CONTENTS...

Association News

Chairman’s Comments ........................................................................................................... 2
President’s Message ................................................................................................................ 3
Secretary’s Notes ................................................................................................................... 3
Association Round-Up .......................................................................................................... 4

Cover Story

A Force To Be Reckoned With ............................................................................................... 8-14
The Enlisted Force is Smart, Flexible and Dedicated

Departments

Corporate Close-Up ............................................................................................................. 16
Corporate Member Spotlight: ARINC ............................................................................... 17-18
Mobility News & Views ....................................................................................................... 19-21
AMC Operational Test & Evaluation .................................................................................. 27

Features

White Paper
First in Fleet: KC-135 Global Air Traffic Management (GATM) ............................. 22-23
by LtCol L. D. Alford

2004 Convention & Symposium Rules of Engagement ........................................... 25-26
2004 Convention & Symposium Registration Form ................................................... 28

ON THE COVER: Senior Airman Dustin Treadwell waits by for his convoy to depart March 8 somewhere in Southwest Asia. Airman Treadwell is deployed from Ramstein Air Base, Germany. (U.S. Air Force photo by Senior Airman James C. Dillard)
Top Ten Reasons to Use “FORCE” When Talking About Air Mobility’s Incredible Enlisted Personnel

Continuing the A/TQ tradition of focusing on the “Enlisted Force” in the Spring edition, this edition contains stories and articles about enlisted personnel, from airmen to chiefs, who prove that the “Enlisted Force” is a “force to be reckoned with.”

There are many good reasons that air mobility enlisted personnel are often collectively referred to as the “Enlisted Force,” and, incredibly, the Top Ten reasons are found in the word’s very definition –

force (forst, fors) noun
10. A vector quantity that produces an acceleration of a body in the direction of its application. The “Enlisted Force” puts the “mobility” in air mobility, and air mobility is the essential element in force projection.

9. Units of a nation’s military personnel, especially those deployed into combat. The “Enlisted Force” makes up the vast majority of personnel deployed into “harm’s way.”

8. Military strength. The “Enlisted Force” is the muscle behind “military strength.”

7. A person or group capable of influential action. The “Enlisted Force” is smart, strong and savvy.

6. A body of persons or other resources organized or available for a certain purpose. The “Enlisted Force” is nothing if not organized, and is available 24/7/365.

5. A capacity for affecting the mind or behavior; efficacy. The “Enlisted Force” fields teachers, leaders and technical experts.

4. Intellectual and moral power or vigor. The “Enlisted Force” exemplifies the core values of the Air Force – integrity first; service before self; excellence in all we do.

3. The use of physical power to compel or restrain. The “Enlisted Force” performs most of the “heavy lifting” and provides most of the personnel performing security duties.

2. Power made operative against resistance; exertion. The “Enlisted Force” make up the vast majority of “boots on the ground,” often in hostile, demanding environments.

1. The capacity to do work or cause physical change; energy, strength, and active power. The “Enlisted Force” works hard, day-in and day-out, with energy, strength and active power.

Thanks for all you do!

Collin Bakse, editor

Editor’s Note: In the Winter edition it was reported that the first C-5 aircrew to fly into Baghdad was with the 9th AS – the crew was actually with the 3rd AS, 426 AW, Dover AFB, Delaware. Bragging rights restored!

As this message goes to press the men and women of the Air Mobility Command and their CRAF partners are completing the largest movement of U.S. military forces since World War II. This has been a prodigious undertaking, planned by U.S. TRANSCOM and executed by the aircrews, aircraft ground crews and the enroute support personnel from which this Association draws its membership. Your Association leadership is proud of the accomplishments of each and every one of you.

With this activity as a backdrop, the Board of Directors, officers and members the Advisory Board convened at MacDill AFB on 19-21 March. We enjoyed superb support from the 6th AMW and members of the Janus chapter. The bulk of the agenda for this meeting involved wrap-up issues from the 2003 Convention and special emphasis planning for the 2004 Convention to be held in Dallas, 27-31 October.

After discussing the continued high level of operational tempo of the Air Mobility force, the new Air Force emphasis on fitness and the continuing and indefinite nature of the War on Terror, the Board adopted the following theme for this year’s convention: Mobility: Marathon for Freedom. We also decided to revise the format slightly by reducing the number of keynote speakers so more time will be available for seminars. By popular demand we are going to bring back the “old timers” seminar. Additionally, the Chairman’s Luncheon will be refocused to give our key corporate supporters greater access to the senior uniformed leadership as a prelude to the flag officer tour of the vendor displays.

In a major change to the program for the current year we will not have an induction ceremony for the Hall of Fame. This has been one of the highlights at each recent convention. Due to time constraints and the high operational tempo with the associated engagement of most of our chapter members in ongoing contingency operations the selection committee did not receive the required nominating packages from which to select a slate of candidates. Rather than compromise the integrity of the award and the selection process by force feeding nominations, the Board decided to forego any induction ceremony this year. We have initiated a program to provide our key corporate supporters greater access to the senior uniformed leadership as a prelude to the flag officer tour of the vendor displays.

In closing I want to congratulate General Handy and the men and women of Air Mobility Command on the outstanding performance in their marathon against terror and in support of freedom and democracy.

Ron Fogleman, Chairman
Hooah air mobility warriors. The theme of the spring issue of A/TQ focuses on our enlisted force. I am very proud to recognize your continued efforts all over the globe. As our cover story indicates, today’s enlisted force is smart, flexible, and dedicated. From the first enlisted graduates at the Air Force Institute of Technology (AFIT), to the air transporter push, pull, lift, and roll of cargo into Afghanistan and Iraq, the search for fallen heroes in Southeast Asia, the enlisted force continues to inspire our efforts to make a difference. It is the synergy of the enlisted force and officer corps that wins the day. We are very proud to share some of your many contributions and achievements to preserve our freedom in this issue.

As most of you know, the A/TA awards program falls under the duties and responsibilities of the President. I am extremely proud to announce three new awards and one trophy recently approved by the A/TA Board. First, the “Halvorsen Award.” Named after our own esteemed Candy Bomber, Colonel (Ret) Gail Halvorsen, this prestigious award identifies and recognizes an outstanding Air Transportation (2T2XX) member for sustained excellence in aerial port operations. These warriors plan, schedule and process air cargo, passengers and mail; load and unload all types of aircraft; prepare and maintain air movement records and reports; and perform fleet services on multiple aircraft. Aerial porters support DOD wartime, peacetime and humanitarian airlift requirements in all environments - austere to established locations. The Airlift/Tanker Association is extremely honored to have Colonel Halvorsen present this award for the first time at our annual convention in Dallas.

The second new award is named the “Specialized Mission Award.” This award identifies and recognizes an outstanding individual whose performance of duties in support of an aerial air mobility mission is exceptionally noteworthy during crises, contingencies, or humanitarian airlift. Outstanding performance of flight duties and adaptability to unusual job assignments or difficult situations are two of the criteria used to select the recipient. We look forward to recognizing the first beneficiary in this new award category.

The third award is named the “President’s Award.” This award recognizes an A/TA member-volunteer who has contributed immeasurably to the overall success of the Airlift/Tanker Association. We have many volunteers who remain unrecognized for their efforts and contributions to this great organization. All non-elected, non-compensated A/TA members are eligible. We are excited about honoring one or more of our members each year for their hard work to make our association so successful.

Finally, our annual CRUD tournament has become so successful under the leadership of our Secretary—Col (Ret) Barry Creighton; I would like to announce the creation of the Chairman’s Cup. This award recognizes the winning CRUD team with a distinguished Cup for display in a squadron, group, or wing facility. The Chairman’s Cup will be presented to the winning CRUD team at our annual convention by the A/TA Chairman.

In closing, I would like to recognize Major Mitch McLaren for his hard work and efforts while serving as the A/TA – AMC liaison for the past several years. Major McClaren coordinated many tasks with AMC and continually provided excellent feedback and coordination for the association. Thanks Mitch. We wish you well as you move back into the C-130 cockpit at Hurlburt.

Many air mobility forces remain deployed serving our country. Thanks for the sacrifices you and your family are making for the United States of America. Our prayers and support are with you always. God bless you all. Cabin Report...Secure!

Mark Smith, President

SECRETARY’S NOTES

Looks like we’ve made it through the “Dark Ages” once again as daylight savings time has kicked in and I can hear the sound of lawn mowers every Saturday morning.

I received several inquiries over the winter about our Crud Tournament. Some requested a “clinic” and most wanted a better explanation of the rules of play, tournament procedures and the like. Well, search no more.

Thanks to Major Peter “High Speed” Mastroianni, we now have an official Airlift/Tanker Association Concept of Operations for the game. (Must have been the Dark Ages out at Scott as well.) So, if you are curious, or you are eager to get your team into serious training for Dallas, or you just want a few chuckles—go to www.atalink.org and link to the Crud CONOPS. Here’s a sample of what you’ll see:

2.11. Arguing. Arguing with the Ref is authorized. However, there is a time where your intelligence and sportsmanship may become suspect. This is probably just the result of your eagerness to do well and excel in a sport that is recognized Air Force wide as a flyer’s game. Be cautions though, for besides ruining your career and making an a-- out of yourself, you may more importantly cost your team another life. This is an unforgivable and grave act!!!

2.11.1. The Ref’s rulings are FINAL.

2.11.2. The Ref may change any of the above rules on a whim. (Or make up additional ones as time passes.)

Thanks High Speed. (And stand by for a brand new team trophy for the 2004 winners.)

Finally--a great big salute to you all as you continue to do your part for our great nation. Stay the course and don’t miss an opportunity to smile.

Barry Creighton, Secretary

America’s Air Mobility Forces.
Mt. Fuji & Ryukyu Chapters

Medal of Honor Recipient Visits Japan and Okinawa

The Mt. Fuji (formerly the Shogun Chapter) and Ryukyu Chapters of the Airlift Tanker Association were proud to host two of airlift’s true heroes when Colonel (ret) Joe Jackson and CMSgt (ret) Bill Cannon visited them in February.

Col. Jackson is the only airlift pilot to ever receive the Medal of Honor and is one of only five AF medal of honor recipients alive today. CMSgt (ret) Bill Cannon, is the immediate past president of the A/TA and founder of the Professional Loadmasters’ Association.

(L to R) Col Mark Schissler, 374 AW/CC; CMSgt Bill Cannon; Col Joe Jackson; Lt Col Chris Valle, Mt. Fuji Chapter Vice President; Lt Col Jeff Mintzlaff, Mt. Fuji Chapter President; and, CMSgt Steve Wright, 730 AMS/TRE.

The visits grew out of an invitation by Col Mark Schissler, 374th Airlift Wing Commander, extended to Col Jackson to take part in the wing’s professional development program and to help rededicate Yokota’s Medal of Honor Memorial by adding the name of Anm Pittsenbarger to the list of recipients. The trip turned into a whirlwind, 8 day extravaganza of briefings, squadron and facility visits, radio and television interviews and promotion and dedication ceremonies. Colonel Jackson and Chief Cannon met face to face with general officers, wing/group/squadron commanders and staff, along with field/company grade officers and all enlisted personnel including command chiefs, CMSgts, NCOs and airmen who were available on both stations. They also met up with General John Handy, AMC commander, and Command Chief Mike Kerver.

Colonel Jackson shared his career experiences in several forums and presented his “Khan Duc Presentation” about the events of May 12, 1968 (Mothers’ Day), that earned him our nation’s highest honor. Colonel Jackson received the Medal of Honor for rescuing three Air Force combat controllers with his C-123 aircraft at the risk of his own life at Kham Duc, South Vietnam. He endured heavy enemy fire and difficult runway conditions to extract the team.

Colonel Jackson said his crew and he were “the luckiest guys in the world” for performing the rescue successfully, however he feels his actions were not just for himself.

“This medal around my neck doesn’t belong to me,” he said. “It belongs to all Airmen. I am representing all those who have fallen in battle and were not fully recognized.

“I was really impressed with how the junior Airmen have such an understanding of the Air Force’s mission.”

– Colonel Joe Jackson

Colonel Joe Jackson and Chief Cannon anticipating a rickshaw ride in downtown Tokyo.

Following a formal 374th AW Commanders’ Sponsored dinner at the Yokota Officers’ Club with Japanese dignitaries. (L to R) Col Joe Jackson (MOH recipient), Maj General Michitaka Ochi (Japanese Air Force/ Retired) and Colonel Mark Schissler,374th Airlift Wing Commander.

“I feel the camaraderie all over again. I spent more time with the military, so it’s like going back to see my family – my Air Force family,” he said.

