



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



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AFRL tests Speed Agile transport vehicle concept



From left, AFMC commander Gen. Donald Hoffman and AEDC's NFAC Test Director Patrick Goulding II get a close look at a 23-percent scale model of the Speed Agile technology demonstrator that recently underwent aerodynamic testing in the world's largest wind tunnel at NFAC in Mountain View, Calif. (Photo provided)

Air Force Research Laboratory (AFRL) researchers have embarked upon a critical set of experiments designed to test a new Short Take Off and Landing (STOL) transport vehicle concept.

During this set of experiments, a 23-percent scale model is being tested in the AEDC National Full Scale Aerodynamics Complex (NFAC), the world's largest wind tunnel.

This testing will validate the low speed aerodynamic performance of the hybrid powered lift system. Powered testing at this scale with Williams FJ-44 engines achieves realistic conditions and allows researchers to obtain crucial data on lateral directional stability, ground effects, aircraft performance, engine performance, and engine operability.

Data gathered from the testing will be analyzed to determine the technology's applicability toward future vehicles.

This technology could potentially benefit transport aircraft in both the civil and military realms. Air Force applications could include future transport aircraft operated by Air Mobility Command and the Air Force Special Operations Command.

The Speed Agile Concept Demonstrator (SACD) concept is a four-engine, multi-mission aircraft that offers speed agility; operates routinely from short, improvised airfields; carries larger and heavier payloads; and employs precise and simple flight controls.

The SACD's high-efficiency STOL design incorporates a hybrid-powered lift system.

This lift system features a simplified mechanical design and low-drag integration.

Together, these features greatly reduce both the vehicle weight and overall drag on the vehicle, resulting in greater efficiency and payload capacity than

conventional powered lift systems.

An aircraft employing Speed Agile technology could potentially operate from short, unprepared airfields.

These benefits, coupled with the overall vehicle efficiency, could result in an extremely versatile aircraft capable of quickly and safely transporting equipment, supplies, and troops to remote areas.

Future plans for this technology development may include a large-scale demonstration to validate performance at representative vehicle scale and payloads.

The Speed Agile program is a combined effort of AFRL and Lockheed Martin Corporation, with testing facilities provided by AEDC and NASA, and models and associated equipment supplied by Advanced Technologies Incorporated and Williams International.

Article compiled by Philip Lorenz III

AEDC holds change of command



Gen. Donald Hoffman, Air Force Materiel Command commander, passes the AEDC flag to Col. Michael Brewer, commander, Arnold AFB, as Master Sgt. Michael Arena, Arnold's senior enlisted member, watches during a change of command ceremony Aug. 2 at the University of Tennessee Space Institute. (Photo by Rick Goodfriend)

First Arnold police officer accepted into FBI Academy

Trull receives two appointments

By Shawn Jacobs
Aerospace Testing Alliance

Arnold AFB Police Chief Richard Trull has been selected as the first-ever Arnold Police Department (APD) officer to attend the FBI National Academy.

In addition, Trull was recently named the District 6 representative to the Tennessee Association of Chiefs of Police Board of Directors.

Trull will attend the prestigious FBI school at Quantico, Va., in 2012.

According to the academy's website, its mission is "to support, promote and enhance the personal and professional development of law enforcement leaders by preparing them for complex, dynamic and contemporary challenges through innovative techniques, facilitating excellence in education and research and forging partnerships throughout the world."

Participation is by invitation only through a nomination process. At-

tendees include leaders and managers of state and local police, sheriff's departments, military police organizations and federal law enforcement agencies.

"It's another one of those opportunities for law enforcement executives or senior leadership to fill their toolbox with as much knowledge in the career field and in criminal justice as we possibly can," Trull said. "It's kind of the pinnacle of career-related opportunities for a police officer and not many get an opportunity to go, so it's a pretty significant event. I appreciate the opportunity to be selected."

The FBI regional office in Knoxville submitted Trull's name for selection to the academy after reviewing his application.

"The selection process is pretty arduous," he said. "There's still a final process that has to be done at the actual academy at Quantico. I have until Dec. 16 to get all the paperwork done and information in to the academy to make the class."



Trull

Trull is hoping AEDC will benefit from his attendance in many different ways.

"I really believe that the key to success to any police organization is being able to benchmark, being able to learn from how other people successfully handle incidents, situations and management of their organization," he said. "I think that, at the very least, an opportunity to cross-talk and benchmark with police chiefs and assistant chiefs and sheriffs from across the United States is an opportunity to make the class."

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Chief Master Sgt. of the Air Force makes first visit to Arnold and AEDC



At left, Chief Master Sgt. of the Air Force James Roy, left, and his wife Paula get a tour of AEDC's Rocket Development Test Cell J-6 from then AEDC Commander Col. Michael Panarisi and Richard Kirkpatrick, an aerospace engineer at AEDC. Chief Roy and his wife visited the base July 15. Chief Roy represents the highest enlisted level of leadership in the Air Force and represents the interests of the enlisted force. Right, Chief Roy met AEDC employees at the base Model Shop. Chief Roy toured base facilities and spoke to the work force. An interview with Chief Roy and additional photos from his visit are on page 4. (Photos by Rick Goodfriend)



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HIGH MACH

Arnold Engineering Development Center
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The center's vision: AEDC as the test center of choice, the workplace of choice for our people and a model of environmental excellence.

**Vision**

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

Core Values

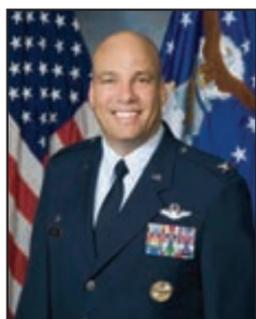
- Be accountable for our own actions
- Ensure the safety of individuals and equipment
- Demonstrate the highest integrity and ethical standards
- Communicate clearly and openly
- Deliver professional and technical excellence
- Nurture, enable and treat people fairly
- Align with customer goals and objectives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

**Core Values**

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

Ready for the mission, ready for the challenges

By Col. Michael Brewer
AEDC Commander



Brewer

First, I would like to thank our AEDC team and the community for the world-class reception you have given to my wife, Debbie, and me.

We are absolutely thrilled with our assignment – an assignment that I requested.

While being given this opportunity to live in this wonderful part of the country and to join this fantastic community is a great benefit, I requested to come to AEDC because I believe in the mission.

Our mission is absolutely critical to national security. If the United States is going to continue to be an air and space power, we need the capability to build and test the systems that take us there.

This is what AEDC does and why I am excited to be here.

Work done at AEDC last year, five years ago, 15 years ago and 25 years

ago ensured that the United States possessed the most capable air and naval forces in the world.

In turn, the work we are doing today will ensure we dominate the skies five years, 15 years and 25 years from now.

In the history of AEDC, there have been many challenges and this team of military, government and contractors has always met these challenges head-on and beat them.

While many of these challenges will be technical, some will be fiscal as well.

I want you all to know that I will do my absolute

best to advocate for the sustainment of our test capabilities (both facilities and intellectual capital).

From my vantage point, the capability that AEDC brings represents a national treasure – a treasure built by visionaries who understood the criticality of ground testing for successful weapon system development.

It was built because these same visionaries took the long view.

They were able to understand the environment they operated in and over the history of AEDC adapted as this environment changed. This agility and ability to adapt ensured the continued viability of our test facilities.

As we all know, the nation is dealing with difficult economic times. Consequently, we will need to demonstrate the same agility and the same ability to adapt as those before us.

Our team needs to work together to ensure the U.S. continues to dominate the

sky, space and cyberspace. We need to understand the role we play for the nation is vital. Most importantly, it is vital to our troops in the field today and tomorrow.

Every day, our Airmen, Soldiers, Sailors and Marines go across the wire. When they cross the wire, they are not alone.

In theater today, with a simple call on the radio, a young warrior of 20 or 21 years of age will bring fire from the air to our nation's enemies.

This fire will save their lives. This fire will bring a warrior home to a mother, father, spouse or child. This fire is available because of the great work done at AEDC.

This is why we will adapt to meet the challenges and this is why I am at AEDC!

The humble leader

By Lt. Col. Arlene Collazo

21st Space Operations Squadron

SCHRIEVER AFB, Colo. (AFNS) – Throughout my career, I've kept a mental list of characteristics I've admired from other officers and noncommissioned officers with whom I've worked: subject matter expertise, assertiveness, cool under pressure, quick thinker, grounded, etc.

There is one leadership characteristic that I think is the most important of all, and that is humility.

We often equate humility with low self-worth, hesitation and shyness. That is not humility. According to the Merriam-Webster dictionary, humility or the act of being humble means "not arrogant, nor proud."

Most leaders do not set out to be arrogant leaders; however, the fine line between subject-matter expert and arrogance can be blurry. Arrogant leaders are "know-it-alls"; they know what is best and do not need the advice of others. On the other hand, humble leaders acknowledge their own strengths and weaknesses and are open to seek the advice and counsel of others. This openness to others' ideas also helps leaders to learn and grow by transforming their weakness into strength.

Humility allows leaders to value the contributions of others to their success. By welcoming input from subordinates, leaders can build a stronger unit. Subordinates feel important to the success of the mission and that they are valued members of the unit. This, in-turn, gives subordinates the confidence to approach their leaders with honest opinions and without the fear of rejection.

Merriam-Webster offers another meaning of humble: "in a spirit of deference and submission." This definition reminds me of the Air Force core value, "service before self." As leaders, we are servants to the Air Force mission. Its goals are our goals. Humble leaders make sure that their actions support the mission and the goals of the Air Force.

Humble leaders are also servants to their fellow Airmen – the Airmen who accomplish the mission. In order to be effective, leaders must earn the loyalty and dedication and respect of the people through compassion and empathy. A leader should never forget the people. As Eugene B. Habecker said in "The Other Side of Leadership," "The true leader serves. Serves people. Serves their best interests, and in doing so will not always be popular, may not always impress. But because true leaders are motivated more by loving concern than a desire for personal glory, they are willing to pay the price."

Leaders know that no matter how high their position, they need a strong foundation. This solid foundation is humility. I urge leaders to be humble. When we are humble, we allow others to participate and seek their advice. When we are humble, we grow as individuals and leaders, and our organization grows as well. When we are humble, we value our people and have empathy and compassion toward them.

For, if we are humble, our great Air Force will remain strong.

Ice cream to ice-cold beer

By Chief Master Sgt. Atticus C. Smith

93rd Air Ground Ops Wing

MOODY AFB, Ga. (AFNS) – Serving as a command chief provides unique opportunities.

One is being able to attend various retirement ceremonies.

Most of the time I know the person retiring, but sometimes I'm invited merely based on being the command chief.

Regardless of how well I know the person, I try to make as many retirements as possible.

It's not something I have to do; it's something I want to do.

And don't think it's because of the reception afterward where there tends to be a choice of treats ranging from ice cream to ice-cold beer.

I attend because I'm always intrigued as to what stories the honoree will tell. I've learned a common theme prevails.

When retirees reflect on their careers, it's very common for them to speak fondly of the friends and people they have gotten to know and the sense of purpose and pride they have serving their nation.

Rarely, if ever, are stories of frustrations and stress-filled days spoken about.

Although, we all know that there are plenty of those stories to choose from.

I wonder if those stories just naturally melt from memory lane, like ice cream in the hot sun ... a treat I often enjoyed growing up.

Recently, after eight years of not being home, I visited my hometown of Walton, N.Y.

Growing up with four brothers and numerous neighboring children to play with, we often enjoyed ice cream on the hot sum-

mer days. I'm not quite sure if any of us pondered where life would lead us, but it's easy to ponder where life has led us when returning home.

The only difference during this hot summer afternoon was that it wasn't spent over ice cream, but over an ice-cold beer.

I sat on the large front deck of my childhood home and stared at the long driveway.

I saw the young, scared and timid boy with chubby cheeks and a chubby belly slowly being driven away in a white Ford van en route to the airport, then to basic training.

As I sipped on my beer, I could only shake my head at the sight.

I was an unguided soul. I really had no clue about anything, very limited direction and just enough discipline to stay out of jail.

As I reflect back, I can't help but thank those who shaped me and took responsibility of me.

I thank the NCOs and senior NCOs. From the onset of basic training through my first duty assignment, they were there, and what a grave responsibility they had.

They turned a young boy into a young man with the delicate balance of direction, discipline and recognition.

Eventually I became one of "them," an NCO responsible for someone's son or daughter.

What a grave responsibility I had, but thankfully I still had the direction and discipline from my peers, as well as the senior NCO tier.

As I neared the end of my beer, I felt immensely fortunate that their influence helped provide me an opportunity for a long career.

Across the years, there

have been so many good times, good friends and good memories.

Tough missions, challenges and shortfalls have been there. However, the focus, commitment and dedication by Airmen to overcome the odds are like no other.

From the corner of my right eye, my mom's flag moved gently in the summer breeze.

A flag was flying the day I hopped in the van, but Old Glory means so much more to me than it did when I was 18.

I'm grateful to be a small part of a team that protects and secures America's freedoms and liberties, just as they have been protected by noble men and women for the past 235 years.

I realized my thoughts closely mirrored the stories I've heard during retirement ceremonies and began to wonder how many similar stories are beginning.

How many other sons and daughters from Walton are being driven to the airport? Are they as lost as I was? Are they as nervous as I was? Who will be the NCOs and senior NCOs responsible to serve them? Will I be one of them?

I sure hope so, I couldn't think of a better way to return the decades of investment made in me.

