AEDC sets new testing record on F-22 Raptor engine

By Philip Lorenz III
Aerospace Testing Alliance

AEDC recently 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 purpose of this particular test, a life extension Accelerated Mission Test, was to add another 2,100 hours (total Accumulated Cycles) to its life, which is equivalent to approximately another five years life in the field," said Rich Walker, AEDC F119 engine test program manager.

This established a new record of ground testing on the engine, a record which had previously set at AEDC in May 2010. However, Walker said more importantly, "It's what the test has accomplished for the warfighter.

"We're taking an engine that's already as far as it's supposed to go by specifications and now we're going to fly it the equivalent of five more years to see what happens, where the wear accumulates or parts, where things stop working the way they're supposed to work," he said. "The

As real as training gets

By Patrick Ary
Aerospace Testing Alliance

Over the last 60 years, AEDC has continued to perform its primary mission: develop, test and evaluate weapon, propulsion and aerodynamic and space systems at realistic conditions for the nation.

But many things regarding the way AEDC employees work have changed, and some of them are being shown off during an exhibit at the Cowan Center for the Arts.

The Smithsonian exhibit explores the dramatic changes in work environments and conditions throughout the years. Cowan is one of six towns in Tennessee to feature the exhibit.

Cowan Railroad Museum board member Pat Arndt Underwood said after they learned the exhibit would be coming to Cowan, they started looking for unknowns that could contribute to the exhibit.

"Many of us are just finding things that we have at home, things that family members have passed down," Arndt said. "The exhibit provides a look at what previous generations were doing for a living.

"It's a wonderful history lesson and it's really bringing the community together to talk about our past and what we've been through over the years.

AEDC shows changes in workplace at local Smithsonian exhibit

By Patrick Ary
Aerospace Testing Alliance

AEDC firefighters extinguish a fire in West Virginia University Fire Service Extension training unit March 27. The fires in the trailer are fueled by propane. (Photo by Rick Goodfriend)

AEDC firefighters train in West Virginia University training unit

By Patrick Ary
Aerospace Testing Alliance

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.

The West Virginia University Fire Service Extension trailer allows firefighters to train in a controlled environment. The trailer is set up with two propane-fueled fireplaces on the first floor, is capable of simulating a "roll over" where fire can roll across a ceiling, and a fireplace on the second floor enables firefighters to train on advancing

Contaminated soil cleanup moving into next phase

By Patrick Ary
Aerospace Testing Alliance

Environmental workers at AEDC are calling ongoing efforts to clean contaminated soil on the base a success.

At the end of January, CH2M HILL subcontractor TerraDigm finished work behind AEDC's Model Shop, where a high concentration of perchlorethylene (PCE) had been found in the groundwater.

The contamination goes back to before 1970, when the site was used as a leach pit for a solvent cleaning facility and no environmental regulations were in place.

AEDC hosts AF International Affairs “outreach” briefing

By Philip Lorenz III
Aerospace Testing Alliance

Maj. Zachary Owen, Secretary of the Air Force International Affairs office, recently presented a briefing on collaborative foreign research and development at AEDC.

"The purpose of this particular test, a life extension Accelerated Mission Test, was to add another 2,100 hours (total Accumulated Cycles) to its life, which is equivalent to approximately another five years life in the field," said Rich Walker, AEDC F119 engine test program manager.

This established a new record of ground testing on the engine, a record which had previously set at AEDC in May 2010. However, Walker said more importantly, "It's what the test has accomplished for the warfighter.

"We're taking an engine that's already as far as it's supposed to go by specifications and now we're going to fly it the equivalent of five more years to see what happens, where the wear accumulates or parts, where things stop working the way they're supposed to work," he said. "The

AEDC firefighters extinguish a fire in West Virginia University Fire Service Extension training unit March 27. The fires in the trailer are fueled by propane. (Photo by Rick Goodfriend)

"The goal of the Smithsonian exhibit is to feature the exhibit.

Cowan Railroad Museum board member Pat Arndt Underwood said after they learned the exhibit would be coming to Cowan, they started looking for unknowns that could contribute to the exhibit.

"Many of us are just finding things that we have at home, things that family members have passed down," Arndt said. "The exhibit provides a look at what previous generations were doing for a living.

"It's a wonderful history lesson and it's really bringing the community together to talk about our past and what we've been through over the years.

AEDC shows changes in workplace at local Smithsonian exhibit

By Patrick Ary
Aerospace Testing Alliance

Over the last 60 years, AEDC has continued to perform its primary mission: develop, test and evaluate weapon, propulsion and aerodynamic and space systems at realistic conditions for the nation.

But many things regarding the way AEDC employees work have changed, and some of them are being shown off during an exhibit at the Cowan Center for the Arts.
April 22, 2012, begins National Crime Victims’ Rights Week, a time to honor crime victims and our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“Our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“Our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“Our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“Our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.

“Our nation’s progress in advancing their rights. This year’s theme—Extending the Vision: Reaching Every Victim—reminds us to extend that vision that provides the rights of all crime victims.

