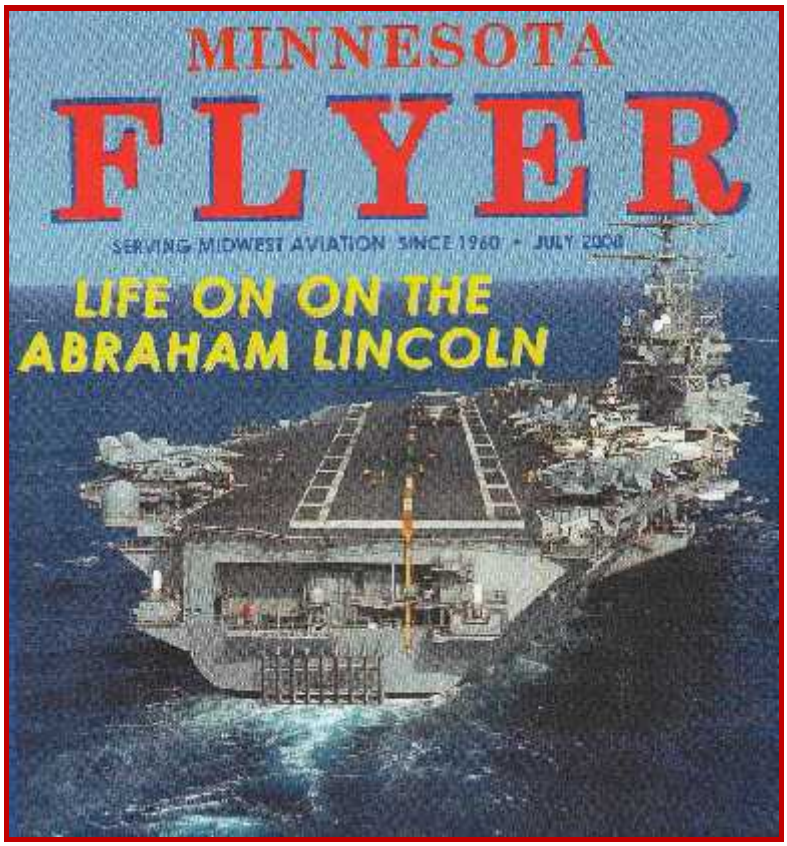

See below for the story of being on the ABRAHAM LINCOLN for a couple of days back in January of 2008.

I made the claim then and will tell you now “I no longer have a bucket list.” It took me about three weeks stopping everyone I ran into telling them how much fun it was to be on an air craft carrier – and about that long before I could hear again.

Will promise you seeing those shooters come in and land when standing about 60 off to the side is a thrill like no other – and we got to see them do the same thing at night – with the moon shinning!

It just does me good to go back and read this article by Jim Hanson as he took the pains to jot down and remember the details while the rest of us spent our time gawking at all the jets and watching all the multi-colored shirts on the flight deck crews.

What a trip!

My hat again goes to Jeff Andres, the publisher of the Minnesota FLYER, for letting me place this article on my Web site.

Hope you enjoy LIFE ON THE ABRAHAM LINCOLN!

Aircraft Carrier

People, planes, plans, policy, position, power and projection

Editor's note: What is it like to land and take off from an aircraft carrier? Jim Hanson wanted to know. This is the first part of a series on Jim Hanson's experience on the Abraham Lincoln. He has also put up the story, photos and video of the experience up on the Internet. This can be found at www.mnflyeronline.com.

By Jim Hanson

I didn't enjoy my own military career. I tried to enlist as a helicopter pilot in 1966, but was rejected because of nearsightedness. It was probably providential, being a helicopter pilot in the years of the Vietnam War was dangerous duty. My response to rejection by the military because of eyesight led to my resolve to obtain the ratings for a civilian career.

I waited for the draft — and ended up as a combat medic — perhaps *worse* than being a helicopter pilot. Fate again intervened, however, and because I had a Flight Instructor rating before I went in, my contribution to the war effort was running a military flying club. Still, I resented the years taken out of my life (United Airlines was hiring Private Pilots out of Mankato State University, and I was stuck in the military). I detested the Army policies — the strictures of the military, and the useless and demeaning "make-work" of the era. It is a view of the military that millions of people have shared.

Fast-forward 30 years. The first intimation that times had changed was on a visit to Pearl Harbor to visit the Submarine base. A much more professional atmosphere prevailed there — a place where work was to be done, expectations were high, and people were allowed to do their job — within the limitations of the system. It was more like the discipline of a well-run football team than my negative military experience.

The biggest change was apparent when our hosts told us that we would be eating at the enlisted personnel mess hall instead of the Officers Mess. The reason? They proudly displayed an award for "Best chow in the Navy" — and the award was not misplaced. Instead of "put it in your mouth and chew it outside" of the Army — the Navy had a buffet line — or a choice of cooked-to-order Mongolian Barbeque (stir fry). What a difference! I noticed that especially in submarines, people treated each other as fellow professionals. I resolved to check these changes out!

Most of the non-pilots I have talked to about this adventure ask "Why?" That's not a question most readers of this magazine would ask — most would jump at the chance. Why be a Naval Aviator? Because if you are a carrier-qualified Naval Aviator, NOBODY will ever question your ever having had good piloting skills or whether you possessed "the Right Stuff." What pilot has not wondered if they could land on an aircraft carrier? Most of us have mentally marked out a 400' area on the runway, and tried to see if we could land in that area.

With the benefit of a 30 knot wind, many of us found we could — but we would need some help on the ensuing takeoff. Most of us have practiced spot landings — and it wouldn't be hard to imagine grabbing the imaginary number 3 wire — but most of us would always ask *"What is it REALLY like?"* In 2000, I resolved to try to find out for myself. My contacts in the Submarine service pointed me to the training center in Corpus Christi, TX. After many inquiries, the Public Affairs Office (PAO) responded that they DID have a "VIP" program for qualified personnel. The program was designed to publicize the importance of the Navy Flight Operations — and to increase public awareness for the flight program. I set about typing up a resume and garnering the requisite letters of recommendation from every Navy Admiral or political bigwig I could think of. The Navy responded that I would be flown out to an aircraft carrier on a helicopter. My response "I FLY helicopters, and I've landed one on a barge at sea — it's no big deal.

Abraham Lincoln.
Photo courtesy of U.S. Navy

I'd like a "trap" (arrested landing) and a "cat shot" (catapult takeoff) in a fixed-wing airplane. The PAO agreed, and suggested they might even get me a window seat on an Intruder.

One of the things you learn in the military is to keep your file active, and I updated it monthly. I went through a lot of PAO's at the Training Center — they seemed to be assigned there for a few months, then move on. My paperwork was lost several times, and I reapplied. Sept. 11, 2001 caused a moratorium on "VIP" tours for 3 1/2 years, but I regularly updated my files. In 2006, with no apparent movement on my application, a Navy contact suggested I apply through Public Affairs in New Jersey. The PAO told me that "VIP" Civilian Orientation Cruises were hard to come by, but after reviewing my file, saw that I had written some pieces for the *Minnesota Flyer* magazine. They asked for samples of my work, and suggested that I reapply as a journalist. They said my request would be granted "imminently" — to no avail. I continued to contact them regularly — but also applied through Norfolk.

By chance, on Oct. 26, 2007, our Minnesota Senator, Norm Coleman, and our U.S. Representative Tim Walz were to be in Albert Lea — for different missions. I copied my voluminous files, wrote a cover letter, attended their speeches, presented my files to their aides, and asked them to put it on the desk of someone in the Navy that could make this happen. A month later, Sen. Coleman's office called to see

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EXACTLY what I wanted to do —and I told them. After a security check, I received a telephone call from Navy PAO Lt. Commander Liz Meydenbauer in San Diego, informing me that I was approved for a flight out on January 24! After 8 years, it was finally happening!