If not sons or daughters from Walton, I know there are many of our national treasures from various parts of the world arriving at my current base each day. What a grave responsibility we have to them.

As I took my last sip, reminiscing on memory lane came to an end. Or maybe it was time for some ice cream.

Bring credit and honor to the U.S. Air Force and take care of each other in all your actions.

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://lpapro.arnold.af.mil/PORTALimages/Smoking area map. pdf](https://lpapro.arnold.af.mil/PORTALimages/Smoking%20area%20map.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.

- Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.
- Updates to this policy will be made in the future to further align with Air Force guidelines.
- 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

AEDC, UTSI collaborate on cryogenic challenge

By Philip Lorenz III
Aerospace Testing Alliance

A recently completed cryo-contamination experiment in AEDC's small ultra high vacuum (UHV) chamber, overseen by ATA's Dr. Heard Lowry III and conducted by three University of Tennessee Space Institute graduate students, is being heralded as a success.

Jim Burns, AEDC's space chambers lead, initiated the project with UTSI approximately a year and a half ago, bringing UTSI's Dr. Trevor Moeller in as the principal investigator.

"This project has proven to be a win-win collaborative effort with UTSI and AEDC," Burns said.

Dr. Lowry, an ATA technology and analysis branch technical fellow, has been working with UTSI graduate students for 10 years at AEDC.

"We originally got Jesse Labello as a graduate student and had him looking at how optical components change spectrally when they go cold," Dr. Lowry said. "[Then Labello] got his masters and we shifted over into trying to find out more about cryodeposits. I've had several students and I've enjoyed working with all of them."

Dr. Moeller, an assistant professor for UTSI's Department of Mechanical and Aerospace and Biomedical Engineering, said

cryo-contamination inside space chambers in a lab or on satellites in space is not a new problem.

"Jim and his group had been experiencing some problems with the buildup of ice on test surfaces and optics inside of their space environment chambers, and that would cause problems with optics because if ice would build up enough it might crack a little bit so it would distort things," Dr. Moeller said. "He was looking for ways to [provide] an early warning of this ice buildup and to mitigate the problem."

If the ice buildup is thick enough and cracks, less light will pass through a lens or reflect from a mirror due to absorption and scattering.

"This effect is similar to frost on the windshield," Burns said.

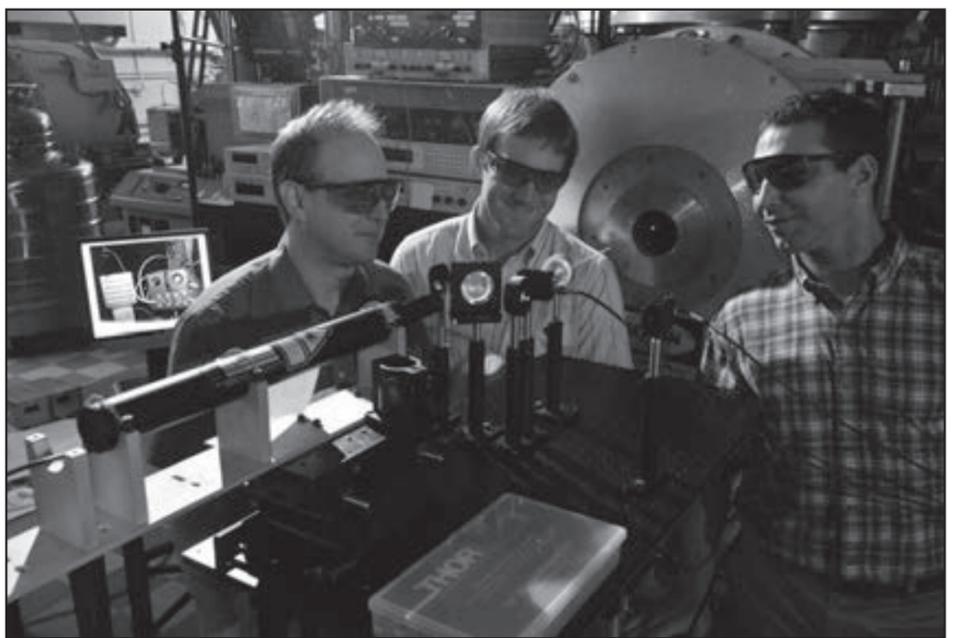
Also, the problem of cryo-contamination goes beyond degradation of chamber optics.

"The other effect it has is on the cryo-vacuum chamber's mechanical components," Burns said. "You get ice buildup on those and then drives don't move and things freeze up."

Dr. Moeller spoke about how the team approached the project.

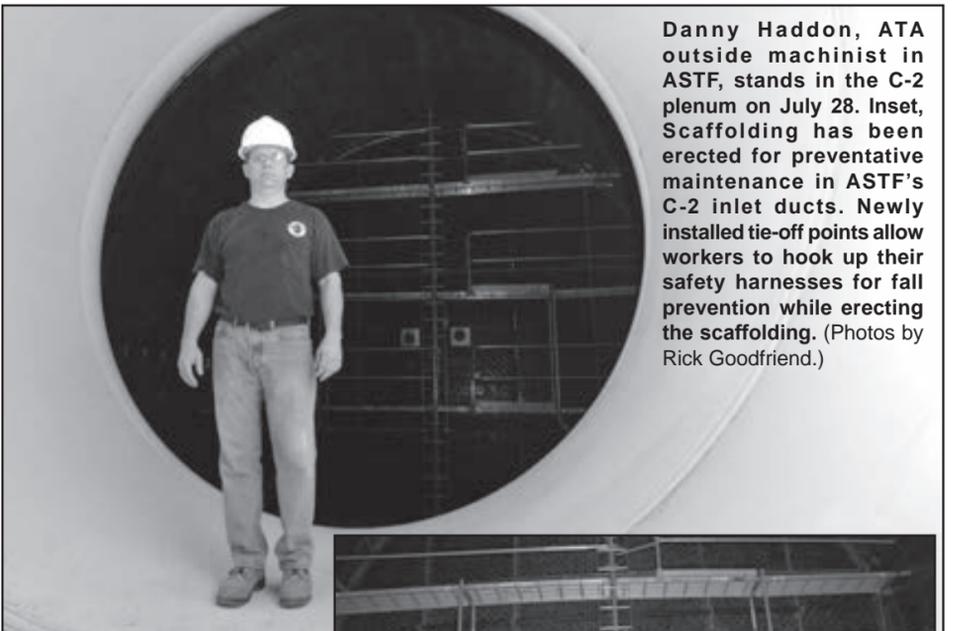
"We focused on development of an early warning system first," he explained. "Our concept was if we put a small mirror that we can bounce a laser beam off of and have detectors arranged in

See COLLABORATE, page 6



From left, UTSI's Dr. Trevor Moeller and UTSI graduate students James Rogers and Jesse Labello examine the laser that the research team set up in the lab at AEDC's Building 1077 to conduct a test on measuring the ice buildup on a mirror as part of a cryo-contamination study for detection and possible mitigation applications. Billy Ring, another UTSI graduate (not pictured) worked on this project as well. (Photo by Rick Goodfriend)

Haddon's suggestion saves AEDC, ATA more than \$20,000



Danny Haddon, ATA outside machinist in ASTF, stands in the C-2 plenum on July 28. Inset, Scaffolding has been erected for preventative maintenance in ASTF's C-2 inlet ducts. Newly installed tie-off points allow workers to hook up their safety harnesses for fall prevention while erecting the scaffolding. (Photos by Rick Goodfriend.)

By Shawn Jacobs
Aerospace Testing Alliance

ATA outside machinist Danny Haddon was just glad to be getting a fall restraint system.

After all, during more than 20 years of building scaffolding for maintenance of the ASTF Altitude Test Cell C-2 plenum, Haddon and his colleagues had no place to hook their safety harnesses.

After a few weeks of the installation of tie-off points from top to bottom of the 32-foot-tall inlet ducts, Haddon took a look at how the work was coming and realized the project was more elaborate than it needed to be.

His suggestion ended up with a system that is just as safe and resulted in a cost avoidance of more than \$20,000, 24 percent of the original estimate for the installation phase of the job. It also won him a cash award from the company's Ideas in Action Suggestion Program for June 2011.

"I just suggested they not install the entire system because it was not needed," according to Haddon, a Winchester resident who's been at AEDC for 27 years. "The system went from wall to wall; well, the lanyard is six feet long, so there was no need installing the last section on each level of fall restraints."

The scaffolding must be erected periodically for preventative maintenance, as well as other maintenance issues that may arise.

Don York, craft supervisor for ASTF C-1 and C-2, said installing the fall restraint system consisted of welding a series of metal bars across the inlet ducts.

"This was a three-inch solid, round bar, beveled when it got to them," York said. "To save the welding of each rod all the way to the inner cell wall was a savings of several feet, not to mention the time consumed by the welding process. The time and money saved for material and man hours was substantial."

Haddon said he was just being practical and trying to save money and originally didn't even think of turning his idea in to the suggestion program.

"I knew the project was running over budget to begin with," Haddon said. "They welded one piece in and when I saw it [I realized] that it would never be used and it was actually in the way. It's right in the way to walk down the scaffold boards."

"So I went straight to Don and Devon [Parker, design engineer] and said if we want to save some

money, we might as well knock these out. Of course ... they red-lined the drawing that day and decided [there was] no need for all of that."

As a result, erecting scaffolding in the C-2 plenum is now safer, and the safety restraint system was cheaper to install, according to York.

ATA employees can submit suggestions to the Ideas in Action program through eMatrix or they can turn in hard copies of Form GC-1390 through their departmental point of contact.

Trull from page 1

portunity for us to learn and apply techniques that have been proven in other departments. The intense training that you get in specific areas such as leadership, investigative techniques and those kinds of things will obviously benefit the organization as well."

Assistant Chief Don Miller will be in charge of Arnold Police during Trull's absence.

The Tennessee Association of Chiefs of Police (TACP) helps shape policy, provides executive-level training for police departments across the state and lobbies for legislation and other solid enforcement efforts supported by the state's police agencies.

Trull joined the association when he became Arnold Police chief in April 2007.

"I'm the chairman of the ethics committee and I'm also the vice chair of leadership and membership," he said. "Those were kind of a catalyst to give me an opportunity to be looked at for the board of directors."

The TACP divides the state up into 12 districts. District 6 includes Coffee, Franklin, Grundy, Marion, Sequatchie, Van Buren, Warren and White counties.

"It's something I'm looking forward to," Trull said. "Chief Charlie Sewell from the McMinnville Police Department has been on the board for District 6 for quite a few years and he took a position in Georgia as a chief, which left that board seat open. My name was submitted to the board among others and I was voted in at the August conference. Having the opportunity to represent Arnold and our mission to the entire state as well as assist in setting the standards for law enforcement in Tennessee is an awesome and humbling opportunity."

A Manchester resident, Trull joined Arnold Police in June 2002. He was with Air Force Security Forces for 25 years prior to coming to AEDC.

University of the South vice chancellor visits AEDC



AEDC leadership provided John McCardell, vice chancellor of the University of the South in Sewanee, and five other university administrators with their first tour of the base. Their visit included a stop at Arnold's 16-foot Supersonic Wind Tunnel and Altitude Test Cell C-1 (seen above), where the F135 Joint Strike Fighter Conventional Take Off and Landing and Carrier Variant (CTOL/CV) engine is currently being tested. (Photo by Rick Goodfriend)

Food collection continuing



Members of AEDC's Junior Force Council (JFC) and others load boxes of food onto a pickup truck outside the Base Commissary, Aug. 9. The food was delivered to Good Samaritan in Tullahoma. Pictured are Tim Keller (back to camera), Good Samaritan of Tullahoma; Ashley Schultz, Aerospace Testing Alliance (ATA); James Hice, ATA; Josh Meeke, Department of Defense (DOD)/JFC; Starla Keller, ATA; and Carrie Reinholtz, DOD/JFC president. With the most recent donation, AEDC has collected a total of more than 800 pounds of food for Feds Feed Families. The campaign on base runs through the end of the month. Its goal is to collect 2 million pounds of food across the nation. Currently, the Air Force has contributed 21,374 pounds toward the DOD's 733,800-pound goal. (Photo by Shawn Jacobs)

In Person

Chief Master Sgt. of Air Force Roy visits Arnold AFB

By Patrick Ary
Aerospace Testing Alliance

Chief Master Sgt. of the Air Force James Roy and his wife Paula visited AEDC July 15.

Chief Roy, who represents the highest enlisted level of leadership, is responsible for providing direction to the enlisted force and representing their interests, as appropriate, to the American public and those in all levels of government. The 16th chiefmaster sergeant of the Air Force talked about his experience at Arnold AFB.

Q: What are your impressions of Arnold and its Airmen?

A: I'm absolutely impressed with the mission the Airmen are doing every single day.

I say Airmen with a capital A. It includes all components of our force. The folks here at Arnold are very, very professional from what I've seen.

I think the capability that they provide to not just the Air Force but the entire nation is one that sometimes we can take for granted, but it's certainly one that affects the defense of our nation every single day.

Again, the people who I've met here have just been very motivating to me. I've always been a mechanical kind of guy – having grown up in the engineering community – so I may see it from a little different light than some do. But this kind of stuff really excites me; it excites me to see people who are enthusiastic about what they do.

Q: Now that you've visited Arnold AFB, how do you view assignments like Arnold, where there are few enlisted billets, fitting into Airmen's careers?