Yet there is still so much to do. Victims’ rights are limited and much broader legislation to ensure that victims receive crime victim compensation, which is usually limited to victims of violent crime. More than 70 percent of crime victims need services, but only a fraction of victims receive needed services. They began organizing to confront these challenges, and after more than 30 years of dedicated effort, victim advocates have not lost their resolve.
AEDC engineers contribute to MITSU’s wide panel discussion

By Shawn Jacobs

AEDC Deputy General Manager Phil Stilch, center, presents a check to Tullahoma Kiwanis Club Fundraising Chairman Mitt Davis Sr. for the 2013 Cruise-In Day Coordinator Dr. Mike Rutherford March 30. The contribution was for the Kiwanis Club’s annual Independence Day firework display at the Tullahoma Municipal Airport. (Photo by Jacqueline Cowan)

Today’s last day to enter Cruise-In vehicles

Today is the last day to enter vehicles for the AEDC Cruise-In happening May 11 in the ETF Annex park- ing lot. So far more than 40 vehicles entered the event, which is scheduled to take place from 11 a.m. – 12 p.m. The list includes classic hot rods, motorcycles, muscle cars, beach cruisers and current generation sports cars.

Participation in the event is limited to current AEDC employees, including AEDC and subcontractors. Any vehicle entered in the Cruise-In must be street legal and meet the Department of Defense (DoD) Finance standards, which is available. I think it’s wonderful.”

She said the board is also glad that the center had its display staffed during the visits, so students could speak to someone familiar with the devices on display.”

“She didn’t know enough about what was involved. I think it’s wonderful.”

She also appreciated that the exhibit generated more student interest in science and engineering-related career paths.”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“AEDC’s ‘Remember to Work’ day with my mom when I was in fifth grade,” she said. “My mother worked at Okaloa Aerospace Institute (OAI) in Cleveland, Ohio. I interviewed an astronaut candidate selec- tor and was so intrigued that I asked him, ‘What do I do to be an astronaut major when I get to college?’”

“He laughed and responded, ‘There’s really no such thing as an astronaut major.’ So, I said ‘okay, what do I have to do, be- cause I would love to be an astronau- soman?’ He recommended going into math and science to stay physically fit which is what pushed me more toward the science and engineering education and aeronautical career.”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“AEDC’s ‘Remember to Work’ day with my mom when I was in fifth grade,” she said. “My mother worked at Okaloa Aerospace Institute (OAI) in Cleveland, Ohio. I interviewed an astronaut candidate selec- tor and was so intrigued that I asked him, ‘What do I do to be an astronaut major when I get to college?’”

“He laughed and responded, ‘There’s really no such thing as an astronaut major.’ So, I said ‘okay, what do I have to do, be- cause I would love to be an astronau- soman?’ He recommended going into math and science to stay physically fit which is what pushed me more toward the science and engineering education and aeronautical career.”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“AEDC’s ‘Remember to Work’ day with my mom when I was in fifth grade,” she said. “My mother worked at Okaloa Aerospace Institute (OAI) in Cleveland, Ohio. I interviewed an astronaut candidate selec- tor and was so intrigued that I asked him, ‘What do I do to be an astronaut major when I get to college?’”

“He laughed and responded, ‘There’s really no such thing as an astronaut major.’ So, I said ‘okay, what do I have to do, be- cause I would love to be an astronau- soman?’ He recommended going into math and science to stay physically fit which is what pushed me more toward the science and engineering education and aeronautical career.”

“Always be curious about how student today don’t seem to want to go into the hard sciences anymore,” he said. “So, I said ‘what can we be doing that’s different so students can develop through something like this?’”

“AEDC’s ‘Remember to Work’ day with my mom when I was in fifth grade,” she said. “My mother worked at Okaloa Aerospace Institute (OAI) in Cleveland, Ohio. I interviewed an astronaut candidate selec- tor and was so intrigued that I asked him, ‘What do I do to be an astronaut major when I get to college?’”

“He laughed and responded, ‘There’s really no such thing as an astronaut major.’ So, I said ‘okay, what do I have to do, be- cause I would love to be an astronau- soman?’ He recommended going into math and science to stay physically fit which is what pushed me more toward the science and engineering education and aeronautical career. (Photo provided)
programs appear to be an
my initial impression, these
all three of these programs,
ager, said, “This was the
Business Innovation Re-
ESEP is available to DOD
CWP and ICR&D are avail-
A recurring challenge to
research and development
work between the U.S. and
Traffic in Arms Regulations
its allies is the need to com-
parties, team work and
Communication always
A recurring challenge to
including technological,
required to work with foreign en-
AEDC’s dynamic engineer at AEDC’s
“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
considerations, potentially
programs, so I am still learning about
neither program nor their operation
my initial impression, these programs appear to be an
excellent way to interface with international partners and build valuable relationships that can prove mutually beneficial.”
Owen and Neale acknowledged some of the inherent challenges when working with foreign entities in an increasingly complex and uncertain economic and global security environment.

