing, 64th Aggressors Squadron F-16C



Blekinge Wing F 17, JAS 39C Gripen, Ronneby, Sweden



323rd Squadron, F-16AM Royal Netherlands Air Force



USN VAQ-138 EA-18G Growler



57th Wing, 64th Aggressors Squadron F-16C



425<sup>th</sup> Fighter Squadron, F-16D Singapore Air Force, Luke AFB



552nd Air Combat Wing 960th Airborne Air Control Squadron E-3



23rd Wing, 41st Rescue Squadron HH-60 in the background with an F-16C from the 138th Fighter Wing of the Oklahoma Air National Guard



# THE MUSEUM OF FLIGHT

ARTICLE AND PHOTOGRAPHY BY DAN ADAMS



As many aviation enthusiasts know, Seattle holds a special place in aviation history as the birthplace of Boeing. It should come as no surprise then that Seattle is also the home of one of the largest air and space museums in the world. Established in 1965 and located at Boeing Field (King County Airport) just south of downtown Seattle, the museum has over 150 historically significant aircraft and spacecraft and attracts over 500,000 visitors each year. It is a must-see destination for anyone traveling to or through the area.

The museum is home to many unique and rare aircraft. Its collection includes the world's first fighter plane (Caproni Ca.20), the first jet Air Force One, the prototype 747, a Lockheed M-21 (CIA version of the SR-71 Blackbird) and the West Coast's only Concorde, just to name a few. In addition, the museum's Charles Simonyi Space Gallery houses NASA's Space Shuttle Trainer Crew Compartment which was awarded to the museum as NASA ended its 30-year Space Shuttle program. The trainer is a full scale shuttle mockup that was used to train all Space Shuttle astronauts. While other museums nationwide received actual retired Space Shuttles, the Museum of Flight's trainer is the only way members of the public can explore the inside of the Space Shuttle. Tours are limited to 6 participants at a time and last 30 minutes. There is a separate fee for the tour and advance purchase is available online.

The main hall of the museum houses a huge variety of aircraft. The centerpiece of the main exhibit is the world's only surviving Lockheed M-21 (Serial No. 60-6940) complete with a Lockheed D-21 reconnaissance

drone. Surrounding it are other historically significant aircraft from different eras. These include: a Bell UH-1H that saw service in Vietnam, a Boeing Model 80A-1, a Douglas DC-3, a Douglas A-4F Skyhawk that flew as #4 with Blue Angels, an F-4C Phantom that shot down three North Vietnamese MiG-21s, a rare Taylor Aerocar (a car that could transform into an airplane and back) and dozens more incredible aircraft. The museum has a significant spacecraft collection that includes the first production Apollo Command Module that was delivered to NASA for testing and training.

The museum also has large galleries housing significant aircraft from both World Wars including a Curtiss Jenny, the Caproni Ca.20, Sopwith Camel, SPAD XIII and three different Nieuports (24bis, 27 and 28 C.1) from WW1 and a P-51D Mustang, P-38 Lightning, P-47 Thunderbolt, Supermarine Spitfire and Messerschmitt BF 109 from WW2.

The museum's airpark is an outdoor area (plans are in place to enclose it in the near future) where the museum's larger aircraft are on display including Boeing's prototype 747 "Spirit of Everett." The 747 is available for tours in June. Also on display is the first production Boeing 737. First flown in 1967, the aircraft later became NASA's Transport Systems Research Vehicle and remains in NASA livery. The centerpiece of the airpark is a former Air Force One Boeing VC-137B (SAM 970). The aircraft is open to the public and contains many artifacts from the presidents it carried including Eisenhower, Kennedy, Johnson and Nixon.



The airpark also includes the West Coast's only Concorde (former British Airways G-BOAG), a 727-223 in American Airlines livery and an ex-Trans Canada Air Lines Lockheed L-1049G Super Constellation. The Connie was formerly located at Toronto Pearson International Airport and was purchased in 2005, as shown below. Photo courtesy of the Editor.