LCDR Meydenbauer not only gave me some of the best news I've received in a decade, but did everything possible to make sure I got the story. She asked if I would be interested in coming early, to watch the carrier *Nimitz* get underway for its own cruise — a chance to watch the proceedings, get some outside shots of the carrier, and watch Navy families say goodbye for a months-long deployment. She also put me in touch with the PAO of "my" carrier--the *Abraham Lincoln* — to see what special needs or interviews I would like. Lt. Karin Burzynski would be my contact person aboard the ship. We discussed the upcoming article — I told her that the magazine was read by Upper Midwest pilots — that these pilots naturally were most interested in the flight operations off the ship, and the careers of the Air Wing personnel aboard.

I showed up at the front gate of the Naval Air Station San Diego, and was met by MC2 (sw/aw) Chris Fahey—Staff Mass Communication Specialist. Also in his charge was the other "Distinguished Visitor" to visit *Abraham Lincoln* on this cruise, Dr. Gary Heartsill. Chris took us to watch the Nimitz getting ready to get under way. I got the required shots of the class leader carrier to *Abraham Lincoln*.

At 1092' long and 97,000 tons (see sidebar on Page 8) these things are BIG! The lines were singled up, the tugs worked into position. I noticed sailors manning the .50 calibre machine guns on the deck. The reality of their mission was immediately brought home to me--this was a **warship**, headed out on a mission, and they were taking no chances of small-boat attacks. Though a light rain began to fall, in time-honored Navy tradition, the crew "manned the rails"—took up positions around the edge of the deck. This was not only ceremony, but several thousand eyes were looking for anything out of place. As the ship got underway, the families surged forward on the pier, waving at their departing sailors. A poignant moment of separation.

Chris got us back in the Navy van, and took us the short distance to the airfield, where we were to receive our briefing on our flight out to the ship aboard a Grumman C-2 Greyhound. The

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The Abraham Lincoln is a Nimitz-class carrier. Jim was able to watch the Nimitz getting underway for its own deployment.

The crew of the Nimitz follows the centuries-old tradition of "manning the rail" after seeing off their families at the start of their deployment.

Even though in a friendly port, these warships take no chances on terrorism. Abraham Lincoln has 10 .50 calibre machine guns--armed and ready against terrorist attacks while entering or leaving port.

The Carrier Onboard Delivery (COD) aircraft shuttles people, supplies, and mail to and from the carrier at sea, resulting in a higher state of readiness for the Battle Group and a better life for sailors at sea.

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briefing was conducted by Lt. Olena Krawciw of squadron VRC-30, known as the "Providers." She said that she had initially hoped to get jets, but the luck of the draw put her in Transports — and that it had worked out for the best.

Unlike some of her classmates, she spends shorter deployments, more "home" time, and gets more "traps" and flight hours. She explained the mission of the C-2 — an aircraft design now 40 years old, but still serving faithfully. She told us what to expect on the trip — that it would be about one hour long, and explained the general workings of the Greyhound. It delivers personnel (up to 28), cargo, spare parts, mail, food — anything required aboard not only the carrier, but by the strike group (on arrival at the carrier, helicopters can shuttle critically needed equipment and personnel

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Ship's statistics

Abraham Lincoln boasts all the amenities found in any American city with a comparable population. These include a post office (with its own ZIP code), TV and radio stations, newspaper, fire department, library, hospital, general store, barbershops, and more.

The ship has enough electrical generating power to supply electricity to 100,000 homes, food and supplies to operate for 90 days, and the capability of distilling more than 400,000 gallons of fresh water from the sea each day. Keeping the ship ready at all times is critical. This requires repair shops to maintain machinery and aircraft, heavy duty tailor shops to repair parachutes and other survival gear, and electronic shops to keep communication, navigation, and avionics equipment up and running.

Of course, there are a few things that are unusual for a city of 5,000 people. For example, *Abraham Lincoln* is a floating airport, capable of launching as many as four aircraft every minute. In fact, the ship hosts seven different types of aircraft which perform a variety of missions.

When deployed, Abraham Lincoln is the nucleus of a carrier battle group which includes guided missile cruisers, destroyers, frigates, replenishment ships, and submarines.

Keel laid	Nov. 3, 1984
Christening	Feb. 13, 1988
Commissioning	Nov. 11, 1989
Complement with air wing	Nearly 5,500
Length	1,092 feet
Maximum speed	In excess of 30 knots
Height, keel to mast	206 feet, 6 inches
Breadth at flight deck	257 feet, 5 inches
Flight deck area	Approximately 4.5 acres
Displacement	97,500 tons
Spaces and compartments	Approximately 3,200
Propulsion	Two nuclear power plants
Main engines	Four
Propellers	Four, five blades each, 21 feet high, 11 tons apiece
Rudders	Two, 29-by-22 feet, 45.5 tons apiece
Anchors	Two, 30 tons apiece
Anchor chains	1,082 feet, 366,000 pounds
Shipboard telephones	More than 1,900
Aircraft elevators	Four
Catapults	Four
Evaporators	Four (capable of distilling more than 400,000 gallons of fresh water per day, enough for 200 homes)
Air conditioning capacity	2,530 tons (enough to serve 800 homes)
Meals prepared daily	More than 20,000
Bread baked daily	600-800 loaves
Sodas consumed daily	13,000
Milk consumed daily	600 gallons
Hamburgers consumed daily	620 pounds
Eggs consumed daily	180 dozen
Vegetables consumed daily	800 pounds
Fruit consumed daily	900 pounds
Laundry cleaned daily	5,550 pounds
Haircuts given daily	250

Data from Abraham Lincoln website http://www.cvn72.navy.mil/

Military pay has started catching up to civilian pay — and there are a number of non-pay benefits in the military. Consult this table for military pay

http://www.dfas.mil/militarypay/militarypaytables/2008MilitaryPayCharts06.pdf

An O-5 with 18 years in service, flight pay, sea pay, quarters allowance makes about as much as a civilian airline pilot under today's contracts — and doesn't have to worry about being furloughed. There are a number of bonuses, retention incentives, etc. as well — plus medical, health, and retirement. Know someone interested in Naval Aviation as a career? Contact Navy Recruiting at 800-247-0507.

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to the smaller ships).

She also answered questions about the aircraft. It is powered by 2 T-56 turboprops of 5000 horsepower apiece. It is pressurized, and cruises at an average of 250 knots, with an 800 mile range, or 400 mile radius of action. At 60,000 pounds max. takeoff weight, it is one of the heavier aircraft operated off the carrier. I asked about fuel load — whether they tried to land with minimal fuel to reduce landing weight and distance.

"No," she replied, "We don't operate these things for profit. We are assigned a landing time on the ship — everything is carefully choreographed — we HAVE to be over the ship at our appointed time. If something goes wrong, we have to have alternatives — lacking airborne refueling capability, we would have to go back to shore, or be able to loiter for another arrival slot. We pretty much fill the aircraft to 10,000 pounds of fuel (it holds 12,000 pounds) so we have those options — even if it means we have to dump fuel to get down to landing weight."

Considering that there is no place else to go, I concur with her thinking! Being a multi-engine pilot, I asked about operating a heavy multi-engine airplane with powerful engines at speeds close to Minimum Single-Engine Control speed. She said that "The aircraft has a VMC-Ground of only 74 knots. On takeoff from the ship, we are accelerated to 123 knots — when that catapult fires, we're going flying — *two* engines, *one* engine (or by implication, NO engines)." I asked if they flew airspeed or Angle of Attack on final approach — the approach is made strictly by AOA — but that speed worked out to "about 110 knots." There is no "glass cockpit," no autothrottles — this is a hand-flown machine. Navigation is by inertial nav and GPS — approaches to the ship are by ACS (Localizer) or ACLS (equivalent to an ILS).

