



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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Team at Tunnel 9 tackles NASA heat shield test

By Philip Lorenz III
Aerospace Testing Alliance

In May 2011, NASA formally announced that the Orion crew capsule is the spacecraft that will carry humans back into deep space.

Before Orion is ready for crewed missions to an asteroid and Mars, aerothermal testing is being conducted at AEDC's Hypervelocity Wind Tunnel 9 on a 4-percent scale model of the Orion crew capsule.

"We're using the Orion model that we used when we went into AEDC's Tunnel 9 facility in 2006," said Adam Amar, NASA's acting Orion aerothermal lead and system manager. "We're looking at the heat-transfer rate on the heat shield of the Orion capsule."

Joe Coblish, lead projects manager at Tunnel 9, said, "The Orion capsule has to have a properly sized thermal protection system (TPS) to successfully travel through the harsh environment encountered during atmospheric re-entry. Ground testing serves a critical role in providing high-quality data to validate computational tools being used today to develop advanced hypersonic configurations."

According to Amar, who is NASA's principal investigator for the project, the ground test will support a flight test, tentatively scheduled to take place at Kennedy Space Center, Fla., in 2013.



From left, Tunnel 9 ATA Project Engineer Dan Lewis and NASA's principal investigator for the project and NASA's Orion acting aerothermal lead and system manager Adam Amar review the Orion capsule test article before the Tunnel 9 facility is secured for a test. (Photo provided)

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AEDC's 2011 economic impact exceeds \$630 million

By Philip Lorenz III
Aerospace Testing Alliance

AEDC's economic impact – which includes AEDC and its remote operating locations – the Hypervelocity Tunnel 9 at White Oak in Silver Spring, Md., and the National Full-Scale Aerodynamics Complex at Moffett Field, Calif. – was \$633.8 million for fiscal 2011.

Each location impacted the local areas through payroll, secondary jobs created through local spending, and other expenditures for supplies, utilities, fuel and services and the spin-off impact of those purchases.

AEDC employed a mixture of active-duty military personnel from the Air Force and Navy; Department of Defense

civilians; and contractor personnel, which totaled 2,660 personnel in Fiscal 2011. Of the 2,660 personnel, 61 were active-duty military; nine Air Force Reserve and National Guard; 330 appropriated fund civilian employees (includes general schedule, federal wage board and other military branches); 65 government non-appropriated fund employees; 42 other civilians (credit union, Base Exchange and commissary tenants); and 2,154 contractor and sub-contractor employees.

Additionally, using the Tennessee Valley Authority economic impact model methodology, AEDC estimated that more than 1,800 secondary jobs were created in the local area, for a total of 4,496 jobs directly related to AEDC. Examples of

secondary jobs include those created by home construction and at local supermarkets, car dealerships and department stores.

During Fiscal 2011, the payroll cost for AEDC government and contractor personnel was \$279 million. AEDC's direct expenditures – which include utility costs, service contracts with outside vendors and military health insurance paid to local doctors and hospitals – was more than \$151 million. Furthermore, the indirect spin-off impact of these direct expenditures is approximately \$200 million.

The overall economic impact figure

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Brewer

Senate confirms Col. Brewer for brigadier general appointment

By Patrick Ary
Aerospace Testing Alliance

The Air Force announced Dec. 19 that the U.S. Senate has confirmed AEDC Commander Col. Michael T. Brewer for appointment to the grade of brigadier general.

Colonel Brewer was one of four Air Force Materiel Command colonels nominated by the President to the Senate for appointment to the grade of brigadier general.

Colonel Brewer formally took command of AEDC Aug. 2.

Prior to his arrival at AEDC, Colonel Brewer was the 46th Test Wing commander at Eglin AFB, Fla. He received his commission in 1986 after graduating from North Carolina State University with a Bachelor of Science degree in electrical engineering.

After pilot training, he flew the F-111F and F-15E before attending U.S. Air Force Test Pilot School in 1996.

Colonel Brewer is a command pilot with more than 3,200 hours flying the F-111, F-15E and F-16 and has combat experience in both the F-111 and F-15E.

Lockheed Martin rolls out final Raptor

By Senior Airman Danielle Purnell
94th Airlift Wing Public Affairs

MARIETTA, Ga. (AFNS) – The final F-22 Raptor to be built for the U.S. Air Force, tail number 4195, rolled off the Lockheed Martin Aeronautics assembly line during a ceremony Dec. 13 at the company's Marietta plant.

The fighter jet is the last of 187 F-22s produced, marking a bittersweet moment for members of the F-22 team.

It has been a memorable journey, said Shan Cooper, the Lockheed Martin Aeronautics company vice president and Marietta site general manager. The first part was created here in 1994. The jet was placed on the assembly line in 1995 and then first rolled out in 1997. Today we mark a graduation of sorts as we roll the last F-22 off this assembly line and get it ready to go out and defend America.

"While the Raptor itself is eye-watering, the people on Team Raptor have made the F-22 what it is today," Cooper said.

Lockheed Martin's Aeronautics division employs about 2,000 people for the F-22 program at its Marietta facility. Together, the team built the first 5th generation fighter with world-class results.

"You reduced the labor hours by 300



The final F-22 Raptor fighter jet to be produced for the Air Force is rolled off the Lockheed Martin assembly line during a ceremony Dec. 13 in Marietta, Ga. The jet is the last of 187 F-22s produced for the Air Force completing its operational fleet. (U.S. Air Force photo/ Senior Airman Danielle Purnell)

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HIGH MACH

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**Core Values**

- Integrity first
- Service before self
- Excellence in all we do

**Vision**

"ATA will be a trusted partner in delivering best value warfighter support and assert stewardship to AEDC"

Core Values

- Be accountable for our own actions
- Ensure the safety of individuals and equipment
- Demonstrate the highest integrity and ethical standards
- Communicate clearly and openly
- Deliver professional and technical excellence
- Nurture, enable and treat people fairly
- Align with customer goals and objectives
 - Use disciplined and innovative processes
- Continually improve in all that we do

Hold the Line: Goals – the key to success

By Chief Master Sgt. Kevin L. Call
Electronic Systems Center Command Chief

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – When goals are mentioned at this time of year, most people think of hockey or football games, or maybe even dreaming up a New Year's resolution. So why do we even need goals? Why should we write them down?

Goals are things you want to accomplish sometime in the future. Goals are great – they motivate you toward accomplishing a dream or an achievement, but in more cases than none, goals will just remain dreams if you don't define some objectives to reach them.

Goals lay the basic framework that helps guide you toward things you want to do, know you should do or are influenced to do.

Great leaders got to where they are by developing structured goals, not by "flying by the seat of their pants."

Leaders need to assist subordinates in creating a set of goals and milestones (both personal and professional) and frequently follow up to assess their progress, providing a little nudge if they're falling

behind. As former First Lady Rosalynn Carter once said, "A leader takes people where they want to go. A great leader takes people where they don't necessarily want to go, but ought to be."

Most new Airmen have an idea what they want to achieve in their careers, whether it's earning their degree before they separate or ultimately being promoted to chief master sergeant or colonel.

But there are many steps between becoming a newly minted airman first class and achieving those higher ranks. These goals are achievable with a well-thought-out plan and realistic milestones.

Goals must be specific, measurable, attainable, realistic and timely. One goal we should all strive to achieve is to be physically fit so we can pass our Air Force Fitness Assessment.

This is a very broad goal and needs to be broken down into more specific, measurable objectives, such as working out a minimum of three times a week, decreasing your mile-and-a-half run time by 20 seconds each month,

or increasing the number of pushups you can do by five every month.

That said, you can't create your fitness goals two weeks prior to your fitness assessment and expect a miracle to happen. Goals should be developed well in advance of your expected outcome and continually reviewed to ensure you're meeting expectations.

Creating realistic short-term, progressive goals provide mini-steps of accomplishment, which boost motivation to tackle the next challenge and keep you on the path to success.

Long-term goals can seem so far off (20 years or more) that if you don't break them down into smaller objectives, it will seem like they're never achievable. A great short-term goal may be to achieve a 90 percent on a career development course end-of-course (EOC) test.

But even to achieve this short-term goal you have to develop some objectives (finish each volume within 30 days; study one hour per night until EOC test date, etc.).

Regardless of what the goals are, writing them down and periodically reviewing them will ensure

you stay on-track. You may even find that you have to adjust your goals as time progresses.

For instance, my long-term goals as a new Airman were to make master sergeant and earn a bachelor's degree by the time I reached 20 years in the Air Force. I ended up making Master Sergeant before 20 years and it took me 15 years to earn my bachelor's degree, so I ended up adjusting my long-term goal to making chief master sergeant and earning a master's degree by my 20-year mark.

Make sure goals are obtainable and don't be afraid to adjust them due to unforeseen circumstances. But try not to make excuses or get lazy on yourself. If your goals were important enough to write down, then they are important enough to stick to. Don't make goals so lofty that you'll de-motivate yourself if you fall behind. And, don't make them so easy that they take no effort to achieve.

Make realistic, achiev-

able goals to start off with and if you reach a goal earlier than expected, focus your energy on your next goal or milestone.