“I think it is valuable to meet and speak with someone who is part of our Air Force history,” said 374th Maintenance Squadron member and ALS student Senior Airman Bryon Bass.

Colonel Jackson also shared his opinions on education and the officer and enlisted corps, said Airman Bass.

“One of the things I liked was that we not only got the opportunity to have him here, but young Airmen also gained insight of how things differ from the Air Force of his generation,” said Senior Airman Ivan Abudo, 786th Communication Squadron member and ALS student.

Colonel Jackson said one of the most memorable parts of his visit was speaking to Yokota’s ALS. “I was really impressed with how the junior Airmen have such an understanding of the Air Force’s mission,” he said.

“Today’s Airmen are sharp, bright, motivated and dedicated,” said Colonel Jackson. He also said he was impressed by the number of junior Airmen pursuing a college education.
Lt Col Jeff Mintzlaff, Mt. Fuji Chapter Vice President, presenting thank you gift to CMSgt Bill Cannon for speaking at the A/TA Luncheon.

Colonel Jackson also spoke at the monthly promotion ceremony, Commander’s Corner radio show on Eagle 810, and an open briefing at the base theater.

“I am glad the Air Force is run by people like them,” he said.

Chief Cannon was the guest speaker at the Mt. Fuji Chapter’s A/TA luncheon. Chief Cannon gave a great presentation covering 50 years of airlift and was presented with a Photo of Mt. Fuji from Chapter President, Lt Col Jeff Mintzlaff.

Chief Cannon was particularly impressed with the way Colonel Jackson interacted with young officers and airmen on the trip, saying he reminded him of a professor talking with his young students. Reflecting on the trip after returning home, Chief Cannon said, “...it was a very beneficial trip for both the A/TA and Air Force personnel. Colonel Jackson inspired a lot of folks in a short period of time, and although quite tired a few days he “pressed-on” like the true warrior he is!”

Editor’s Note: This story was developed from inputs from the Chapters, Chief Cannon and excerpts from a story by AIC Katie Thomas, 374th Airlift Wing Public Affairs.

**Great Lakes Chapter**

**AMC Vice: Tankers Crucial to Largest Airlift Since Berlin**

by 2nd Lt. Terry Bond
927th Air Refueling Wing Public Affairs

“Tanker airlift will play a critical role in the biggest airlift mission since Berlin,” Air Mobility Command’s vice commander told members of the 927th Air Refueling Wing.

Lt. Gen. John R. Baker was the keynote speaker at a recent Airlift/Tanker Association’s Great Lakes Chapter meeting held during the February UTA at Selfridge.

Chief Cannon was particularly impressed with the way Colonel Jackson interacted with young officers and airmen on the trip, saying he reminded him of a professor talking with his young students. Reflecting on the trip after returning home, Chief Cannon said, “...it was a very beneficial trip for both the A/TA and Air Force personnel. Colonel Jackson inspired a lot of folks in a short period of time, and although quite tired a few days he “pressed-on” like the true warrior he is!”

Editor’s Note: This story was developed from inputs from the Chapters, Chief Cannon and excerpts from a story by AIC Katie Thomas, 374th Airlift Wing Public Affairs.

**Tony Jannus Chapter**

**A/TA National Board Meets at MacDill**

by Mr. Collin R. Bakse,
Editor, Airlift/Tanker Quarterly

MacDill AFB, Florida – The Tony Jannus Chapter of the Airlift/Tanker Association (A/TA) hosted the Association’s National Board of Officers for its Winter Quarterly Board Meeting at MacDill AFB, Florida, on 19 and 20 March 2004. The Board periodically schedules quarterly meetings at a Chapter location so the Board’s members can meet and connect with A/TA members at the “grassroots” level.

The meeting, held at the General Benjamin O. Davis Jr. Conference Center, was the first quarterly meeting presided over by the Association’s new Chairman, Gen. Ronald R. Fogleman, USAF (ret). The meeting featured an informative mission brief on the 6th AMW...
## 2003 Statement of Financial Position

### Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>$374,278</td>
</tr>
<tr>
<td>Investments - US Treasury</td>
<td>$50,000</td>
</tr>
<tr>
<td>Investment - CSX Stock</td>
<td>$7,188</td>
</tr>
<tr>
<td>Inventory - Logo Items</td>
<td>$6,766</td>
</tr>
<tr>
<td>Property and equipment</td>
<td>$603</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td><strong>$438,835</strong></td>
</tr>
</tbody>
</table>

### Liabilities and Net Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liabilities</td>
<td>$0</td>
</tr>
<tr>
<td>Accounts Payable and Accrued Expenses</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Total Liabilities</strong></td>
<td><strong>$0</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Assets</td>
<td>$0</td>
</tr>
<tr>
<td>Unrestricted</td>
<td>$413,235</td>
</tr>
<tr>
<td>Temporarily restricted (Memorial)</td>
<td>$25,600</td>
</tr>
<tr>
<td><strong>Total Net Assets</strong></td>
<td><strong>$438,835</strong></td>
</tr>
</tbody>
</table>

### Total Liabilities and Net Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Liabilities and Net Assets</strong></td>
<td><strong>$438,835</strong></td>
</tr>
</tbody>
</table>

## 2003 Statement of Activities

### Unrestricted Net Assets

Unrestricted revenues, gains and other support

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate Memberships</td>
<td>$42,720</td>
</tr>
<tr>
<td>Individual Memberships</td>
<td>$146,345</td>
</tr>
<tr>
<td>Convention Booths</td>
<td>$448,793</td>
</tr>
<tr>
<td>Convention Registrations</td>
<td>$695,280</td>
</tr>
<tr>
<td>Magazine Advertising</td>
<td>$31,226</td>
</tr>
<tr>
<td>Dividends</td>
<td>$830</td>
</tr>
<tr>
<td>Unrealized Gain/Loss on Securities</td>
<td>$1,526</td>
</tr>
<tr>
<td>Interest</td>
<td>$1,730</td>
</tr>
<tr>
<td>Logo Sales, Net</td>
<td>$1,017</td>
</tr>
<tr>
<td><strong>Total Unrestricted Revenues, etc.</strong></td>
<td><strong>$1,369,467</strong></td>
</tr>
</tbody>
</table>

Net Assets Released from Restrictions

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restrictions Satisfied by Payments</td>
<td>$1,100</td>
</tr>
<tr>
<td><strong>Total Unrestricted Revenues, Etc.</strong></td>
<td><strong>$1,370,567</strong></td>
</tr>
</tbody>
</table>

### Expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Program Services</td>
<td>$82,516</td>
</tr>
<tr>
<td>Management and General</td>
<td>$1,182,865</td>
</tr>
<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>$1,265,381</strong></td>
</tr>
</tbody>
</table>

Increase in Unrestricted Net Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$105,186</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Temporarily Restricted Net Assets

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Award Donations</td>
<td>$500</td>
</tr>
<tr>
<td>Scholarship Fund</td>
<td>$600</td>
</tr>
<tr>
<td>Net Assets Released from Restrictions</td>
<td></td>
</tr>
<tr>
<td>Restrictions Satisfied by Payments</td>
<td>($1,100)</td>
</tr>
<tr>
<td>Decrease in Temporarily Restricted Net Assets</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Increase in Net Assets</strong></td>
<td><strong>$105,186</strong></td>
</tr>
</tbody>
</table>

### Net Assets at Beginning of Year

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$333,649</strong></td>
<td></td>
</tr>
</tbody>
</table>

### Net Assets at End of Year

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>$438,835</strong></td>
<td></td>
</tr>
</tbody>
</table>
2004 Convention & Symposium planning including the development and adoption of the theme for the convention to be held in Dallas, Texas – “Mobility: Marathon for Freedom.”

The Tony Jannus Chapter officers, LTC Keith Kreeger, President, SMSgt Tom Hincman, Vice President, 1Lt Chris Cope, Treasurer, and, TSgt Chris White, Secretary, planned and executed a first class event. The meeting accommodations were excellent and the chapter social held in conjunction with the meeting afforded the Board the opportunity to meet some old friends and make some new ones. “The ‘state-of-art,’ professional atmosphere of the conference center added greatly to a very productive meeting,” said Association President, CMSgt Mark Smith, USAF (ret). “The support we received from the Chapter was tremendous, and I want the Chapter officers to know that we really appreciated their efforts,” he added.

Also in attendance were: MGen (Ret) Buck Marr, Association Senior Vice President; MGen (Ret) Bob Patterson, Past Chairman/Board of Advisors; MGen Mark Volcheff, representing AMC; BGen Dextor Tutor, representing the ANG; BGen (Ret) Jim Swanson, Association Legal Advisor; Col Bill Thomas, representing the AFRC; Col(Ret) & Mrs Bud and Pam Traynor, Association Database/Convention Registration; Col (Ret) Bob Dawson, Symposium Chairman; Col (Ret) Dennis Murphy, Vice President Programs; Col (Ret) Bob Ford, Board of Advisors; Col (Ret) Miles Wiley, Program Committee; Col (Ret) John Murphy, Association Treasurer; Col (Ret) Paul McVickar, Board of Advisors; Col (Ret) Barry Creighton, Association Secretary; Col (Ret) Bob Ellington, Past Chairman/Board of Advisors; Maj Walt Shearer representing AETC; Maj Bill Heaster, AMC; and, Mr. Collin Bakse, editor A/TQ.

The Association’s Spring Quarterly Meeting is scheduled for 11-12 June 2004, at Scott AFB, Illinois.
A Force To Be Reckoned With
The Enlisted Force is Smart, Flexible and Dedicated

“Battles are sometimes won by generals; wars are nearly always won by sergeants and privates.”
– F E Adcock, British Classical Scholar

Senior Airman Dustin Treadwell waits by for his convoy to depart March 8 somewhere in Southwest Asia. Airman Treadwell is deployed from Ramstein Air Base, Germany. (U.S. Air Force photo by Senior Airman James C. Dillard).
If F E Adcock, the famous British historical scholar, had written as extensively about modern warfare and military operations as he had about ancient Roman and Greek armies, he may have deemed it necessary to change his often quoted statement, “Battles are sometimes won by generals; wars are nearly always won by sergeants and privates,” to include enlisted personnel in all branches of service – it would probably read something like this: “Battles are sometimes won by generals; wars are nearly always won by the enlisted force.” Of course that doesn’t mean there is no need for an officer corps. Officers are charged with developing ideas, concepts and strategies to be carried out by those they lead. Both are important. Neither can accomplish their common goals alone. It is the synergy of the two that wins the day.

To paraphrase General George S. Patton, Jr., (who would never have been so politically correct as to change his statement to reflect today’s reality) – wars may be fought with weapons, but they are won by people. It is the spirit of those who follow and of the person who leads that gains the victory.

So why focus on the enlisted force? Because the brave men and women who volunteer to do the “grunt” work for our country, for the most part, go unsung. The following stories, picked from many, prove that the enlisted force is smart, flexible and dedicated; and is indeed “A Force To Be Reckoned With.”

smart (smárt) adjective Characterized by sharp, quick thought; bright; intelligent.

8 Air Force Enlisted Personnel in AFIT Class of 2004
by Kim Curry, Air Force Institute of Technology Public Affairs

More than 200 scientists and engineers received graduate and doctoral degrees from the Air Force Institute of Technology.

AFIT’s Graduate School of Engineering and Management held its 2004 graduation ceremony March 23 at the Air Force Museum. Secretary of the Air Force Dr. James G. Roche delivered the commencement address.

The 84th graduating class was awarded 205 master’s degrees and four doctorates.

Secretary of the Air Force Dr. James G. Roche speaks with Chief Master Sgt. Donald Clabaugh (left) and Marine Corps Gunnery Sgt. Brian Hamilton before the Air Force Institute of Technology graduation ceremony March 23 at the Air Force Museum at Wright-Patterson AFB, Ohio. The two noncommissioned officers were among the first enlisted students to obtain AFIT degrees. Eight Air Force and six Marine Corps senior NCOs graduated as part of the Class of 2004. (U.S. Air Force photo by Larry Davenport)

The 209 graduates included the school’s first enlisted students: eight Air Force and six Marine Corps senior noncommissioned officers.

The addition of enlisted students at AFIT and the stand-up of the new center for systems engineering were initiatives actually spurred by Secretary Roche, and fulfill his vision of equipping airmen and the civilian workforce with science, technology and systems engineering skills,” said Col. David W. Eidsaune, AFIT commandant. “It was an honor to have him here to hand our students their diplomas himself.”

Air Force company grade officers comprised the majority of the Class of 2004; however, others included four Army officers, one Coast Guard officer, six civilians and five international students from Australia and South Korea. Women made up about 13 percent of the class.