“Certainly the tax pay-
neither partner will benefit.
A recurring challenge to
routine of opportunities [in-
working closely with foreign partners,
gaining a different perspective on
that they bring but what we
are that there is more to grow than
Regarding eligibility,
the taxpay er a lot of money, because you’re not replac ing parts before they need to be replaced.” 2nd Lt. Carl Tegtmeier, AEDC’s other Air Force project manager on the test, said, “This engine is still tested within its er ential vibration limits, but an additional amount of balance as you see what the worst type of allowable vibrations will do to the gear of the engine.” Walker said the most important reason for “test ing before flight” can’t be measured in dollars. “It’s a whole lot better to find out issues here on the ground than when it’s on an F-22 and there’s a pilot involved,” he said. “You don’t want to put the pilot in harm’s way.” During an AMT test program, the engine undergoes a sequence of mission files designed to generate a specific number of TACs to simulate the operational wear it would experience in the field. An AMT mission profile is a sequence of flight, hoverpower and nozzle vector movements and specific amounts of operating time at idle, cruise, intermediate and maximum power settings. The F119-AMT program includes AMT mission profiles which are conducted at three types of test conditions: ambient, heated and RAM. To minimize cost, the majority of the AMT missions are conducted at ambient conditions. The Sea Level SL-2 and SL-3 test cells were designed to provide all three types of AMT test conditions, having an operating mode for each. In atmosphere-intake mode, the air supplied to the engine is drawn directly from outside via the atmospheric intake. In heated-intake mode, the air supplied to the engine is first drawn over a set of steam coils, via the C-Plant air-supply con- pressor, to set the desired inlet temper- ature. In RAM mode, pressurized, heated air is supplied to the engine from the C-Plant air-supply con- pressor. This simulates conditions that the engine would experience as the aircraft flies the aircraft low and fast. Now that the test has concluded, the engine will go back to the manufac- turer, Pratt & Whitney, for a complete tear down, inspection and rewrite. The engine will return to AEDC later this year as a brand- new build for another cycle of AMT work.

The Sea Level SL-2 after an AMT test run. (Photo by Rick Goodfriend)

FIRE from page 1

Scott Slabseaugh, ATA project engineer on the test, inspects the F119 in AEDC’s SL-2 after an AMT test run. (Photo by Rick Goodfriend)

AEDC firefighters prepare to enter a smoke-filled room and put out a simulated kitchen fire March 27. The training unit from West Virginia University can simulate fires on multiple floors and uses theatrical smoke. (Photo by Rick Goodfriend)
Senior NCOs

Our most senior enlisted Airmen have a tremendous amount of impact on this process. SNCOs should hold their NCOs and senior Airmen accountable for conducting required feedback sessions, and support their fair ratings. SNCOs should understand that a 4 is not a bad rating, and that some Airmen will earn that rating in a given period. Rating an Airman fairly will not hurt their career; it should help them grow.

Commanders

In addition to the email message I sent to chiefs, I sent a similar message to MAJCOM commanders, asking them to pass it down to their commanders. Because most of our reports are signed by a commander, I felt it was important that they understand where we’re coming from. Commanders are the key and final component of this process, and their support for fair and accurate ratings is critical.

Bold Leadership

Some have suggested we set some arbitrary quota for the number of 5 ratings allowed in a given shop. They claim that would make things easier. I’m not interested in doing what’s easy; I’m interested in doing what’s right. Implementing a quota would strip first-line supervisors of the leverage they need to grow tomorrow’s enlisted leaders.

We don’t need quotas. Instead, we need bold leaders to set high standards and help Airmen achieve them. We need bold leaders to confront those Airmen who don’t meet standards and document that feedback. We need those bold leaders to rate each individual fairly and accurately, and that isn’t easy. They will need the support of SNCOs and commanders to make it work.

It takes bold leadership on everyone’s part to develop Airmen.

Now is the time to do everything you can at your level to make this happen.
the middle school students said was discussing the serious challenges we face.

Reinholtz said the girls were great opportunities growing up, and that I am grateful," she said. "It’s something that I’ve taken with me all the way through.

The Air Force is highlighting pollution prevention as a key consideration.

In October 2011, I partici- pated in the Rocket Girl workshop at MTSU’s Expanding Young Horizons Conference, where I had the privilege of meet- ing future scientists. I expres- sed interest in getting more involved with STEM in the Murfreesboro area," she said.

One of the big high- lights of the recent panel discussion at MTSU with students and parents was the opportunity to get in the classroom and talk to students about what they can do to be a part of the future and contribute to our budget. Ask yourself what you can do to be a part of the future and contribute to our budget.

Air Force seeks innovations during Earth Day campaign

Across the Air Force, initiatives are underway to find and implement solutions and to better maintain and reduce operations.

Air Force officials em- phasize that reducing cost and cutting costs is not only a way to reduce waste and maintain sustainabil- ity and cut costs, but also by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.