Kurt Lewin, universally recognized as the founder of modern social psychology, once stated, "A successful individual typically sets his next goal somewhat but not too much above his last achievement. In this way he steadily raises his level of aspiration."

You can see how easy it is to come up with a list of goals and milestones; the hard part is sticking to them and reviewing them often to stay on track. But it's hard to stick to a plan or even adjust it along the way if you never had one in the first place.

Don't be that Airman who never plans for the future, or the one who "flies by the seat of his pants."

Whether your goals are to make the next promotion, earn your CCAF degree or commit to a New Year's resolution, develop a plan and stick to it.

Know your options for free legal services before you pay

Readers of *High Mach* may have heard of a "Group Legal Services Plan" or other service in which persons prepay an organization for legal services delivered at a later date.

Some of these plans are being marketed to persons eligible for free legal assistance.

Persons eligible for free legal assistance include members of the armed forces on active duty; reservists or National Guard members on Title 10 orders or with mobility related legal issues; retirees; and, dependents entitled to a dependent identification card of the previous persons.

We encourage eligible beneficiaries to consider what, if any, additional coverage these "Group Legal Services Plans" provide. In some cases, these plans may offer no or few services beyond what eligible beneficiaries are already entitled.

The Arnold Engineering Development Center Legal Office on Arnold Air Force Base (454-7814) provides legal assistance to eligible beneficiaries.

The legal office provides will preparation, notary, and powers of attorney services. Additionally, the legal office provides basic legal advice on family law, the Servicemembers Civil Relief Act, landlord/tenant disputes, and general guidance on other legal topics.

Eligible beneficiaries can learn more about the Air Force legal assistance program at <https://aflegalassistance.law.af.mil>. There, eligible beneficiaries can find will worksheets and other legal forms.

We encourage eligible beneficiaries to consider all of their options, to include services they are already entitled to, when deciding how to procure their personal legal services.

(Information provided by the Arnold AFB legal office)

Know your boundaries this political season

By 2nd Lt. Abraham J. Raymond
71st Flying Training Wing Legal Office

VANCE AIR FORCE BASE, Okla. (AFNS) – With the excitement of the presidential primaries lurking around the corner, there are a few things Airmen must remember during this upcoming political season.

When you joined the military or became a federal employee, you did so with the knowledge that this decision came with some sacrifice.

Everyone is encouraged to register to vote, research candidates and vote for the candidates. However, in order for this representative democracy to function properly, civil servants and military professionals cannot be seen as partisans.

Both military members and federal employees work for the government and in doing so they must support elected officials regardless of whether or not they voted for, or against, particular candidates. For this reason, among others, getting a paycheck directly from the federal government necessarily limits a person's ability to participate in some aspects of the political process.

Department of Defense Directive 1344.10, "Political Activities by Members of the Armed Forces on Active Duty," and Air Force Instruction 51-902, "Political Activities by Members of the U.S. Air Force," outline permitted and restricted political actions for active military members.

Military members who violate these rules may face punishment under the Uniform Code of Military Justice.

There are some reoccurring issues surrounding prohibited political activities. A frequent issue concerns whether or not an individual can display a large political sign on his or her car or truck. Displaying a large political sign on your automobile is prohibited; however, members are allowed to display a political bumper sticker on his or her car or truck.

Military members are prohibited from using official authority to influence an election or solicit votes for a specific candidate or issue.

Military members are limited in their involvement in the political process off duty as well. This includes being a candidate for, or holding, political office, except in those circumstances authorized by the AFI.

Speaking at any partisan political gathering, including a radio or television program, and advocating for a partisan political candidate or party is also prohibited.

Military members should reference AFI 51-902 when they have any questions regarding the legality of their political activities

Rules governing political activities by government civilians are found

in a federal law known as the Hatch Act. DOD civilians who violate the Hatch Act face adverse personnel actions, including suspensions and employment termination.

Most restrictions surrounding the Hatch Act are centered on the prevention of supervisors influencing subordinates to participate in or contribute to partisan groups or candidates. Federal employees may not display partisan political campaign materials in the workplace.

While federal employees may express opinions about candidates and issues when off duty, when on duty, in uniform, in a federal building, or in a federally owned or leased vehicle, federal employees may not express opinions directed at the success or failure of a political party, candidate for partisan political office or partisan political group.

There are three important things to remember during the upcoming political season. First, regardless of status, using command influence to sway subordinates to vote for a particular party, candidate or issue is prohibited by law or directive.

Second, when you receive a paycheck from the federal government, some aspects of your political freedom are limited.

Third, if you are unsure whether or not a political activity is approved, reference AFI 51-902 or contact your base legal office.

Smoking Policy

1. The following revised AEDC smoking policy is effective immediately. Smoking is permitted solely in designated areas identified by a plastic "smoke genie." This receptacle is for the sole purpose of cigarette butt disposal. If there is no receptacle, you cannot smoke in that area. It is the responsibility of all smokers to clean up the area surrounding the receptacles for any cigarette butts on the ground. Smoking in government-owned vehicles is strictly prohibited. Personnel are allowed to smoke in their personal vehicles at any time. In case of inclement or cold weather, employees are encouraged to use their personal vehicles if a sheltered designated smoking area is not available nearby. Smoking areas will be held to the absolute minimum and will be located in low traffic, low visibility areas away from points of building ingress/egress and air intakes. A map of all authorized smoking areas is available on the AEDC web portal at https://lapro.arnold.af.mil/PORTAL/images/Smoking_area_map.pdf. Smoking near a facility in an area not designated on the map is prohibited and any smoking receptacles located in areas not shown on the map will be removed. All "smoking permitted" and "no smoking" signs will be removed unless specifically required by OSHA.

The fact a person smokes has no bearing on the number of breaks they may take. Breaks should be taken in accordance with the company/agency personnel policies that apply to all employees.

Regarding use of smokeless tobacco, containers of tobacco waste product, including sealed containers, must not be left unattended or disposed of in trash receptacles. Users of smokeless tobacco must flush tobacco waste down the toilet. Smokeless is strictly prohibited in conference room meetings and other areas, e.g. PMEL, where Air Force regulations specifically prohibit.

Due to the nature, appearance, and safety concerns of electronic cigarettes (also known as "e-cigs"), they are considered to be in the same category of tobacco products whose use is governed by Air Force Instruction (AFI) 40-102, Tobacco Use in the Air Force. Therefore, all rules stated above for tobacco products apply to electronic cigarettes.

2. Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.

3. Updates to this policy will be made in the future to further align with Air Force guidelines.

4. This letter supersedes previous letter dated 28 October 2006, subject as above.

Action Line

Team AEDC

I believe in free and open communications with our Team AEDC employees, and that's why we have the Action Line available. People can use the Action Line to clear up rumors, ask questions, suggest ideas on improvements, enter complaints or get other issues off their chests. They can access the Action Line in one of three ways: via the AEDC intranet home page, Action Line boxes at the base cafeterias and by calling 454-6000.

Although the Action Line is always available, the best and fastest way to get things resolved is by using your chain of command or by contacting the organization directly involved. I encourage everyone to go that route first, then if the situation isn't made right, give us a chance.

Col. Michael Brewer
AEDC Commander

Former Angel Tree recipient “paying it forward” at AEDC

By Shawn Jacobs
Aerospace Testing Alliance

The AEDC Angel Tree program was a great success again this past Christmas, with approximately 160 employees providing gifts for 179 disadvantaged mid-state children.

One of the volunteers, Art Walker, an Air Force Investments project manager, took a special interest in the program because he was an Angel Tree recipient as a child. Walker, a native of Mobile, Ala., and 2009 graduate of Alabama A and M University in Huntsville, Ala., said his parents split up when he was about 10, and times were hard for his family, which consisted of his mother, older brother and two younger brothers.

He said his mother learned about the Angel Tree program through their church.

“I was an Angel Tree kid for two or three years,” Walker said. “Of course, by then I was 12 or 13, and Christmas had a totally different meaning [for me]. Probably for the next three or four years after that they [my younger brothers] remained Angel Tree kids until my mother got more established and back on her feet.

“The good part about it was when we got introduced to the Angel Tree program, I didn’t feel like somebody was handing me something. I felt more like I was being blessed with something. The actual individual who bought the bike or bought the clothes – you didn’t get to meet them face-to-face, but you really felt their love and spirit through their gift.”

Walker said when he got to high school and college, he supported Angel Tree programs

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Art Walker, an AEDC Investments project manager, pushes a load of gifts being picked up for Angel Tree children Dec. 13. Walker volunteered to help with the AEDC program this Christmas because he was an Angel Tree recipient as a child. (Photo by Patrick Ary)

Jacobs scholarships announced



ATA General Manager Steve Pearson presented two \$3,000 Dr. Joseph J. Jacobs Global Scholarship certificates to area students Dec. 21. Above, Pearson awards a certificate to Tullahoma resident Jonathan Mills. Mills is a senior majoring in Wildlife and Fisheries Science at Tennessee Technological University in Cookeville. Also pictured are his parents, Michael L. Mills, an ATA engineer/scientist at AEDC, and Mary Ann Mills. Below, Pearson presents a certificate to Winchester resident Hannah M. Gipson. The daughter of Mickey D. Gipson, an ATA engineer/scientist at AEDC and Diane Gipson (not pictured), Hannah is a freshman biology major at the University of Tennessee in Knoxville. The scholarship program was created in 2009 as a tribute to the founder of Jacobs Engineering Group Inc. for his commitment to higher education and his goal to make an education affordable to children who sought it. (Photos by Rick Goodfriend)



Military maintainers qualify in F-35A flight inspections

Seasoned Eglin AFB workers will eventually share tasks with Lockheed Martin

By Maj. Karen Roganov
33rd Fighter Wing Public Affairs

EGLIN AIR FORCE BASE, Fla. – The first group of military maintainers at the 33rd Fighter Wing recently qualified in numerous F-35A flight inspections by a uniformed certifier, a task only civilian certifiers initially were contracted to support.

