



HIGH MACH

Serving the World's Premier Flight Simulation Test Center



Vol. 57, No. 12

Arnold AFB, Tenn.

June 18, 2010

Vehicle decals to be reissued on a limited basis

By Darbie Sizemore
High Mach Editor

The Air Force Chief of Staff recently approved issuing vehicle registration decals again on a limited basis.

The decals are not required and will only be available to active duty, DoD civilians and retirees.

"The purpose of the decal program is to foster a sense of community and facilitate access to sister-service installations," said Dan Hawkins, ATA installation security section supervisor. "For active duty and DoD civilians, the expiration date of the decals will coincide with the expiration date of their Common Access Card (CAC); decals for retirees will never expire. Contractors will not be issued decals."

In 2008, decals were no longer required to enter an Air Force installation. Other branches of the military have continued to issue vehicle decals.

"The decals went away because there was no benefit in maintaining them," Hawkins said. "Basically, they offered a false sense of security. They did not vet the vehicle or owner since information used during the registration process was only as accurate as the day the decal was issued."

Barring any last-minute changes, decal issue will begin July 1. Decals will be issued at the visitor center only on Tuesdays and Thursdays; appointments are not necessary. Anyone wishing to register a vehicle should bring a valid driver's license and vehicle registration.

There have been some cosmetic changes to the decals since they were last used Air Force-wide.

The base-specific decals have been replaced with "U.S. Air Force" decals. The previous airmen (red) and NCO (gold) decals have been replaced with a single red decal to depict all enlisted ranks. Also retirees will now be issued a blue "R" decal (regardless of rank) to depict a decal that never expires.

"The sole purpose is to facilitate vehicle entry to sister-service installations that still require their use," Hawkins said. "Please keep in mind that anything you add to your vehicle that highlights your affiliation with DoD could make you a potential terrorist target. It is still very important to remove decals on vehicles before selling or transferring them."

AFMC vice commander visits AEDC

Lt. Gen. Janet C. Wolfenbarger, AFMC vice commander, made her first visit to AEDC June 11.

At left, AEDC Commander Col. Michael Panarisi shows off samples of custom-fabricated work done in the Model and Machine Shop to General Wolfenbarger. Below, 1st Lt. Tony Brunson explains AEDC's engine test capabilities.

The general has held several positions in the F-22 System Program Office at Wright-Patterson AFB, served as the F-22 Lead Program Element Monitor at the Pentagon and was the B-2 Systems Program Director for the Aeronautical Systems Center, Wright-Patterson AFB. She has also commanded the ASC's C-17 System Group, Mobility Systems Wing and was Director of the Air Force Acquisition Center of Excellence.

Prior to her current assignment, General Wolfenbarger was the Director of the Headquarters AFMC Intelligence and Requirements Directorate, Wright-Patterson AFB, where she enabled AFMC to deliver war-winning capabilities through life-cycle capabilities planning, technology development and transition, intelligence integration and acquisition support.



NFAC UH-60 air loads test sets precedents

By Karen Jenvey
NASA Ames

"Smooth" and "quiet" are two words not usually associated with a helicopter ride, but NASA is working to change that.

A full-size UH-60A Blackhawk helicopter rotor was the subject of tests the agency's Subsonic Rotary Wing Project recently completed in collaboration with the U.S. Army and the U.S. Air Force at the National Full-Scale Aerodynamics Facility (NFAC) at NASA's Ames Research Center in Moffett Field, Calif.

The test series, conducted from January to May 2010, was designed to gather data on the rotor blades and air movement that the blades create. Since most helicopter noise and vibration can be blamed on the interactions between the blades and the air, the data will be extremely valuable to rotor researchers trying to understand these effects.

Ultimately, the data gathered in the tests can be used to design advanced helicopters in the future.

"NASA hopes to make those new designs quieter, faster, more fuel efficient, and capable of carrying more people and cargo," said Tom Norman, the researcher for the project test team.



Personnel check out the Large Rotor Test Apparatus in the 80-by-120-foot wind tunnel at AEDC's National Full-Scale Aerodynamics Facility at NASA's Ames Research Center in Moffett Field, Calif. (Photo by Eduardo Solis)

The test included routine flight conditions for the rotor but also explored what happens if the rotor system is operated above and beyond its normal flight conditions. This included testing at very high speed and at conditions designed to simulate a much heavier helicopter, and pro-

vided data that will help NASA design helicopters that can fly faster speeds and carry more payload.

To obtain the data, NASA designed new measurement techniques for the ro-

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F-16 dedication to honor fallen hero

By Shawn Jacobs
ATA Public Affairs

The last of six aircraft to be dedicated at AEDC, the F-16 Fighting Falcon, also known as the "Viper," will be dedicated June 26 in honor of Maj. Gen. Winfield Scott Harpe, the highest ranking individual ever to die in an F-16 crash.



General Harpe

Harpe, the highest ranking individual ever to die in an F-16 crash.

The F-16 will be dedicated in a private ceremony with members of Maj. Gen. Harpe's family at 9 a.m. outside of AEDC Gate 2, where the plane is on static display.

The funding for the plaque was raised through the Company Grade Officer's Council (CGOC) March to

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HIGH MACH

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An Air Force Materiel Command Test Center

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The *High Mach* office is located at 100 Kindel Drive, Suite B212, Arnold AFB, Tenn. 37389-2212. Editorial content is edited and prepared by AEDC support contractor ATA. Deadline for copy is Wednesday at close of business the week before publication.

This commercial enterprise newspaper is an allowable ATA contractor publication for personnel at AEDC.

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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

Team AEDC ... Always reaching out to others

By Col. Michael Panarisi
AEDC Commander

Nothing makes a commander prouder than to see his team go "above and beyond," and while this is a long-time AEDC trademark, I'd like to showcase just how much your efforts mean to our center and our community.

During the recent floods in Nashville, I offered our military and DoD civilians the chance to assist in the recovery efforts.

I declared the relief sites an "alternate duty location" allowing our members to work off base without losing leave in the process.

The response was over-



Panarisi

whelming.

More than 60 took the challenge, and I've been bombarded with "thank you" messages from across the spectrum of organizations that put our teammates to work.

Our ATA partners pitched in as well, using

vacation time to lend a hand. It's so heartwarming to know that Team AEDC will always rise to the call.

We repeatedly take care of each other as well.

You might recall a while back, our PMEL shop team literally saved their colleague's life with CPR. I followed that event with a plea for the entire work force to take advantage of the Red Cross CPR training courses on base.

I was thrilled at how many took this on, (have you?) and once again those skills saved the day...at our NFAC GSU, a technician started choking.

His colleagues jumped to his aid, performed the "Heimlich" and the stuck

food shot out. Another extraordinary act of kindness, nerves of steel, and proof that great things happen when preparation meets opportunity.

The highlight of the week?

No, it wasn't one of our fantastic tests or a ribbon cutting on a new capability. It was the sight of countless AEDC-ers volunteering at this year's annual Mach Tenn triathlon.

I can't count how many participants and families approached me during and after the event, thanking us for our support. A huge hit for the community, the USAF and AEDC.

So many times I've mentioned just how proud

I am of this organization. It seems I just can't say it enough ... every time I do, you find another way to show your pride, patriotism and efforts for a cause greater than yourself.

The USAF made it a "core value" ... "Service Before Self."

At AEDC, you knew it before it became a bumper sticker. It's been here all along. You prove it every day, in ways the USAF never imagined.

That's the real secret at AEDC. Our strength comes from within.

And that's a trait that will never go out of style. Just one more reason I'm still "Livin' the Dream" here at AEDC!

Feeding camels is tiresome, yet an important task

By Tech. Sgt. Kevin Wallace
100th Air Refueling Wing

When my 3-year-old asked me why I was going to the desert in 2004, I said, "Daddy has to go feed the camels," and that was enough to sustain his curiosity.

My 7- and 8-year-olds didn't buy it.

Despite their doubt and his bewilderment, I went forth and tried my best to help by supporting ground and air operations in Iraq in an expeditionary maintenance squadron. This was my first deployment, and though it seemed difficult at the time, it was perhaps the easiest mission I'll ever endure.

After a mere 100 days in the theater, I returned to my assignment in Okinawa, Japan, as a changed man. While others went about their daily grinds, I had gone to a foreign land to serve something greater than myself.

After a few years and a forced retrain, I found myself working in the public affairs office at Dover AFB, Del. The 436th Airlift Wing is responsible for port mortuary operations, and I got more than an ample opportunity to be a part of the well-oiled machine that returns America's heroes with dignity, honor and respect.

Some days at Dover AFB were harder than others. Still, our mission was an important one, and I was just glad I got to come home to my family every night.

My 3-year-old was then a 6-year-old and had no idea what Daddy did at work. He'd practically forgotten that I'd ever left a few years prior.

Then another set of orders came. Daddy was off to Afghanistan to serve an in-lieu-of tasking with the 101st Airborne Division.

When I explained that, once again, I had to go feed the camels, his reply was much different.

"Why do you have to go feed the camels, Daddy?" he asked. "Why can't other people feed them?"

I explained that many

fine Soldiers from Fort Campbell, Ky., were already in Afghanistan, but they were getting tired. That's why they asked the Air Force for some help and Daddy had to go help them, so some of them could go back to their children.

He stared me straight in the eye with a piercing gaze of disbelief. I could see that he questioned why these camels were more important to me than he was.

My heart skipped a beat, but I stuck to my story. What he imagined was not the case at all, and I knew with time he'd understand.

So, off I went to serve 214 days with the Combined Joint Task Force-101 in the eastern provinces of Afghanistan. I got well-acquainted with a lifestyle and mission that few Airmen ever experience.

In fact, aside from Airmen in the tactical air control party, pararescue, combat control, special operations weather, psychological operations and public affairs career fields, you'll rarely ever find an Airman embedded with an infantry unit well outside the perimeter of a base.

In that mountainous terrain, I experienced emotions and saw things that will resonate with me for the rest of my life.

How do you explain that to a 6-year-old?

It's easy - you don't.

You simply say you are off to feed the camels.

In reality, however, I knew I was going to face a brutal enemy on his terms and in his terrain. By providing food, shelter and education to generations of Afghans, we hoped to remove hunger and oppression, to feed the future of a country in need.

For 234 years, America's security has rested on the shoulders of those who were willing to answer the call when and where it came. For that same amount of time, I imagine parents have tried to find ways to explain this to their children. For me - well, I simply say I'm off to feed the camels.

I continued to serve at Dover AFB until I got or-

ders to Royal Air Force Mildenhall, England.

We've been here about seven months and have enjoyed the country so far. But, being in a highly-deployable career field, I knew I would get the call again eventually. Last week, a message came saying it's my time to go to again.

Now my 3-year-old is nearly 9, and my 7- and 8-year-olds are 12 and 13.

How do I muster a proper explanation to them? Should I simply say that Daddy must, once again, go feed the camels?

They won't buy it.

Still, this past weekend I told them that very thing, and no, they didn't buy it. Nonetheless, I'm compelled to go forward and do whatever I can to help.

Naysayers will tell you that we've been in this war for nine years. Those same

naysayers may tell you that we can never win this war.

I disagree.

I wonder if they've ever gazed into the eyes of a child who has just been used as a human shield, or mustered the strength not to make eye contact while looking into a room full of abused women so they could have the willpower to photograph those women's plight. Perhaps then they'd have my same outlook.

I wonder if those same naysayers have ever walked a foot patrol and watched a small girl jump from rock to rock, swiftly navigating across her back yard - that field of land mines where she was just playing - to simply ask for a chocolate bar. If they had, maybe they would finally stop question-

ing whether or not we should be involved in a war half a world away. Maybe that would be enough for

them to personally start chipping in.

The bottom line is that these people need us.

I don't know if my children will ever understand the choices I live by, or have forced them to live with. I don't know if they'll ever agree with the sacrifices I continue to make in a dream that someday I can help quench that seemingly endless thirst for water and hunger for food in Afghanistan. I guess in the foreseeable future, I'll never know.

What I do know is there are people waiting for me. So, this autumn I'll answer their call.

We are making sacrifices today for a better tomorrow. We must continue to believe that.

After all, if we don't help now, it'll be our children telling their children in the future that they're off to feed the camels.

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 Panarisi
AEDC Commander

Question: Now that the weather has gotten nicer, when can we expect to see repairs to the potholes in the road at Gate 2?