Now that they have graduated, most will fill technical positions requiring advanced academic degrees in their respective fields of study from across the Department of Defense.

“I can assure you, in this increasingly complex and technical world, your education will prepare you to meet the challenges of the future,” Secretary Roche said. “The skills you have learned here ... have armed you with the tools needed to meet these challenges head on. To succeed, you must be innovative, technically competent and creative – in other words – using all the capabilities that come from the solid education you received here at AFIT.”

Three students were recognized for their exemplary performance during their graduate studies.

The Commandant’s Award was presented to Capt. Matthew Welling for having the most exceptional individual master’s thesis research.

First Lt. Brent McBride received the Mervin E. Gross Award, named in honor of Brig. Gen. Mervin E. Gross, first commandant of the institute. The award is given for exceptional scholarship and high qualities of character, initiative and leadership.

The Edwin E. Aldrin Sr. Award was presented to Chief Master Sgt. Donald Clabaugh for demonstrating strong personal leadership and accomplishing AFIT’s education objectives in an outstanding manner. The award is named in honor of a student of the institute’s first graduating class and father of astronaut Buzz Aldrin. (Courtesy of Air Education and Training Command News Service)

Dover Maintainer Cashes In On Award Winning Idea
by 2nd Lt. Cathy Milhoan, 512th Airlift Wing Public Affairs

A Dover AFB, DE, reservist is $10,000 richer thanks to a suggestion that will save the Air Force millions of dollars each year.

Master Sgt. Andrew Calvello, an aircraft engine mechanic supervisor
with the 512th Component Maintenance Squadron, submitted the idea through the Innovative Development through Employee Awareness program.

Sergeant Calvello’s shop is responsible for repairing and rebuilding the auxiliary power units, or small engines, that are standard on every aircraft.

According to the 27-year-veteran, a common repair on an APU is the tailpipe. Maintenance guidance stipulates the entire APU, at a cost of $127,000, be replaced if a tailpipe is broken.

“I designed a way for only the tailpipe, which costs $3,000, to have to be replaced,” said Sergeant Calvello.

The air reserve technician said his suggestion tweaked the program to the point where maintenance workers no longer have to do the repairs in the shop.

“Now we take the tailpipe right to the plane and replace it on the spot,” he said.

Sergeant Calvello said he doesn’t plan on spending the money any time soon.

“I have a 16-month daughter Madison and I’ve put the money in her college fund,” he said.

The IDEA program gives cash awards to all Air Force military and federal civilian employees for sharing their ideas on how to save the Air Force money.

**AMC Sergeant Serves In War Against Terrorism**
by Staff Sgt. Kathleen Ferrero
40th Expeditionary Group Public Affairs

It takes millions of people and parts to accomplish a successful Air Force mission. One Air Mobility Command sergeant manages $161 million in aircraft parts to keep B-1 Lancer pilots flying in the war against terrorism.

Senior Master Sgt. Jeff Shanahan kissed his family goodbye for the holidays when he deployed here to a Southwest Asia location in support of Operations Enduring and Iraqi Freedom. Since November,

Senior Master Sgt. Jeffrey Shanahan, 40th Expeditionary Logistics Readiness Flight, tracks supplies using a computer program. Sergeant Shanahan is supporting the War on Terror at a deployed location in Southwest Asia. (Photo by Staff Sgt. Shelley Gill, 40th AEG)

he has served as the base manager of supplies for more than 800 Air Force troops, providing all the necessary equipment to keep bombers and aerial refuelers in forward motion.

**AMC Sergeant Earns 2003 Sijan Award**

An Air Mobility Command noncommissioned officer was one of four airmen to be recognized with the Air Force’s 2003 Lance P. Sijan Air Force Leadership Award.

Tech. Sgt. (now Master Sgt.) Christopher R. May, assigned to the 305th Civil Engineering Squadron, McGuire AFB, N.J., captured the award in the junior enlisted category. The Sijan award annually recognizes a senior and junior officer and enlisted member who demonstrate outstanding leadership abilities while assigned to organizations at the wing level or below.

Sergeant May showed outstanding job knowledge and dedication, which contributed significantly to his wing’s successful mission accomplishments. His expertise on heating and air conditioning mechanical systems enabled him to develop maintenance and repair plans, saving more than $200,000 annually. He also successfully planned and executed a five-year predictive infrastructure repair plan for $500,000 in mechanical assets to enhance dormitory quality of life.

The Lance P. Sijan award was first given in 1981. Named in honor of the first Air Force Academy graduate to receive the Medal of Honor, Sijan was shot down over Vietnam Nov. 9, 1967 and successfully evaded capture for 45 days despite severe injuries. He later died while in a Vietnamese prisoner-of-war camp. Sijan was presented the Medal of Honor posthumously for his heroism.

**flexible (flèk´se-bel) adjective**
*Responsive to change; adaptable.*
same fire that led him to choose to serve his country.
“Freedom is not free and comes at a heavy cost. God has blessed our
nation. It’s important that we pass this on to our children, so that we
will continue to preserve our way of life,” he said.

Transporters Make It Happen At Manas
by Capt. Brus E. Vidal
376th Air Expeditionary Wing Public Affairs

The drinks are cold, the chili is hot, and ... the C-5 is on the
tarmac.
For the 376th Air Expeditionary Wing’s Ramp Services team,
flexibility is paramount because last-minute changes to the daily
flying schedule are common occurrences at Manas AB, Kyrgyz
Republic.

When the planes touch down, the ramp services team has to drop
everything - including dinner - and spring into action.
While aircraft rarely arrive as originally scheduled, they do arrive
frequently here. Since the base stood up operations in December
2001, air transportation specialists like the this team of more than
30 airmen from Dover Air Force Base, Del., and Shaw AFB, S.C., have
moved more than 20,000 pallets of cargo.
Some of the cargo they’ve handled on thousands of sorties includes pallets weighing up to 30,000 pounds, rolling stock like
vehicles and generators, mail, rations, human blood, ammunition,
hell-fire missiles, helicopter parts, and a myriad of other war fighting
equipment that goes directly to Afghanistan to support the troops on
the ground.
Since Manas is the tactical re-supply hub for the Global War on
Terrorism efforts in Afghanistan, the air transporters push, pull, lift
and roll palletized cargo off of strategic airframes like the C-5 Galaxy
to ensure those same critical supplies rapidly make their way onto
the base’s C-130 Hercules for tactical airlift out of Manas and into the
Operation Enduring Freedom area of operations.
This is critical because Afghanistan is a land-locked country,
marking the first time in history that a war fighting effort is re-
supplied solely by airlift.
“These dedicated warriors ensure critical cargo gets to OEF locations
downrange,” said Maj. Paul Bredholt, the 376th Expeditionary
Logistics Readiness Squadron commander. “They’re the critical link
for the OEF fight. I’m extremely proud of their proactive, mission-
oriented attitude.”
But America isn’t alone and cargo that the 376th’s transporters
bring into Manas and subsequently push into Afghanistan supports
more than 40 nations working together in the fight against Taliban
and Al Qaeda forces.
The men and women who push the pallets here know why what
they do is important, and doing that job the right way often means
delaying a meal for a few hours so the mission is accomplished.
According to the team’s chief, these Manas Warriors wouldn’t have it
any other way.
“These guys love what they do, and it shows in the outstanding job
they do everyday,” said Capt. Edward G. Clarke, officer in charge of
the 376th’s Air Terminal Operations Center. “I’m most proud of the
fact that my two Ramp noncommissioned officers in charge, Tech.
Sgts.’s James Nation and Reynante Rivera, have accomplished the
wing’s mission without a single safety mishap.”
The base senior leadership also recognizes this devotion and
enthusiasm.
“These young men and women accomplish amazing things here
each and every day to make this mission happen,” said the 376th AEW
Commander Col. Steven P. Kelley. “Their initiative and perseverance
are nothing short of incredible, and the job they do absolutely waters
my eyes.”

AMC Team Vital To Getting BIAP Hub Restarted
by Staff Sgt. Scott T. Sturkol, 319th Air Refueling Wing Public Affairs

Tech. Sgt. Doug Starkweather wasn’t sure what he was in for
when he left Grand Forks Air Force Base, ND, in April 2003 for his
deployment in support of Operation Iraqi Freedom. But he knew it
was about freedom.
“The war, and the continued efforts in Iraq, are all about freedom,”
Sergeant Starkweather said. “We enjoy so much freedom in this
country that we could never imagine what it would be like to live in
fear. The people of Iraq are free now, some of them for the first time
in their lives. I feel like I was a part of that, that my efforts made a
difference, and that’s a sense of accomplishment that I will get to
carry with me for the rest of my life.”
Sergeant Starkweather was in Iraq from April 17 to July 2. He
deployed there to serve as the deputy chief of airfield management
with the 447th Expeditionary Operations Support Squadron at
Baghdad International Airport.
When he arrived there, the airport was recently renamed from
Saddam International Airport and he was there with two other
people, Master Sgt. Tom Sherer from Scott AFB, Ill., and Tech. Sgt.
Randall Simonson from Fairchild AFB, Wash.
“Sergeant Sherer, who is also my functional manager at AMC,
picked the team and deployed as the airfield manager,” Sergeant
Starkweather said. “His specialty was management and networking.
If there was something we needed, he found a way to get it for us.”
Sergeant Simonson was the chief of airfield management
operations. His specialty was computers.
“Everything we did to establish an airfield, Randall put it down on
paper,” Sergeant Starkweather said. “All our procedures, instructions,
maps and other things, he organized not only for our use, but for
those who would follow.
“My specialty was airfield operations,” the technical sergeant said.
BIAP has two runways, according to Sergeant Starkweather. He
said it has a 13,000-foot civilian runway and an 8,000-foot military
runway.
“Coalition forces were kind enough to put both runways out of
commission with some well-placed ordnance,” Sergeant Starkweather
said. “But you have to give those guys credit, they completely
knocked out both runways without completely destroying them by
placing their bombs in strategic locations.”
Coalition forces repaired it by June 1. The challenge at this point

MANAS AIR BASE, Kyrgyz Republic -- Members of the 376th Air
Expeditionary Wing's Ramp Services team push a pallet onto a
waiting aircraft Feb. 11. (Photo by Senior Airman Rebecca Crouser)

A/TQ • Airlift/Tanker Quarterly • Spring 2004
was to get the runways back on the operational scale for military operations. Sergeant Starkweather said they were still able to land aircraft there even without the runways.

“We were actually landing aircraft on a taxiway at the edge of a parking ramp,” he said. “My job was to make the temporary runway safe for operations and get the other two runways up and running. Although we all had titles, nobody was responsible for any one job. Everything we did, we did together and each person’s expertise complemented the efforts of the team. If one person was challenged, we were all challenged and together we opened an airfield. It’s an experience I’ll never forget.”

Fairchild Sergeant Earns Bronze Star
by Staff Sgt. Nathan Gallahan
92nd Air Refueling Wing Public Affairs

Master Sgt. David Lazenby of the 92nd Logistics Readiness Squadron was awarded the Bronze Star on 25 November 2003 for exemplary service during Operation Iraqi Freedom.

Sergeant Lazenby, bulk storage superintendent, served at Al Jaber Air Base, Kuwait from Jan. 22 until May 15. Among the highlights of his service was the restoration of a fuel pipeline that enabled the distribution of more than 17 million gallons of fuel in 31 days, to help support the war effort.

“The pipeline hadn’t been used for over 14 years,” said Sergeant Lazenby. “Two hundred and fifty thousand gallons of fuel had to be flushed from the system before it could be filtered and used. Initially, the fuel looked like coffee grounds, it was so thick our filters couldn’t salvage any of it.

“We were completely dependent on that pipeline,” he said. “We had fuel trucks delivering 24 hours a day, but it wasn’t enough to fuel it all.”

Sergeant Lazenby also helped set-up the fuel bladders used to store the fuel.

“We had to set-up 41 fuel bladders, each holding 50,000 gallons of fuel, to store the extra fuel needed for the mission,” he said. Leading a team of about 46 people, they successfully rolled the bags out, ran the piping and then prepped the bags.

During his deployment, Sergeant Lazenby was introduced to the Air Force at war when attacks on Iraq began March 19.

“We exercise and exercise, and in a real wartime environment the team worked flawlessly,” he said. Working under war conditions was a new experience for many on the fuels team.

“Each shift, days and nights, would go into Condition Red three or four times,” he said. According to Sergeant Lazenby, maintaining good response times to servicing calls was difficult, but everybody pulled together and got the job done.

“We repositioned all of our fuel trucks to help meet the increased demand of fuel,” he said. “There were planes taking off within four-minute intervals, 24 hours a day. The faster we were able to get them into the air, the farther we pushed the Iraqis back.”