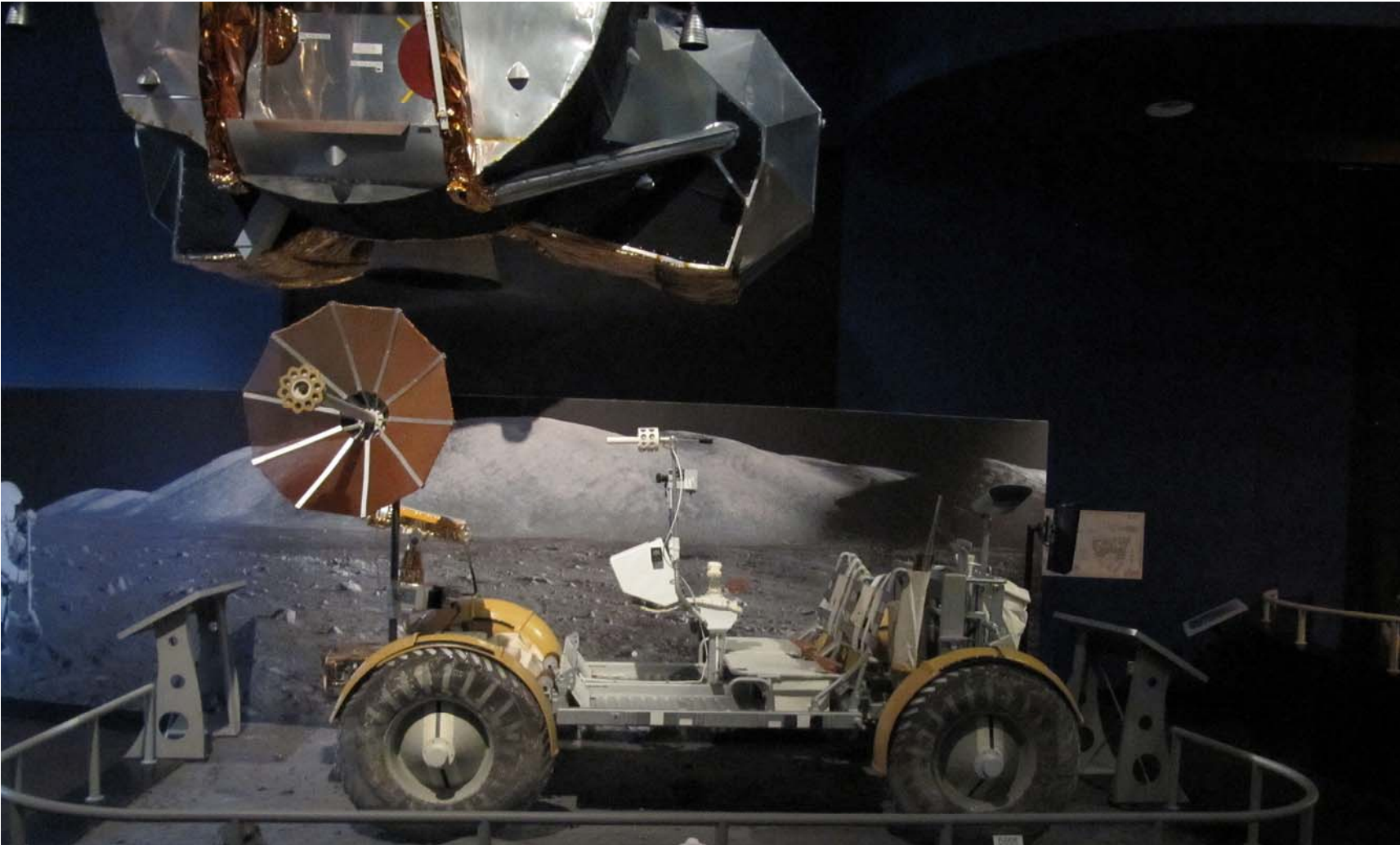


Visitors to the museum are able to tour the historic "Red Barn" which was the Boeing Company's original manufacturing plant built in 1909. The museum also has a replica control tower that provides visitors with a first-hand view of airport operations. To the side of the museum is an active Boeing facility that works on military versions of its commercial aircraft. During our visit, there was a Turkish 737 AEW&C and a Boeing 757-200 that is used as a testbed for the F-22's avionics. There is always something interesting to see within and around the museum.