Response: Thank you for helping us remain aware of items that require maintenance action. Currently, the potholes in the outgoing lane at Gate 2 are minor in nature and do not pose a traffic hazard. This determination is based on the slow rate of speed for this location and the type and depth of the holes.

The holes have been caused by separation of the finish layer from the base layer of the asphalt which does not affect the integrity of the road construction. Since the holes are shallow in depth, they would not promote good patch material adhesion and the repair would be temporary, at best.

If funding permits, the Gate 2 area is scheduled for repaving later this year. In the meantime, we will continue to monitor the area and if resurfacing is delayed or the holes continue to get worse, temporary repairs will be accomplished at that time.

If you or any other Arnold AFB employee has any questions about facility maintenance, please contact your building manager or call 454-4040. If you feel you are not getting appropriate service, please contact the Support Mission Controller at 454-7443. Thank you again for bringing this issue to our attention.



**Reduce.
Reuse.
Recycle.**

**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://lpaprop.arnold.af.mil/PORTALimages/Smoking area map. pdf](https://lpaprop.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.

New committee involves crafts in safety initiative

By Shawn Jacobs
ATA Public Affairs

Worker safety has taken a big step forward at AEDC with the recent formation of the Organizational Safety and Health Representative (OSHR) Committee.

The panel of 30 craftspeople comes from all areas of AEDC's plant facilities.

Catherine Plunkett, director of ATA's Safety and Health Group, said the intent of the new committee is to facilitate safety communication in the craft areas, help frontline supervisors and management with the "programmatic element implementation of the safety program" and assist in the identification and remediation of safety hazards in the workplace.

"They're the ones day in, day out who see the hazards; they see the things people are tripping over," Plunkett said. "It's an extra set of eyes for us out there seeing those things, as well as a focal point for the other craft membership to take these problems to help get them resolved."

She said she is excited about getting the committee set up because it provides a conduit between the Safety and Health Group and the craft membership.

In addition to workers from across AEDC's geographical campus and facilities, it also has representatives from all three shifts.

The committee was formed after craft workers requested more involvement in the safety program.

"They were feeling disconnected from the safety program, and that was the last thing that we had ever intended to do," Plunkett said. "We thought, 'absolutely.' They've asked for it, then we'll do

everything that we can ... to get their participation and their engagement in the safety program because the bottom line is they're the ones who make it [safety] happen."

According to Russ Roosa, the Safety and Health Group's interim safety manager, craft employees will help drive the implementation of some of the safety programs and help with hazard abatement by identifying unsafe conditions and communicating back if the conditions deteriorate.

The group also has input into the hazard abatement log to assist in the prioritization of items to get fixed.

"Our position in the safety department is that the OSHR function as a group and we simply facilitate the group," he said. "We're not in charge of it; we want to really empower them to bring safety concerns not only to us, but to their own organizations."

Plunkett said, prior to the committee's formation, lessons learned from incidents were not being communicated as well as officials would have liked.

"We were trying to disseminate the information to prevent similar incidents from occurring, but it really wasn't getting out to the craft workers," Plunkett said. "We see this as one avenue to help bridge that communication gap and increase awareness of the hazards that are causing people to get hurt."

Participation by the crafts in the new committee has been overwhelming, according to Roosa.

"There were people who were calling saying, 'Hey, I'd really like to be part of this committee; I'd really like to join in — this sounds really good,'" he said. "They feel like

they've got an active voice in the safety program."

Committee Chairman Keith Roper, an ATA electrical technician at AEDC's Aerodynamic and Propulsion Test Unit (APTU), said he likes the concept of the committee because it gives the craftspeople an opportunity to express their concerns.

"It seems that the Safety Office and the company are trying to be more proactive toward safety and are moving in a positive direction," he said. "There are a lot of people with a lot of experience to help make it a safer place to work."

Co-chairman Brad Cantrell, an ATA pipefitter at the Model Installation Building, said he volunteered because he wanted to find out more about how the safety department operates.

"The various crafts at AEDC are well represented on the committee and that will give a great deal of input to management and the safety department on our individual needs and concerns to make our jobs and the workplace in general safer," Cantrell said. "It is great to have a database in place where we can actually track the



From left to right, Russ Roosa, ATA Safety and Health Group's interim safety manager; Catherine Plunkett, director of ATA's Safety and Health Group; Mitch Kendrick, OSHR recorder/communication; Keith Roper, OSHR committee chairman; and Brad Cantrell, co-chairman, gathered recently to make plans for the next meeting of the newly formed OSHR committee. (Photo by Rick Goodfriend)

progress of our suggestions and safety concerns."

Plunkett said the goal is for the committee to meet quarterly.

She said a subgroup of the committee has already identified and resolved at least one safety issue.

Organizational Safety and Health Representative (OSHR) Committee		
Org	OSHR Name	Craft
FA43	Mitch Kendrick	Power systems operator
FA64E	Bob Smith	Electrician
FA65M	Maverick Mosley	Boilermaker
FA66	William "Otis" Eady	Outside machinist lead
FA67E	Zak Grosch	Electrician
FA68	Jack Young	Electrician working foreman
FA69U	Tom Dimon	Electrician
FA851	Buddy Sweeton	Ironworker
FA85P	No representative to date	
FA86H	Butch Langford	Refrigeration mechanic
IT223	Greg Fergus	Working foreman
IT45	Johnny (Dee) Bradford	Instrument technician
RP31	Dustin Fleenor	Storekeeper
RP322	Chris Counts	Heavy equipment mechanic
SS10	Jackie Hensley	Lead officer
SS10	John Krause	Officer
SS3	Darnell Ortner	Firefighter
SS3	Kip Luttrell	Firefighter
SS3	Jay Baldwin	Firefighter
TE111	Neil Aukeman	Outside machinist journeyman
TE111	Marlin Stephens	Instrument technician journeyman
TE111	Brad McNeese	Electrician
TE114	Robert Bradford	Electrician journeyman
TE121	Jim Crawford	Outside machinist lead
TE123	John Ledbetter	Outside machinist lead
TE131	Jack Lynn	Boilermaker journeyman
TE132	Brad Cantrell	Pipefitter journeyman
TE135	Harold Turrentine	Instrument technician journeyman
TE137	Keith Roper	Electrician journeyman

Ribbon cutting at 7V



From left, Ron Polce, 704th Test Systems Group civilian leader; Col. James Jolliffe, 704th Test Group commander; Col. Michael Panarisi, AEDC commander; Jere Matty, 718th Test Squadron deputy director; Elijah Minter, 650th Test Evaluation Systems Squadron; and Saeed Zadeh, 650th Test Evaluation Systems Squadron civilian leader, conduct a ribbon-cutting ceremony to mark the successful completion and checkout of the 7V Space Chamber's new Target Monitoring System (TMS). The TMS is a specialized wide-field of view camera calibrated to meet National Institute of Standards and Technology specifications that allows test engineers to compare the view of simulated sources in space with a sensor under test. The TMS provides customer with the ability to characterize the 7V Chamber target systems in spectral bands not previously attainable. (Photo by Rick Goodfriend)

New bio-fuel delivered to AEDC



Above, Sam McKelvey, ATA fuel farm lead machinist, offloads more than 20,000 gallons of camelina bio-fuel for this year's schedule of aircraft engine testing to evaluate performance with the aviation fuel for eventual fleet certification. Below, Sam Gilbert, an ATA fuel farm machinist with the utilities branch, prepares a fuel/water mixture for the fuel system icing inhibitor (FSII) analysis. He also checks the concentration of FSII, this case Diethylene Glycol Monomethyl Ether before checking the flashpoint and conductivity level of the camelina bio-fuel. (Photos by Rick Goodfriend)

Chief Trull graduates from police academy

By Shawn Jacobs
ATA Public Affairs

Chief Richard Trull of the Arnold Air Force Base Police Department (APD) graduated from the Tennessee Law Enforcement Training Academy May 21.

Trull received state-required basic police training in the academy and is now certified by the Peace Officers Standards and Training (POST) Commission.

Trull's previous training was through the Air Force Security Forces, but the POST certification is required training for police across the state and will make it easier for him to present cases in court.

"With this certification, we gain instant credibility and recognition in the court systems without having to establish and ask for acceptance of our military/federal training," Trull said. "This saves time and money for our officers as well as the court system."

He said the course covered Tennessee law, practical firearms, defensive tactics, emergency vehicle operation, drug and alcohol identification and testing techniques, vehicle accident scene management and many other topics.

"The most enjoyable part of the training for



Arnold AFB Chief of Police Richard Trull receives his certificate for completion of Basic Police School at the Tennessee Law Enforcement Training Academy.

me was the academics, especially the Tennessee law block," Trull said. "They tell you up front that the law portion is the most challenging and demanding and they were right. However, it's also the most intriguing and the most useful when you begin preparing to take a case to court."

Trull began his work with APD in June 2002 as a training officer. He was promoted to chief in April 2007.

Prior to that, Trull was an Air Force security

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Arnold ramps up UXO response on former Camp Forrest land

By Shawn Jacobs
ATA Public Affairs

Many AEDC personnel have noticed a number of controlled detonations of unexploded ordnance (UXO) scheduled recently on base.

As part of the Air Force's Military Munitions Response Program (MMRP), UXO surface clearance teams from Bay West and Shaw Environmental are currently seeking out and mitigating UXOs within the old Camp Forrest training area.

The teams "blow in place" (BIP) any UXOs the same day they are discovered, using a technique that minimizes the explosion and the impact to the environment.

"They dig a hole and place the UXO – if they can safely move it – into the bottom of the hole with the charges," according to Denny Timmons, Air Force installation restoration program manager, who also manages the MMRP. "They then cover that up with dirt, put plywood over it, place sandbags on top of the plywood and then dirt on top of that, so what you have is a minimal explosion with the UXO fragments contained within the hole allowing easier recovery."

The mission of the Air Force MMRP is to take actions to address unexploded ordnances discarded military munitions (DMM), and munitions constituents (MC) on munitions response sites (MRSs).

The MRSs include former ranges and other sites used for military training, weapons systems testing and munitions treatment.

The Air Force has prioritized MRSs according to environmental, health and safety considerations, as well as current and future planned resource use and site attributes and is dedicated to protecting human health and the environment by making these sites safe for reuse, according to Timmons.

"Arnold was involved initially in the MMRP in 2003, when the Air Force inventoried all historical ranges, and because we had Camp Peay and Camp Forrest located here, eight historical ranges were identified through record searches," he said. "These ranges were designated munitions response areas" (MRAs).

Two phases of investigations called Comprehensive Site Evaluation Surveys followed and a Wide Area Assessment (WAA) was accomplished by having a

plane fly over the base to detect anomalies associated with ranges (berms, craters, firing lines, etc.). The MRAs were further investigated and refined as to what types of ranges they were and what ordnance was used, narrowing the eight MRAs down to smaller MRSs.

"We found a variety of small arms range, large arms range, anti-tank range and machine gun range areas," Timmons said. "We have three small arms ranges (SARs) that are in the southwest corner of the base, the Camp Peay ranges that were used during World War I. The SARs were also used by the FBI after World War I, and Camp Peay itself was used as a staging area when they built Camp Forrest."

Timmons said four grenade ranges and two impact areas were also located on base property.

"Additionally, we had Artillery Impact Area North, near Sinking Pond, and we had Old Impact Area South, east of UTSI Road and south of Wattendorf Highway, where we're currently performing the surface clearance," Timmons said. "The Camp Forrest Maneuver Area encompassed these ranges."

For the current surface clearance in the Old Impact Area South, a 518-acre area was divided into one-acre grids.

More than 160 grids have been cleared to date, with 25 MEC (munitions and explosives of concern) items found and more than 2,800 pounds of munition debris collected.

A controlled burn prior to the survey aided search teams by clearing the layer of leaves and other natural debris from the ground.

The final step in the current project will be to investigate craters at this MRS, as well as the Artillery Impact Area North, which were identified from the WAA aerial survey.

"We're looking at August or September to have the surface clearance completed and then begin the crater investigations," Timmons said. "There are about 60 craters that have been identified, and it involves going to each of those craters and investigating them for MEC."

Much of the land undergoing surface clearance is used by hunters, bikers and hikers, so there is a clear desire to make it safer for recreation. Two or three hunters each year usually report finding UXOs,



This 2.36 inch rocket was discovered a few years ago in Camp Forrest near a Hunting Check-In Station. (Photo provided)



This 2.36 inch rocket was fired from a bazooka rocket launcher. The UXO surface clearance team found it in grid 270 on May 24. The ruler at the bottom of the board illustrates its size. The team documents every UXO it finds in a similar manner before blowing it in place. (Photo provided)

according to Timmons. Tech Sgt. Marvin Gardner, of Air Force Weapons Safety, and Russ Roosa, ATA Weapons Safety, conduct a very aggressive safety program here aimed at the base population, contractors and hunters, he said.

