



# A/TQ

AIRLIFT/TANKER QUARTERLY  
Volume 25 • Number 2 • Spring 2017

## *The Boneyard & Beyond* Tales of Aircraft Storage, Disposal and Regeneration

Pages 8-13

*2017 A/TA Convention & Symposium Registration Form*

Pages 24



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# A/TQ

AIRLIFT/TANKER QUARTERLY  
Volume 25 • Number 2 • Spring 2017

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# CONTENTS...

## Association News

A/TA UpFront .....	2-5
Chairman's Comments .....	2
President's Message.....	3
2016 Year End Financial Report .....	5
<i>A/TA Salutes the Life of Hall of Fame Inductee</i> <i>MSgt Theodore (Ted) R. Venturini, USAF (Ret) 1932-2017</i> .....	6-7

## Cover Story

### The Boneyard & Beyond

Tales of Aircraft Storage, Disposal and Regeneration .....	8-13
<i>Welcome to the Boneyard</i> .....	9
<i>The Venerable C-141 Starlifter</i> .....	10
<i>Scrapping the Starlifter</i> .....	11
<i>Saving "That's All, Brother" –</i> <i>The Douglas C-47 Skytrain that Led the D-Day Invasion</i> .....	12

## Features

<b>Team Morón: The Front Line of Rapid Global Mobility's</b> <b>Coronet Operations by Captain Alan R. Foote</b> .....	19
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## Departments

Smooth Transitions .....	14
Air Mobility News & Views .....	16-18
Industry Partner Spotlight: <i>The David Clark Company, Inc.</i> .....	20
Industry Partner Highlights .....	21
Air Mobility Classics .....	22
2017 A/TA Convention & Symposium Registration Form.....	24

**On the Cover:** An aerial view of a fleet of USAF C-141 Starlifters parked at the Davis-Monthan Air Force Base 309th Aerospace Maintenance and Regeneration Group (AMARG) facility prior to being systematically scrapped. the 309th AMARG is the sole aircraft boneyard and parts reclamation facility for all excess military and government aircraft. (USAF Photo).

## Well Deserved Thanks

A very wise person once said, "There is always, always, always something to be thankful for." I bring this up because while working on this edition of the A/TQ I realized that there is a whole lot to be thankful for reflected in these pages.

First, there are the A/TA volunteers who spend much of their valuable time making sure that the Association runs smoothly and accomplishes its goals of Supporting Mobility Airmen, Preserving Our Culture and Strengthening Our Bonds. So I extend a whole hearted **Thank You** to all of the A/TA Board Members, past and present; to all of the behind the scenes administrators who keep the Association gears turning; and, to all the convention and symposium volunteers who make the Association's annual gathering the best event it can be, year after year!

Second, I want to say **Thank You** to the recently departed MSgt. Theodore (Ted) R. Venturini, USAF (ret) for his decades of service to our country and to the cause of Air Mobility. I'm so thankful that I was able to know him and was honored to call him *Ted*. I am also thankful that the A/TA was able to say **Thank You** to him by inducting him into the Hall of Fame, while he was still here to appreciate it.

Next, I extend a sincere **Thank You** to Ms. Leah Block, Vice President of Marketing at Commemorative Air Force (CAF) for providing information on the CAF's project to restore the aircraft featured in the *Saving "That's All, Brother" - The Douglas C-47 Skytrain that Led the D-Day Invasion* section of the cover story. And that brings me to the Commemorative Air Force. I extend the organization a genuine **Thank You** to its thousands of staff, volunteers and members for taking on the task of saving some of history's most beloved aircraft and working diligently to make them airworthy once again.

I must also say **Thank You** to those who contribute their time and skills to the pages of A/TQ: Greg Cook who spends countless hours writing articles for the magazine; Mike Cassidy who is always on the outlook for new things to include in the magazine's pages - his latest contribution is a new feature called *Smooth Transitions* highlighting the interesting work, stories or adventures, of Mobility Airmen outside or after their 'traditional' service; and, Douglas Lloyd who does all the research and writing for *Air Mobility Classics*.

I also want to say **Thank You** to the Association's Industry Partners and the magazine's advertisers without whose support the Association and magazine would be hard pressed to even exist. And, last but not least, I say **Thank You** to the brave warriors serving in our Nation's armed forces - but for you we would have no reason to exist!