We were taken to another room, where we were fitted with "float coats" (life preservers). I noticed they were manufactured by Stearns — a Minnesota company. The "float coats" had CO2 inflation handles, emergency strobes, and an appendage at the bottom which held a pen flare, survival whistle, and a combination green sea dye and shark repellant. We were outfitted with "crania" — kind of a two-piece helmet, incorporating hearing protection, as well as eye goggles. This ride was NOT going to be like flying the airlines!

While suiting up, we met some of our fellow passengers. One of the most interesting was Force Command Master Chief Abeyta, the senior enlisted man in the Pacific. He told us "For me, the one thing I write my name on is that leadership is about presence, and I can't do that from behind a desk in North Island. I actually get more bang for the buck to catch the carriers at sea, because when you're pier-side, people are doing other stuff--so this is better for me to fly out to the ships." When asked about his mission while aboard, he said "It's a two-way exchange of information, I bring out information that I know from bigger Navy and this is the sailor's opportunity to give me feedback on how we can make it better--or what we are doing right in the Navy."

Two of the many people that went out of their way to get this story. Commander Downing (L) and Lt. Hilton (R) flank the author.

Here's a view of one of our C-2 CODs coming aboard.

I remarked on the change in the military since I was in, and asked what policies had survived. "This is my WILL book," he said, pointing to his notebook. "This is what we WILL get done." Left unsaid, I'm sure, was the other meaning of will — as in last will and testament. The man was instantly likeable, and there is no doubt as to why he had risen through the ranks to become the rank-

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ing enlisted man in the Pacific Fleet. This was a hands-on link between the "brass" and the enlisted personnel — not a desk-bound administrator.

The aircraft arrived, and we filed out to it with the engines running — we had a date to board the carrier! We stepped up onto the ramp and duck-walked into the cramped interior. I settled into one of the aft-facing seats and buckled into the 4-point harness. There were only two tiny windows in the aircraft — but I got one of them. Emergency ditching procedures and escape routes were explained, and you can be sure we all paid attention. As we were getting ready to go, they announced a delay — one of the engine gauges had quit, and we couldn't dispatch without it. Would we be held up on our carrier visit? The engines continued to run, and the part was installed in only a few minutes. We were on our way!

There really isn't much to tell about our flight out to the Abraham Lincoln aboard the C-2 (Carrier Onboard Delivery, or COD). Our altitude was 6000 feet, and we were pressurized. The interior of the aircraft was dark and noisy — too noisy to have a conversation. Some sort of fluid leaked on me — we had been warned about it (*"Hey, the good news is that means there is liquid in the lines!"*) I saw naval and civilian ships on the way out — but none identifiable as our carrier. About 50 minutes after takeoff, I noticed we had started a hold — recall, we had an arrival slot time.

After holding for about 12 minutes, I felt the cabin depressurize. We were told to make sure our belts were tight. A few minutes later, the **"GET READY!"** command was given, followed by **"HERE WE GO!"** I could tell that we were within a couple of hundred feet of the water — but remember, the flight deck is about 100 feet (10 stories) above sea level. The landing was hard — but no harder than a really "dropped in" student landing from 15 feet. It was the *deceleration* that grabbed my attention — and my breathing! The angle deck on the carrier is only 445 feet long, and depending which wire we caught, we would be using only a couple of hundred feet of it to come to a halt. The engines went to full power—in the event we didn't catch an arresting wire, we would be off again for another try. The feeling was like being tackled in football — jarring, but didn't hurt. The difference was — the feeling went on for several seconds — perhaps akin to having *more* big football players piling on. I don't know how many "G's" the deceleration is, but I felt incredibly light when it stopped!

A sense of proportion--the hangar bay is 25' high, and the ceiling is about 10 feet below the flight deck. These 4 elevators can lift 150,000 pounds in seconds.

CONTINUED NEXT MONTH

Jim Hanson is the long-time airport operator at Albert Lea, MN. While he might have delusions of himself as a "Top Gun" character, he is no Tom Cruise look-alike. He can be reached for questions and comments at jimhanson@deskmedia.com or at his office at 507-373-0608.

Over $5 million for airports

Senator Norm Coleman announced last month that 20 airports in Greater Minnesota have been selected to receive $5,268,729 in grant funding from U.S. Department of Transportation's Federal Aviation Administration (FAA). These funds will distributed to local airports statewide in order to implement significant airport improvement projects, including safety upgrades, runway expansions and hangar construction.

"The importance of airports to local communities throughout the state cannot be overemphasized," Coleman said. "These facilities are increasingly integral to the economic well-being and competitiveness of cities big and small. That makes it all the more important to continue upgrading and expanding local and regional airports. The FAA's grant funding plays a key role in making certain these airports continue to improve their facilities and offer the necessary services going forward."

* $1,265,373 for Glenwood Airport to conduct an airport master plan, construct an access road and parking lot
* $323,006 for Winona Municipal-Max Conrad Field to conduct environmental study and remove obstructions
* $180,209 for Paynesville Airport for hangar construction (Phase One)
* $47,500 for Park Rapids Municipal-Konshok Field to conduct an environmental study and pave and light runway
* $182,323 for Cook Airport to acquire snow removal equipment and conduct airport master plan study
* $222,481 for Two Harbors Airport for site preparation and construction of hangar
* $150,000 for Winsted Airport to conduct airport mater plan study and install MAVAIDS
* $139,750 for Cambridge Airport to install NAVAIDS and rehabilitate access road
* $169,740 for Aitkin Airport to expand apron and improve access road to hangar
* $133,006 for Moose Lake Carlton County Airport to acquire snow removal equipment and update airport master plan study
* $219,450 for Lake Elmo Airport to rehabilitate apron and taxiway
* $270,934 for Longville Airport to construct access road and taxiway
* $384,293 for Little Falls/Morrison County-Lindbergh Field to expand and rehabilitate apron and rehabilitate runway
* $ 742,445 International Falls Airport to acquire land for approaches and acquire snow removal equipment
* $151,810 for Tower Airport to acquire snow removal equipment and conduct user study
* $332,500 for Princeton Airport to acquire land for development, construct taxiway, and install airfield guidance sign
* $76,000 for Rush City Airport for runway construction
* $136,989 for Pine River Airport for runway construction
* $40,375 for Silver Bay Airport for design work
* $100,545 for Roseau Municipal/Rudy Billberg Field to improve airport drainage.

Aircraft Carrier

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By Jim Hanson

The wings immediately started to fold, and the crew applied high power to move the aircraft to the side of the deck and out of the way. We deplaned from the back ramp, and went below to the Air Transport Office to turn in our crumials and float coats. A short distance away was the Public Affairs Office, where we met Lt. Karin Burzynski — our PAO contact aboard ship. Since there would be a delay in getting our luggage off the aircraft, she suggested we grab lunch.

I'm known for rarely missing a meal, so we followed her below to the Officers Mess. Like a cruise ship, we were required to sanitize our hands before entering. Even though everything was shiny and clean, you must take every precaution to prevent disease when you have over 5,000 people crowded into such a small space. The meals were served buffet style, the variety was excellent.

I did notice nutritional information was posted at each selection — calories, fat, carbohydrates. In addition to fried and prepared foods, I noticed a variety of salads and fresh fruits—avocados, fresh pineapple, fresh mangoes. There was a wide variety of hot and cold drinks—soft drinks, coffee and tea, the ever-present Navy "bug juice" (their version of Kool-Aid) — and the soft-serve ice cream machine — a Navy tradition. Officers (but not enlisted personnel) are charged for their meals — we would be presented a bill at the end of our stay. Since this was a pre-deployment training cruise, I also noticed several civilians eating there. I was told that they were handling technical issues, and would not be deployed.