The cleanup is being paid for with money from a special Air Force fund des-

ignated for MMRP and similar programs.

Investigations showed two other sites at AEDC warranted further action.

Two portions of the Camp Peay range complex qualified for "dig and haul," where lead contaminated soil was stabilized and shipped off to a special waste landfill in Lewisburg, Tenn.

Trull from page 3

philosophies opened the door for us to move to this new level," he said. "The foresight and encouragement of our Air Force oversight office as well as the support and cooperation of Franklin County Sheriff Tim Fuller, Coffee County Sheriff Steve Graves, State Representative Judd Matheny and POST Director Brian Grisham made this

possible. Obviously, we greatly appreciate the support and encouragement of our ATA senior management team in bringing this opportunity to fruition."

Three other officers are either currently attending the academy or scheduled to attend upcoming classes.

The remainder of the department is already POST certified.

F-16 from page 1



The F-16 on display at Gate 2 will be dedicated to Maj. Gen. Winfield Scott Harpe June 26. General Harpe is the highest ranking Airman ever to die in an F-16 crash.

Remember and donations from the Air Force Sergeant's Association (AFSA), Top III, Mike Niederhauser's Gifts and Brother's Implement, according to 1st Lt. Jason Lackey, the action officer in charge of the dedication.

"We are ... dedicating the aircraft to remember a fallen hero and honor his family," Lieutenant Lackey said. "It is important to keep what freedom costs in perspective from time to time and

dedications are a perfect way to do that."

Capt. Thomas Finley will serve as the master of ceremonies, with Col. Eugene Mittuch the presiding officer.

Maj. Gen. Harpe was commander of the 16th Air Force, U.S. Air Forces in Europe, with headquarters at Torrejon Air Base, Spain. He died Dec. 5, 1988, when the F-16 he was piloting crashed in Madrid, Spain, while on a routine training mission.



**Reduce.
Reuse.
Recycle.**



AEDC's new communication trailer to be a part of national demonstration at Old Stone Fort



AEDC's new communication trailer will be at the field day sponsored by the Middle Tennessee Amateur Radio Society at Old Stone Fort June 26-27. (Photo by Rick Goodfriend)

AEDC's communication trailer will get its first chance to prove its operability as a part of next weekend's field day sponsored by members of the Middle Tennessee Amateur Radio Society.

The communication trailer will support base emergency management communications from the incident location to the base Emergency Operation Center.

The communications trailer will support on-scene fire and police, as well as the on-scene commander.

Using Wi-Fi access via satellite connection provides a Virtual Private Network (VPN) connection back to the base which provides the capability to extend the base network access out to the first responders.

In the event a mutual aid response is required outside AEDC, the communication trailer is equipped with contingency repeaters allowing fire and police to communicate beyond the normal range of AEDC repeater coverage.

Likewise, local area ham radio operators will be showing off their emergen-

cy capabilities and demonstrating how amateur radio works. Activities start at 8 a.m. June 26 and continue through 1 p.m. June 27.

The public is invited to come and see ham radio's new capabilities and learn how they get their own Federal Communications Commission (FCC) radio license before the next disaster strikes.

This annual event called "field day" is the climax of the "Amateur Radio Week" sponsored by the Amateur Radio Relay League, the national association for amateur radio.

"Over the past year, the news has been full of reports of ham radio operators providing critical communications during unexpected emergencies in towns across America including the California wildfires, winter storms, tornadoes floods and other events worldwide," said Michael Glennon, director of the 704th Communications Squadron. "During Hurricane Katrina, amateur radio – often called 'ham radio' – was often the only way people could communicate, and hundreds of volunteer 'hams' traveled south to save lives and

property. Amateur radio's people are often the first to provide rescuers with critical information and communications."

During the weekend events, the public will have a chance to meet and talk with local Manchester, Tulsa and Winchester ham radio operators and see for themselves what the Amateur Radio Service is about. Showing the newest digital and satellite capabilities, voice communications and even historical Morse code, hams from across the United States will be holding public demonstrations of emergency communications abilities.

Using only emergency power, ham operators will construct emergency stations in parks, shopping malls, schools and backyards around the country.

"The slogan, 'When all else fails, ham radio works' is more than just words to the hams as they prove they can send messages in many forms without the use of phone systems, Internet or any other infrastructure that can be compromised in a crisis," Glennon said. "More than 30,000 amateur radio operators across the country participated in last

year's event."

"We hope that people will come and see for themselves, this is not your grandfather's radio anymore," said Allen Pitts, WIAGP, of the ARRL. "The communications that ham radio people can quickly create have saved many lives when other systems failed or were overloaded. And besides that – it's fun."

There are more than 650,000 amateur radio licensees in the United States, and more than 2.5 million around the world. Through the ARRL's Amateur Radio Emergency Services program, ham volunteers provide emergency communications for thousands of state and local emergency response agencies, all for free.

To learn more about the Middle Tennessee Amateur Radio Society, go to www.qsl.net/mtars. To learn more about amateur radio, go to www.arrl.org.



Receive certifications

AEDC and the Middle Tennessee chapter of the Society for Maintenance and Reliability Professionals (SMRP) held a special luncheon meeting to recognize 10 new Certified Maintenance and Reliability Professionals (CMRP) at one location. Retired Army Major Ricky Smith, one of the industry's recognized reliability professionals, was the keynote speaker. Receiving their certification are front row, from left to right, Taylor McCamey, Kaleigh Hatfield, Marcheta Darnell, guest speaker Ricky Smith and Louis Vancore; second row David Riddle, Frank Wonder, Alexander Pack, John Jenkins and Jeff Henderson. Not pictured: Mike Mares. (Photo by Rick Goodfriend)

It's a stretch: Simple technique prevents a major injury

By Col. Michael Panarisi
AEDC Commander

If you've been following along over the last year, you are well on your way toward getting the most out of your workouts, so it's time to look at a little maintenance action to make sure you can sustain your efforts over the long haul.

One of the most beneficial, and unfortunately, often overlooked fitness components is flexibility,

and flexibility is all about stretching. I'm not talking about a few bounces before a run.

I'm talking about a regimen as disciplined as the time you put into your workout.

Skip this and you'll pay sooner or later, erasing all the gains you worked so hard for. I know the temptation all too well ... you get a little rushed, and you focus all your time on the "workout."

We all do.

But the minutes we

trade away accumulate, and there's just no substitute for the time it takes to restore your flexibility. That's right ... restore it.

The workouts actually reduce your flexibility over time. As you challenge your muscles, tendons and ligaments, you'll likely overdo it from time to time, and the healed tissue will be "tight."

A stretching regimen is the only cure, and the only safe way to prevent a minor misstep from becoming a major surgery.

Stretching requires just as much planning and attention as your workout and, in fact, can't be a separate part. Your routine will be much more effective if you integrate stretches as an element of your workout, rather than seeing it as a "necessary evil" before and after. And you need both ... before and after.

Here's why.

Stretching serves two primary masters ... injury prevention and range of motion.

But the techniques and goals differ for the "before" and "after" routines. The "before" elements help you "listen to your body" and prepare the body for the ensuing loads.

But these moves don't really contribute to flexibility. For that, you have to stretch a "tired muscle," making the post work out effort the real money maker.

I've seen some pretty spooky routines over the years, and all I can say is this is one area where you absolutely need the advice of a trainer.

You can truly waste your time if you don't perfect your technique.

So many "basic stretches" violate "rule #1" ... don't force your body to fight the stretch. The classic example of a "bad stretch" is the classic "bend over and touch your toes."

This move targets your hamstrings and most actually feel a stretch with this move. It's easy to convince yourself that you



Stretching before and after a work out can both improve your range of motion and prevent serious injuries. (Photo illustration provided)

are making progress too ... you can measure how close you get to the ground or for the real gumbies out there, how much of your hand hits the ground.

But think about it this way.

As you bend over, what muscle group engages to prevent you from "face planting?"

That's right, your hamstrings!

But you just can't stretch an engaged group. Effective stretches work on a relaxed muscle. For our hamstring example, the hamstrings are relaxed if you lie on your back and put your leg up towards a vertical position.

Rule #2 ... just like weightlifting, a partner makes all the difference. Remember rule #1?

Well, if you can totally relax and let someone else do all the work, you'll make big gains in a hurry. For the hamstring stretch, your partner can lift your

leg towards the vertical position. This "passive" technique is exactly how the pros do it.

Rule #3 ... never stretch a "cold muscle." That's where injuries happen, and these are the easiest to prevent.

That's why I really like warming up on an elliptical trainer. Just 10 minutes (five forward, five in reverse) works almost all your body parts with minimal impact.

Then you are ready for a stretch to assess your condition and recovery prior to a workout.

So, for the next few editions, I'll offer some moves targeting individual groups and techniques to avoid injury along the way.

But in the meantime, go see our experts at the fitness center and get some hands on help.

The minutes you spend there well literally add years to your body's ability to keep you moving!



Army celebrates 235 years of service

Since its birth on June 14, 1775, the Army has been a stalwart protector of and vital contributor to U.S. freedom and advancement.

The Army has played a vital role in the growth and development of the U.S.

Soldiers have fought more than 10 wars, including the American Revolution, the Cold War, the Gulf War and current overseas contingency operations.

AEDC's steam insulation project is a dual win

By Philip Lorenz III
ATA Public Affairs

The Air Force has embraced energy efficiency and the reduction of energy costs by funding numerous projects at its bases throughout the world.

Vickie Davis, Air Force energy manager at AEDC, said an ongoing steam insulation project is an excellent example of how the Air Force and ATA have made energy savings a top priority and an ongoing effort.

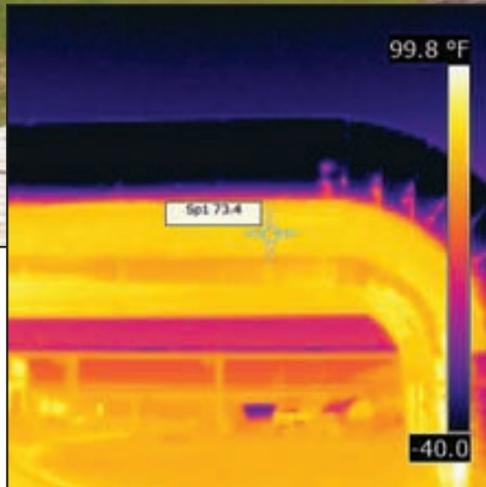
She added that the project was paid for with Air Force Smart Operations for the 21st Century (AFSO21) funds.

AFSO21 is an Air Force initiative that challenges people to look at ways to accomplish the Air Force mission more effectively and efficiently while maintaining quality and safety standards.

"Some people in the past have said, 'What's the big deal about saving a few thousand dollars here or there when you compare it to the millions spent on energy at AEDC,' but it does make a difference and money saved is always a good thing, for the economy, the environment, our customers and the country," said Steve Pearson, deputy general manager for ATA. "Even turning the lights off when you leave your office or other work area is an important step in the right direction."

Pearson said on a larger scale that inefficiencies with steam generation, transport and use on base are a costly challenge that must be addressed.

AEDC contacted the Air Force Civil Engineering Support Agency in Tyndall AFB, Fla., and coordinated with them to develop a



Digital photos like these (above), a conventional photo of a section of steam plant pipe at the northwest corner of AEDC's Aeropropulsion Systems Test Facility and an infrared photo (left) of that same section, were taken as part of a survey. The study, conducted late last year, was undertaken by SEI Group, Inc., a business that specializes in energy solutions, technologies and infrastructure. The infrared pictures show a range of temperature variations not visible in conventional photos. Many photos revealed evidence of damaged insulation or a lack of it throughout most of the piping. This was allowing enough heat to escape the pipe making it necessary to produce more steam to heat buildings or for use in ground testing. The pipe shown in these two photos, showing colder temperatures, provides steam to the Engine Test Facility, von Kármán Gas Dynamics Facility, Model Shop and the Main Cafeteria. (Photos provided)

project to repair or replace ineffective or damaged steam line insulation.

ATA is providing the technical oversight of the project as part of its contract with AEDC, but it is working independently of SEI Group Inc., the company contracted to do the work.