Collin Bakse, editor



## A/TA UpFront

Announcements & Stories  
from, and/or about  
Association Business,  
Members and Chapters

### Chairman's Comments



Gen Duncan McNabb  
USAF, Ret

2017 is a milestone year, with the 100th anniversary of the U.S. entry into World War I; the 75th anniversary of Air Transport Command's establishment in Jun 1942; the 70th Birthday of the U.S. Air Force; and, the 25th anniversary of the creation of

Air Mobility Command as part of USAF reorganization on 1 Jun 1992 around the new vision of Global Reach and Global Power. This also sets the stage for A/TA's 50th anniversary next year. What exciting times.

A/TA and AMC will hold this year's 49th Annual Symposium at the Orlando World Center Marriott, Orlando, Florida, from Thursday, 26 October to Sunday, 29 October 2017. We are planning on a number of major addresses from Air Force Senior Leaders, approximately 36 professional development seminars, and another outstanding Air Mobility Technology Exposition - all to showcase the professional aspect of the air mobility mission and the profession of arms. It promises to be an outstanding convention. Invitations to our Air Force Senior Leadership and A/TA life members are out and Gen David Goldfein, our CSAF, and the ACC Commander, Gen Mike (Mobile) Holmes, have accepted, with many more to follow.

Our theme this year is "**Mobility Airmen: Always Present - Agile, Innovative, and Ready to Roll!**" Our mobility airmen are continuing to be out there defending our freedom and making history. So there will be much to talk about and more war stories to tell. I've always loved watching mobility warriors, young and not so young, come together and share the amazing things they have done. It is a great time see old friends, renew acquaintances, and share our Air Mobility heritage and history.

There is no forum like it in our Air Force and we need to keep it so....so y'all please come... and bring your families and enjoy Orlando.

We had our Winter Board meeting in February at Scott AFB hosted by The Huyser Chapter. Capt Steve Azab and his team provided superb support. We had an excellent visit with the Huyser Chapter members, with the leaders of the 375th Air Mobility Wing, 932nd Airlift Wing, and the 126th Air Refueling Wing, and with Gen Everhart and the AMC staff...focusing on the upcoming Convention.

We are really looking forward to our Board meetings at Altus AFB in June with Capt Mark Watson and the Red River Chapter and at Joint Base Lewis-McChord in August and the Pacific Northwest Chapter. These board meetings allow us to carry on the business of the Association and visit the chapters and our members, getting direct feedback on how we can better support and add value... plus they are always great fun. Keep an eye on our web site (<http://www.atalink.org>) and our Facebook page for the details on these meetings. The Chapters are our Association's lifeblood and we thank them for keeping the A/TA "spirit" alive and well.

We have come a long way, and have developed one of our Country's greatest strategic advantages, the global ability to move. Our Nation's Air Mobility gives us the ability to rapidly respond to worldwide events and gives our warfighters unprecedented options. It also gives us the ability to rapidly support friends and allies during times of need following natural disaster or humanitarian crises, showing the compassion and heart of the American people. It is amazing what we do...and no one can do it better.

Thanks for making the Airlift/Tanker Association the gold standard...I'm so honored to be your Chairman. See you in Orlando to celebrate our great mission and to help us with this year's enduring principle, Support Mobility Airmen, they absolutely rock!!!

See you around the flagpole,  
Gen (ret) Duncan McNabb, Chairman

## VISIT AMERICA'S ONLY MUSEUM DEDICATED TO AIRLIFT AND AIR REFUELING HISTORY!

The Air Mobility Command Museum, located at Dover AFB, Delaware, has free admission and parking. The museum is open Tuesday - Sunday, 9 a.m. to 4 p.m.



AIR MOBILITY COMMAND  
**MUSEUM**

1301 Heritage Rd, Dover AFB, DE 19902

## President's Message



**CMSgt Mike Kerver  
USAF, Ret**

Spring is in the air and we are halfway to Orlando and our 49th Annual Convention and Symposium! Florida and the Marriot World Center have long been one of my favorite locations and we typically get a great turnout for this venue. I look forward to seeing you, and hope the last weekend of October already circled in blue ink on your calendar.

The Scott AFB Huyser Chapter hosted our Winter Board meeting, and on behalf of our Association, I extend my personal thanks to their president Capt Steve Azab and his team for their warm hospitality. Team Huyser was at their very best, and we appreciate them hosting us. We traditionally use the Winter Board meeting to deep-dive into our last convention, review current programs and policies, and begin the planning process for our next convention. This meeting was no exception and as you know...great events begin with an even better theme. With our membership in mind, our theme for the 2017 convention is not only relevant, but also very fitting – **“Mobility Airmen: Always Present – Agile, Innovative, and Ready to Roll!”** As planning continues, we will post

updates and information concerning registration to our [website http://www.atalink.org/content/](http://www.atalink.org/content/) and through social media.