“This first-ever Air Force to Air Force on-the-job training event is an important milestone in the beddown and operation of the F-35A at Eglin,” said Lt. Col. Michael Miles, 33rd Aircraft Maintenance Squadron commander. “The Air Force will now be able to better assist our contract logistics services teammates as flying operations mature.”

Lockheed Martin was initially contracted for those services but as the military becomes more “organic” uniformed maintainers will share the task.

With hundreds of verifications on joint technical data on how to properly maintain the aircraft left to be accomplished for each of the three F-35 variants in 2012 and beyond, the military wrench turners are not ready to take the toolboxes over just yet.

But at least in a handful of areas Airmen have the official “sign off” from Master Sgt. Scott Grabham, the aircraft section maintenance chief for the 33rd Aircraft Maintenance Squadron who verified training of the three

crew chiefs over the course of two days.

Grabham had received his training at Edwards AFB, Calif., during some of the developmental, test and evaluation of the F-35.

He is the only military person able to train a maintainer on certain tasks while three more Air Force trainers are soon to be added to the certifier ranks, he said.

“They did excellent in the cockpit and knew immediately where to look for foreign objects,” said Grabham on what he called “seasoned mechanics chosen to stand up the new F-35 mission at Eglin.”

Those maintainers transferred from legacy F-15 and other aircraft to maintaining the fifth generation joint strike fighter.

“I’m dealing with a lot more advanced electronics than I’ve ever dealt with,” said Staff Sgt. Matthew Reed, an F-35 crew chief in training who has seven years of experience on the flight line.

Part of transition and training in maintaining the joint strike fighter also means learning new terminology to describe familiar equipment.

Instead of an auxiliary power unit as called in other fighters, the F-35 joint technical data describes the equipment used to start the engine and give it its electrical power as an integrated power package, said Grabham.

Experienced maintainers are challenged with fully-fused sensor information and network-enabled operations and advanced sustainment unique to the F-35, in addition to the new aircraft’s

See F-35A, page 5

Defense bill affects pay, separation bonuses, more

By Karen Parrish
American Forces Press Service

WASHINGTON (AFNS) – President Barack Obama signed the 2012 National Defense Authorization Act on Dec. 31, 2011, which increases active-duty and reserve pay by 1.6 percent and governs Defense Department activities, from procurement to military personnel policy.

Several provisions in this year’s act will potentially affect active-duty and retired service members and their families.

Section 347 requires DOD to finance an independent assessment of overseas troop basing, advising retention, closure, realignment or establishment of U.S. military facilities outside the U.S. “in light of potential fiscal constraints on (DOD) and emerging national security requirements in coming years.”

Section 402 reduces authorized Army minimum end strength from 562,000 to 547,000. The other services’ authorized minimum strengths are unchanged, with 325,700 for the Navy, 202,100 for the Marine Corps and 332,800 for the Air Force.

Section 512 of the act creates a new member of the Joint Chiefs of Staff, which currently includes the Army and Air Force chiefs of staff, the chief of naval operations and the Marine Corps commandant. The new member will be the chief of the National Guard Bureau, who will have responsibility for “addressing matters involving non-federalized National Guard forces in support of homeland defense and civil support missions.”

Section 526 extends voluntary separation pay and benefits authority, formerly set to expire

Dec. 31, to the end of 2018. Section 530 converts the high-deployment allowance from mandatory to authorized. The allowance currently pays \$100 a day, in addition to all other pay and allowances, to a deployed service member who has been deployed 401 days or more out of the preceding 730 days.

Section 701 limits annual TRICARE enrollment fee increases for retirees and their family members to an amount equal to the percentage by which retired pay increases that year.

Section 702 sets mental health assessment requirements for service members deployed for contingency operations. The act calls for a series of assessments: one within 120 days before deployment; another during the period between 90 days after a deployment begins and 180 days after it ends; a third within a year

after the deployment ends; and a fourth between 18 months and 30 months of redeployment.

The act states assessments are intended to “identify post-traumatic stress disorder, suicidal tendencies, and other behavioral health conditions ... in order to determine which such members are in need of additional care and treatment for such health conditions.”

Assessments are not required for service members “not subjected or exposed to operational risk factors during deployment in the contingency operation concerned,” the act states.

Section 954 affirms that DOD “has the capability, and upon direction by the president may conduct offensive operations in cyberspace to defend our nation, allies and interests,” subject to the law of armed conflict and the War Powers Resolution.

Signing the bill into law, President Barack Obama acknowledged “serious reservations” about parts of the act, particularly provisions that regulate the detention, interrogation and prosecution of suspected terrorists.

“I have signed the act chiefly because it authorizes funding for the defense of the United States and its interests abroad, crucial services for service members and their families, and vital national security programs that must be renewed,” Obama said in a statement.

The act also contains critical initiatives to control spiraling health-care costs within the Defense Department, develop counterterrorism initiatives abroad, build the security capacity of key partners, modernize the force, and boost the efficiency and effectiveness of military operations worldwide, he noted.

Air Force offering second round of voluntary retirement, separation

WASHINGTON (AFNS) – The Air Force is offering a second round of voluntary early retirement authority and voluntary separation incentive pay beginning Jan. 9.

The move is part of the Air Force's continuing effort to meet the Department of Defense requirement to maintain civilian funding at fiscal 2010 levels.

"The Air Force recognizes the invaluable contributions of our civilian workforce, but also recognizes the fiscal constraints under which the Department of Defense and the government as a whole are operating," said Maj. Gen. Sharon Dunbar, the director of force management policy. "We are working to balance mission needs while taking care to minimize the effect on our current permanent civilian workforce and their families."

The first round of VERA/VSIP was used as a voluntary means to reduce civilian workforce levels, enabling strategic rebalancing efforts. As the Air Force continues its fiscal 2012 civilian workforce restructure, round two of VERA/VSIP will

LOCAL IMPACT:

At this time, AEDC leadership does not foresee a need to offer voluntary measures based on the limited impact of current force management actions at our location.

be used to further realign and rebalance the civilian force.

Civilian employees will receive VERA/VSIP eligibility surveys from their personnel managers in January and applications are due Feb. 3 or an earlier date established by local authorities. Applicants approved for this round of VERA/VSIP will need to separate on or before April 30.

"We are pursuing all available force management measures, to include civilian hiring controls, where required, with the goal of avoiding involuntary measures for our current permanent workforce," Dunbar said.

In August, the Air Force instituted a 90-day hiring freeze that was lifted as an Air Force-wide control Dec. 16. Hiring



controls remain in effect in some areas and vary by major command, depending on current MAJCOM strength relative to approved funding levels. Of the positions already identified for elimination, many were vacant, and the freeze created additional vacancies. By lifting the Air Force-wide freeze, MAJCOM managers

and hiring officials will be able to hire personnel into vacant positions that remain to support the future Air Force mission.

For any information about civilian employment, voluntary separation programs and other personnel issues, visit the secure Air Force Personnel Service website at <https://gum-crm.csd.disa.mil>.

F-22 from page 1

percent," said Jeff Babione, Lockheed Martin's F-22 program manager. "You've delivered 55 zero-defect jets to date, and you have had more than five years of on-time deliveries."

Tail No. 4195 is the culmination of all those successes. It is the 195th F-22 to roll off the line and into the Air Force fleet.

Eight of those jets were built for developmental purposes.

The F-22 combines

stealth, advanced sensors and advanced air-to-air and air-to-ground weapons that makes it possible for the aircraft to cruise faster than the speed of sound without being detected.

However, the \$143 million price tag per aircraft, along with the current state of the economy and changes in the military requirements for post Cold-War challenges, led government officials to the decision to officially cease production

of the F-22 in 2009.

"This is why we must create a more economical fighter aircraft," said Col. Sean Frisbee, the F-22 system program manager at Wright-Patterson AFB, Ohio.

While the ceremony marked the end of an era for the F-22, the shutdown of the production line also signified the beginning of a new chapter of sustaining and upgrading the Raptor.

"This is only the begin-

ning," Frisbee said. "The next phase will include greater capability to an already incredible aircraft."

The final Raptor will enter a series of company and government flight tests, according to Lockheed Martin officials.

Tail No. 4195 will then be delivered in May to the 3rd Wing's 525th Fighter Squadron, commanded by Lt. Col. Paul Moga, at Joint Base Elmendorf-Richardson, Alaska.