"Because of the extensive testing conducted at the Arnold Engineering Development Center and the large quantity of power needed to conduct that testing, there are several opportunities at AEDC to support the Air Force's energy savings initiatives," said Brian Osterndorf, SEI Group Inc., program manager for the project. "One of our current projects is

the repair or replacement of insulation on the lines that deliver steam to the testing facilities.

Steam temperatures reach close to 400 degrees Fahrenheit, and missing or damaged insulation along the miles of steam lines result in significant energy, and dollar, loss."

Osterndorf said the contractors performed an initial survey of the entire above ground steam line system and the lines that run inside the dozens of steam pits throughout the base.

"In addition to noting damaged or missing insulation, they measured the amount of heat lost in the system," he said. "Almost \$400,000 had been 'leaking' from the steam lines

each year, so the costs to repair about a mile of the damaged or missing insulation are recovered in less than three years."

The steam lines will be covered with foam glass insulation, encased in an aluminum jacket.

"At points where maintenance personnel need to access gauges, valves, and other devices, the con-

tractor will apply a fitted insulation jacket, fastened by Velcro, for easy removal and replacement," Osterndorf explained.

The project is tentatively scheduled to finish by the middle of July.

SEI Group Inc of Huntsville, Ala., with the support of Capitol Insulation Services from LaVergne, Tenn, is performing the repairs.

Education fair coming next month

The Education and Training Office is hosting an education fair from 10 a.m.-2 p.m. July 15 at the Arnold Lakeside Center.

The fair is open to all AEDC personnel, including DoD and ATA employees.

Several local colleges and universities have been invited to provide employees and their family members an opportunity to career plan and possibly enroll for a new school year.

The following schools will be in attendance; others are pending: American Sentinel University; Columbia Southern University; Electronic Computer Program Institute; Embry-Riddle Aeronautical University; Grantham University; Motlow State Community College; Southern New Hampshire University; St. Leo University; Tennessee State University; Tennessee Tech University; Tennessee Technology Center at Shelbyville; Thomas Edison State College; Trevecca Nazarene University; Troops to Teachers; TUI University (Touro); University of Alabama, Huntsville; University of Phoenix; UTSI; and Walden University.

For more information regarding the education fair, contact the Education and Training Office at 454-4313.



Reduce. Reuse. Recycle.

Bates, Davis and Powell join ranks of AEDC Fellows



Lifetime Achievement Fellows



AEDC will induct two new AEDC Fellows and one Lifetime Achievement Fellow June 25 at the annual Fellows banquet.

The new AEDC Fellows are Dr. Milt Davis Jr. and Dr. Stan Powell. They join 59 others selected for this honor since the program began in 1989.

The AEDC Lifetime Achievement Fellow recognizes individuals who have made significant and exceptionally valuable contributions to AEDC throughout their career. This year's honoree is William (Bill) Bates who will be the third Lifetime Achievement Fellow.

Dr. Ronald Sega, former astronaut and Air Force Undersecretary, will be the guest speaker for the event. Dr. Sega currently is the Woodward Professor of Systems Engineering at Colorado State University and is the vice president for energy, environment and applied research with Colorado State University Research Foundation. He also serves as special adviser to the Colorado State University president for energy and the environment.

William R. "Bill" Bates

Bates has devoted his entire 43-year career to the advancement of aerospace ground testing and sustainment of AEDC. His 33 years of AEDC service was built upon 10 years of pioneering wind tunnel testing with National Advisory Committee for Aeronautics at Langley Field. At Langley, he led the testing for early concepts of vertical take-off and hovering flight.

Arriving at AEDC in 1954 as an Arnold Research Organization (ARO), Inc., employee, Bates was assigned the task of calibration of the high pressure compressor systems for the newly constructed hypersonic wind tunnels in the Gas Dynamics Facility (GDF) – now named the von Kármán Gas Dynamics facility (VKF). His work validated that the new wind tunnels could be precisely operated which launched a new era of hypersonic testing at AEDC.

For the next 10 years, Bates served as a test engineer for the hypersonic wind tunnels and supported key national programs including Titan II, Minuteman, Atlas, Pershing, Gemini and Apollo.

In 1964, Bates expanded his experience at AEDC and he became an Air Force employee and was assigned to the Foreign Technology Division. His job included using his vast knowledge to estimate the test capability of wind tunnels and engine test facilities in the Soviet Union and communist China. His work contributed immensely to establishing technical requirements for new U.S. aerospace ground testing facilities and helped support advocacy during the grueling congressional approval process for world-class facilities such as the Aeropropulsion Systems Test Facility (ASTF).

After his Foreign Technology assignment, he was assigned to the Test Operations Division where he assessed and baselined the cost of operating all AEDC wind tunnels and turbine engine and rocket test facilities. His work became a baseline from which numerous cost reduction programs were launched leading to the streamlining of testing processes and the establishment of better customer charging policies.

ASTF was a breakthrough in turbine testing capability that remains the world standard. The existence of this world-class facility can be largely attributed to the untiring efforts of Bates who served as the ASTF Technical Director. His foreign technology assignments helped shape the design requirements and he served as technical director from day one design through activation.

As the lead for facility design, he led a multi-disciplined government and contractor team from architect engineer source selection to design competition. In addition to his technical leadership, Bates played a key role in advocating the critical national importance of this facility with the most senior Pentagon officials. He was also the key spokesman with all major equipment suppliers in both the U.S. and Europe who were eager to be suppliers for the complex compressor, exhaust, refrigeration, control valve and electrical systems that make up ASTF.

ASTF was one of the first State Department "off set" programs that allowed European companies to compete on an equal basis with U.S. companies and Bates was instrumental in making the program a success. The equipment procurements resulted in the delivery of state-of-the-art equipment that still operates reliably and dependably almost 30 years later.

As the largest and most technically complex Military Construction Program (MCP) at the time of its construction, the ASTF program faced programmatic issues that led to both cost and schedule growth. Bates' leadership

was again instrumental in working hand-in-hand with the construction agent, construction contractor and equipment suppliers to resolve the technical issues. Equally important, he again provided a key advocacy voice to help Pentagon officials and Congressional members to understand and accept the national importance of this program. As a result, needed funding for completion of ASTF was provided and the facility was completed.

Soon after ASTF completion, its unique turbine engine test capability was proven on one of the most important weapons systems development programs in the Air Force – the F-22A Raptor. The technical capability of the facility was unsurpassed and the efficiency and effectiveness of the equipment and unique side-by-side test cell configuration helped streamline the programs' acquisition.

Bates planned to retire following the completion of ASTF. However, his retirement plans were abruptly changed when AEDC's J-5 Solid Propellant Rocket Test cell was destroyed by an explosion of a Peacekeeper Stage III rocket motor. The nation's solid rocket altitude test capability was lost and the Ballistic Missile Office needed it restored as quickly as possible. The AEDC commander asked Bates to delay his retirement and lead the J-5 rebuild team. He accepted the assignment and was given \$20 million for construction and one year to complete the effort. Under his leadership, the task was completed ahead of schedule and well under cost. Restoring this unique ground test capability was a capstone to his outstanding career.

He retired from government service in 1987.

Dr. Milt Davis Jr.



William R. "Bill" Bates



Dr. Milt Davis Jr.



Dr. Stan Powell

Dr. Davis has provided outstanding technical and project management contributions to development of gas turbine engine modeling and simulation capabilities at AEDC applied via Integrated Test and Evaluation (IT&E) concepts to both ground and flight test programs of the Air Force.

His work demonstrated the key elements of effective IT&E based methodology for resolving inlet flow swirl propulsion system integration issues on new or upgraded weapon systems. This capability is added to the existing total pressure, temperature and unsteady flow resolution methodologies currently in place.

Dr. Davis and his team tackled both the architectural and elemental experimental and numerical tool development in a structured way. They enlisted willing, able and enthusiastic partners across Air Force, industry, technical societies and academic organizations. They built on approved approaches and tools to minimize risk and evaluated several options for effectiveness and simplicity for new features. Experimentally, they paid careful attention to how a new apparatus would integrate into existing test set-ups. The most applicable and economical numerical techniques were used to design and select flow shapers in conjunction with adaptation and application of increasingly complex numerical methods for risk reduction and cost savings.

One of Dr. Davis' most impressive achievements has been his interaction with potential users of his modeling and simulation work to form a coalition of interested government, industry and educational partners for the continued development and enhancement of dynamic compression system simulations known as Joint Dynamic Airbreathing Propulsion Simulations (JDAPS).

Initial (circa mid-1990s) JDAPS membership included AEDC, Air Force Research Laboratory Propulsion Directorate, NASA Glenn Research Center, Virginia Polytechnic Institute and State University, Vanderbilt University and AlliedSignal (now Honeywell).

More recently, in 2003, Dr. Davis was successful in acquiring government funding from the DoD High Performance Computing and Modernization Program (HPCMP)

for enhancing airframe-propulsion numerical simulations under the Collaborative Simulation and Testing (CST) Portfolio. This effort was well received by the propulsion community with additional funding support provided by the turbine engine manufacturer of the Joint Strike Fighter (JSF) F135 engine, Pratt and Whitney, and the U.S. Air Force JSF Joint Program Office at Wright-Patterson, AFB, Ohio.

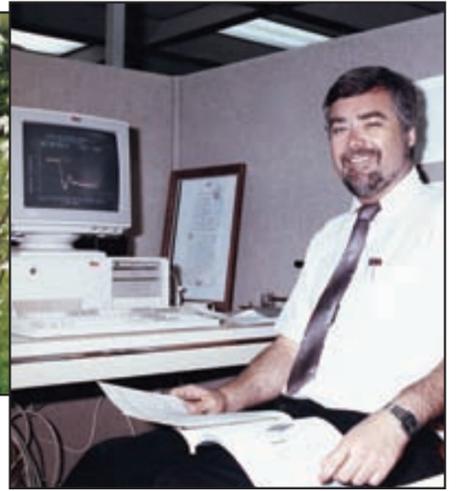
Dr. Davis' latest technical effort has been the development of a 3-D compression system numerical simulation, dubbed the Turbine Engine Analysis Compressor Code (TEACC), applied to the JSF F135 engine. This compression system was successfully mated to the Lockheed-Martin F-35 aircraft forebody and inlet system to provide a unique IT&E capability for airframe-propulsion integra-

Fellows from page 9



Bates

Davis



Powell



tion supporting weapon system acquisition.

Perhaps the key element in this capability is the inclusion of the inlet system to provide a unified capability for analysis of inlet distortion of compression system operability and performance. Without the support of raw supercomputing power available under the DoD HPCMP, this capability would be difficult to apply in a reasonable time frame for engineering applications.

Of equal importance to his many technical contributions, and perhaps even more to the future of AEDC, has been Dr. Davis' sustained mentorship of young engineers in the field of turbine engine analysis. Dr. Doug Garrard and Dr. Alan Hale were two of these young AEDC engineers under his direct guidance who obtained advanced degrees developing dynamic and multidimensional compression system codes. Dr. Hale continues to work in this area today at AEDC and he now leads other young engineers in developing, enhancing and extending compression system codes for analysis of performance and operability issues. Dr. Davis has indeed passed the torch to the next generation of AEDC and is keeping this crucial IT&E capability alive and viable for the nation.

Dr. Stan Powell

Dr. Powell's work has been directly responsible for advancing test capabilities in VKF, the High Enthalpy Ablation Test (HEAT) Facility, the Aerodynamic and Propulsion Test Unit (APTU) and the Propulsion Wind Tunnels (PWT). Additionally, his technical leadership has generated solutions to many unique problems that are inherent in the effort to measure how sophisticated systems will perform in flight while executing those tests in ground test facilities that simulate those flight conditions.

Dr. Powell is one of the world's foremost experts in the field of thermophysics. During his career at AEDC, he has accomplished extensive original research and engineering development leading to the modeling, design and operation of hypersonic test facilities. Dr. Powell's contributions include original modeling of combustion processes, modeling of thermodynamic and transport properties of test media and the assessment of combustion effects on test data with respect to simulation fidelity. His thermophysical developments and modeling capabilities are critical components of AEDC's hypersonic, aeropropland and aerodynamic test processes.