A: One of the things I talked about in the All Call was this idea of deliberate development, and within that there are three tiers: experience, education and training. This absolutely fits into what I would consider the experience.

The Airmen who come here certainly bring a lot, especially those Airmen who have been out in the operational piece of the Air Force. They bring that side of the Air Force to the research and development community.

And then on the other end of that, they're able to take what they have learned from the industrial base here and be able

to affect their shops back in the operational Air Force.

So I think it's a two-way street. It's not just what those Airmen provide forward; it's that experience that they give back. So to me, assignments like Arnold are means that we use to continue to develop our force for the future.

Q: Given your background in civil engineering, what kind of connection have you felt with the mission here at Arnold?

A: Going into the machine shop, going into the test cells and such ... I've always been a little bit mechanically inclined.

I look at things and think to myself "How are those built, and what do they do?" So for me, it's exciting to see the level of professionalism that our people show here. When we look at places like Arnold, it's not just those young uniformed Airmen who are here; it's our DOD civilians, it's our contractors who are here as well. It's a total team effort, and that's what I see here.

The people here, it appears to me, are visionaries. They see the future, and they know what they do today affects that future.

The mechanical side for me is exciting. I like to see someone take a block of aluminum or stainless steel and whittle it down to a functioning part for an aircraft or spacecraft, or the wind tunnels that will test those things is amazing to me, and it's exciting. It's absolutely exciting to see that.

Q: Have you observed anything at Arnold that will aid you in your representation of the enlisted force?

A: Absolutely. One of the things that I'll take from here is the team here and how the different components of the work force here come together to focus on the overall mission.

To me, that's a lesson learned. It's not just the active duty component, but the small numbers of reservists you have here, the civilian work force, the contractors and how that all meshes together to the result of the mission here at Arnold.

That's what I'll take back. And the other piece is how much impact those Airmen coming from Arnold can have on the rest of the Air Force as well in those different duty sections that they will work in – the experiences they have gotten here.

Q: Is there anything you would like to add?

A: A couple of things. No. 1, just to expand on deliberate development, a bit of advice for those Airmen who are coming here maybe for the first time: look at this assignment with open eyes.

Make yourself better than you were when you got here. Allow yourself to embrace the community here, both on the installation and in the small towns around the community.

Be a part of those communities. Tell your Air Force story. Tell what you do not just here at Arnold, but in the Air Force. Tell what you do for national security. To me, that is important.

And while we're talking about community, there's not an Air Force installation in the world that does things all by itself.

It takes the support of the community. Here there are, as I understand it, two towns close to the base.

I think those residents and the mayors of those communities understand what happens here at Arnold and appreciate what is done here for not just the Air Force, but for our national security. To me, that's hugely important.

And the last thing is our absolute appreciation for the family members.

Although there are not a lot of deployments, there are not a lot of people, but the sacrifice that fam-



Chief Master Sgt. of the Air Force James Roy, left, learns about AEDC's Aeropropulsion Systems Test Facility from John Kelly, an aeropropulsion project manager, and one of the base's few U.S. Navy civilian employees. (Photo by Rick Goodfriend)

ily members endure – whether it be those of us in uniform or large parts of our civilian work force – there are a lot of sacrifices our family members endure, and a lot of times we just take that for granted, and we shouldn't. We should tell them how much

we appreciate them, and that's from somebody who absolutely understands that.

As a part of the Air Force leadership team, Miss Paula and I absolutely want to pass along our gratitude for what they endure as well.



Chief Master Sgt. of the Air Force James Roy gets a hands-on look at AEDC's recycling facilities as his wife Paula watches during a base tour July 15. Also pictured is Robbie Evans Jr., recycling facility manager. Chief Roy, the highest enlisted leader in the Air Force, also spoke to the work force during his visit. (Photo by Rick Goodfriend)

Chief Roy: Air Force past, present, way ahead

By Staff Sgt. Amanda M. Dick
Air Force PA Agency

SAN ANTONIO (AFNS) – Chief Master Sgt. of the Air Force James A. Roy communicated his vision of the Air Force's past, present and future to more than 600 attendees at a forum during the Air Force Sergeants Association's (AFSA) 50th Anniversary Professional Airmen's Conference event here July 25.

The chief started the forum by comparing photos of Airmen from 50 years ago to today and how missions have developed over the years.

An example was a photo of space operations during the moon landing in correlation to space operations today.

As Roy talked about the present-day Air Force, the joint fight was an enduring topic of his.

"Our joint and coalition forces rely on us because we are a reliable partner and we operate safely," he said. "They

get to know that, and they continue to come back to us."

Roy said today's fight isn't just about how we can help our allies; it's also about teaching them to help themselves.

One example he used was how a National Guard agricultural developmental team taught Afghans to grow sustainable crops.

"The Afghans learned how to grow crops that are productive and not harmful," he said. "Instead of growing poppy, now they're growing corn, soy and other products they can eat and sell," he said. "That's what our Airmen are doing today. It shows the breadth and depth of what Airmen bring to the fight."

As Roy talked about the future of the Air Force and the challenges Airmen would face, he stressed the need to prepare for and anticipate future air, space and cyberspace requirements in a budget constrained environment.

He summed up his thoughts with a quote from Navy Admiral Mike

Mullen, the chairman of the Joint Chiefs of Staff, saying, "I think the biggest threat we have to our national security is debt."

The chief master sergeant of the Air Force told audience members they were part of the solution to addressing budget challenges.

"We can't operate like we operate today," Roy said. "What we do today is driven by the budget, and the budget of the future is not going to be there. We're going to have to find the right way of doing business, as far as what the future holds. It's in your hands ... it's in our hands. I'm looking at you to help us get through this."

He also emphasized the importance of enlisted force development through mission focus, increased exercises, deliberate development and the sponsorship program.

Highlighting deliberate development, Roy stressed several factors to aid in the advancement of enlisted Airmen. These included roadmaps for development, enlisted develop-



Chief Master Sgt. of the Air Force James A. Roy speaks July 25 at the Air Force Sergeants Association's Professional Airmen's Conference in San Antonio. The event marked the 50th anniversary of the association. (Photo by Staff Sgt. Vernon Young Jr.)

ment teams, an enlisted legislative liaison, joint/coalition professional military education exchanges and a single training record/system.

"We need to continue to develop our Airmen for the future ... deliberately," Roy said. "We're professional Airmen. We maintain standards."

The 16th Chief Master Sgt. of the Air Force ended the forum thanking Airmen and their families for what they do every day, spotlighting first lady Michelle Obama and Dr. Jill Biden's

efforts to support military families through their Joining Forces initiative.

"In everything we do, regardless of if we're looking at today or into the future, we rely on our families," he said. "Our Airmen and their families are going through a lot of sacrifices today, especially our families who carry a lot on their backs. We have to continue to support them."

Roy also said he was grateful for the partnership between the Air Force and AFSA.

"It's not just myself,

but organizations like AFSA, that help us relay a very strong message to Congress

across the board about Airmen needs and requirements," he said. "Thanks to AFSA for partnering with us to make sure our message is absolutely on target. The fact we have been partnered with AFSA for about as long as we've had an Air Force is quite significant."

(Staff Sgt. Eric D. Donner contributed to this story.)

Local CFC to begin in October at AEDC

By Darbie Sizemore
Aerospace Testing Alliance

The 2011 local area Combined Federal Campaign will begin Oct. 5 and continue through Nov. 16, according to Tony Echols, this year's campaign chairman.

"Times are tough for everyone, but that means those in need have an even greater need," Echols said. "I've been at AEDC for nearly eight years and the generosity of the people at this center has really impressed and inspired me. Whether it's CFC, bike-a-thons for AFSA [Air Force Sergeants Association] or responding to the Nashville flooding, the people of AEDC step up. This year, like years past, the main goal of the campaign is to contact every eligible member to provide them the opportunity to donate. If past years are any indication, that's all that will be required to ensure a successful campaign."

The CFC is the annual fund-raising drive conducted by federal employees in their workplaces each fall. It combines many charity drives into a single annual campaign and raises millions of dollars that benefit thousands of non-profit agencies.

The mission of the CFC is to promote and support philanthropy through a program that is employee focused, cost-efficient and effective in providing all federal employees the opportunity to improve the quality of life for all.

In 2010, AEDC employees raised more than \$62,000, far exceeding the \$50,000 goal. The goal for this year will remain the same.

More than 2,822 organizations are listed in this year's campaign brochure; 285 of them are local. Collectively they represent a wide range of causes.

Several of the charities will be at the center between 11 a.m. and 1 p.m. Oct. 20 for the Annual CFC Charity Fair.

This is an opportunity for all AEDC employees to meet representatives from local charities and get detailed information.

"A mission for those of us leading the CFC is to make people aware how important it is to take advantage of this annual opportunity to help others in our communities, across our country and around the globe," said Donna Paredez, this year's CFC Deputy Chair.

CFC is the world's largest and most successful annual workplace charity campaign, with more than 200 CFC campaigns throughout the country and internationally to help to raise millions of dollars each year. Pledges made by federal civilian, postal and military donors during the campaign season support eligible non-profit organizations that provide health and human service benefits throughout the world.

Although CFC is for DOD civilians and military, ATA has a separate charity campaign via payroll deduction which runs through the calendar year.

So what should people be doing now? According to Echols and Paredez, they just have to wait and they will be contacted by a key worker assigned to their organization very soon.

Ropes Course fondly remembered at recent facilitators reunion

By Shawn Jacobs
Aerospace Testing Alliance

The official name was AEDC Teamworks Adventure.

But most folks on base probably knew it as the "Ropes Course" and, in the early 1990s, it may have contributed as much to the concept of Team AEDC as anything on base.

Spurred by Test Systems Division Director Ron Polce's upcoming retirement Sept. 2, Polce and a number of other former facilitators of the Ropes Course met Aug. 3 for a reunion. They reminisced about the enjoyment the course brought to them and its value to AEDC.

AEDC Teamworks Adventure courses, which were located in the woods across from the Gos-sick Leadership Center (GLC), used a mix of warm-ups, games, activities and initiatives to take individuals and groups out of the daily routine and into challenges that called for cooperation, trust, team building, risk taking and problem solving, according to Bob Truesdale, group lead in Aerospace Testing Alliance's (ATA) Space and Missiles Group and a former facilitator.

"It was a major thrust by the commander at that time and by the base in general to improve our ability to produce good work by being very team oriented," Truesdale said. "We had a three-part agreement ... about willingness to give 100 percent, to be accountable, to monitor and be monitored so that we made sure everybody was giving their best and was safe.

"Safety included both physical safety and emotional safety. You commit that you're not going back to the office and make fun of [someone] for the next two years because they couldn't climb something or do [some other activity]."

Truesdale said the course was excellent for groups of people



Former facilitators attending a Ropes Course reunion lunch Aug. 3 at the pavilion near the GLC include (front row) Bob Truesdale, Terry Rayfield, Janie Casey; (second row) Larry Davis and Don Hervig; (third row) Ron Polce, Bill Peters, Jim Posey and Lance Askins. Other current AEDC employees not in attendance include Chris Broadrick, Danny Catalano, Rob McAmis and Mark Smith. (Photo provided)

who already worked together, but it was even better for employees who weren't normally part of the same work team.

"That was the best use of the ropes because you would take people newly assigned to the same project but with dissimilar backgrounds and bring them together, and they would problem solve and go through experiences for a day," he said. "That would help them understand what teaming is about: how to work with each other, how to respond to your strengths and my weaknesses and how to collectively do a better job."

Another former facilitator, Don Hervig, an engineer scientist in ATA's Technology Department, said he thinks the course was very worthwhile.

"The Ropes Course was a different way of learning," Hervig said. "I think most people learn better by experience, and there you were experiencing some challenges that are different from what we do here at work. It's

not an engineering challenge, typically, but building up communication skills and learning to listen to other people – those are some of the things we would hope they would take back here to AEDC and improve their skills here at work."

Hervig doesn't doubt the course's lasting impact because he still bumps into people on base who speak of the activities with fondness. Many of the events, whether physical challenges or mental exercises, were designed to build confidence in employees.

AEDC Teamworks Adventure gained quite a reputation and eventually more groups from outside the base than on-base groups were using the course.

"I think some people brought youth groups out from their churches or something like that and those were on weekends," Truesdale said. "That wasn't paid time, but facilitators were

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Collaborate *from page 3*

the correct positions that as the ice builds up it forms an interferometer.

“We could count interference fringes and use theory to determine how much, or how thick that layer of ice is and the rate of build-up.”

He said the concept behind the experiment is fairly simple, but they had to overcome some environmental challenges.

“For one thing, one of the most challenging scenarios that we’ve had is that we had to find a way to introduce water molecules into the chamber in a controlled way,” Dr. Moeller explained.

“People will spend their entire careers trying to find ways to keep water molecules out of vacuum chambers. You look in the literature and you can find all kinds of information how to keep the stuff out, but no way to find a way to put it in.”

The team spent approximately nine months to a year investigating sources of water molecules and techniques for introducing them.

“The test that was just performed in July was really a major success for us because we had done a lot of our calculations ahead of time,” he said. “We had predicted a flux rate of water molecules into the system and calculated how fast the ice would build up and then predicted the characteristics of the interference fringes.

“The thing that was so impressive about it is that when the raw data started coming up on the computer, when we were running the experiment, the shape of those interference fringes that were coming up were exactly as we predicted. It was a big thing for us.”

James Rogers, who is working on his master’s degree in aerospace engineering, said he and the other two students who worked on this experiment did a lot of work to prepare for the experiment at AEDC.