I asked how the enlisted Mess was different — one of the pilots sitting with us mentioned (almost wistfully) "They work hard. You go down there, and they get big steaks and pork chops." We were invited to check it out for ourselves — and his observation was correct. Submarine forces traditionally have the best chow in the Armed Services — but since they are not usually replenished at sea, they couldn't offer the variety seen here The ability of the COD and underway replenishment ships to bring fresh stores makes a huge difference in the quality of life aboard. I will say, though, that the submarine services, with a ratio of about 7 cooks for 150 men, allows more cooking to individual tastes. I asked if this bill of fare was typical — the answer was "Yes — but I've been on ships where the food was even better—it depends on the people running the Mess, and the requirements of the mission!" Another big change in the military.

During lunch, I was again asked what things I specifically wanted to see. While I wanted to see areas specific to the Air Wing — I also was interested in the areas specific to the ship —especially the engineering spaces — the machinery that makes the ship work. We were told that the areas that would be off-limits were the reactors (naturally), and the Anti-Submarine Warfare and the Intelligence areas.

Dr. Heartsill wanted to look up CMD. Downing —who had been taking Worldwide Online courses via the Internet from him. It turned out that the reticent Dr. Heartsill was not an MD — I gradually learned he as a professor at prestigious Embry-Riddle Aeronautical University—a retired Braniff pilot, a Learjet instructor for SimuFlite, a Korean-era F-100 Super Sabre pilot, and an Okie that has become an honorary Texan (with all rights that term implies when it comes to telling jokes, stories, and anecdotes). Meeting him was not only a delight — but his connection with CMD. Downing gave us an even BETTER understanding and access to the workings of the Air Wing and the *Abraham Lincoln*.

One of the few places on the ship with a view of the outside world--when the elevators are down, light floods the hangar deck.

Some of the toughest people on the ship—these guys carry securing chains, and can secure an airplane in seconds.

We started our tour in the Hangar Deck. This area measures over 650 feet long, approximately 100 feet wide, and is 25 feet high — you could play two football games in there! Aircraft are brought below from the flight deck by 4 huge elevators located on the sides of the flight deck — each capable of bringing below two 65,000 pound aircraft in a matter of seconds. When these elevators are in position, it also provides one of the few opportunities for natural daylight and direct ventilation below decks—which seems unusual in a ship dedicated to aviation activity. Aircraft are stored, maintained, and armed in this area.

All of the aircraft in the Air Wing cannot be stored below — but a great majority of them can. The area can be split into 3 bays for different functions or for fire control. Deluge sprinklers and water cannon also protect the area, and each bay has a fire control team manning a small booth at all

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times. Because of the constant pitch and roll of the ship, EVERYTHING must be secured — aircraft are chained down with 12 chains, tugs, spares, equipment—everything must be secured. Aircraft are parked within 6" of each other — you can imagine the problems of bringing aircraft from and restacking the hangar deck — not only moving the aircraft, but having to re-chain them. The deck crews — carrying the weight of chains, do this in seconds. I see a related future for them in civilian life as crewmembers in the pits with racing teams.

At the end of the hangar deck are the specialty shops. I wanted to see how the Navy handled repairs of equipment and avionics while at sea. The shops are much like you would see at any corporate or airline jet facility — generator shops, airframe repair. Several technicians were making repairs to the new 8-bladed composite propellers for the E-2 "Mini-AWACS" command and control aircraft. The avionics shops were split by function — the technician referred to one of them as the "legacy" shop, where they repaired the "old" equipment--equipment most of us are still flying today — but you have to remember that the Navy may get 50 years out of an airplane. Other shops service the glass panels of the newer equipment — an interesting aside—the glass panels are not in color, they are "green" — compatible with night vision. The shops also get to work on things that you don't find at your average civilian shops — Forward Looking Infrared Radar (FLIR) and targeting information. Equipment can be repaired on site or sent in for depot maintenance. Limited spares are carried, or required equipment can be ordered up on the next flight of that hard-working COD.

At the other end of the hangar deck is the fantail of the ship. Because of the possibility of ramp strikes (collision with the aft end of the ship) personnel cannot be there while air ops are being conducted — but it is a great view of the ocean when they are not.

Karin took us up to the Air Operations office to meet Dr. Heartsill's student, Commander Downing. This is a "locked door" operation, where flight planning and coordination among the embarked squadrons takes place. We met Downing, but he was busy with his duties. Lt. Jimmy Hilton volunteered to show us around the flight deck and take over from the PAO for the afternoon.

ANOTHER stroke of good luck. Hilton, a Navy Academy graduate, was able to give us a pilot's perspective. We were going out on the flight deck—one of the most dangerous places to work in the world. We got into "float coats"—but unlike everybody else on deck, we didn't have to put on cranials and goggles—only hearing protection—because we were going to the Landing Safety Officer (LSO) platform on the aft end of the deck!

There is just no way to capture the SIZE of the hangar deck–two football games could be played there at the same time.

The E-2C functions as a "mini-AWACS", and has the same style rotodome. It uses its sensors to garner information, and acts as a Command and Control platform.

LSO's are carrier-qualified pilots. The LSO assists pilots coming aboard — and they would be busy. Aircraft were flying out to the ship from their land bases, and the pilots would be getting their "CQ's" (carrier qualifications) up to speed. Every pilot would require 4 "traps" (arrested landing), and two "bolters" (hit

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The LSO platform is used by the Landing Safety Officer to aid pilots in coming aboard–and is perhaps the best place on board to view flight ops. Here, the "paddles" (LSO) from the "Jokers" squadron assists a pilot on board.

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the deck and immediately go again, simulating failure to catch a wire) plus their night qualifications.

There would be a lot for the LSO's to do. There are a number of LSO's — one from each squadron, one representing the CAG, plus any LSO's in training. As pilots are cleared into the pattern, they set up on a 3 to 4-mile final approach — on speed, and on course/glidepath as depicted the centerline lighting and on glidepath by the "meatball" — a fresnel lens of colored lights telling the pilot if he is on glidepath. His landing weight and fuel status have been communicated to the ship, and the arresting cable tension has been set for the landing weight of the aircraft.

On short final, the pilot "calls the ball" (confirming that he has the visual reference in sight) and gets a reply of "roger—ball." The LSO's have a red or green light in front of them telling them of the deck status—whether it is clear or "fouled" (obstructed). They will make a visual confirmation — and will hold their hands in the air containing the "waveoff" command trigger until the deck is cleared. The LSO gives a visual lookover of the aircraft (gear and tailhook down) and monitors the approach for accuracy on TV screens.

All landings (and almost everything else on the flight deck) are recorded and graded. As the aircraft comes across the fantail, there is no "cut" like you would see on the WW II movies—instead, the aircraft is not even flared—it settles down into the arresting wire area in the approach attitude. Though the four-1 3/8 inch cables are spaced about 50 feet apart, giving a total landing area of approximately 200 feet, we were told that pilots were aiming for a 2.2 foot touchdown area.

As the tailhook snags a cable and the gear hits the deck, the pilot goes to full power in case the wire is missed or the tailhook bounces over the arresting gear. I wasn't prepared for the noise — not only were we only 40 feet away from landing jets, but those jets went to full power on landing — their afterburners glowing white hot. The noise wasn't *heard* so much as *felt* — and it was felt in the head, chest, stomach — every part of my body reverberated. There is no way you can stand on that platform and not be a participant — if only vicariously.

To reach the LSO platform, we had to negotiate some steep ladders without handrails to reach the flight deck — 100 feet above the ocean. This is no place for those suffering from acrophobia! We

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Landing in 12 feet?

"Carrier landings regularly subject naval aviators to 9 "g's" of continuous deceleration. Translating that into a light single doing 50 knots of groundspeed, that would mean stopping in just over 12 feet. At 100 knots groundspeed, it's about four times as far for a 9-G stop, or about 48 feet."