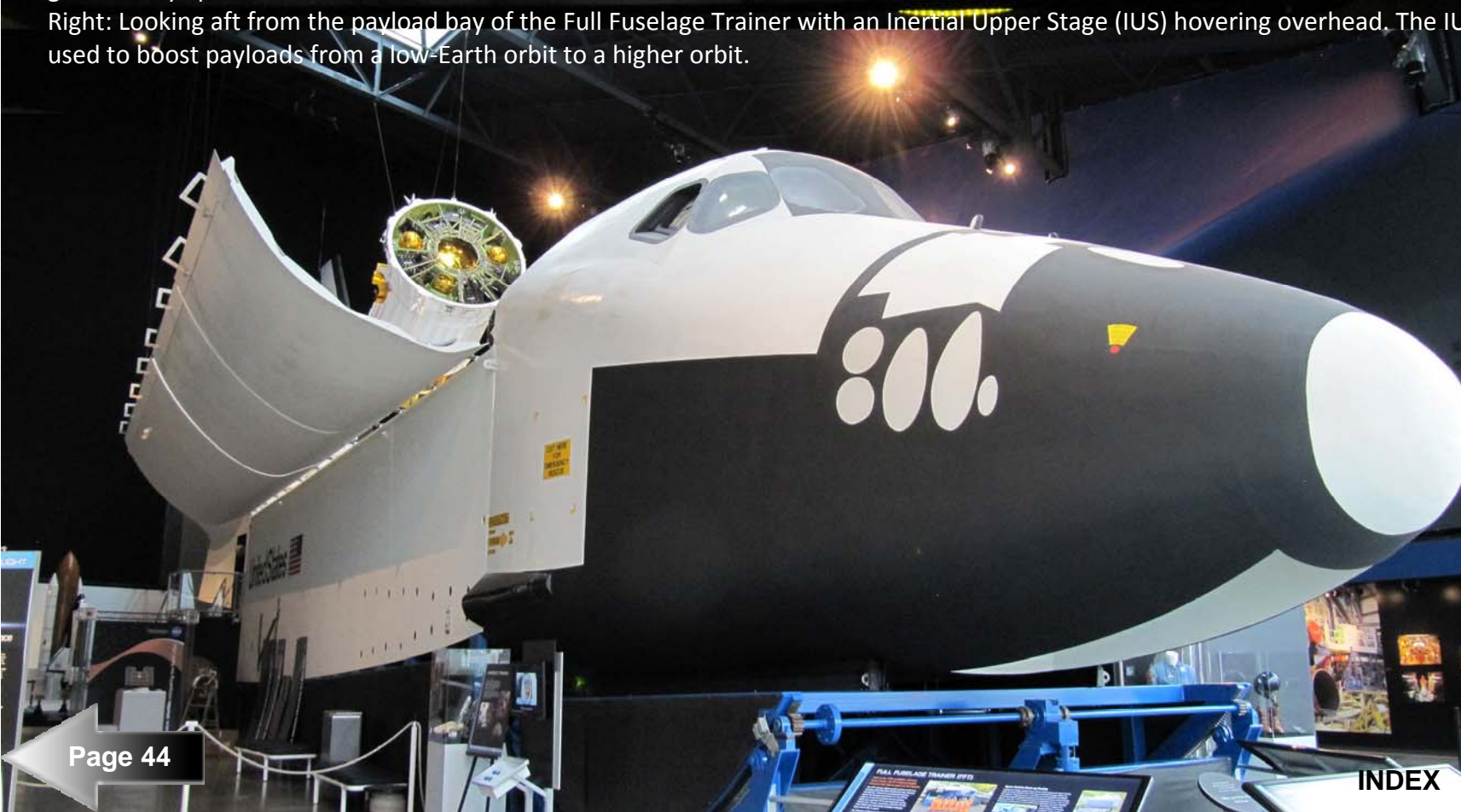
One must see this world-class collection for themselves to adequately appreciate the breadth of what this museum has to offer. General Admission \$18 (Children \$10). Open daily from 10am-5pm except Thanksgiving and Christmas. Shuttle Trainer Crew Compartment Tours (Saturday, Sunday and Holidays only) \$30 Adult, \$25 Child (Members are \$5 less) plus the cost of admission.