“We’ve got a material that supplies water that is going into the chamber and growing a thin film,” he said. “So I studied the material that holds the water and figured out if it was going to work for this experiment or

not. [We] did lots of tests with a vacuum chamber at UTSI before we came over here and tested and compiled all that data. We all looked at it and said it looks good enough and it should work.”

Jesse Labello, a physics graduate student working on his doctorate, has been working on the base for five and a half years.

Since completing his dissertation research at Arnold, he has been acting “as a liaison between the UTSI group and the personnel at AEDC to actually get this set up.”

Labello said, “I’ve done a lot of the background work as far as the properties of ice [are concerned]. Cryodeposits are a big problem in cryogenic vacuum chambers and I’ve been studying them, finding the properties, finding how they grow, how fast they grow in different situations and trying to look at different ways to get rid of them. Our big focus has been trying to calculate exactly what thickness distribution they will form under different environmental conditions.”

Dr. Moeller said what will follow the cryo-contamination experiment is clear.

“We proved that our interferometer is effective,” he said. “The next step would be to reduce its component size so that these detectors could be positioned inside of the test chambers at strategic locations to monitor the buildup of ice that’s occurring in the natural environment.

“But for our particular test, we needed to know how much water and ice was going into the system, and developed a very controlled approach to prove the concept.”

The team is also looking at mitigation techniques and technologies to reduce or remove ice from the critical components inside the space chambers. These same methodologies would be applicable to satellites in space.

“We talked about a helium curtain because helium does not condense at the temperature that you typically would see in one of these chambers,” Dr. Moeller said. “So, if you put a thin layer of helium across these surfaces, they kind of block the water

molecules from getting to those surfaces, like a barrier.

“Another thing we’re investigating and we have hopes for as far as mitigation techniques goes, is that water molecules are polarizable. The oxygen molecule and the hydrogen molecule aren’t all in line, so if you applied a low voltage electrical field on critical test surfaces and just cycle that voltage rapidly enough [it] will excite those water molecules, kind of like your microwave oven does.”

Moeller said this technique has a lot of potential.

“The electric fields from that voltage would add enough energy to the water molecules as they’re approaching the critical surfaces that they don’t condense [there],” he said. “So, they would still float around in other places and could condense on cold surfaces elsewhere where it’s not an issue. And if we can show that this works, and doesn’t interfere with the test, it’s a very simple thing to do.”

Ropes *from page 5*

PWT maintenance instrument technicians and electricians maneuver a fellow employee through the Spider Web during an AEDC Ropes Course exercise, Sept. 21, 1994. (Photo provided)

gung-ho; we would have done it seven days a week if they’d let us. We didn’t advertise it per se, but the leaders of the base who were interested in it talked about it and they had groups that got involved.

“I think the facilitators had as much fun as the people going through the course because we wanted them to succeed, but we also wanted them to win as much as they could through the process. I loved it. It was close to life-changing.”

Sometime in the mid 1990s – for reasons that aren’t readily known – the Ropes Course just sort of phased out. Its legacy, however, is securely ingrained in those who participated in it, which begs the question, “Could it be restored?”

Both Truesdale and Hervig think and hope so.

“I think Ron [Polce] feels like there’s that chance,” Truesdale said. “I think one of the things he wants to do is encourage leadership to think about it. Obviously, budgets are tight. Everything is different, but the teams still need to function as teams.

“I think the need’s still there and I think it would be very good if we could do it. We have the energy. We have the people, and we have the interest.”

Hervig said, while much has changed since the original course, most of the base’s needs have remained the same, like the need for better communication skills, problem solving, leadership and team-building skills.

“It was fun to get together again and remember the good times we had out there,” Hervig said. “I don’t think the challenges of working together have changed much, so I think the benefits of having the course be held again would be good.

“It’s very enjoyable to be an engineer and to work at AEDC, but it was also very enjoyable to go out in the woods and challenge people with things that looked insurmountable, but with teamwork, cooperation and trust they were able to accomplish a goal. Hopefully, they would take it back here with some of the confidence and trust that was gained and they would be able to improve their job skills.”

Air Force Chief of Staff speaks on diversity at NAACP dinner

By Alicia Garges
Space and Missile Systems
Center PA

LOS ANGELES (AFNS) – Air Force Chief of Staff Gen. Norton Schwartz spoke about the importance of diversity at the NAACP’s Annual Armed Services and Veter-

ans Affairs Awards Dinner here July 26.

The banquet was one of several events held in conjunction with the group’s annual convention and coincided with the 63rd anniversary of the executive order desegregating the military.

“As a nation, we are benefiting from having recognized the value of meaningful diversity,” General Schwartz said during an address to the attendees.

While earlier equal opportunity programs focused on race and gender, the current diversity movement looks beyond demographic considerations, the general said.

“We know that our strength is drawn from diverse perspectives that develop from different backgrounds – to name a few: socioeconomic, educational, geographic, philosophical and spiritual,” he said.

Ensuring Air Force working environments are conducive to equal opportunity and fostering diversity of perspectives in the service will lead to enhanced performance and effectiveness, Schwartz said.

“Our next challenge will be to identify more clearly how this is done and how we can measure our progress,” the general said.

Recently, the service formed the Air Force Diversity Committee, a senior-level working group chartered to find ways to leverage and better manage diversity, General Schwartz said.

According to the gen-

eral, diversity should not be an end unto itself, but rather a means toward a broader desired state of enhanced effectiveness for the Air Force and its overall mission. General Schwartz pointed out that in academic literature, diversity management has been defined as the systematic and planned commitment on the part of organizations to recruit and retain employees from diverse demographic backgrounds.

“Note the open-ended sense of the phrase ‘diverse demographic backgrounds,’ which suggests that it is possible for any number of people, even of the same gender and race, to still have widely differing demographic backgrounds,” General Schwartz said.

“Therefore, managing diversity, I would argue, also implies – as well as important considerations of race, gender and ethnicity – a more active recognition and appreciation of the increasingly multicultural nature of contemporary organizations,” he said.

The Air Force’s diversity efforts focus on institutionalizing diversity throughout the service and allowing for the recruitment, development and retention of a highly-qualified and talented total force, General

Schwartz said.

“As we approach this challenge, we will consider ways in which we can engage every Airman – officer, enlisted and civilian – across the total force as participants in this process, and encourage them to share in the responsibility for ensuring that the talents and capabilities of each individual are mutually respected, valued and applied toward enhancing mission accomplishment,” Schwartz said.

Commanders and supervisors at all levels will be taking the lead in advancing

diversity priorities, deepening the lines of communication and taking a personal interest in orchestrating individual success of others whose potential to serve the Air Force so values, he said.

“Your Air Force embraces the fundamental value of a diverse workforce, whose individual members, while possessing different backgrounds and perspectives, are singularly bound in common cause, lending their creativity, energy and dedication to the betterment of our mission and our nation’s security,” he said.



Air Force Chief of Staff Gen. Norton Schwartz addresses the audience at the NAACP’s Annual Armed Services and Veterans Affairs Awards Dinner held in Los Angeles July 26. The banquet was one of several events held in conjunction with the National Association for the Advancement of Colored People’s annual convention and coincided with the 63rd Anniversary of the executive order desegregating the military. (Photo by Lou Hernandez)

AEDC newcomer builds and tests own jet engine

By Shawn Jacobs
Aerospace Testing Alliance

A lot of engineers at AEDC have tested jet engines.

But Joshua Hartman – fresh out of college with a mechanical engineering degree – can claim more than that: he’s actually built and tested his own jet engine.

Hartman, a test project manager in the Turbine Engine Ground Test Complex (TSTB), credits this interest for driving him to study engineering. And what better place to test jet engines than AEDC?

He said his interest began about five years ago when he was a business major and ran across a book detailing how the Air Force built low cost power generation units using automotive turbochargers in the 1950s.

“I went on the Internet and found some guys in Britain who were actually doing that in garages ... so I just started acquiring parts over the years, mostly automotive parts – oil coolers, oil pumps, fuel pumps [and] stuff like that,” Hartman said.

“In the process, I had to learn how to machine my own materials and perform some TIG [tungsten inert gas] welding. The whole engine is really made out of stainless steel.

“It took about five years total to complete the engine. Four of those were really acquiring parts, and then the last year was actually mostly fabrication and running through the engine test plan. The engine was kept to a really tight budget, so coming up with ways to save money was crucial for the engine’s success. I tore apart a 250,000-volt police stun gun to use as my ignition system.”

Seniors at Wright State University in Dayton, Ohio, from which Hartman just graduated, are required to complete a capstone project, and – since he was already in the process of building the engine – everything fell into place quite nicely.

“I recruited another partner from Wright State, so we worked as a team of two our senior year and actually ran the engine through its test program and did most of the fabri-

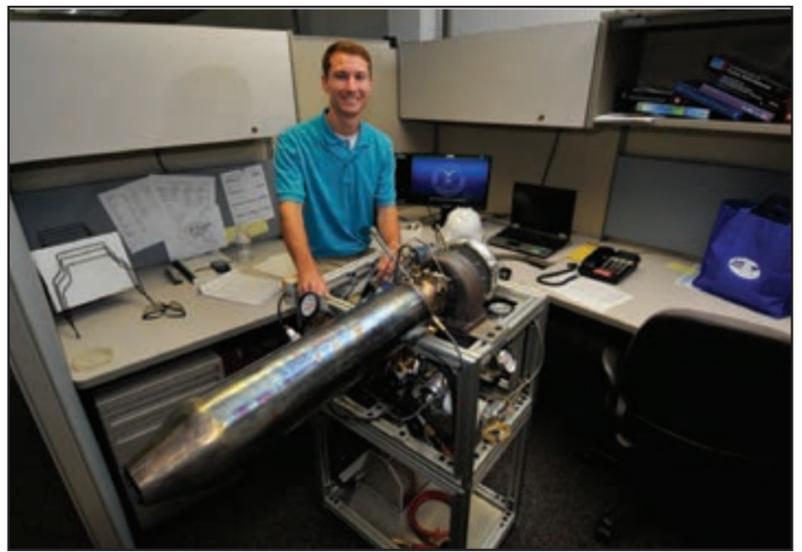
cation then,” he said. “Being near Wright-Patterson AFB, we had some advisers there who briefed us on safety and [issues] like that, but everything was pretty much free running.”

The majority of the fabrication work was done in the corner of the shop of a base contractor for Wright-Patterson, where his partner was a co-op student, and when it came time to test the engine they turned part of Hartman’s father’s landscaping business in Englewood, Ohio, into a test cell.

“They cleared out one of their bay door areas and we tested in there,” he explained. “We filled up a sandbag bunker area about five feet high around us, our computers and the data acquisition equipment for the engine, so we were right on the other side of the sandbags where the engine was in case something were to happen.”

They wound up with a fully-functional jet engine that runs off of propane using a modified grill tank. The afterburner system runs on a 70/30 mix of

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Josh Hartman and his jet engine are pictured Aug. 8 in his cubicle in AEDC’s Turbine Engine Ground Test Complex, where the object should make for quite a conversation piece. (Photo by Rick Goodfriend)



Josh Hartman’s handcrafted jet engine runs in full afterburner mode during testing in a bay of his father’s landscaping business. (Photo provided)

After 38 years, Charlie Armstrong bids AEDC farewell

By Philip Lorenz III
Aerospace Testing Alliance

In 1961, Charlie Armstrong, along with his elementary school classmates, visited the Shelbyville Fire Department.

That experience left a distinct impression on Armstrong, an AEDC Fire Department firefighter crew chief who is retiring from Arnold after nearly 38 years in the profession.

“Shelbyville’s fire department [had] bought a new Howe fire truck,” he recalled. “There was just something about it I liked and our engines over there are all white.”

Fast forward to 1972. Armstrong turns 19 and marries his wife, Rita.

Armstrong’s brother-in-law is a firefighter.

“He came out to the house one night and he said, ‘You ever thought about being a fireman?’” Armstrong recalled. “I went back to that time I went up there in 1961 and looked at the old Howe.”

His wife’s uncle, who was a fireman, also encouraged Armstrong to consider going into the profession.

In 1973, Armstrong applied for and was accepted as a fireman with Shelbyville’s fire department. Now, he was one of the young men driving those white fire trucks.

“I’ve been a fireman ever since,” he said.

In 1978, Armstrong joined AEDC’s fire department.

After only three months on the job, he was one of the firefighters who responded to an accident at the Aerodynamic and Propulsion Test Unit. Tom Himbaugh, a pipefitter who was doing routine maintenance work in a heater pit, was killed when a large metal box lid fell from 48 feet and struck him on the head. Two other workers had been injured.

“We did the rescue there and I realized then how this job is more than fighting fires out here,” he said.

Another experience took place in 1982 when solid rocket fuel from a failed rocket motor test ignited and exploded in the J-4 test cell when three Aerojet employees were in the bottom of the cell cutting up the solid fuel. The explosion killed those individuals as well as an AEDC machinist who was standing guard at the door to keep unnecessary personnel from entering the area.

“I was here the night it blew up

and we had three firemen on duty down there and none of us were injured, but we were treated for the exposure to the rocket fuel,” he said. “It was a bad time for the families and we had a national spotlight on us for several days.”

In 1985, an explosion took place at the J-5 test cell, destroying the facility.

“I was here that night, but nobody was injured and we were thankful for that,” he recalled. “The next day there was solid rocket fuel all over the ground. We had to burn off the whole area and the night before we were over there for about eight hours, just pumping the water into it. To see a 1,000 pound rocket motor explode like that is something you don’t see, the power of what those things can do.”