Because the LSO is only feet from landing jets, he can dive over the edge of the deck into this area if the need arises. We were told "If you see people jumping, you jump too!" I kept a close watch on the LSO's

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were warned to keep behind a steel and plexiglass shield that kept us out of the 25-30 knot wind across the deck, and would give us some protection from jet blast. As aircraft were "spotted" around the deck, we would occasionally have to bend over to lessen our vulnerability to jet blast. Lt. Hilton pointed to a safety net about 8 feet deep and lined with rubber on the side of the ship below the deck. "If you see people jumping into that, you jump, too!" It is designed as a "bail out" place in the event that something comes loose from an airplane on landing, or an aircraft hits the fantail. Located so close to the fantail, it wouldn't give you much time to make the jump.

It was interesting to watch aircraft coming aboard. The fighter aircraft were a mix of the original F-18 Hornets, and the similar-appearing but larger (only 30 percent commonality) Super Hornet. The Hornets not only replaced the F-14 Tomcats in the fleet, but have replaced the KA-6 tankers. I noticed there were no E-3 Viking anti-submarine or ES-3 Electronic Reconnaissance aircraft in the pattern — while some carriers still have them aboard, the *Abraham Lincoln* would sail without them — their missions taken over by other aircraft. I noticed that they did have several EA-6 Prowler aircraft (a 4-place electronics warfare version of the Intruder) aboard. All of these specialized functions will eventually be taken over by a Super Hornet derivative.

Reducing the number of type-specific older aircraft on board does reduce the pilot training costs and the need for specific spare parts on board. Some critics say that no multi-mission aircraft will ever be as good as an aircraft designed for a specific mission. As for the pilots I talked to — they didn't get too excited — they fly and fight with what they are given — not what they wish for.

CQ's were also conducted by our now-familiar COD's — the C-2 Greyhound. Though we thought them noisy on the way out — they were whisper-quiet compared to the jets when coming aboard. Also doing "quals" was the E-2 Electronic Warfare aircraft from which our C-2 was derived. Fitted with an immense overhead radome, it functions as a "mini-AWACS" — using their powerful radars to protect the fleet and to act as command and control centers to direct strikes and other assets of the fleet.

Not to be forgotten in the fixed-wing excitement is the constant coming and going of Sikorsky Seahawk helicopters. These multi-mission workhorses are aloft whenever flight operations are conducted—ready to pick a downed aviator out of the sea. They use dipping sonobuoys to listen for undersea threats, and shuttle equipment and personnel between ships.

Here's your target—catch one of these 4 wires. Nothing to it!

I noticed this on the hangar deck, and asked if it was a spare cat piston—it is—needed to fire a heavy aircraft off the deck.

As each aircraft "trapped," it was moved quickly off to the side of the ship—wings folded, engines still running. Another aircraft would be landing only one minute later. These aircraft were quickly spotted at the extreme edge of the flight deck (only a couple of feet from the edge) and secured. Sometimes they were taxied to position, sometimes a tug was used, and sometimes a number of deck hands simply pushed the aircraft where it needed to be.

The operation of the deck crew is highly choreographed in this

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dangerous place. Different deck crews wear different colored jerseys — arresting gear handlers in green, plane captains in brown, fuelers in purple, ordinance people in red, plane directors in yellow, plane handlers in blue, and safety officers (including medical) in white. These people not only serve on the flight deck, but on the hangar deck.

In the meantime, some aircraft were fired up and moved across the landing area to the #1&2 catapults at the bow — ready for takeoff. They were directed into the catapult — the shuttle towbar for the "cat" was connected, as was a holdback bar on the rear of the nose gear. A huge blast shield was raised, and the engines of the aircraft brought to max power. The heat from the engines is so intense that the blast shields must be cooled by circulating seawater to prevent melting. The pilot salutes — indicating he is ready — the deckhand lowers his hand to the deck, and the "shooter" releases the catapult and the holdback releases. The aircraft is accelerated down the roughly 300-foot long catapult in only 2 1/2 seconds, reaching a speed of over 150 mph in that short time. The catapult pressure is adjusted for the weight of the aircraft. There are another two cats installed on the angle deck — under a high-tempo operation, an aircraft can be launched about every 15-20 seconds. These cats are not often used, however, unless a massive strike is ordered — landings cannot be made while these cats are in use.

We went back to the Air Operations Office, and again met Commander Downing. He and Dr. Heartsill had a talk about his advanced learning. Downing explained to the Doctor that while Internet availability was pretty good, it might be restricted to certain periods of the day — and that there would be days in the deployment where he would not have time to work on the project. (Interestingly, wireless phones, wireless internet, Bluetooth, and similar devices are prohibited. Not only can they interfere with the sensitive equipment aboard ship, but even their low-powered transmissions may be used by an enemy) The ability to send and receive Internet messages and even limited telephone calls from home has been a big boost for military morale.

While Downing and the Doctor had their talk, I noted that nearly every place we visited on the ship, there were television sets. There were about a dozen channels — one showed aircraft landing, another takeoffs, and another the general deck area. One channel was devoted to Fox News, one was dedicated for training (just call a number and they would cue the training video). The rest would be dedicated to sports or movies. I thought it odd that the military would allow these non-essential channels to be displayed — so I asked an officer.

"We are often on duty 16-18 hours a day," he said. "While we may not have something to do every minute of the working day, we have to be at our stations. Having the news, video, or entertainment on is like having a radio going in the car for most people — it's background. When we have something that requires our undivided attention, it's off."

Having watched the incredibly long hours these people put in, I would have to agree. Yet another indication that this is not your Father's military — a change for the better.

CONTINUED NEXT MONTH

Jim Hanson is the long-term airport operator at Albert Lea, MN. For weeks after his trip to the carrier, he has been heard muttering "Talk to me Goose! And "Negative, Ghostrider, the pattern is full." He can be reached for questions and comments at jimhanson@desmedia.com or at his office at 507-373-0608.

Minnesota 99s meeting

On August 16, the Minnesota Chapter 99's will be joining the North Dakota Chapter 99's at noon at the Detroit Lakes airport for a fly-in and social event. We invite all women pilots to join us for a great time.

One of the wonderful benefits of belonging to the Ninety-Nines is the Amelia Earhart Scholarship program. Through this program the Ninety-Nines provide several scholarship awards.

The Flight Training Scholarship allows members to add new certificates and ratings.

The Jet Type Rating Scholarship allows members to add a jet type rating to their pilot certificates.

The Academic Scholarship can be used toward a college degree in aviation or aerospace.

The Technical Training Scholarship is used to complete an aviation or aerospace technical training or certification course.

There are a number of other scholarship awards available, including one for New Pilots, awarded to a Future Woman Pilot member. They are listed on the 99's website www.ninety-nines.org.

In order to receive a scholarship, a woman must be a member of the 99's. Some scholarships specify a length of time a person must be a member. Others, such as the New Pilot award, do not. Requirements to qualify for a scholarship can also be found on the web site.

The Minnesota Chapter has funded a scholarship that is presented each year in memory of or in honor of one of our members. Originally it was in memory of Clara Johansen, who was a very active and dedicated member until she and her husband were killed in a plane crash.

This year we are honoring member Elaine Morrow, who has served our chapter and the entire organization in many ways, including as chapter chair, North Central Section Governor, and International President. She and her husband Glen are also very active with the National Intercollegiate Flying Association, judging at many of their aviation competitions.

A number of our chapter members have received scholarships for various activities, including yours truly. I was awarded a scholarship in 1983 to complete my multi-engine rating. It was a great help in advancing my career.

Anyone who meets the requirements to apply for one of the scholarship awards can contact Nadine Sugden, who is serving as chair of our Minnesota scholarship committee.

