



HIGH MACH

Serving the World's Premier Flight Simulation Test Complex



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AEDC's role in NASA Explorer's mission to MAP the skies

By Philip Lorenz III
ATA Public Affairs

Looking skyward, scientists worldwide now know the universe's size, composition, approximate age and rate of expansion, thanks in part to "essential" data derived from a time-sensitive test conducted at the Arnold Engineering Development Complex's (AEDC) Mark I Aerospace Space Chamber in February 2000.

On June 30, 2001, a Delta II launch vehicle carried NASA's Wilkinson Microwave Anisotropy Probe (WMAP) on a mission to make fundamental measurements of cosmology – to literally study the properties of the entire universe.

A story recently posted about the probe's significance to the scientific community on NASA's website caught the attention of Jim Burns, AEDC's Space Chambers lead.

"The solar arrays for NASA's Wilkinson

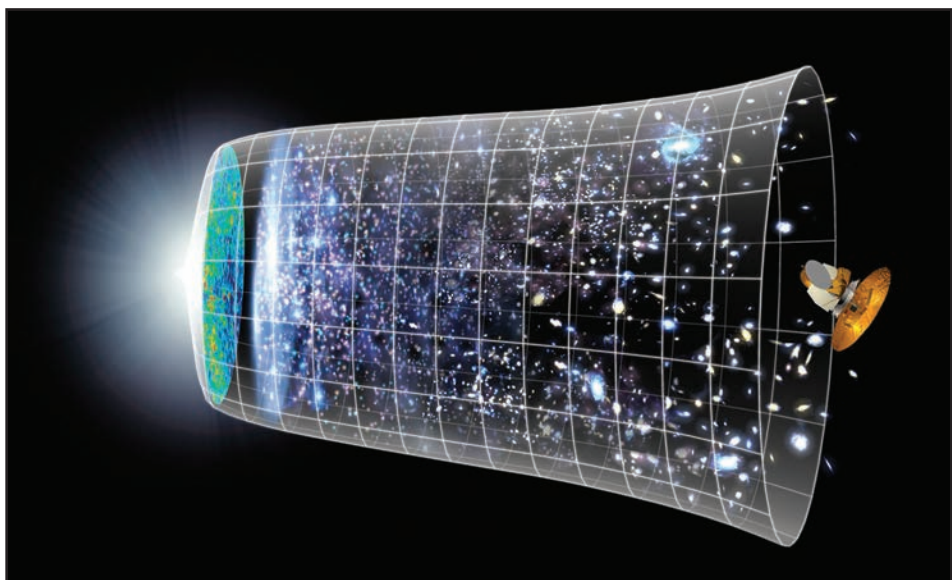
Microwave Anisotropy Probe (WMAP) were tested in Mark I during the late 1990s or early 2000," Burns said. "NASA's recent story regarding this particular project, like others we've supported with testing at AEDC during the 1990s and into this decade, shows the impact our work is having on research today.

"Many years, literally, can transpire between when this type of technology is conceived, developed, and tested at a place like AEDC and before the final mission payoff is realized.

In this case that payoff changed how we view the universe and led to the 2010 Shaw Prize and 2012 Gruber Cosmology Prize awarded to Dr. Charles Bennett and that mission laid the foundation for subsequent and very important ongoing research and related space exploration."

Bennett, an Alumni Centennial Pro-

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This artist's rendering – a timeline of the universe – shows a representation of the evolution of the universe over 13.7 billion years. The far left depicts the earliest moment we can now probe, when a period of "inflation" produced a burst of exponential growth in the universe. The afterglow light seen by WMAP was emitted about 380,000 years after inflation and has traversed the universe largely unimpeded since then. The conditions of earlier times are imprinted on this light. (Photo courtesy of NASA/WMAP Science Team)

ATA employees donate almost \$15,000 for residents affected by Super Storm Sandy



Aerospace Testing Alliance (ATA) recently offered employees a chance to help victims of Super Storm Sandy. Employees donated vacation hours and ATA turned it into cash for victims along the upper east coast. Seen giving a check for \$14,695.36 to the American Red Cross are (left to right): Mike Cowles, CEO of the American Red Cross, ATA employees Margie Thornberry, Jim Hicks and Patsy Reynolds along with Brian Toll, American Red Cross Emergency Services. (Photo by Jacqueline Cowan)

AEDC's NFAC test team celebrates the 25th Anniversary of the world's largest wind tunnels

By Philip Lorenz III
ATA Public Affairs

Twenty five years ago on Dec. 11, 1987, construction of the 80-foot by 120-foot test section addition to the existing 40-foot by 80-foot wind tunnel at NASA Ames Research Center (ARC) in Moffett Field, Calif., was completed.

To honor the grand opening of the facility comprising the world's two largest wind tunnels, NASA Ames Research Center held a dedication ceremony to rename the facility the National Full-Scale Aerodynamics Complex (NFAC).

NASA ARC Aeromechanics Branch Chief Dr. William Warmbrodt worked in the 40x80 tunnel and was there during the dedication ceremony for the NFAC.

Recalling the event, he approached the NFAC Director, Dave Dueterhaus, about a 25-year rededication ceremony to highlight the change of stewardship of the facility to AEDC and to note a quarter century of technical excellence.

Due to his efforts, a rededication ceremony was held Dec. 11, 2012 at the

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This F/A-18 fighter aircraft in the giant 80-by 120-ft. wind tunnel at NASA's Ames Research Center is undergoing high angle-of-attack wind tunnel tests as part of NASA's High Alpha Technology Program. (File photo)



Britt Covington

A future here and there for Covington

By Raquel March
ATA Public Affairs

The future is "still bright" according to Britt Covington, Arnold Engineering Development Complex's (AEDC) executive director, whose future is with another assignment at Warner Robins Air Logistics Complex, Robins, AFB, Ga.

Covington will become the new technical director at the Warner Robins Air Logistics Complex beginning Dec. 18.

As he departs, he shares his thoughts for the future of AEDC and what the future holds for him in his new position.

High Mach: How do you see the future of AEDC?

Britt Covington: Still bright. Despite the imminent threat of a fiscal cliff, I think AEDC is strongly postured to succeed in the future.

Unfortunately, looming global adversaries still exist. The Department of Defense will still need to develop systems and weapons in an era of expanding technology. We will also continue to rely on legacy systems to do more and perform more reliably.

I see hypersonics work at AEDC as a growth industry. I view the test capabilities inherent in the new Space Threat Assessment Testbed as necessary and needed for space protection and survival of space-based platforms.

New fuels, new engines, and the need

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HIGH MACH

Arnold Engineering Development Complex
An Air Force Materiel Command Test Complex

Col. Raymond Toth
Commander

Jason Austin
Director,
Public Affairs



Steve Pearson
General Manager,
Aerospace Testing Alliance

High Mach Staff:
Kathy Gattis, ATA Public Affairs Manager & Executive Editor
Raquel March, Editor

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- Excellence in all we do



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- 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

Holidays – a time to be thankful

By Gen. Janet Wolfenbarger
Commander, Air Force Materiel Command

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – For many, gathering with friends and family for the holidays often leads to discussions of the things we are thankful for. As you think about the blessings you've enjoyed in the past year, I ask that you also remember the men and women who defend our freedom, one of the greatest gifts of all.

Today the Air Force has more than 32,000 Airmen – military and civilian – deployed to preserve the gifts of independence, freedom and democracy. Within Air Force Materiel Command, more than 1,000 members are deployed this holiday

season. I am, as always, humbled by their service and sacrifice.

I am also grateful to the rest of our AFMC team carrying out the mission at home. Thanks to your hard work and dedication this year, across our five centers, we have successfully accomplished all of our critical missions – Science and Technology, Life Cycle Management, Developmental Test and Evaluation, and Sustainment. You should all be proud of what we've accomplished this year, and I know we will see even more success in 2013.

As a final note, I encourage you to keep safety in mind this winter. This time



Wolfenbarger

of year brings increased risks and hazards, especially on the roads. By applying risk management as you make your holiday plans, you help ensure a safe season for yourself and your family.

Wolf and I wish you all a joyous holiday and a happy new year. We are proud to serve with you in the world's most respected Air Force.

Arnold announces winner of energy reduction competition

By Randolph Seward
AEDC Test Support Division

October was Energy Action Month, a federal campaign run by the Department of Energy to promote energy awareness and encourage energy and water conservation measures.

To promote energy savings at Arnold AFB, an energy reduction competition "How Low Can You Go," was held during the month of October between five of Arnold's largest administration buildings: the Administration and Engineering building 100, the Propulsion Wind Tunnel Office building 740, the Engine Test Facility (ETF) Office building 877, the ETF-C Support building 1099 and the Carroll building 1103.

To establish the winner, we did a comparison of the October metered consumption to last year's October readings and the winning building was determined by percentage of energy reduction.

During the month, occupants were encouraged to do the following:

- Work with the least level of lighting required to do your job. If possible, work without your task (personal cube) lighting. If your work requires use of task lights, turn them off when you will be out of your cubicles for over 10 minutes.
- Turn off restroom, conference room and kitchen lights when unoccupied.
- Power off computer monitors when not in use and when you will be out of your cubicles for over 10 minutes. (Note: We are required to leave desktops/laptops on.)
- Avoid use of personal heaters and fans. (Dress for your personal comfort if possible.)
- Unplug all electrical devices when not in use (chargers, toasters, coffee pots, microwaves, unnecessary computer equipment, etc.). These items all draw some current when not in use.

- Close window blinds if the outside temperature is hot, to minimize heat transfer.
- Refrigerator custodians: adjust temperature settings on your refrigerator if set too cold.

Several people working in these buildings went above and beyond the normal expectations.

Their efforts included handing out business cards with energy savings tips, encouraging fellow building occupants to turn off cubicle lights/monitors when not needed and making rounds to ensure unnecessary equipment was powered off.

At least one dedicated person went as far as bringing a blanket from home to keep warm to avoid using their small space heater.

Also, Nick Hibdon, who is part of the Arnold Energy Team donned his "Captain Kilowatt" superhero costume before visiting various buildings to help publicize the energy savings effort.



Nick Hibdon, an AEDC engineer, visited various buildings as Captain Kilowatt to help publicize the energy savings effort. (Photo by Philip Lorenz III)

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://lpapno.arnold.af.millPORTALimages/Smoking area map.pdf](https://lpapno.arnold.af.millPORTALimages/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.

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

2. Supervisors at every level will ensure this policy is followed. Disciplinary action is appropriate for repeated violations.
3. Updates to this policy will be made in the future to further align with Air Force guidelines.
4. This letter supersedes previous letter dated 28 October 2006, subject as above.

Antiterrorism Force Protection warning for suspicious packages and mail

By Michael Mann
AEDC Test Support Division

This weeks *High Mach* Antiterrorism tips deal with suspicious packages/mail.

Delivering an explosive or incendiary devise through the mail is an anonymous and relatively risk-free way for a terrorist to hit a target. Fortunately, we can counteract this threat by identifying suspicious packages or envelopes and then safely dealing with them.

What makes a package suspicious?

- An unusual or unknown point of origin.
- No return address.
- Return address doesn't match postmark.
- Incorrect spelling on package label.
- An excessive amount of postage.
- An abnormal or unusual size.
- An uneven balance or shape.
- Oily stains on the package.
- Wires or strings protruding from the package.

- Peculiar odor.

Of course any of these identifiers could just mean a relative, friend, or fellow team member didn't do a good job of packaging a gift or part, but just the same you should be a little extra cautious. Usually after further investigation and examination of the exterior of the package or envelope there is enough evidence to indicate a package is safe to open. However, if you are still not certain of a package's safety after an examination of it, don't open it. Notify the Police Department Desk at 454-5662. They will advise you on what to do and notify the personnel who need to deal with the situation.

If you think something is suspicious, then it is suspicious!

REMEMBER, antiterrorism and force protection is EVERYONE'S job.