Armstrong is pragmatic about the risks inherent in an industrial setting like AEDC.

“That’s what we do, we test things [here],” he said. “I’ve been on several engine malfunctions, one of them [was] described as a catastrophic engine failure – the jet engine actually came apart and fuel spewed all over.”

He emphasized that although accidents are sometimes tragic, they do provide valuable lessons that lead to improvements in safety on base.

Armstrong enjoys his profession and appreciates the extensive training he has been provided to keep everyone safer and to hone his professional skills.

“This place has sent me to some of the best schools in the country,” he said. “They sent me to college, and I’ve been all over the country to the best fire schools. I’ve been fortunate enough to be able to go to those.”

In his collateral role as an emergency medical technician, Armstrong and one of his main shift partners for approximately 10 years, Lonnie Brown, have had some moving experiences.

“The last one was a unique one,” Armstrong said. “There was a hunter out in the woods, at the north end of the base.”

Armstrong and Brown, wearing 40 pounds of gear specifically for a possible fire emergency, were wrapping up their part in a response to a three-car accident when they got a call to help a hunter in distress.

“We get there and went back in the woods about three or four miles and this young man is standing there,” Armstrong said. “He takes off running, [saying] my grandfather’s back here. We still had our gear on.”



From left to right, firefighter Charles King, Driver/Operator Lonnie Brown and Rescue Crew Chief Charlie Armstrong. AEDC firefighters use a variety of their extrication tools during training Nov. 9 at LKQ Salvage in Manchester. (Photo by Rick Goodfriend)

Armstrong said they ran behind the young man.

“I’m thankful that we work out, we take care of ourselves,” Armstrong said. “A couple of times I had to almost stop.”

Armstrong was talking on the radio, to let the paramedics know where they were on base and in

the woods.

“The other crew was coming, the paramedics and Chief Taylor coming behind us, and I’m thinking there’s no way they can find us like that in the woods,” he said.

The two firemen started CPR, with Brown getting to the victim first, who was the young man’s

grandfather. Armstrong sent the young man back to help the paramedics find them.

“Sure enough in about 10 minutes here he comes out of the woods with one medic and the assistant chief,” Armstrong said.

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Heritage flight over Arnold



As a special tribute to the 60th anniversary of Arnold AFB, U.S. Air Force A-10 West Coast Demonstration Team commander Capt. Joe “Rifle” Shetterly and P-51D “Mustang” pilot Vlado Lench performed a Heritage Flight flyover of AEDC just prior to the Independence Day air show in Tullahoma July 1. The Heritage Flight pairs up active-duty Air Force fighter jets with vintage warbird aircraft as a moving aerial tribute to honor the sacrifices of the men and women of America’s Air Force. (Photo provided)

Dr. Eugene Sanders, AEDC Fellow, test pioneer, passes away

Dr. Eugene J. Sanders, 75, of Winchester, passed away Aug. 11.

He served several years as AEDC's representative to the NATO/AGARD Fluid Dynamics Panel and was honored in 1996 and 1997 to serve as Chairman of the Tennessee Chapter of the American Institute of Aeronautics and Astronautics.

He retired from AEDC in 1998.

During his retirement, he continued his lifelong pursuit of protecting our environment by serving on the Board of Directors of Scenic Tennessee 1988-2006, and serving as its President from 1999-2003.

He served his community as a member of the Winchester Public Utilities Board of Directors, president of the Franklin County Country Club, the Board of the Directors of

Tim's Ford Council and was a member of Highland Hills Church of Christ.

Dr. Sanders was a Little League coach for several years, an avid golfer, loved to read and had a wonderful sense of humor and was a loving husband, father and grandfather.

The son of the late Homer and Virginia Sanders, Dr. Sanders was born in Old Hickory and grew up in McMinnville.

He is survived by his wife of 56 years, Anna Myers Sanders of Winchester; a son, John Sanders and his wife Ming of Knoxville; two daughters, Lisa Hayes and her husband Bob of Tullahoma, and Laurie Guthrie and her husband Reuben of Kennesaw, Ga.; one brother, Patrick Sanders and his wife Patricia of Los Angeles; one sister, Sandra Hamilton and her husband Bill of Nashville;

nine grandchildren, Colin Sanders and his wife Gillian, Valerie Sanders and her husband Mischa Goldman, Deanna and Micah Sanders, Hannah, Alex and Ethan Guthrie, and Dean and Carson Hayes.

He is also survived by several nieces and nephews.

Following is a reprint of a "Project Pioneer" feature written for High Mach in 2007.



Sanders

Dr. Gene Sanders recollects his time at AEDC's Range G

Starting out as a summer intern in 1956, Eugene J. Sanders began his 38-year career in 1958 at AEDC as a mechanical design engineer for Arnold Research Organization, Inc.

His contributions to the center's mission in test facility design and operation, project management, national and international cooperation and strategic planning earned him the recognition of AEDC Fellow in 1998.

Among a long list of design accomplishments early in his career were a cooling water system for the center's first arc heater and Range S-3, better known as the "chicken gun." He served as the operations engineer and wrote the first operating manual for Range G.

For decades the "chicken gun" has been the target of many jokes on base but has also made national news.

"We've had a lot of fun over the response we've got from our operation of Range S-3 [chicken gun]," he said, referring to remarks made by comedian Jeff Foxworthy and others. "But the truth is the Air Force has a serious problem with bird impacts on aircraft that fly at high speeds and low altitudes, and this facility has made a big contribution to solving this problem."

Dr. Sanders then became the supervisor of a group responsible for conducting tests in the small wind tunnels (tunnels A/B/C) and laboratory calibration of wind tunnel force measurement devices in the von Karman Gas Dynamics Facility.

"In addition to the design, fabrication and installation of test articles, my group completed two important projects – the aerotherm addition to Tunnel C and the computer monitoring of the status of all test unit mechanical systems during operation."

It was after this assignment that Dr. Sanders left AEDC and joined a special group that then Tennessee Governor Lamar Alexander formed to study better uses of the state's energy resources and to oversee the expenditure of the federal government's Department of Energy grants in Tennessee.

"I was responsible for statewide development programs involving low-head hydro, solar and biomass, in addition to conducting the state's first coal conference."

Dr. Sanders returned to AEDC in 1982 as an Air Force civilian. Responsible for resource requirements, he built unified programs in improvement and modernization, maintenance and repair and military construction.



"Also during this period, up until I was promoted to chief of the Aeronautical Systems Test Division, I was assigned to the aeroballistic ranges and involved in the development of nose-tip materials for re-entry vehicles, materials to protect spacecraft and the development of the lethality of kinetic-energy projectiles."

During his tenure with the Air Force, Dr. Sanders served as project manager for three Air Force Data Exchange Agreements – with the Japanese, South Koreans and French. He was appointed to the Fluid Dynamics Panel of the technical arm of the North Atlantic Treaty Organization (NATO). He was also elected chairman of the Tennessee section of the American Institute of Aeronautics and Astronautics.

During the 1990s, as technical director, Dr. Sanders oversaw high priority aerodynamics test programs like the F-22A Raptor, F/A-18/EF Super Hornet and the Joint Strike Fighter. He was also a key player in the AEDC commercial alliance with Boeing.

He was cited by Boeing as being largely responsible for the success of its commercial test programs at AEDC.

Dr. Sanders led three key efforts in the large wind tunnel area – cycle time reduction (from one test to another), benchmarking the facilities against like national and international facilities, and sustainment efforts to ensure peak performance of the facilities. These three areas were critical to AEDC's future.

He retired from AEDC in 1998.

"The main reason I retired was to spend more time with my children and grandchild-



Dr. Eugene Sanders oversaw major aerodynamics test programs like the F-22 Raptor, F/A-18E/F Super Hornet and Joint Strike Fighter in the 1990s as aerodynamics technical director. He was a key player in the commercial alliance with Boeing. Responsible for resource requirements in the '80s, he built programs in improvement and modernization, maintenance and repair and military construction. He designed AEDC's first arc heater and Range S-3 (Chicken Gun) early in his career and was Range G operations engineer. (AEDC photos.)

dren," he said. "And I've been able to do just that. They never cease to amaze me."

Reflecting on his years, Dr. Sanders appreciates the opportunities he has experienced while at AEDC.

"I was fortunate to have worked in many different areas of testing during my career at AEDC," he says, "Large wind tunnels, small wind tunnels, aeroballistic gun ranges, the 'chicken gun' – these experiences were a great asset to me when I began to interact with international organizations and some outstanding, talented

people, many of which are still friends. I consider myself very lucky to have had a career like mine."

Dr. Sanders earned both his bachelor and master degrees from the University of Tennessee at Knoxville. Taking advantage of an Air Force sponsorship, he received a doctorate in engineering from Vanderbilt University in 1993. His association with Vanderbilt continued with his acceptance of the position of adjunct professor. He has authored or co-authored more than 30 technical reports.

Armstrong from page 9

The older man apparently had a heart attack and didn't survive, despite everyone's best efforts.

Armstrong said even though he is leaving AEDC, the bonds he has formed with those in his department will be his most treasured memories.

"I can't say enough about Lonnie, how good a crew member he is," Armstrong said. "We know each other's families [it's the] kind of things you just don't know about a lot of people.

"We [all] fight fires together, socialize sometimes, [go] in harm's way and it makes you have a bond that is hard to describe. We depend on each other to make sure that we are safe – we look out for one another. That risk is always there, but they train us and pay us to do it and I've never been scared or hesitated to do what we do."

Regarding his years of experience and formal

training, he plans to put it to good use when he joins the Shelbyville Fire Department next month.

"I'm going to get to share that at the end of my career back home," he said. "I want to be a blessing and a service to my community and I've kind of gone full circle to do that."

When asked why he had made firefighting a career, especially the 33 years he spent working at AEDC, Armstrong said helping others has been his focus all along.

"My motivation is helping people who are hurt and need help," he said. "I enjoy the excitement of fires and stuff like that and I'm trained to do that, but the motivation for it is serving your fellow man."

Armstrong already has years of experience partnering with other communities' fire departments on mutual aid calls, including the Tennessee National Guard. He has formed strong bonds with many of

those first responders, both personal and professional.

"Chief Richard Shasteen in Tullahoma, he's a good friend of mine and I have gone there for the last six years," Armstrong said. "I've trained those guys in confined space every year and I train Shelbyville, where I'm going now to work.

"My son is a fireman there too. So, that's a motivating factor too. Not that I'm worried about him, that's not the issue at all. It's just that I just want to be in the same house he is. Also, my son-in-law is a firefighter in Murfreesboro."

Armstrong said he is looking forward to the second chapter of his career.

"I believe that God opened the doors for me," he said. "I'm going back in the training division of the fire department to share some of the things I've learned and the experiences I've had with young firefighters who are eager



From left, Charlie Armstrong, AEDC Fire Department firefighter crew chief, and Jay Baldwin, a driver operator with the department, interact with a third grade class touring the fire department as part of a Spark program visit to the base. (Photo by Rick Goodfriend)

to do the job safer, and I hope I can do that and help share that knowledge with them."

He will still be fighting fires himself and is looking forward to that as well. Referring to Armstrong, Brown said, "I'm retired Air National Guard, so I've traveled all over the world and I've worked with a lot of firemen from

different departments. I have never met anybody who is more passionate about and has more love for the fire department, not only his job, but the history of it and honor and respect of it, that's Charlie.

"That's why I feel I'm fortunate to drive for him and he has that same passion, that same love for everything he does, whether

it's family, his religion, I mean, he's just a great person. He has those skills because he's that committed, he wants to be the best he can be."

Brown added, "I've been here 10 years [and was] fortunate to finally make it on the truck with Charlie, so I can learn from his experiences. I will miss him."

Engine from page 9

kerosene and unleaded fuel and has its own onboard aluminum tank.

“It’s a pure turbojet,” Hartman said. “It puts out, with max afterburners, about 60 pounds of thrust. It’s fully instrumented [with] your basic engine instrumentation.

“It has four temperatures, four pressures and core speed. Building the engine allowed me to relate my engineering coursework real-time to an application. It was really crucial for helping to retain information.”

Hartman recently moved the engine from his Manchester apartment to his office cubicle.

TSTB Director Lt. Col. Brent Peavy is Hartman’s supervisor and said he is extremely pleased to have Josh on board.

“He has only been with us for a short time, but he

hit the ground running at full speed,” Colonel Peavy said. “He is already applying the knowledge he gained building and testing his own engine. His hands-on experience has allowed him to step into several ongoing test programs with no spin up time and to be an extremely productive member of those teams.

“And it gives him a great base to develop new knowledge. Josh is rapidly coming up to speed on test, instrumentation and plant issues, fields that take quite a bit of experience to tackle.”

Hartman said he was recruited to AEDC by former Director of Engineering and Technical Management Tom Best as a Department of Defense Science, Mathematics and Research for Transformation (SMART) scholar, and the transition has been great.

“For me, testing engines is something that I always wanted to do, so I think that was a big part of why – when I was a SMART scholar you’re geographically mobile and they can place you at any Air Force base in the country – and I got picked up here at Arnold, which I’m really excited about,” Hartman said.

“The capabilities here are unmatched anywhere in the world as far as ground turbine engine testing goes. It’s exciting to play with the big toys, as opposed to some of the smaller stuff that I’m used to.”

