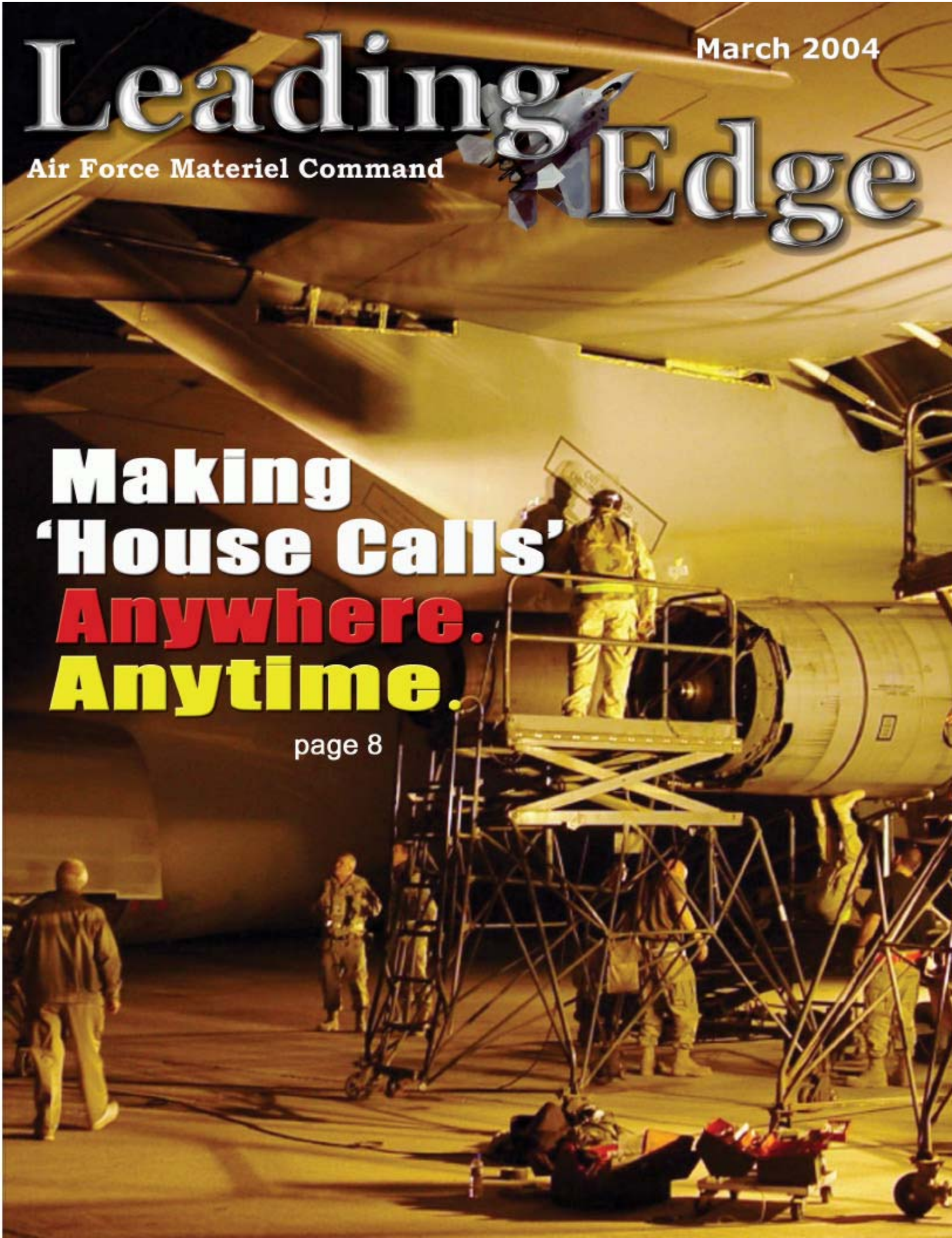
Leading Edge

March 2004

Air Force Materiel Command



Making 'House Calls' Anywhere. Anytime.

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LEADING EDGE

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"Leaning" the KC-135 line

TINKER AIR FORCE BASE, Okla. — "Lean" initiatives at Oklahoma City Air Logistics Center, Tinker Air Force Base, Okla., are making KC-135 Stratotanker maintenance more productive, saving the Air Force time and money and putting the product back into the warfighter's hands in less time.

The Lean business methodolgy of increasing an organization's value through streamlining operations is "a learning process," said Max Phillips, KC-135 Lean Program manager.

Mr. Phillips said process improvements on the line started with cross-training all workers in the aircraft element, which encompasses 328 tasks.

"We ask them to work the full range of the job description," he explained. "We're trying to multi-skill everybody. It enables mechanics to do everything in general to the airplane."

Re-engineering the line needs to be completely compatible with the aircraft division goal of servicing more aircraft with faster turnarounds.

KC-135 Stratotanker

Mr. Phillips said the schedule now calls for Program Depot Maintenance on a KC-135 to take 225 days. In 2003, the center performed PDM on 43 tankers. This year, schedulers are counting on 48 aircraft, and the goal is to move through 60 planes a year with flow days reduced to 178 by fiscal year 2005.

A benchmark idea picked up from Boeing and two other contractors, the air purge of the KC-135's fuel tanks, is saving the Air Force $350,000 per year in man-hours and flow days.

Lean, Mr. Phillips said, has ended the days when PDM on a KC-135 took 400 days, and another tool — value stream mapping — identifies areas of waste in the process.

"(The initiatives) allow us to see start-to-finish and see where problems are so you can fix the process."

— OC-ALC Public Affairs

Quickening the strike

ROME, N.Y. — Close Air Support pilots can now receive real-time targeting information over existing communication networks because of Air Force Research Laboratory-developed technology

The software was used by terminal air controllers on laptop computers at the Nellis Air Force Base Test Range in Nevada to produce targeting solutions and communicate to the Combined Air Operation Center there using satellite radios.

The software also was installed in the CAOC to receive the targeting solution, and the solution was communicated to both F-15 and F-16 aircraft that were supporting the mission.

"This testing confirmed the full functionality of the software to significantly reduce the targeting-kill chain process time," said Dr. David Hench, information directorate project engineer for the Center for Integrated Transmission and Exploitation. "Exercise participants were exceptionally pleased with the effectiveness and responsiveness of this new targeting technology development."

— AFRL Public Affairs

Thirty-ton oven

KIRTLAND AIR FORCE BASE, N.M — A new 30-ton kiln-like oven will be used to heat-cure resins in all types of composite carbon-fiber structures, including extremely lightweight fuel tanks and missile payload fairings protecting sensitive satellite payloads during launch.

Dwarfing the crane raising it, the autoclave gets a lift over a retaining wall to its new home at the AFRL Space Vehicles Directorate Space Structures Laboratory, Kirtland AFB, N.M. (AF photo)

Big enough to house a small car, the 12-foot by 18-foot autoclave weighs in at 30 tons. AFRL's autoclave is one of the largest in the Air Force and cost about a half-million dollars.

— AFRL Public Affairs

Around the command

☆☆☆☆ Gen. Gregory S. Martin

Center commanders pass base leadership responsibility to wings

Transfer of installation commander responsibility will help center and wing commanders accomplish their missions

"When you've seen one AFMC base, you've seen one AFMC base." Many people told me this when I took the reins of this command. Guess what, they were right! Not only is each center organized differently, they are not like the rest of the Air Force.

If our command, and especially our centers, are to continue to meet the daunting challenge of delivering war-winning technology, acquisition support, sustainment and expeditionary capabilities to the warfighter, we have to demystify the way we look to the rest of the Air Force and give our center commanders the greatest ability possible to accomplish their missions.

And their job is getting tougher. For example, our product center commanders now have the additional job of serving as acquisition program executive officers. That's why I asked a command-wide working group to look at transferring installation commander responsibilities from our centers to the air base wings so our center commanders can be given greater opportunity to focus on their center missions.

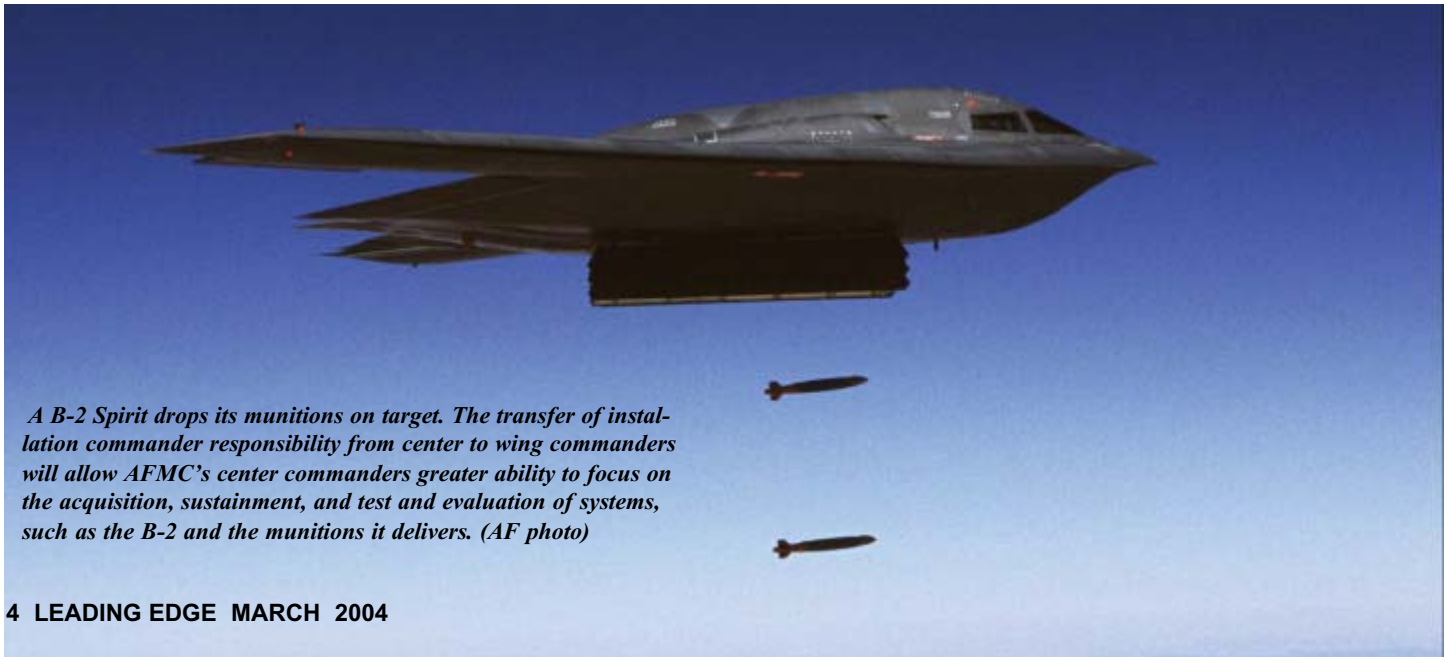
The group came back with several recommendations on how best to accomplish the transfer and give air base wing commanders the tools they will need to support their bases in the true definition of installation commanders.