The Arnold Engineering Development Complex Antiterrorism Specialist is Michael Mann, 454-5544.

FBI Advisory

If you receive a suspicious letter or package

What should you do?

1. Handle with care. Don't shake or bump.
2. Isolate and look for indicators.
3. Don't Open, Smell or Taste.
4. Treat it as suspect. Call 911.

If parcel is open and/or a threat is identified...

- For a Bomb:** Evacuate immediately. Call 911 (Police). Contact local FBI.
- For Radiological:** Limit Exposure - Don't Handle. Distance (Evacuate area). Shield yourself from object. Call 911 (Police). Contact local FBI.
- For Biological or Chemical:** Isolate - Don't Handle. Notify - Don't Handle. Call 911 (Police). Wash your hands with soap and warm water. Contact local FBI.

Police Department _____
Fire Department _____

Do your part – Please recycle this paper after reading!

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. Raymond Toth
AEDC Commander

Walker reminisces about his AEDC family and career

By Raquel March
ATA Public Affairs

Many people leave their homes and families most mornings to join another family of sorts – their colleagues at work.

After 33 years, Bob Walker, Arnold Engineering Development Complex's (AEDC) civil engineering branch technical director, is retiring.

During his time at AEDC he has left his family at home to work with an AEDC family he calls "wonderful people."

"If it wasn't for the people, it [AEDC] would just be a bunch of stuff," Walker said. "I'm always amazed when I open the door at the warehouse or I meet someone that I haven't met before no matter where it is, sometimes the most unique places and you meet people from around here. Their kids go to school with your kids and you know you can have an instant relationship."

Walker explained how he relishes the friendships and funny moments of his career at AEDC.

He's had times where raising his son alone prompted help from his AEDC family.

"I think some funny moments have been raising my son," Walker said. "All the ladies at AEDC have helped me raise my son.

"They were always there to tell me 'you need to do this, you need to do that' and that was good. I really appreciated that."

While growing up in an Air Force family, Walker admits that

he was pushed for greatness by his father, who retired from the military, and by his mother.

"My parents pushed me when I was a kid to be an eagle scout or be first on the swim team," he said. "I've learned to push myself, and then I push people around me to be great.

"AEDC is a very successful place because people push us to be great."

Walker's knowledge of AEDC began with his parents moving to Tennessee after a military career, to live close to family.

He credits his opportunity to work at AEDC to his mother who worked at AEDC.

"I was working in Huntsville with Army Missile Command and came up to interview with Ron Polce," Walker said. "Dicky Wyatt hired me and I started doing some projects."

When Walker began his career at AEDC in 1987, one of his jobs was to work on pressure vessels.

He recalls the contractor and government relationship between him and General Physics, an AEDC contractor, and their care for the mission and pressure systems safety.

He said, "The General Physics experts we selected to help us were dedicated, customer focused driven, and to deliver the highest quality results. That made my job a whole lot easier.

"We just had some great moments where we found things that we needed to correct and we got

them corrected. Along with our AEDC operating contractors, we were a very good team."

Not only did Walker experience great moments with his first job at AEDC but also an awkward moment.

"I think I wasn't here two weeks and they told me I had to go on a trip to Cape Kennedy," said Walker. "I was with contractors in a VOQ (visiting officer's quarters) and I had to ride with contractors in cars.

"Where I worked in Huntsville that wasn't appropriate, so I learned immediately there were going to be challenges, and it was going to be different."

The challenges didn't stop there.

Walker said, "My whole career I have worked with contractors, but I've never worked for contractors.

"I've always worked for the government and the role of the government, when you are hiring someone or evaluating their work, sometimes you can't always be friends. You have to make tough decisions."

Throughout the years Walker has led many divisions and made many friends. He said he enjoys having fun with the people he has worked with over the years.

"I think the rolling on the floor, laughing out loud moments in the Engine Test Facility Support Building break room were great," Walker said. "You work so hard,

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Bob Walker (left), Arnold Engineering Development Complex's (AEDC) civil engineering branch technical director, explains AEDC's configuration management process to a reliability engineer from Tinker AFB, Okla. (Photo provided by Bob Walker)



Walker plays guitar with AEDC colleagues at the Arnold Lakeside Center First Friday Jam Night. (Photo provided by Bob Walker)

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for enhanced service life on existing turbine engines will continue to drive workload in AEDC's turbine engine test cells.

However, the complex can't rest on past successes.

We have yet to pin down our role in the rapid worldwide growth of remotely piloted aircraft and their developmental test needs.

Smart folks at AEDC should continue to realize that our primary value doesn't reside in the great test infrastructure built at AEDC. Instead, the complex's value is the intellectual capital and experience resident here.

Every AEDC employee should be in the business of business development. We should continue to try to stay in front of the nation's aerospace needs. Innovation, flexibility, and foresight are AEDC's heritage and AEDC's future success still depends on our ability to produce.

Ones and zeros are not AEDC's product. Knowledge is. We should continue to provide more than just data and focus on providing the knowledge our customers need.

HM: How do you think the people and community have contributed to the AEDC mission and its future?

Covington: I have worked as an Air Force civilian for 27 years and have moved to many bases and communities. None have been more supportive of their base and its mission than the Arnold AFB surrounding communities.

In four years, I have yet to hear anyone disparage AEDC's mission.

I have worked closely with the Arnold Community Council whose mission is to support the

base . . . the individuals on the Arnold Community Council are as united and focused as any successful team.

They each wholly and completely have AEDC's interest in their hearts and actions.

I am also a base representative to the Community Liaison Program. This group of four dedicated individuals uses their own money and time to promote AEDC.

Recently, members of this group traveled on their own dime to attend the Air Force Materiel Command's Change of Command ceremony just to ensure the new commander knew first-hand that the local community completely supports Arnold AFB.

While limitations exist on interactions between AEDC's leadership and elected leaders, these community supporters are less constrained. Their visits and efforts do not go unnoticed and they are great positive contributors to Arnold's mission and its future success.

HM: How will you remember the relationships you have developed here – business, personal, community?

Covington: From a personal and community standpoint, my wife and I have watched our four kids spend four formative adolescent years in Tullahoma, Tenn. They don't want to leave. I greatly admire the efforts the teachers and school administrators put into our children's education. The school system is fantastic and personal.

Folks have embraced our family and we will fondly remember our time here. I am grateful to the local community for their efforts and would encourage them to offer the same support to military families

and other transient Arnold employees.

As I move away, I hope to continue to exploit the business relationships I have enjoyed while at AEDC.

I am still amazed every day at the number of "big brained" people who work out here. I'm from Alabama, but it still intrigues me to talk to a PhD with a thick southern drawl; and we have tons of those folks.

I will also miss working with several people who have made me better every day. I am even a little jealous that my replacement, Dr. Doug Blake, will immediately benefit every day from the likes of John Sutton, Tom Sizemore, and Ken Jacobson while I have to start anew to find three suitable substitutes at my new job.

HM: What and where is your next mission?

Covington: I will be the Warner Robins Air Logistics Complex's Technical Director at Robins AFB, Ga.

I met with my new boss last week, Brig. Gen. Cedric George, and he already gave me a list of tasks.

I will be focused on leading cost reduction in an aircraft production environment, workforce development and junior workforce retention, and reconciling delegated engineering disposition decisions.

The primary mission of Warner Robins Air Logistics Complex is to successfully perform programmed depot maintenance on aircraft and other Air Force systems in a cost and schedule constrained environment and ultimately get these weapon systems quickly back in the hands of the warfighter.

I have previously worked at

two Air Logistics Centers and the work there is fast paced and very satisfying (especially for an engineer who wants to see quick results).

HM: How will your service and experiences here be beneficial in your next assignment?

Covington: Having never worked directly in test before coming to Arnold AFB, I now have a much better appreciation for the importance of a rigorous and extensive test program for major developmental systems.

Dr. Ed Kraft always foot stomps that test doesn't cost money, it saves money. I will have some influence over C-130, C-17, C-5, and F-15 aircraft planning, maintenance and modification. I hope to use what I've learned at Arnold about deliberate testing to help ensure these and other AF programs don't repeat some of the mistakes of the past.

HM: What advice would you give to the team you are leaving for the future of AEDC?

Covington: Embrace change...because it is coming.

They say "flexibility is the key to airpower." It is also a requirement to successfully navigate major change.

My other advice would be to those long-serving AEDC employees who may have limited exposure to working at other locations: Don't take working at AEDC for granted.

You are very blessed. It is an Air Force crown jewel and a fantastic place to work.

I never woke up on any morning in Tennessee dreading coming to work. For that, I would like to thank the men and women who make AEDC what it is every day. Godspeed!

AEDC's newspaper begins the New Year with new distribution dates

By Raquel March
ATA Public Affairs

The High Mach bi-weekly base newspaper will be distributed to the base on Mondays at the beginning Jan. 11, 2013.

The paper, which was previously distributed on Fridays, provides AEDC employees, retirees, test customers, elected officials and the Arnold Community Council members with mission and testing information conducted at the complex.

The paper also communicates the Complex's vision as being the test center of choice, the workplace of choice and a model of environmental excellence.

AEDC distribution locations are in break rooms and common areas.

The current issue and archived issues of the paper may also be accessed on line at www.arnold.af.mil/library/index.asp.

Air Force Materiel Command promotes wellness screening

WRIGHT-PATTERSON AIR FORCE BASE, Ohio – Throughout December and January, Air Force Materiel Command (AFMC) will be promoting the "Do You Know Your Numbers" wellness campaign. This campaign aims to raise awareness of the importance of knowing your numbers to help prevent chronic diseases such as diabetes, hypertension and cardiovascular disease.

"To better understand their health status, it is helpful for individuals to know how they compare to recommended health indicators," said AFMC's Wellness Coordinator Greg Chadwick. "These indicators are a list of 'numbers' – blood pressure, good and bad cholesterol, blood glucose, and body mass index are all numbers that help individuals identify their own health status."

The goal of the "Do You Know

Your Numbers" campaign is to increase participation in Cardio Risk Profile (CRP) screenings and educate individuals on how risk factors impact their health, with particular attention given to those risk factors that can be improved by changes in lifestyle behavior. Early identification and management of risk factors can help individuals stay healthy and live a long, productive life.

The CRP wellness screening is

Do you know YOUR numbers?



available through Civilian Health Promotion Services (CHPS) and is free to all Department of Defense (appropriated fund) AFMC civilian employees. For more information regarding CRP screenings, contact your local CHPS team or visit www.afmc-wellness.com.

Call the
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to
advertise
in the
High Mach

AEDC Visitor Center closing for the holidays

By Raquel March
ATA Public Affairs

The Arnold Engineering Development Complex (AEDC) Visitor Center will close during the Christmas and New Year holiday from Dec. 22 – Jan. 1.

Personnel who are working during this time and have an emergency need for a common access card (CAC) that would result in a work stoppage may contact

the base Operations Center at 454-7752 for emergency assistance.

Personnel requiring base access during this time who have lost or forgotten their base entry badge or CAC may contact the Base Defense Operations Center at 454-5662 to arrange for an Air Force Form 75 or a temporary badge as applicable.

The Visitor Center will reopen at 6:30 a.m. on Jan. 2.

'Space junk' growing issue for Air Force

By Scott Prater
Schriever Air Force Base Public Affairs

SCHRIEVER AIR FORCE BASE, Colo. (AFNS) – Members of the 1st and 7th Space Operations Squadron (SOPS) took notice when an upper stage Russian rocket disintegrated in low earth orbit Oct. 16. The breakup introduced an estimated 500 pieces of debris into an area where the U.S. operates a multitude of satellites, further congesting an already crowded orbit around Earth.

The event sheds light on an ever-growing issue for the space and satellite industry, one that seemed far-fetched only a few years ago.