Above: The Boeing Lunar Roving Vehicle is an engineering mock-up of the actual lunar rover that was used on the Apollo missions. Below: The NASA Full Fuselage Trainer was donated to the museum by NASA at the conclusion of the 30-year Space Shuttle program. Every Space Shuttle astronaut trained in this simulator. Right: Looking aft from the payload bay of the Full Fuselage Trainer with an Inertial Upper Stage (IUS) hovering overhead. The IUS is used to boost payloads from a low-Earth orbit to a higher orbit.







# FINI FLIGHT

Article and photography by Norman A Graf



It has been a longstanding tradition in the military aviation community to celebrate a final flight. The pilot is met by family, colleagues and friends and is hosed down with water and doused with champagne.

ASR Media was privileged to be present at Major Henry Schantz's "Fini Flight" as demonstration pilot for the USAF Air Combat Command's F-22 Raptor Demo Team. After his last flight at the 2012 Aviation Nation Airshow at Nellis AFB, "Schadow" was met with a blast from a fire engine water hose manned by his wife, children and Team Superintendent Master Sergeant Ambrose "Bo" Brewer. He was furthermore subjected to a showering by his teammates with bottles of sparkling (non-alcoholic) wine. He was then congratulated by many of his friends and fellow air show participants including Ed Shipley, Steve Hinton and Dan Friedkin of "The Horsemen" and Kevin Eldridge who had flown the Heritage Flight with him just prior to the celebration.

I caught up with him after he had had a chance to catch his breath and dry off a bit. Even after having flown the F-22 for seven and a half years, he remains enthusiastic about the ability to show off the aircraft's capabilities. "Flying the Raptor in the demo has been AMAZ-ING!" Asked if the task of being on the road while performing at numerous air shows during the season had been difficult for his family, he responded "The great part is they've been to twelve air shows just this year. They're out there, they're supporting me, we're having a blast. They made this assignment the best."

His final fast pass after the Heritage Flight was dedicated to the Demo Team and in particular to Maintenance Chief TSgt Ryan "Roy" Rogers, who was leaving the team after three years. "Those guys that work on this aircraft are just top-notch. And to be able to say 'thank you' especially on Veteran's Day was a privilege. Veteran's Day: it doesn't get any better than that. It was an exceptional day to end. Nothing better to say on that one."

Where to next? Not even the "Schadow" knows. "Who knows? The big picture is to keep on flying the Raptor until the Air Force tells me something else to do and have a grand old time."

As this issue of the Magazine goes to press we have learned that Major Schantz participated at The Australian International Air Show in Avalon, please see our report on page 66. However, because of the sequestration the F-22 demo team was cancelled for the rest of the year, the show in Avalon was the one and only air show performance for 2013.



From l to r: TSgt Ryan Rogers, SSgt Steve Sanchez, Major Henry "Schadow" Schantz, SSgt John Lugo, SRA Stephen Czubak, and MSgt Ambrose Brewer.







# IS THIS THE END OF

Article and photography by Steve "Hornet" Bigg



?



B-52H 20 BS from Barksdale AFB, LA, taking off from Nellis with Las Vegas in the background.