Across the force, insti- tutions are taking aggre- gate cuts by reducing the amount of work that is necessary. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration. The change in the way we approach waste is a key consideration.
Tyler Neale, left, a test project manager in AEDC’s Propulsion Wind Tunnel Complex, described to 94 South Middle School students the amount of horsepower needed to produce 3,000-mph wind flows for a test in the center’s large wind tunnel. (Photo by Rick Goodfriend)

South Middle School eighth grade students participated in a paper airplane hands-on-demonstration in April at AEDC’s Minds in Motion educational tour. (Photo by Rob Goodfriend)

Lutrell Stuart, left, an AFA quality assurance evaluator in AEDC’s precision measurement equipment laboratory, demonstrates to South Middle School students the properties of a vacuum using a bell jar. (Photo by Jacqueline Cowan)

Barksdale Airmen test alternative jet fuel

By Master Sgt. Jeff Walston

BARKSDALE AIR FORCE BASE, La. (AFNS) – Airmen here assisted the Air Force’s Alternative Fuels Certification Program staff in evaluating a new jet fuel blend known as alcohol-to-jet, March 26-30, 2012 here.

Specialists from the Alternative Fuels Certification Division at Wright-Patterson Air Force Base, Ohio, and the TF34 Engine Program Office at Oklahoma City Air Logistics Center, at Tinker AFB, Okla., evaluated the fuel in TF34 engines used in the A-10 Thunderbolt II at the 917th Fighter Group test facility.

The office of the Secretary of the Air Force organized the test to certify alternative fuels for operational use on all Air Force aviation systems in an effort to reduce dependence on foreign oil.

The particular ATJ being evaluated is a 50/50 blend of butanol, an alcohol feedstock, and traditional JP-8.

In the future, the ATJ fuel could be produced from common, abundant cellulosic material like wood waste, grasses or cornstalks.

“Since late December of 2011, AFCD has been evaluating the ATJ fuel properties, conducting materials compatibility and component rig testing in support of this TF34 test,” said David Dickey, the AFCD propulsion lead.

“Quite a bit of engineering work is performed on each fuel candidate before we would ask anyone to put it into an actual engine.”

The testing at Barksdale AFB consisted of running the TF34 engine with JP-8 fuel to set parameters as a baseline for comparisons after the ATJ test.

That the ATEIPS blend ran through the engine was reviewed and the engines were taken apart and checked by 917th Propulsion Shop jet mechanics for any indications of abnormal wear.

“Unlike oil-based jet fuel which can be utilized for flight testing,” said Andrew Abdinor, a TF34 equipment specialist, “ATJ fuel needs to perform as well as the JP-8.”

All of these efforts support the Air Force’s overall energy strategy to acquire 50 percent of domestic aviation fuel from alternative fuel sources by 2016.

Engine approval will clear the way for the next phase of the testing process – an A-10 flight demonstration using the ATJ fuel blend. This evaluation is scheduled at Eglin AFB, Fla., in May 2012.

Andrew Abdinor and David Dickey discuss the fuel testing process as a TF34 jet engine burns off an alternative jet fuel blend, known as alcohol-to-jet March 28, 2012, at Barksdale Air Force Base, La. They were part of a multi-unit group of active-duty and Reserve Airmen as well as civilian engineers who were testing the new-fuel mixture for possible use by the Air Force. Abdinor is a TF34 equipment specialist assigned to the Oklahoma City – Air Logistics Center and Dickey is the propulsion lead for the Alternative Fuel Certification Office. (U.S. Air Force photo/Master Sgt. Jeff Walston)
On April 12, 2007, Sgt. Alex Stephens, an Army field medic assigned to the 2nd Battalion, 508th Parachute Infantry Regiment, 4th Brigade Combat Team, 82nd Airborne Division, Fort Bragg, N.C., died from wounds received during combat in Afghanistan.

On April 14, 2012, a coalition of individuals and organizations came together to honor Sergeant Stephens by dedicating an Operation Never Forget (ONF) bust to him at the Franklin County courthouse and by renaming a bridge in his memory.

“Alex Stephens was a young man who used to visit our house occasionally in high school,” said Mike Cunningham, ATA human resources manager. “I have four daughters and he would come by the house with some of his friends and just hang out. I remember the young man, very witty, fun loving and very personable.”

Cunningham said as time went by and other fallen Franklin County veterans were recognized, he felt Sergeant Stephens should get the same honor.

“I was struck when I heard of his death,” he said. “So many people didn’t pick up on that it was Alex Stephens who had gone to North Junior High School and graduated from Franklin County High School, but I knew it was him. I became very saddened by the event.”

Cunningham then approached Dave Uselton, ATA’s material control manager for logistics, to see about having a bust made of Stephens.

Uselton, who served in the Marine Corps and Army National Guard and is a ONF co-founder, started the fund-raising for the bust.

“The [artist] starts from scratch,” Uselton said. “They start with just clay and mold that from a series of one-dimensional photos. It’s a long, drawn-out process; it might take an artist a month, eight hours a day to do that.”
96th Air Base Wing Public Affairs

By Maj. Karen Roganov

BASE, Fla. (AFNS)

ers prepped for when we get our maintain...cant for all services because it comes from three branches of service begun the inaugural classes March 19.

"This is hugely significant for all services because we are getting our maintenance personnel ready for when we are fully stood-up for F-35 training in the near future," said Col. Andrew Toff, the 33rd FW commander. "The classes are another existing step forward in the 2012 projection of F-35 training."

Every step has an effect on the future of these new programs.