Nadine Sugden, 33206 455th Place, Aitkin, MN 56431
218-534-3032
After Labor Day find her at:
56 Skyline Drive, Mankato, MN 56001
507-625-6390 or geows@aol.com

If you are interested in becoming a member, or want information about our organization, contact Elaine Morrow at (952) 955-2802 or 10006 Fenner Ave. SE, Delano, MN 55328 or elainemorrow99@aol.com.

— Submitted by Marcy Drescher

Editor's note: The Minnesota Chapter has a website, www.minnesota99s.org, where you can read more about them and check their calendar for coming events. The website for the international organization is www.ninety-nines.org.

Aircraft Carrier

People, planes, plans, policy, position, power projection

Editor's note: What is it like to land and take off from an aircraft carrier? Jim Hanson wanted to know. This is the third part of a series on Jim Hanson's experience on the Abraham Lincoln. He has also put up the story, photos and video of the experience up on the Internet. This can be found at www.mnflyeronline.com. Many comments were received on the web page so please check it out.

By Jim Hanson

The ship's intercom announced "deck call" — anybody in the air wing — officer and enlisted — not required at their stations was expected on the flight deck to check for objects that might cause damage to and engine or airframe — Foreign Object Damage, or FOD. Landing on a carrier can jar nuts, bolts, and rubber loose — and that can be ingested into an engine. It's a nice time of the day — the carrier may turn downwind or slow to cut the wind across the flight deck, creating a pleasant climate. The assembled crowd lines up across the flight deck at the bow, and slowly walks aft, scanning for the tiniest bit of FOD. It is a bonding experience — everybody doing the same job — and like the toast to the sunset in west-facing beach communities, a symbolic end to the daylight flight cycle.

We went to dinner — Commander Downing was due for night qualifications. I was able to ask questions of several of the officers at our table. I mentioned that it seemed that many of the enlisted personnel were young — but that many of the flight officers were senior — O-3 and higher. It was apparent that flying aircraft off an aircraft carrier was not just a young man's game —and that the Navy was retaining a good share of its pilots.

"I'm just coming back into aviation," said one officer. "I took time off to do staff work." Another officer had taken 2 1/2 years to learn ship handling and to gain ship handling experience. Yet another had taken time to attend graduate school. Obviously, all of them were on a career track for higher rank in the future. I asked how many years the Navy got out of a pilot — and was informed that "the CAG" (always "the CAG"—or Commander Air Group) had flown for 26 years and had about 1000 traps). Yet another career option decision.

"To elimininate Foreign Object Damage (FOD) to aircraft, a 'FOD check' is regularly conducted to find any hazards on the flight deck. All personnel not otherwise occupied--officers and enlisted alike--walk the entire flight deck."

I asked if pilots were allowed to fly multiple types of aircraft—and was told they could, though they specialized in one type. "The CAG" can often fly every aircraft in the Air Wing.

I asked about duty days — in what would be heresy for civil aviation and the FAA, these guys had been on duty more than 12 hours. The officers all laughed. "We do whatever it takes" said one. "Yes, we may be on duty for hours, but we can take catnaps." It isn't just the officers that sometimes put in long hours—

I was informed that there is just ONE deck crew — though flight ops and stacking the hangar deck may go on around the clock, the deck crew catches sleep while it can. It must work —Navy flight operations have an enviable safety record. Part of that record might be attributable to the safety culture that is enforced throughout **See Carrier, page 7**

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the ship. There are standardized rules and procedures, cross checks, supervisors — EVERYBODY involved in Navy Flight Operations is imbued with that culture. Nobody wants to be the one that lets down the team. Maybe it is because the aviator is supported by so many people — after all, *nobody* puts an aircraft on the deck of a moving ship by themselves.

I noted that I hadn't seen any Marine officers. A Marine squadron is often embarked on a carrier — "Mud Marines" like having "their own" provide air cover. There wasn't a squadron embarked on this cruise.

I mentioned that I hadn't seen any female aviators aboard — only the C-2 pilot that had given us our briefing when departing North Island NAS. They mentioned that the Navy usually embarked a group of women aviators together — they flew the same aircraft and missions, but rather than try to fit in with the guys, they had other women to relate to — live with — talk to. A common sense solution — and more evidence of the way the military has changed. Karin, our PAO, estimated that approximately 10 percent of the embarked personnel aboard were women. They have separate sleeping areas aboard the ship — and men and women cannot go to the other's area without an escort.

Commander Downing excused himself — he had "night quals" to prepare for. In addition to reviewing his mission and getting night vision adapted, he was taking time to get in the right frame of mind to complete his mission.

Knee Knockers. "The name says it all. These transverse bulkheads add rigidity and strength to the ship, and are sometimes fitted with watertight doors." They are literally a pain to navigation–especially in the dark."

Our PAO host suggested we tour some other areas of the ship. Large areas of the ship were under red lighting — some people were sleeping, and some needed to retain night adaptation. The narrow corridors and "knee knocker" bulkheads that had to be stepped over makes travel difficult — but the biggest contribution to physical fitness on board has to be the narrow and STEEP stairs — appropriately called ladders — that lead from deck to deck. You'll certainly get a cardiovascular workout just living aboard this ship!

We went below, and visited the Combat Direction Center. This always-dark room is where the Warfare Commanders on board would normally deploy their forces to fight battles, not from the bridge of the ship. The radar screens depict air and surface traffic, airspace and operating areas, coastlines — threats to the fleet from the air or the sea.

Information is garnered not only from the carriers own radar, but is linked from the screening ships in the battle group and from airborne E-3 aircraft. This area provides a threat assessment and decisions are made here on how to deal with it. Unlike WW II screening destroyers that generally sailed close to the carrier to defend against torpedoes, the accompanying ships are generally deployed miles from the carrier to provide a ring of early detection and defense.

Information from the CIC is linked back to the smaller ships, and the order to engage may come from this room. An interesting sidelight: An officer in training to work this area was being shown procedures by an enlisted service woman — a respectful, professional, and collegial atmosphere. More evidence of changes from the old military.

Next door was the Carrier Air Traffic Control Center. Like CDC next door, it has the capability to link with other ships and "assets" of the fleet. In addition to monitoring threats, it has a ready status board of each aircraft operating off the ship — frequently updated to show position, fuel on board, "bingo" fuel (fuel critical status) etc. It also shows weather threats. Both the CATCC and the CDC have a screen showing aircraft in

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the landing pattern and in proximity to the carrier, called the "Mr. Bill" screen. It is updated by "Mr. Hands"—an unseen person who moves the data tag for the aircraft manually with the click of a mouse.

I asked why this wasn't automated — the answer was "sometimes, we need to change something RIGHT NOW — an aircraft may miss the trap and need to cut in front of other traffic or hit a tanker, and we can make those changes faster manually." I asked about vectoring for tanker fuel. "We can take an aircraft right off the deck, and have a tanker two miles in front of him — clear the deck, climb to altitude, and plug in — it's very time-critical." Yeah — sounds easy to me—hitting a tanker right after take-off—especially this night, in the weather.

The versatile F/A 18 can assume another role–aircraft tanker. With 4 300-gallon wing-mounted tanks plus a certline tank, the F/A 18 can 'give away' up to 12,000 pounds of fuel."

Side note on tankers: Navy aircraft use the "probe and drogue" system — not the "flying boom" used by the Air Force. The tanker reels out a hose with a "basket" attached on the end, and the aircraft flies the refueling probe into the basket. There is no control of the basket by the tanker aircraft. Navy aircraft usually tanker from one of their own — most Navy jets have the capability to "buddy fuel"—give fuel away to other aircraft. A tanker will always be aloft when the carrier is conducting flight operations by air-refuelable aircraft. Tanker operations were formerly conducted by the KA-6 Intruder—which could "give away" up to 24,000 pounds of fuel.