I hope you enjoy these photos from Red Flag 13-2, held in late January/early February of this year, as they may be some of the last photos from a Red Flag exercise for a very long time. In fact, photos of American military aviation in general are going to become significantly more elusive, at least until the end of their current fiscal year. Why? At the time of this article's writing, the American military is faced with determining their course of action to achieve \$46 billion dollars of cuts that were triggered by sequestration on March 1<sup>st</sup>, 2013 and for air show fans, it's going to hurt.

One of the first and almost immediate casualties of the cutbacks, were North American air show fans. The United States Air Force announced that effective March 1<sup>st</sup> it will cease "all aviation support to the public" and specifically all Thunderbirds shows after April 1st. Presently the only allowable support of public shows is the presentation of aircraft on static display at their location. A day after the USAF announcement, the United States Navy announced that all Blue Angels shows in April have been cancelled. Additional Blue Angels cancellations are expected.

While there are many fantastic foreign military and civilian performers for air show management to try and fill the gaping holes left in their shows by the lack of military support, it won't matter much in many cases. Announcements of the cancellation of significant long running air shows operated at military bases like Luke AFB in Arizona and Langley AFB in Virginia, are signs that it's going to be tough for many air show fans to get their fix for the foreseeable future.

As air show fans deal with the disappointment, frustration and anger brought on by the cancellation of a Blue Angels or Thunderbirds performance at their local air show or in the worst case scenario, the complete cancellation of the show, they'll need to temper their emotions with the considerably more serious impact the dire American budgetary situation will have on military aviation.

While cutting public performances was an obvious cost saving measure it represents a very minor portion of the cuts that have been mandated. Presently Air Force leaders are struggling with deciding what measures to implement to make up the remainder of the budgetary shortfall. To do so will require measures so drastic that Air Force Chief of Staff General Mark A. Welsh III has said that by present Air Force definitions, the cuts will result in most USAF combat units being "completely non-mission-capable as a unit by July". A sobering thought.

An example of the cuts coming are USAF flying hours. The Air Forces flying budget of 1.2 million hours had to be reduced by 18% to meet the budget numbers for the current fiscal year. That may not seem drastic until you consider that the cut was put in place at a point when the Air Force has already flown roughly half of the budgeted hours. To meet the 18% reduction, flying hours will need to be slashed by 33% until the end of the fiscal year in September. Staff General Welsh's remarks don't seem so much like rhetoric in light of that kind of statistic. Another cost saving measure being considered is to furlough civilian airmen. The USAF employs over 180,000 of them and they are the majority and in some cases, the sole source of aircraft maintenance for air wings. Losing them will not only result in significant reductions in aircraft availability rates but could lead to the loss of their skills and experience as these airmen move on to other jobs to make ends meet during the crisis.

No stone is being left unturned to try and meet the necessary reductions in spending which have left even the combat proven training provided to both USAF units and foreign participants at Red Flag exercises locked in the sights of sequestration. While Red Flag 13-3 in February/March of 2013 has gone as planned, Acting Undersecretary of the Air Force Jamie M. Morin has said "future Red Flag exercises including one scheduled for July could be cut".

Typically Red Flag exercises are held multiple times each year at both Nellis AFB in Nevada and at Elmendorf AFB in Alaska. The USAF and USN rely heavily on these exercises to both validate that unit level training is effective at providing their people the skills they need to do their job and to provide large force combat experience that prepares them for the day they are called upon to enter a combat theatre and conduct missions with a coalition force. Not just American units would suffer with Red Flag cancellations. During its 38 year history Red Flag participation has benefited 28 countries from around the world and more than 440,000 military personnel have trained at Red Flag exercises.

Options to Red Flag do exist. Yearly Canada holds its Maple Flag exercise utilising the Cold Lake Air Weapons Range. The range features state of the art instrumentation and the world's largest unrestricted airspace for conducting air force exercises very similar to Red Flag and it also has many foreign air forces participants. But it would seem that beyond the foreseeable future, USAF or USN units won't be attending Maple Flag creating possible issues for the organizers. Typically, USAF Aggressor Squadrons provide the primary adversary threat at the exercise. Other aircraft are able to fill the red air role but if the specialised training and tactics of the aggressors are lost the level of training gained without them is undeniably reduced.