Dr. Powell has been instrumental in the development of new hypersonic test capabilities, including a transpiration-cooled combustion test facility for the nationally important area of missile defense testing. This facility, known as APTU/SAM, was essentially a very high pressure liquid rocket engine serving as a gas generator. This rocket motor was cooled by a stacked, etched-platelet technology that allowed cooling through micro slots that bled into the primary gas stream. Dr. Powell's pioneering work was directly responsible for a decision to pursue

development of this original idea into a proof-of-concept.

Dr. Powell performed an engineering analysis that provided the basis for the successful advocacy for funding to develop the Mach 7.0 True Temperature test capability for VKF.

At an AIAA conference he recognized that a relatively new and exotic semiconductor material could serve as an electric heater element in a wind tunnel and that it would perform at useful temperature significantly above the more conventional electric heating elements currently used in wind tunnels. He accomplished the initial feasibility analysis and directed others in developing the heat-transfer and facility performance models that produced a confirmation of feasibility. These accomplishments led to the establishment of a project to investigate the concept both experimentally and computationally. During the first two years of the project, he provided analysis and critical reviews of proposed project activities, which assured that the project went forward with achievable goals and direction.

Dr. Powell has worked with the AEDC arc heater test personnel to establish thermodynamic conditions in the arc test section. He recently developed a heat-transfer model with appropriate thermodynamics that will allow better determination of arc pilot conditions from heat transfer probes. As part of his work, he has developed possibly the world's first complete equation of state for air, which covers a range of conditions from flight, to tunnel expansion, to beyond saturation conditions. With this work, he has advanced the state-of-the-art by developing a thermodynamics model for equilibrium air that covers conditions ranging from deep-space-return atmospheric-entry to the most expanded conditions of the VKF tunnels. This model, when published, is likely to stand for generations as the definitive thermodynamics model for equilibrium air, replacing the famous AEDC Brahinsky-Neel tabular model.

As part of this capability, he contributed to upgrading the widely used WIND-US CFD code for air thermodynamics properties. Dr. Powell's model, with his associated code, has been used at AEDC in a Tunnel C cooling water study (completed fiscal year 2009), a review of data reduction procedures for arc probe (in progress), and numerous applications where a test project engineer needed some quick but accurate numbers for test planning. Prior to this work, it was not possible to adequately model the full range of flight and test conditions with a single thermodynamics model.

Dr. Powell teamed with the late Dr. Mike Varner in the development of a now-classic test database for turbulence modeling in hypersonic flow. The purpose of the effort was to provide "building block" data in a useful format and to develop an analysis technique to extract turbulent flow characteristics. The results enabled calibration of

fundamental CFD turbulence model parameters for hypersonic re-entry conditions. The work further enabled astoundingly accurate predictions of reentry vehicle control surface loading that was verified by later flight tests.

He also ventured into the area of heat-transfer modeling to develop the HEATPAK program, a collection of heat-transfer calculation methods on unit problems of importance to test and analysis at AEDC such as aerovehicle and facility flows.

Dr. Powell developed the combustion process for the Vitiated Air Heater (VAH) in APTU, and was thus intimately familiar with test operations and techniques in that facility. In 2003 he began work that integrates a test article performance model with the facility control system. Using data from the in-progress test, this model predicts the future facility conditions and transmits those to the facility control system, creating a fly-the-mission capability for the APTU facility, thus moving beyond static data-point collection to an increased scope of testing within the blowdown capability of the APTU tunnel. This work is poised to be included in the test control functionality of the upgraded APTU facility, where it should significantly advance the state-of-the-art of hypersonic propulsion testing, thus streamlining the acquisition process for hypersonic vehicles.

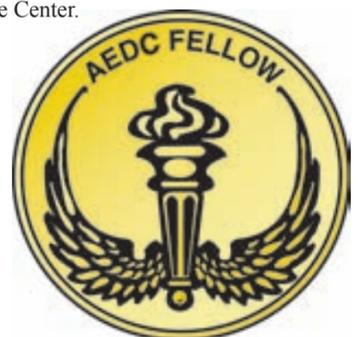
Dr. Powell was the 2009 recipient of the AIAA Ground Test Award, specifically for his numerous and outstanding contributions to the art and science of ground testing while employed at AEDC.

Fellows Program

The Fellows program was established in 1989 and recognizes AEDC individuals who have made exceptionally distinguished and substantial contributions to the nation's aerospace ground testing capability at the center.

Candidates considered for selection as either an AEDC Fellow or as an AEDC Lifetime Achievement Fellow are current or retired military, civilian and operating contractor and subcontractor personnel assigned or previously assigned to AEDC.

The invitation-only banquet will be held at the Arnold Lakeside Center.



Complied by Darbie Sizemore

Three 'generations' at AEDC

Employees find PALACE Acquire program worth time and effort to build a successful career in civilian workforce

By Philip Lorenz III
Technical Writer

When 23-year-old Stephen Maccarino reports to AEDC later in June he will represent a third "generation" of PALACE Acquire program participants who will work in the 650th Test Evaluation System Squadron at the same time.

The PALACE Acquire program, which has been in existence since the late 1980s, was established as an avenue to replenish the civilian work force with entry-level college graduates for future civilian careers with the Air Force.

"I actually found out about the PALACE Acquire program from Robins AFB in Georgia," said Maccarino, a Tennessee Technology University graduate who will be AEDC's newest investment program manager. "I had tried to get on with AEDC several times. I interviewed for the program back in April. I also interviewed with the AEDC facilities group. Finally in May, I interviewed with Brandon [Stiles] and Mr. Tom [Best] who found the job for me."

Stiles, who is the deputy director for the 650th Test Evaluation Systems Squadron, has been at AEDC for six years, with three years tackling other assignments at Wright-Patterson AFB between his responsibilities at Arnold.

"I came in as a new PALACE Acquire in 2001 and then grew up here, went through my 'journeyman years,' got an opportunity to leave AEDC for broadening and then accepted this leadership position to return to AEDC," said Stiles who is a University of Tennessee at Knoxville graduate. "We oversee all of the major facility upgrades. The TEDAC [Turbine Engine Dry Air Capability] project is a good example of the type of projects that we manage."

Stiles did an Internet search after learning more about AEDC from 704th Test Systems Group civilian leader Ron Polce's son Greg. That search revealed details about the PALACE Acquire program and after applying for the program, Stiles was contacted by Tom Best about coming on board at AEDC as a PALACE Acquire (PAQ) intern.

"I have been the AEDC scientist and engineer PALACE Acquire recruiter/hiring authority now for about 10 years," Best said. "I go to career fairs at Tennessee Tech, the University of Tennessee at Knoxville, Vanderbilt University and Tennessee State University to get students to apply for PAQ jobs all over the U.S. at different Air Force bases."

"Then I do the hiring for the positions at AEDC," he continued. "When we hire, we are able to work with students all over the U.S. who have been recruited by other Air Force bases."

Best said the PALACE Acquire program provides great career opportunities for the most highly qualified students.

"This program only attracts the best and brightest graduating students," he said. "It offers several perks to encourage the students to come to work for the Air Force over the many other options they have, including, a signing bonus, school loan pay-back, paid graduate degrees, etc. With the aging work force in the Air Force's science and engineering corps, it is essential that we hire these types of students to learn the business quickly and be able to take leadership roles when a large part of the work force starts retiring. All of the PAQs [PALACE Acquire interns] at AEDC are outstanding. They have great leadership and technical skills and will take AEDC into the future with a passion for excellence."

Melissa Strange, the Force Renewal Branch Intern Management Section Chief at Randolph AFB, Texas, has been working with the PALACE Acquire and the Copper Cap program, another avenue to bring in qualified college graduates into Air Force careers, since 2002.

She said there are hard numbers to back up the success of these programs.

"Our data shows that 9,500 candidates have come through the programs with 6,600 completing the programs," she said. "The intern programs have proven to be successful and continue to be sought out by management as a way to replenish their work force."

Christopher Abbott, a program manager with the 650th Test System Squadron, decided to take part in the PALACE Acquire program a year after he had been a student intern with the 716th Test Squadron in 2005.

"I first found out about the Palace Acquire (PAQ) program from Mr. Tom Best at a Tennessee Tech career fair in 2004," Abbott recalls.

In 2005, Abbott worked as a co-op student at AEDC in the 716th Test Squadron.

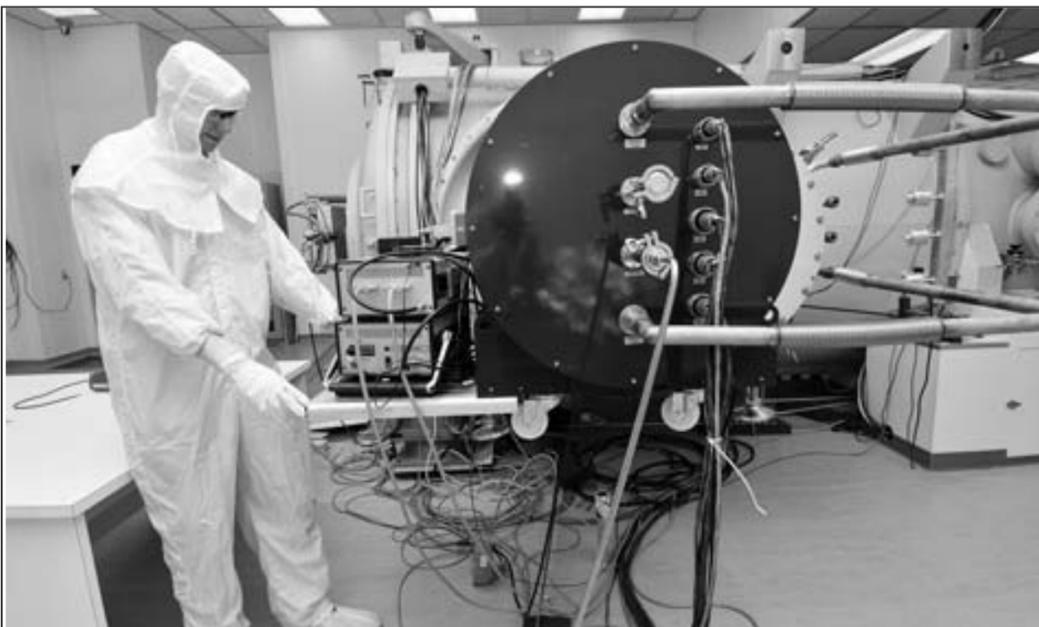
"During that summer I continued to explore the opportunities PAQ had to offer and decided it was consistent with my interests and fit my personal and professional goals," he said. "I returned to TTU for my senior year, applied to the PAQ program and was accepted December 2006. I haven't regretted it since."

During his tenure at TTU, Abbott was a co-op student with four different companies or organizations.

"AEDC was by far the best of the four due to the outstanding people, the unique mission and the passion each person has for accomplishing his or her job," he said.

The PAQs and their supervisor prepare a customized three-year training plan to fulfill the mission at hand and highlight local opportunities.

"My individual training plan included a generous portion of acquisition classes, systems engineering training, with a focus on project management and risk management," Abbott explained. "The skills



Above, Brandon Stiles, deputy director for the 650th Test Evaluation Systems Squadron, examines the data setup for the new Target Monitoring System (TMS) that is shown in the 7V Space Chamber's clean room. He managed the renovation of 7V's clean room approximately four years earlier. (Photo by Rick Goodfriend)

learned through the PAQ program, along with on-the-job experience managing large-scale investments projects, provided an excellent training ground for my work at AEDC.

"When I started the PAQ program, I worked as a program manager on several investment projects to bridge capability gaps and modernize AEDC's existing test cells," he continued. "My supervisor gave me opportunities to work on projects in several areas of the base, including our wind tunnels, engine test cells and space and missile facilities. I also initially spent time applying to graduate schools and completing the training specified in the PAQ plan."

"The PAQ experience has been outstanding," he added. "The first year I managed several projects within the investments department while growing and learning about Air Force acquisition. The second year is spent full-time in graduate school. Then, the third year is spent applying knowledge gained from graduate school with the practical experience of managing projects the first year."

Abbott described the Palace Acquire program as "an organized, disciplined three-year program that provides a framework for a civilian career in the Air Force."

He said, "Although I received other job opportunities, the PAQ program lined up with my interests and career goals. I would highly recommend the program to others."

Abbott credited his student coop experience in 2005 with providing him with a basic knowledge of AEDC's mission and testing environment.

"It was also helpful to meet people and develop friendships before graduating from college and beginning the PAQ program," he said. "It has been both interesting and rewarding to be part of the legacy of PAQs in the investments office."