Fuel requirements didn’t stop at the flight line, it was also needed to supply the convoy’s heading into the depths of Iraq.

“We had to prepare a convoy in 60 minutes,” he said. “Six men from our team were sent with the first convoy to enter Fallil, Iraq.”

For Sergeant Lazenby, the OIF deployment confirmed what he already knew.

“Working there showed me the quality of the people in the Air Force, that’s why I have stayed in for 18 years, I love the people and the camaraderie,” he said.

Deployed Airmen Represent Honor, Dignity
by Tech. Sgt. Brian Davidson
455th Expeditionary Operations Group Public Affairs

The American flag waves proudly in a light breeze, its bright colors standing out in stark contrast over the gray, cracked concrete of hardened, Soviet-built aircraft shelters.

Below the Stars and Stripes a group of airmen, wearing perfectly pressed desert camouflage uniforms, stand at attention waiting for the sound of retreat and their cue to retire the colors, signifying the end of the official duty day. They are the 455th Air Expeditionary Wing honor guard team, led by Senior Airman Laurie Vroman, a security forces journeyman deployed here from Fairchild Air Force Base, Wash.

With dark brown hair pulled back into a perfect bun, and deep brown, thoughtful eyes, Airman Vroman demonstrates pride and precision in both her force protection and honor guard duties.

For some, the idea of an honor guard team at a deployed location may seem unusual, but for Airman Vroman, the team represents pride, dedication and a deep devotion to duty.

“Our flag deserves the utmost respect, and a trained honor guard team can show that respect,” she said.

This is not Airman Vroman’s first experience serving on an honor guard team.

During a previous deployment to Saudi Arabia, she joined the Prince Sultan Air Base honor guard team. Because she found it a challenging and educational experience, following that deployment she became a member of the Fairchild AFB team.

When she arrived at her current deployed location, Airman Vroman went to her first sergeant and inquired about joining the honor guard. When she learned the base didn’t have one, her next question was, “Can we start one?”

With support from the first sergeant and commander, she began posting flyers around base seeking volunteers.

Airman Vroman again approached the first sergeant, this time with a list of needed supplies that included flags, guideon poles, gloves, flag stands and patches.

“What this team of professionals brings to the fight is the traditions that make us proud and remind us why we serve,” said Col. Tim Vining, 455th AEG commander, deployed from Little Rock AFB, Ark. “When we deploy, we don’t deploy because of our rich history or traditions. Serving at a forward base makes our oath and what it means more vivid. What the honor guard brings is a poignant reminder of that oath as we stand at attention for the passing of the colors, salute the colors at the playing of our national anthem, and stand in reverent silence as the honor guard folds and retires the colors.”

Only a few days and two practices after the new seven-member honor guard team was formed, they were tasked with their first detail -- a ribbon cutting ceremony signifying the opening of a new aircraft ramp.

“We had three days to get ready for the event and I was nervous we
would not be able to pull it off,” Airman Vroman said. “We practiced every day, and the detail went flawlessly.”

During a recent retreat ceremony, while the honor guard team was retiring the colors, a group of local nationals doing construction on base were so impressed with the sharp, crisp movements of the team, that they stopped their work. As a formation of 416th AEG members saluted, the workers stood with their hands on their hearts.

“You American Air Force [members] show much respect to your flag,” said one local national. “It is good to watch so much pride.”

The team practices whenever the demands of deployments allow, and it has no problem attracting new members as others reach the end of their deployment.

“The honor guard represents the traditions we hold so dear, and prevents them from eroding while deployed,” said 416th AEG Command CM Sgt. Bryan Williams, deployed from Shaw AFB, S.C. “The idea of having our own honor guard team was met with great enthusiasm and was soon followed by their participation in promotion and retreat ceremonies. As a result, esprit de corps in the unit has sky rocketed.”

Camp Cunningham Honors Air Force Hero

A true American hero was remembered March 4 during a ceremony that officially dedicated the Air Force compound at Bagram AB, Afghanistan, to the memory of Senior Airman Jason D. Cunningham.

Airman Cunningham gave his life supporting Operation Enduring Freedom while saving the lives of 10 others March 4, 2002.

The service, attended by more than 200 Airmen, Soldiers, Sailors, Marines and civilians, forever changed the name of “Air Force Village” here to Camp Cunningham.

Airman Cunningham was a pararescueman assigned to the 38th Rescue Squadron at Moody Air Force Base, Ga., when he was killed in action. He had come under intense small-arms fire and a barrage of rocket-propelled grenades in the mountains of Paktia Province, Afghanistan, during a rescue mission there.

According to his official Air Force biography, Airman Cunningham was the primary Air Force combat search-and-rescue medic assigned to a quick-reaction force on that fateful day. His team went into hostile enemy territory to save two American servicemen evading enemy capture.

Col. James A. Whitmore, 455th Air Expeditionary Wing commander, spoke of the Airman’s uncommon valor and of his own pride in wearing the same Air Force uniform that Airman Cunningham donned with such distinction.

“The heroic efforts and selfless sacrifice that he exhibited on the battlefield will continue to inspire all of us who serve in Operation Enduring Freedom,” he said during the ceremony.

Col. Gary Woltering, 455th Expeditionary Operations Group commander, said that Airman Cunningham’s ultimate sacrifice will never be forgotten by the men and women fighting the war on terrorism.

“Senior Airman Cunningham is a hero who will always be
Airmen Search For Fallen Heroes In Southeast Asia

by Jillian K. Speake
Air Education and Training Command Public Affairs

When Master Sgt. Delbert Anderson received his deployment assignment to Southeast Asia, he said he did not anticipate his definition of patriotism would change forever.

Sergeant Anderson, superintendent of trainer aircraft operations for life support in the Air Education and Training Command's directorate of operations at Randolph AFB, Texas, volunteered to spend 45 days in Laos. He was there to help Joint Prisoners of War and Missing in Action Accounting Command officials recover remains of fallen or missing servicemembers.

The command, located on the island of Oahu in Hawaii, is responsible for the fullest possible accounting of those missing people. To accomplish this, the command is organized into five main areas: analysis, negotiations, investigations, recovery and identification.

Teams visit Southeast Asia about 10 times a year hoping to bring home remains of Americans still unaccounted for. Missions typically last 35 to 60 days, depending on the location, terrain and recovery methods.

"I liked the idea of going to where the war was fought, being where guys before us had been and seeing the terrain and the conditions that were out there," Sergeant Anderson said. "I wanted to walk where they walked and see what they saw."

The surreal idea of visiting the battle site where several servicemembers lost their lives quickly became a somber reality when members of the recovery team began reviewing packages with detailed information about the missing people they were looking for. The information in the packages included everything from the type of aircraft they were flying and their last known location to the color of their hair and type of glasses they wore.

"When I first went to Laos, I was just going to a dig site," Sergeant Anderson said. "But once I got out there and started going through the packages, seeing the faces and the names of the people we were looking for, it became more personal because I was looking for people now."

"I am in awe of the caliber of the people...We have approximately 365,000 people in today's Air Force. Of those, about 293,000 are enlisted....Let me assure you that we consider these people our greatest asset. No weapons system, airplane or piece of equipment can compare to the dedication and love of country our people have...people working together to preserve the freedom and way of life we so dearly treasure."

— CMSAF Gerald R. Murray
Could $200 help you achieve your continuing education goals?

Airlift/Tanker Association Enlisted Tuition Grants are available to Air Force, Air National Guard and Air Force Reserve members pursuing undergraduate or graduate degrees. If you meet the criteria, apply today! The A/TA wants to help you continue your education so you too can soar like an eagle.

**ETG CRITERIA:**
- Membership in the Airlift/Tanker Association
- Hold the Rank of E-2 through E-6
- Commander’s Recommendation
- Assigned in an air mobility operational and/or support function (an augmente on a mobility or maintenance support team, for example). Anyone directly or indirectly supporting the USAF Airlift or Air Refueling mission.
- Classes must be completed as an active member of A/TA during the same calendar year as the submitted application. Exception: January/February applications can include the previous quarter classes (Sep-Dec) of the immediate past year.
- Checks will be issued upon completion of a course with proof of a grade of C or better in an accredited degree program
- Individuals are limited to one ETG per 12-month period.
- Student financial need is not a principal criterion
- May not be used for a lower or lateral previously awarded degree
- Additional details available online at www.atalink.org

The A/TA ETG Program. Working to improve America’s Air Mobility Force.
Once again, summer is just around the corner and its time to start thinking about the 2004 convention. However, first I want to welcome three new corporate members to the Association. AAI Engineering Support Inc., Support Systems Associates, Inc and Thales Training and Simulation have all joined the ranks of our other world-class corporate members since the last edition of the A/TA Quarterly. AAI Engineering Support is a full service organization that specializes in engineering and modifications, operations and maintenance, total training solutions, and products for integrated logistics support. Support Systems Associates has provided world-class engineering, logistics and management support services to both Government and industry for aerospace and aerospace-associated systems and subsystems for over 35 years. Thales Training & Simulation is a world leader in simulation and training, providing specialized expertise in a broad range of fields for many different applications from desktop trainers to full-flight simulators. In addition to our new members, we had one name change: Metric Systems Corporation is now DRS Training and Controls, Inc.

I'm sure by now that everyone knows this year's convention will be at the Adams Mark in Dallas from 28-31 October. Once again, the rooms in the Adams Mark filled up almost instantly, but there still should be plenty of rooms available in the nearby overflow hotels if you don't wait too long (a list is available on the website under the Convention tab). As soon as the floor plan is finalized, I'll e-mail exhibitor packages to all of our past exhibitors to start the assignment process. Then I'll post the info on the web at www.atalink.org. This year we'll have more exhibit space than ever, so if you know of anyone who might be interested but hasn't exhibited with us before, please have them get in touch with me. I look forward to seeing you all in Dallas in October.

Cheers,
Ed Wiesner, VP Industry Affairs

### Airlift/Tanker Association Corporate Members as of 30 January 2004

- AAI Engineering Support
- AAR Mobility Systems
- AIRGO Industries
- ARINC
- Armed Services Mutual Benefit Association
- BAE North America
- Bell Helicopter Textron
- Boeing Company (The)
- Booz Allen Hamilton
- Bose Corporation
- CAE
- Computer Sciences Corporation
- DynCorp
- EADS CASA
- Engineered Support Systems, Inc (SEI)
- Evans & Sutherland Computer Corp.
- Federal Express Corporation
- Federated Software Group
- FlightSafety International
- FMC
- GE Aircraft Engines
- Gulfstream Aerospace Corporation
- Hamilton Sunstrand
- Honeywell International, DAS
- Kellstrom Certified
- L-3 communications
- Lockheed Martin Corporation
- Metric Systems Corporation
- Northrop Grumman
- Parker Hannifin
- Phantom Products, Inc.
- Pratt & Whitney, Large Military Engines
- Raytheon EW Systems
- Rockwell
- Rolls-Royce North America
- SAIC
- Sierra Research
- Smiths Industries Aerospace
- SPEC
- Standard Aero
- Support Systems Associates
- Telephonics Corporation
- Thales Training & Simulation
- Volga Dnepr Unique Air Cargo
- Vought Aircraft Industries, Inc.
- Wel-Fab
- World Airways
Corporate Member Spotlight: ARINC

A Proud History

Since its inception in 1929, just 26 years after the Wright Brothers first flew, ARINC has evolved into a major player in transportation communications and systems engineering.

Incorporated December 2, 1929, Aeronautical Radio, Inc., was chartered by the Federal Radio Commission (later to become the Federal Communications Commission) to serve as the airline industry’s “single licensee and coordinator of radio communication outside of the government.” The corporation’s stock was held by the four major airlines of the day.

Soon the company, known in the industry as ARINC, took on responsibility for all ground-based, aeronautical radio stations and for ensuring station compliance with FRC rules and regulations. From this base technology, the company expanded its understanding of, and contributions to, the rapidly emerging world of transportation communications, continuing to support the commercial aviation industry, as well as the U.S. military.

More than 70 years later, ARINC continues to innovate and expand its capabilities to serve the aviation, airports, defense, government, and transportation industries, and has grown into a $608+ million, ISO 9001-certified company that is recognized as a leading provider of transportation communications and systems engineering solutions.

Working Air Force/AMC Issues

ARINC has developed and fielded innovative solutions in a wide array of defense product categories including Aircraft Systems, Data Applications, Engineering Services, Modeling and Simulation, Reliability/ Maintainability/Supportability Engineering, Integraton Services, Security Systems, Training and more; and has a long and successful track record of working Air Force and Air Mobility issues.