"The idea that big space would someday become crowded was more theory than fact," said Lt. Col. Mike Manor, 1 SOPS commander. "Now, the reality is that space is growing seemingly smaller as more objects are now orbiting Earth. Few people realize there are men and women dedicated to assuring safe passage for our assets in space."

The Space Based Space

Surveillance (SBSS) satellite and its sister, the Advanced Technology Risk Reduction (ATTR) satellite, were designed to provide space situational awareness of the geostationary belt, but increasingly are being tasked to support space situational awareness in other orbits as well.

A collision with something as small as a bolt, a rivet, even bits of shrapnel, traveling at a high rate of speed can render a satellite inoperable, if not totally destroy it, thus it's becoming ever more important to accurately track such debris.

Along with radar and optical sensors on the ground, SBSS and ATTR are providing that tracking data to the Joint Space Operations Center, the organization that keeps a real-time catalog of orbiting objects.

Maj. Patrick Slaughter, 1 SOPS assistant director of operations, says demand for this tracking data will do nothing but grow in the years ahead as space gets more congested and contested.

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fessor of Physics and Astronomy and Johns Hopkins University Gilman Scholar, is a physics and astronomy department faculty member at John Hopkins University in Baltimore, Md.

Bennett said AEDC's role was "absolutely critical" in helping to pave the way for this landmark NASA Explorer mission to "map" the universe and study its properties.

In 2000, Bennett was NASA Goddard's principal investigator for the MAP project and had tasked Alphonso Stewart to find the best place to ground test the probe's solar array and deployment equipment.

Stewart, an aerospace engineer with NASA Goddard Space Center's Mechanical Engineering Branch, was the lead solar array deployment system engineer for the 2000 testing in AEDC's Mark I Aerospace Chamber.

Bennett kept in close touch with Stewart all during the testing at AEDC to monitor the deployment, functionality and survivability of the solar array.

"It would be devastating if it [had] failed, there would have been no recovery from a failure," Bennett said. "NASA would ask me occasionally, 'and what if this deployment fails,' and I would just tell them, 'end of mission.'"

"We will get nothing out of it if that happens" – not the answer they wanted to hear – but it was the truth. Frankly, I leaned very hard on Alphonso and made sure that he understood that this had to work. This was not a best effort, this had to work."

Stewart, who is currently NASA Goddard's lead deployable(s) engineer for the James Web Space telescope, said finding and then choosing AEDC's Mark I

Aerospace Chamber as the site for the test paid off in more ways than his team had envisioned.

"At the time, we needed a facility large enough and cold enough to check the functioning of the array," he said. "That system is both a solar array as well as a thermal shield, it actually shields the spacecraft from the sun, so it get can get very cold.

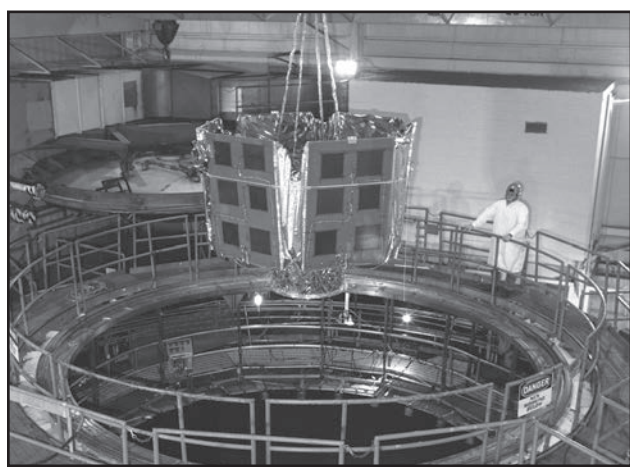
"For example, when facing the sun, the shield is designed to attenuate the heat it generates down to minus 150 degrees [Celsius], and Arnold's [Mark I] facility had the ability to go to minus 200 at the time. So, we were able to test the shield in that very cold environment.

"We didn't know this [at the time], but we found out that the blanket was so efficient in its ability to reject heat that just within the 30 or 40 seconds of deployment, it changes 100 degrees. We did not calculate that, we just actually saw that in the test.

"And by knowing that, we were able to adjust the size – to make extra material in the blanket because as it deploys, it's shrinking. So that when it does get to the end of the deployment, there is still enough material to allow it to open up. Not knowing that, you would have had a problem when you got on orbit, the system just wouldn't open up properly."

Bennett said after his team had searched the country for a facility to test their equipment, he is grateful for the support provided by AEDC and their team on that history-making test.

"This satellite [WMAP] has made the most accurate measurement of the age of the universe and that made the Guinness Book of World's Records," Ben-



Ricky Bush, an ATA lead machinist for Arnold's space chambers test cells, watches the removal of the NASA/Goddard Space Flight Center's Microwave Anisotropy Probe from AEDC's Mark I Space Environmental Chamber following a successful solar panel deployment test. (Photo by AEDC Photo Lab)

nett said. "13.7 billion years old – when I was in school, didn't know if it was 9 billion or 22 billion – now we know the age of the universe to one percent.

"It's an extraordinary change and we also now know the results of this satellite about the components of the universe; the contents. For example, your body is made of atoms, mine is, we all are, your chair is made of atoms, and the Earth is made of atoms.

"You might normally think of everything in the universe as made of atoms, but it turns out, according to the measurements [provided by] this satellite, that the atoms are only 4.6 percent of the content of the universe, actually a tiny amount."

Bennett, continuing, said, "Five times more than the atoms, there's something that we call cold, dark matter. This is a kind of material that has gravity, but it doesn't give off any light at all. That's why we call it dark matter. We can tell it's there by its gravity, but not by giving off any light.

"The biggest missing piece of the pie is something that was only recently discovered called dark energy. A Nobel Prize last year was

given to the discovery of this dark energy. This satellite actually helped those guys get the Nobel Prize because we showed that the dark energy was there and that it's 73 percent of the universe."

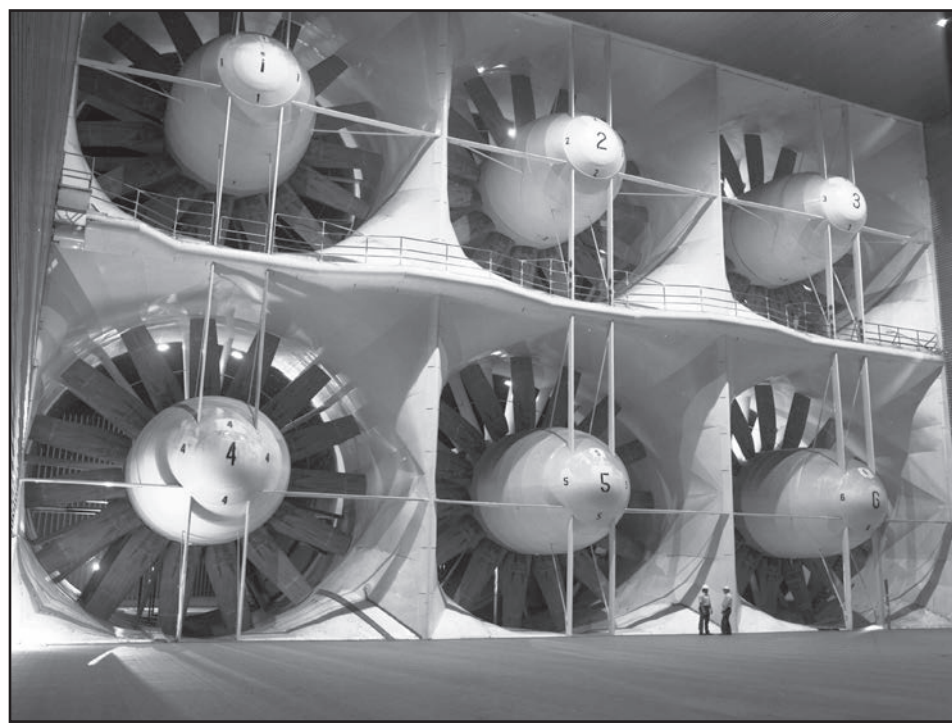
Bennett said the dark energy "acts like an anti-gravity, it pushes the universe apart."

He emphasized that it will take more work to determine what the dark energy and dark cold matter are composed of, "but we do know from this satellite about the percentage that each of these make up, the pieces of the pie."

Bennett said it also helps to understand how the WMAP functioned.

"The probe was somewhat like a radio receiver," he said. "In the old days, we used to get our radio and TV signals as electromagnetic spectrum waves received and routed to analog receivers, not digitized signals like we get through cable or routed from satellites. And between stations or channels, we had something we called snow or noise. It turns out that one percent of that is actually from space. That's from the beginning of the universe, one percent of that static."

NFAC from page 1



AEDC National Full-Scale Aerodynamic Complex's (NFAC) 80 by 120-foot Wind Tunnel's drive fans dwarf workers taking part in the initial system checkouts conducted in 1986 prior to the complex's reactivation after the Air Force assumed management of the two largest wind tunnels at NASA Ames Research Center near Moffett Field, in Mountain View, Calif. in 2006. (File photo)

NASA Ames Research Center, Moffett Field, Calif.

"This anniversary represents a milestone in providing a quarter century of aeronautical technology to the DOD, NASA, and US industry – to the nation," Warmbrodt said. "There are many people who have contributed during this period, including those who did the original design and construction of the 80- by 120-Foot Wind Tunnel. This celebration is a milestone in all of their lives as well. Perhaps most importantly, the celebration brings attention to the outstanding work done in the facility by the U.S. Air Force for the past six years. The Air Force didn't ask to take this responsibility from NASA. However, the Air Force and AEDC

has provided world-class expertise, service, and support to many customers in recent years. A legacy is being established of testing excellence, particularly with the efforts of Jacobs Technology and their staff. The anniversary celebrates these achievements and lets the nation know that the NFAC is here to serve the DOD and others' testing requirements, now and into the future."

During the rededication event, Scott Waltermire, AEDC's new NFAC site director, stated that for the past 25 years, the NFAC has supported and is continually engaged in an active research program to conduct aerodynamic and acoustic noise testing on large or full-scale aircraft, spacecraft, rotorcraft and their components.

He also acknowledged one of the most recent testing highlights at the complex that included the use of the 80-foot by 120-foot test section to help develop and validate the Mars Science Laboratory's full-sized parachute decelerator which was critical to the successful landing of the MSL Curiosity Rover on Mars last August.

"NASA, the Army and other DOD customers bring their projects to both our 40- by 80- and 80- by 120-foot test sections for mission-critical testing," Waltermire said. "This work includes investigating and assessing the aerodynamic characteristics of new configurations with an emphasis on validating computational methods."

Dr. Warmbrodt said the Army has been a frequent

customer at the NFAC.

"This rededication ceremony is meant to honor all of those folks at the NFAC who have worked with a range of customers, including the Army, to investigate and explore aeromechanical stability boundaries of advanced rotorcraft and rotor-fuselage interactions in a controlled environment," Warmbrodt said. "The acoustic characteristics of most of the full-scale vehicles are also determined, as well as acoustic research aimed at discovering and reducing aerodynamic sources of noise."

Waltermire spoke of the collaborative nature of the work done at the NFAC.

"Our test team at the NFAC partners with NASA to make state-of-the-art non-intrusive instrumentation, including near and far field acoustic measurements, particle imaging and background oriented Schlieren, and detailed photogrammetric measurements available to our customers," he said. "These tools enable us to help our customers find answers to questions that cannot be found anywhere else in the world."

Although decommissioned by NASA in 2003, the NFAC has been operated by the United States Air Force as a satellite facility of the Arnold Engineering Development Complex (AEDC) since 2006.

Future testing in the NFAC wind tunnels will support programs like the Future Theater Heavy Lift, Joint Multi-Role, Mission Adaptive Rotor and Advanced Aerial Scout.