"For several years now, I have benefited from having other PAQs in the office (Brandon Stiles and Brandon Lucy) to glean wisdom and guidance with regards to program management, career development and leadership opportunities," he continued. "Now, I have finished the PAQ program and look forward to showing Stephen Maccarino 'the ropes,' and making sure he has the right opportunities to succeed throughout his career."



Christopher Abbott, program manager with the 650th Test Evaluation Systems Squadron, examines the mechanical hardware underneath the 4-foot transonic wind tunnel at the Propulsion Wind Tunnel facility. His Investments project will design, fabricate, and install a new 4T roll mechanism, High Alpha Model Support (HAMS) system, and seal flaps in tunnel 4T to improve system performance, reduce lost test time, and improve reliability. (Photo by Rick Goodfriend)

Test cell Airmen prep F-16 engines for flight in ‘hush houses’

By Senior Airman Jessica Lockoski
35th Fighter Wing Public Affairs

Misawa Air Base, Japan (AFNS) – An F-16 Fighting Falcon engine testing facility, called the “hush house,” is anything but what its name implies.

Outside the soundproof structure, the decibels from roaring engines are hardly detectable. Inside, however, jet engines run at ear-splitting, full-volume afterburner, as 35th Maintenance Squadron aerospace propulsion test cell Airmen make sure the units are functionally safe and ready for flight.

“Hush house testing is the last line of defense before an engine goes back into an aircraft and on the flightline,” said Staff Sgt. Danny Shaw, a 35th MXS aerospace propulsion craftsman. “To help support what goes on in the air, the Airmen must test run these engines.”

Following engine maintenance, Airmen in the hush house can quickly power up standalone engine units. Additionally, they can also test engines fully installed in a restrained F-16.

Engines at Misawa AB are tested around the clock to support the 35th Fighter Wing’s constant flying mission.

“An aircraft is often sent to the hush house during evening quiet hours, when the base adheres to local noise laws, or when the aircraft runs idle above 85 percent revolutions per minute,” Sergeant Shaw said. “This prevents our host nation from having to bear with unbearable noises.”

Airmen also test engines that need significant or complex maintenance and must wait for the engine units to be reassembled by their fellow maintainers. Engines are re-constructed at a different location before being tested on the reliability of maintenance.

Once an engine is in the hands of test cell Airmen, they secure it or the entire aircraft to the floor, aligning its exhaust directly in front of a long, metal tunnel more than

120 feet long. As the engine runs, the tunnel absorbs expelled gas and flames from the exhaust.

The Airmen test an average of six engines each week, half of which are standalone units, Sergeant Shaw said.

An engine test can last anywhere between 45 minutes to a couple days, depending on the amount of work done on the engine, he added.

For the test, Airmen use a three-part component system that runs through two separate rooms of the hush house. A test stand supports the engine in place and a junction box connects electrical circuits from the engine to a sound-proof test cab in the next room, where Airmen perform function tests on the engine, Sergeant Shaw said.

From the testing cab, Airmen power-up an engine and monitor the unit, both via dash board indicators and observing through a window into the main room. Although it is quiet in the testing cab, Sergeant Shaw said Airmen near the running engine are not as lucky due to the blaring sound.

“Out on the testing floor, the noise will jar your teeth,” he added, referring to ground inspectors who circle the running engine.

The ground inspectors check for leaks and physical discrepancies and listen to engine pitch.

“If something is minor, such as a leak, we can shut the engine down and fix it on the spot, Sergeant Shaw said. “For major problems, we will shut down testing.”

The Airmen look for anything inside and outside the engine that may malfunction.

“The testing equipment can detect if these parts (need) further maintenance,” Sergeant Shaw said. “It gives us readings such as the throttle position, exhausts and inlet temperature, fuel and oil pressure and vibration level in the motor.”

Airman 1st Class Christopher Backers, a 35th AMXS aerospace propulsion apprentice, often observes engines



Staff Sgt. Chris Browne inspects the engine from an F-16 Fighting Falcon in the hush house at Misawa Air Base, Japan. The hush house allows maintainers to test and inspect the jet engines before returning them to the flightline. Sergeant Browne is a 35th Maintenance Squadron aerospace propulsion test cell technician. (Photo by Staff Sgt. Samuel Morse)

at a close proximity as the ground inspector – without the dangers associated with other hush houses across the Air Force.

“This uniquely Japanese designed hush house found here has an air intake on its ceiling that provides cool airflow to the engine,” Airman Backers said. “Most other hush houses have inlet baffles on the sides of the building. The airflow could create so much suction, if someone is working near the engine, he could be sucked into the tunnel and seriously injured. Since the air stays above us in this facility, a person can stand right next to the engine in full burner.”

Soon, test cell Airmen will be able to run more than one engine at a time. A second hush house facility next door is currently being refurbished during a \$4.7 million project that will encompass both buildings.

UH-60 from page 1



This is a view from the tip of the blade of the UH-60A rotor. In the background, the rotor test apparatus’ cover shell is open for maintenance. (Photo by Eduardo Solis)

tor system and for the world’s largest wind tunnel at NFAC, in which the rotor system was tested.

NASA researchers needed to develop techniques to make measurements over large distances both on and around the rotating blades, so they customized a system that uses laser light to measure the air flow without touching the blades. This technique, called particle image velocimetry, is commonly used, but not over areas this large. The blade area of 4 feet by 13 feet, approximately the size of two twin mattresses end to end, was the largest measurement area ever attempted using this tech-

nique.

Researchers measured the wake of the rotor using a technique known as retro-reflective background oriented Schlieren. This technique shoots light across the wind tunnel to visualize the air as it rotates and provides a complementary view of the rotor wake.

Rotor blades twist and turn in air as they spin, making it difficult to measure their movement. To avoid touching or interfering with the spinning blades, NASA used a third technique, called photogrammetry, to identify the blades’ shape. It employed high speed cameras to take pictures of small reflective

targets on the blades and the wind tunnel ceiling.

On the rotor blade itself, more than 200 sensors were used to measure pressure that creates the rotor lift. Having so many sensors is difficult because the complex systems working to get accurate results.

“This was the most highly-instrumented rotor test ever conducted in the NFAC, and the team pushed the operation of the rotor system to its limits to acquire this unique data,” Norman said. “Thanks to the hard work by the whole team, we were able to accomplish our goals.”

Personal survival resources available to all Airmen

The Air Force's Wingman Stand Down 2010 was in May, but that doesn't mean Airmen's focus should shift away from safety and well-being.

"As the Air Force enters into this year's 101 Critical Days of Summer, I would like to reinforce the importance of the Wingman concept," said Gen. Donald Hoffman, Air Force Materiel Command commander, in a June 9 memo to headquarters staff and AFMC center and installation commanders. "Part of being good Wingmen is to know what resources are available in our Wingman 'toolbox.'"

That toolbox is larger than many might think.

"I know that many of you are aware of immediate personal survival resources such as your local chaplain services or health and wellness centers," General Hoffman said. "However, there are many other agencies and services available to you."

General Hoffman directed that each AFMC installation make readily available a list of those agencies and services, ranging from health and wellness, to finances, to family relationships.

The list for Arnold AFB is provided at right.

"Personal survival is not just important during the 101 Critical Days of Summer; it is critical every day. We cannot afford to lose a single Airman in the world's greatest Air Force," General Hoffman said. "Stay safe, and be vigilant!"

Airman and Family Readiness Center	454-4574
Alcohol and Drug Prevention and Treatment Coordination	454-5635
Family Advocacy Coordination	454-5635
IMA Chaplain	454-7970
Youth Programs	454-3277
Employee Assistance Program	1-800-222-0364
Sexual Response Coordinator	931-581-7494
Victim Witness Assistance Program	454-4657
Military and Family Life Consultant Program, Nashville, TN	615-574-3933
Military One Source	1-800-342-9647

Air Force Materiel Command Public Affairs Report

Mulligan's Grill remodel begins July 6

Mulligan's Grill at Arnold Golf Course will undergo a major renovation beginning July 6. This project includes new counters that will extend across the room and include an order station and pick-up station, the bulkhead will be removed, a digital menu board with LCD monitors will be added, a grab and go cooler will be built into the counter for easy access to salads, cold sandwiches, desserts and more. A highlight of this endeavor will be the addition of Starbucks coffee. Mulligan's Grill will now be a "Proud to Serve" member of the Starbucks brand.

Mulligan's Grill will remain open during these improvements however,

See Mulligans, page H2

Arnold Golf Course
454-7076

Member/Guest Two Person Scramble will be held June 26-27 with 8 a.m. shotgun start. Entry fee is \$125 per team and includes green fees, cart, food and prizes. Sign up in the Pro Shop by June 23.

Range Rat Program continues through July 31. During this time, the first 25 customers making a minimum \$25.50 e-key purchase of range balls will receive a Range Rat T-shirt and their name entered into the grand prize drawings. Anyone who finds a green money ball in your range basket instantly wins two free range tokens for 24 balls each and your name is entered into the grand prize drawings. Compete in the skills test competitions and win cash prizes. Chipping Contest – June 25, 12:30 p.m.; Closest to Pin – July 2, 12:30 p.m.; Bunker Shot – July 9, 12:30 p.m.; Long Drive Contest – July 23, 12:30 p.m.; Big Break Contest – July 30, 12:30 p.m. Customers who purchase a range key, money ball winners and winners in the skills challenges are eligible for the grand prize drawings: 7th and 6th place - \$25 gift certificate; 5th and 4th place \$50 gift certificate; 3rd place \$75 gift certificate; 2nd place \$125 gift certificate and Grand Prize \$250 gift certificate.

Junior Golf Academy Session 2 starts July 12. The Junior Golf Academy helps juniors experience a game of a lifetime featuring instruction in all phases of the game of golf. The Academy also stresses the importance of honesty, integrity, etiquette, history and excitement that is the game of golf. Instruction includes full swing, short swing, putting and chipping, rules and etiquette. Each session is limited to a maximum of 10 students. Entry fee is \$149 per session if needing clubs or \$99 if using their own clubs. Session 2 will be July 12-16 from 8:30-10 a.m. each day. Call to sign up.

Unlimited golf every Tuesday and Thursday for \$10 per person. Normal cart fees apply.

Upcoming events:
Club Championship, Aug. 21-22

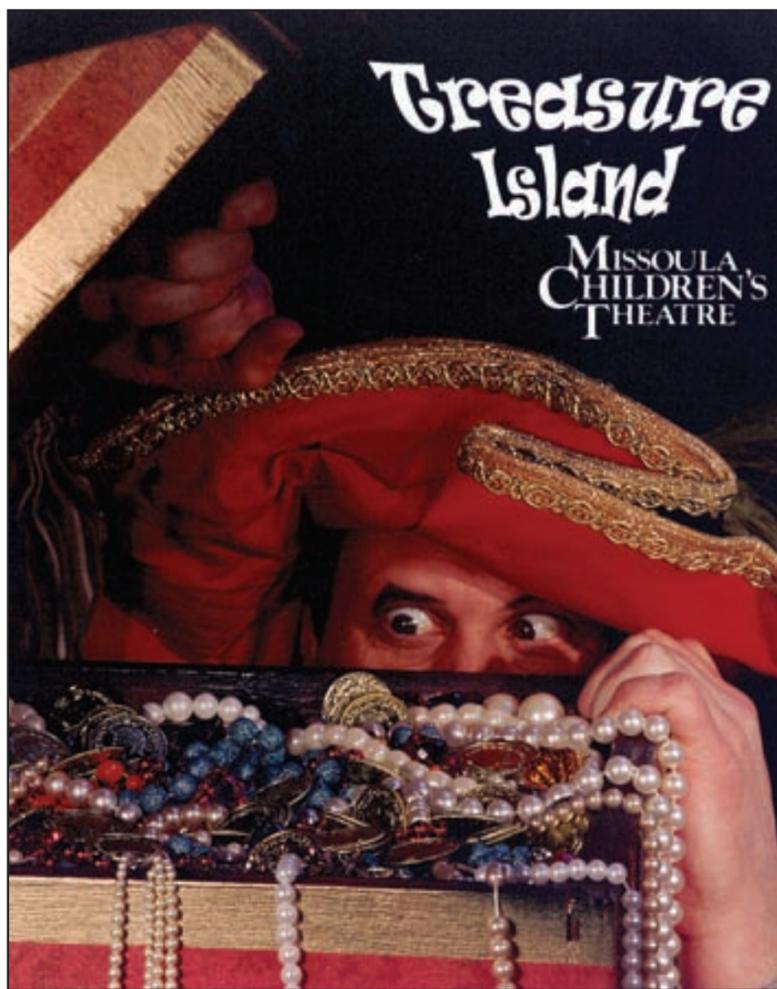
Arnold Lakeside Center
454-3350

Trivia Contest will be held beginning at 6 p.m. July 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 promptly at 6 p.m. to all participants prior to the start of the game. The game will begin immediately following the tutorial. Six rounds of questions will be administered consisting of three questions in each round. Each round is worth 10 points. The team with the most points at the end will be the winner. Prizes will be given for first and second place. Ties will be broken by a trivia play-off.