One of my main responsibilities as President is the administration of our Association Awards Program. Our Hall of Fame (HOF) Award is the highest honor we can bestow on any individual or mission group, and we are in the process of selecting our 2017 recipient. You can find HOF nomination procedures and guidelines at <http://www.atalink.org/content/hall-of-fame/nomination/> and I encourage you to consider deserving Air Mobility heroes and nominate them for consideration.

Of the many items discussed during our Winter Board meeting, membership remains one of our big focus areas. Our Senior VP, Lt Gen (ret) Rusty Findley has rolled out a few new initiatives to include a point scale that rewards Chapters for memberships exceeding one-year. For example, Chapters will now receive three membership drive points for each three-year membership, and five points for every life member. In the past, new memberships regardless of length earned the local Chapter one point per new membership. The new program encourages a longer member commitment and rewards the Chapter with higher monetary awards. This year, our first place Chapter will receive \$750, second \$500 and third place earns \$250. With over six months to go, we hope to see the competitive juices flowing and a race towards Orlando where the winner will be crowded.

As our Chairman mentioned in his comments, 2017 is a big year and we recognize many historic milestones in the history of both our Country and Command! In 2018, your Airlift Tanker Association will be 50 years old and we plan to celebrate our Golden Anniversary in a Texas sized way at the Gaylord Texan Resort and Convention Center located in Grapevine, Texas. If you are interested in being part of the momentous event, please contact me at [president@atalink.org](mailto:president@atalink.org). We are in the early stages of forming a planning committee, and we welcome your participation and ideas.

Finally, I want to recognize and pass on my condolences to the Venturini family on the passing of MSgt (ret) Ted Venturini. In 2015, we selected Ted and five fellow loadmasters for induction into our A/TA Hall of Fame. Known as the “C-17 Pathfinder Loadmasters,” Ted’s extraordinary vision and aircraft system expertise contributed to the design, development, production, testing, and evaluation of the cargo compartment on one of the greatest Mobility aircraft ever produced. With 150 years of combined experience and over 55,000 flying hours in 21 different aircraft between them, the unique backgrounds of our Pathfinder Loadmasters proved critical to ensuring the “one-loadmaster” concept became reality. We will miss Ted, but his legacy endures.

*Enjoy your summer and be safe!*  
Mike

49TH ANNUAL  
AIRLIFT/TANKER ASSOCIATION CONVENTION  
& TECHNOLOGY EXPOSITION  
AND THE  
AIR MOBILITY COMMAND & A/TA SYMPOSIUM  
25-29 OCTOBER  
ORLANDO WORLD CENTER MARRIOTT, ORLANDO, FLORIDA

**A/TA 2017**

**MOBILITY AIRMEN  
EVER PRESENT**  
AGILE, INNOVATIVE AND READY TO ROLL

2017 ★ 2018 ★ 2019  
SUPPORTING MOBILITY AIRMEN  
PRESERVING OUR CULTURE  
STRENGTHENING OUR BONDS

**5**

SUPPORT  
PRESERVE  
STRENGTHEN

**A/TA 2018**

AIRLIFT/TANKER  
ASSOCIATION  
**GOLDEN  
ANNIVERSARY**  
1968-2018

SUPPORTING MOBILITY AIRMEN  
PRESERVING OUR CULTURE  
STRENGTHENING OUR BONDS  
GAYLORD TEXAN RESORT AND CONVENTION CENTER  
\*\*\*\*\* 24-28 OCTOBER 2018 \*\*\*\*\*

Mark  
Your  
Calendars  
for  
These  
2  
Great  
Events!

## AAS & Silver Wings 2017 Scholarships

by BGen Daniel P. Woodward, USAF (Ret),  
Co-Executive Director, Arnold Air Society and Silver Wings

Arnold Air Society and Silver Wings is pleased to announce the following students are recipients of the 2017 Academic Scholarships named below. Competition was incredibly keen this year and each student truly deserves immense credit.

Members of the leadership team of the Airlift/Tanker Association, General and Mrs Muellner and Mrs Morley in particular, THANK YOU for your continuing generosity. We simply could not fund these deserving students without your assistance.