As a result, installation commander responsibilities transferred from center commanders to air base wing commanders March 1. Each center and wing will work with headquarters to complete all of the organizational restructure and physical relocation by October 2004.

I must emphasize that this is not a manpower reduction initiative. While some jobs will move from centers to wings, we do not anticipate any positions being eliminated as part of this realignment.

With this initiative, traditional "support" duties and responsibilities will move from the center commanders and be realigned with our air base commanders. It gets our center commanders and their staff out of the business of chasing the day-to-day "base support" issues that can consume huge amounts of time and energy and degrade their ability to focus on the center's primary mission of acquisition, logistics or test and evaluation.

Also, this allows our air base wing commanders to serve as



A B-2 Spirit drops its munitions on target. The transfer of installation commander responsibility from center to wing commanders will allow AFMC's center commanders greater ability to focus on the acquisition, sustainment, and test and evaluation of systems, such as the B-2 and the munitions it delivers. (AF photo)

the real "mayors" of their bases. To effectively carry out that mission, they need the right tools and the direct authority over the people and processes they require. That's why some of the functions and offices that now comprise the center commanders' staffs will move in part to their respective wings in order to provide appropriate support to the wing commanders.

For example, functions such as finance, legal and procurement must be under the direct authority of the installation commander since he or she is often personally liable for the actions of those offices.

However, given the knowledge, skills and abilities inherent in the center-level offices, it would be foolish not to draw on that expertise as a strategic resource, as needed, to resolve difficult issues and to properly develop our people. I expect that there will be strong ties between the counterpart functional offices at the wing and center level. At times, there will be a need to work across these separate command structures to respond to surges or other crisis situations. A healthy and regular collaboration makes the command stronger and more effective.

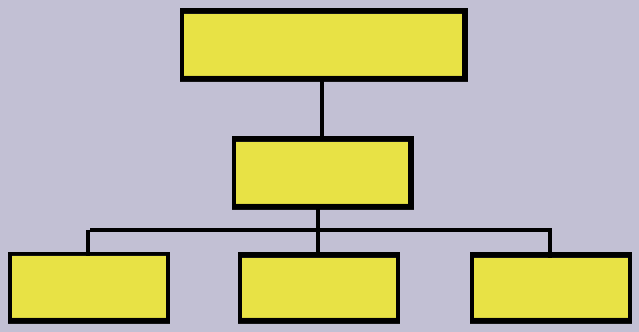
"AFMC's organizational structure will now look more like those of other Air Force major commands where a wing commander is the installation commander."

— Gen. Gregory S. Martin

But there is another benefit from this change. AFMC's organizational structure will now look more like those of other Air Force major commands where a wing commander is the installation commander. This will make AFMC look more familiar to our warfighter customers, thus making it easier to do business with our command.

Two of our center commanders will not be affected by this change. The commander at Arnold Engineering Development Center, Tenn., will remain installation commander. The Aerospace Maintenance and Regeneration Center will remain a tenant on Davis-Monthan Air Force Base, Ariz., an Air Combat Command installation where the 355th Fighter Wing commander serves as the installation commander.

As is always the case with such an undertaking, there is zero percent chance we've got it 100 percent right. But, as we continue to work out the glitches over the next few months, I am confident our command will be more efficient as a result of this change. ❐



If the boxes don't line up, we fall apart

One of our greatest assets can sometimes be one of our greatest problems. We are blessed with people who, in general, get the job done no matter what. But often we get so immersed in getting the job done, we forget to set up an organizational construct that will allow that group of people to continue to do the job properly over a sustained period of time. In the '90s, we overstressed our entire Air Force with Operations Southern Watch, Northern Watch, Joint Forge, Joint Guardian and other contingencies until we restructured ourselves into the air and space expeditionary force.

When you get assigned a task or detail you must step back, line up the organizational "boxes" and determine exactly who is supported, and who is doing the supporting. If an organization doesn't have clear lines of authority, when stressed, that organization will eventually fail.

You have to set up an organization so that it is clear who is in charge and give that person in charge the right tools and organizational structure to accomplish the mission under all circumstances. We can't rise or fall on friendships. It might work in the short term, but in the stress of "crunch time," it will not. And then, following the catastrophe, the after-action review will always point to the fact that the commander did not properly organize the structure to ensure repeatable, excellent performance based on procedures and clear lines of authority.

The worst thing we often do is not take the time to understand our own doctrine and the organizational structure it takes to execute the tasks we're given. I've been there and watched it time and time again and the only time it ever works right and we're comfortable that we've thought through all the actions is when we've gotten the boxes lined up first!

When you go into a fuzzy, matrixed organization and try to put your finger on the belly button in charge, the belly button moves all over the place. We must use the positive elements of matrixing within a strong organizational structure. When the actual assignment of responsibility and priorities begin to get confused you have to have someone who can make the decisions and use those resources as he or she needs. We can't sit back, hoping it'll work out based on a certain group of people's ability to cooperate.

Command authority is very special and it's important we get it lined up right.

— Gen. Gregory S. Martin

F-16 Fighting Falcons flying in observation formation. As part of AFMC sustainment transformation, "Lean" business processes have already cut F-16 flow time at Ogden ALC, Hill AFB, Utah, according to Maj. Gen. Kevin Sullivan, OO-ALC commander. (AF photo Master Sgt. Dave Ahlschwede)

Extreme MAKEOVER

Revamping logistics across the Air Force

Joel Fortner
AFMC Public Affairs

As part of an Air Force-wide effort to transform logistics operations, Air Force and Air Force Materiel Command leaders recently approved action plans to improve the way AFMC does purchasing, supply and maintenance to better serve the warfighter.

Due to increasing challenges to provide faster and more reliable combat support in the next generation of air and space expeditionary forces, the Air Force launched the logistics transformation initiative, eLog21 (Expeditionary logistics for the 21st century). AFMC has backed this initiative with two of its own: Purchasing and Supply Chain Management (PSCM) Transformation and Depot Maintenance Transformation (DMT), collaboratively known as sustainment transformation.

"As a critical part of AFMC's mission, the transformation of logistics processes is an initiative I believe in because it will allow the command to better support our overall customer, the warfighter," said Gen. Gregory S. Martin, AFMC commander. "Cleaning up the way we do business is going to take a lot of work, but the rewards we, as well as future expeditionary forces, will reap will be tremendous."

Reinforcing General Martin's statement, Grover Dunn, director of Innovations and Transformation, deputy chief of staff for Installations and Logistics, Headquarters U.S. Air Force, broke down details of what AFMC is looking to achieve.

"I think if we do the stuff we're talking about, if we actually follow the plans we've outlined to do, it will make AFMC enormously more efficient, it should reduce costs by probably an order of magnitude," said Mr. Dunn. "We're looking for a 20 percent reduction overall in the Air Force support cost of about $2.5 billion a year, and AFMC can probably contribute at least half of that.

> **"I think the immediate impact to the field is they will get their items on time, when we promise them and where they need them to be."**
>
> **— Maj. Gen. Terry Gabreski**
> **OC-ALC commander**

"In terms of performance, we're looking for an improvement of 20 percent in overall weapons system availability, and again, AFMC can contribute a good share of that as well. So, if we did these things, I think we'd see enormous gains in both availability of our equipment as well as our cost."

According to Mr. Dunn, Air Force logistics operations consume about one-third of the Air Force's total resources with costs consistently growing from year to year. In order for the Air Force to not, as Mr. Dunn said, "price (itself) out of business," a key emphasis of the transformation effort is to reduce cost and become more efficient.

He added that since the Air Force has been almost continuously engaged in forward locations since 1990, logistics operations have to improve operational performance to adequately support the warfighter in that environment.

AFMC is responding to this by implementing new command-wide PSCM processes to improve the availability of parts to the warfighter, reduce the cost to purchase parts and improve product quality and delivery. This is a collaborative effort between the three air logistics centers, AFMC headquarters and the Regional Supply Squadrons, and the initial phase of implementation covers Support Equipment and Material Support Division parts, equipment items and associated engineering services.

Additionally, depot maintenance is changing its business process by implementing a command-wide "Lean" approach to integrate shop floor process improvements with production support processes.

Lean is a business methodolgy of streamlining operations, management processes, personnel and logisitcs to increase the organization's overall value.

According to Sue Dryden, deputy, Depot Maintenance Division, in January,

four depot maintenance Trailblazer teams were implemented at the ALCs to define and provide evidence that the processes will improve production support to the repair lines.

Prior to launching the Trailblazers, Ms. Dryden said, Lean processes in various shops have resulted in cost savings, reduced flow days, added capacity, less work in process and increased throughput.

"We've already cut about 20 hours out of our A-10 flow time," said Maj. Gen. Kevin Sullivan, commander of Ogden ALC, Hill Air Force Base, Utah. "We've cut our F-16 flow time some, not as much as we'd like, and we're cutting our C-130 flow times as well. We're also making some major changes on how we do landing gear work. It's going to make us more efficient and more effective."

However, Ms. Dryden added, their efforts were limited because production support processes, including planning, scheduling and material support, could not respond adequately to the shop floor changes.

Warner Robins ALC, Robins AFB, Ga, is responsible for worldwide logistics support for the C-5 Galaxy. (AF photo by Tech. Sgt. James Mossman)

Information from the Trailblazers will be used to solve this problem, she said.

The Trailblazers are focused on the F-15 value stream, which includes the F-15 Program Depot Maintenance (PDM) line and F-15 Avionics shop at Warner Robins ALC, the F100 engine at Oklahoma-City ALC and the F-15 Landing Gear at Ogden ALC.

According to Maj. Gen. Terry Gabreski, Oklahoma City ALC commander, Tinker AFB, Okla., "I think the immediate impact to the field is they will get their items on time, when we promise them and where they need them to be. Whether it's aircraft, whether it's parts, the immediate impact to the field is the goodness that we're doing here. So, whether it's a B-52 wing or a B-1 wing, you name it, that is the end state we're looking for. Right part, right place, right time, when they need it, and when we said we'd do it."

PSCM transformation is also showing positive findings after launching three "Path Finder" commodity councils, which investigated current supply chain business processes at the ALCs, focusing on miscellaneous aircraft parts, support equipment and landing gear, and wheel and brake systems.