Milestones

30 YEARS

Tanya Bryan, AF
Juan Ramos, AF
Timothy Campbell, ATA
Warren Gilbert, ATA
D D Bartlow, Jr., ATA

25 YEARS

Steve Hinshaw, ATA
James Hicks, ATA
Nat Farrar, ATA
Danny Myers, ATA

20 YEARS

Sidney Ledbetter, ATA
John Jenkins Jr., ATA
John Ledbetter, ATA
William Mitchell, ATA
Roger Sanson, ATA
Alfred Monahan, ATA
William Beshers, ATA
Matthew Nunley, ATA
I E Brown, ATA
Troy Perry, ATA

15 YEARS

Jerry Spry Jr., ATA

10 YEARS

Timothy Reed, ATA

5 YEARS

Benton Brown, ATA
Mitchell Kendrick, ATA

INBOUND MILITARY

Maj Wesley Turner, AF

RETIREMENTS

MSgt Lars Miranda Muller, AF

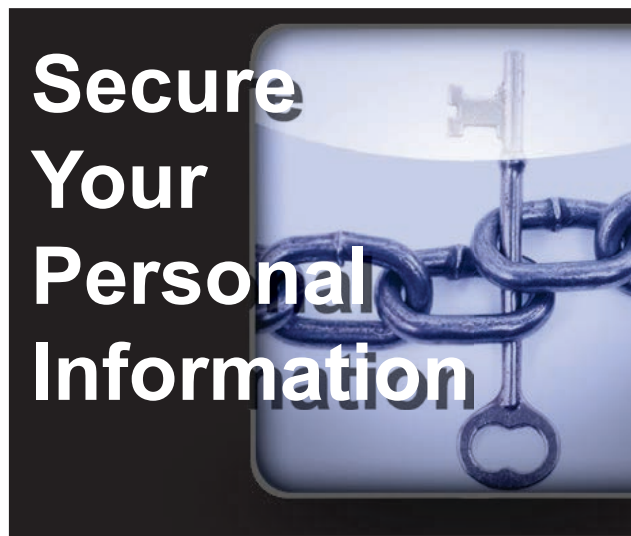
NEW HIRES

Larry Wyche, AF
Charles Luttrell, ATA
Caleb Barnett, ATA
Seth Frost, ATA
Coy Hargis, ATA
Kevin Glaser, ATA
Peter Neal, ATA
James Rollins, ATA

PROMOTIONS

Curtis Walters, ATA
Rick Trull, ATA
Larry Underwood, ATA
Michael Warren, ATA

Congratulations!



Technical Excellence Poster Session winners

Three Arnold Engineering Development Complex (AEDC) engineering professionals received awards Nov. 29 for technical posters presented at the Third Annual Tech-

Technical Excellence Poster Session.

The event was sponsored by the Arnold Association of Professional Societies (AAPS) in conjunction with the AEDC

Technical Excellence Board (TEB) and was available to professionals with 15 years or less experience.

Ten engineers entered their technical posters.



Eric Marineau (left), an AEDC Hypervelocity Tunnel 9 engineer, receives a first place Technical Excellence Poster Session award from presenter Dan Marren, AEDC Hypervelocity Tunnel 9 director. (Photo by Arnold Collier)



AEDC Engineer Jesse Labello (left) receives a second place Technical Excellence Poster Session award from presenter Col. Raymond Toth, AEDC commander. (Photo by Jacqueline Cowan)



AEDC Engineer Henry Horne (right) receives a third place Technical Excellence Poster Session award from presenter Col. Raymond Toth, AEDC commander. (Photo by Jacqueline Cowan)

AEDC supports Angel Tree drive with donations



ATA employee Janet Feller (left) assists AEDC employees with their 159 donations for the AEDC Angel Tree drive. Donations are collected for the South Central Relative Caregiver Program which serves needy families in Bedford, Coffee, Giles, Hickman, Lawrence, Lewis, Lincoln, Marshall, Maury, Moore, Perry and Wayne counties. The Employee and Community Activities Committee has sponsored the AEDC Angel Tree drive since ATA became the prime contractor at AEDC.

WALKER from page 3

but to take a break at lunch to enjoy your friendships with co-workers and share a laugh or two, that is special.”

Walker also admits he has fun playing guitar with his colleagues while participating in the Arnold Lakeside Center First Friday Jam Night. His love of music genres range from Jimmy Buffet and the Eagles to the Beatles and Tim McGraw.

He said, “Play guitar? Some people may question that.

“I get up there and have fun.”

Walker’s plans after retiring are to mentor either through teaching at local universities or colleges and volunteering with the Lions International eye exam program for youth. He presently serves as the vice president of the Estill

Springs Lion’s Club.

He also has plans for recreation.

“I bought two tickets to go down to the “Hang Out” music festival for seven days in Gulf Shores in May,” Walker said. “I want to take a little bit of time, about six months, and relax, hit the beach, fish, relax.

“And then I think I’m going to want to work some more.”

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AEDC Fire Department honors a young man as a hero

By Philip Lorenz III
ATA Public Affairs

When Arnold Engineering Development Complex Fire Department Chief Daryle Lopes sent an email out to the worldwide fire protection community seeking moral support for a young man battling cancer, to say Chief Lopes was pleased and impressed with the response is an understatement.

Mark Kelly Olson is a 10-year-old boy who was diagnosed with very high-risk, acute lymphocytic leukemia in May and was later adopted by the Arnold AFB Fire Department as their new deputy fire chief. Olson is the son of Mark Olson, an Aerospace Testing Alliance operations controller at AEDC.

“My wife and I are grateful for the outpouring of support for our son, who is also very appreciative,” Olson said. “This experience reminds us of our time serving in the Navy, where your ‘extended’ family is always around to support you during both the good times and the challenges we all face.”

Chief Lopes’ message to all firefighters said, “Fel-



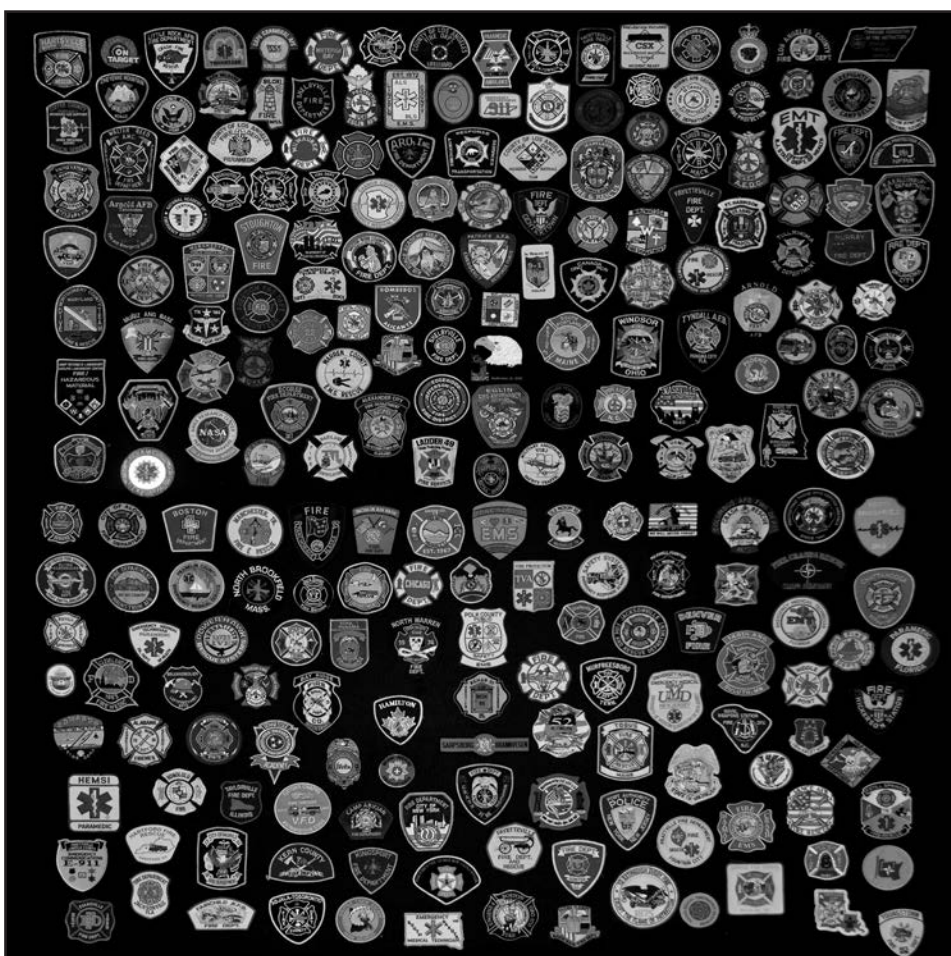
Mark Kelly Olson, the 10-year-old son of ATA Operations Controller Mark Olson, dons a customized fire helmet he received from the Arnold AFB Fire Department, showing his honorary title as a “true hero” as the young man battles cancer at Nashville’s Vanderbilt Hospital. AEDC Fire Department Chief Daryle Lopes and AEDC Fire Chief Kip Luttrell spearheaded the effort to rally moral support for Mark since learning that he had been diagnosed with very high risk acute lymphocytic leukemia earlier in the year. (Photo provided)

low chiefs and firefighters – We have an outstanding opportunity to support a fellow firefighter and a true hero in the true spirit of the holiday season. Please post a picture of your fire department patch and a few words of encouragement on the Facebook page at Go Team Mark Kelly, at www.facebook.com/TeamMark-Kelly.”

Lopes, who is a retired Air Force chief master sergeant, said, “The response we got was overwhelming, not just from local departments, but from firefighters around the world, including Air Force, Department of Defense, civilian and

volunteer fire departments from everywhere imaginable.”

Kip Luttrell, an AEDC fire crew chief said the one word that comes to mind is family. “This is really all about



AEDC Fire Department personnel put their crew patches together on a black background for a high resolution photograph used to make a poster to provide moral support to Mark David Kelly, a 10-year-old boy battling cancer at Vanderbilt Medical Center. (Photo by Rick Goodfriend)

being a family, about ministering to someone who is challenged but not defeated by a physical illness,” he said. “I worked with his dad in construction prior to coming to work at AEDC and his son, Mark Kelly, was on the soccer team that I coached.

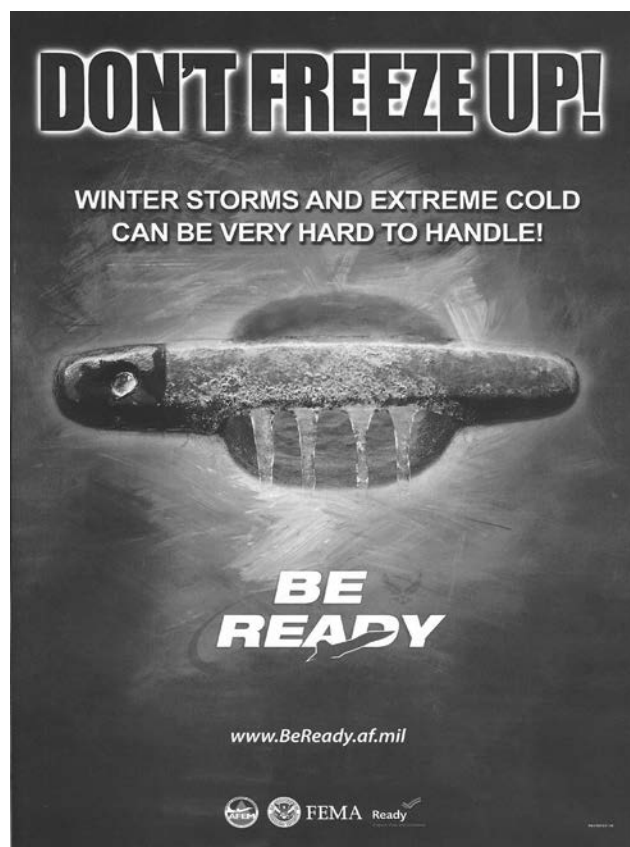
“Every time you get to visit with him or his family you feel like you’re going to go help them, and they end up lifting you up.”