Cadet Eric Sanderson from Yale University (center) expresses his appreciation to Retired General Duncan McNabb, Chairman of the A/TA Board, and Ms Mary Anne Thompson, Chairwoman of the Arnold Air Society and Silver Wings scholarship selection committee following the award of the 2017 \$10,000.00 A/TA scholarship named in honor of Brig Gen Tom Mikolajcik. (AAS/Silver Wings Photo).

Deep appreciation is also extended to the AAS/Silver Wings Selection Committee: Ms. Mary Anne Thompson (Chair), Brig Gen (Ret) Tom Scanlan, and Cols (Ret) Linda Aldrich and Dan Simonsen, and Major Bob Wray who this year worked from his new assignment in Germany. This team is truly incredible!

### The 2017 Scholarship Recipients are:

Recipient of the \$10,000.00 Brig Gen Tom Mikolajcik Academic Scholarship courtesy of a generous contribution from the Airlift/Tanker Association: **Cadet Eric Sanderson, Tillman Squadron, Yale.**

Recipient of the \$8,000.00 Maj Gen James I. Baginski Academic Scholarship courtesy of a generous contribution from the Airlift/Tanker Association: **Ms Ashley Kinsey, Stratford Chapter (Silver Wings), Auburn.**

Recipient of a \$5,000.00 George and Vicki Muellner Academic Scholarship courtesy of a generous contribution from Lt Gen George and Vicki Mueller and the Air Force Association: **Cadet Isabel Murdock, Salzarulo Squadron, University of Pittsburgh.**

Recipient of a \$5,000.00 George and Vicki Muellner Academic Scholarship courtesy of a generous contribution from Lt Gen George and Vicki Mueller and the Air Force Association: **Cadet Alex Zorich, Moorhead Squadron, UNC Chapel Hill.**

Recipient of a \$5,000.00 scholarship courtesy of a generous contribution from the Executive Management Center of Arnold Air Society and Silver Wings: **Cadet Meredith Bowers, Bradley Squadron, Oregon State.**

Recipient of the \$2,000.00 Ms Mary Anne Thompson Academic Scholarship courtesy of a generous contribution from AAS/SW Board of Trustees: **Mr Michael Vershaw, Nagel Chapter (Silver Wings), University of Illinois Urbana Champaign.**

Recipient of the \$2,000.00 Brig Gen Ed Brya Academic Scholarship courtesy of a generous contribution from AAS/SW Board of Trustees: **Cadet Lauren Flores, Turner Squadron, Howard.**

Recipient of the \$2,000.00 Lt Col Bill Morley Academic Scholarship courtesy of a pending contribution source (two sources possible): **Cadet Harrison Spexarth, Lozano Squadron, University of Houston.**

Recipient of a \$2,000.00 Academic Scholarship courtesy of a generous contribution from donors to the Arnold Air Society and Silver Wings/Angel Flight Educational Fund: **Cadet Mary Roush, LeMay Squadron, The Ohio State University.** ■

## CALLING ALL 457TH AIRLIFT SQUADRON ALUMNI!

The 457th Airlift Squadron turns 75 in 2017 and we want to celebrate! Join the current squadron members, distinguished visitors, and other alumni on June 30 for dinner, drinks, and a few good "there I was" stories. We will have activities planned for the day, including a distinguished guest speaker. All alumni and their families are welcome to attend. Please email or call to RSVP, we hope to see you there! E-mail: [457as.amc@gmail.com](mailto:457as.amc@gmail.com) | Phone: 240-857-3917

*Happy Birthday to the  
United States Air Force!*



With 70 years of experience under its belt, the Air Force is celebrating its birthday with a website showcasing each generation of airmen since the service's inception in 1947.

Starting with 1947 to 1960, the Air Force's birthday website, <http://static.dma.mil/usaf/70/>, will highlight stories about each generation of airmen, including heroes and technological innovations, according to the Air Force.

The "Breaking Barriers" series will feature 10 videos throughout the year discussing the social and technological barriers that were overcome.

The site will be updated each month until September, when the Air Force celebrates its birthday on the 18th. The time periods featured are: March 24: 1947-1960; April 22: 1960-1970; May 20: 1970-1980; June 18: 1980-1990; July 17: 1990-2000; Aug. 17: 2000-2010; and, Sept. 16: 2010 and Beyond.