According to Scott Correll, chief, Logistics Contracting Division and PSCM co-chair, the Path Finder teams successfully pinpointed areas of improvement, including reducing the number of contracts with our suppliers, using performance based logistics to reduce costs and improve performance, and the need to develop partnerships with key Air Force maintenance and commercial supply chain suppliers.

By the end of October, AFMC plans on implementing eight commodity councils to cover the support equipment and supply mission area.

The councils will be responsible for developing sourcing strategies, assuring the availability of parts to improve weapon system performance and driving down supply chain costs and cycle times, said Mr. Correll.

The roadmap strategy to deal with current inefficient practices, ultimately, will achieve established PSCM goals of reducing cost and end-to-end cycle time, simplify business processes and develop a strategically-focused work force, he added.

Trailblazer teams launched at all three air logistics centers in January are focused on the F-15 value stream to determine better logistics and sustainment processes as part of an Air Force-wide logistics transformation initiative. (AF photo)

According to all three ALC commanders, building that work force will be the most challenging and important aspect of transforming as personnel react to new ways of doing business, coupled with concerns about job security.

Much time has been dedicated to ensuring plans address these concerns. Both PSCM and DMT plans include communication, training and education initiatives for the work force, as well as for suppliers and customers.

"In some cases people's jobs are going to be completely revamped, reconstructed, reinvented, and that will be a concern," said General Sullivan. "And the other message we have to be very careful with is as we talk about leaning our processes that our employees not get the impression that we're leaning our processes so we can do more work with fewer employees. We want to do more work with the same amount because we want to bring additional work into our organizations."

Unlike past initiatives that never came to fruition, General Sullivan stressed that senior leaders have fully committed themselves and the command to this transformation.

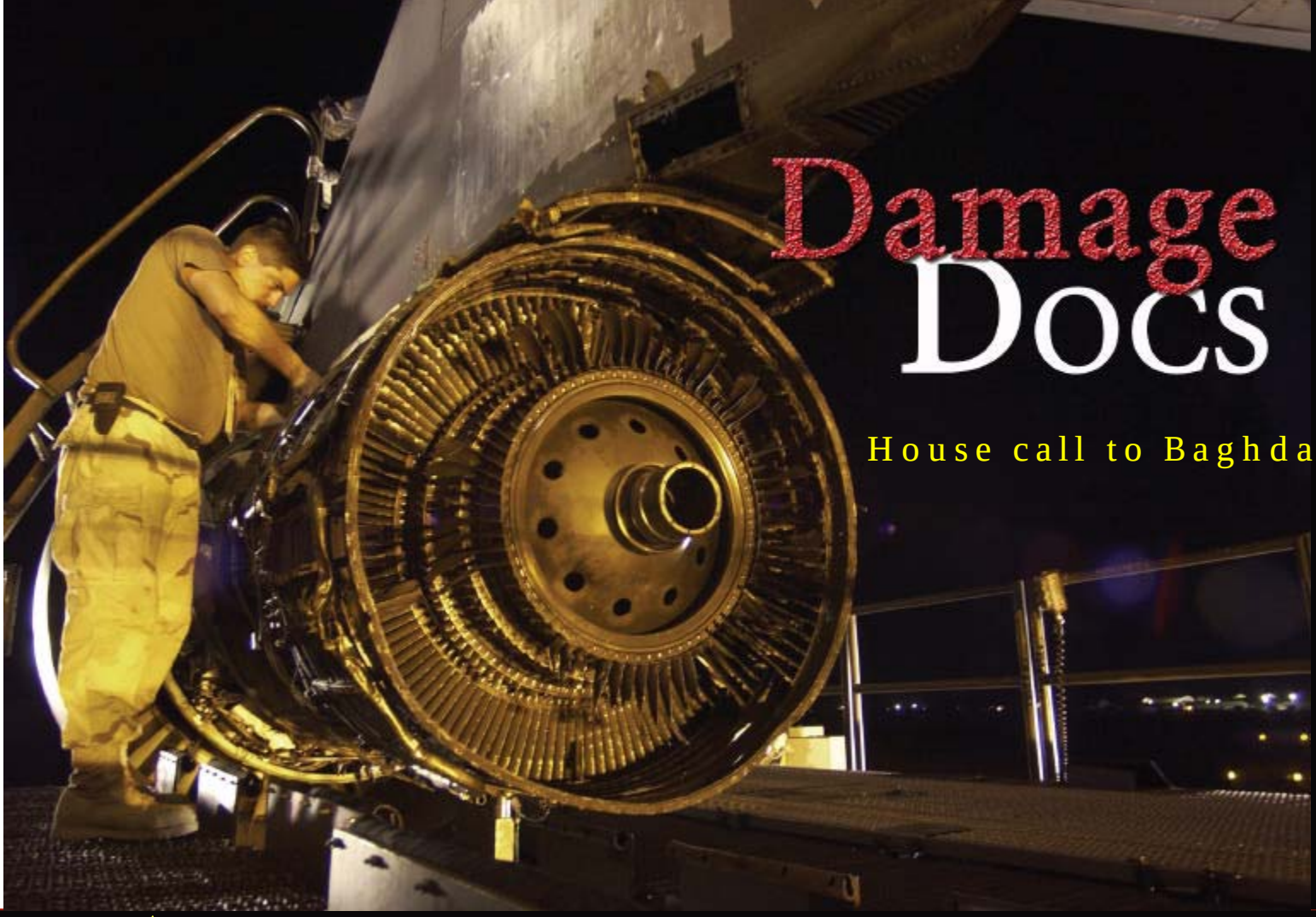
"As I go out and talk to teams that are involved in Lean events, one of the most prevalent questions is, 'Is this going to go away like TQM did; is this going to go away like other initiatives have?' General Sullivan said.

"So, what we need to convince them is it is worthwhile to invest their time and their energy into doing things better because we're in this for the long haul."

According to Ken Percell, director of Information Technology, Headquarters AFMC, senior leaders have received positive feedback from those who have experienced new ways of doing business.

"I think the big message is we are at a window of change," said General Gabreski. "The window is open, we have the support of senior leadership, not just the support but the impetus that says go and do this. We have to do this for the warfighter."❐

Oklahoma City ALC, Tinker AFB, Okla., maintains the E-3 Sentry. (AF photo)



Damage Docs

House call to Baghdad

A battle damaged C-5 Galaxy recently got a clean bill of health and is flying again after receiving a house call from a team of "doctors" based at Warner Robins Air Logistics Center, Robins Air Force Base, Ga.

"I think it's awesome that within such a short time frame and considering the extensive damage to that big of an airplane, Team Robins quickly got this plane back in the hands of the warfighter," said Lt. Col. Paul Wood, 653rd Combat Logistics Support Squadron commander.

The 653rd CLSS deployed a 13-member team of battle damage repair specialists and an engineer from the Strat Air Program Office to Baghdad International Airport, Iraq, Jan. 10 — 48 hours after the C-5 was damaged by hostile ground fire.

"After the initial rush to get them on the road, you realize this isn't just another trip to Pope or Langley ... This is a high-threat environment where our troops had to watch each other's back," said Colonel Wood.

Fresh from the fray, Tech. Sgt. Kris Showalter, a structural maintenance technician, said he was nervous about deploying thousands of miles from home into uncertainty.

"You get a little anxious when it's time to really put on your flak jacket. You're like, 'Wow, this is the real deal,'" said Sergeant Showalter.

Reality hit as the crew prepared to enter Iraqi airspace.

"This team's deployment further cements in people's minds that Air Force Materiel Command people do more than develop technology and supply parts, they go into harm's way."

— Brig. Gen. Gary McCoy
AFMC director of logistics

"The aircraft commander briefed us on what was going to take place and told us to prepare for a pretty aggressive ride into Baghdad with the possibility of small arms fire coming up at us," Sergeant Showalter said.

Capt. Mark Ford, chief of logistics operations, said the aggressive ride meant an assault landing, which pushed the C-130 to its limits.

"Everything happened so fast, that reality didn't set in for me until we were standing on the aircraft ramp in Baghdad."

By that time, it was too late to worry. The team was there and they had a job to do.

"We trained on engine pylons and it turns out that was the biggest part of what we worked on — pylons and flaps," said Captain Ford.

The pylon holds the engine on and the flaps are part of the C-5's wing.

For Tech. Sgt. Jeff Krimer, a structural maintenance technician, repairing an aircraft damaged by gunfire was a new experience.

"Until this point we had only worked on parts of aircraft," he said, "we never actually worked on battle damaged aircraft. To actually see what battle damage

looks like was really different."

Colonel Wood said the team and other folks at the ALC "really came together" to pull this mission off in a record amount of time.

According to Brig. Gen. Gary McCoy, AFMC director of logistics, the team's deployment further cements in people's minds that Air Force Materiel Command people do more than develop technology and supply parts, they go into harm's way.

"The CLSS people are our logistics Rangers," General McCoy said. "They train to respond quickly to restore combat capability. I'm extremely proud of how they responded to the C-5 battle damage repair in Iraq."

Master Sgt. Scott Jeffries, AFMC's logistics plans functional manager, echoed those sentiments.

"Combat logistics is an agile combat support force capable of providing key logistics support to the warfighter," Sergeant Jeffries said. "We're always deployment ready and continuously train in peacetime to prepare for wartime operations. When the call came in, we executed — without hesitation."

According to Colonel Wood, his "damage docs" had the C-5 ready to fly back to the states in 11 days. Once they got it to Robins AFB, ALC employees and 653 CLSS technicians worked together and made permanent repairs. On Feb. 23, the aircraft was returned to the 22nd Airlift Squadron at Travis Air Force Base, Calif.

"Timing was critical," said Colonel Wood. "The rotation of troops in the AOR (area of responsibility) is the largest since World War II and every strategic airlift asset will be needed."

"The mission was a huge success," said Colonel Wood, "and I'm just glad the team made it home safely. We stand ready now to answer the alarm the next time the bell sounds." ❐

(2nd Lt. Christy Stravolo and Tech. Sgt. Carl Norman, AFMC Public Affairs, and Lanorris Askew, WR-ALC Public Affairs, contributed to this story.)

A team of "damage docs" from the 653rd Combat Logistics Support Squadron, Robins AFB, Ga., deployed to Iraq 48 hours after a C-5 Galaxy was hit by hostile ground fire during takeoff from Baghdad International Airport. (Above) Tech. Sgt. David Calbillo does the initial damage assessment on the aircraft. (AF photo by Tech. Sgt. Pete Hawk) (Below) Team members remove the C-5's No. 4 engine. (AF photo by Staff Sgt. Suzanne M. Jenkins)

Beefin' up the 'Buff'

Lee Ann Mohajerin
OC-ALC Public Affairs

After seeing the United States through the Vietnam and Cold Wars, the formidable B-52 Stratofortress was destined for the aircraft boneyard.