Luttrell said he is the one who comes away encouraged and inspired by a bright and engaged young man who is literally playing a key role in tracking his own medical status and

ensuring that the nurses are fully apprised of his health and treatment results.

Lopes said, “Mark Kelly has been bravely battling the cancer as well as a number of significant complications. He is in and out of the hospital, fighting hard to get better, and he needs us to stand with him. By virtue of his heroic efforts, Mark Kelly has been adopted by the Arnold Air Force Base Fire Department and promoted to the rank of deputy fire chief. Everyone at Arnold Fire is proud of Mark Kelly. We are truly thankful to call such an awesome young man one of our own.”

“This is really all about



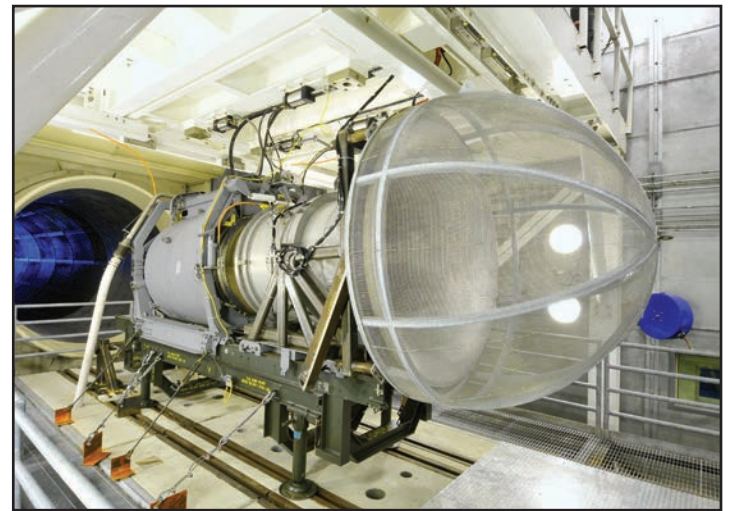
Year in Review



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



From left, Aerospace Testing Alliance outside machinists Danny Haddon and Garry Sudberry inspect the Rolls-Royce Trent XWB engine between simulated altitude performance and operability test runs in AEDC's C2 test cell. The engine is the largest power plant ever tested at AEDC. (Photo by Rick Goodfriend)



The A-10 fighter's power plant, the TF34-GE-100, went through a six-month Accelerated Mission Test (AMT) to evaluate and validate new components prior to production approval for the fleet upgrade (Photo by Rick Goodfriend)

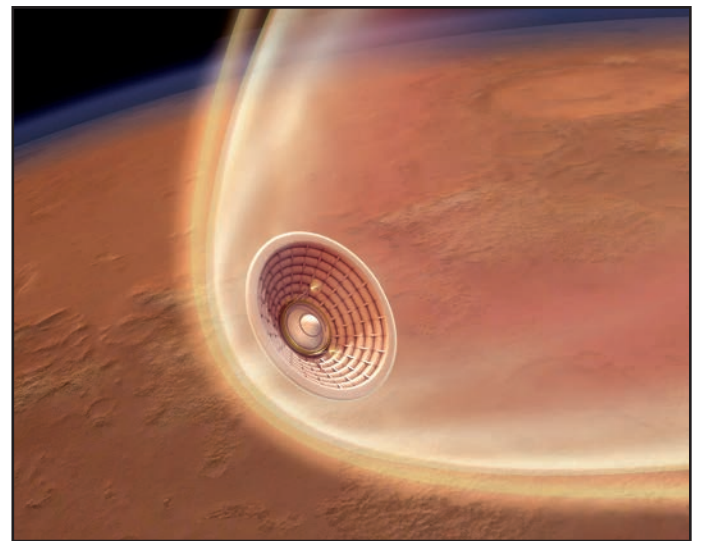


Pictured here is the C-5M Super Galaxy model during a break in testing in Arnold Engineering Development Complex's (AEDC) 16-foot Transonic Wind Tunnel (16T). The model's coloring is a result of the purple Light Emitting Diodes (LED) used to illuminate the Pressure Sensitive Paint (PSP). The over-arching goal of the recent test was to validate the computational fluid dynamics predicted drag reduction effects of winglets on the C-5M, the Air Force's most current version of the aircraft. (Photo by Rick Goodfriend)

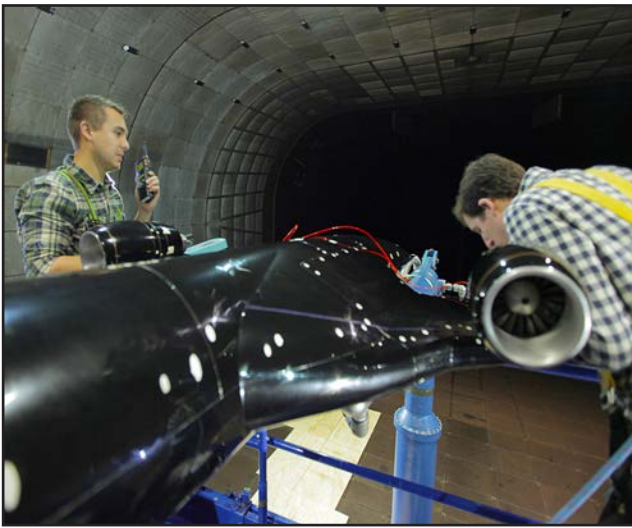
TEST...



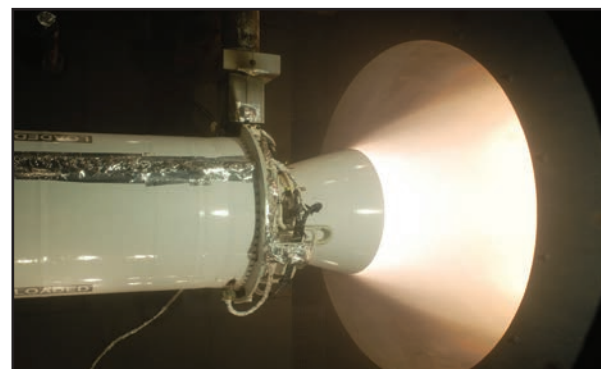
AEDC completed a Continuous Improvement Program (CIP) Life Extension Accelerated Mission Test (AMT) on an F119 engine for the F-22 Raptor in the Sea Level 2 (SL-2) facility. The engine is pictured undergoing AMT testing in SL-2 with the augmentor activated. (Photo by Rick Goodfriend)



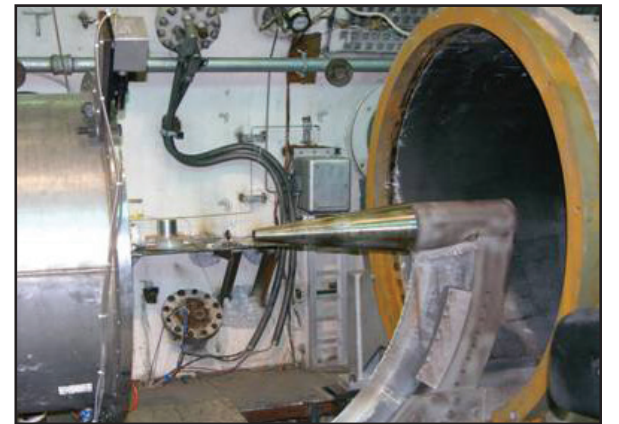
AEDC's National Full-Scale Aerodynamic Complex at Moffett Field, Calif., was the site of an ongoing pioneering test campaign supporting NASA's Hypersonic Inflatable Aerodynamic Decelerator (HIAD) project. This is an artist's concept of NASA's Hypersonic Inflatable Aerodynamic Decelerator (HIAD) showing the atmospheric entry of a spacecraft. (NASA artwork)



A 1:11 scale model of a futuristic airplane is tested in the world's second-largest wind tunnel at the NFAC at Moffett Field, Calif. The plane would hold 150 passengers and is being called the next 737. Located at NASA's Ames Research Center in Mountain View. (Photo by Mike Anderson)



One of the final Minuteman III intercontinental ballistic missile (ICBM) motors to roll off the assembly line was tested in the AEDC J-6 Large Rocket Motor Test Facility. (Photo by Rick Goodfriend)



AFRL's Directed Energy Directorate (AFRL/RDLE) out of Kirtland Air Force Base, N.M., tested high power lasers (10 of kilowatts) against materials of interest under simulated flight conditions in AEDC's Aerodynamic and Propulsion Test Unit (APTU) giving valuable data that will help determine the feasibility of high energy lasers for the warfighter. Testing began in April and ran through August. (Photo provided)

SUPPORT...



From left, Dan Marren, the director of AEDC's Hypervelocity Wind Tunnel 9 at White Oak, Md.; lead a ground-breaking ceremony with Tom Smith, project manager with Mack Mechanical, Inc., Tenn., Jeff Waldo, Tunnel 9's chief facility engineer, and Steve Grant, Tunnel 9's electrical systems engineer, marking the installation of a new transformer at the facility. (Photo provided)



Members of the AEDC Fire Department spent March 27-29 training on how to fight fires using a state-of-the-art training facility on wheels. AEDC firefighters spray down a fire inside the training unit from the West Virginia University Fire Service Extension during an exercise March 27. (Photo by Rick Goodfriend)



A collaboration between AEDC and graduate students at the University of Tennessee Space Institute (UTSI) resulted in experiments of cryo-contamination in AEDC's small ultra high vacuum (UHV) chamber. This look inside AEDC ultra high vacuum (UHV) chamber shows the equipment used to measure the formation of cryo-deposits, including a mirror and a quartz crystal microbalance (QCM). (Photo by Rick Goodfriend)

Reduce, Reuse, Recycle



Year in Review SUPPORT ...



In a ceremony July 6, Arnold Engineering Development Center was redesignated as Arnold Engineering Development Complex. The redesignation was part of AFMC's plan to consolidate its number of centers from 12 to five in an effort to save about \$109 million annually.



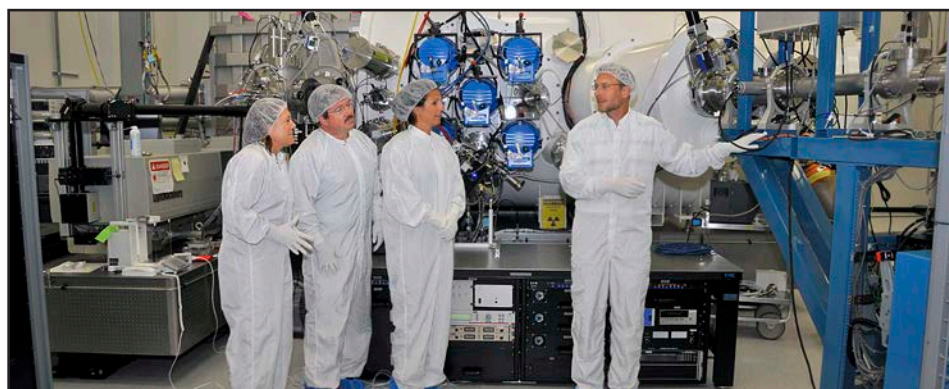
Col. Raymond G. Toth took over command of the Arnold Engineering Development Complex on July 6. (Photo by Rick Goodfriend)



Families moved into new base housing at Arnold and AEDC Commander Col. Raymond Toth cut the ribbon during a dedication ceremony July 31. (Photo by Jacqueline Cowan)



On Nov. 19, Rosemary Matty led a ribbon-cutting celebrating the success of a \$3.6 million investment project to modernize and expand the capabilities of the nation's largest military aircraft engine ground test facility, located at the Arnold Engineering Development Complex. (Photo by Rick Goodfriend)