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does not include more than \$93 million paid to the approximately 4,323 retired military personnel living in the local area.

In total, this retired pay group generates more than \$137 million, including the spin-off effect.

Additionally, these figures do not include the impact from test customers like Pratt & Whitney, General Electric or other companies who maintain staff at AEDC to manage

tests of their products or participate in the test process.

The economic impact data and secondary employment estimates represent AEDC's economic impact during FY 2011, which runs from Oct. 1, 2010 to Sept. 30, 2011.

AEDC operates the world's largest complex of ground test facilities with a replacement value of more than \$11.3 billion.

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The goal for the current test is succinctly stated – investigate laminar stagnation point heat transfer augmentation on a blunt body.

Air flowing close to the surface of a vehicle, also known as the boundary layer, can be characterized into three categories: laminar, transitional and/or turbulent. A laminar flow can be best described as smooth and well behaved. This flow field in general is easier to numerically compute.

According to Coblisch, a turbulent flow fluctuates randomly which tends to mix the flow close to the body of the vehicle; a turbulent boundary layer can therefore be more challenging to compute. Transitional flow is the region when the flow changes from laminar to turbulent.

Hypersonic boundary layer transition is currently not well understood and is the subject of active research being conducted within the aerospace scientific community and has been supported by AEDC Tunnel 9 over the past several years.

"Heat transfer data collected during the 2006 Tunnel 9 Orion crew capsule tests were acquired over a wide range of test conditions covering all three flow regimes," Coblisch explained. "These data compared well with NASA's computations and were used to confirm the requirements for the Orion capsule TPS. However, one area that that didn't compare well to computer predictions was in the stagnation point region of the vehicle while it experienced laminar flow."

In the stagnation point region of any body, the flow stagnates or comes to zero velocity. From that point, the flow turns and begins to accelerate along the surface of the vehicle.

"We found that the laminar heat-transfer rates in this stagnation point region were consistently elevated above laminar flow computer predictions," Coblisch said. "This augmented stagnation point heating was not only observed in data from Tunnel 9, it was also found in data collected in NASA Langley's Mach 6 and 10

tunnels as well as Cal Tech's T-5 shock tunnel. This phenomenon is therefore not unique to Tunnel 9.

"NASA is designing the vehicle to handle some severe flight parameters during re-entry. They have therefore accounted for the augmentation found in the ground test data in the current TPS design requirements for the vehicle and I don't expect the results from this test will affect the system significantly."

Coblisch said NASA is "still very interested" in understanding the science associated with this augmentation.

"While we're using the Orion test article in this investigation, the problem is not Orion-focused," he said. "It's on blunt re-entry bodies; we saw similar augmentation during our Mars Science Laboratory (MSL) capsule testing that occurred right before the 2006 Orion test."

Coblisch explained that the team's first goal during the test will be to collect an initial baseline of data

to compare directly back to the original 2006 Orion crew capsule data set. He also pointed out that several aspects of the current test at Tunnel 9 will differentiate it from the previous work accomplished there.

"We're going to be collecting data similar to what we had during the first 2006 entry, however at much higher data acquisition rates," he said. "By sampling the data faster, we can investigate unsteady surface temperature, surface pressure and surface heat transfer in an attempt to gain a better understanding of the flow field surrounding the stagnation point. In addition, we'll be collecting high-speed flow field Schlieren imagery in this region to observe any flow field unsteadiness."

NASA and AEDC engineers suspect another factor unique to wind tunnel testing may also be a cause of the elevated stagnation point heating rates on the test vehicle; specifically, unsteadiness due to free stream pressure fluctuations or what is commonly known as "tunnel noise."

Dan Lewis, ATA project engineer for the Orion crew capsule test program at Tunnel 9, said, "We will be collecting free stream tunnel noise data in parallel to the data collected directly on the Orion. With the tunnel noise data we're hoping we can see a correlation between tunnel noise and the high-frequency surface and imagery measurements on and around the Orion model."

Besides the original coaxial thermocouple sensors which are used to acquire the heat flux on the Orion's heat shield, other novel measurements on the test article will be added by AEDC personnel to assist in the investigation. Specifically flush-mounted pressure sensors will look at surface pressure fluctuations on the heat shield, as well as a new heat flux sensor called an ALTP (atomic layer thermopile) sensor.

"The ALTP sensor has the potential to measure high frequency heat flux not possible with traditional heat flux sensors used in Tunnel 9," Lewis said. "This sensor has never been run

in Tunnel 9; however, they have been successfully utilized in high-enthalpy facilities located in Europe. We are extremely interested in evaluating the performance of these sensors in Tunnel 9's test environment. AEDC will continue to provide the highest quality data set possible to our customers."

Lewis added, "In addition to the new surface-mounted sensors, we are also using laser diagnostics during the tests to interrogate any fine particulate we may have in the approach flow. Laser-Induced Incandescence (LII) is a new technique being deployed for the first time during this test. We constantly try to advance our understanding of our facility whenever possible as well as investigate new measurement techniques that we can deploy on customer's tests. AEDC has even successfully partnered in the past with NASA, DOD and academia to further these advancements. This continual improvement is imperative for AEDC to continue to provide the highest quality data set possible to our customers."

ANGEL from page 3

through various organizations of which he was a member. Still, the significance of giving back to the program that had been such a blessing to him didn't sink in until recently.

"It probably wasn't until this past year when I started working here at AEDC," he said. "I had my first child in April, and I think probably what's different this year is that, A, I'm established and, B, I understand as a parent now – versus a young adult – how important it is for that child to feel like he or she is having a very good Christmas and not to feel like they're being left out. I think, actually, the difference would be me transi-

tioning from childhood to adulthood and seeing it from the other side of the fence."

Janet Feller, a programmer analyst in the wind tunnels, coordinated the AEDC Angel Tree program this year for the ATA Employee and Community Activity Committee (E&CAC). She said she was particularly impressed with Walker's interest in the program.

"He called me about the Angel Tree program and said that he and some folks in his office would like to participate," Feller said. "Art shopped for several Angels, getting some last minute things and some extra items to donate. He and some from his office

helped with the loading of the vehicles when the staff/counselors came to collect the gifts."

Feller said Walker is the first former Angel to share his story with her.

"I know that there are some hesitations from people about Angel Tree programs, whether here or with churches," she said. "Do we know the kids are getting the gifts or what if parents return the gifts for cash, etc.?" Art sharing his story should reaffirm our hope that what we do for God today might not be seen today, but God will use it for His glory – in His time. Art is an enjoyable and inspiring person to be around, and I

am thankful I have learned more about him during this event."

As a fairly recent hire, this year was Walker's first to participate in the AEDC Angel Tree, but don't expect it to be his last.

"As far as on this end, I feel like I've got a long road ahead of me when it comes to the Angel Tree program," he said. "I'm just coming into adulthood, and this is my first Christmas having a young one of my own. I feel like the mission continues. This is my first year here at AEDC helping out, but the people here have been in place helping with this for years. I feel like I'm playing catch-up, actually."

F-35A from page 3

advanced stealth qualities.

During the training to inspect the joint strike fighter in a simulated post-flight operations mode, Reed used a laptop computer transported up to the cockpit known as a portable maintenance aid.

It was loaded with software known as the maintenance vehicle interface which through a USB cable, makes jet parts move and indicates jet fluid level readings.

"Accomplishing inspection tasks via F-35 methods was easier since the maintenance data was a few computer

keystrokes away instead of having to check out five paperback reference books to "check out a task," he said.

Since the software allowed him to move flight control systems, Reed no longer needed to hook up hydraulic equipment as he did with legacy aircraft.

However, even though maintainers revere the F-35's technological advances, they still experience a certain familiarity that comes with their basic trade skills.

"As far as the airframe itself, a fighter is a fighter ... a bunch of stuff in a little area," said Reed.

Tunnel 9's Susan Drinnon enjoys helping others

By Philip Lorenz III
Aerospace Testing Alliance

Whether at work or afterwards, a consistent theme in Susan Drinnon's life is the pleasure she derives from helping others.

Drinnon, a computer scientist/system administrator for AEDC's Tunnel 9 Hypervelocity Wind Tunnel facility at White Oak, Md., recently reflected on her life.

In 1985, Drinnon came to work as a summer administrative aide at the Naval Surface Weapons Center at White Oak, Md., never thinking she would still be there 27 years later.

"I hadn't finished my degree in music when I came here," she said. "I had been working at McDonald's to pay for college, and it was one of the regular customers who asked what I was going to be doing over the summer. I told him, if I didn't get a job as a secretary, then I'd be working there. He told me about the opportunity to possibly work here as a summer aide."

With the Navy at White Oak, she found herself in a world unlike anything she knew existed outside of her hometown of Burtonsville, about seven miles from the Navy's White Oak facilities.

Regarding a career, Drinnon acknowledged she wasn't looking that far ahead.

"I didn't really think much about what I was going to do in the future," she said. "After I got my BA in music; I took a class at a recording studio, thinking maybe that's the path I would take. I found out that working at a recording studio was a lot of work –

very long hours – and little pay for it."

She then considered returning to college to pursue a Bachelor of Science degree in music, which would allow her to teach. Although she continued to take courses after earning her undergraduate degree, her professional focus began to change.