C-5 Depot Management Tool

In December of 2003, ARINC was chosen by the U.S. Air Force to provide an advanced artificial intelligence-based scheduling tool to enhance depot maintenance and logistics for the Air Force’s fleet of 126 C-5 cargo aircraft based at Warner Robins, GA.

ARINC’s prototype solution is based on an advanced package of scheduling software-Opti-Time™—supplied by Delia Systems of Paris, France. Opti-Time uses artificial intelligence to arrive at optimal work schedules while weighing factors such as geography, time, manpower, and cost.

Enhancing depot workflow for the C-5 fleet required a tool that could rapidly re-schedule some 500 to 1,000 critical resources rapidly and efficiently. Initial installation of the ARINC Opti-Time tool was completed in January, and it is now providing optimized planning and scheduling under an existing C-5 acquisition support contract there.

“The Air Force Air Logistics Center gave us an opportunity to compete for this project, and we’re delighted they have chosen our solution,” stated Gary Pokodner, the Program Lead for ARINC Engineering Services. “This program will not only benefit current C-5 maintenance, but future re-engineering and unscheduled maintenance as well. Our customer should see enhanced depot operations and significant savings both in direct costs and man-hours.”

Fast re-planning allows the system to handle real-world emergencies like parts shortages or unexpected reassignments of aircraft and crews. Unlike traditional manual methods, the system can completely re-plan dozens of individual aircraft maintenance programs in seconds, optimizing for time, cost, or other constraints. The artificial intelligence component helps ensure the most efficient use of critical resources, from replacement parts, maintenance equipment, and personnel skills to hangar space and aircraft departure and arrival slots.

ROBE Sky Network

ROBE is an advanced electronic “gateway in the sky” developed for battlefield communications, providing over-the-horizon signaling, integrated communications, improved weapons targeting, and satellite tactical data link (TDL) for U.S. forces.

ROBE—for roll-on, beyond-line-of-sight enhancement—enhances the military’s overall battlefield command and control (C2), from the front lines to remote command centers. Using ROBE, the Air Force will for the first time be able to connect its beyond-line-of-sight units with line-of-sight forces, so that all war fighters will have the same situational awareness.

The heart of the ROBE system is a pallet-mounted suite of electronics carried above the battlefield on tanker or cargo aircraft. The system automatically establishes a broad, secure communications network for the U.S. forces and weapons systems below. The planes equipped with ROBE technology become, in effect, flying network “gateways” that can translate and forward vital data link and signals intelligence information from disparate communications networks.

The ROBE system receives data in flight from E-3 AWACS, E-8C Joint STARS, fighter, and ground-attack aircraft using standard Link-16 technology and forwards that data using its satellite data link to C2 nodes worldwide (reachback). Conversely, C2 nodes can transmit data to the forward forces instantly (reachforward). ROBE’s modular design allows for easy expansion into other TDLs as the need arises and provides the host platform with interactive situational awareness.

The system also receives specific broadcast intelligence and disseminates surveillance and warning data through the satellite link.

ROBE was developed by ARINC Engineering Services, LLC, and Northrop Grumman Information Technology under subcontract to Modern Technologies Corporation. ARINC was the aircraft integrator and technical lead. Northrop Grumman was the Group B integrator and software developer. The three companies were cited for exceeding requirements during the airborne demonstration.

Aeromedical Pallet System

The ARINC Aeromedical Pallet System (AAPS) is a portable aircraft conversion kit that allows users to reconfigure most modern cargo airframes into an airborne ambulance, quickly and cost-effectively.

Fast, safe aeromedical evacuation is a major priority—for humanitarian, commercial,
and military operations. The system has an 8 x 10-ft (88” x 108”) footprint and can be rolled on and off aircraft. Other footprints are also available to support other aircraft.

The AAPS requires only 20 minutes to set up and secure. Tracks recessed into the top pallet surface allow rigid mechanical attachment of airline-style seats or upright, three-level stanchions for litters. Each pallet, as shipped, can accommodate six seated patients, six patients on litters, or three in each configuration. Multiple pallets can be installed in the same aircraft—allowing the following pallet/patient capacity for standard cargo aircraft. As an optional accessory, litter extensions can be used on a majority of cargo aircraft to increase litter capacity by up to two patients per system.

The U.S. Air Force currently has 25 AAPS systems in use with their opportune cargo aircraft (C-17, KC-135, and KC-10) to replace their retiring dedicated aeromedical aircraft, the C-9 Nightingale, and their aeromedical workhorse, the C-141 Starlifter.

The pallets are provided in a fitted storage container that allows the entire system (with seats and/or litter stanchions) to be delivered as air cargo or stacked in storage facilities. The system is most effective when the pallets are ready for use when needed locally.

**Ground Threat-Training System**

ARINC recently announced that it has been awarded the contract for an innovative Air Force program that trains air crews to recognize threats from the ground quickly and to react properly. The Visual Threat Recognition and Avoidance Trainer (VTRAT) is currently used by the Air Force Special Operations Command to train fixed-wing and helicopter crews. The system is easily adapted to train crews of any aircraft, including private jets and commercial airliners.

Designed like a flight trainer but far less costly, VTRAT creates views of ground threats as they would be seen through an aircraft window—missile firing or anti-aircraft artillery. Crew members are trained to recognize actual threats, and to respond through action or communications. The system records trainee performance and provides remedial exercises as needed.

“In the Air Force, all crew members have a primary duty to identify anti-aircraft threats,” stated Dr. Lisa Billman, ARINC Engineering Services Senior Manager. “But in fact all military and commercial aircraft operators today share many of the same concerns. The VTRAT program responds to their needs by providing an effective visual training course which will provide a measure of protection if an incident occurs.”

VTRAT was developed at the Air Force Research Lab Information Systems Training Branch, under a direct contract with Command Technologies Inc. (CTI) of Warrenton, Virginia. The VTRAT program has now been transitioned to the 311th Human Systems Wing, School of Aerospace Medicine, which will enhance the system’s capabilities and expand its customer base to other military and civilian aircraft operators.

ARINC Engineering Services, along with CTI as subcontractor, will provide enhanced instructional content and customize the system’s applications to a wider range of aircraft. ARINC will also integrate real-world lessons from current combat into the system to reflect actual field conditions.

The system uses adaptive training to teach trainees the required skills in small parts, and can operate fully automatically. It also has a provision for human instructors to guide lessons in a free-play mode. The state-of-the-art visual display simulates terrain overflight with several types of anti-aircraft threats such as anti-aircraft artillery (AAA), various infrared (IR) and radar guided surface-to-air missiles (SAMs), as well as an example of small arms fire, rocket-propelled grenades (RPG), artillery flares, and multi-launcher rocket systems (MLRS). The system provides real-time simulated control of aircraft altitude, speed, and flight path, with dynamic placement and firing of threats under daytime or nighttime conditions. The simulation exercises are combined with intelligent tutoring developed by subject matter experts and cognitive psychologists.

The VTRAT system is currently used to train Air Force crews for a number of helicopter and fixed-wing platforms, and the Air Mobility Command has committed to extending VTRAT training to their flight crews.
Air Mobility Brings Forces To Haiti

By Cynthia Bauer
Air Mobility Command Public Affairs

SCOTT AIR FORCE BASE, Ill. (AMCNS) - On 29 February, President George W. Bush ordered U.S. Marines into the Republic of Haiti as the leading element of a multinational peacekeeping force sanctioned by the United Nations.

Air Mobility Command was once again on the leading edge of transportation efforts, bringing up to 2,000 Marines into Haiti’s capital of Port-au-Prince, with the 18th Air Force directing airlift operations through its Tanker Airlift Control Center at Scott AFB, Illinois.

As of March 5, the TACC had provided command and control for 37 missions, including a mix of C-5, C-17, C-141, and C-130 aircraft to lift more than 1,026 troops and more than 1,210 short tons of cargo.

In addition, the TACC had been managing these missions at the same time directing operations supporting the massive troop rotation out of the U.S. Central Command area of operations in Southwest Asia.

According to TACC deputy commander, Col Edward Breen, AMC had not reduced support to the ongoing major force rotation in the U.S. Central Command area of operations, despite the additional challenge. USCENTCOM officials reported that not a single soldier deploying to or redeploying from the USCENTCOM area had been delayed due to the Haiti operations.

“Our airlift crews and maintainers surged to even higher levels than the already very busy operational tempo to support the additional airlift missions for Haiti,” said Colonel Breen. “The Tanker Airlift Control Center team absorbed the additional airlift missions for Haiti,” said General Welser.

“Anytime there is a situation requiring movement of troops and equipment, the J-3 will get together with the appropriate components and start discussions about what needs to be done, and the possible units that will move,” said General Welser.

“The TACC was assigned the mission and immediately put crews into “Charlie” alert status...to be able to generate (the mission) within 16 hours if need be,” he said. “And that proved to be fortuitous.”

U.S. Airmen Deliver Aid To Chad

by 1st Lt. Phillip Ulmer
435th Air Base Wing Public Affairs

FAYA-LARGEAU AIRPORT, Chad (AFPN) - On 29 February, President George W. Bush ordered U.S. Marines into the Republic of Haiti as the leading element of a multinational peacekeeping force sanctioned by the United Nations.

According to TACC deputy commander, Col Edward Breen, AMC had not reduced support to the ongoing major force rotation in the U.S. Central Command area of operations, despite the additional challenge. USCENTCOM officials reported that not a single soldier deploying to or redeploying from the USCENTCOM area had been delayed due to the Haiti operations.

“Our job is to provide security for Air Force resources and people at locations that aren’t secure, so the crew can focus on their job,” said 1st Lt. Mike Jewell, the 37th AS chief evaluator loadmaster.

When there’s no equipment available, the combat offload is the quickest way for us to download the aircraft,” said Master Sgt. Larry Lambert, a 37th AS chief evaluator loadmaster.

A combat offload consists of opening the back of the aircraft and releasing the pallet of cargo from its locks. The loadmasters position and steady the pallet. From here, the pilot stomps on the brakes and throttles up the engines. When the engines reach full speed, the pilot releases the brakes. As the aircraft lunges forward, the pallets slip off the back of the aircraft.

While the aircrew took care of getting the humanitarian aid off of the aircraft, 86th
AMC Central To Historic Troop Rotation
by Cynthia Bauer
Air Mobility Command Public Affairs

SCOTT AIR FORCE BASE, Ill. (AFPN) Department of Defense officials have challenged those from Air Mobility Command to play a central role in the Southwest Asia troop rotation by moving 250,000 people in 60 days. That roughly equates to the number of passengers who can sit in 720 wide-body commercial aircraft or the entire population of Louisville, Ky.

Defense officials have called the troop movement a historic feat and the largest troop movement since World War II. AMC’s job is to redeploy the forces serving in Iraq and Afghanistan and bring in new troops.

The rotation began 1 February. As of 11 March, 90,000 servicemen, primarily Soldiers and Marines, had moved into the theater, and 44,000 had returned home.

At the hub of airlift operations for the massive troop rotation is the 18th Air Force here, a new organization activated 1 October 2003, as AMC’s warfighting component. The commander of 18th Air Force, Lt. Gen. William Welser III, said the total-force job of moving the extraordinary number of people is going smoothly, based on lessons learned from past operations.

“One of the things I’m most proud of, and impressed by, is how we have learned from our lessons, not only from (operations) Desert Shield and Desert Storm, but also from Afghanistan and Iraq, and now as we go into the next phase of rotations, to improve our processes, tactics, techniques and procedures,” said General Welser. “Here we are, a little more than 900 days since (the terrorist attacks of) 9-11. In those 900 days, we’ve learned a lot.”

Some of those lessons include better scheduling, better integration of resources within the defense transportation system, and better accounting of cargo and people through improved and integrated information-technology systems.

“Our part is to sequence and schedule all of the air movement, which means, essentially, the Air Force has flexed its airlift and tanker fleet to a higher state of readiness and availability,” said Brig. Gen. Paul Selva, commander of 18th Air Force’s tanker airlift control center here. “Our requirement is to move substantial numbers of primarily Soldiers and Marines through a relatively small infrastructure, two bases ... accepting 3,000 people a day inbound and 3,000 people a day outbound over a short period of time.”

The Air Force airlift fleet is supporting the effort heavily, but that is not all.

“We have tapped our KC-10 [Extender] fleet and a portion of our KC-135 [Stratotanker] fleet to move passengers, which is not their characteristic air-refueling role,” General Selva said.

Also, AMC’s commercial-airlift partners have provided 40 aircraft almost every day.