But when the Air Force decided to extend the life of the bomber to 2040, a Tinker Air Force Base, Okla., team turned the program around — earning bragging rights of taking the oldest airframe and driving it to the highest mission capable rate in the Combat Air Forces.

Saving the airframe from the brink of extinction was no easy task, according to Luke Burke, B-52 System Program Office chief engineer.

"Through most of the '90s, the plan was to retire the B-52, so the sustainment program wasn't forward looking," said Mr. Burke. "We were out of a lot of parts; our sources were out of a lot of parts. Manufacturers had heard the story that the B-52 was going to retire, so they gave up those capabilities and we were at the end of the life expectancy on a lot of essential parts of the aircraft."

That all changed in 1999, when the Air Force announced plans to not only sustain the B-52, but upgrade it for 40 more years of service.

"That's when we realized we needed a long-term sustainment plan," Mr. Burke said.

Examine and Evaluate

An integrated product team made up of the B-52 SPO, Boeing, Air Combat Command, the Defense Logistics Agency and others developed what Mr. Burke described as the "most complete and comprehensive nose-to-tail evaluation process in the Air Force."

In a conventional conflict, the B-52 Stratofortress can perform air interdiction, offensive counter-air and maritime operations. During Desert Storm, B-52s delivered 40 percent of all the weapons dropped by coalition forces. (AF photo)

The B-52 Stratofortess is a long-range, heavy bomber that can perform a variety of missions. The bomber is capable of flying at high subsonic speeds and can carry nuclear or conventional ordnance with worldwide precision navigation capability. (AF photo)

Pointing to thousands of pages, Terry Lucas, Boeing sustainment specialist, said, "This is the complete evaluation of the B-52, system by system, from the bottom to the top. So far, we have sustainment recommendations identified for every year until 2016 for things that need to be fixed on the aircraft to sustain it until 2040."

The Aircraft Sustainment Roadmap is a step-by-step process that sums, sorts and analyzes data to decide which system gets the most immediate attention. The team started by talking to those who know the aircraft best — the maintainers and operators in the field.

"We went out and talked to everyone we could find and asked them what they felt were the most important things on the aircraft that needed to be fixed," said Debby Scott, Technical Services Branch chief. "Their eyes are on the airplane and they can see stuff that is deteriorating that hasn't failed yet — things that might get missed by our maintenance data collection systems."

Rack and Stack

Armed with a list of field data, the team then included input from several legacy systems including the Reliability and Maintainability Information System, the Air Force Total Ownership Costs and Aerospace Maintenance and Regeneration Center.

"These are all systems that we use normally day-to-day to predict where we are with the various systems on the aircraft," said Mr. Lucas. "Once the data is combined and sorted, there is a statistical process that builds a ranking. We analyze each system and rank them worst to best."

The analysis includes everyone from the field maintainers, operators, engineers, item managers, program depot maintenance specialists and more.

"We look at drawings, we tear down parts, we identify life expectancies," said Mr. Lucas. "We determine whether the problems are logistics issues, engineering issues, source issues or manufacturing issues."

The ranking is based primarily on safety, reliability, maintenance, criticality and parts availability.

"Funding and manpower are our greatest challenge, so we have to figure out what the most critical items are," said Al Clark, B-52 System Engineering Division chief. "This is such a great process. We are chomping at the bit to get everything done, but with limited funds we have to make difficult decisions about what gets fixed first."

Plans and Progress

Despite these challenges, the team's efforts have proven effective.

"We are essentially re-capitalizing this aircraft," said Col. Dwyer L. Dennis, B-52 System Program Office director. "This is very significant considering the initial design life of 20 years. Ensuring current supportability for a 43-year-old bomber, while implementing a 40-plus-year sustainment plan is unprecedented. However, our successes so far prove it is entirely feasible."

With plans set for the next 12 years, the IPT can focus on parts availability, maintenance instructions and new PDM processes.

One example is the Inflight Refueling Receptacle, an item critical to the B-52's long-range capability.

"When we started the field reports and inspections, we could see that the parts and pieces were very nearly at the end of their life and, if we hadn't used this predictive methodology then, we would be in a totally reactive mode today," said Mr. Burke. "Sure, we may be able to go get on contract, but the first delivery may have been two years down the road.

"With this system, we were able to find a source, get [the parts] produced and have them available before the problem affected the B-52's ability to complete its mission, or could slow our PDM line waiting for parts."

Deployed and Dependable

The team said the fruits of their labor were most evident in Operations Enduring Freedom and Iraqi Freedom, where more than half the fleet deployed.

"The Air Force used the B-52 more than any other bomber and they flew them hard and heavy," said Chief Master Sgt. Timothy Finch, B-52 Weapons System Team superintendent, Langley Air Force Base, Va. "If we didn't have the roadmap, our maintenance approach would have been a lot more haphazard and we would have run into a lot more flight stoppers."

Because the B-52 is the only carrier of nine unique weapons and is capable of carrying a much larger quantity at much farther distances, the team took the success of the aircraft personally.

"We were on sight as they left the United States to deploy to help ensure the deployment schedule was met," said Mr. Burke. "While they were deployed, we had Aircraft Battle Damage Repair engineers there to get a firsthand look at challenges and issues as they were actually launching operational missions. Then, as aircraft rotated out or returned home, we were there to look at the conditions and see if there was any adjustments we needed to make to our maintenance schedules."

Mr. Burke stressed it is not just about the here and now.

"We sustain not just to maintain current capability, but also to have the aircraft available for new modifications and new roles," he said.

"This process has paid benefits for the B-52," said Chief Finch. "As a result, we are in the best position for long life as far as any other aircraft. It is capable every bit of 2040." ❐

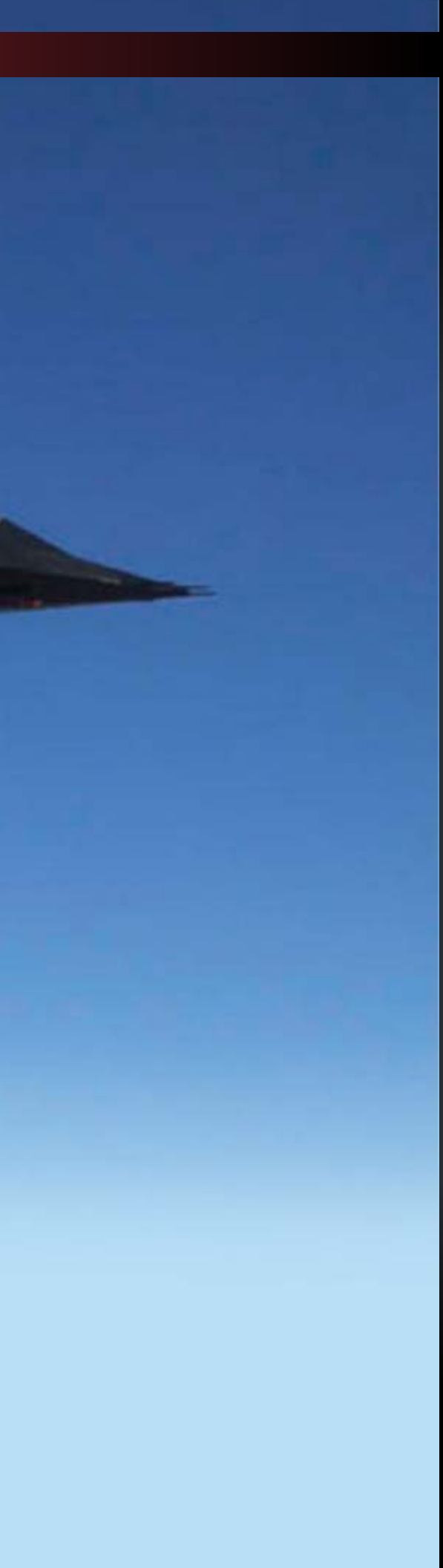
A team at Tinker AFB, Okla., extended the life of the B-52 Stratofortress, changing the aircraft's course from the boneyard to Iraq. More than half of the B-52 fleet was deployed for Operations Enduring Freedom and Iraqi Freedom. (Right) A 40th Expeditionary Bomb Squadron pilot signals ready with a "thumbs-up" sign prior to a B-52 bombing mission over Iraq in April 2003. (AF photo by Tech. Sgt. Richard Freeland)

Lt. Col. Jim Bierstine, 410th Flight Test Squadron commander, successfully executes the first-ever release of a Joint Direct Attack Munition from an F-117A Jan. 21 at the Precision Impact Range at Edwards AFB, Calif. Coupled with an avionics upgrade, this testing will give the F-117 and the Air Force greater flexibility in carrying out various missions. (AF photo)

Smart bombs go stealth

2nd Lt. Christian Hodge

AFFTC Public Affairs



Members of the F-117 Combined Test Force recently released, for the first time, two types of Joint Direct Attack Munitions from a stealth fighter, paving the way for warfighters to have greater flexibility during deployed operations.

Members of the F-117 CTF, home to the 410th Flight Test Squadron, Edwards Air Force Base, Calif., released the GBU-31(v) 1/B and the GBU-31(v) 3/B, both 2000 pound bombs, from an F-117A Nighthawk Jan 21.

"We're upgrading the F-117 to carry JDAMs and other similar weapons currently used in the Air Force inventory," said Lt. Col. Jim Bierstine, 410th FLTS commander and test pilot for the mission. "This is just the first step; we will be testing these kinds of weapons through 2005."

Joint Direct Attack Munitions are autonomous, highly accurate, all-weather capable and lethal. Often dubbed "smart bombs," they're guided by movable tail fins controlled by an inertial guidance and satellite global positioning systems, independently targeting objectives.

The JDAM's (v) 1/B, MK-84 variant, is used for its large blast and explosive force. The (v) 3/B, BLU-109 variant, is used to penetrate hardened targets.

"With the help of AFMC program offices and test centers, we will continue to take the F-117A to new levels of combat capability."

— Brig. Gen. James P. Hunt
Air Combat Command

According to Brig. Gen. James P. Hunt, 49th Fighter Wing commander, Holloman AFB, N.M., the F-117A has proven itself in combat operations every time the nation has called. The 49th FW deploys mission-ready F-117A stealth fighters worldwide to support peacetime and wartime contingencies.

"From Operations Desert Storm to Iraqi Freedom, the Nighthawk has always led the way," said General Hunt. "With the help of AFMC program offices and test centers, we will continue to take the F-117A to new levels of combat capability."

In the meantime, more single-release separations are planned at Edwards AFB, according to Capt. Ted Conklin, F-117A weapons flight commander.