"I decided, after changing the groups I worked with here as I got different secretarial positions, that I might want to move towards a technical degree," she said.

By 1990, Drinnon was pursuing a bachelor's degree in computer science.

That was the year Drinnon transitioned from her administrative role to an engineering technician position.

"Then I became a computer scientist," she said. "Mostly [now] I support our desktop systems and our test network systems, I do both sides."

On Oct. 1, 1997, when AEDC assumed management of Tunnel 9 from the Navy, Drinnon stayed on.

When asked what gives her the most pleasure at work, Drinnon says the answer is simple.

"I like helping people," she said.

The job keeps her so busy; the biggest challenge is "being able to stay current with technology."

Carol Paschall, an ATA administrative assistant at Tunnel 9, like many workers, relies heavily on a computer network system to keep up with her job.

"Susan is always very helpful when I have a computer issue," Paschall said. "If she can't solve the problem, she will submit a ticket to network control.

It's humbling when Susan usually knows what the problem is.

"It reminds me how 'technically challenged' I am. There are times when an issue can wait, but Susan takes care of it right away."

Paschall said Drinnon's commitment to helping others extends beyond the workplace.

"Susan works for her local volunteer fire department," Paschall said. "They had a sign asking for volunteers, and she just went in and asked if she could help. I don't know many people that would volunteer somewhere without any connection other than being part of her local neighborhood."

Dan Marren, director of Tunnel 9, said Drinnon's helpful attitude reminds him of the movie, "Pay it Forward," about a teacher who inspires a boy to literally do good deeds that in turn inspires others to reciprocate, a process that continues throughout the story.

"Susan, besides being a valued member of my team, makes a positive impact in her community by volunteering at the local firehouse," he said. "In fact just this week, she received a second award from the firehouse."

Drinnon's involvement with the Odenton Volunteer Fire Company began five years ago.

"There was a sign in front of the fire department building saying 'volunteers needed,'" she recalled. "The sign was kind of calling me. And one of our guys, who worked here then, was a volunteer at a different station that's local to him.



Susan Drinnon, Tunnel 9 computer scientist/system administrator, poses with Odenton Volunteer Fire Company (OVFC) Chief Don Evick (left), OVFC Vice President Wylie Donaldson and Anne Arundel County Volunteer Firefighters Association Award Chair Tom Newquist, when they presented her with the Anne Arundel County Firefighter/EMS/Administrative Member of the Quarter award for her work at the fire station. (Photo provided)

"I asked him if he thought that our station would have anything that I could do, if I didn't want to do firefighting or EMT," she said. "He said sure, that they probably had administrative things so, then I contacted our station and became a member."

Drinnon found her place at the fire station and eventually became the sole member of the annual mail-out fundraising effort.

"This fundraiser raises the majority of the funding for our fire station," she said. "I also work every summer at the Maryland State Fireman's Association convention in Ocean City, Md., where I help set up the exhibit halls and sign in the vendors for the convention."

Odenton Volunteer Fire Company President Jimmie Allen said in Drinnon's award nomination letter, "One might think

that as the chair of the committee, the only duties are leading the committee and ensuring that the members of the committee complete tasks on time and the fund drive goes off without a hitch.

"However, that is not the case with this committee. As it turns out, the mail-out fund drive typically turns out as a 'one man (woman) show.'"

Drinnon has been active on other fronts as well in her spare time, including donating her hair twice to "Locks of Love."

Around 10 years earlier, she was talking with a neighbor who worked for the American Cancer Society.

"She told me about Daffodil Days – they sell daffodils and they get the proceeds – and one of my favorite flowers is the daffodil, so I would order them from her," Drinnon

said. "So, I bought them because they were daffodils and because I wanted to help the ACS."

Drinnon got involved with another nonprofit organization, too.

"I started participating in the Komen Race for the Cure about six years ago," she said. "The gym I belong to would go as a group, and so I have been participating with them every year. I have known several people who either had breast cancer or know people whose family has been affected by breast cancer, and a past co-worker died from breast cancer, so I feel very strongly about supporting breast cancer research."

Besides helping others, Drinnon said there is one other thing that is very important to her.

"Having a sense of humor," she said. "That helps."

DOD holiday celebration



2011 Year in Review

TESTS



A 1/20th scale model of Raytheon's Small Diameter Bomb II and an F-15E Strike Eagle fighter underwent store separation testing to ensure the SDB II is just what the warfighter ordered.



AEDC workers built their largest-ever model, the B-52H Stratofortress, and ran tests aimed at increasing the legacy aircraft's weapons capability for the B-52H Program Office.



AEDC engineers conducted altitude testing in test cell J-1 on an F100 engine that powers the F-15 Eagle and F-16 Fighting Falcon as part of a Continuous Improvement Program project.



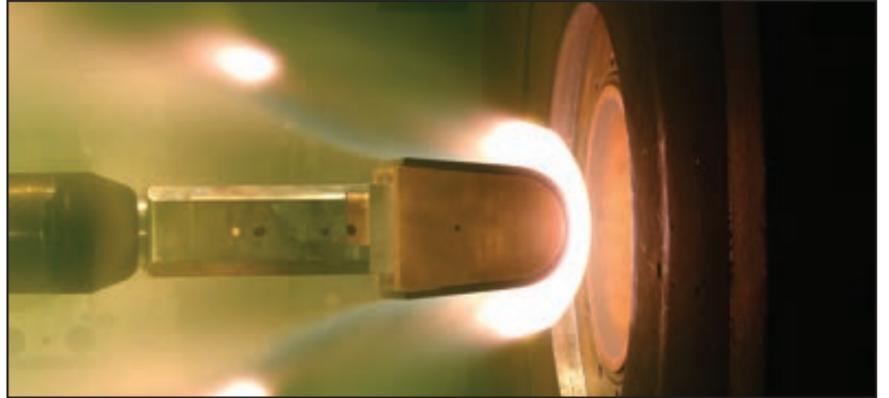
An F135 engine went through validation and altitude development in AEDC's altitude test cell C-1. The F135 engine is a Conventional Take Off and Landing and Carrier Variant designated for low-rate initial production for the F-35 Lightning II program.



A Minuteman III Stage 3 motor went through simulated altitude testing in AEDC's J-6 Large Rocket Test Facility. The testing supported Hill AFB and the Minuteman Solid Rocket Motor Warm Line program.



The Air Force Research Laboratory tested a 23-percent scale model of the Speed Agile technology demonstrator at AEDC's National Full-Scale Aerodynamics Complex to test a new Short Take Off and Landing transport vehicle concept.



AEDC's 70 watts segmented arc heater, H3, set a new record. Before Aug. 17, the longest run on record was about nine minutes. The new record is 25 minutes. The long run time may provide engineers with advanced arc heater technology to eventually fill a long-standing ground testing capability gap between facilities at Arnold and NASA.

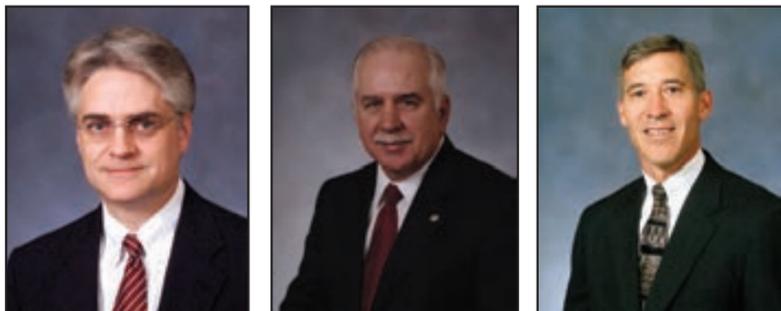


DISTINGUISHED GUESTS

Clockwise from far left: AFMC commander Gen. Donald Hoffman visited AEDC in June, and AEDC's Tunnel 9 facility in Maryland in April; also visiting during the year were Gov. Bill Haslam and Lt. Gov. Ron Ramsey; Commandant at the U.S. Air Force Academy Brig. Gen. Richard M. Clark spoke at AEDC's African-American Heritage Luncheon; Chief Master Sgt. of the Air Force James Roy; and Senate Armed Services Committee staff member for science and technology Dr. Robie Roy.



2011 Year in Review HAPPENINGS



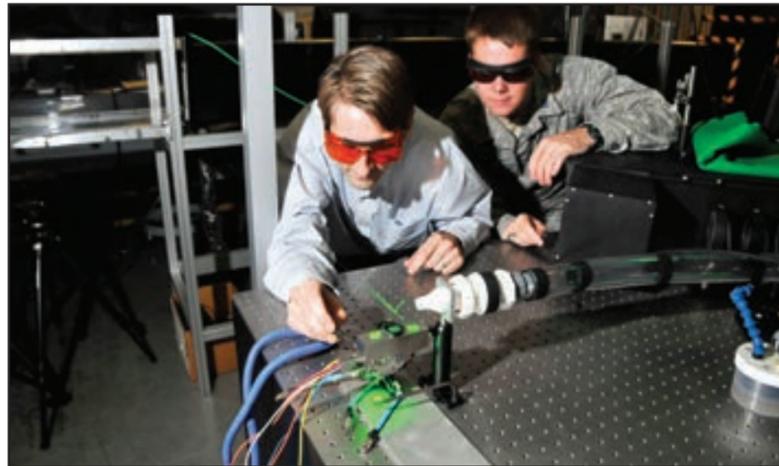
ATA General Manager Dr. David Elrod, left, left AEDC in May to become senior vice president of business development at Jacobs Technology. Deputy General Manager Steve Pearson, center, moved into Elrod's position, and Philip Stich, right, became ATA's new deputy general manager.