“If you had come to the TACC and watched the air-transportation function prior to 9-11, you’d see an average of 200 to 225 aircraft a day moving in the system,” said General Selva. “As we completed the combat operation in Afghanistan and started the rotation of forces into what appeared to be a steady state, the average had grown to almost 300 airplanes a day, with spikes to 350 not uncommon. In this rotation, it is not uncommon to see the total posted in the low 400s ... nearly double the activity level that existed here pre-9-11, around a 50 percent increase over what has become to be the new normal of about 300.”

Part of the challenge is not only tracking the military aircraft but also the commercial-contract aircraft carrying 90 percent of the passenger load. Contract-troop carriers are designated with military mission numbers.

General Selva said he gets “more bang for the buck” for the number of airplanes through an aerial port by using commercial airplanes. A C-17 Globemaster III carries about 96 passengers, but a commercial wide-body passenger aircraft which occupies the same parking space can carry 285 to 350 people.

With commercial carriers taking on requirements for passenger travel and commercial sealift moving as much as 85 percent of the cargo, General Welser said military airlift is not stretched as thin, increasing the ability of the DOD to provide airlift into hostile territory and to respond to emerging international crises. (Courtesy of AMC News Service)

C-17 crew wins Mackay Trophy

ARLINGTON, Va. (AMCNS) - One year after they led the biggest combat airdrop since Operation Just Cause in Panama in December 1989, five Airmen from McChord Air Force Base, Wash., are the winners of the National Aeronautic Association’s Clarence Mackay Trophy for 2003.

Lt. Col. Shane Hershman, 7th Airlift Squadron; Maj. Bob Colvin, 8th AS; 1st Lt. Matt Clausen, 4th AS; Master Sgt. Shawn Brumfield, 62nd Operations Group; and Master Sgt. Chris Dockery, 7th AS, were the aircrew for Vijay 10, the lead C-17 Globemaster III on the March 26, 2003, airdrop over Northern Iraq. The NAA, along with the Air Force, announced March 25 the award of the trophy to the crew for their heroic service in the war in Iraq.

The award is presented annually for the most meritorious flight of the year and for gallantry, intrepidity, unusual initiative and resourcefulness, and achievement of outstanding results with unusual presence of mind in either combat or non-combat conditions.

The initial airdrop of 1,000 soldiers occurred over Bashur, Iraq. It opened the northern front to combat operations and constituted the largest formation airdrop since D-Day in World War II. The Air Force termed the mission the most demanding C-17 mission in the aircraft’s history, and it marked the first time personnel were dropped from the C-17 in combat.

After the initial insertion, Vijay 10 crew members, along with active and Reserve crews from Charleston AFB, S.C., and McChord, conducted four more nights of missions to deploy the rest of the 173rd and the Combat Readiness Group, helping establish the coalition forces’ second military front in Iraq.

For their distinguished service in combat, NAA will present the five members of Vijay 10 with the Mackay Trophy at the association’s Fall Awards Banquet later this year. The Mackay Trophy was first awarded in 1911; the original trophy is on display at the National Air and Space Museum.
C-130s Modernized With New Avionics

MAXWELL AIR FORCE BASE, Ala. (AFPN) -- After extensive air and ground testing, Air Force Reserve Command and the Air National Guard will begin modernizing their fleets of C-130 Hercules cargo aircraft with new avionics.

C-130H-2s from AFRC’s 908th Airlift Wing here, along with C-130E models from the Idaho Air National Guard’s 124th Wing in Boise, will be the lead Air Force’s plan to upgrade the avionics on all C-130 aircraft.

Air Force Reserve Command has 100 C-130 cargo aircraft in its inventory and provides about 22 percent of the Air Force’s total tactical airlift capability,” said Brig. Gen. Martin M. Mazick, director of operations at Robins Air Force Base, Ga. “Our reservists work as equal partners with Air National Guard and active-duty airmen on frontline missions across the globe.”

Called the Avionics Modernization Program, this conversion is scheduled to begin in the fall of 2007, said Capt. Jason Rusco, the program’s test manager at the Aeronautical Systems Center at Wright-Patterson AFB, Ohio. The Boeing Co. is the prime contractor for the project that will eventually upgrade about 520 aircraft by the time the program is completed in 2016.

The modernization program’s goals are to allow the aircraft to meet global air traffic management requirements, to improve the work load management for flight crews and reduce the total ownership costs for the C-130 fleet, Captain Rusco said.

Upgrading the avionics involves replacing the aircraft’s analog instrumentation with six digital displays and the flight management system Boeing developed for its newest version of the 737 airliner.

In October, the 908th sent an aircraft to Eglin AFB, Fla., for testing inside the McKinley Climatic Laboratory. Engineers from Air Force Materiel Command and Boeing used the testing session as an opportunity to gather data on the aircraft’s environmental control system.

Boeing engineers will use the data gathered from the five-day test session to improve the survivability of their avionics and to identify additional heating and cooling requirements if needed.

Also, the conversion offers many benefits for maintainers. Because there will be two types of C-130 parts instead of five, there will be a bigger pipeline and inventory from the various suppliers. The new C-130AMP will be able to use many of the same avionics parts as the commercial 737 airliner. (Courtesy of AFRC News Service)
Abstract
Not many programs in the Department of Defense successfully produce a fully functional capability on time and at predicted cost. Even fewer produce a developmental product that pushes the bow-wave of the civil and military standards forward. The KC-135 Global Air Traffic Management (GATM) Program, was a program that achieved these goals and was the forerunner for the GATM systems in US Government aircraft. The success of this program can be attributed to a system engineering development approach, sufficient system safety engineering, and a strong government test program.

Introduction
With the advent of Global Air Traffic Management (GATM), the world of Global Reach aviation is changing radically. To ensure United States military access to the world’s air routes, all aircraft using them must meet these requirements by the time the world’s air traffic control systems are converted to meet the GATM requirements. These are difficult modifications to aircraft and operations that are made more difficult by the amorphous and changing requirements of the overall GATM system. The Global Reach System Program Office put together a program to meet the GATM needs of the KC-135 tanker aircraft being flown by the Air Mobility Command. The KC-135 GATM program has the privilege of being the first DoD GATM program to deploy a full up GATM capability.

The KC-135 Program
The success of the KC-135 GATM Program can be traced directly back to the building block nature of the program and the lessons learned from earlier KC-135 programs. The Air Force did not want the first GATM aircraft fleet to be a boat anchor. Actually, the KC-135 was not originally intended to be the Air Forces’ first GATM program. The C-5 AMP went on contract before the KC-135, and the KC-10 and C-17 were scheduled to deliver aircraft with GATM ahead of the KC-135. Due to its nature, the KC-135 GATM program pulled ahead and passed all of these programs! It provided a key need. A program that could lead the fleet and supply a first capability both to support the deployed Air Forces with tankers and cargo carriers and second to pave the way for the GATM modifications in the other Air Force aircraft.

Lessons learned from past KC-135 programs among others indicated the need to address three key program areas: a strong system engineering development approach, a solid system safety engineering process, and a robust test program. The KC-135 GATM program focused on these areas to improve and capitalize on these lessons learned. The program was set up at Wright-Patterson to ensure a developmental approach to the integration of mainly Commercial off the Shelf (COTS) equipment. Both the contractor and the government strove to develop a MIL-STD-882 safety program that would guarantee the completed product would be airworthy and meet the user’s needs without major changes. Developmental and Operational Testers were brought early into the program to make certain a sufficient level of Test and Evaluation was used to verify the design and the final aircraft.

These steps were very successful and produced a product on time with little cost growth. The details of the organization of these three critical pieces of the KC-135 GATM program will be of benefit to the design of any government acquisition program especially for COTS based or largely COTS based acquisitions that require military agency certification.

Systems Engineering Development Approach
Major modifications to complex systems are not exclusively sustainment activities. They necessitate the involvement of developmental system experts and expert integrators. In the Air Force, the Aeronautical System Center is the primary developer for aviation systems. The use of this organization’s deep engineering experience and tight relationship with the Air Force Research Lab was a fundamental relationship aiding the success of the KC-135 GATM program. Additionally, the Electronic Systems Center provided support to the program in avionics and data systems. This support included a GATM performance assessment, a data chain certification of the Air Force Flight Management System (AFFMS) and the Digital Aeronautical Flight Information File (DAFIF) it uses. This focus on a data chain certification assessment navigation database subsystem is unique in the military but an obvious need to ensure the safety and airworthiness of these types of highly integrated navigation systems. This is a parallel effort with the civil systems such as the Jeppeson navigation database, but takes a step ahead under the aegis of Air Force airworthiness that is necessary for military systems. The eventual goal is a fully airworthy navigation database.

The integration of COTS items is a developmental effort. This focus in the program was a key factor leading to its success. Every effort was made in the KC-135 GATM program to acquire previously certified and civil certified components. This significantly saves money by reducing the cost to test, verify, and certify individual components. This way the focus of the program was fully on making the pieces work together and certifying the integrated system. A program that doesn’t ensure this
requires deep investments in engineering, test, and safety to develop and certify the components as well as the overall integration.

COTS itself can become both a cost and sustainment driver in the support of a program. No program can completely isolate itself from these certain problems, but the KC-135 GATM program did work to reduce these problems by using state of the art and certified equipment.

The key to a successful low cost program of this type is the basic focus on development.

System Safety

The key to ensuring airworthiness and successful integration of anything in a complex system is system safety engineering. System safety engineering is the function that integrates the disparate engineering functions and test and evaluation and ensures the overall safety of the components, integration, and design. Although other functions handle pieces of system safety, only system safety engineering brings together these areas and sculpts the overall airworthiness and safety of the complete system. It is key to note that some of the greatest disasters related to the lack of appropriate system safety are not just the missing analysis, but rather, the fact that the interaction of system safety at any point in the program would likely have prevented the mishap.

With this in mind, the KC-135 GATM program incorporated a very strong system safety process. This was a reaction to past KC-135 programs and to several mishaps in other systems that were directly attributed to a failure to incorporate system safety. The contractor of the KC-135 GATM program also supported a very strong system safety process, and this was also directly related to the realization of problems in past programs.

The system safety program from government to contractor was characterized by good communications and strong and appropriate government insight and oversight. Specifically, the deliverable documents to the government system safety process and the approval of those documents were the key to communication, contractor and government understanding of the safety of the system, and risk acceptance by the US Government. In an era when programs seek to reduce deliverables as much as possible, these deliverables are obviously core to successfully producing a system the government can certify. Additionally, in the KC-135 GATM program, these documents ensured the program met costs and schedule. Without these deliverables, the program would not have met the operator’s requirements within the costs and schedule.

The critical integration strategy to a successful program where the government provides certification is a strong system safety engineering program.

Test and Evaluation

The KC-135 GATM program was unusual in its dedication to early test planning and integration. Additionally, the strong system safety program pushed the program to ensure a good verification strategy as a part of the system safety process. Although all training and guidance on acquisition recommends early test involvement, an unfortunate characteristic of many acquisition programs is the lack of adequate test planning until the end portion of the program. This results in poor verification, lack of timely deficiency identification, and other serious problems in the system that result in cost and schedule growth or, even worse, safety mishaps. Another critical issue is that the policy of the Air Force is not to make operators unintentional developmental test pilots. The danger of this is obvious and the potential lack of user trust if an improperly or untested system harms the operator or leads to a military failure is a significant national policy issue.

Unlike many programs that don’t bring in testers early, the KC-135 GATM program fully integrated both developmental and operational testers and test into the program. Test and evaluation found many deficiencies and verified the overall capabilities of the system. The key input to the program was the verification of the safety and airworthiness of the system, but the discovery of deficiencies prior to operational test or operational use is a critical method of insuring the user does not get an unsafe or unusable system.

The dedication of the KC-135 GATM program to test and evaluation has resulted in a capable system that has already easily passed operational test and evaluation. The program influenced the integration of operational and developmental testers to push the program forward into the best ideas in acquisition. Usually modern programs use combined test and evaluation to save test costs and to improve the test collaboration between operational and developmental test and evaluation. The KC-135 GATM program pushed test and evaluation to the next level by combining the developmental tests and operational tests together to improve the system prior to dedicated operational test. This collaboration is ensuring the program will meet the operational requirements and will succeed in dedicated operational test.

Summary

The KC-135 GATM program is not a singular or unique program. It is representative of the types of programs that the DoD is working on now and those that it will fund in the future. What is unique is the general success in cost, schedule, and meeting the user’s requirements. The reason for this success can be directly attributed to the developmental environment, system safety emphasis, and early test and evaluation influence.