What we do now hinges on the progress of joint technical data verification for the F-35’s maintenance procedures, virtual-reality trainer software validation and upgrades, as well as course delivery methods coming online," said Senior Master Sgt. Richard Brown, the F-35 ATC assistant program manager. "Up until this point, we have been conducting small group try-outs with the integrated maintenance teams here to verify the system is meeting the requirements needed."

After the team’s try-out process was completed, ATC personnel were able to offer Air Force students their first certificate of completion in F-35 courses for structures, avionics, weapons and crew chief career fields. Crew chiefs assigned to the wing already gained access to the already certified joint technical data that’s plugged into an F-35 trainer April 3 during the first week of training.

The first group of Marine Corps students being trained is a part of variant-specific ATA superintendents, marine corps students assigned to the 33rd Aircraft Maintenance Squadron at Eglin AFB.

"The first group of Marine Corps students being trained is a part of variant-specific hardware and software, according to Lockheed Martin’s website. This total training solution lets trainees get immersed in the virtual experience before moving to the real thing. Students currently enrolled are going through the phases of training designed by ATC personnel."

The total process takes approximately four to six weeks, from crafting the base before it gets approval from family members or a guardian for casting in bronze.

"This [base] is a way for the community to get involved with giving something back to the family," Uselton said. "Ninety-four percent of every dollar goes toward the bust itself."

Coffinmakers, Uselton, who is the ONF Southeast Region program director, and Kyle Grover, a longtime friend and family representative, teamed up with ONF to commission the bronze bust to commemorate the 32-year-old Franklin County native.

"Before long, Aerospace Testing Alliance, U.S. Marine Corps League, Department of Defense, longest-serving Marine, Jim’s Sunset Bar and Grill, the Franklin County A.M. Rotary Club, the Franklin County Republican Leadership Committee, Marine and Rich Houchens, Carl Nystrom and Jerry Anderson had raised more than $6,000 to pay for the bronze bust.

Sargent Stephens is sur- vived by his wife and daughter, along with his father and two sisters. He was a 1996 graduate of Franklin County High School and later graduated from UT-Chattanooga.

Franklin County Mayor Richard Stewart and Chamber of Commerce Executive Director Judy Taylor hosted the dedication ceremony on the courthouse lawn. State Sen. Eric Stewart gained legislative approval to name the Dry Creek Bridge in honor of Sgt. Stephens.

The bust will eventually be permanently displayed on the courthouse lawn along with the busts of Pfc. Nathan Clemons, USMC and Lance Cpl. Gregory Posey, USMC, previously memorialized.

"Ninety-four percent of every dollar goes toward the bust itself," Uselton said. “Ninety-four percent of every dollar goes toward the bust itself.”
Tinker AFB building new jet engine test cells

By Mike W. Ray
72nd Air Base Wing Public Affairs

TINKER AIR FORCE BASE, Okla.—Two more jet-engine test cells are under construction here.

According to Mason Hopkins, Engine Test Program Manager with the 76th Propulsion Maintenance Group, one of the structures will provide depot testing capability for the F135 engine, the power plant in the F-35 Lightning III fighter that is replacing the F-16 Fighting Falcon.

The “T-9” test cells also will be used to test F108-100 engines and F101-102 engines after they are repaired by the 76th MXG. A construction company has already built the concrete pads on which the two test cells will rest, he said, and is also building a nearby 300-square-foot administration building, connecting sidewalks, an access road, a fuel supply system, utility infrastructure and a parking area.

The T-9s will be “re-cycled” from locations previously used at other bases but no longer required at those locations. Consequently, they were dismantled and transported to Tinker. One came from the Aviano Air Base in northern Italy, while the other came from Cannon AFB near Clovis, N.M.

Portions of both buildings have been refurbished, Hopkins said. For example, new acoustic pillows to absorb noise and heat from the jet engines have been replaced in the augmented tube section of the T-9 from Cannon AFB, and several of the acoustic wall panels have been reconditioned.

Responsibly of the T-9s should be completed in June, and equipment and testing systems should be fully installed by the end of August, Hopkins indicated.

The prime contractor on the relocation and renovation project also is fabricating a special thrust frame, which braces the engines during testing. Since standard T-9 adapters for F101s and F108s were unavailable, and new ones are expensive—$2.3 million or more—Ron Morris from 76 SMXG Test Cell Engineering suggested having the contractor fabricate these specialized thrust frames in the T-9s. This allows the 76th MXG to utilize existing engine-specific adapters, saving $2 million, and helping standardize testing equipment, processes, procedures and maintenance, Hopkins said.

The contractor also will provide fuel delivery systems, air-start systems and oil preservation systems for the test cells. The two new structures are projected to be ready for engine tests sometime in 2013.

Another related project under way is an upgrade of the engine test operating system, which was developed internally by the 76th Software Maintenance Group. 76 SMXG will equip the T-9s with the Comet 4 also greatly improves data acquisition and accuracy and fidelity, increases test cell availability, and reduces labor and hardware costs associated with operating system maintenance, he said.

Hopkins said, the T-9s will equip the T-9s with the F101-102s, F108s, F117, F110-100 engines. Those cells are used to test repaired TF33-103 and F100-220 engines, Hopkins said.