AFMC Commander Gen. Donald Hoffman passed the flag to Col. Michael T. Brewer in a change of command ceremony Aug. 2. Brewer succeeded Col. Michael Panarisi.



Above, Phase I of the Turbine Engine Dry Air Capability project was completed with a ribbon cutting Jan. 20. Below, a pipe-cutting ceremony Sept. 20 signaled the kick-off of Phase 2.



Air Force Academy cadets spent five weeks at AEDC with the academy's Cadet Summer Research Program, seeing practical ways to apply what they had been pursuing academically.



In March, AEDC's Fire Department was selected as the AFMC's Small Fire Department of the Year for 2010.

AS AN AIR FORCE CIVILIAN, WHERE CAN I FIND HELP?

We all face challenges, but we don't have to face them alone.
IF YOU NEED HELP WITH... TRY THESE AGENCIES & THEIR RESOURCES

Health & wellness planning	AFMC Wellness Support Center	www.afmcwellness.com
Health screenings & education	Civilian Health Promotion Services	(931) 454-6440
Work, personal or family issues	Employee Assistance Program	(800) 222-0364
Mental health & substance abuse	Centerstone	(931) 461-1300
Unplanned pregnancy	Crisis Pregnancy Assistance Center	(931) 728-6440
Suicide prevention	National Suicide Prevention Lifeline	(800) 273-8255
Sexual assault & victim advocacy	Sexual Assault Response Coordinator	(931) 581-7494
Crime victim advocacy	Victim Witness Assistance Program	(931) 454-4567

Dietary supplements removed from Exchanges due to health concerns

The Department of Defense has implemented a temporary moratorium on the sales of products containing DMAA within military facilities. The moratorium will remain in effect pending further review of relevant scientific evidence and reported events, officials said. Recent reports show that two Soldier deaths and additional adverse health effects in other service members may be related to the use of dietary supplements containing DMAA, which is also known as

dimethylamylamine. "We support the decision of the Military Exchanges and Commissaries to remove products containing DMAA from their shelves until we can make a further determination about the safety of this ingredient," said Dr. Michael Kilpatrick, the deputy director of Force Health Protection and Readiness Programs with the Office of the Deputy Assistant Secretary of Defense for Force Health Protection and Readiness. DMAA is sold as a single supplement and in

combination with multiple other ingredients. In particular, it is often combined with caffeine, a legal, natural stimulant. Stimulants may accelerate metabolism, heart rate and blood pressure, which may increase the body's production of heat, especially in hot and humid conditions. "We are concerned about reports of heat illness, kidney (and) liver damage, and sudden death in service members who reportedly used products containing DMAA," Kilpatrick said. The Assistant Secretary of Defense for Health Affairs Jonathan Woodson asked the surgeons general of the military services to conduct a review of available scientific evidence and adverse event reports to better understand any potential relationship between DMAA and these events. Recommendations from this review will guide further decisions, officials said.

"We take the health of our service members and families very seriously, and believe this action is necessary as a precautionary measure until we can learn more," said Lt. Gen. Patricia Horoho, the Army surgeon general. (Courtesy of the U.S. Army Medical Command Public Affairs.)

Arnold Golf Course
454-7076

Check us out on Facebook! Arnold AFB Golf Course

Mulligan's Coffee Bar & Grill is open 10:30 a.m.-2 p.m. Monday through Friday and 8 a.m.-2 p.m. Saturday and Sunday. Call ahead orders for dine or carry out, 454-FOOD (3663).

Arnold Golf Course has a new **winter special** good seven days a week through Feb. 28. Play all day for \$10 green fee. Regular cart fees apply.

Arnold Lakeside Center
454-3350

Check us out on Facebook! Arnold Lakeside Center and Arnold AFB Service Information Tickets and Tours

Café 100 Pizza is available 10:30 a.m.-1:30 p.m. Monday through Friday. Pizza is available by the slice in pepperoni or sausage for \$2 per slice or the works (pepperoni, sausage, ham, green pepper, onion, mushrooms, black olives, bacon and extra cheese) for \$3.50 per slice. Whole pizzas are available if ordered the day prior and will require completing an order form and paying in advance. Selections for whole pizzas come in thin or thick crust and 12 or 16 inch. Choose from cheese, pepperoni, sausage, Canadian bacon, veggie, works, meat lovers or build your own from a variety of toppings. Salads are also available for \$3 with choice of ranch, French or Italian dressing.

First Friday Jam is Jan. 6 starting at 6 p.m. Come to play, listen, dance and enjoy. Join in with the band to play an instrument or sing, or take over and do your own performance.

Evening Under the Stars Dinner, Dance and Show coming Jan. 21. Arnold Lakeside Center will host a semi-formal event to include dinner service and cocktail social from 5:30-6:30 p.m. with magic show from 6-7 p.m. and dancing to the Jerry Anderson Ensemble from 7-10 p.m. The event is for ages 18 and up and reservations are required by January 17. Cost is \$16.95 for members and \$18.95 for nonmembers. This event is limited to the first 80 to sign up.

Weekend dining room specials (all include two sides and salad bar):

Friday 4-9 p.m.
Jan. 6: Dozen butterfly shrimp, \$10.95 members, \$11.95 nonmembers.
Jan. 13: Feta and onion-topped New York strip, \$15.95 members, \$16.95 nonmembers.
Jan. 20: Homemade lasagna, \$10.95 members, \$11.95 nonmembers.
Jan. 27: Lynchburg ribeye, \$13.95 members, \$14.95 nonmembers.
Saturday 5-9 p.m.
Jan. 7: Pork medallions with sauteed apples, \$11.95 members, \$12.95 nonmembers.
Jan. 14: Prime rib for two, \$29.95 members, \$31.95 nonmembers.

Jan. 21: Evening Under the Stars semi-formal event, dinner/social 5:30-6:30 p.m., magic show 6-7 p.m., Jerry Anderson Ensemble 7-10 p.m. Ages 18 and up. RSVP by Jan. 17. \$16.95 members, \$18.95 nonmembers. Limited to first 80 to sign up.

Jan. 28: Monterey chicken, \$10.95 members, \$11.95 nonmembers.

All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Tops In Blue will be performing at the Tullahoma High School auditorium 7 p.m. Jan. 24. Tops In Blue is an all-active duty U.S. Air Force special unit made up of talented amateur performers selected for their entertainment abilities. Each year thousands compete in base talent contests and the most talented move on to higher levels of competition. The result is an elite group composed of 35 of the most talented vocalists, musicians, dancers, comedians, magicians, and dramatists worldwide. Known as the Air Forces' Expeditionary Entertainers, the group's main mission is to perform for military personnel and their families throughout the world. The enormous popularity of the group has also made them America's goodwill ambassadors around the globe. Each team begins their tour with an intense 45 day training period at Lackland Air Force Base, Texas, "Home of Tops In Blue." This training consists of a highly accelerated educational process to prepare them to succeed as world-class entertainers and distinguished Air Force Ambassadors during their nine-month tour. The performers must not only master the instrumental, vocal, choreography, but also the intricate responsibilities of being their own technical staff. The performing team is responsible for setting up over 80,000 pounds of staging, lighting, audio, and special effects equipment required for each performance. They must also become a complete self-contained operational unit with each member being responsible for logistical responsibilities such as ground transportation, airlift, lodging, dining, wardrobe, palletizing, etc. throughout the tour. To date, Tops In Blue has traveled more than four million miles to military bases throughout the world, performed at six World Fairs, more than 100 state fairs and festivals, and performed at countless air shows, military balls and special events. The 2011 tour, Rhythm Nation, brings to life the music of America, from the early 1900s through today. It provides a glimpse of a century of popular music and how it grew through new rhythms and technology. It features the swingin' jazz of Nat King Cole and Billie Holiday, the great rock n' roll sounds of Little Richard and Jerry Lee Lewis, the cool Motown R&B of Marvin Gaye and Tammi Terrell, hits by J-Lo and Michael Franti, some inspirational country sounds and much, much more! Add the high energy precision choreography and dazzling visual impact

Tops In Blue is known for and every member of the audience will be singing along and dancing in their seats. Call 454-3303 for ticket information.

Last Friday Trivia Contest returns 6:30 p.m. Jan. 27. Teams can have up to four people. No cell phones are permitted during the event. Anyone using a phone while a question is underway will be disqualified. Questions in random categories will be given. Prizes for top finishers.

Daytona 500 tickets available at discounted prices through ITT (Information, Tickets and Travel). The race will be Feb. 26 and various packages are available. Call 454-3303 for details.