"Upon successful completion of this testing, we'll proceed with dual-release separation testing," he said. "By September of this year, we should have fully defined the operational JDAM envelopes for the F-117A."

When coupled with the aircraft's Block II software upgrade, this new capability means significantly increased flexibility and lethality for the F-117A, said Captain Conklin.

Block II is a software program that updates the F-117 Operational Flight Program to integrate advanced weapons.

The Nighthawk's software upgrade testing is slated to begin in May. The 49th FW is expected receive the upgraded capability in two installments — initial capability in early 2005 and full capability in early 2006.

(2nd Lt. Christy Stravolo, AFMC Public Affairs, contributed to this story.)

Warfighters asked, AFRL delivered

Timothy Anderl
AFRL Public Affairs

Dr. Arthur Morton inspects a "robot ramp" that was specially designed by AFRL engineers and is now being used by deployed forces in Iraq. Dr. Morton works at the AFRL Materials and Manufacturing Directorate's force protection branch at Tyndall AFB, Fla. (AF photo)

Air Force Research Laboratory engineers at Tyndall Air Force Base, Fla., designed and delivered a bumper mount and ramp that allows deployed forces to carry small robots on the back of armored Humvees, making their jobs easier and safer.

The bumper mount and ramp allows Explosive Ordnance Disposal experts, who transport and operate robots, to haul them without having to use a trailer. Robots are used for force-protection, counter-terrorism and EOD operations, including improvised explosive device neutralization and reconnaissance.

The AFRL engineers delivered the mount and ramp to meet an "urgent and compelling" request from Central Air Forces and Air Combat Command officials in November, according to Marshall "Doc" Dutton, an engineer from the materials and manufacturing directorate's force protection branch at Tyndall AFB.

"The modified bumper mount and bi-fold, quick-release ramp technologies will have significant value to people conducting EOD and counter-terrorism activities in forward deployed locations such as Operation Iraqi Freedom," Mr. Dutton said. "The technologies overcome challenges related to complicated ramp assembly currently being used and shows significant advantages over trailers, which have limited maneuverability.

"Deploying this technology is expected to increase the safety of EOD people, who have had to manually approach Improvised Explosive Devices when the current trailer and ramps' limitations impede the remotely-operated system or robot's deployment."

Just a few days after receiving the request, materials and manufacturing directorate engineers identified a commercial off-the-shelf all-terrain vehicle mount, which was compatible with a class-three universal trailer hitch, Mr. Dutton said. This could be used, in conjunction with a ramp, to mount and carry the robots. Teaming with Discount Ramps in West Bend, Wis., six prototype bi-fold ramps were also fabricated.

"Testing our engineers conducted demonstrated that the improved ramps have significant benefits over those commercially developed and available to the commercial market," Mr. Dutton said. "Battlefield advantages include durability and easy assembly and use, which warfighters require while in dangerous or life-threatening situations."

In fact, Mr. Dutton said AFRL engineers drove a 750-pound ATV and its operator, which far exceed the weight of a small robot, onto the ramp and mounted it on a Humvee.

Developed by a subsidiary of Northrop Grumman Corporation, the ANDROS Mark VI is one such robot currently being used in support of Operation Iraqi Freedom that will be carried using the new technologies, Mr. Dutton said. ANDROS Mark VI is a heavy-duty, all-terrain, multi-tracked hazardous duty vehicle equipped with a manipulator arm, gripper, TV cameras, lights and two-way audio. The robot weighs about 350 pounds, is 60 inches long and is remotely operated using an Operator Control Unit.

A unique, articulating track feature enables the vehicle to climb 45-degree stairs and over obstacles up to 24 inches high, he said. The robot is equipped with tracked outriggers which allows it to "stand on its toes" and grow to twice its regular height.

The vehicle is environmentally sealed to operate in any weather condition and in areas of extreme temperature and humidity. AFRL engineers will conduct follow-on testing to determine if the mount and ramp can be used with a larger remotely operated neutralization robot, Mr. Dutton said.

The Air Force Civil Engineering Support Agency has corresponded with Army officials about the technology. The Army is now considering exploring the possibility of using a modified dual-point mount to carry an ATV on armored vehicles without using a trailer.

A B-1B Lancer releases a payload of inert weapons near Edwards AFB, Calif., after breaking almost 50 new world speed records during an air show. Without key repairs made by a Tinker AFB, Okla., team, the wing sweep capabilities that enable the large bomber to fly at supersonic speeds would have failed and the entire fleet would have been grounded. (AF photo by Steve Zapka)

Tinker Team keeps B-1B flying

Darren D. Heusel
OC-ALC Public Affairs

The entire B-1B fleet is still flying thanks to a group of maintainers from Tinker Air Force Base, Okla.

Confronted with a potentially debilitating condition affecting the wing-sweep mechanism, the depot field team traveled to Dyess AFB, Texas, to inspect and repair the B-1B wing pivot shear bearing on aircraft assigned to the 7th Bomb Wing.

"What was happening was the Teflon coating was wearing out and the mechanism was gouging into the wing shear itself," said B-1B engineer John Morgan. "Had this gone on too long, the wing sweep capabilities that enable the large bomber to fly at supersonic speeds would have failed and the entire fleet would have been grounded."

Jerry Hoegger, B-1B aircraft production section chief, said maintainers first noticed the problem in 2001 when one of the aircraft was in depot for repairs. According to Mr. Hoegger, maintainers began right away working a solution to the problem.

"What our depot field team did was extraordinary," he said. "They went down to Dyess AFB to perform a world-class mission in world-class time and that's exactly what they did."

Due to the critical nature of the repair, time was of the essence if the team was to ensure the aircraft could maintain its flying schedule. And before any repairs could be done, the team had to overcome a number of obstacles, including constraints on time, facilities, support equipment and material resources, said Mr. Hoegger.

But that didn't slow them down. The six-member team met its target of 10 aircraft at 925 man-hours per aircraft ahead of schedule. And that was on top of a two-month delay.

Mike Macsas, a B-1B work leader, said even with the delay, his team accelerated the schedule and reduced the timeframe from 36 days per aircraft to 30, enabling them to produce another aircraft on top of the original 10.

"After the Air Force told us initially they wanted 10 aircraft for fiscal year 2003, they said they wanted two more," Mr. Macsas said.

"Once we reduced the number of flow days by working around the clock, we could have given them the two additional aircraft if we had the additional dock space.

"As it was, we were only able to give them the one."

Mike McIntyre, an avionics technician with the depot field team at Dyess AFB, said working on the project has been tough but worth it.

"The support from the top has really been outstanding and that tells me we're doing something really important," Mr. McIntyre said.

To date, the depot field team has completed 13 repairs with zero defects. Six more aircraft are scheduled to be repaired this year and, according to Mr. Hoegger, the team is expected to remain at Dyess AFB until September to pull it off.

TALLIL AIR BASE, Iraq — When a vehicle breaks down here, airmen don't have the luxury of calling a commercial roadside assistance team for help. Instead, a team of 48 people work behind the scenes 24 hours a day, 7 days a week to keep the base's fleet of vehicles on the road.

With almost 470 vehicles to maintain, the airmen of the 332nd Expeditionary Logistics Readiness Squadron Vehicle Management Flight have their hands full. Rain and mud in the rainy season and dust the rest of the time takes a toll on the vehicles.

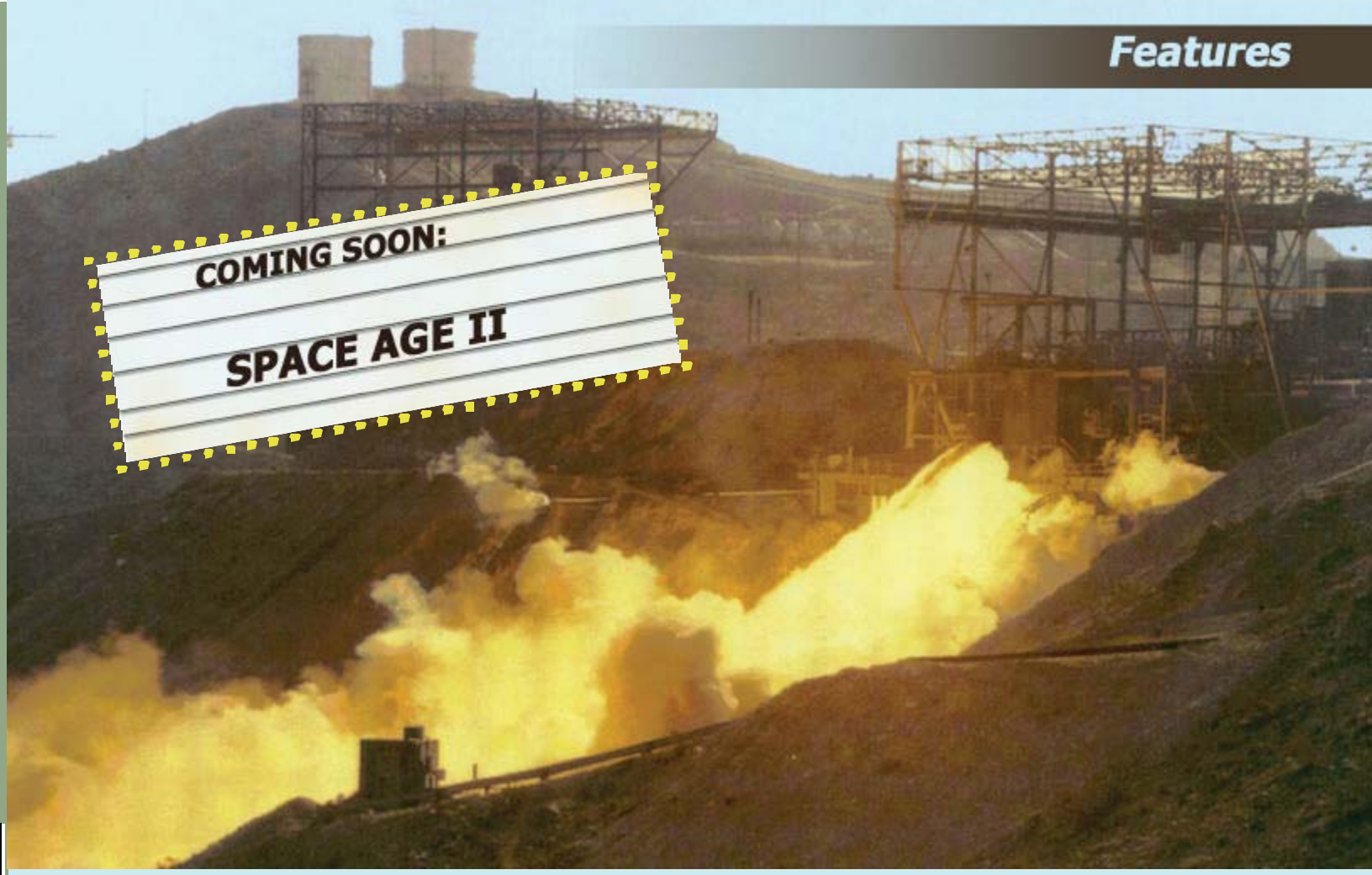
Maintaining the base's Humvee fleet is apparently the flight's biggest challenge since Humvees are used more often than any other vehicle on base.