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. In addition to the Hap's Pizza menu, chef salad is available for \$4.50 which comes with ham, turkey, cheese and boiled eggs. Add grilled or fried chicken for \$2 more. Call to see what the "surprise Wednesday

See Briefs, page H3

Missoula Children's Theatre returns July 5-10



Missoula Children's Theatre presents their production of **Treasure Island**. Auditions will be held at 4:30 p.m. July 5 at the Manchester Performing Arts Center (MPAC) for children who have preregistered. Children eligible to preregister are those who have completed first grade through those still in 12th grade. Participation is open to all AEDC families and the local surrounding communities. Preregistration is \$15 (\$10 for additional children in the same household), begins June 1 ends July 2. Late registration or cancellation fee of \$5 will be applied after July 2. Once each age group is filled to capacity no additional children may sign up. A total of 60 cast members and four assistant directors will be filled. Auditions will consist of two hours in which every child must participate to be considered for a part in the play. Two additional hours may be required for some cast members. Youth Programs' staff will be at the MPAC June 4 and June 25 from 11 a.m. – 3 p.m. to register those from the community. Rehearsals continue throughout the week culminating with a performance to be held at 3 p.m. July 10 with \$8 admission for adults and \$5 for children.

Trip planned to Cumberland Caverns for spelunking and scenic adventure July 24

Come with Outdoor Rec. and discover Cumberland Caverns, Tennessee's largest show cave and a U.S. National Natural Landmark.

The cave displays some of the largest underground rooms and most spectacular formations in America.

The trip will depart 8 a.m. July 24 and arrive for the 10 a.m. scenic tour followed by the spelunking tour at 1 p.m. Plan to arrive back at Outdoor Rec. around 5:30 p.m.

Cost is \$41 and is open to ages 10 and up. Deadline to sign up is July 9. After that date a \$10 late registration fee will be applied. A \$10 cancellation fee will be applied after July 19.

This adventure trip through Rocky Top's rocky bottom will give the first-time spelunker a taste of the untamed-underground and show the experienced caver unsurpassed sites and formations.

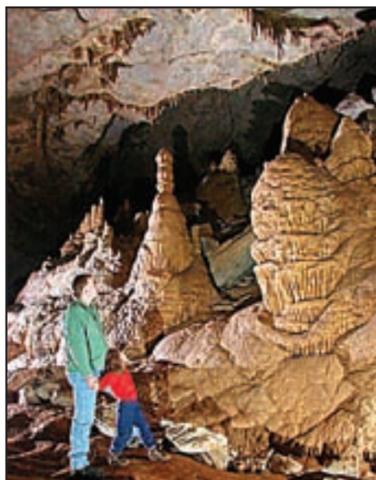
It is apparent this is not your usual cave tour as it begins near the "Devil's Quarry." Who will make it through the infamous "Lemon Squeezer" and "Bubble Gum Alley?"

Tight squeezes, cave crawling and ladders-in-the-caverns will make this an adventure to brag about.

Encounter unique formations, spectacular gypsum crystals and plenty of mud along the way. The friendly and informative guides will lead you through the passageways and help you discover what Tennessee's underground has to offer.

The cave temperature is cool so wear appropriate clothing. Any with claustrophobia, knee or back injuries are not recommended for this trip.

Remember to bring money for food and drinks along with a change of clothes because spelunking will get you muddy. Call 454-6084 to sign up and for more information.



Scholarship essays due July 1

Air Force Services is conducting the Annual Club Membership Scholarship Program.

Current Members First Plus individuals and their family members who have been accepted by or enrolled in an accredited college or university for entry during the fall of 2010 term as a part time or full-time student are eligible to apply for scholarships. Grandchildren are eligible if they are a dependent of the club member.

Student enrollment status may involve either undergraduate or graduate curricula.

Applicant must provide a copy of their college or university acceptance letter.

Twenty-five \$1,000 scholarships will be awarded. To enter, write and submit a 500 words or less essay on the following topic: "What does it mean to be a part of the Air Force Family?"

Essays exceeding 500 words (excluding title) will be disqualified. Essays must be typed in MS Word 12-point Arial or Times New Roman font, single-spaced, with double-spacing between paragraphs. One-inch top and bottom margin and 1.25 inch left and right margin submitted on CD.

The application package must include CD containing essay with participant's name, date and word count, entry form (included in the brochure or online at afclubs.net) and current college/university acceptance letter or official transcripts.

Essays not meeting the above parameters will be disqualified.

Submit entries to 704th Services Marketing, 100 Kindel Drive Suite C303, Arnold AFB TN 37389-3321 by July 1.

Final scholarship awards for school year 2010-11 will be announced by Sept. 17.

All nominees will be advised of scholarship selection or non-selection. Only one essay per eligible person.



Tullahoma city medal play championship set for July 24-25

Arnold Golf Course will host the annual Tullahoma City Medal Play Championship with an 8 a.m. shotgun start both days, July 24 and 25.

The field will be flighted depending on the number of participants.

Second round play will be flighted based on first round scores. Second round score improvement limit will be 7-15 percent as determined by the Tournament Director.

Percentage of improvement limit to be drawn at the completion of the second round.

Prizes will be awarded in each flight. This tournament is open to the first 72 players to sign up.

Priority for riding carts is given as applications are received.

Payment is required at time of registration. Entry fee is \$50 for advanced green fee players and \$70 for others.

Price includes one free practice round during the week of July 19-23. Cart fee is extra at \$12 each day per round.

Registration in person is recommended. Deadline for sign up is close of business July 21.

For more information call 454-7076.



Horizon is a 704th Services Division publication designed to inform our customers of events and specials in 704th Services Division activities. All program dates, times and prices are subject to change. 704th Services Division mailing address is at 100 Kindel Drive, Suite C321, Arnold AFB, Tenn. 37389-3321

Services information written and provided by Tanya Haggard

This Services supplement is published by *The Tullahoma News*, a private firm in no way connected with the U.S. Air Force, under exclusive written contract with the Air Force. This supplement is an authorized publication for members of the U.S. military services. Contents of this supplement are not necessarily the views of, or endorsed by, the U.S. Government, the Department of Defense or the Department of the Air Force. 704th Services Division is an exclusive area available to all AEDC personnel, active duty, retired military, National Guard, Reserve military, Civil Service employees within 50 miles of the base, AEDC alliance employees, and others as approved by the commander. 704th Services activities include Wingo Inn (lodging), Arnold Lakeside Center, Outdoor Recreation (Marina, FamCamp, Crockett Cove), Golf Course, Family Member/Youth Programs and Fitness Center. Those mentioned above are eligible to use any 704th Services activity during regular operating hours unless it is specified as a "members only" event. Membership remains a personal choice, however, only members are entitled to discounts and other benefits associated with membership.

704th 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

Hap's Pizza – 454-5555
 Membership Information – 454-3367
 Information Tickets, Tours – 454-3303
 Fitness Center (FC) – 454-6440
 Outdoor Recreation (ODR) – 454-6084
 FamCamp – 454-4520 or 454-6084
 Marina – 454-6084 or 454-3838
 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) – 455-5870 or 454-7076
 Gossick Leadership Center – 454-3024

July 2010

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
<p>ODR Paintball takes a summer break in July and August. Look for it to return in September.</p> <p>ODR Skydiving Adventure coming Aug. 28! Call 454-6084 for details.</p> <p>FC Hot 250 Bike event – log 250 miles during July and win prize!</p>				<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Yellow shirt cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p> <p>ALC Dinner & Movie Night Throwback Movie "Top Gun" PG dinner 5-9 p.m. movie 6 p.m.</p>	<p>FC Piloga 11 a.m.</p> <p>ALC Beef Liver and Onions, \$6.95 member, \$7.95 non member 5-9 p.m.</p> <p>FamY Movie Night, 6-9 p.m., age 9 and up, free popcorn and \$1 pizza by the slice, 454-3277</p>	<p>ALC Cornish Game Hen, \$9.95 members, \$10.95 non members, 5-9 p.m.</p>
4	5	6	7	8	9	10
	<p>FC Holiday Hours 8 a.m. – 4 p.m., no classes</p> <p>FamY Missoula Children Theatre auditions, preregister 454-3277</p>	<p>FamY Camp Adventure Week 6: Leaping Through the Looking Glass</p> <p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Endurance Cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p>	<p>ALC Hap's Pizza, 11 a.m. – 1 p.m., also available Chef Salad or Surprise Special, call ahead 454-5555</p> <p>FC Pilates 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Yellow shirt cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p> <p>ALC Dinner & Movie Night "Date Night" PG-13 dinner 5-9 p.m. movie 6 p.m.</p>	<p>FC Piloga 11 a.m.</p> <p>ALC Crawfish Boil, 1 lb whole (pre-cooked), \$12.95 members, \$13.95 non members, 5-9 p.m.</p> <p>ALC First Friday Jam Night, 6-10 p.m.</p>	<p>FamY Missoula Children's Theatre presents "Treasure Island", 3 p.m., Manchester Performing Arts Center, \$8 adults \$5 age 3-5</p> <p>ALC dining room closed; to go Express and Pizza menu only</p>
11	12	13	14	15	16	17
	<p>FamY Camp Adventure Week 7: Wild Things & Warm Fuzzies</p> <p>GC Junior Golf Academy Session 2 starts, 8:30-10 a.m., \$149</p> <p>FC Cycle Pump Class– Zesty cycling 11 a.m.</p> <p>FC Yoga 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Endurance Cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p>	<p>ALC Hap's Pizza, 11 a.m. – 1 p.m., also available Chef Salad or Surprise Special, call ahead 454-5555</p> <p>FC Pilates 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Yellow shirt cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p> <p>ALC Dinner & Movie Night "Iron Man 2" PG-13 dinner 5-9 p.m. movie 6 p.m.</p>	<p>FC Piloga 11 a.m.</p> <p>ALC Veal Parmigiana, \$9.95 members, \$10.95 non members, 5-9 p.m.</p>	<p>ALC Chicken Fried Steak, \$9.95 member, \$10.95 non member, 5-9 p.m.</p>
18	19	20	21	22	23	24
	<p>FamY Camp Adventure Week 8: Super Sports Spectacular</p> <p>FC Cycle Pump Class– Zesty cycling 11 a.m.</p> <p>FC Yoga 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Endurance Cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p>	<p>ALC Hap's Pizza, 11 a.m. – 1 p.m., also available Chef Salad or Surprise Special, call ahead 454-5555</p> <p>FC Pilates 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Yellow shirt cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p> <p>ALC Dinner & Movie Night "Diary of a Wimpy Kid" PG dinner 5-9 p.m. movie 6 p.m.</p>	<p>FC Piloga 11 a.m.</p> <p>ALC Prime Rib for Two, \$31.95 member, \$32.95 non members, 5-9 p.m.</p>	<p>ODR Cumberland Caverns Adventure 8 a.m., age 10+, \$41, sign up by July 9, 454-6084</p> <p>GC Tullahoma City Medal Play Championship, 8 a.m., \$70 (\$50 Advanced Green Fee Players), cart \$12</p> <p>ALC dining room closed; to go Express and Pizza menu only</p>
25	26	27	28	29	30	31
	<p>FamY Camp Adventure Week 9: Amazon Jungle Rumble</p> <p>FC Cycle Pump Class–Zesty cycling 11 a.m.</p> <p>FC Yoga 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class–Endurance Cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p>	<p>ALC Hap's Pizza, 11 a.m. – 1 p.m., also available Chef Salad or Surprise Special, call ahead 454-5555</p> <p>FC Pilates 11 a.m.</p>	<p>GC Unlimited golf \$10 every Tuesday & Thursday</p> <p>FC Cycle Pump Class– Yellow shirt cycling 11 a.m.</p> <p>FC Karate 3 p.m.</p> <p>FC Zumba 4:15 p.m.</p> <p>ALC Dinner & Movie Night Throwback Movie: "Star Wars Episode IV: A New Hope" PG dinner 5-9 p.m. movie 6 p.m.</p>	<p>ODR deadline to sign up for Indoor Rock Climbing Adventure coming Aug. 7, \$38, 454-6084</p> <p>FC Piloga 11 a.m.</p> <p>ALC Peel-N-Eat Shrimp, \$12.95 member, \$13.95 non members, 5-9 p.m.</p> <p>ALC Trivia Contest, 6 p.m., teams of 4 compete for points, top points receive prize</p>	<p>ALC Never Ending Pasta Bowl, \$8.95 members, \$9.95 non members, 5-9 p.m.</p>

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: Pizza Wednesdays, take out only, 11 a.m.-1 p.m., call 454-5555 to place orders; Dinner: Arnold Express Menu or Hap's Pizza only Thursday 5-9 p.m., dinner or Arnold Express Menus and Hap's Pizza Friday and Saturday 5-9 p.m.; Main Bar Thursday 4:30-8:30 p.m., Friday and Saturday 4:30-9 p.m.; Social Hour Friday 4-6 p.m.