But the loss of Red Flag's level of training does not deprive just the exercise attendees of the potential experience a large joint force exercise provides. It has much further reaching and cascading effects. For example, while Sweden brought 8 of their JAS-39 Gripen jets to Red Flag 13-2, they brought a total of 112 people to experience the deployment to a foreign location and operations as part of a multi force combat environment. You can bet that they won't allow their investment in participating in Red Flag to only benefit those who were able to attend the event. Each of the personnel on their deployed team, from logistics, to intel, to pilots and maintainers, will all take their lessons learned at Red Flag back to Sweden and into their units there to see the benefit of the exercise have a beneficial impact throughout their forces. This "all boats rise with the tide" effect holds true for both foreign and domestic participants at Red Flag meaning the effect of its cancellation can be very far reaching.

Time will tell just exactly what additional measures are implemented to grapple with the fiscal crisis the US military is dealing with. But when heavily reduced flying hours and the cancellation of training like that found at Red Flag are a reality, it should take away some of the sting felt by air show fans and leave us all more concerned about the bigger impact managing the US budget will have on the ability of the USAF, USN and other countries that utilise the exercise to do their primary job.

Thank you to the United States Air Force for permission to attend Red Flag 13-2, Col. Tod Fingal, Commander of 414<sup>th</sup> Combat Training Squadron "Red Flag" for his briefing and A1C Young, Nellis AFB Public Affairs for his assistance in arranging the visit to capture these images at Red Flag.



KC-135 from the 22nd Air Refueling Wing, McConnell AFB, Kansas, about to land at Nellis.





F-16C of the 57th Wing, 64th Aggressor Squadron above and F-15C of the 57th Wing 65th Aggressor Squadron, Nellis AFB, Nevada, below.



F/A-18E VFA-25 from NAS Lemoore, California, above.







HC-130P from the 23rd Wing, 71st Rescue Squadron, Moody AFB, Georgia, above.  
F-16C from the 52nd Fighter Wing, 480th Fighter Squadron, Spangdahlem AFB, Germany, below.



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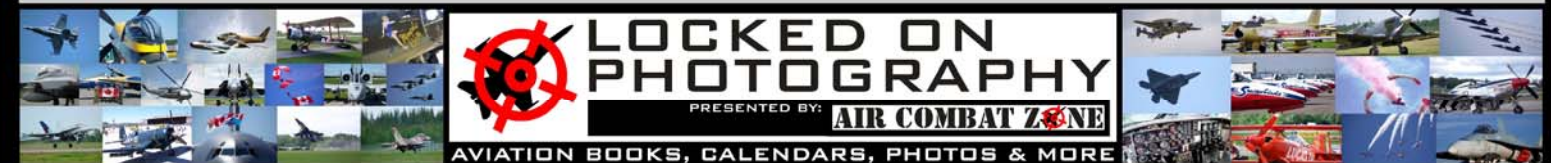


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# WWII Heavy Iron Visits

Report and photography by Aaron Rumfallo



## PHX-Mesa Gateway Airport



Mesa, Arizona USA: Phoenix-Mesa Gateway Airport (formerly Williams Air Force Base) in Mesa, Arizona USA has got to be one of the greatest airports in North America for spotting. The diversity of aircraft that can be seen on almost any given day is pretty amazing. Include a visit from the Commemorative Air Force (CAF) AirPower History tour and you've got a great weekend to re-live aviation history while also enjoying the diverse sights and sounds of modern day aviation.

The CAF AirPower Tour stop at Gateway Airport included the only flying B-29 Superfortress in the world "FIFI" and the C-45 Expediter "Bucket of Bolts." The beautifully painted P-51D Mustang "Man O War" a T-6 Texan/ SNJ and local birds belonging to the Arizona Wing of the CAF, B-17G Flying Fortress "Sentimental Journey" and the recently restored (2009) B-25J Mitchell "Maid in the Shade." All could be seen flying throughout the weekend. For \$10 per adult, kids 10 and under free, the public had access to all the aircraft to touch and experience first hand. The walk through tours of the bombers had long lines all weekend as their size proved to be most impressive.