A project team at the Arnold Engineering Development Complex (AEDC) has successfully completed an initial site acceptance test on Arnold's new, one-of-a-kind Space Threat Assessment Testbed (STAT). The facility simulates a realistic operational environment using multiple source simulators to emulate the conditions existing at various orbits. (Photo by Jacqueline Cowan)



AEDC's Space Threat Assessment Testbed team built a microsatellite for use in the Space Threat Assessment Testbed (STAT) facility. (Photo by Rick Goodfriend)



Dr. Robert Hiers III



Dave Bond



William Scott

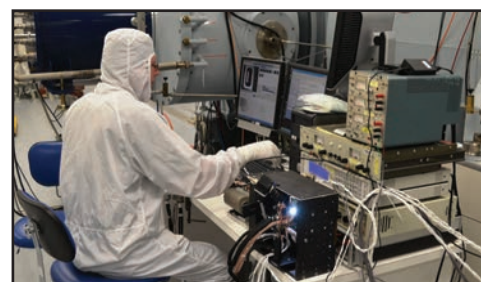
AEDC inducted a new AEDC Fellow Dr. Robert Hiers III, a Lifetime Achievement Fellow Dave Bond and the first Craftsman Fellow William Scott at the annual AEDC Fellows Banquet June 25. (Photos by Rick Goodfriend)



AEDC Vice Commander Col. Eugene Mittuch retires. (Photo by Jacqueline Cowan)



The first Small Business Innovation Research (SBIR) workshop at AEDC was considered a success. Organizers of AEDC's SBIR Transition Workshop said they garnered positive feedback about the event, and that it may lead to several new capabilities being developed at the center. (Photo by Jacqueline Cowan)



A new optical collimator that will enable the projection of space targets into a wider field-of-view was installed in AEDC's 7V Space Chamber. Ken Bynum, ATA electrical engineer, checks the components' connectivity while running input data files to check the performance of the projection system. (Photo provided)



AEDC's Tunnel 9 became the site of the Centers of Testing Excellence (COTE) for hypersonics research. (Photo provided)

AEDC DOD Christmas Party

(Photos by Jacqueline Cowan)



ATA Christmas Party

(Photos by Rick Goodfriend)



Year in Review – Special Events & Guests . . .



Air Force Materiel Command Commander, Gen. Janet Wolfenbarger, speaks to a large crowd during the Arnold Community Council Annual Dinner. (Photo by Jacqueline Cowan)



Lt. Gen. Andrew E. Busch, vice commander, Air Force Materiel Command visited AEDC's J-1 Turbine Engine Test Cell. (Photo by Rick Goodfriend)



Tennessee's Governor Bill Haslam visited AEDC's Turbine Engine Dry Air Capability (TEDAC). (Photo by Rick Goodfriend)



AEDC and UTSI jointly hosted a AIA-NDIA STEM (Science, Technology, Engineering and Math) conference of 100 educators, government, business and community leaders. The event closed at the Arnold Lakeside Center with a presentation from the Deputy Commissioner of the Tennessee Department of Education, Dr. Kathleen Airhart. (Photo by Jacqueline Cowan)



Arnold Community Council selected new officers: (left to right) Vice President Ben Craig, President Steve Cope, Secretary Claude Morse and Treasurer Lana Woodard. (Photo by Jacqueline Cowan)



AEDC hosted the first female Tennessee State University president for the African-American History Month luncheon. (Photo by Rick Goodfriend)



ACC members visited Congress in support of AEDC. (Photo provided)

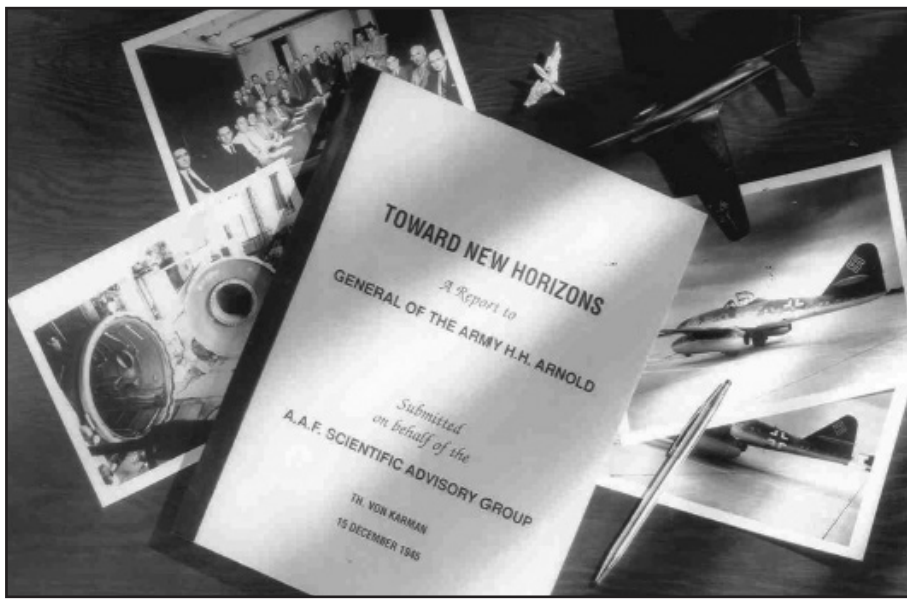


Congressman Diane Black, right, gets a tour of AEDC's C-2 test cell from AEDC Executive Director Britt Covington March 9. Workers had recently tested the Rolls-Royce Trent Extra-Wide Body engine there. (Photo by Jacqueline Cowan)

*Save
Energy,
Save
Money,
Save the
Planet*



Toward New Horizons turns 67



Toward New Horizons is the report by Dr. Theodore von Karman to Five-Star General of the Air Force Henry "Hap" Arnold used as the blueprint for the Air Force and AEDC. It will mark its 67th anniversary Dec. 15. With good reason, as a group of scientists and military personnel led by Dr. von Karman discovered, General Arnold was alarmed at the German's rapid development of advanced jet aircraft toward the end of World War II. What follows is an account of their studies in Germany leading to the compilation of Toward New Horizons.

Have a safe and happy holiday season
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Year in Review Special Events . . .



Arnold Engineering Development Complex's (AEDC) Science, Technology, Engineering and Mathematics (STEM) Center coordinator, Jere Matty, AEDC Commander Col. Raymond Toth and volunteers officially opened the complex's hands-on STEM Center Oct. 27 with a ribbon cutting ceremony. (Photo by Jacqueline Cowan)



AEDC hosted an annual Veterans picnic. (Photo by Rick Goodfriend)



Arnold Engineering Development Complex (AEDC) was the recipient of the Air Force Organizational Excellence Award (AFOEA) for exceptionally meritorious service accomplished Jan. 1, 2010 – Dec. 31, 2011.



AEDC employees participated in the 27th Annual Turkey Trot 5K run and 1.5 mile walk. (Photo by Jacqueline Cowan)



AEDC's Junior Force Council hosted a Sports Day. (Photo provided)



AEDC's American Society of Military Comptrollers (ASMC) held a POW/MIA Recognition Day ceremony and remembrance walk at the Arnold Lakeside Center. (Photo provided)

Air Force launches 3rd X-37B Orbital Test Vehicle



The Air Force launched its third Orbital Test Vehicle, the X-37B, Dec. 11, at Cape Canaveral, Fla. The third launch follows closely behind a record-setting 469 days in space for the second OTV. (Courtesy photo)

By Maj. Eric Badger
Air Force Public Affairs

CAPE CANAVERAL, Fla. (AFNS) – In the next installment to improve space capability and further develop an affordable, reusable space vehicle, the Air Force conducted its third X-37B Orbital Test Vehicle launch here on December 11, officials said.

The launch comes on the heels of the successful flight of OTV-2, which made an autonomous landing at Vandenberg Air Force Base, Calif., June 11 after a record 469 days in space.

"We couldn't be more pleased with the strides we've made in this program and the success of the X-37B vehicle on the first two flights," said Mr. Richard McKinney, Deputy Under Secretary of the Air Force for Space. "However, it is important to keep in mind that this is an experimental vehicle and a third mission is still relatively young for a test program. This is the first re-flight of a vehicle so that is certainly a key objective for us. We have only just begun what is a very systematic checkout of the system."

Lieutenant Colonel Tom McIntyre, X-37B program manager for the Air Force Rapid Capabilities Office, explained the third X-37 flight will not only help the Air Force better evaluate and understand the vehicle's performance characteristics, but this first re-flight is an important step in the program. OTV-1 launched in April 2010 and spent 224 days in orbit before going through the

refurbishment process prior to being prepped for this mission, he said.

"This mission will incorporate the lessons learned during the refurbishment process on OTV-1," said Lieutenant Colonel McIntyre. "As the X-37B program is examining the affordability and reusability of space vehicles, validation through testing is vital to the process. We are excited to see how this vehicle performs on a second flight."

"The X-37B OTV is designed for an on-orbit duration of approximately 9 months," said Lieutenant Colonel McIntyre. "As with previous missions, actual duration will depend on the execution of test objectives, on-orbit vehicle performance, and conditions at the landing site."

The X-37B Orbital Test Vehicle is led by the Air Force Rapid Capabilities Office, and is designed to demonstrate reusable spacecraft technologies for America's future in space and operating experiments which can be returned to, and examined, on Earth. Technologies being tested in the program include advanced guidance, navigation and control, thermal protection systems, avionics, high temperature structures and seals, conformal reusable insulation, lightweight electromechanical flight systems, and autonomous orbital flight, reentry and landing.

Officials anticipate multiple missions will be required to satisfy the test program objectives, but the exact number of missions has not been determined.

Arnold Golf Course 454-GOLF 454-FOOD

Check us out on Facebook! Arnold AFB Services Golf Course

Arnold Golf Course merchandise sale will continue through the end of December. Discounts range from five to 30 percent off. Pick out your merchandise then come to the counter and roll a die to determine your discount. You must pay for the merchandise immediately after rolling. Roll a one for five percent off, two for 10 percent off, three for 15, four for 20, five for 25 or six for 30 percent off. No double discounts and Members First Plus discount does not apply in conjunction with this offer.

Winter Special will begin Jan. 1 and go through Feb. 28. Play all day for \$10 green fee. Regular cart fees apply.

Arnold Golf Course
Winter Special

Play all day
\$10 green fee

1 Jan – 28 Feb

454-GOLF (4653)

good 7 days a week ~ cart fee extra
Open to the public

Arnold Lakeside Center 454-3350

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

Café 100 Barbecue Special will not be available Dec. 26 or Jan. 2. The Barbecue Special is normally available every Wednesday and includes pork barbecue sandwich, slaw, choice of potato salad or chips and drink (soda/tea) for \$6. Quantities are limited.

First Friday Jam will be Jan. 4 beginning at 6 p.m. Come to play, listen, dance and enjoy. Join in with the band to play an instrument or sing. Or take over and do your own performance. There will be a Pizza Buffet available \$10 for members and \$12 for non members.

Last Friday Trivia Contest will not be held in December, due to the ALC being closed, but will return Jan. 4. Trivia starts at 6:30 p.m. with questions in random categories. Teams may 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. There are eight rounds with three questions per round. Each round teams have two, four and six points to wager before the question. Only one point value may be used per question. For example, if you wager four points on the first question then you must choose either two or six points for the next question. Whichever value is left must be used for the final question in that round. After the eighth round, teams may wager up to their total points earned for the final question. Prizes are awarded for top finishers.

Fitness Center 454-6440

Check us out on Facebook! Arnold AFB Services Fitness Center

Fitness Center Equipment Orientation by appointment Jan. 2-4. If you are unfamiliar with functional fitness equipment or may have questions pertaining to proper form or desire to learn exercises that are new to you including wallballs, kettlebell swings, sand bags, etc. then call for an appointment with Kevin Duncan, Cooper Institute Certified Personal Trainer (CI-CPT).