"The joint war fighting excellence our nation expects and gets today from our Air Force was built through 70 years of tenacity and innovation," Air Force Chief of Staff Gen. Dave Goldfein said in a statement. "Our incredible Airmen continue raising the bar to provide our nation the asymmetric advantage only airpower can bring." ■

### Future Convention Locations:

2017:

A/TA 49th Anniversary Convention & Symposium  
25-29 October  
Marriott World Center • Orlando, Florida

2018:

A/TA Golden Anniversary  
Convention & Symposium  
24-28 October  
Gaylord Texan Resort and Convention Center  
Greenville, Texas



# 2016 A/TA Year End Financial Report

Col (ret) John J. Murphy, Jr., A/TA Treasurer



The Airlift/Tanker Association's 2016 financial statements are published in the Spring Edition of the Airlift/Tanker Quarterly as required by our By-Laws. The statement of Financial Position and Statement of Activities are prepared by a Certified Public Accountant as part of our annual financial audit and 2016 income tax submission.

The Association's financial status remains strong as we move into 2017. I am very pleased to report that the cost cutting measures your Financial Committee put into effect in 2016 paid off.

For the first time since 2012, the Association showed a net increase in assets—a respectable 15%! We will continue to keep our spending in check and to look for new ways to bring our expenses in line with our projected revenues. We are optimistic that we will continue our recovery in 2017.

## STATEMENT OF FINANCIAL POSITION 12-31-16

### ASSETS

Cash.....	\$1,597,021
Investments - US Treasury.....	\$50,000
Investment - CSX Stock.....	\$43,116
Inventory - Logo Items.....	\$1,465
Property and equipment.....	\$1,988
<b>Total Assets.....</b>	<b>\$1,693,590</b>

### LIABILITIES AND NET ASSETS

#### Liabilities

Accounts Payable and Accrued Expenses.....	\$0
<b>Total Liabilities.....</b>	<b>\$0</b>

#### NET ASSETS

Unrestricted.....	\$68,451
Temporarily restricted (Reserves).....	\$1,000,000
Temporarily restricted (Memorial).....	\$8,139
<b>Total net assets.....</b>	<b>\$1,693,590</b>

**Total Liabilities and Net Assets..... \$1,693,590**

## STATEMENT OF ACTIVITIES 12-31-16

### UNRESTRICTED NET ASSETS

Unrestricted revenues, gains and other support	
Corporate Memberships.....	\$84,289
Individual Memberships.....	\$57,379
Convention Exhibits.....	\$444,746
Convention Registrations.....	\$647,690
Magazine Advertising.....	\$45,439
Refund Income (Post Office).....	\$254
Dividends.....	\$1,375
Donations.....	\$175
Unrealized Gain on Securities.....	\$11,976
Interest.....	\$338
Logo Sales, Net.....	-\$6,396
<b>Total Unrestricted Revenues, etc. ....</b>	<b>\$1,287,264</b>

#### Net Assets Released from Restrictions

Restrictions Satisfied by Payments.....	\$1,542
<b>Total Unrestricted Revenues, Etc. ....</b>	<b>\$1,288,806</b>

### EXPENSES:

Program Services.....	\$937,932
Management and General.....	\$125,208
<b>Total Expenses.....</b>	<b>\$1,063,140</b>

**Increase in Unrestricted Net Assets..... \$225,666**

### TEMPORARILY RESTRICTED NET ASSETS

ATA Events.....	\$0
Award Donation.....	\$0
Scholarship Fund.....	\$1,542
Net Assets Released from Restrictions	
Restrictions Satisfied by Payments.....	(\$1,542)
Change in Temporarily Restricted Net Assets.....	\$0
<b>Increase in Net Assets.....</b>	<b>\$225,666</b>

**NET ASSETS AT BEGINNING OF YEAR.....\$1,467,924**

**NET ASSETS AT END OF QUARTER.....\$1,693,590**

## STATEMENT OF FUNCTIONAL EXPENSES 12-31-16

FUNCTIONAL EXPENSE	PROGRAM SERVICES	MANAGEMENT	FUND RAISING	TOTAL
Awards	\$18,687	\$0		\$18,687
Scholarships & EEG	\$46,40	\$0		\$46,400
Bank Service Fees	\$2,327	\$0		\$2,327
Convention	\$761,836	\$0		\$761,836
ATA Events	\$0	\$0		\$0
Depreciation	\$1,836	\$0		\$1,836
Donations	\$3,000	\$0		\$3,000
Insurance Premiums	\$0	\$2,611		\$2,611
Magazine	\$71,175	\$0		\$71,175
Administration	\$0	\$116,680		\$116,680
Postage & Reproduction	\$1,082	\$0		\$1,082
Secretary	\$0	\$0		\$0
Memorial Expense	\$0	\$0		\$0
Board Operating Expenses	\$31,589	\$0		\$31,589
Treasurer	\$0	\$5,917		\$5,917
	<b>\$937,932</b>	<b>\$125,208</b>		<b>\$1,063,140</b>