(Left) Senior Airman Juan Hurtado, a vehicle mechanic deployed to Tallil AB from Holloman AFB, N.M., removes a caliper from a Humvee. (AF photo by Tech. Sgt. Bob Oldham)

AFMC Warfighters

TALLIL AIR BASE, Iraq — For a base in the middle of a combat zone, it's important to know what's happening while it's happening. At Tallil AB, getting that information is the job of the 332nd Air Expeditionary Wing Command Post.

(Right) Senior Airman Tracy Major, command post controller deployed to Tallil AB from Edwards AFB, Calif., uses the "giant voice" to prepare the base for a 4,000 pound ordnance detonation. (AF photo)



Test Stand 2-A at Edwards AFB, Calif., fires an Apollo-era F-1 engine thrust chamber during the 1960s. The test stand was recently upgraded at a cost of $18.5 million. The testing of next-generation rocket engine components on Test Stand 2-A will provide more-reliable, lower-cost and higher-performance rocket engines. (AF photo)

Ranney Adams
AFRL Public Affairs

One of the nation's largest rocket test stands is ready for blast off after getting an 18-month makeover.

Test Stand 2-A, located at the Air Force Research Laboratory's research site at Edwards Air Force Base, Calif., received an $18 million upgrade to accommodate higher engine chamber pressures as well as cryogenic fuels.

Used more than 30 years ago for Apollo Moon-mission F-1 rocket engine production testing, Test Stand 2-A is the only Department of Defense stand capable of performing full-scale rocket thrust chamber development testing in the 750,000-pounds-of-thrust class.

At the ribbon-cutting ceremony in January, AFRL Commander Maj. Gen. Paul D. Nielson noted that history as he talked about the early days of rocket propulsion.

"The first 40 years of launch vehicle and spacecraft development has been described as the first space age," General Nielson said.

"We have done the initial exploration. Now as we go into the 21st century, we are getting involved in the second space age, where our use of space will grow so much. I'd like to think of this facility as one that is really crucial and key to the United States' development of the second space age."

The facility was dormant following the Apollo program, but some of its components were instrumental in developing the Space Shuttle Main Engine according to Robert Drake, AFRL Propulsion Directorate Chief Operations Planner. Later, modernizing the facility became a priority for the liquid rocket technology programs of the AFRL Propulsion Directorate.

"Test Stand 2-A will be a key element in solving a difficult and major challenge in economic space launch propulsion," said Mr. Drake. "That challenge is developing long life cycle, highly operable rocket engines with operational characteristics similar to jet engines."

Technology improvements will lead to rocket engines that can propel hundreds of missions between major overhauls, he said.

"Test Stand 2-A will be the key facility where large-scale development and validation of these technologies can take place."

Model Metal Molders

Lanorris Askew
WR-ALC Public Affairs

Fifty years ago, William "Bill" Shirah picked up a skill that is helping "shape" the U.S. Air Force today.

As a master sheet metal worker, over the years he has bent and shaped the metal that wraps around countless Air Force aircraft.

Today he shares his years of experience with the 53 other members of the sheet metal shop, one of the many back shops that make up the maintenance directorate's commodities and industrial products division at Warner Robins Air Logistics Center, Robins Air Force Base, Ga.

The "Manufacturing Man," as he is fondly called by his fellow crew members, can fashion just about anything out of sheet metal.

"Shirah is a very skillful employee and a great asset to our shop," said Lucion Foreman, shop supervisor.

"I am glad to have his kind of expertise."

Although all of the workers in the sheet metal shop share the title sheet metal mechanic, each has his own special touch that he or she puts into the work.

"I feel that I contribute to the mission of the Air Force by sharing the knowledge and experience that I have in aircraft sheet metal," said Mr. Shirah. "Whenever someone new comes into the shop, if they are interested in learning from my expertise, I gladly share it."

An Air Force veteran himself, the 66 year-old mechanic knows how important it is to make sure his work can speak for him.

"Overhauling C-5 aprons is my main job right now, but I guess I can just about do it all," he said.

The C-5 apron, which holds inspection panels and more importantly, holds the aircraft's engine, is one of his specialties.

The "Manufacturing Man" may know sheet metal inside and out, but it takes the entire team to make weathered pylons, corroded crew doors and dented cargo ramps and flaps as good as new.

"When we work on a part, we feel that when we send it out of here, we're helping (the warfighter) and the aircraft to do their mission," Mr. Foreman said. "Whether it's defending the country by moving troops and cargo or otherwise, our mini-mission is to support the Air Force mission."

But that "mini-mission" has an impact on every type of aircraft Robins AFB services, and even some it doesn't service anymore.

According to Mr. Foreman, even though the last C-141 left Robins AFB months ago, the sheet metal shop still performs sheet metal repairs on its cargo ramps and flaps.

"We were kind of surprised that we're still doing the work on the C-141s, but as long as they keep the work coming we will keep doing it," said the reservist.

Most of the items worked by the sheet metal crew are returned to supply to be used when needed as spares, but that doesn't make their work any less important.

William "Bill" Shirah, a 50-year sheet metal veteran, works on a C-5 Galaxy apron at Robins AFB, Ga. (AF photo by Sue Sapp)

Mr. Foreman said basic sheet metal skills are the main requirement for the job, but reading blue prints and technical orders and operating a drill press are also needed skills.

"When an item comes in it may be corroded, cracked or who knows what else," he said. "They tell us what they need, and we try to get it out in an ample amount of time. It comes in handy to be able to read the blueprints and TOs."

Ron Lusignan has toiled for three and four weeks at a time making sure his items are ready for work when he's done.

"I replace all the seals and repair any cracked or broken parts on the C-5 apron," he said. "It makes me feel like I am helping support the Air Force."

Mr. Foreman said he gets a feeling of pride when a job is complete, and he knows the work is now in the hands of those who protect America.

"It feels good when you repair an item and then look at the news and see an aircraft that you have worked on move some cargo or troops into Iraq."

Wright-Patt reservist space-bound

A U.S. Air Force Reserve officer assigned to the F-16 System Program Office at Wright-Patterson Air Force Base, Ohio, is one of four NASA astronauts selected to fly on the first mission to follow the Space Shuttle's return to flight.

Individual Mobilization Augmentee Lt. Col. Michael Fossum will make his first flight into space on the mission currently planned for some time in 2005. NASA officials indicated the Space Shuttle's return to flight mission is scheduled for launch in March 2005.

Colonel Fossum has been assigned to the SPO for the past seven years as a flight test officer managing F-16 test programs, plans and concepts with the combined test force. During (Space Transportation System) STS-121, he will serve as a mission specialist, supporting flight operations during launch and reentry, and performing two spacewalks while docked to the space station.

Lt. Col. Michael Fossum (left) and fellow astronaut Steven Swanson train inside a specially built KC-135 Stratotanker as they prepare for an upcoming NASA mission. During initial astronaut training, the modified aircraft is used to test tools and basic techniques in moving around in zero gravity. (AF photo)

He's currently training with Air Force Col. Steven Lindsey, who will command STS-121, Navy Cmdr. Mark Kelly, who will serve as pilot, and Marine Corps Lt. Col. Carlos Noriega, who will perform other mission specialist duties.

Colonel Lindsey is a three-time shuttle astronaut who commanded the STS-104 mission in 2001. Commander Kelly has flown in space once, and Colonel Noriega twice. NASA officials said other crewmembers will be named later.

"This is every 12-year old's dream job," said Colonel Fossum. "I feel very fortunate and blessed to have the opportunity to fly in space with the support of my wife and four children."

Lt. Col. Michael Fossum is a reservist assigned to the F-16 System Program Office at Wright-Patterson AFB, Ohio. (AF photo)

At NASA for 11 years since leaving active duty, Colonel Fossum works in the mission control center area as the voice link between the ground and space station crews, known as "CAPCOM," or capsule communicator. Selected as an astronaut in 1998, he also worked on the space station re-design team and flight testing for the X-38 — a prototype lifeboat for the space station.

NASA officials said STS-121 was added to the flight schedule to help accommodate the growing list of requirements originally assigned to the Return to Flight mission. The crew will re-supply the International Space Station with equipment and consumables. They will also continue testing and developing new hardware and procedures designed to make space shuttle flight safer.