Single Round Robin Basketball begins Jan. 15. Sign up deadline is Dec. 17. Games will be played at 5:30 and 6:30 p.m. Tuesdays and Thursdays. Ages 18 and older are eligible to sign up. Rosters are due Dec. 17 but players may be added to the roster mid way through the session. A limited number of off-base players may be added in order to provide a more competitive experience. The team with the most wins will be named champion and team



Outdoor Rec heads for Gatlinburg Ski Trip

Enjoy a relaxing weekend of skiing Jan. 18-20 or Feb. 8-10. Outdoor Rec will be heading to Ober Gatlinburg for three days and two nights of skiing and enjoying the winter snow. We will be departing the Outdoor Rec building on Friday at 8 a.m. going to Gatlinburg and check into our hotel. After everyone

has been settled into their rooms we will head to Ober Gatlinburg to hit the slopes. We head back out to the slopes on Saturday morning for full day of skiing and fun. We will leave Sunday morning at 8 a.m. to return to the Outdoor Rec building by around 1 p.m. Cost for the Jan. trip is \$300 per person and deadline

to sign up is Jan. 4. Cost for the Feb. trip is \$310 per person and deadline to sign up is Jan. 25. These trips are limited to 14 participants and there must be at least seven to make the trip. Remember to bring your camera and extra money for food, beverages and souvenirs. Call 454-6084 to sign up or for more details.



Sign up for club membership and get three months free dues and instantly win cash prizes

Everyone who joins any Air Force club between Feb. 1 and March 31 will automatically receive three months free dues, be enrolled in the free cash back rewards program, and win \$5 - \$100 instantly upon application.

"We want all personnel to consider club membership and understand the benefits of club membership, and our "Make the Right Choice - Get Rewarded" membership campaign gives them the opportunity to try their club free for the first three months," said Fred McKenney, Chief of Air Force Food and Beverage.

During the period everyone interested in AF Club membership should look for the membership promotional materials in their local club and other Services activities, McKenney said. "Pick up an application, fill it out, and experience the benefits of membership!"

The membership card provides numerous benefits. The Military Free Cash rewards program is an outstanding

benefit to members. When you use your club membership card in any Services activity, you earn 2 percent cash back on every eligible purchase including Army Air Force Exchange Service and Commissary. Additionally you earn 1 percent cash back on eligible purchases everywhere else including all off-base purchases. In addition to being able to redeem points for cash back and gift cards, you now can also redeem for travel, to include airline tickets, hotel, and car rental - super flexibility - and it is all free, as a benefit of club membership!

Air Force Clubs offer members numerous free and inexpensive activities including discounts on every meal to include special functions, an annual \$25,000 scholarship program, and other member's only programs. Your Club is a great place for entertainment and meeting new friends in a fun and safe environment. Join now - the first three months are free on us - membership pays!

Arnold Lakeside Center will host Super Bowl Party Feb. 3

Arnold Lakeside Center will hold a Super Bowl Party Feb. 3 beginning at 4:30 p.m. All attending are invited to wear their football attire and support their favorite team. The game will be shown on all televisions and on the big screen in the ballroom. All over age 18 will be eligible to put their name on the square board and any Members First Plus members will get to put their name on two squares on the board.

The board will be filled in first come, first served until they are all gone. The winners for each quarter will receive prizes. In the event a square is blank for any quarter a random drawing will be held of those in attendance. During halftime there will be a trivia contest where teams of four will compete to win prizes. The dining room will be open and there will be food and beverage specials throughout the night.

ALC to host New Year's Eve Casino Night

Arnold Lakeside Center will ring in the New Year with a free Casino Night on New Year's Eve, Dec. 31. This event is for ages 18 and older and gets underway at 6 p.m. Gaming will be from 7-10 p.m. and includes craps, roulette, blackjack and wheel of fortune. Participants are given play money to try their hand at these games to increase their dollars which will then be used at a prize auction beginning at 10:15 p.m. An auctioneer will take bids on items to include a one night stay at the Renaissance in Nashville, a one night stay at the Courtyard by Marriott in Nashville, two nights stay at the Rocky Waters Motor Inn in Gatlinburg, two nights stay at the Hampton Inn in Gatlinburg, two person four wheeled expedition, floral arrangement, candle holders, lamp, knives, gift certificates for Western Sirloin, Clayton's Shoes, The Cooks Market, Stan McNabb plus many more items. There will be a wide variety of items to bid on with your winnings. Then, as midnight nears, watch the New York City ball drop countdown on the big screen and raise a champagne toast. The dining room will be open from 6 p.m. - 1 a.m. with full menu available.

Fitness Center 3-Point Shoot Out Jan. 23



The Fitness Center will hold a 3-Point Shoot Out Jan. 23 at 5:15 p.m. Participants will shoot two shots from each of five locations earning one point for each shot made. Choose to use the "Money Ball" anytime and it is worth two points. Top three point earners will win prizes.

Children's Christmas Party



See photos on page H4



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

Services information written and provided by Tanya Bryan

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 Aerospace Testing Alliance (ATA). 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, the Department of the Air Force or ATA. 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. Services activities include Wingo Inn (lodging), Arnold Lakeside Center (Club, Community Center, Information, Tickets & Travel (ITT), Barber Shop, Café 100), Outdoor Rec (Marina, FamCamp, Crockett Cove, Dogwood Ridge), Golf Course and Fitness Center. Those mentioned above are eligible to use any 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.

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

Café 100 – 454-5885
 Membership Information – 454-3367
 Information, Tickets & Travel – 454-3303
 Barber Shop – 454-6987
 Gossick Leadership Center – 454-4003
 Human Resources – 454-5481
 Marketing & Sponsorship – 454-3128
 Recycling – 454-6068

Wingo Inn – 454-3051
 Fitness Center (FC) – 454-6440
 Golf Course (GC) – 454-GOLF (4653)
 Mulligan's Coffee Bar and Grill - 454-FOOD (3663)
 Outdoor Recreation (ODR) – 454-6084
 includes Marina, FamCamp,
 Crockett Cove &
 Dogwood Ridge

January 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	
<p style="text-align: center;">Don't miss New Year's Eve FREE Casino Night at ALC</p>		1 GC Winter Special begins, play all day for \$10 green fee FC 8 a.m. – 1 p.m., no classes	2 FC Equipment Orientation by appointment FC Boot Camp 6 a.m. FC Yoga 11 a.m.	3 FC Equipment Orientation by appointment FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. ALC Dinner & Movie Night "Hope Springs" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	4 ODR Jan. 18-20 Ski Trip sign up deadline, 454-6084 FC Equipment Orientation by appointment FC Boot Camp 6 a.m. FC Yoga 11 a.m. ALC Pizza Buffet, \$10 member, \$12 non. 5-9 p.m.; ALC First Friday Jan 6 p.m.	5 ODR Paintball, 9:30 a.m., ages 10+, \$35, sign up 454-6084	
	6	7 FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	8 ALC AEDC Woman's Club 9:30 a.m. FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m.	9 FC Boot Camp 6 a.m. ALC Café 100 BBQ Special \$6 FC Yoga 11 a.m.	10 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. ALC Dinner & Movie Night "Trouble with the Curve" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	11 FC Boot Camp 6 a.m. FC Yoga 11 a.m.	12 ODR Paintball, 9:30 a.m., ages 10+, \$35, sign up 454-6084 ODR Winter Survival Hike, 10 a.m. – 1 p.m., age 10+, \$5, sign up 3 days prior, 454-6084
	13	14 FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	15 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. FC Basketball begins, 5:30 p.m.	16 FC Boot Camp 6 a.m. ALC Café 100 BBQ Special \$6 FC Yoga 11 a.m.	17 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. ALC Dinner & Movie Night "Premium Rush" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	18 ODR Ski Trip, 8 a.m. return Sun. 1 p.m., \$300, sign up by Jan. 4, 454-6084 FC Boot Camp 6 a.m. FC Yoga 11 a.m.	19 ODR Paintball Tournament, 10 a.m., ages 10+, \$55/team, sign up 454-6084
	20	21 FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	22 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m.	23 FC Boot Camp 6 a.m. ALC Café 100 BBQ Special \$6 FC Yoga 11 a.m. FC 3 Point Shoot Out 5:15 p.m.	24 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. ALC Dinner & Movie Night "Won't Back Down" PG dinner 5-8 p.m. movie 6:30 p.m.	25 ODR Feb. 8-10 Ski Trip sign up deadline, 454-6084 FC Boot Camp 6 a.m. FC Yoga 11 a.m. ALC Last Friday Trivia, 6:30 p.m.	26 ODR Paintball, 9:30 a.m., ages 10+, \$35, sign up 454-6084
	27	28 FC Boot Camp 6 a.m. FC Cycling Class 11 a.m. FC Yoga 11 a.m.	29 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m.	30 FC Boot Camp 6 a.m. ALC Café 100 BBQ Special \$6 FC Yoga 11 a.m.	31 FC Cycling Class 11 a.m. FC Interval Class 3:30 p.m. ALC Dinner & Movie Night "Alex Cross" PG-13 dinner 5-8 p.m. movie 6:30 p.m.	<p style="font-size: 2em; color: blue;">Golf Course Winter Special begins Jan. 1</p> 	

Hours of operation

Arnold Lakeside Center: Catering/Management offices by appointment. Cashier – Monday through Friday, 9 a.m.-4 p.m. Dinner: full menu available Thursday, 5-8 p.m.; Friday and Saturday, 5-9 p.m. Main Bar: Thursday, 5-8 p.m.; Friday, 4-10 p.m.; and Saturday, 5-10 p.m. Social Hour: Friday, 4-6 p.m. Movie Night: Thursday, 6:30 p.m. *Closed Dec. 22-30*

Information, Tickets & Travel (ITT): Tuesday through Friday, 10 a.m. – 3 p.m. *Closed Dec. 22-30*

Café 100: Monday through Friday, 6:30 a.m. – 1:30 p.m. *Closed Dec. 24, 25, 31 and Jan. 1; No BBQ special Dec. 26 or Jan. 2*

Barber Shop: by appointment – Monday, Tuesday, Thursday & Friday, 8 a.m. – 4 p.m. *Closed Dec. 24-Jan. 2*

GLC (office located at Arnold Lakeside Center): Monday through Friday, 7 a.m. – 3:30 p.m. May vary depending on bookings. *Closed Dec. 25 and Jan. 1*

Outdoor Rec: Tuesday through Saturday, 10 a.m. – 5 p.m. *Closed Dec. 25 and Jan. 1*

Fitness Center: Monday-Friday, 5 a.m.-7:30p.m.; Saturday, 8 a.m.-1 p.m.; Sunday Closed. *Dec. 24 8 a.m. – 1 p.m. no classes, Dec. 25 Closed, Dec 26-29, 31 and Jan. 1 8 a.m. – 1 p.m. no classes*

Arnold Golf Course: Pro Shop & Driving Range, 8 a.m. – dusk. Driving Range open 24 hours with prepurchased key card. Mulligan's Coffee Bar & Grill, Monday through Friday, 10:30 a.m. – 2 p.m., Saturday and Sunday, 8 a.m. – 2 p.m. *Closed Dec 24, 25, 31 and Jan. 1*

Recycling: Monday through Friday, 7 a.m. – 4 p.m. *Closed Dec. 25 and Jan. 1*

Wingo Inn: Monday through Friday, 7 a.m. – 6 p.m.; Saturday and Sunday, 8 a.m. – 4 p.m. *Closed Dec. 25*

Nonappropriated Funds Human Resources: Monday through Friday, 7:30 a.m. – 4 p.m. *Closed Dec. 25 and Jan. 1*

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 Christopher Floden, BX manager, at (931) 454-7153 or Jeff Lillard, Commissary manager, at (931) 454-3545.

AAFES Dividends

Dividends generated from the Army and Air Force Exchange Service (AAFES) overall earnings are a major contributor to Services nonappropriated fund (NAF) construction and renovation projects as well as equipment purchases. Services would like to thank all AAFES customers for their support. Dividends received for November 2012 totaled \$8,387.18.