The four other operational cells were built in the early 1970s. Those cells are used to test F100s, F101-100s, F108s, F117, F118-100 and TF33-100 engines.

This T-9 jet-engine test cell at Aviano Air Base, Italy, was “retired,” disassembled and transported to Tinker Air Force Base, Okla., where it will be erected on a pad near a building on the base. (U.S. Air Force photo)

TRAINING from page 10

The classroom experience combined with flight line operations is beneficial for learning about aircraft safety, in particular the warnings and precautions outlined in the joint technical, he said.

Classroom from Air Force Flight test units will take lessons learned here to implement F-35 sustainment at their units. Hill AFB, Utah, is slated to be a depot maintenance site and Nellis AFB and Edwards AFB are F-35 depot test sites.

“We like the process; the new approach is 100-percent compliant with learning tasks,” said Tech. Sgt. Frantavious Dooley, weapons crew chief assigned to the 57th Aircraft Maintenance Squadron at Nellis AFB, Nev.

The classroom experience combined with flight line operations is beneficial for learning about aircraft safety, in particular the warnings and precautions outlined in the joint technical manual. “When training is in full swing, approximately 2,100 maintainers and 100 pilot students can be processed through the ATC annually, with 900 people at any given time on campus,” Toth said. “Classes last from one to three months depending upon the course.”

The 76th Propulsion Maintenance Group is responsible for the delivery of the depot maintenance and depot test capability of the F101-102, F108, F117, F118-100 and TF33-100 engines.
By Laura Money

EDWARDS AIR FORCE BASE, Calif. – Karl Major, a civilian test pilot at the United States Air Force Test Pilot School, has been analyzing and flying the C-12 Huron for years. Over the years, he noticed an interesting phenomenon with the aircraft while experiencing sideslip.

Under certain conditions, the more the pilot would push on the rudder pedal to generate sideslip, the less the force the pilot would have to apply to get the rudder pedal to deflect. This was not intuitive and not a very desirable characteristic.

Hoping to learn more information about the force-lightening anomaly, Major tasked USAF TPS students to investigate the situation further.

“As students go through TPS, they learn the theory of how and why an aircraft behaves in a certain way. It is important to their education to understand how different aspects might affect the flight characteristics,” said Major. “In this case, TPS students will discover the C-12’s rudder force anomaly on recurring curriculum rides.”


The project is the culmination of the students’ intensive year-long Masters Program at the USAF TPS. According to David Vanhoey, USAF TPS technical director, completing the test management project presents unique challenges for students who must balance the successful completion of the project with meeting additional curriculum-based requirements.

“It’s truly amazing what our students are able to accomplish,” said Vanhoey. “And the SPINAL TAP folks are no exception. The test management project SPINAL TAP, short for Science Project in Aircraft Laboratory, Tufted Aircraft Panels, began last December hoping to investigate the phenomenon with flow visibility on a tufted vertical tail. Two sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airspeeds and aircraft configurations.

The test management project SPINAL TAP, short for Science Project in Aircraft Laboratory, Tufted Aircraft Panels, began last December hoping to investigate the phenomenon with flow visibility on a tufted vertical tail. Two sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airspeeds and aircraft configurations.

The steady heading sideslip maneuver was designed to gather data that Webster built software to analyze. Of the four maneuvers performed during flight, the steady heading sideslip turned out to be the most effective for gathering data.

“Normally as a pilot, I would continue pushing on the rudder pedal to get out where I need to be,” said Baughman. “But, if I were to instantaneously push on the pedal to get a fixed amount of sideslip, then that’s where you start seeing the pedal force lighten in the C-12. The steady heading sideslip maneuver is the best way to see this happen since we’re taking snapshots at different angles of sideslip.”

Early on in the project, it became clear that there were physical challenges associated with the SPINAL TAP test management project. Performing steady heading sideslips required pilots to apply approximately 150 pounds of force on the rudder pedals to generate sideslip.

The Webster flight test maneuver was named after the group’s technical advisor, Fred Webster who works with the 73rd Test Squadron at Edwards. The maneuver was designed to gather data that Webster built software to analyze. Of the four maneuvers performed during flight, the steady heading sideslip maneuver turned out to be the most effective for gathering data.

“Normally as a pilot, I would continue pushing on the rudder pedal to get out where I need to be,” said Baughman. “But, if I were to instantaneously push on the pedal to get a fixed amount of sideslip, then that’s where you start seeing the pedal force lighten in the C-12. The steady heading sideslip maneuver is the best way to see this happen since we’re taking snapshots at different angles of sideslip.”

Early on in the project, it became clear that there were physical challenges associated with the SPINAL TAP test management project. Performing steady heading sideslips required pilots to apply approximately 150 pounds of force on the rudder pedals to generate sideslip.

The test management project SPINAL TAP, short for Science Project in Aircraft Laboratory, Tufted Aircraft Panels, began last December hoping to investigate the phenomenon with flow visibility on a tufted vertical tail. Two sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airspeeds and aircraft configurations. (Air Force Photo by Chris Niall)
The team's preliminary findings indicated that the anomaly is more subtle than the force-lightening that Major and the students had originally thought.