Family Member/Youth Programs (FamY)
454-6440

Check us out on Facebook! Arnold AFB Youth Programs

Fitness Center
454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

Fitness Center Equipment Orientation by appointment Monday through Friday during January. If you are unfamiliar with fitness equipment or may have questions pertaining to proper form then call for an appointment with Kevin Duncan, Cooper Institute Certified Personal Trainer (CI-CPT).

3 Point Shoot Out will be held Jan. 18 at 5:15 p.m. Participants will shoot two shots from each of five locations earning one point for each shot made. Choose to use the "Money Ball" anytime and it is worth two points. Top three point earners will win prizes.

Intramural Basketball League set to begin Jan. 31. Games will be played on Tuesdays and Thursdays at 5:30, 6:30 and 7:30 p.m. Sign up as individuals or teams. Must be age 16 or older. Rosters are due Jan. 25.

Cool 100 Walk/Run Incentive Program continues. Participants log their miles using the honor system. Participants may use the track located behind the A&E building, the trail behind the Fitness Center, a treadmill in the Fitness Center facilities or at home. These miles are to be turned in either daily or weekly. Participants who complete 100 miles before Feb. 1 will receive a T-shirt. Call 454-6440 to sign up and remember to give your shirt size.

Outdoor Rec (ODR)
454-6084

Check us out on Facebook! Arnold AFB Services Outdoor Recreation

Ruby Falls Lantern Tour planned for Jan. 14. Meet at Outdoor Recreation at 5:30 p.m. to head to Chattanooga for this intimate experience allowing visitors a rarely seen view deep within Lookout Mountain. Tours begin with a 260-foot elevator ride into the mountain. Upon arrival, there will be no staged lighting in the cave. Select members of the group will be equipped with a small hand-held electric lantern and the tour guide will have a fueled inspector's lantern. As your eyes adjust to the low light, you will begin to see remarkable sites, dancing shadows, and feel a sense of mystery looking into the darkened path ahead. The Ruby Falls Lantern Tour is not only a visually stimulating experience but is also a storytelling trip. As mysterious shadows dance on underground walls, your guide will share tales of folklore, stories of unexplained phenomena, as well as details on the rich history and geology of the Ruby Falls Cave. The trip is for ages 5 and up and cost is \$40. Expected return time is approximately 10:30 p.m. Remember to bring your jacket and a camera. There must be at least eight to take the trip and no more than 14. Call to sign up.

Come join the Outdoor Recreation **ski trip** as we hit the slopes in beautiful Gatlinburg Jan. 20-22. We will leave Friday at 4 p.m., arriving in the evening to check into the hotel with time to look around and do a little shopping. Wake up bright and early on Saturday

Hours of operation:
Arnold Lakeside Center: Catering/Management offices by appointment. Dinner: Arnold Express Menu or Hap's Pizza only Thursday 5-8 p.m., dinner or Arnold Express Menus and Hap's Pizza Friday 4-9 p.m. and Saturday 5-9 p.m.; Main Bar Thursday 5-8 p.m., Friday 3:30-10 p.m. and Saturday 5-10 p.m.; Social Hour Friday 4-6 p.m., Movie Night Thursday 6:30 p.m.
Family Member/Youth Programs: Tuesday through Friday 10 a.m. - 5 p.m., Saturday 12-5 p.m.
Outdoor Rec: Main Office, Check In and Auto Shop Tuesday through Saturday 10 a.m.-5 p.m. Marina by appointment only.
Fitness Center: Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m.
Arnold Golf Course: Pro Shop & Driving Range 8 a.m.-dusk. Driving Range open 24 hours with pre-purchased key card. Mulligan's Coffee Bar & Grill Monday through Friday 10:30 a.m.-2 p.m., Saturday and Sunday 8 a.m.-2 p.m.
Recycling: Monday through Friday 7 a.m.-4 p.m.
Wingo Inn: Monday through Friday 7 a.m.-6 p.m., Saturday and Sunday 8 a.m.-4 p.m.
Barber Shop: by appointment - Monday, Tuesday, Thursday and Friday 8 a.m.-4 p.m.
GLC: Monday through Friday 7 a.m.-3:30 p.m. May vary depending on bookings.
Café 100: Monday through Friday 6:30 a.m.-1:30 p.m.
Nonappropriated Funds Human Resources: Monday through Friday 7:30 a.m.-4 p.m.

morning to hit the slopes. There will be a one-hour lesson at 9 a.m. with the rest of the day to enjoy skiing. Saturday evening will be an opportunity for you to enjoy the night life of Gatlinburg. We will depart on Sunday at 11 a.m. The cost is \$300 per person or \$450 for couples. If you would like to try snowboarding, the cost is an extra \$20 per person. This trip is for ages 8 and older and sign up deadline is Jan. 11. Cancellations are nonrefundable starting Jan. 12. There must be a minimum of 10 to take the trip and no more than 14. Call 454-6084 to sign up.

Paintball is every Saturday from 9:30 a.m.-3:30 p.m. Anyone age 10 and older may play but ages 10-17 must have a parent permission form. Interested participants need to call and sign up at least a day ahead of time to ensure equipment availability. Once the day comes everyone will meet at the paintball field. Cost is \$35 per person with equipment provided and includes 500 paintballs and a tank of air. It is \$20 per person for those with their own equipment and that also comes with 500 paintballs. All paintballs used must be purchased from ODR for \$13 per bag of 500 or \$45 for a box of 2,000. If you're looking for some fun filled, scenario paintball, we will see you on Saturday.

Wingo Inn
454-3051

Check us out on Facebook! Wingo Inn

Reservations for Wingo Inn can be made 120 days in advance. Room rates start at \$39 per night. Please call 454-3051 for reservations.

Gossick Leadership Center
454-3024

Check us out on Facebook! Arnold AFB Services Gossick Leadership Center

The Gossick Leadership Center (GLC) is now part of the Services Division. Events such as meetings, conferences, luncheons, dinners, etc. may be booked through the Services Conference Center Manager (CCM) up to one year in advance. Requests must be made in writing by email to arnold.glc@arnold.af.mil. All event coordinators are required to sign an agreement. Official unit functions are authorized at no charge and are defined as bona fide official meetings or training held as part of the normal duty day. Unofficial and private functions may be held for authorized users at a fee. Community members may host events with the approval of the Services Director for a fee. Outside food and beverages are not allowed. First consideration must be given to Arnold Lakeside Center. In the event they cannot accommodate, an outside source may be utilized with CCM approval. For more information contact the CCM at 931-454-4003.

January Movie Schedule

Movie nights are Thursdays with movie start time of 6:30 p.m. and dinner available from the Express or Pizza menus from 5-8 p.m.



Jan. 12 - "Moneyball," rated PG-13 starring Brad Pitt and Jonah Hill. The story of Oakland A's general manager Billy Beane's successful attempt to put together a baseball club on a budget by employing computer-generated analysis to draft his players.



Jan 12

Jan. 19 - "Real Steel," rated PG-13 starring Hugh Jackman and Evangeline Lilly. Set in the near future, where robot boxing is a top sport, a struggling promoter feels he's found a champion in a discarded robot. During his hopeful rise to the top, he discovers he has an 11-year-old son who wants to know his father.



Jan 19

Jan. 26 - "Footloose," rated PG-13 starring Kenny Wormald and Julianne Hough. City kid Ren McCormack moves to a small town where rock 'n' roll and dancing have been banned, and his rebellious spirit shakes up the populace.



Jan 26



DOD releases sexual assault report, announces new policies

By Karen Parrish

American Forces Press Service

WASHINGTON (AFNS) – Defense Department officials released the “Annual Report on Sexual Harassment and Violence at the Military Service Academies” on Dec. 27, covering the academic year from June 1, 2010, to May 31, 2011.

The report shows an increase in reports of sexual assault, with 65 reports of sexual assault involving cadets and midshipmen, compared to 41 reports in the previous academic year.

“One sexual assault is one too many,” Defense Secretary Leon E. Panetta said in a DOD news release.

“Whether it’s in our academies or our ranks, at sea or ashore, there’s no place for this unacceptable behavior,” Panetta continued. “We treat each other with dignity in this institution. I expect everyone in this department to live up to that high standard.”

In the release, Air Force Maj. Gen. Mary Kay Hertog, the director of the department’s sexual assault prevention and response office, stressed the importance of accountability and victim support.

“We know that the military academies are similar to college campuses around the country in that

sexual harassment and assault are challenges that all faculty, staff and students need to work to prevent,” Hertog said.

“However, when it does occur, we owe it to those who have been victimized, and to every cadet and midshipman, to do everything possible to provide needed support and to hold those who commit sexual assault appropriately accountable,” he said.

During the comprehensive review outlined in the report, defense officials visited the U.S. Military Academy in West Point, N.Y., the U.S. Naval Academy in Annapolis, Md., and the U.S. Air Force Academy in Colorado Springs, Colo.

They reviewed each institution’s policies, training and procedures, and held focus groups with cadets and midshipmen.

Officials found that most academy programs fulfilled or surpassed the requirements of existing DOD policies and directives.

“We also identified areas for improvement to enhance programs and ensure compliance with the department’s policies,” Hertog said. “In our oversight role, my office will follow up with the academies every six months to ensure the necessary improvements are implemented in a timely manner.”