Conclusions

Modern complex integration programs in the Department of Defense that involve systems controlled by public agencies will succeed if they follow the model of the KC-135 GATM program. The salient features that promoted success in the KC-135 GATM program were the system engineering development approach, system safety emphasis, and test and evaluation early involvement. These features are necessary to building success in future GATM programs as well as any complex integration program. To promote program success and to meet the Secretary’s goal of reducing the flying mishap rate by 50%, the model of the KC-135 GATM program should become the archetype of a program design.

Lt Col Lionel D. Alford, Jr. is the Chief of System Safety for Global Reach System Program Office, Aeronautical System Center, Air Force Materiel Command, Wright-Patterson Air Force Base, Ohio. He is an Air Force experimental test pilot with over 5000 hours in more than 60 different kinds of aircraft and is a member of the Society of Experimental Test Pilots. Lt Col Alford has served as the Chief, Airframe, Propulsion, Avionics, and Electronic Warfare Team at Headquarters Air Force Materiel Command; Chief, Special Operations Forces Test and Evaluation Division at Wright-Patterson; Chief, Testing Commercial Aircraft for Military Acquisition Office at Edwards Air Force Base, California; holds an Airline Transport Pilot license, and was the chief test pilot for a number of Air Force acquisitions. He is a graduate of Defense Systems Management College Advanced Program Management Course, Air War College, and Air Command and Staff College. He is a doctoral candidate in aeronautical engineering at the University of Dayton and holds a M.S. in mechanical engineering from Boston University and a B.S. in chemistry from Pacific Lutheran University.
**The Mobility Community's Premier Annual Event!**

**MOBILITY: MARATHON FOR FREEDOM**

36th Annual A/TA Convention & Symposium • 28-31 October 2004 • Adam's Mark • Dallas, Texas

---

**Events Overview**

<table>
<thead>
<tr>
<th>Thursday, October 28th</th>
<th>Friday, October 29th</th>
<th>Saturday, October 30th</th>
<th>Sunday, October 31st</th>
</tr>
</thead>
<tbody>
<tr>
<td>MORNING</td>
<td>MORNING</td>
<td>MORNING</td>
<td>MORNING</td>
</tr>
<tr>
<td>MID-DAY</td>
<td>MID-DAY</td>
<td>MID-DAY</td>
<td>MID-DAY</td>
</tr>
<tr>
<td>AFTERNOON</td>
<td>AFTERNOON</td>
<td>AFTERNOON</td>
<td>AFTERNOON</td>
</tr>
<tr>
<td>EVENING</td>
<td>EVENING</td>
<td>EVENING</td>
<td>EVENING</td>
</tr>
<tr>
<td><strong>REGISTRATION</strong> &amp; BANQUET SEATING RESERVATIONS**</td>
<td><strong>A/T PRIVY</strong> &amp; BANQUET SEATING RESERVATIONS**</td>
<td><strong>REGISTRATION</strong></td>
<td><strong>FAREWELL BRUNCH</strong></td>
</tr>
<tr>
<td><strong>GOLF TOURNAMENT</strong></td>
<td><strong>OPENING RECEPTION IN THE EXHIBIT HALL</strong></td>
<td><strong>EXHIBIT HALL ACTIVITIES</strong></td>
<td><strong>MEETING</strong></td>
</tr>
<tr>
<td><strong>REGISTRATION</strong> &amp; BANQUET SEATING RESERVATIONS**</td>
<td><strong>A/T PRIVY</strong> &amp; BANQUET SEATING RESERVATIONS**</td>
<td><strong>REGISTRATION</strong></td>
<td><strong>MEETING</strong></td>
</tr>
<tr>
<td><strong>ROLLS &amp; COFFEE</strong></td>
<td><strong>LUNCH</strong></td>
<td><strong>ROLLS &amp; COFFEE</strong></td>
<td><strong>LUNCH</strong></td>
</tr>
<tr>
<td><strong>SEMINARS</strong></td>
<td><strong>SEMINARS</strong></td>
<td><strong>SEMINARS</strong></td>
<td><strong>SEMINARS</strong></td>
</tr>
<tr>
<td><strong>MEMBERSHIP MEETING</strong></td>
<td><strong>MEMBERSHIP MEETING</strong></td>
<td><strong>MEMBERSHIP MEETING</strong></td>
<td><strong>MEMBERSHIP MEETING</strong></td>
</tr>
<tr>
<td><strong>FREEWELL BRUNCH</strong></td>
<td><strong>FREEWELL BRUNCH</strong></td>
<td><strong>FREEWELL BRUNCH</strong></td>
<td><strong>FREEWELL BRUNCH</strong></td>
</tr>
</tbody>
</table>

*Registration will close 15 minutes prior to evening events.
†Banquet Seating Reservations end at 1800. No seating reservations will be made after the cut-off time.
All events and times subject to change.

---

**Register Early and Save!**
Submit Your Registration by 22 September and Save $27.00!
Registration Form on Page 28.

---

**Convention Information Contacts:**

Convention Registration: Bud Traynor: (703) 385-2802 | ata@atalink.org
Golf Tournament: Wally Herzog: (817) 377-0144 | wallace.herzog@smiths-aerospace.com
A/TQ Articles/Stories: Collin Bakse (618) 235-5070 | bakse@apci.net
Magazine Advertising: Nick McCollough: (478) 923-0968 | nmccollough@ray.mgacoxmail.com
Symposium / Seminars: Bob Dawson: (616) 241-7954 | bob.dawson@smiths-aerospace.com
Convention Exhibits: Ed Wiesner: (314) 233-4659 | edward.j.wiesnerjr@boeing.com
Room Reservations: See www.atalink.org for Main Hotels Information.
2004 Convention & Symposium Rules of Engagement

We know that the instructions for the registration form have become quite lengthy. But this is to allow the maximum flexibility for you. Without the complexity, cancellation and refund opportunities would be impossible. There are limits to the flexibility however.

When Bud and Pam move to the convention site (approx 21 Oct), so moves the A/TA “headquarters office.” That means a fax to the Virginia office after they have departed for the convention won’t be received until their return from the convention. Don’t do it. The A/TA office phone, (703) 385-2802 will be forwarded to Bud’s cell phone. If that doesn’t work, call the hotel and track them down.

Nevertheless, every year, we have soulful requests for exceptions to our rules on refunds: Please understand—we don’t grant them. Ever. No duty or family emergency releases you from your responsibility to cancel or from the cancellation fee.

Overview:

- The first thing you should do is check your membership status on the magazine label or at www.budtraynor.com. (You will need to enter your SSN.) Membership should be current at least through November 04.
- Next, RE-ACTIVATE YOUR CARD before registering! Government cards get turned off for no apparent reason. Please call them.
- Then read all the instructions below, especially the cancellation instructions.
- Visit the website www.atalink.org to register (secure) and pay dues ON THE SAME FORM (using separate cards if desired), or copy and send the form in this issue (page 28).

Frequent Answers:

- The member rate is a member benefit. To register at the member rate, your membership must be current through November. The membership fee is non-refundable — even if you subsequently don’t attend FOR ANY REASON.
- While our convention fees are extremely low, please bear in mind that partial registration is an attempt to accommodate those individuals who cannot attend the entire convention, e.g., the visiting associate who is in for the day, or an award-winner guest. Partial are not meant to reflect the cost for an individual event. Rather it is a reduced convention fee for that period of the convention that may include food. More than two partials exceed the cost of early registration. You are usually much better off to pay full registration — particularly for accompanying spouses! Full registration is cheap. Please keep our fees in perspective.
- Use one form for a registrant and one non-member, social guest. Guest registers at member rate. If you have more than one guest, please contact us for instructions.
- Spouses who are A/TA members should complete separate forms.
- Full registration includes all events except golf.
- Members may receive the $215 early rate only if this completed form and full payment are postmarked or received by 22 Sep. CAUTION: You may have great difficulty getting through on 22 Sep because of others who also put it off. After 22 Sep, the higher $242 pre-convention rate will prevail — no exceptions. Incomplete forms OR payment will NOT qualify for early rate. Payment must accompany form, regardless of method of payment.
- VISA or MC only with SSN and email address, card number, exp date, and “signature.” We don’t take AMEX., Discover, etc.
- Postmark all mailed registrations NLT 14 Oct. No faxes/web/mail can be received after 1700 EST 21 Oct (office closed). We prefer no cover sheet for faxes
- You may register at the A/TA registration desk upon arrival at the $260 on-site rate; however, banquet seating is not guaranteed.
- Send one form only. Do NOT fax AND mail. Do not try to send payment one way and the form another. Please do not send duplicate or “updated” forms.

Cancellation:

Cancellation Fees: $10 through 22 Sep; $20 through 21 Oct; $25 thereafter. (This includes changing charges from one card to another.) Refunds may be made based on your cancellation confirmation number, obtained after personal cancellation with Bud or Pam Traynor, prior to events, at (703) 385-2802 before 21 Oct, 1700 EST; or at their hotel room; or from them at the A/TA registration booth (not hotel registration desk) via the switchboard (please no relayed requests or requests to other workers). Card refunds will be made back to your card; check payment will be refunded individually by check to each individual. Refund requests without a cancellation number will not be honored; so when you talk to Bud or Pam, be SURE to get one! We intend to make all refunds before year-end.

While refunds should be automatic, subsequent requests without a cancellation number will not be honored. You do not need to give a reason for your cancellation: no duty or family emergency releases you from your responsibility to cancel or from the cancellation fee. Did we mention? Membership dues are not refundable.

Relaying your cancellation through an intermediary is too risky. If they forget to contact Bud or Pam, or they try to pass through yet another person – say a registration worker, or a board member who doesn’t follow through—you are still responsible for full payment. The fees charged don’t cover minimum expenses for A/TA and there just isn’t extra money to cover someone’s error or lack of responsibility—no matter how important the TDY or family emergency. A/TA has less capability to be generous than the hotel and you know THEY charge for a no-show, regardless of the excuse. Make the effort personally; it’s the only way to be sure you won’t be stuck with the bill.

Membership:

Membership must be current through November to register at the member rate. The membership fee is non-refundable. Ever. If you wish to register at the member rate and need to pay dues, please do it on the same registration form. No need to first become a member separately.

Armed with your SSN, you can check your membership and registration status at www.budtraynor.com.

Registration:

Do not send a cover page and do not send a “corrected copy.” If you have a correction, just call or email us. Payment must always accompany the form, regardless of method of payment or form. Registration forms with checks MUST be mailed together. Marrying them up later is too time consuming and error generating. If you send a form via fax or mail or email, please do not send it a second way, or send twice. Everyone with a valid email address will be sent an email confirmation when the registration is processed.

Registration ($215) is only an incentive to register early for administrative processing reasons – not just for early payment of the money. This means, for example, if you do not have the name of a registrant, you cannot just pay by the deadline and get an early rate.

continues on page 26
Similarly, if you want to register someone after the early registration deadline, you must pay the higher rate for the new person as appropriate. The canceled person will be reimbursed at the rate paid (less cancellation fee and dues, if applicable). If you choose to fax your registration form, recommend you not wait until the last day. If the fax machine is too busy for you to get through, we will not receive your form “early,” and the higher pre-registration rate ($242) will apply. If you need to have your account charged by a certain date, be sure to indicate it on your form. Credit cards otherwise may get charged immediately or some time later, depending on workload.

To register at the member rate, membership must be current through November. The membership fee is non-refundable. Members may receive the early rate only if this completed form and full payment are postmarked or received by 22 Sep. Incomplete forms or incomplete payment do not qualify for early rate. Use one form for a registrant and non-member guest; your guest registers at the member rate. Spouses who are A/TA members should complete a separate form. We can take VISA or MC only with SSN and email address, card number, exp. date, and signature. (NO AMEX or Discover). Full registration includes all events except golf.

Postmark all mailed registrations NLT 14 Oct to ensure it arrives before the office moves to the hotel. After that, plan on web or fax NLT 1700 21 Oct, or registering at the hotel starting Wednesday on-site ($273).

No Substitutions:

There can be no substitutions. Individuals may be canceled and individuals may register. Specifically, no one may capture someone else's early rate after the early deadline. We cannot “bank” funds. Remember a new registration must have all information supplied on a new form. Dues are neither transferable nor refundable to a person canceling. (See cancellation instructions) This includes IMPAC card transactions.

IMPAC Cards or Group Registrations:

If use of IMPAC cards or other group registration is approved do not mail or fax the form in this magazine, register online at www.atalink.org/registration.html. ALL TRACKING must be managed at the local level. We treat all registrations as individual registrations. If any person is submitted who is not a current member through November, we will charge $30 dues to the IMPAC card. Alert your IMPAC card monitor to this possibility. Some units have individuals give paper copies (with a separate credit card for dues) to the card manager who then keys in the registrations with the IMPAC card number. It is not necessary to do membership first; please do both on the registration form.