"When we started testing, force-lightening showed up in the data right away," said Underwood.

"However, as we continued testing, we started to see different results." The data also seems to indicate that flying these maneuvers turned out to be quite a workout," said Doughman. "We decided to take two pilots on each sortie so that we could alternate and get a workout," said Doughman. "We decided to take two pilots on each sortie so that we could alternate and get a workout," said Doughman.

The team’s preliminary findings indicated that the anomaly is more subtle than the force-lightening that Major and the students had originally thought.

"When we started testing, force-lightening showed up in the data right away," said Underwood. "However, as we continued testing, we started to see different results." The data also seems to indicate that flying these maneuvers turned out to be quite a workout," said Doughman. "We decided to take two pilots on each sortie so that we could alternate and get a workout," said Doughman.

Two of the six sorties were videotaped from a C-12 chase aircraft, allowing the team to review data and visually identify how the tail of the aircraft responded during the various airplane configurations. The team’s preliminary findings indicated that the anomaly is more subtle than the force-lightening that Major and the students had originally thought. When we started testing, force-lightening showed up in the data right away," said Underwood. "However, as we continued testing, we started to see different results." The data also seems to indicate that flying these maneuvers turned out to be quite a workout," said Doughman. "We decided to take two pilots on each sortie so that we could alternate and get a workout," said Doughman.
Miss AEDC Pageant to be held at ALC May 5

The Fitness Center will hold the annual AEDC Golf and Wellness Expo 11 a.m.-1 p.m. May 23. The event will kick off with a run (one lap around Fitness Center track) at 11 a.m. Visit and gain knowledge on different dimensions of wellness. Pick up a door prize card when you arrive and while visiting the booths get the card initialed. Once the card is completely initialed you are entered for a chance to win prizes.

Sign up for Members First Plus May 14- July 13 and the first three months are free.

All who sign up for Members First Plus membership between May 14 and July 13 inclusive will receive the first three months free, be enrolled in the free Military First Plus membership program, and will receive 100 instantly upon application through a scratch-off gift card program. Single and married members will receive consideration and understand the benefits of membership. At the conclusion of the “Members Matters” membership campaign gives them the opportunity to try it for free for the first three months,” said Fred McKamey, chief of the Air Force Food and Beverage Division.

During the promotion everyone eligible and interested in AF “Club” membership should look for the membership promotional materials in Services activities. Pick up an application, fill it out, and enter in the chance to receive the benefits of membership - the first three months are free!

The membership card provides numerous benefits.

- The Military First Cash reward program is an outstanding benefit to members. When you use your membership card at AEDC Services activities, you earn 2 percent cash back on every gallon of fuel purchased at the fueling station and 2 percent cash back on everything purchased within the bar and grill, cafeteria, and salon. To earn 2 percent cash back on eligible purchases, present your membership card at any on-base Services activity, AFB Services Arnold Lakeside Center, Arnold AFB Golf Course, Arnold AFB Family Housing, Arnold AFB Outdoor Recreation, and Outdoor Activities Center. In addition to being able to redeem points for cash back and gift cards, you can also redeem points for miles that can be used for future soda purchases at Café 100. The Military First Plus membership also includes deli sandwiches.

Members First Plus members also receive additional membership benefits including discounts on meals to include special promotions, on annual $2,200 scholarship program, discounts on other areas such as golf and bus tours, and a membership only prices 

Check us out on Facebook! Arnold AFB Services Golf Course and Arnold AFB Services Information, Tickets and Travel.

Club Membership Scholarship Program is back. Members First Plus members and their family members who have been accepted into or enrolled in an accredited college or university for entry during the first three months of the current academic year are eligible to enter. There will be twenty-five $1,000 scholarships awarded during this program. To enter you must write a 500-word essay following the required formatting on the topic: "What do the words to America the Beautiful mean to me" and save the essay on an external drive to be submitted in person or by email to the Arnold Lakeside Center, Fitness Services, Arnold AFB Golf Course, Arnold AFB Recreation and Marketing. Winners will be announced on Sept. 17. For more information visit www.aldnews.net.

Miss AEDC Pageant to be held at ALC May 5

Miss AEDC Pageant to be held at ALC May 5

The Fitness Center will hold the annual AEDC Golf and Wellness Expo 11 a.m.-1 p.m. May 23. The event will kick off with a run (one lap around Fitness Center track) at 11 a.m. Visit and gain knowledge on different dimensions of wellness. Pick up a door prize card when you arrive and while visiting the booths get the card initialed. Once the card is completely initialed you are entered for a chance to win prizes.

Sign up for Members First Plus May 14- July 13 and the first three months are free.
May 2012

Sunday

1 ALC Women's Day 8 a.m.-3:30 p.m. H2
2 AEDC Women's Day 9 a.m.-3:30 p.m.
3 Mother's Day Café 100
4 Memorial Day 8 a.m.-4:30 p.m.
5 Memorial Day 8 a.m.-4:30 p.m.