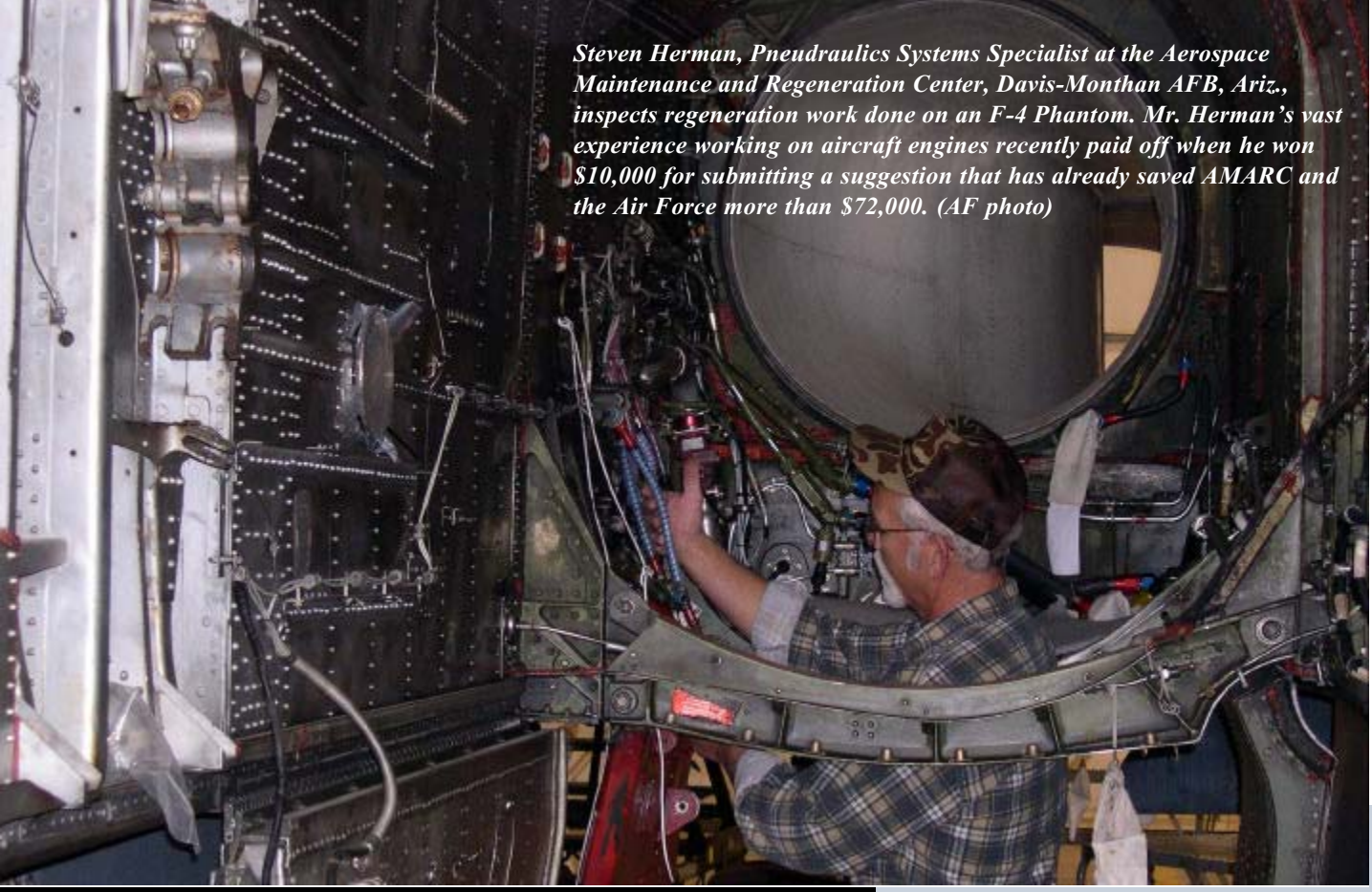
The crew recently began their pre-mission training together at NASA's Johnson Space Center in Houston. NASA experts said their initial activities focus on general procedural training on shuttle and station systems, preliminary spacewalk development and robotics training.

Although training will keep him from coming to Wright-Patterson AFB before the mission, Colonel Fossum said he's looking forward to coming back and sharing his space stories.

"I've had outstanding support from Team Wright-Patt and I'm proud to continue to contribute to its success in whatever way I can," he said.

For crew biographies, visit www.jsc.nasa.gov/Bios/. For information about NASA and the Human Space Flight program on the Internet, visit www.nasa.gov.

(*Susan Murphy and Sue Baker, both of ASC Public Affairs, contributed to this story*.)



Steven Herman, Pneudraulics Systems Specialist at the Aerospace Maintenance and Regeneration Center, Davis-Monthan AFB, Ariz., inspects regeneration work done on an F-4 Phantom. Mr. Herman's vast experience working on aircraft engines recently paid off when he won $10,000 for submitting a suggestion that has already saved AMARC and the Air Force more than $72,000. (AF photo)

A $10,000 idea

2nd Lt. Beth Tucker
AMARC Public Affairs

A pneudraulic systems mechanic at Davis-Monthan Air Force Base, Ariz., is $10,000 richer for proposing an idea that saves costs on F-4 Phantom actuator assembly repairs.

Steven Herman, who works in the Aerospace Maintenance and Regeneration Center restoring F-4s to flyable condition, won his cash through the Innovative Development through Employee Awareness program.

Mr. Herman's suggestion involved a procedure previously accomplished on the F-4's missile fin door actuator. It saves roughly $2,000 for each F-4 being regenerated and it's saved AMARC and the Air Force $72,324 in the first year, according to Mr. Joe Beakey, AMARC aircraft mechanic supervisor.

"I've known about the (IDEA) program since it was the suggestion program," said Mr. Herman.

With more than 20 years of experience as a jet engine mechanic in the Air Force, Mr. Herman said he was determined to submit his idea and have it approved.

His determination has paid off — not once, but twice. This is the second cash reward Mr. Herman has received through the IDEA program and his third submission is currently in the approval process.

The goal of the IDEA program is to reward individuals and teams for contributing ideas "that benefit the government by streamlining processes and improving or increasing productivity and efficiency," said Robin Perry, Davis-Monthan AFB IDEA program manager.

According to Ms. Perry, ideas are submitted through the Idea Program Data System at https://ideas.randolph.af.mil.

"With the inception of IPDS, the submitter is kept informed as to where their idea is at any time," said Ms. Perry.

Each idea submitted is assigned a number and is reviewed at the levels necessary to evaluate and implement it. Throughout the process, everyone involved can check the status of who is evaluating the submission and the comments it received.

"This is a very valuable program to the Air Force, said Jimmy Parham, AMARC's IDEA program point of contact.

"There are technical orders to teach us how to perform our jobs, but no one knows it better than the person in the field doing the work," Mr. Parham said.

"Allowing the work force the opportunity to contribute its ideas to improving the jobs we do is a great asset to the overall system."

During fiscal year 2003, AMARC submitted seven ideas for review and approval. Three ideas were approved — including Mr. Herman's — and three are pending.

Air Force-wide, 7,640 ideas were submitted, 5,341 ideas were approved and $164,317,517 was saved in fiscal year 2003, according to the Air Force Materiel Command's IDEA Program Web site.

There were 93 $10,000 winners across the Air Force in fiscal year 2003. Mr. Herman is the fifth $10,000 winner at Davis-Monthan AFB since April 2002, according to Ms. Perry.

"You won't know if it is useful until you fill out the paperwork," said Mr. Herman, encouraging others to submit their ideas.

Mr. Herman attributes his motivation in submitting his ideas to the program to the all-familiar anecdote, "the only stupid questions are those that are never asked."

a breath of fresh air

Doris Johnson
Eglin Public Affairs

If you ask 4-year-old Blake Henderson who Capt. James Dykas is he'll most likely say, "My pilot," with a look of ownership and pride. But before Dec 26, the two had never met.

Blake, who lives near Eglin Air Force Base, Fla., underwent heart surgery for congenital defects when he was born four years ago. Last year, he and his grandparents were trying to overcome Blake's latest battle — lung disease.

"Blake needs a lung transplant, but it's too risky right now; we have to wait until he gets older," said Fred Henderson, Blake's grandfather. "As part of his therapy, he takes four nebulizer treatments a day."

The nebulizer is a device used to send medicine in the form of a fine spray directly to the lungs by breathing through the mouth or nose. The treatments became a problem when Blake wouldn't stay still to hold the plastic applicator in his mouth.

"We got a mask to hold the mouthpiece and free his hands, but with everything he's been through, the mask was scary for him," said Rae Garmon, Blake's step-grandmother. "He would cry and resist every time we would give him a treatment, and he looked at the treatments as punishment."

His grandparents talked to him about why he needed the treatments, but Blake was still opposed, scared of what the mask felt like on his face.

Losing hope, his grandparents looked for something, anything, to get Blake to accept the treatments without a struggle.

Capt. James Dykas was just what they needed. He serves as a B-1B pilot and Flight Safety Officer for the 37th Bomb Squadron at Ellsworth AFB, S.D.

Captain Dykas's mother Lina, who works in the same office as Mrs. Garmon at Eglin AFB, kept a picture on her desk of her son sitting in the cockpit wearing his helmet and oxygen mask.

"Around August, Rae was talking with me one day in my office. She saw the picture of James and noticed how much his oxygen mask resembled the mask Blake uses," Mrs. Dykas said. "I am very proud that my son is in the Air Force, and I hoped the picture of him could help Blake."

Mrs. Garmon took the photo home, explained to Blake that Captain Dykas was a real pilot and that he wore his mask to breathe better. Blake connected.

In what seemed like an instant to his grandparents who had faced months of resistance, Blake accepted the treatments.

"Blake thrived on the fact that 'Captain James' was a real person and it was like he had his own personal pilot to be proud of," Mrs. Garmon said. "Every time he had a treatment, he would get the picture and think of his pilot."

"Captain James," as Blake called him, was serving in the war in Iraq unaware of the impact he was having on the homefront. He found out about his 4-year-old fan through his mother.

"When my mom sent me the picture of Blake with his nebulizer on, holding the picture of me on his lap, it was one of the most moving things I had ever seen," Captain Dykas said. "I had no idea that any of this was going on and it was incredible to think that a simple picture could make a difference."

Captain Dykas returned from overseas the week before Christmas and decided it was time to meet his young admirer. The day after Christmas, Blake received a most welcome present — Captain Dykas in the flesh.

"He was just in awe that Captain James was coming to visit him," Mr. Henderson said.

"When I did meet him, I just tried to talk to him and get to know him," Captain Dykas said. "He was shy at first, but we were playing with his toys and hitting tee-balls in no time."

Captain Dykas showered Blake with presents, one of which was a temporary tattoo of his squadron's insignia.

"Blake was so proud of that," Mrs. Garmon said. "The first thing he wanted to know when it came time for Captain James to leave was when he would visit him again. He had such a wonderful time meeting his pilot."

Now back at Ellsworth AFB, Captain Dykas said knowing Blake adds a new dimension to his job.