Family Member/Youth Programs – Youth Open Rec. Tuesday and Thursday 4-7 p.m., Wednesday 1-6 p.m., Friday 4-9 p.m., Saturday 12-5 p.m.

Outdoor Rec / Arts & Crafts – Main Office, Check In, Marina and Auto Shop Tuesday-Sunday 8 a.m.-6 p.m.; FamCamp Store Tuesday-Friday 3-5 p.m., Saturday and Sunday 8-11 a.m., 2-5 p.m.

Fitness Center – Monday-Friday 5 a.m.-9 p.m.; Saturday 8 a.m.-4 p.m.; Sunday noon-5 p.m. July 5 - open 8 a.m.-5 p.m. no classes

Arnold Golf Course – Pro Shop and Driving Range daily 8 a.m.- 5 p.m.. Mulligan's Grill: daily 7 a.m.-2 p.m.

Recycling – Monday-Friday 7 a.m.-4 p.m.

Wingo Inn – Monday-Friday 7 a.m.-6 p.m., Saturday and Sunday 8 a.m.-4 p.m.

Barber Shop: by appointment – Monday, Wednesday & Friday 8 a.m.-2 p.m.; Thursday 8 a.m.-noon

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 704th Services non appropriated fund (NAF) construction and renovation projects as well as equipment purchases. 704th Services would like to thank all AAFES customers for their support. Dividends received for May 2010 totaled \$6,719.53.

Mulligans from H1

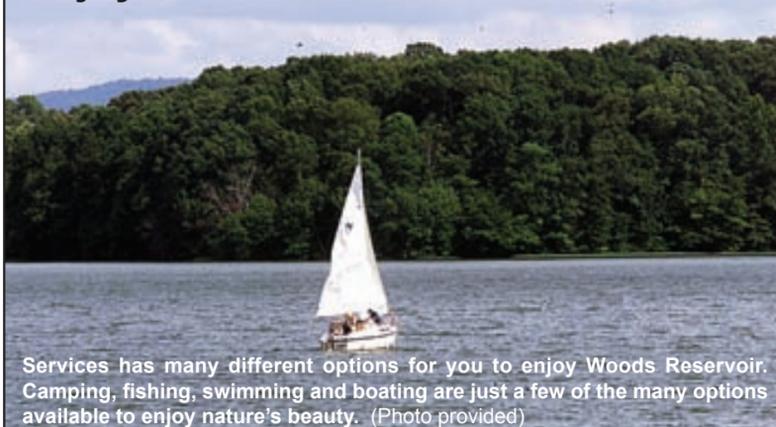
due to the magnitude of the renovation, menu selections will be limited. Breakfast menu will be grab and go breakfast sandwiches. Lunch menu items will include charbroiled hamburgers, charbroiled chicken breast sandwiches, grab and go cold sandwiches, grab and go salads, and potato chips. Beverages will include

bottled water, bottled soda, coffee and beer. Dining will be available inside and on the patio during this 60-90 day project. "This renovation project will give us a whole new look," said Darrell Eshelman, Golf Course manager. Rick Ferree, Chief of Services, stated "I'm looking forward to offering Starbucks to the Arnold community."

A grand reopening with ribbon cutting will be scheduled upon completion of this improvement project.



Enjoy Woods Reservoir



Services has many different options for you to enjoy Woods Reservoir. Camping, fishing, swimming and boating are just a few of the many options available to enjoy nature's beauty. (Photo provided)

Briefs from H1

Arnold Lakeside Center
454-3350

special" will be. The special could include items such as homemade chicken salad or lasagna.

Movie nights are every Thursday with a movie start time of 6 p.m. and dinner available from the Express or Pizza menus from 5-9 p.m. The schedule for July is: **July 1** – Throwback movie night from 1986 "Top Gun," rated PG starring Tom Cruise and Kelly McGillis. Macho students at an elite U.S. flying school for advanced fighter pilots compete to be best in class while one romances the teacher. **July 8** – "Date Night," rated PG-13 starring Steve Carell and Tina Fey. In New York City, a case of mistaken identity turns a bored married couple's attempt at a glamorous and romantic evening into something more thrilling and dangerous. **July 15** – "Iron Man 2," rated PG-13 starring Robert Downey Jr. and Gwyneth Paltrow. Billionaire Tony Stark must contend with deadly issues involving the government, his own friends, as well as new enemies due to his superhero alter ego. **July 22** – "Diary of a Wimpy Kid," rated PG starring Zachary Gordon and Steve Zahn. Greg Heffley documents his trials with middle school social landmines. **July 29** – Throwback movie night from 1977 "Star Wars Episode IV: A New Hope," rated PG starring Mark Hamill, Carrie Fisher and Harrison Ford. Luke Skywalker leaves his home planet, teams up with other rebels and tries to save Princess Leia from the evil clutches of Darth Vader.

Friday night dining room specials available from 5-9 p.m. **July 2:** beef liver and onions \$6.95 members, \$7.95 nonmembers. First Friday Jam night will be held July 9 due to the 4th of July holiday weekend. **July 9:** crawfish boil, 1 lb. whole (pre-cooked), \$12.95 for members, \$13.95 for nonmembers. First Friday Jam night will be held 6-10 p.m. **July 16:** veal parmigiana \$9.95 members, \$10.95 nonmembers. **July 23:** prime rib for two \$31.95 members, \$32.95 nonmembers. **July 30:** peel-n-eat shrimp, \$12.95 members, \$13.95 nonmembers.

Please call for reservations to ensure special is available. All specials and times are subject to change without notice. Please call ahead to ensure availability and openings.

Saturday availability and specials: **July 3:** cornish game hen \$9.95 members, \$10.95 nonmembers. **July 10:** dining room closed; to go Express and Pizza menu only. **July 17:** chicken fried steak \$9.95 members, \$10.95 nonmembers. **July 24:** dining room closed; to go Express and Pizza menu only. **July 31:** never-ending pasta bowl (three types of pasta and three types of sauces), \$8.95 member, \$9.95 non-member.

The dining room is open on Saturdays from 5-9 p.m. unless otherwise specified.

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

Family Member/Youth Programs (FamY)
454-3277

Camp Adventure continues through Aug. 6. Camp Adventure is a day camp for children who have completed kindergarten through age 12.

The camp is sponsored by 704th Services and run by skilled professionals through the University of Northern Iowa.

Activities are held Monday through Friday at the Youth Center (building 3055, previously known as Community Activities Center) from 7:30 a.m. to 4:30 p.m.

Each week is set to a theme and activities are planned to coincide with that theme including field trips to local attractions. Morning and afternoon snacks and beverages will be provided.

Parents must supply their child with a daily sack lunch to include beverage (no carbonated beverage of any kind).

Ensure that lunches are clearly marked with child's name. Cold items can be accommodated in the central refrigerator; however, meals will not be able to be heated.

Outdoor and swimming activities are planned throughout the week (weather permitting). Each child should bring daily to camp an extra pair of clothing, swimsuit, towel and sunscreen, if needed. Closed toe shoes must be worn at all time during camp.

Fill out the Camp Adventure Application and return it, along with the other required documentation and weekly fees, to the Youth Center no later than two weeks prior to start date. For questions or more information call 454-3277.

The weekly themes are listed below:

Week 4: June 21-25
Rangers, Robots & Toy-box Treasures

Week 5: June 28-July 2
"Fin"tastic Ocean Jam-boree

Week 6: July 6-9
Leaping Through the Looking Glass

Week 7: July 12-16
Wild Things & Warm Fuzzies

Week 8: July 19-23
Super Sports Spectacular

Week 9: July 26-30
Amazon Jungle Rumble

Week 10: August 2-6
An Invitation to a World Celebration

Youth Movie Night will be July 2 from 6-9 p.m. Ages 9 and up are invited to the Open Rec Center to watch a movie. There will be free popcorn and pizza by the slice for \$1. Juice and water will also be provided free of charge.

Fitness Center
454-6440

The Fitness Center will host the **25th Annual Golden Baton Relay Race** on June 23 beginning at 8 a.m. The race is held in front of the A&E Building and each team runner must complete two laps around the A&E Circle before passing the baton to the next runner.

Teams must consist of four runners with a combined total age of at least 120 and one timekeeper.

Teams may select appropriate and tasteful ways to distinguish themselves and

may bring their own baton or use batons provided by the Fitness Center.

The first six teams to sign up will receive event T-shirts. Prizes will also be given for the most clever team name, best team costumes and overall team speed. Call 454-6440 to sign up or for more details.

Hot 250 cycling program will be held the entire month of July. Participants are challenged to log 250 miles along the road using their own bike or one checked out from the Fitness Center. Incentives will be given to those who complete the 250 miles.

Random Fitness Initiative continues. Twice a month the Fitness Center staff will roam the base during lunch and award people for showing self initiative for working out on base at a location other than the Fitness Center. Those selected will receive a prize.

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.

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.

Karate class is held 3-5 p.m. Tuesdays and Thursdays on the main gym floor. This class is taught by volunteer Don Gardner of ATA. For more information on these classes contact Don at 454-3497.

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

Paintball is suspended for July and August due to high heat. Look for it to return in September.

Beach volleyball tournament is June 26 at the GLC beach. Start off your summer with some fun outdoor volleyball. Com-

petition gets underway at 10 a.m. and lunch will include hot dogs, chips, sodas and water. Teams of four consisting of ages 12 and older must enter by June 21. Entry fee is \$30 per team. Late registration fee of \$10 will be applied after June 21. There must be eight teams signed up and limited to no more than 32. The tournament will be single elimination. Each team will play a two game match against another team as a warm up before beginning the tournament. The winning team will receive a trophy.

Upcoming Events:

Indoor rock climbing adventure, Urban Rocks Gym in Chattanooga, Aug. 7, 8 a.m.–5 p.m., age 14 and up, \$38

Ocoee rafting trip, Aug. 14, 6:30 a.m.–6 p.m., age 12 and up, \$65

Skydiving at Tullahoma Airport, Aug. 28, 10 a.m., age 16 and up, \$215

Ocoee rafting trip, Sept. 18, 6:30 a.m.–6 p.m., age 12 and up, \$65

Blue Man Group, Tennessee Performing Arts Center, Nov. 20, 5 p.m.–12:30 a.m., age 10 and up, \$85

Reservations for pavilion usage by authorized personnel must be made through the Outdoor Recreation 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 or by calling 454-6084.

Corn Hole is now 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 Recreation 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 DoD 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. The installation Number is very important. 704th 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.

Gossick Leadership Center
454-3024

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 the ALC.

In the event they cannot accommodate, an outside source may be utilized with CCM approval.

For more information contact the CCM at 931-454-3024 or the Community Services Flight Chief at 931-454-4062.


Wingo Inn available for use


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

The 704th Services insert to the *High Mach* is designed to inform our customers of events and specials in 704th Services activities. All program dates, times and prices are subject to change.

704th Services is an exclusive area available to all AEDC personnel, active duty, retired military, National Guard, Reserve military and others as approved by the commander. 704th Services activities include Wingo Inn (lodging), Arnold Lakeside Center, Outdoor Rec (Marina, FamCamp), Family Member/Youth Programs, Golf Course and Fitness Center.

Those mentioned above are eligible to use any 704th Services activity during regular operating hours unless it is specified as a "members only" event. Membership is a personal choice. However, only members are entitled to discounts and other benefits associated with membership.