Today, they are conducted by the versatile F/A 18 Hornet equipped with 4 underwing fuel tanks. The F-18 can "give away" about 12,000 pounds of fuel. As for larger aircraft, some Marine C-130s are equipped with drogues. In a surprising revelation, I learned that there are CIVILIAN contract tankers operated by Omega Air (an Irish firm) under contract to the Navy. These DC-9s, 707s, and DC-10s are available for fuel, cargo, and personnel use throughout the world.

CONTINUED NEXT MONTH

Jim Hanson is the long-term airport operator at Albert Lea, MN. For weeks, he has been standing in front of a mirror, practicing his lines—"Who's the best pilot you ever saw? You're lookin' at him!" and "I feel the need. The need for speed!" He can be reached for questions and comments at jimhanson@deskmedia.com or at this office at 507-373-0608.

Aircraft Carrier

People, planes, plans, policy, position, power projection

Editor's note: What is it like to land and take off from an aircraft carrier? Jim Hanson wanted to know. This is the fourth part of a series on Jim Hanson's experience on the Abraham Lincoln. He has also put up the story, photos and video of the experience up on the Internet. This can be found at www.mnflyeronline.com. Many comments were received on the web page so please check it out.

By Jim Hanson

Two hours later, Commander Downing and Lt. Hilton had finished their night qualifications. I expected they would be wringing wet in their flight suits. Not so. Either these guys are:

1. Walking endorsements for deodorants, OR
2. Some of the coolest pilots I've ever met.

I know that after a stressful day of flying, my shirt is a stinky mess. These guys just came back after making night landings on an aircraft carrier in an area of weather. Commander Downing invited us to go to the LSO platform for night qualification — a place rarely visited at night by visitors. We again negotiated the ladders, and took our place behind the LSO's.

Every landing is graded, taped, and critiqued by the LSO to improve pilot technique. Carrier pilots compete to see who gets the highest score for the deployment.

Downing showed us how to pick out the various aircraft by their distinctive pattern of lights. On one arrival, he mentioned that the pilot had gotten slow — then overcorrected — I asked how he knew. "Look at his nose gear — that light is not a taxi light. It should be amber if he is on the right angle of attack. If it goes red, he is too fast, and may miss the wires — green if too slow." I noticed that the aircraft didn't use landing lights. Something you wouldn't want to do in a combat situation, and besides, you may flinch if you see the deck coming up at you. Just fly the ball.

I asked Downing if it was hard to land while the ship was pitching and rolling in heavy weather. "I've seen the screws come right out of the water" he said. "The LSO can help—he can manually adjust the "meatball" to compensate for the pitch of the ship so you don't overcorrect." That's confidence in your fellow pilot!

Lt. Hilton took us on a tour of the squadron ready rooms—each has their own. Ready rooms are where pilots wait — get briefed on a mission — or just hang out. Each is distinctively different, and each squadron puts their individual stamp on their ready room.

The 'meatball' is a visual alignment and glideslope instrument, and the primary instrument for guiding a pilot aboard.

The blast shields prevent hot jet blast from blowing people and equipment overboard. To withstand the white-hot heat of the jets in afterburner ready for take-off, they are cooled with seawater.

Some have popcorn and "bug juice" machines, others have stereos and film projection. All have comfortable upholstered chairs.

The other thing they have in common — a Squadron status board. "Every landing made aboard is filmed, critiqued, graded, and posted here," said Hilton. "How you flew the approach, what wire you caught (#3 is the favored–#1 means you were low, #4 means you were long, the best score you can get is the coveted "#3 OK.") Everything in Naval aviation is about competition — you can walk into any squadron and find out who is best at landing aboard the carrier." It was interesting talking to all of the pilots — each had their own way of coming to Naval aviation, and each had their own career track.

That seems to be the good part of Naval aviation—there are career tracks and opportunities for everybody. While at the ready rooms, I bought a number of squadron mementoes — including

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"zaps" — stickers expected to be attached to car bumpers (yours or a competing squadron), flight bags, or as a "Kilroy was here" — type marker for your territory.

Despite the excitement, it was time to turn in. Lt. Hilton took us to our quarters below — luckily, we were assigned quarters two levels below the flight deck — but it was STILL noisy. You first hear the scrape of the tailhook, then the thud of the landing gear. The cable paying out is covered by the roar of the engines. You also hear and feel the catapults — the release, increased pitch, and sudden stop of the cat. Our room was approximately 12x12, with a bunk bed, TV, and built-in metal closets. It had a sink built in, but the "head" was down the hall. We wouldn't be spending much time here, anyway — there was too much to see and do. Surprisingly, the noise didn't keep me up at all.

We were called to breakfast the next day—and elected to eat in the "dirty shirt" area — so named because up until a few years ago, dress khaki's were required in the Officers Mess, while aviator's flight suits were OK in the informal atmosphere of the "Dirty Shirt." While the menu was not as extensive as the main Mess, it was tasty — and informal. Eggs could be "made to order" — just grab a plate, stick your head in the window, and tell them what you want. I hung back, unsure of the procedure, until one of the female Intel officers showed me how it was done. I guess timid folks lose weight here! We ate breakfast with the intelligence officer — she had been active Navy, gone reserve while she raised her family, and was going back active again. A good accommodation — MORE evidence of the way things are changing.

Karin, our PAO, joined us for breakfast. When we were finished, she resumed her tour of the ship. After checking with the Bridge, we climbed seven flights of ladders, and were admitted. Spanning the entire width of the Island (perhaps 35'), this is where the ship is run. There were perhaps 15 people on the Bridge — on the port side was the Captain's chair. There is a full view of the flight deck. Extensive communications systems reach nearly every part of the ship.

Signal systems electronically communicate with the rest of the Strike Group. On the starboard side was the navigation plots. Though they have electronic charts, GPS, and Inertial navigation systems, paper charts are still used. I asked if anybody still knew how to use a sextant. "Yes," our guide chuckled, "we make the Ensigns do that." Projecting out the starboard side is another station for the Captain. "

Carriers always come into port from this side" said our guide. "The Captain can give orders while watching from here."

I inquired about a series of colored rods projecting from the base of the station. "Those are for docking, and replenishment at sea," he explained. "From your eye to the waterline of the pier or ship next to you, read the distance away on the colored rods—that's how far you are apart." From approximately 160 feet above the water, looking down at the farthest rod read 160 feet—very close. Imagine replenishment at sea, doing 15 or 20 knots with another ship that close.

"The Captain is on the Bridge!" someone announced — and all came to attention. Captain Hall put everyone at ease, and welcomed us. Dr. Heartsill talked Southern football (almost a reli-

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gion in those parts), and while the two of them spoke, I resumed my investigation of the Bridge. At the rear of the Bridge is a two-person helming station—one for speed, the other for direction. The Captain asked "Would you like to drive it?" YES, SIR! Flight operations were not being conducted. The helmsman (a young enlisted man—what a responsibility!) stepped aside, and announced that he would supervise. Our guide explained that even at 97,000 tons, the ship was still affected by crosswinds and cross seas—compensation must be made. Course made good was displayed, as well as speed and direction. "These two needles need to be joined" said the helmsman. "Turn to the right." I moved the steering-wheel-sized helm tentatively to the right. "Farther" he suggested, and I moved it some more. The bow came around, and I nulled out the correction.

"It's a lot like flying a blimp," I told him. "put in a big correction, then take it back out." An aircraft carrier is probably the largest moving machine in the world, and I got to control it!