Hartman said he is excited about the future and wants to get a master’s degree in aerospace engineering, possibly from the University of Tennessee Space Institute (UTSI) or from the University of Alabama at Huntsville.

AEDC riders complete ERC

Eight AEDC active duty and DOD civilian motorcycle riders completed the Experienced Riders Course (ERC), offered through the Motorcycle Safety Foundation (MSF) at Motlow College Aug. 6. The course was designed to enhance rider skills and awareness training for experienced riders; 2011 was designated as the “Year of Motorcycle Safety.” To ride a motorcycle on Arnold AFB, active military and DOD civilians must complete a safety course, possess a motorcycle license and utilize the proper PPE as stated by the AFI 91-207. This course provided additional safety training over the Basic Rider Course, which is targeted toward the new motorcycle rider. Completing the course were Maurice May, AEDC motorcycle safety coordinator, Patrick Jackson, James Lawson, Mark Andrews, Larry Davis, Gene Klingensmith, 2nd Lt. Matt Karczewski and 1st Lt. Jason Lackey. (Photos provided)



Robin Olds: Wolf Pack hero, legacy

Commentary by Howard E. Halvorsen
7th Air Force Historian

KUNSAN AIR BASE, South Korea (AFNS) – This historian is hardly the first to declare Robin Olds as the greatest aerial warrior and leader in American history.

When learning about his life, it is as if our creator was making the perfect Airman. He was a triple ace who had ideas about tactical air power that were as big as his physique. He was a missionary constantly arguing – not always tactfully – for better fighters, better pilot training, new tactics and the like. This he did his entire career and afterwards as an after-dinner speaker and in interviews on television. And, of course, I don't know of another fighter pilot who was ever married to a beautiful movie star. Robin Olds was bigger than life.

Brig. Gen. Robin Olds was born at Luke Field Hospital in Honolulu on Bastille Day, July 14, 1922 to Army Air Corps Capt. Robert Olds and Eloise Wichman Olds. His mother came from a line of Hawaiian landowners and his father's family from Virginia dating back to the American Revolution, with one family member being General Washington's aide-de-camp. The family was then stationed in Virginia and Olds' father became aide to Gen. Billy Mitchell before moving on to Langley, Va.

Initially, one would think the young Olds would become successful due to association. Frequent family guests included: Hap Arnold, Tooe Spatz, Ira Eaker, Fiorello La Guardia, Harold George, Frank Andrews, Bob Williams, Ernst Udet, Roscoe Turner, Edward Mannock, Elliott White Springs, Jimmy Matern, Beime Lay, and once even Eddie Rickenbacker.

However, Olds' success was not achieved by great association, but rather by his dreams of air power. His ideas were shaped from these World War I heroes and early air pioneers. He heard them discuss making air power prevail in future battles, the horror of trench warfare and an endless stalemate. He knew air power could prevent thousands of casualties.

Airplanes could carry the war to the enemy, attack his industrial base and his lines of communication, destroy

his transportation system and quickly erode his will to fight. Considering how far ahead they were looking into the future beyond the then current air abilities, it is almost no wonder these ideas were disregarded as impossible. Billy Mitchell was court-martialed for his outspoken belief in the future of air power with Olds' father at his side. Mitchell died in 1936, but World War II proved these ideas and theories to be right.

All of these ideas were things Olds carried with him into the future. But now it was up to a new generation of fighter pilots to win in the air. After Lieutenant Olds gained entrance into World War II, he was quickly promoted to captain in the 434th Fighter Squadron, flying a P-38J Lightning named "Scat 1." He became an ace in his first two combat missions, shooting down two FW-190s on Aug. 14, 1944, and three ME-109s nine days later. The 479th re-equipped with P-51 Mustangs in September and Olds scored his first kill in "Scat V" on Oct. 6 the same year.

Promoted to major in February 1945, he claimed his seventh victory south-east of Magdeburg, Germany, the same day. On Feb. 14, he recorded three confirmed victories in one day, two ME-109s and an FW-190. By the end of his tour, he had shot down 13 German planes, destroyed 11.5 others on the ground and was commander of the 434th.

Before leaving Europe at the end of the war, the still young Major Olds was given direct orders to report to United States Strategic Air Forces near Paris. On arrival he was to report to Gen. Carl A. "Tooe" Spatz's office for further instructions. The good major arrived and the room slowly filled with names that were now known to the world: Eaker, Vandenberg, Stratemeyer, Quesada, Norstadt, Doolittle, Patridge, Strothers and others. When General Spatz arrived he greeted everyone and then ignored them all by taking Olds to a private room for a chat. It was in meetings like this and through personal experience that Olds grew to learn what was important:

"Know the mission, what is expected of you and your people. Get to know those people, their attitudes and expectations. Visit all



Col. Robin Olds preflights his F-4C Phantom before a mission in Southeast Asia. He was the commander of the 8th Tactical Fighter Wing at Ubon Air Base, Thailand, and was credited with shooting down four enemy MiG aircraft in aerial combat over North Vietnam. (U.S. Air Force photo)

the shops and sections. Ask questions. Don't be shy. Learn what each does, how the parts fit into the whole. Find out what supplies and equipment are lacking, what the workers need. To whom does each shop chief report? Does that officer really know the people under him? Is he aware of their needs, their training?"

"Does that NCO supervise or just make out reports without checking facts? Remember, those reports eventually come to you. Don't try to bull the troops, but make sure they know the buck stops with you, that you'll shoulder the blame when things go wrong. Correct without revenge or anger. Recognize accomplishment. Reward accordingly. Foster spirit through self-pride, not slogans and never at the expense of another unit."

"It won't take long, but only your genuine interest and concern, plus follow-up on your promises, will earn you respect. Out of that you gain loyalty and obedience. Your outfit will be a stand-out. But for God's sake, don't ever try to be popular! That weakens your position, makes you vulnerable. Don't have favorites. That breeds resentment. Respect the talents of your people. Have the courage to delegate responsibility and give the authority to go with it. Again, make clear to your troops you are the one who will take the heat."

Robin Olds was a great pilot and leader admired by many. He turned around the situation at Ubon Royal Thai Air Force Base and the 8th Tactical Fighter Wing from one of poor leadership

See **OLDS**, page 15

Buckley service members guard World Trade Center artifacts



Col. Daniel Dant looks on pieces of the World Trade Center Aug. 8 at Buckley AFB, Colo. The pieces, believed to be from the fifth floor of the North Tower, are only a few that have been shipped from the Port Authority of New York and New Jersey to cities and communities across the country. (Photo by Senior Airman Marcy Glass)

Commentary by Airman Nigel Sims
460th Space Wing Public Affairs

BUCKLEY AFB, Colo. (AFNS) – Service members at Buckley AFB, Colo., held a recognition ceremony Aug. 8 displaying pieces of steel from the terrorist attack on the World Trade Center.

"This special ceremony was to honor the lives that were lost on Sept. 11, 2001," said Col. Daniel Dant, the 460th Space Wing Commander. "And for our fellow service men and women who, over the course of the last 10 years, have worked multiple tours of duty, and in some instances, have paid the ultimate price for protecting our nation from further attack."

"As you know terrorism is an increasingly dangerous threat. Not just to Americans, but to all civil societies that value human life and the fundamental democratic principles that we all hold so dearly."

"Ten years ago, the United States was attacked by those attempting to challenge our freedom and our strengths as a nation. However, we have demonstrated, and will continue to demonstrate and show or commitment and vigilance both here and overseas in ensuring our country is secure."

"We are not afraid, and freedom will prevail."

"Looking at those relics reminds us of an evil that was perpetrated against us," he said. "And with that, I would like to leave you with a thought: We still will not tire, we still will not falter, and we still will not fail."

Olds from page 13

and no training to the greatest fighter wing in the world.

His most famous operation, the one that gave the 8th TFW its name - the Wolf Pack - was Operation Bolo, a masterpiece of planning and execution. His tactics, along with another great Airman, Vice Commander Col. Daniel "Chappie" James, were the wonder of the world and grounded the communist foe's air force for months. Olds shot down four MiGs rather quickly and then never shot down another.

He had been told if he became an ace he would lose his command since his capture would be a public relations coup. He was also told he could only fly 100 missions in the Vietnam conflict. It is now known his final mission was his 152, and as much as we know about the man we can safely say he did not

only kill four MiGs. Olds was almost certainly an ace in Vietnam, but being an ace mattered far less than leading his men and getting them home safe.

When Olds came home it was to brief the President and the Joint Chiefs of Staff. His words with then President Lyndon B. Johnson were few, "Get us out of this GD war!"

When LBJ asked how, Olds replied, "It's simple, sir - win it!"

Olds was promoted to brigadier general but never held a major command. The remainder of his career was spent in non-operational positions, as Commandant of Cadets at the United States Air Force Academy and as a bureaucrat in the Air Force Inspector General's Office. His inability to rise higher as a general officer is attributed to both his maverick views and his penchant

for drinking.

His ideas, however, have survived him. Modern fighters like the F-15E and F-16, "have capabilities we never knew in speed, range and accuracy," he said. Accuracy, stealth and range are the most important differences, according to the venerable fighter pilot. A few tactical planes now have the ability to do the job in one mission with surgical precision -- just as Olds imagined might be done with P-51s in World War II.

"And that's what the old boys dreamed of in World War I," he said. "It was the basis of their doctrine. So I guess it's true: What goes around, comes around."

Olds, known for the flamboyantly waxed, regimental mustache he sported in Vietnam, talked openly about his individuality. An oil painting of him grinning through his

illegal mustache is featured prominently in the lobby of the War-gaming Institute at Maxwell AFB, Ala.

"Generals visiting Vietnam would kind of laugh at the mustache," said Olds. "I was far away from home. It was a gesture of defiance. The kids on base loved it. Most everybody grew a mustache."

Returning home, however, he discovered not everyone was fond of his maverick behavior.

"I remember my first interview with [Air Force Chief of Staff Gen. John P.] McConnell," Olds said. "I walked briskly through the door, stopped and snapped a salute. He walked up to me, stuck a finger under my nose and said, 'Take it off!' And I said, 'Yes, sir!' And that was the end of that."

And you wonder where Mustache March comes



Col. Robin Olds, 8th Tactical Fighter Wing commander, is carried off the airfield after successfully completing Operation Bolo Airmen Jan. 2, 1967. During Operation Bolo, Colonel Olds dubbed the wing the Wolf Pack because of its aggressive tactics and high degree of teamwork. (U.S. Air Force photo)

from? Not everything Air Force comes from Robin Olds, but few will argue with you if you say it does. Are there other great Air Force men in the Air Force's short history? Of course. There are many. But it was Robin Olds who was so persistent during all of those inter-war years constantly asking for better

planes and better training when it would have been better for his career if he had toed the line more often.

Vietnam proved him correct and the Air Force finally came to his way of thinking through Red Flag and more. What does this teach us? Do what is right and be ready to fight.

**Arnold Golf Course
454-GOLF; 454-FOOD**

Check us out on Facebook! Arnold AFB Services Golf Course

Arnold Golf Course **Club Championship** will be held August 27-28 for members only. Play will begin with an 8 a.m. shotgun start for 36-holes individual stroke play. Cost is \$40 and includes lunch on Sunday. Cart is not included. Sign up in the Pro Shop by August 24.

HQ Air Force Services has launched its second **annual golfer survey** at 71 courses worldwide. This survey, designed by the National Golf Foundation, gives Arnold Golf Course golfers the chance to provide valuable feedback on the base course. The survey results are not only important to us here, but also at Air Force-level, as they develop programs and the direction of Air Force golf. For more information or to respond to the survey go to www.usafservices.com.

Mulligan's Coffee Bar and Grill has an expanded breakfast and lunch menus. Hours are 6:30 a.m. to 2 p.m. Monday - Friday and 7 a.m. to 2 p.m. on Saturday and Sunday.

**Arnold Lakeside Center
454-3350**

Check us out on Facebook! Arnold AFB Services Arnold Lakeside Center and Arnold AFB Services Information, Tickets and Travel

Barber Shop increases hours to five days a week open from 8 a.m. to 4 p.m. Monday through Friday. Haircuts are \$8 and are by appointment. Call 454-6987.

Members Only Texas Hold 'em Tournament continues. Play is in The Landing on select Saturdays and Thursday beginning at 6 p.m. tomorrow, Aug. 20 and 25, Sept. 1, 10, 17, 24 and finals at 5 p.m. Oct. 1.

Members age 18 and older are eligible. Players will be divided evenly among tables in random draw placement each week.

The number of tables will be determined by the number of participants each week. Tables will be responsible for the deal at each table.

A dedicated dealer will be provided for the championship table. As players are eliminated, the number of remaining players will be redistributed throughout the night to make as many even-number tables of players per game until the final eight.

Placement points will be determined by finishing ranking each week once the player pool gets down to the final eight players of the night.

Players eliminated before final eight will not receive points. Point placement chart is as follows: eighth place: 1 point, seventh place: 2 points, sixth place: 3 points, fifth place: 4 points, fourth place: 5 points, third place: 6 points, second place: 7 points, first place: 8 points.

A running seven-week tally of total weekly points will determine the ranking order to decide who plays in the final championship rounds. Player's best six of seven weeks will constitute the total number of points.

The Championship Table will be made up of the top 16 players plus ties from seven-week standings. Winning a single week does not guarantee seat at Championship Table.

Seats are decided by point ranking only. Play will be single elimination round to determine a final 2011 ALC Texas Hold 'Em Champion. Prizes will be given to top two winners each week.