Throughout the day the opportunity to witness an aircraft firing up to take paying passengers for rides around the Phoenix area valley, certainly drew more attention to the event. One of the most interesting experiences was listening to vets that actually trained and/or flew real WWII missions tell their stories standing in front of the aircraft types they flew in. Many great memories were shared, including a story about the devastating Tokyo incendiary fire raids that were ordered by General Curtis LeMay during WWII. The CAF does a great job keeping these vets stories alive as we're sadly losing our vets from "the greatest generation".



B-17G Flying Fortress "Sentimental Journey" above.

There were many other great aircraft that flew in and out during the CAF's tour visit. A short list of aircraft include: AV-8 Harrier II's from the famed Marine Attack Squadron 214 (VMA-214) Blacksheep, US Navy C-2's, US Navy F-18E/F Superhornet's, and a surprise visit from a rare US Navy F-5E.

B-25J Mitchell "Maid in the Shade" below.

I'd like to thank the CAF and Debbie King/CAF B-29 pilot, Matt Nebgen/Gateway Aviation Services FBO Manager and Rich Finley/Shift Ramp Manager for all their assistance over the weekend.







- A pair of US Navy C-2's above and below.
- The C-45 Expeditor "Bucket of Bolts" top right.
- A T-6 Texan/SNJ bottom right.







- US Navy F-5E with Aggressor Squadron markings, above.
- P-51D Mustang “Man O War” top right.
- T-45C Goshawk, below left.
- AV-8 Harrier II from the famed Marine Attack Squadron 214 (VMA-214) Blacksheep, below right.







The 11th Biennial Australian International Air Show took place between February 26 and March 3 at Avalon airport near Geelong, Victoria. Trade days were from Tuesday through Friday midday, while Friday afternoon, Saturday and Sunday were the public days. The flying display on the first day of the show was shortened and postponed for later in the day due to poor weather conditions. Ceiling was low for most of the day with intermittent rain. Rain was a constant threat during the trade days, but fortunately it was not the case on the public days where the sun eventually graced the blue Victorian skies.

Avalon is one of the biggest aviation trade shows in the Asia-Pacific area. Costing \$18 million, it generates about \$20 million for the local economy and an estimated \$120 million for the state of Victoria. It hosted close to 600 exhibitors from 21 countries, with the attendance from Air Force leaders from 25 countries and 75 senior military and commercial delegations. The show again highlighted the close ties Australia and the United States continue to have. On display were Australia's latest acquisitions to the Australian Defence Forces: a C-17 Globemaster III from the 36 Squadron, 86 Wing based at Amberley Queensland, a 737 AEW&C Wedgetail from 42 Wing, 2 Squadron from Williamstown NSW and F/A-18F Super Hornets from 6 Squadron, 82 Wing also from Amberley.

The Royal Australian Air Force also had on display a KC-30A MRTT of 33 Squadron, 86 Wing out of Amberley, two F/A-18 (HUG) from 77 Squadron, 81 Wing and Hawk Mk. 127 from 76 Squadron, 78 Wing from Williamstown and a AP-3C Orion from 10 Squadron, 92 Wing from Edinburgh SA. Reflecting current budget constraints, the Royal Australian Navy brought along only two assets to the show: an S-70B2 Seahawk and an MRH-90, unfortunately both were on static display only. The Australian Army did not have any presence at all in this year's show!

Although the United States Air Force is facing draconian budget cuts, having to cancel several air shows in 2013, it was able to keep its commitment with its usual large presence at the show. Among the USAF aircraft on display were: a C-17 from Hickam Air Force Base in Hawaii, a B-52H 2nd Bomb Wing from Barksdale Louisiana, F-16C from Misawa, Japan and a KC-135 from Kadena Japan.