Immediately above the Bridge is the "control tower" domain of the Air Boss and the CAG. The CAG and the Captain are of equal rank (both O-6s). The Captain runs the ship, the CAG "fights" the embarked Air Wing. What a huge responsibility—operating semi-autonomously in remote parts of the world. Aircraft carriers, with their ability to "project power" and control events, are usually sent around the world to enforce U.S. foreign policy, and as such, are frequently confronted with dicey situations. That is far more responsibility than the well-being of the 5500 or so embarked personnel. These people must also be responsible for potential international incidents in an area of land and sea involving a radius of hundreds of miles. In addition to being aviators and ship captains, they must also be diplomats, and have a clear sense of our policy. There are only 11 aircraft carriers at the present time, and I couldn't help but think of what rare individuals these were. I would have thought that this level of responsibility would involve someone of Flag rank, but the system obviously works.

Aircraft carriers "project power"—carry out U.S. interests—in so many ways. The 4.5 acre flight deck — and the power that can be projected from it and from the other ships of the Strike Group--are sovereign U.S. territory on the high seas. There is no restriction by "host countries" on the use of power, like land bases. When things heat up, the very *presence* of a Carrier Strike Group can help deter aggression. A carrier group also may be called upon for humanitarian missions—in 1991, the *Lincoln* Carrier Strike Group had evacuated 45,000 people from Subic Bay, Philippines after the eruption of Mt. Pinatubo. When a tsunami struck Indonesia in 2004, the *Abraham Lincoln* Strike Group was diverted to help. They offered the facilities of the ship to help refugees with medical needs, water, electricity, food, and infrastructure repair. They flew in 6 million pounds of supplies to help the local populace. Carrier Strike Groups are increasingly being called upon to rescue U.S. non-combatants when they are caught up in local conflicts. It is a tribute to the versatility of these warships that they handle unexpected missions in stride.

A word about "the CAG" — on the *Abraham Lincoln*, it was Capt. Chris Aquilino. "The CAG" is just about the highest honor to be bestowed on a Naval Aviator — recognition that he is the top aviator in the Strike Group. All of those ships — all of those thousands of people—are there to allow the approximately 108 aviators embarked (about half of them are strike pilots) to do their jobs — a ratio of about 200 people behind every strike pilot. To trot out an overused expression, these pilots really ARE "the tip of the spear." A lot rests upon them. The CAG takes on personal responsibility for training, operating, and "fighting" the Air Wing. More so than anybody I spoke with on the carrier, the CAG speaks in personal terms.

I got to helm the ship when flight operations were not being conducted--perhaps the largest piece of machinery in the world.

A view of the landing area from the Bridge. As you can see, space on a carrier deck is precious, and aircraft land only feet from other aircraft.

He refers to "my pilots", "my airplanes," "my deck" like an old Marine Gunnery Sergeant. An example: Someone asked him about defensive measures on the upcoming cruise. He replied brusquely, in typical CAG fashion, "A few weeks from now, we will be transiting some of the world's choke points, and people may want to shoot at us. We'll discuss plans for dealing with that in a few weeks, right now, I need to get my pilots qualified." Taking personal responsibility — I'm glad that SOME things never change in the military. *(On a personal note, he later said "It's night time—the moon's not out yet, there's weather in the*

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area—I've got to go out and get me some traps!" He obviously still enjoys flying.)

We went down one level to "vultures row" — an area alongside the Island with a view of the full flight deck. I would have liked to have been there the day before for a better view of takeoffs — but given the choice between it and the LSO platform we were offered, I'll take the latter.

This day, there were only helicopter ops being conducted. Helicopters came and went, but without the excitement and noise of the arresting gear and catapult shots. Who would have ever thought of a helicopter as being QUIET (by comparison)?

We visited the forecastle in the bow — our last stop before departure. This is where the anchor chains and lines are kept — each link weighing in at 360 pounds. It is also where the mooring lines are kept, and where the lines are kept to "shoot" lines and "messenger" lines to smaller ships alongside to allow for underway transfers. An interesting note: While the convention is that small ships "shoot" a line to larger ships, a carrier always "shoots" a line to the smaller ships so aircraft on deck will not be damaged.

It was time for us to make our departure. We laboriously hauled our luggage up several ladders to the Air Transport Office below the flight deck. We paid our meals and accommodations charges, and drew our cranials, goggles, and "float coats" for the trip back. We bid our goodbyes to our super-accommodating hosts. We felt like old veterans by now — but still had some trepidation about the upcoming cat shot. Our luggage was pre-loaded, and we were escorted to the flight deck, where we boarded the COD. I laughed when I came to the rear ramp — this COD had a sign that said "Got Mail?" It was a measure of the little comforts these COD airplanes provide to the fleet. Little comforts — but big morale boosters.

We strapped into the seats, and were briefed for the cat shot. "Get your shoulder straps TIGHT" the crew chief told us. "Lean into them. You'll hear the engines come up, and I'll tell you "GET READY!" Cross your arms in front of your face, and brace your feet against the seat in front of you!" I couldn't see much outside, except for one of the two tiny windows across the cabin. We were in position for a LONG time—for some reason, I envisioned myself standing on the trap door of the gallows, waiting for the door to drop. We finally got the **"GET READY!"** command, and I brought my arms up.

The props came up, and about 10 seconds later, we took the cat shot. Like the trap, it didn't HURT, it just knocked the wind out of me. I found incredible pressure against the shoulder straps, and it was hard to breathe. I wondered how long this was going to go on, and about then, I heard a "click" as the catapult shuttle released from the nose gear. The pressure on the harness released, and we were flying!

The flight back to North Island was anticlimactic. We touched down, taxied to the Air Transport Office, and disembarked. Our luggage was unloaded and claimed. Our PAO guide, MC2 Fahey, was there to meet us — asking if there was anything else we needed.

I checked my thoughts: Only minutes before, we had been aboard a ship, out of sight of land. Only minutes later, we were ashore — with grass and palm trees. Only minutes before, we had the discipline and procedures of shipboard life — here we were,

This is the short run to the bow of the ship--Zero to 180 mph in about 2 1/2 seconds.

free to do as we wished. Only minutes before, we had the high adrenaline rush of a cat shot. "It's a different world" I remarked to Dr. Heartsill. "It certainly is," he agreed.

Thinking back on the experience, that "different world" becomes the "hook" for the whole experience, and for this article. Operating off an aircraft carrier IS a "different world." It is a place where individual possessions are few — everything you need will be provided—your gear, good food, accommodations. It is a place where you are told what needs to be done—then left alone to do it. It is a place where you MUST meet expectations—no excuses allowed. It is an area almost totally devoid of politics, racism or sexism — people just do their job without regard to labels. It is a meritocracy — the best people are recognized and promoted—and the people grading you as a pilot are your peers. Though it is a military operation, you don't have the jingoistic militarism of infantry "*Hoo-Rahs*," and the Navy hasn't adopted the artificial symbolism of French Berets. These are highly trained professionals, simply doing their job, without fanfare. They take hazardous duty in stride—they train for it, they plan for it, then they simply DO it. Maybe that's why so many Astronauts are former Naval Aviators.

There's a lot to be said for this kind of life. It made me feel good — about myself, about the Navy, about the people I had just had the privilege of associating with. Though nobody would mistake me for being on active duty, I couldn't help but straighten up a bit, square my shoulders, and walk off base with a 29" step and a purposeful stride.

*Author's note: This article started out as exploring the Navy hardware—the ships, planes, and weapons. After this chance to participate, I've changed my mind — the **real** story here is about how people USE that hardware. Airplanes and weapons systems can come and go—even ships become outdated (the last conventionally powered aircraft carrier, the Kitty Hawk, is now on its last deployment). The **people** adapt.*

Jim Hanson is the long-term airport operator at Albert Lea, MN. For weeks, he has been standing in front of a mirror, practicing his lines—"Who's the best pilot you ever saw? You're lookin' at him!" and "I feel the need. The need for speed!" He can be reached for questions and comments at jimhanson@deskmedia.com or at this office at 507-373-0608.

END OF LIFE ON LINCOLN