One required improve-

ment is that academies evaluate and measure their sexual harassment and assault prevention programs.

Defense officials also announced two new policies relating to sexual assault Dec. 27.

One allows a service member who makes an unrestricted report of a sexual assault to request an expedited transfer to a new duty station.

A restricted report, which is confidential, allows a victim to seek medical aid and counseling but is not communicated to the chain of command.

The second new policy standardizes retention periods for sexual assault records across the military services to ensure victims

have extended access to those documents.

“This is a leadership issue, first and foremost, so I also expect us to lead with integrity and with energy to eliminate sexual assault and harassment from our culture,” Panetta said. “I’m confident the steps we are taking are the right ones, but we must continue to improve.”

The annual report is required by the 2007 National Defense Authorization Act, which directed the DOD to annually evaluate sexual harassment and sexual violence policies, training and procedures at the military service academies.

The academies participated in the assessment.

Milestones



James McCullough
ATA, 45 years

35 YEARS

Jane Gray, ATA
James Phillips, ATA
Heard Lowry III, ATA

30 YEARS

Frank Turman, ATA
James Stringfield, ATA
Ruth Garner, ATA
Joel Wood, ATA
Cindy Yates, ATA

25 YEARS

Henry Crabtree, ATA
Michael Scott, ATA
Tom Tibbals, ATA

20 YEARS

Christina Norman, ATA
Gary Cates, ATA
Vijay Narain, ATA
Jimmie Sullivan, ATA
William Burt, ATA
Dennis Timmons, AF

15 YEARS

Andrew Daniel, ATA
Stephen Salita, ATA

10 YEARS

James Brown, ATA
Kenneth Griffin, ATA

5 YEARS

Robert Hardin, ATA
Christopher Robinson, ATA
Gregory Tolley, ATA

INBOUND MILITARY

Master Sgt. Lars Mirandamuller, AF

OUTBOUND MILITARY

Col Regina Goff, AF

RETIREMENTS

Murray King, AF
Thomas Richardson, AF

PROMOTIONS

Ryan Allen, ATA
Kathleen Bajar, ATA
Mary Barlow, ATA
Jeannie Bowden, ATA
Wesley Cothran, ATA
Marcheta Darnell, ATA
Ashley Gunn, ATA
Robert Hardin, ATA
Diana Holland, ATA
Michael Holland, ATA
Rick Hutchings, ATA
Jamey Morris, ATA
Alexander Pack, ATA
Nathan Payne, ATA
Edward Polk III, ATA
Erin Robinson, ATA
Bradley Walker, ATA
Michael Wilson, ATA
Paul Wright, ATA

Saudi Arabia to purchase 84 F-15SA, upgrade current F-15 fleet

WASHINGTON (AFNS) – Air Force officials announced the next chapter in a partnership with the Royal Saudi Air Force as the Kingdom of Saudi Arabia recently signed a \$29.4 billion Foreign Military Sales Letter of Offer and Acceptance solidifying their plans to purchase 84 F-15SA fighter aircraft and upgrade their current fleet of 70 F-15S aircraft to the SA configuration.

“We are excited about this program and the increased capability it will bring to Saudi Arabia, a strategically important partner in the Middle East region,” said Heidi Grant, the deputy undersecretary of the Air Force for International Affairs. “Building partner capacity is becoming even more important and the Royal Saudi Air Force is undertaking a vast effort to not only modern-

ize their fighter fleet but to invest heavily in quality training.”

As part of the agreement, Saudi airmen will be attending Air Force technical training courses at a number of Air Force installations, including Sheppard Air Force Base, Texas, and Keesler AFB, Miss. Saudi airmen will train alongside their U.S. Air Force counterparts, enriching training for both countries and enhancing an already strong relationship between the two countries.

The Air Force will also coordinate English language training for the students at Lackland AFB, Texas, officials added.

“Air Education and Training Command offers high-quality, advanced training to our international partners in a number of skill sets,” said Brig. Gen. Tim Zadaliss, the AETC director of operations. “This

agreement allows the U.S. Air Force the opportunity to assist the Royal Saudi

Air Force in not only modernizing their equipment, but ensuring they will have a well trained force to maintain and operate it.”

Officials said that under the agreement, students may begin arriving this year, and in 2012, the service expects to train more than 300 Saudi airmen in Air Force technical training courses.

The U.S. Air Force has been training members of the Royal Saudi Air Force on U.S. soil for more than 25 years, officials said. Since 2007, more than 1,000 Royal Saudi

Air Force students have attended U.S. Air Force training programs, including pilot, navigator, logistics, maintenance and explosive ordnance disposal training, as well as professional military education courses.

Air Guard unit provides testing ground for mask development

By Master Sgt. Emily Beightol-Deyerle
167th Airlift Wing Public Affairs

MARTINSBURG, W.Va. (AFNS) – Develop one aircrew mask that can be used on over 100 different air frames. That is the challenge for researchers assigned to the Joint Service Aircrew Mask-Fixed Wing Program.

In early December, JSAM-FW researchers visited the 167th Airlift Wing, a West Virginia Air National Guard unit here, to evaluate the JSAM’s ability to integrate to the C-5 Galaxy aircraft. Nicole Fletcher, an Army chemist and JSAM-FW systems engineer, said the mission was to “nail down configurations so that they can start working on logistics and test plans.”

Kevin O’Neal, a combat developer with the Air Force Air Combat Command, said the team hoped to hammer out a universal communications configuration for the mask and determine which hoses can be used for the breathing system.

The 167th Aircrew Flight Equipment section hosted the JSAM-FW team as it worked with 167th Airlift Squadron aircrew members in each of the flying positions. Pilots, loadmasters and flight engineers donned the mask

and accompanying equipment. They then performed various functions of their duty mission. Afterward, each Airman completed a questionnaire, providing feedback to the JSAM-FW team.

Maj. Jeff Musser, a pilot with the 167th Airlift Wing, volunteered to participate in the assessment. He said the mask was definitely better than what aircrews are currently issued.

“It’s less cumbersome,” Musser said. “There’s increased visibility, and it’s easier to breathe through.”

Musser also noted that having a filter canister that can be changed to either side of the mask is a good feature for pilots who may sit in either the right or left seat of the cockpit.

Tech. Sgt. Michael Lindamood, a loadmaster with the unit, also participated in the team’s evaluation and echoed Musser’s sentiments on the mask.

“It’s better than what we have now,” he said. “It’s user-friendly, and as far as assembly, it’s less to carry around. It doesn’t bog you down or get in your way.”

As part of a Department of Defense modernization program to improve the current aircrew eye and respiratory protection, the

JSAM-FW project falls under the Joint Services Joint Program Executive Office for Chemical and Biological Defense.

Chief Master Sgt. Danny Effland, the section chief for the 167th Aircrew Flight Equipment section, said the JSAM will potentially replace the AERP. Effland was responsible for coordinating the team’s visit to the unit.

He explained that when the AERP -- made up of the mask, blower unit and intercom system -- is issued to aircrew before a mission, it adds an additional 45 minutes to the crew day due to the 26 steps needed to preflight the equipment.

Effland said with the M-53 Aircrew Chemical Biological Mask, all of that is eliminated.

“Time, manpower and money are saved, and there’s probably better protection,” he said.

The M-53 mask is part of the JSAM system. The M-53 works in the positive and negative mode.

“Negative meaning on ground, and positive mode meaning we hook a blower up to it,” O’Neal said. The M-53 also integrates night-vision goggles and laser eye protection.

The development of a joint air crew mask has been 10 years in the making. Initially, researchers



Erin Kennedy, a chemical engineer for the Army and the Joint Service Aircrew Mask-Fixed Wing Research Team test and evaluation lead, gets feedback from Tech. Sgt. Michael Lindamood during a field evaluation of the mask at the West Virginia Air National Guard in Martinsburg, W.Va., Dec. 7, 2011. The Department of Defense research team had aircrews in each of the flying positions don the mask and accompanying gear and perform their duties on a C-5 Galaxy aircraft. (Air National Guard photo/Master Sgt. Emily Beightol-Deyerle)

were hoping to find one mask to meet the requirements of all aircrew in every branch of the military on all aircraft. The progress was slow due to the challenges of fitting aircrew for more than 125 airframes, Fletcher said.

It was determined that finding a mask to meet all aircrew requirements was unlikely, so the program split into fixed wing and rotary wing aircraft, she added.

There were still many challenges to finding one mask to meet all require-

ments for fixed wing air crew, but after discovering the M-53, a ground crew mask manufactured by Avon Protection, the program has catapulted forward, O’Neal said.

Fletcher explained that preliminary testing proved the M-53 to be feasible for the joint mask criteria. After altitude chamber testing, a few changes were made to the mask, and now it looks like it may provide a cost savings in procurement and sustainment.

Effland said it was an “awesome experience” to

have the team come to the unit and conduct evaluations.

“It’s great for the guys in the shop to see the behind the scenes of the equipment we issue and the steps it takes for the equipment to get here,” he said.

Effland added that he might not be around when the JSAM and M-53 are standard issue for the aircrew, but some of the young Airmen will still be serving the unit. He said it will be great for them to know that they had a part in the process.