Briefs from H1

Fitness Center 454-6440

members will receive a t-shirt. Complete rules and by-laws are available from the Fitness Center

Group Class Schedule:

Boot Camp: Monday, Wednesday and Friday, 6-7 a.m.
 Yoga: Monday, Wednesday and Friday, 11 a.m.-12 p.m.
 Cycling: Monday,

Tuesday and Thursday, 11 a.m.-12 p.m.

Interval Training: Tuesday and Thursday, 3:30-4:30 p.m.

Outdoor Rec (ODR) 454-6084

Check us out on Facebook! Arnold AFB Services Outdoor Recreation

Winter Survival Hike will be held at Crockett Cove Jan. 12 from 10 a.m. – 1 p.m. for ages 10 and up. Cost is \$5 and deadline to

sign up is three days prior. Remember to wear warm clothes, gloves, hats, etc. This class is designed to teach the basic skills and techniques on winter hiking and survival. There are plenty of different techniques to learn how to add warmth and comfort while hiking as well as ways to survive in the cold if you get lost. You never know what kind of circumstances you will encounter while out in the woods on any given day. Some days the

See Briefs, page H3

Briefs from H2

weather can start out perfect and then change drastically and you must always be prepared. The class will start with basic strategies you should do when hiking then we will take a one hour hike to test your skills.

Paintball continues with regular play every Saturday except third Saturday which is tournament day. Paintball is for ages 10 and older and ages 10-17 must have a parent permission form. Remember to wear appropriate clothing—long pants, a long-sleeved shirt and closed-toe shoes.

Regular Saturday play is every weekend from 9:30 a.m. to 2:30 p.m. except third Saturday due to monthly tournaments. Those interested need to call and sign up at least a day ahead of time to ensure equipment availability. When the day arrives, simply meet at the paintball field and get play underway with the direction of an Outdoor Rec (ODR) staff member. Cost is \$35 per person with equipment provided and includes 500 paintballs and a tank of air. It is \$20 per person for those with their own equipment and that also comes with 500 paintballs. All paintballs used must be purchased from ODR for \$13 per bag of 500 or \$45 for a box of 2,000.

Monthly tournaments are on the third Saturday beginning at 10 a.m. Teams of four play double elimination to test your skills until the best team arises. Prior to the tournament there will be a 25-minute warm up field time with team on team play. There must be at least one team member above age eighteen and there must be at least eight teams to hold the tournament. ODR has 20 paintball guns available on a first come first served basis. Indicate at time of registration if you will be using your own equipment or need to reserve equipment. Cost to enter the tournament is \$55 per team and includes a bag of 500 balls and air for the day for each team member. The winning team will receive a free day of paintball (regular Saturday play) for all four team members valid for one year and includes equipment, field fee, air for the day and bag of 500 balls. Sign up deadline for the tournament will be the Tuesday prior and late registration/cancellation fees will be applied the Wednesday prior.

Call 454-6084 for more information about the paintball program or to sign up for these events.

Coming in February: Leave No Trace Hike: Feb. 16, 10 a.m. – 1 p.m., ages 10 and up, \$5, Crockett Cove, nationally recognized outdoor skills and ethics awareness program.

Outdoor Rec inflatables! There is an assortment of inflatables for almost everyone's needs. We have a huge backyard obstacle challenge measuring 40 feet long by 10 feet wide by 13 feet high, and a double lane jump slide for only \$150 per day. We also have a giant basketball hoop for \$30 per day and a Rocket Bounce House for \$75 per day. If you need a water slide then our 18 feet Double Drop Wet/Dry slide

Hiwassee Island Eco Cruise: Feb. 24, 8 a.m. – 6 p.m., \$60, Chattanooga, includes barbecue buffet, on board naturalist and rivertorian narrates through the wildlife refuge.

Extended Stays available at FamCamp. The FamCamp is a wooded area off of Northshore Road on the banks of Woods Reservoir with tent and RV camping. Amenities include

bathhouse with shower, barbecue grills, fire rings, lantern hangers, boat launch pad, picnic and beach area, covered pavilion as well as washer/dryer service and boat docking service. There are 18 tent sites and 36 RV sites, 15 of which are pull-through. All RV sites are equipped with 30 and 50 amp 115V service. Daily rates for RV camping are \$20 during the summer and \$15 during the winter (Nov.-Apr.). Did you know that you can stay for up to three months at FamCamp? Monthly rates are \$450 during the summer and \$400 during the winter. Sites 27-36 are designated for extended stays. Extended stays are only allowed in three month increments and there must be a one month gap between stays. Reservations may be made up to 45 days in advance for active duty, National Guard and Reserve military. Up to 40 days in advance for military retirees and up to 30 days for DoD employees. All others may make reservations up to 20 days in advance. Tent camping is available at \$7 daily. Washer/Dryer service is \$2 and boat docking is \$5. A convenience store is open 12-4 p.m. Friday through Sunday May through October and open Mondays if in conjunction with a holiday weekend. Other camping is available at Crockett Cove and Dogwood Ridge. Crockett Cove offers five rustic cabins with heat and air, mini fridge, microwave, front porch swing, grill and picnic table. There is no running water but a bathhouse is on site. The one or two room cabins rent for \$40/\$50 per day during the summer and \$30/\$40 during the winter. Dogwood Ridge consists of six travel trailers with water, sewer, electric and propane complete with deck, picnic table and chairs. The trailers rent for \$40 daily, \$75 for two days or \$200 per week. Extended three month stays are also available at these areas. Call Outdoor Recreation at 454-6084 for more details or to make reservations.

RV and Covered Boat Storage slots available. Outdoor Rec has slots available in the RV storage yard. Each slot is 30 ft. long and 10 ft. wide and rents for \$25 per month or \$250 per year. The covered boat storage has nine slots open. The boat storage slots are 40 feet long and 12 feet wide and rents for \$45 per month or \$450 per year. Both storage yards require proof of registration and insurance of item placing in storage along with a signed contract based on length of stay. Access to the storage yard will be granted at the time the contract is signed. Call for more details or to reserve your slot.

Extended Stays available at FamCamp. The FamCamp is a wooded area off of Northshore Road on the banks of Woods Reservoir with tent and RV camping. Amenities include

will be great for any event and is only \$150 per day. Please contact Outdoor Recreation at 454-6084 to make your reservation today!

Teambuilding Facilitation now available through Outdoor Rec. Book your team building event at least two weeks in advance and customize your activities to include leadership, communication, trust, conflict resolution and more. Our kit has 289 activities and can serve up to 120 participants. Large group challenges can accommodate up to 60 people. This equipment must be facilitated by an Outdoor Rec staff member and is not available for rent for private use. Department of Defense organizations may utilize the program for free. All others have the option of half day (4 hours) for \$50 or full day (8 hours) for \$100. Call to find out more information or book your team building event.

**Wingo Inn
454-3051**

Check us out on Facebook! Arnold AFB Services Wingo Inn

Reservations for Wingo Inn can be made 120

days in advance. Room rates start at \$53.25 per night. Please call 454-3051 for reservations.

Lodging rates increased. After four years without a rate increase, Air Force lodging rates have gone up, Air Force Personnel Center Officials said today. The increase is necessary to ensure Air Force Lodging rates cover current operating and capital improvement costs, said Maj. Gen. A.J. Stewart, AFPC commander. The \$39 nightly room rate for a visiting quarters room is now \$53.25 and DV suites have gone from \$48.25 to \$66.75. Increased rates will fund costs for operations, room renovations and construction, Stewart said. As the Air Force works to improve business processes, implement efficiencies and maintain lodging operations in a constrained budget environment, other adjustments may be necessary, according to Col. Thomas Joyce, director, AFPC Services Directorate. "We are committed to keeping room rates as low as possible while providing clean, comfortable, quality facilities," he said. "This is part of our commitment to caring for Airmen and we take that obligation very seriously. However, we must be real-

istic as well." Even with the rate increase, Air Force rates are lower than comparable commercial rates outside Air Force installations, the director said. Coupled with quality service, clean facilities and reasonably priced room rates, Air Force lodging facilities are still a great choice, whether on temporary duty orders, retired and traveling, or just passing through.

**Gossick Leadership Center
454-4003**

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

The Gossick Leadership Center (GLC) may be used for events such as meetings, conferences, luncheons, dinners, etc. and is booked through the Services Conference Center Manager (CCM) up to one year in advance. Requests must be made in writing by email to arnold.glc@arnold.af.mil. All event coordinators are required to sign an agreement. Official unit functions are authorized at no charge and are defined as bona fide official meetings or training held as part of the normal duty day. Unofficial and private functions may be held

for authorized users at a fee. Community members may host events with the approval of the Services Director for a fee. Outside food and beverages are not allowed. First consideration must be given to Arnold Lakeside Center. In the event they cannot accommodate, an outside source may be utilized with CCM approval. For more information contact the CCM at 454-4003.

**AEDC Woman's Club
393-2552**

The **AEDC Woman's Club** will meet at 9:30 a.m., Jan. 8 at Arnold Lakeside Center beginning with meeting, program and followed with lunch. The program will be with Mary Miller of Quilting Dreams located in Tulsa. Mary will display and talk about the beauty of quilting, an art that is becoming popular again. Reservations must be made in advance. Call or email Liz Jolliffe at 393-2552 or jajolliffe@aol.com.

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

January Movie Schedule

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



Jan. 3 – "Hope Springs," rated PG-13 (1 hr. 40 min) starring Meryl Streep, Tommy Lee Jones and Steve Carell. After thirty years of marriage, a middle-aged couple attends an intense, week-long counseling session to work on their relationship.



Jan. 10 – "Trouble with the Curve," rated PG-13 (1 hr. 51 min.) starring Clint Eastwood, Amy Adams, John Goodman and Justin Timberlake. An ailing baseball scout in his twilight years takes his daughter along for one last recruiting trip.



Jan. 17 – "Premium Rush," PG-13 (1 hr. 31 min.) starring Joseph Gordon-Levitt, Michael Shannon and Dania Ramirez. In Manhattan, a bike messenger picks up an envelope that attracts the interest of a dirty cop, who pursues the cyclist throughout the city.



Jan. 24 – "Won't Back Down," PG (2 hr. 1 min.) starring Viola Davis, Maggie Gyllenhaal and Holly Hunter. Two determined mothers, one a teacher, look to transform their children's failing inner city school. Facing a powerful and entrenched bureaucracy, they risk everything to make a difference in the education and future of their children.



Jan. 31 – "Alex Cross," PG-13 (1 hr. 41 min.) starring Tyler Perry, Matthew Fox and Rachel Nichols. A homicide detective is pushed to the brink of his moral and physical limits as he tangles with a ferociously skilled serial killer who specializes in torture and pain.



The Green Scene

brought to you by Services Recycling Program

How Recycled Papers Help the Environment

The average American uses more than 655 pounds of paper every year. But you can help preserve trees and other natural resources by using 30%, 50% and 100% recycled papers. They're eco-friendly and office-friendly, with quality equal to non-recycled paper. Here's how our recycled papers help the environment when compared to non-recycled papers:



30% recycled paper	50% recycled paper	100% recycled paper
30% fewer trees used	50% fewer trees used	100% fewer trees used
13% less energy used	19% less energy used	42% less energy used
11% fewer greenhouse gas emissions	19% fewer greenhouse gas emissions	37% fewer greenhouse gas emissions
14% less water used	23% less water used	46% less water used

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



Thank You from **The Green Team**
Robbie Evans (manager), Doug Richards, Matt Gluck
931-454-6068

Source: Food & Agricultural Organization of the United Nations, Environmental Defense Fund)





AEDC Information Line

454-3600

The AEDC Information Line is available for ATA employees to get the latest information on a wide variety of emergency circumstances that could impact base operations or driving conditions.

Children's Christmas Party