Grand prizes will be given to the top three finishers in the championship.

Arnold Lakeside Center has planned a **Day Trip to Chattanooga** to visit Look-out Mountain, Ruby Falls and the Incline Railway on Sept. 17. Meet at the ALC at 8:30 a.m. Cost is \$55 for adults and \$30 for ages 3-12.

Deadline to sign up is Sept. 15 and there must be at least five to take the trip. Maximum participation is 15.

Remember to bring money for lunch and souvenirs. Call 454-3303 for more information or to sign up.

New movie time starting Sept. 1 plus kids' double feature Sept. 17 at ALC

Arnold Lakeside Center has movie night every Thursday and beginning Sept. 1 will have a new movie start time of 6:30 p.m.

Dinner will still be available from 5-8 p.m. from the Express or Pizza menus.

The Thursday schedule for September is: **Sept. 1** - "Pirates of the Caribbean: On Stranger Tides," rated PG-13 starring Johnny Depp and Penelope Cruz. Jack Sparrow and Barbossa embark on a quest to find the elusive fountain of youth, only to discover that Blackbeard and his daughter are after it too.

Sept. 8 - "Kung Fu Panda 2," rated PG starring voices of Jack Black, Angelina Jolie and Jackie Chan. Po joins forces with a group of new kung fu masters to take on an old enemy with a deadly new weapon.

Sept. 15 - "Bridesmaids," rated R starring Kristen Wiig, Maya Rudolph and Rose Byrne. Picked as her best friend's maid of honor, lovelorn and broke Annie looks to bluff her way through the expensive and bizarre rituals with an oddball group of bridesmaids.

Sept. 22 - "Super 8" rated PG-13 starring Elle Fanning, Amanda Michalka and Kyle Chandler. After witnessing a mysterious train crash, a group of friends in the summer of 1979 begin noticing strange happenings going around in their small town, and begin to investigate into the creepy phenomenon.

Sept. 29 - "Zookeeper" rated PG starring Kevin James and Rosario Dawson. A group of zoo animals decide to break their code of silence in order to help their lovable zoo keeper find love - without opting to leave his current job for something more illustrious.

A special double feature Kids' Movie Night has been set for **Sept. 17**. The first movie will begin at 5:30 p.m. and the second should start around 7:30 p.m.

The first show will be "Judy Moody and the Not Bummer Summer," rated PG starring Jordana Beatty and Heather Graham.

Third-grader Judy Moody is planning the most super-duper, double-rare summer vacation ever with best friends Rocky and Amy.

Except that it turns out Rocky is going to circus camp to learn to tame lions and Amy is headed off to Borneo with her mom to save a lost tribe while Judy stays home with her pesky little brother Stink and second-best friend Frank Pearl.

Just when she thinks things are as rotten as they can be, her parents announce they are going to California and Judy will have to stay with her Aunt Opal, who she's never even met!

It looks like Judy's best summer ever just became her way worst summer ever. But feisty, fearless and ever-funny Judy Moody never gives up! With help from some unexpected sources, she's headed for

Disney Salute to Armed Forces special ends soon

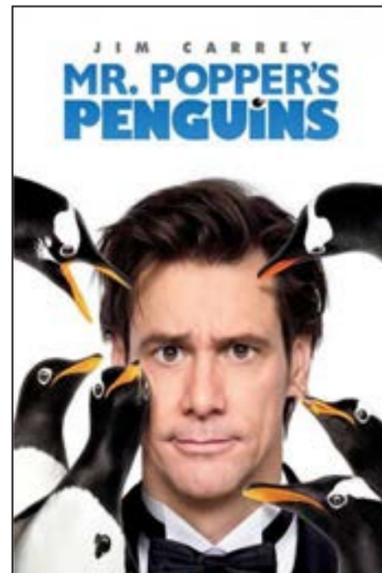


Now through Sept. 24 discount tickets are available to active or retired military including activated members of National Guard and Reserves plus active or retired members of Coast Guard.

A four-day park hopper or four-day base ticket with water park is \$133 and a four-day park hopper with water park is \$160.

Maximum of six tickets per person.

Call Melissa, 454-3303, at Information, Tickets and Travel (ITT) for more information about these and other tickets.



a summer full of surprises.

The second show will be "Mr. Popper's Penguins," rated PG starring Jim Carrey, Carla Gugino and Angela Lansbury.

Mr. Popper is a driven businessman who is clueless when it comes to the important things in life. Mr. Popper finally understands what he's been missing, thanks to a new inheritance: six penguins who turn his swanky New York apartment into a snowy

winter wonderland and the rest of his life upside-down.

Dinner is available from 5-9 p.m. from the regular, Express or pizza menus.

Children under age 15 must be accompanied by an adult or other responsible party. Feel free to bring comfy stuff to lay on for this fun and funny double feature. For more information or to place advance dinner orders call 454-3350.

Paintball is just around the corner with improvements and changes

Paintball took a break over the hot summer months and revamped the program.

The most notable change is it is now offered every Saturday beginning Sept. 3 through June.

We will continue to break for July and August due to the heat. The times remain the same - 9:30 a.m. - 3:30 p.m. - but lunch is no longer provided.

Participants are given a lunch break and may either brown bag or go offsite.

The group may decide to order take out from Mulligan's Coffee Bar and Grill and have a designated runner to place the orders in advance and pick them up.

A new fort has been added that will allow expansion in the games played.

Play is open to ages 10 and up and ages 10-18 must have a parent permission form. All participants must sign a hold harmless agreement.

Remember to wear protective clothing as the hit from a paintball can leave a welt.

Outdoor Rec has enough equipment for 25 players but you may bring your own equipment.

The field is capable of handling up to 50 players. There must be a minimum of four to hold an event.

Be sure to sign up in advance at 454-6084, especially if you need equipment.



A new rule this season is that all paintballs must be purchased from Outdoor Rec. Cost to play includes 500 balls but additional may be purchased at \$13 per bag of 500 or \$45 for a box of 2,000.

The cost is different now at \$35 per person which includes equipment and 500 balls.

If you use your own equipment cost is \$20 and includes 500 balls. CO2 refills are also available at \$5 per tank.

Now, all you need to do is sign up no later than the Friday before the day you intend to play and then meet at the Paintball Field on that particular Saturday morning to begin your paintball experience.

Remember, if you need equipment you need to call early to ensure availability.

Call 454-6084 to sign up or for more information.

Book Fair returns Sept. 7



Books Are Fun is back for a book fair from 9:30 a.m. - 3 p.m. Sept. 7 in the A&E Building's new training rooms, A125 and A127. Discounted selections include paperbacks, best sellers, educational, reference, cookbooks, children's items, gift selections and more. Save up to 70 percent off retail prices.



Horizon is a Services Division publication designed to inform our customers of events and specials in Services Division activities. All program dates, times and prices are subject to change. Services Division mailing address is at 100 Kindel Drive, Suite C321, Arnold AFB, Tenn. 37389-3321

Services information written and provided by Tanya Heggard

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Services Division Phone Numbers

Area code 931 DSN 340
 Services Chief – 454-7779
 Services Deputy – 454-5915
 Community Services Flight Chief – 454-4062
 Complex Manager – 454-3367
 Arnold Lakeside Center (ALC) – 454-3350
 Arnold Lakeside Center catering – 454-3350
 Gossick Leadership Center – 454-3024

Hap's Pizza – 454-5555
 Membership Information – 454-3367
 Information Tickets, Travel – 454-3303
 Fitness Center (FC) – 454-6440
 Outdoor Recreation (ODR) – 454-6084
 FamCamp – 454-6084
 Marina – 454-6084
 Recycling – 454-6068

Family Child Care – 454-3277
 Family Member/Youth Programs – 454-3277
 Human Resources – 454-5481
 Marketing & Sponsorship – 454-3128
 Barber Shop – 454-6987
 Wingo Inn – 454-3051
 Golf Course (GC) – 455-GOLF (4653) or 454-7076
 Mulligan's Coffee Bar and Grill - 454-FOOD (3663)

September 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
ALC Thursday movie start time 6:30 p.m. starting Sept. 1 Barber Shop now open 8 a.m.-4 p.m. Monday-Friday. Call 454-6987 for appointment.				1 FC Deadline to sign up for Flag Football FC Cycle Pump Class– Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Pirates of the Caribbean: On Stranger Tides" PG-13 dinner 5-8 p.m. movie 6:30 p.m. ALC Members Only Texas Hold 'Em Tournament 6 p.m.	2 FC Body Pump Boot Camp 6 a.m. FC Piloga 11 a.m. ALC 50 cent wings (member and non member) FamY Movie Night, 5-7 p.m., age 9 and up, free popcorn, 454-3277	3 ODR Paintball is back! Now every Saturday 9:30 a.m.-3:30 p.m., \$35 ODR Old Stone Fort Day Hike, 1-5 p.m., \$3, sign up by Aug. 31, 454-6084 ALC Express and Pizza to go orders only
4	5 FC Open 8 a.m. – 4 p.m. no classes	6 ALC AEDC Woman's Club luncheon, 9:30 a.m. FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	7 FC Body Pump Boot Camp 6 a.m. ALC Book Fair, A&E A125 & A127, 9:30 a.m. – 3 p.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.	8 FC Cycle Pump Class - Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Kung Fu Panda 2" PG dinner 5 – 8 p.m. movie 6:30 p.m.	9 FC Body Pump Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Prime Rib for Two, \$29.95 member \$31.95 non	10 ODR Paintball 9:30 a.m.-3:30 p.m., age 10+, \$35, 454-6084 ALC Prime Rib for Two, \$29.95 member, \$31.95 non, 5-9 p.m. ODR Take a Trek thru Outdoor Rec Finale Event at Crockett Cove 4-6 p.m. ALC Members Only Texas Hold 'Em Tournament 6 p.m.
11	12 FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.	13 FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	14 FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.	15 FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Bridesmaids" R dinner 5-8 p.m. movie 6:30 p.m.	16 FC Body Pump Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Shrimp & Catfish, \$11.95 members, \$12.95 non	17 ALC Day Trip to Chattanooga, 8:30 a.m., \$55, \$30 age 3-12, 454-3303 ODR Paintball 9:30 a.m.-3:30 p.m., age 10+, \$35, 454-6084 ALC Chicken Fried Chicken, \$10.95 member, \$11.95 non ALC Kids' Movie Night Double Feature, 5:30 p.m. "Judy Moody and the Not Bummer Summer," PG and "Mr. Popper's Penguins," PG ALC Members Only Texas Hold 'Em Tournament 6 p.m.
18	19 FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class – Zesty cycling 11 a.m. FC Yoga 11 a.m.	20 FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	21 FC Fall Fun Run, any time during day, 2 laps around trail FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.	22 FC Cycle Pump Class – Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Super 8" PG-13 dinner 5 – 8 p.m. movie 6:30 p.m.	23 FC Body Pump Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Italian Cheese Stuffed Pork Chops, \$13.95 member, \$14.95 non	24 ODR Archery Basics Class, 9 a.m., age 10 and up, \$3, sign up by Sept. 24 454-6084 ODR Paintball 9:30 a.m.–3:30 p.m., age 10+, \$35, 454-6084 ALC All You Can Eat Spaghetti & Meatballs, \$12.95 members, \$13.95 non ALC Members Only Texas Hold 'Em Tournament 6 p.m.
25	26 FC Body Pump Boot Camp 6 a.m. FC Cycle Pump Class - Zesty cycling 11 a.m. FC Yoga 11 a.m.	27 FC Cycle Pump Class – Endurance Cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m.	28 FC Body Pump Boot Camp 6 a.m. ALC Lunch, 11 a.m. – 1 p.m., call ahead 454-5555 FC Pilates 11 a.m.	29 FC Cycle Pump Class - Yellow shirt cycling 11 a.m. FC Karate 3 p.m. FC Zumba 4:15 p.m. ALC Dinner & Movie Night "Zookeeper" PG dinner 5-8 p.m. movie 6:30 p.m.	30 FC Body Pump Boot Camp 6 a.m. FC Piloga 11 a.m. ALC Lynchburg Ribeye, \$15.95 member, \$16.95 non ALC Trivia Night, 6 p.m.	

Hours of operation

Arnold Lakeside Center – Special function luncheons available. Call 454-3350 for arrangements. Catering/Management offices Tuesday-Friday 10 a.m.-3 p.m.; Lunch: limited menu Wednesdays, 11 a.m. – 1 p.m., call 454-5555 to place orders; 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 p.m., **6:30 p.m. starting Sept. 1**
Family Member/Youth Programs – Tuesday through Friday 10 a.m. – 5 p.m., Saturday 12-5 p.m., First Friday Movie Night 5-7 p.m.
Outdoor Rec – Main Office, Check In, Marina and Auto Shop Tuesday through Sunday 8 a.m. – 6 p.m.
Fitness Center – Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m.; **now closed on Sundays**
Arnold Golf Course – Pro Shop & Driving Range 7 a.m. – dusk, Driving Range open 24 hours with pre-purchased key card.
Mulligan's Grill: 6:30 a.m. – 2 p.m. Monday through Friday, 7 a.m. – 2 p.m. Saturday and Sunday.
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 through Friday 8 a.m. – 4 p.m.