Other countries that participated in the military static display were France with a CASA CN-235 Light Tactical Transport and Singapore with two PC-21 Advanced Trainers and two Eurocopter Super Puma helicopters. Japan's KC-767 and New Zealand's B757 were present during some of the trade days.

The highlight of the military flying display was the F-22 Raptor. The first time the Raptor came to Avalon was in 2011 and it did not fly. This time it was back and Major Henry 'Shadow' Schantz put the F-22 through its paces.

Although Shadow had a farewell ceremony after his last flight as the pilot for the F-22 Demo team in November 2012 at the conclusion of Aviation Nation air show at Nellis Air Force Base in Nevada he was in command of the Raptor in the skies over Avalon. During the Avalon Air Show we learned that this may be the last air show performance by the F-22 Demo team this year, since all scheduled appearances for 2013 have been cancelled.

As part of the military flying display the USAF C-17 flew as well as the, RAAF C-17, AP-3C, Hawk Mk. 127, F/A-18F and C-130J. The RAAF Super Hornets also demonstrated their air to ground role with simulated bombing and strafing runs, the clever use of pyrotechnics making their strikes very realistic and loud.

The highlight of the civilian acts was the Tinstix of Dynamite duo with Skip Stewart flying his Pitts Special and Melissa Pemberton flying the Edge 540 performing opposition aerobatics with pyro explosions and wall of fire provided by Richs Incredible Pyro. Skip later performed solo while Melissa also performed a solo display with her husband Rex Pemberton. Rex jumped out of a Mahindra Aerospace Airvan with his wing suit and for several minutes "flew" while Melissa flew circles around him.

Also from the United States was Otto, the Helicopter, a Schweizer 300 flown by Roger Buis to the delight of old and young in the audience. Bob Carlton flew the Super Salto Jet Glider. From Australia there was the Super Stinker, a Pitts flown by Chris Sperou and Matt Hall flying his MXS-R. From England, Mark Jeffreys flew the Extra 330LX and the Breitling Wingwalkers team flew the Boeing Stearman. During a trade day display one of the Stearman had a mechanical problem and it was grounded for the rest of the show. The team had to perform with only one aircraft for the rest of the air show weekend.

In the air, warbirds were well represented by flying displays by a Gloster Meteor F8, CA-27 Sabre, PBY Catalina, Lockheed Hudson, CAC Boomerang, P-40 Kittyhawk, CAC Winjeel, CT4 Trainer, Spitfire VII, DHC-4 Caribou, DC-3, DH-82, DH Drover. On the ground there was the CAC Mk 20/21 Canberra and Soko G-2 Galeb. The highlight was the Historical Aircraft Restoration Society's L-1049 Super Constellation.

The Royal Australian Air Force Display Team, the Roulettes performed with their PC-9/A's on Saturday and Sunday.

The Friday Night Alight Show had great performances by Otto the helicopter and Super Salto jet glider with Lockheed Constellation flybys and C-130J Hercules flare drop. The evening ended with fireworks.

An estimated 180,000 came to see the air show. Avalon again was a great venue for the public to see the newest and the old of Australian hardware and an opportunity to see the Raptor and many fantastic civilian performances. The flying display was non-stop during the public days. Mornings are better for photography, afternoons you are against the sun. Thankfully the media center was able to once again get some media photographers to the other side of the runway where the light in the afternoon is much better for photography.

ASR Media would like to thank Peta Richards and Laureen Deale for all their assistance during and prior to the air show.



The Royal Australian Air Force Hawk top; Lockheed 12 left and Lockheed Hudson A-28 right in the center; Gloster Meteor F8 left bottom.











Skip Stewart

Melissa Pemberton

'Tinstix of Dynamite' display team

Melissa Pemberton



Lockheed L-1049G Super Constellation





RAAF C-130J Hercules flare drop on Friday night.  
Photo courtesy of Rob Hynes





- CAC-27 Sabre, above.
- CAC-13 Boomerang, below.





# *The Magazine*

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As close as you can get without being at an air show!



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