Monday

6 Family Day 8 a.m.-4:30 p.m.
7 Family Day 8 a.m.-4:30 p.m.
8 Family Day 8 a.m.-4:30 p.m.
9 Family Day 8 a.m.-4:30 p.m.
10 Family Day 8 a.m.-4:30 p.m.
11 Family Day 8 a.m.-4:30 p.m.

Tuesday

12 Miss AEDC Pageant 10 a.m.-5 p.m.
13 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
14 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
15 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
16 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
17 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
18 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
19 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.

Wednesday

20 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
21 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
22 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
23 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
24 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
25 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
26 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
27 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
28 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
29 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
30 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.

Thursday

31 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.

Friday

1 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
2 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
3 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
4 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
5 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
6 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
7 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
8 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
9 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
10 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
11 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
12 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
13 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
14 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
15 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
16 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
17 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
18 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
19 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
20 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
21 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
22 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
23 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
24 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
25 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
26 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
27 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
28 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
29 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
30 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
31 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.

Saturday

1 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
2 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
3 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
4 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
5 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
6 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
7 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
8 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
9 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
10 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
11 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
12 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
13 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
14 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
15 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
16 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
17 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
18 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
19 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
20 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
21 Armed Forces Kids Tun-4-angent, 6:30-4:30 p.m.
22 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
23 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
24 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
25 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
26 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
27 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
28 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
29 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
30 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
31 Armed Forces Kids Tun-4-ament, 6:30-4:30 p.m.
tiny borrower's world
fairytales into a teeny, Escapades
to register.
cation is required for
prior to start of camp
Slip (if applica-
and AF Form 1055, Youth Registration,
copy of your leave and
and provide a
To enroll your child
come ranging from
Weekly fees are based
Recreation and must

BP April 20, 2012 • H3
AEDC Woman's Club
393-2552
The AEDC Woman's Club meets the last Tuesday of every month at 9:30 a.m. at AEDC Lakeside Restaurant. This will be the last meeting until May, when a new meeting date will be announced. Your membership will be one of the highlights of the area. Blossom Merriman will talk about the area and go from there into a look at the area that you might not have experienced before. Make reservations by contacting Liz Holmgren at 962-2734 or lizlom@gmail.com.

This is a private organization which is dedicated to the support of the local military community. The club provides information for finding Defense of their component or their own. It also provides information and services to the community. The AEDC Woman's Club is

the high and can stop and try a few popular
for more information on
or sign up for this
Come with Out-
ning watching 2–4 p.m.
and AF Form 1055, Youth Registration,
copy of your leave and
and provide a
To enroll your child
come ranging from
Weekly fees are based
Recreation and must

BP April 20, 2012 • H3
AEDC Woman's Club
393-2552
The AEDC Woman's Club meets the last Tuesday of every month at 9:30 a.m. at AEDC Lakeside Restaurant. This will be the last meeting until May, when a new meeting date will be announced. Your membership will be one of the highlights of the area. Blossom Merriman will talk about the area and go from there into a look at the area that you might not have experienced before. Make reservations by contacting Liz Holmgren at 962-2734 or lizlom@gmail.com.

This is a private organization which is dedicated to the support of the local military community. The club provides information for finding Defense of their component or their own. It also provides information and services to the community. The AEDC Woman's Club is

the high and can stop and try a few popular
for more information on
or sign up for this
Come with Out-
ning watching 2–4 p.m.
and AF Form 1055, Youth Registration,
copy of your leave and
and provide a
To enroll your child
come ranging from
Weekly fees are based
Recreation and must

BP April 20, 2012 • H3
AEDC Woman's Club
393-2552
The AEDC Woman's Club meets the last Tuesday of every month at 9:30 a.m. at AEDC Lakeside Restaurant. This will be the last meeting until May, when a new meeting date will be announced. Your membership will be one of the highlights of the area. Blossom Merriman will talk about the area and go from there into a look at the area that you might not have experienced before. Make reservations by contacting Liz Holmgren at 962-2734 or lizlom@gmail.com.

This is a private organization which is dedicated to the support of the local military community. The club provides information for finding Defense of their component or their own. It also provides information and services to the community. The AEDC Woman's Club is

the high and can stop and try a few popular
for more information on
or sign up for this
Come with Out-
ning watching 2–4 p.m.
and AF Form 1055, Youth Registration,
copy of your leave and
and provide a
To enroll your child
come ranging from
Weekly fees are based
Recreation and must

BP April 20, 2012 • H3
AEDC Woman's Club
393-2552
The AEDC Woman's Club meets the last Tuesday of every month at 9:30 a.m. at AEDC Lakeside Restaurant. This will be the last meeting until May, when a new meeting date will be announced. Your membership will be one of the highlights of the area. Blossom Merriman will talk about the area and go from there into a look at the area that you might not have experienced before. Make reservations by contacting Liz Holmgren at 962-2734 or lizlom@gmail.com.

This is a private organization which is dedicated to the support of the local military community. The club provides information for finding Defense of their component or their own. It also provides information and services to the community. The AEDC Woman's Club is

the high and can stop and try a few popular
for more information on
or sign up for this

Come with Out-
ning watching 2–4 p.m.