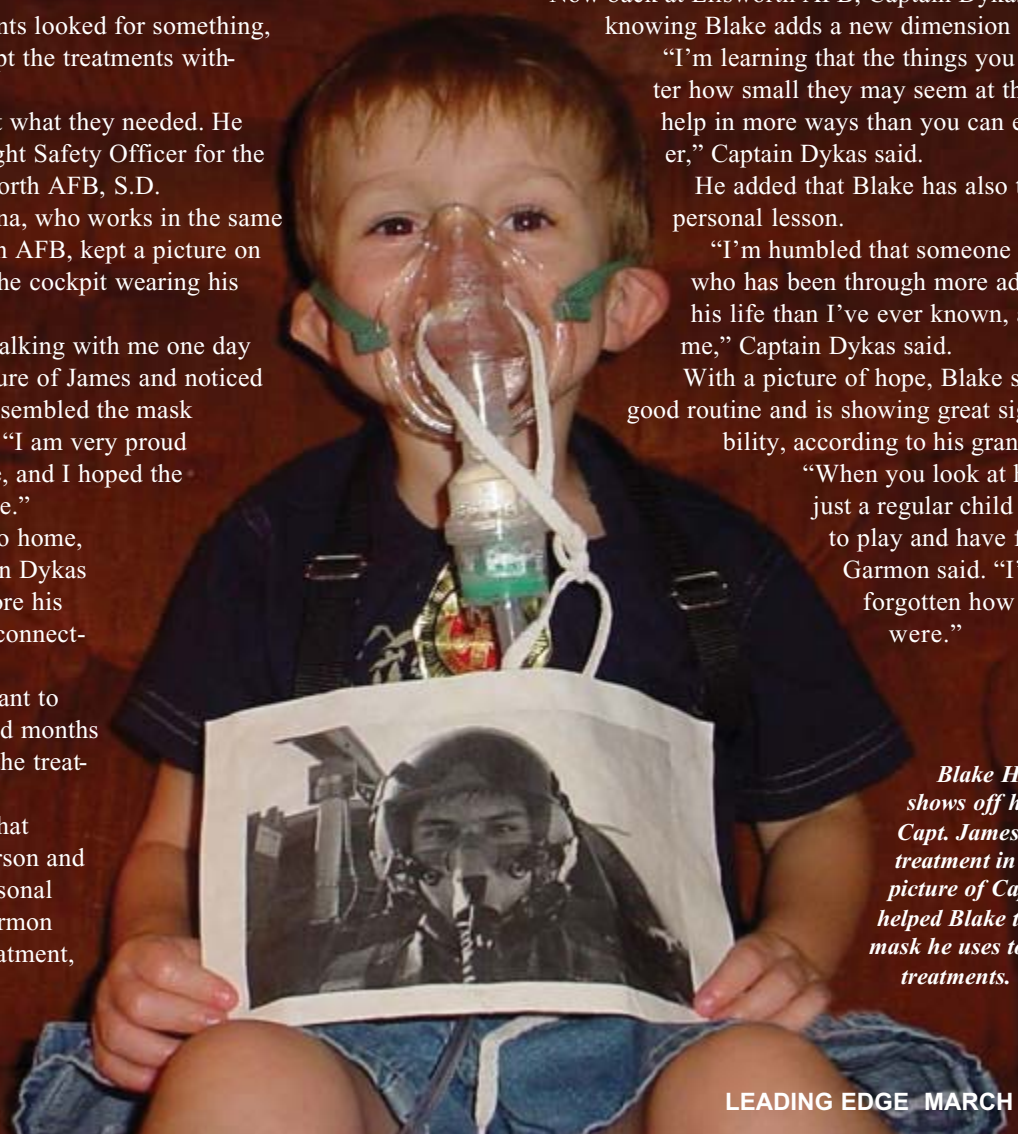
"I'm learning that the things you do, no matter how small they may seem at the time, can help in more ways than you can ever consider," Captain Dykas said.

He added that Blake has also taught him a personal lesson.

"I'm humbled that someone like Blake, who has been through more adversity in his life than I've ever known, admires me," Captain Dykas said.

With a picture of hope, Blake settled into a good routine and is showing great signs of stability, according to his grandparents.

"When you look at him, he is just a regular child who loves to play and have fun," Mrs. Garmon said. "I've almost forgotten how hard things were."



Blake Henderson, 4, shows off his photo of Capt. James Dykas during a treatment in October. The picture of Captain Dykas helped Blake to accept the mask he uses to take nebulizer treatments. (AF photo)

Tinker nets environmental honors

Tinker AFB, Okla., environmental restoration partners Steve McManus, left, and Steve Smith, with Science Applications International Corporation, inspect soil core samples by a landfill near Tinker's General James E. Hill Conference Center. (AF photo by Brion Ockenfels)

TINKER AIR FORCE BASE, Okla. — Tinker Air Force Base's Environmental Directorate will receive top Air Force honors for the second year in a row.

The Oklahoma City Air Logistics Center took the Gen. Thomas D. White Environmental Restoration Award for 2003 for its efforts in cleaning up sites where chemicals pose environmental risks.

"Tinker's Installation Restoration Program management plan is aggressive," said Joseph Cecrle, who heads up the restoration program. "We'll have a final remedy in place for all 40 restoration sites by 2008 — seven years ahead of Air Force and Defense Department goals."

According to Mr. Cecrle, the team management approach and aggressive cleanup schedule are the backbone of the base's success, saving more than $32.1 million.

World War II-era industrial practices are the cause of many of the contaminated sites.

"Thorough investigation of each Tinker Air Force Base site has allowed some of our interim actions to become the final action because they worked so well," said Mr. Cecrle. "This saves restoration dollars which are used to clean up other sites.

The community plays an important role in site cleanup through Air Force-sponsored public involvement activities, including opportunities to comment on proposed site activity and Community Advisory Board participation."

The base will now compete for the Secretary of Defense Environmental Security Award.

— OC-ALC Public Affairs

ARG racks up 5th Outstanding Unit Award

Lt. Gen. William Welser III, left, 18th Air Force commander, Scott AFB, Ill., examines an ice removal tool for a C-5 leading edge slat as Maj. Jon Claunch, 19th Maintenance Squadron commander, looks on. The general toured the 19th Air Refueling Group's facilities, prior to presenting the group with its fifth consecutive Air Force Outstanding Unit Award. (AF photo by Sue Sapp)

ROBINS AIR FORCE BASE, Ga. — The 19th Air Refueling Group has garnered its fifth consecutive Air Force Outstanding Unit Award.

Presented by Lt. Gen. William Welser III, 18th Air Force commander, Scott Air Force Base, Ill., the award came as a result of the group's actions in fiscal year 2003.

During that time, the group accomplished 49 Operation Noble Eagle missions, 139 Operation Enduring Freedom combat missions and 293 air refueling missions in support of Operation Iraqi Freedom.

In addition, the group's 19th Maintenance Squadron excelled in record C-5 production output, repairing an average of more than 1,800 discrepancies per aircraft, while eliminating more than 4,700 aircraft downtime hours.

"It's tremendous for any unit to achieve an award like this," Col. Raymond Rottman, 19th ARG commander, said. "But to have achieved it five consecutive times is an amazing feat."

"Awards are earned by individuals all the time," said Master Sgt. Tracy Bivins, 19th Aircraft Maintenance Squadron's first sergeant. "But when a unit comes together and earns an award, that's outstanding. The fact that we have a high (operational) tempo and still made it speaks volumes about our group."

— WR-ALC Public Affairs

Robins wins pollution prevention award

ROBINS AIR FORCE BASE, Ga. — Robins AFB will receive the 2003 Gen. Thomas D. White Pollution Prevention Industrial Category Award for excellence in environmental protection measures.

Environmental Management initially won the same category award at the Air Force Materiel Command level and is currently competing for the Secretary of Defense Environmental Award for Pollution Prevention in the industrial category — award often presented the same day by the Secretary of Defense and Secretary of the Air Force.

Steve Coyle, environmental management directorate director, said Lean initiatives at Robins AFB have paved the way for pollution prevention success.

Lean is a business methodology of streamlining operations, management processes, personnel and logisitcs to increase an organization's overall value.

"A great resource for identifying pollution prevention opportunities comes from basewide Lean events, and the Lean events themselves often result in waste reduction," he said. "Pollution prevention benefits the base as well as the surrounding communities with reductions in air emissions, resulting in an overall cleaner environment."

— WR-ALC Public Affairs

Flight chief named engineer of the year

ROBINS AIR FORCE BASE, Ga. — One of 26 candidates, Nancy Manley recently became the first woman to ever receive the Federal Engineer of the Year Award.

National Society of Professional Engineers President Terry Helminger presented the award to Manley, Engineering Flight chief for the 778th Civil Engineering Squadron.

The Fort Smith, Ark., native said she never imagined she would earn it.

"I was in shock," she said. "There were 10 finalists up there. I figured one of them would get it because there are so many other good engineers out there."

Lt. Col. Joe Ballard, 778th Civil Engineering Squadron commander, said he sees it as well-deserved.

"Nancy is a great engineer and has done a very effective job managing over $150 million in design and construction work this past year," he said. "She has a staff of about 60 engineers who move mountains at Robins. Nancy's recognition just epitomizes what we take for granted every day here — we have a super team."

— WR-ALC Public Affairs

Hanscom team earns engineering award

HANSCOM AIR FORCE BASE, Mass. — Members of the Electronic System Center's Battle Management Command, Control and Communications Capabilities System Program Office will receive the DoD Value Engineering Team Achievement Award, one of the Air Force's highest achievement awards.

This competition recognizes outstanding contributions toward reducing costs, improving quality, enhancing effectiveness and increasing efficiency within the DoD.

Specifically, the acquisitions team of 1st Lt. John Patrick, 2nd Lt. Adam Howes, Heidi Helwig, Gillian Ferguson and Ray Boucher, all hardware program managers, is being recognized for implementing process improvements, resulting in an estimated average savings of 30 percent on the procurement of new hardware during the 2003 fiscal year.

During Operation Iraqi Freedom, the team provided material support by delivering state-of-the-art hardware capabilities to the warfighter. The team delivered, in a 23-day time frame, improved visibility kneeboards to Combat Search and Rescue HH-60s helicopter squadrons.

On another procurement, the team negotiated a 58 percent discount on Air Combat Command's deployable Mission Planning workstations, Ms. Ferguson said. "That's a savings to ACC of approximately $419,000."

The hardware procurement team's customer portfolio is mostly made up of programs such as Mission Planning, Theatre Battle Management Core Systems, Time Critical Targeting, Field Training Unit, and Weather, Ms. Helwig and Ms. Ferguson said.

However, they added, "charity work" for operational units and various program offices outside of the procurement team's envelope is growing.

— ESC Public Affairs

Eglin pegged "Best Base" *... again*

SPRINGFIELD, Va. — Eglin Air Force Base, Fla., has been selected by the Air Force Times as the winner of the 3rd Annual Air Force Times "Best Base" Award.

Eglin AFB is recognized as the base achieving the highest quality of life in living conditions, community spirit and support for service members and their families in 2003.

The recognition is based on input from airmen who actually live and work at Eglin AFB or were stationed there in the past and Air Force Times judged the nominations from a broad set of criteria.

Of the base's 8,500 airmen, approximately half work for the host organization, the Air Armament Center.

The center is part of Air Force Materiel Command and is responsible for creating and testing most of the bombs and missiles carried by Air Force warplanes.

In addition to naming Eglin as the overall "Best Base" award winner, individual subcategory honorable mention winners were selected from Air Force Times reader recommendations:

Best overall: Eglin AFB

Quality of life: Eglin AFB

Community spirit and support: Charleston AFB

Singles: Wright-Patterson AFB

Families: Eglin AFB

Recreation: Langley AFB

Housing and facilities: Eglin AFB

Retirement: Eglin AFB

Small base: Vandenberg AFB

— Air Force Times

We won't fly the Raptor
in combat...
...we're making it lethal
for those who will.
AFMC