BX/Commissary customer eligibility

AEDC government civilian and AEDC contractor employees have access to the following limited items at the base exchange (BX): consumable items including toiletries and over-the-counter pharmaceuticals, food items such as candy, chips, little meal items, hot dogs and soft drinks. Alcohol and cigarettes are not included as consumable items. However, only active duty and retired uniformed services personnel and their dependents are eligible to use the base commissary next to the BX. The commissary hours of operation: Tuesday, Wednesday and Friday 9 a.m.-5:30 p.m., Thursday 9 a.m.-6:30 p.m. and Saturday 8 a.m.-4:30 p.m. The BX hours of operation: Tuesday through Friday 9 a.m.-5:30 p.m., and Saturday 8 a.m.-4:30 p.m. For more information contact Janie Warren, BX manager, at (931) 454-7153 or Jeff Lillard, Commissary manager, at (931) 454-3545.

AAFES Dividends

Dividends generated from the Army and Air Force Exchange Service (AAFES) overall earnings are a major contributor to Services nonappropriated fund (NAF) construction and renovation projects as well as equipment purchases. Services would like to thank all AAFES customers for their support. Dividends received for July 2011 totaled \$7,408.51.

Briefs from H1

First Friday Jam is canceled for Sept. 2 due to the holiday weekend. Jam will return Oct. 7 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.

Last Friday Trivia Contest returns 6 p.m. Sept. 30.

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.

A tutorial will be given at 6 p.m. to all participants prior to the start of the game.

Six rounds of questions will be administered consisting of three questions in each round.

Each round is worth 10 points. The teams with the most points at the end will win prizes.

Ties will be broken by a trivia play-off.

Dinner special is Lynchburg ribeye, \$15.95 member, \$16.95 non.

Wednesday Lunch is available for dine in or carry out from 11 a.m. to 1 p.m.

Call ahead to 454-5555 to place orders. No delivery available.

For better service, you may call on any day and preorder. Regular menu items available during lunch include specialty burgers, chicken tenders, salads and stuffed breadsticks.

Call to see what other specials are available each week or check Sharepoint.

Friday night dining room specials available from 4-9 p.m. Sept. 2: 50 cent wings (member and nonmember). No First Friday Jam due to holiday weekend. **Sept. 9:** Prime Rib for Two, \$29.95 member, \$31.95 non. **Sept. 16:** Shrimp & Catfish, \$11.95 members, \$12.95 non. **Sept. 23:** Italian Cheese Stuffed Pork Chops, \$13.95 member, \$14.95 non. **Sept. 30:** Lynchburg ribeye, \$15.95 member, \$16.95 non. Trivia Night 6 p.m. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Saturday availability and specials: Sept. 3: Express and Pizza to go orders only. **Sept. 10:** Prime rib for Two, \$29.95 member, \$31.95 non. **Sept. 17:** Chicken fried chicken, \$10.95 member, \$11.95 non. **Sept. 24:** All-you-can-eat spaghetti and meatballs, \$12.95 members, \$13.95 non. **Coming Oct. 1:** Weiner schnitzel, knockwurst and potato pancakes, \$12.95 member, \$13.95 non. The dining room is open on Saturdays from 5-9 p.m. unless otherwise specified.

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

September drink specials (all month long):

The Emerald City – Irish whiskey, Midori melon and Ginger Ale
Chocolate Russian – chocolate vodka, Kahlua, cream

Family Member/ Youth Programs (FamY) 454-3277

Check us out on Facebook! Arnold AFB Services Youth Programs

Youth Movie Night will be Sept. 2 from 5-7 p.m. Ages 9 and up are invited to the Open Rec Center to watch a movie. There will be free popcorn, juice and water.

Lock-In, Max Out: Take the AF Challenge for Pre/Early Teens is coming Oct. 14-15.

Ages 9-14 are invited to spend the night at the Youth Center and learn about healthy living.

We will increase awareness of living a healthy lifestyle and offer challenging activities.

We are partnering with the local health department and Fitness Center. We will have a fitness instructor come in to teach the newest dance craze, Zumba.

Then we will have a nutritionist from the Health Department show how to create a healthy meal. This will be a hands-on experience where youth will work with each other to create different aspects of the meal.

The nutritionist will stress the importance of a healthy diet and lifestyle. A box breakfast will be provided the following morning.

Stop by or call to sign up for this awesome free night of meet and greet with a healthy spin.

Fitness Center 454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

Battlefield Day is almost here.

Aug. 31 beginning at 11 a.m. there will be a field day type event at the running track behind the A&E building.

Teams of four will enter to compete in a four person 400 meter relay (1 lap each) and tug of war.

Then select one person from your team to compete in the 60 meter sprint and tire hammer and toss.

The tire hammer and toss consists of hitting a tractor tire 20 full swings and then flipping it as many times as possible in 30 seconds.

Services prizes will be given to the winners in each event.

T-shirts will be given to the first thirty to sign up. Call for more details or to sign up.

The Fitness Center will be **open 8 a.m. – 4 p.m. on Sept. 5** in observance of the Labor

Day holiday.

Flag Football is set to begin Oct. 4 with games played on Tuesdays and Thursdays beginning at 6 p.m. on the AEDC softball field. Deadline to sign up is Sept. 1. The league is open to age 18 and older.

Fall Fun Run is scheduled for Sept. 21 on the Fitness Center trail. Complete two laps anytime during the day at your own pace to complete the 3.5 mile course. The first 25 to sign up will receive an event T-shirt.

Some time ago the Fitness Center acquired the workout room in the A&E Building, Room C203, which was since referred to as the **Fitness Center Annex**.

As with the main Fitness Center facility, access to this annex facility is reserved for eligible users which include Active Duty, Guard and Reserve, DOD Civilians (APF & NAF), Retired Military and dependents. Prime contractors that are “Members First Plus” members are also authorized access.

An Acipher lock system has been installed and the door will remain closed at all times. Personnel wishing to use this facility will be issued a personal pin number not to be shared.

To request a pin number, please email james.duncan2@arnold.af.mil.

You may be required to visit the main Fitness Center to confirm eligibility. For more information, please contact the Fitness Center Staff at 454-6440.

Complete Group Class Schedule is as follows: Cycle Pump classes are Monday, Tuesday and Thursday from 11 a.m. to noon. Each day has a different focus: **Monday** - Zesty cycling - an easy paced tempo ideal for beginners; **Tuesday** - Endurance cycling - a bit harder class with mountain climbs, in and out of saddle work and at times completed to a simulated tour ride; **Thursday** - Yellow shirt cycling - challenging and intense preparing for outdoor circuits with a combination of hill climbs, speed drills, in and out of saddle work and tempo rides.

These are a super way to get a good cardio workout without excessive impact on your joints.

Yoga is on Monday from 11 a.m. to noon and provides strength and flexibility enhancement.

Body Pump Boot Camp is Monday, Wednesday and Friday from 6-7 a.m.

Zumba class is Tuesday and Thursday from 4:15-5:15 p.m.

Zumba is a fusion of music-dance themes featuring aerobic/fitness interval training with a combination of fast and slow rhythms that tone and sculpt

the body.

Pilates is a strength building and core class on Wednesdays from 11 a.m. to noon.

Piloga is on Fridays from 11 a.m. to noon and also a strength building and core class.

Cycling and Zumba classes are held in the Eagles Nest room upstairs.

All other classes are held on the gym floor.

The Fitness Center staff welcomes any **individual request for assistance** in developing a specialized fitness plan to help complete your fitness and health objectives. Call for assessments, instruction and fitness/workout plans.

Outdoor Rec (ODR) 454-6084

Check us out on Facebook! Arnold AFB Services Outdoor Recreation

“Take a Trek Thru Outdoor Rec” Treasure Hunt will continue through August 30.

Visit the main ODR office to pick up a ‘treasure map’ which will guide you on your ‘trek thru ODR.’

To be eligible for the final prizes, follow the treasure map to each participating ODR area where you will find a clue to bring back and earn your sticker for completing that location.

You will also receive an incentive prize for each location completed. After all of the ODR activities have been visited and the treasure map ‘stickered’, turn in the completed treasure map to the main ODR office (the same place you initially began the ‘trek’) where the map will be placed into a treasure chest for the grand prize drawings.

Be sure to complete the contact information on the back of the treasure map.

A finale event will be held Sept. 10 at Crockett Cove from 4-6 p.m. with a hamburger and hot dog cookout plus volleyball, cornhole and horseshoes along with the grand prize drawings for \$500 Services Bucks and a second prize of a Global Positioning System (GPS).

Old Stone Fort Day Hike scheduled for 1-5 p.m. Sept. 3. Ages 12 and up are invited to participate in this non-strenuous hike that will educate you on how to use hiking skills.

This is a 2.6 mile leisure hike around the archeological ruins within the park.

Come learn about the ruins and test your skills on this path full of history.

Cost is \$3 and there must be a minimum of five to go. Maximum participation is 14.

Meet at ODR and remember to wear proper clothing, footwear and bring water and snacks.

Call to sign up by Aug. 31.

Hands-On Boat Certification Class

is now mandatory for renting boats from the marina.

Watch the video during the week any time from 8 a.m. to 4:30 p.m.

After watching the video and taking the test sign up for the hands-on portion which is available Saturday and Sunday at 8:30 a.m., 9:30 a.m., 10:30 a.m., 11:30 a.m. and 12:30 p.m.

This class costs \$20 and certification is valid for two years.

Call to sign up for more information.

An **Archery Basics Class** has been scheduled for Sept. 24 beginning at 9 a.m. for ages 10 and older for only \$3 each.

There will be bows, arrows and targets on location but you may bring your own equipment if you have it.

Deadline to sign up for the event is Sept. 22. There must be a minimum of three to hold the class and maximum participation is 10.

This class will teach how to properly hold a bow, correct shooting technique and even some archery history. This is a great opportunity to start a new hobby.

Reservations for pavilion usage by authorized personnel must be made through the Outdoor Rec Program.

This includes the two pavilions at Gossick Leadership Center Beach, the Arnold Lakeside Beach and two in the Crockett Cove area. Rental fee is \$25 per day and a \$50 refundable cleaning deposit is required.

Reservations may be made up to 30 days in advance at Outdoor Rec (building 3055, previously known as Community Activities Center) or by calling 454-6084.

Corn Hole is available for rent for office functions and private events. Each set rents for \$10 per day or \$15 for two days. Four sets are available to accommodate larger groups. Rental reservations may be made through Outdoor Rec or by calling 454-6084.

Reservation Policy: FamCamp and Crockett Cove reservations may be made 45 days in advance for active duty military and reserve components and 30 days in advance for all other eligible patrons. Marina reservations may be made 15 days in advance for active duty and reserve components and 10 days for all other eligible patrons. Reservations are made through Outdoor Rec, 454-6084.

The Armed Forces Vacation Club (AFVC) is a “space available” program that offers Department of Defense affiliated personnel the opportunity to take affordable condominium vacations at resorts around the world for only \$329 per

unit per week.

All AEDC personnel are eligible to use this program.

The AFVC makes this possible by utilizing “excess” inventory at condominium timeshare resorts.

“Excess” inventory consists of condominium units that resort owners do not use, which generally means off-season or short-notice travel.

If you enjoy off-season activities in popular locations without the hassle of high-season prices, crowds and lines or if you can travel on 10 days notice or less, the AFVC offers an incredible vacation value.

The current seven-day, space-A, condo rental offer is a great value, but some people may like other vacation choices and support as well – those that can’t travel off-season or on short notice.

To help meet this need, they also offer a separate travel club that provides 24-hour service for discounted airline, rental cars and hotel reservation services, as well as discounted cruise and tour packages.

Book airline tickets, rental cars and hotel reservations and getting a 5 percent cash rebate after the trip.

To make a reservation, travelers need their AFVC Account Number (7033-xxxxx), the toll-free number (1-800-724-9988), a credit card number, an idea of when and where they want to go and the desire to get away, relax and have fun!

If this is your first call, tell them you are a “first-time AFVC caller.”

The vacation guide will take your name, address, telephone number, AFVC Installation Number (Arnold is #327) and assist with making your reservation.

At the end of the call, even if you do not complete a reservation, the guide will assign you an account number for future use.

Your Installation Number is very important. Services will receive a commission for your confirmed reservation to put back into programs offered for you locally.

The **Auto Shop** is a great place for do-it-yourself minor work and repairs. There is one stall available with a lift, air compressor, parts washer and a variety of tools. There is a fee of \$2 per hour. Staff can repair, mount, balance and rotate tires, by appointment.

A repair using a plug is \$5 or a mushroom patch is \$10. The charge for mounting is \$3 per tire and for balancing is \$2 per tire.

Tire rotation includes balancing for four tires and is \$16 for cars and vans and \$20 for trucks.

Wingo Inn 454-3051

Check us out on Facebook! Arnold

AFB Services 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 454-4003

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

The **Gossick Leadership Center (GLC)** may be used for events such as meetings, conferences, luncheons, dinners, etc. and is 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.

AEDC Woman's Club 455-5676

AEDC Woman's Club returns in Sept. 6 with a program from a retired high school teacher, Bonnie Spencer.

Since her retirement she built a little house that she calls her “Quilt, Poetry and Pout House.”

Bonnie comes from a long line of quilters and is the past president of the Heritage Quilters of Huntsville.

She is also a master gardener. Lunch will be a Salad Buffet and we hope you'll come and bring a friend.

Anyone who has a spouse working at AEDC is eligible to join.

Join us at 9:30 a.m. for our program followed by lunch. Make reservations by Aug. 30 by contacting Liz Jolliffe at 393-2552 or JAJolliffe@aol.com or Jane Ricci at 962-1378 or dickanjane@comcast.net.

This is a private organization which is not part of the Department of Defense or any of its components and it has no governmental status.