It will be usually possible (not a dedicated server) to query the database directly for your membership and registration status. Please try: www.budtraynor.com and enter your SSN.

Faxes:

No fax cover sheet is necessary for membership or convention registration forms. Save your time and our paper; all arrive in a closed office. Cover sheets are usually discarded. But if you do fax the form, do so only with credit card full payment for membership and registration. Please do not send a fax with the intention of mailing a check. Faxes arriving without payment will likely be discarded.

No faxes/web/mail after 1700 EST 21 Oct. You may register at the A/TA registration desk upon arrival at the on-site rate benefit, each exhibit, regardless of size, gets 3 certificates that can be used in lieu of money for an exhibitor registration. This allows some exhibitors to operate on a slightly tighter budget. This certificate cannot, however, be used as partial payment toward anything else. In practice, most exhibitors just pay normal registration so they can attend all events. Please see www.atalink.org/exhibitors.html.

ATA Banquet Seating Process:

Along with your Association’s popularity comes complexity. In recent years, we have tripled the number of folks attending the Saturday night Awards Banquet. What that means is that we continue to push the capacity of our banquet seating and our ability to assign specific seats. To manage the process, we have instituted some procedures to maximize the service to all who wish to attend this superb event. Key to this is that you make your seating preferences known early in addition to registering for the convention.

Pre-Convention Banquet Seating Sign-up:

We will take seating requests starting 30 July. Please download the form at www.atalink.org/forms/SeatingRequest.xl and send it via email to Bob Ford at robert.g.ford2@boeing.com or bobford01@comcast.net. This year we are asking for the last four of your SSN to aid us in matching you up with your paid registration, as well as your real first and last names, the ones you used on your convention registration.

Your banquet sign-up date (priority in seating) will be based on when your banquet seating reservation is made. While you are invited to request seating at any time, your banquet sign-up date will be established when payment is received. And while we will take seating requests from anybody — Chapters, Units, Groups, or Individuals — the preferred solution is to get block inputs, so please check with your respective chapter/unit reps so your name is only submitted once.

For the chapters/units/groups, that means all seats you submit for your group must have a paid A/TA registration. Without it, that individual will be “bumped” from the chapter/unit/group seating request. Remember the priority: FIRST SIGNED-UP, FIRST SEATED! Email submission cutoff for seating requests also will be 1800 Friday, 22 October.

On-Site Banquet Seating Sign-up:

We will try to accommodate everyone, however, preferred Banquet Seating cannot be guaranteed onsite. The Banquet Seating Sign-Up which will be located next to the A/TA Registration desk, will be open Thursday and Friday, the 28th and 29th of October, from 0900 – 1800. The CUTOFF for onsite banquet seating will be 1800, Friday the 29th. Those arriving Saturday without prior seating coordination will not be given a seating preference option.

Prior to the Banquet, in-progress seating charts will be posted daily about noon in the Banquet Seating Sign-Up Area. A final Banquet seating chart should be posted 1800, Saturday, 30 Oct. If you have paid for the Banquet and have not shown up on the seating chart, you will be seated at non-assigned tables, perhaps in an adjoining room.

NOTE: Should banquet sign-up exceed facility capacity, Banquet Registration may be stopped and the 1800 Friday banquet seating-cutoff date may be moved up. Check the A/TA web site or the A/TA Sign-up Booth for the most current information.

REGISTER EARLY
and
SIGN UP FOR THE BANQUET EARLY!
Enhancing Airborne Communications

by Capt Stacey Rusek and 1Lt Iris Seeger, Air Mobility Test & Evaluation Squadron

You’ve seen the Verizon commercials - a man walks all over the world and every few steps, stops, and asks: “Can you hear me now?” A funny advertisement, but more real than you might imagine. An Airman steps outside his home in Tent City. The view: sand and rocks. Adjusting the antenna on his Iridium phone, he dials in a set of numbers – “Yes Sir, can you hear me? Good – email is up and now we’ve got voice communications.” Continuous, real-time communication anywhere in the world is critical to successful military operations.

The scenario above is quite accurate for the deployed Airman stationed at Bare Base X. Now take him 35,000 feet straight up and imagine he’s flying on an aircraft. The same capabilities are needed, but a whole different set of problems exist. Helping find a solution to these problems was a role that fell recently to Air Mobility Command Test & Evaluation Squadron (AMC TES).

High on the solution list was the Iridium phone. Lauded for its capabilities, the Iridium satellite communication (SATCOM) phone establishes worldwide connectivity through a constellation of 66 low-earth orbiting satellites, delivering essential communication services where no other form of communication is available. This SATCOM phone consists of a Motorola Iridium Subscriber Unit (ISU) handset with attachable, NSA-approved secure sleeve and subscriber identity module (SIM) card.

A DOD-owned gateway in Hawaii authenticates the ISU SIM account number, records call duration and location, and routes the call to the appropriate Public Service Telephone Network or DSN line, allowing it to connect to secure phones, commercial telephones, or cell phones. If the user places an Iridium-to-Iridium call, the closest satellite transfers the call to neighboring satellites until it reaches the satellite that detects the receiving unit. With other hardware, the Iridium can act as a modem, enabling users to send and receive mission-critical data.

On the ground, your Iridium works magic. The antenna is intended to operate in line of sight of a satellite, so the information can be passed on to where it needs to go. But, what if you’re in the air? Continuous secure and non-secure in-flight voice communications allow commanders, Air Operations Centers, the TACC, and other users to remain in contact with one another at all times. High frequency radio voice, the current primary means of aircraft command, control, and communication, has coverage gaps and reliability issues caused by atmospheric conditions. INMARSAT, or L-band radio, although another option, is not installed on every aircraft. The Iridium SATCOM phone was a first choice candidate to fill the void on aircraft where other forms of communications were limited or non-existent. But would it work? This is where operational testing comes in.

The AMC TES is AMC’s sole Operational Test organization. The squadron first tested the Iridium SATCOM system aboard several airframes (KC-135, C-130, C-17, C-141) in different areas of operations. Tests revealed that in order to maintain adequate signal strength, an external antenna was essential. It was also noted that a “noise cancellation device” would benefit both caller and receiver due to the high levels of background noise aboard the aircraft.

In May 2003, AMC TES executed a similar test of Iridium aboard a Defense Intelligence Agency C-12 equipped with an external antenna installed by the Oklahoma City Air Logistics Center. U.S. Transportation Command Joint Operational Support Airlift Center has a requirement for secure worldwide communication while airborne since “air phones” are not secure-capable and are only effective in the continental United States. The C-12 test evaluated how well the Iridium phone maintained a call in-flight while using an external antenna. The test also evaluated a Plantronics headset’s ability to decrease ambient noise. Non-secure and secure calls were placed from the aircraft. The phone conversations, both secure and non-secure, with the noise-reduction measures were highly successful.

Based on results of the C-12 test, AMC/A58 decided to proceed with evaluating the employment of an external antenna for Iridium calls on C-21 aircraft. Combatant Commanders and other senior leaders routinely travel on C-21s and require secure communications capability. The C-21 does not currently have the on-board ability to transmit or receive secure information and falls short of enabling the Combatant Commanders to securely communicate with senior leadership and forces under their command. In December 2003, AMC TES tested the Iridium on a C-21 aircraft equipped with the same antenna previously tested on the C-12 aircraft. Both secure and non-secure calls placed and received in-flight over Iridium were evaluated and considered successful.

AMC TES concluded from these tests that the Iridium SATCOM system was effective on test airframes when utilizing the external antenna. What does this mean for AMC’s aircraft commanders and VIPs? Soon it will be a familiar sight to see an airborne customer on an Iridium phone asking, “Can you hear me now? Good. Now, let’s go secure – I’ll initiate.”
## 2004 A/TA Convention Registration Form

Please read instructions: Web registration only.

### Registration & Cancellation Policy:
See detailed instructions on pages 24, 25 & 26 or on the web at www.atalink.org.

NO REFUNDS without a cancellation confirmation number, obtained after personal cancellation only with Bud or Pam Traynor, prior to events, at (703) 385-2802 before 21 Oct, 1700 EST; or via the hotel switchboard in their room; or with them at the A/TA registration booth (not the hotel desk). Please no intermediaries. Email OK but risky. Requests without a cancellation number will not be honored. See cancellation fees below.

- **a)** We prefer you instead register online with credit card (secure) at www.atalink.org.
- **b)** To register at the member rate, membership must be current through November.
- **c)** Use one form for a registrant and one non-member guest. Guest registers at member rate.
- **d)** Members may receive the “Early” rate only if this completed form and full payment are postmarked or received by 22 Sep, or may receive the “Pre-Registration” rate if received by 21 Oct. Incomplete forms or payment do not qualify for early rates.
- **e)** You may register at the A/TA registration desk upon arrival at the onsite rate.
- **g)** Credit card users may fax registration to: 9312 Convento Terrace, Fairfax, VA 22031
- **h)** Call or Email changes; DO NOT RESUBMIT FORM or send multiple copies. When in doubt, contact us: (703) 385-2802 or ata@atalink.org

###_isr:

#### Regist:ant:

- **FIRST NAME:** __________
- **LAST NAME:** __________
- **SSN:** __________ (Never listed nor given out - For data control only)
- **HOME ADDRESS:** __________
- **HOME PHONE:** __________
- **HOME E-MAIL ADDRESS:** __________
- **JOB/DUTY TITLE:** __________
- **ORG NAME/SYMBOL:** __________
- **BASE/LOCATION:** __________
- **WORK MAILING ADDRESS:** __________
- **WORK PHONE:** __________
- **WORK E-MAIL ADDRESS:** __________
- **ORG NAME/SYMBOL:** __________
- **BASE/LOCATION:** __________
- **HOME ADDRESS:** __________
- **HOME PHONE:** __________
- **HOME FAX:**
- **WORK FAX:**
- **REGISTRANT:**
- **FIRST NAME:** __________
- **LAST NAME:** __________
- **SSN:** __________ (Never listed nor given out - For data control only)
- **GUEST:**
- **FIRST NAME:** __________
- **LAST NAME:** __________
- **SSN:** __________ (Never listed nor given out - For data control only)

### FULL REGISTRATION:

- **A/TA Membership** (Required for Member Rate for member and guest)
- **Member Early Registration** (Must postmark/fax by 22 Sep)
- **Member Pre-Registration** (Early above is $27 cheaper (Onsite will be $273))
- **Non-Member Registration** (Probaby NOT You – Join and Register Above)
- **Exhibitors** (Does NOT include Seminars, Banquet, Brunch or Golf)

### GOLF (Includes Lunch):

- **Requested**
- **Handicap(s)**
- **Foursome:**

### PARTIAL REGISTRATION:

- **Thursday Evening Reception** (Food, Refreshments & Exhibits)
- **Friday Program** (Seminars, Exhibits, Breakfast, Lunch)
- **Friday Evening Reception** (Food, Refreshments & Exhibits)
- **Saturday Program** (Seminars, Exhibits, Breakfast, Lunch)
- **Saturday Evening Cocktails and Awards Banquet**
- **Sunday Farewell Brunch**

#### TOTAL AMOUNT DUE NOW:

- **Make Checks Payable to:** The Airlift/Tanker Association

---

### Check Box for:

- **SELF**
- **SPOUSE**

### Per Person Fee

- **A/TA Membership**
- **Member Early Registration**
- **Member Pre-Registration**
- **Non-Member Registration**
- **Exhibitors**

<table>
<thead>
<tr>
<th>Amt: $</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td></td>
</tr>
<tr>
<td>215</td>
<td></td>
</tr>
<tr>
<td>242</td>
<td></td>
</tr>
<tr>
<td>373</td>
<td></td>
</tr>
<tr>
<td>184</td>
<td></td>
</tr>
</tbody>
</table>

### TOTAL

---

### TOTAL AMOUNT DUE NOW:

**$**

---

### VISA or MASTERCARD (IMPAC Cards: Use Web Registration Only: www.atalink.org)

By transmitting this form, I certify I have read and understand the cancellation instructions and that if my national membership is not current through Nov., an additional $30 will be assessed on this card to update my membership. Cancellation fee is $10 if by 22 Sep; $20 if by 21 Oct; $25 thereafter.

- **AF or Org. Card #:**
- **Exp:**
- **Amt:**
- **Personal Card #:**
- **Exp:**
- **Amt:**

---

### WEB REGISTRATION ONLY – www.atalink.org

SEE PAGES 24, 25 & 26 FOR RULES OF ENGAGEMENT, BANQUET SEATING INSTRUCTIONS, CONTACT NUMBERS AND HOTEL INFORMATION

---

28 A/TQ • Airlift/Tanker Quarterly • Spring 2004