# A/TA Salutes the Life of Hall of Fame Inductee Master Sergeant Theodore (Ted) R. Venturini, USAF (Ret) 1932-2017

*“Rescht vun Fridden Léif Frënn - Merci fir Är Service”  
Rest in Peace Dear Friend – Thank You for Your Service*

Theodore (Ted) R. Venturini, was born 28 May 1932, in the town of EschAlzette, Luxembourg, to Richard and Marie Venturini. Ted met his future bride Marcelle as a young man through the circumstances of World War II, and the couple were happily married on 5 May 1956. After their marriage the two moved to Quebec, Canada briefly, and from there to Ohio, to be near family. Not long after their move into the U.S., Ted joined the United States Air Force. For a short time the young couple were separated because of deployments, but they were finally reunited in California. That is where they introduced to the world their daughter, Lydia.

Ted proudly served in the Air Force from 1958-1979 with most of his career spent at Edwards AFB, California. His career spanned 22 years as an Air force loadmaster. During his stellar career in the Air Force, and then in the Aerospace Industry he participated in a multitude of air mobility feats and “firsts,” a small sampling includes: From 1965 through 1968 he was a loadmaster for Satellite and Space Vehicle Mid Air Recovery on JC-130s; from 1969-1974 Sergeant Venturini was the Project Loadmaster for the C-5A Test program at Edwards AFB and participated in the First Minute Man I loading on the C-5A for Airdrop Testing; the First F-111A loading on the C-5A for Air Transport; the First F-15A loading on the C-5 for Air Transport; and, the First F-16A loading on the C-5 for Air Transport.

From 1974-1978 he was Project Loadmaster for the YC-14 and YC-15 AMST – Advanced Medium Short Takeoff and Landing Test Program – from inception through to the Flight Test Program at Edwards AFB, and a member of the YC-14 “First Flight” crew; from 1979-1993 he was the Chief Project Loadmaster for the CX and later the C-17 program – inception to first flight. He was member of the C-17 “First Flight” crew and Chief Project Loadmaster for the following test program at Edwards AFB.

Ted retired as a Master Sergeant from the U.S. Air Force on 31 August 1979. Following his Air Force retirement, McDonnell Douglas Aircraft Company selected Ted to become Chief Loadmaster of the C-X D9000 program. MSgt Venturini’s knowledge and experience with the C-5A and Advanced Medium Short Take Off and Landing Aircraft

(AMST) programs made him the perfect choice for the position. He was instrumental in developing the McDonnell Douglas C-X proposal, authoring the critical Mission Systems volume. These important sections laid out the vision for the most efficient and versatile cargo compartment, supporting the capability for one loadmaster to accomplish all peace time and combat air mobility missions.

When McDonnell Douglas was selected as the C-X winner, MSgt Venturini became the first C-17A Pathfinder Loadmaster. Throughout the Full Scale Engineering Development phase of the program, MSgt Venturini’s tenacity and drive ensured loadmaster critical systems endured and survived a number of challenges. With MSgt Venturini’s expertise he, and five other C-17A Pathfinder Loadmasters, guided the company and the US Air Force to design the world’s first single loadmaster aircraft.

As an accomplished Aircrew Loadmaster, MSgt Venturini was able to provide seasoned loadmaster technical guidance and expertise throughout the C-17A Preliminary Design Review (PDR) and Critical Design Review (CDR). On 15 September 1991, he flew aboard the C-17A Globemaster III on its first flight as the Aircrew Loadmaster. During the next four years, MSgt Venturini led his team of McDonnell Douglas loadmasters through C-17A Developmental and Operational Testing and Evaluation and both milestones were highly successful. Those

who participated during the challenging design efforts and rewarding test missions always looked to MSgt Ted Venturini for leadership, guidance, and expertise.

Known as “The Godfather” in loadmaster circles, Ted was inducted into the Airlift/Tanker Hall of Fame in 2015 as a one of the C-17 Pathfinder Loadmasters.

Ted took his final flight into the “wild blue yonder” on 20 April 2017. America is a better place for his having been here. He is survived by his wife Marcelle; daughter Lydia Jowyk and son-in-law Mark; sister Lydia Colson; nieces Viviane Buchanan, Michelle Gormley, and Marcella Wojcik.

Rest in Peace Ted. Thank you for your service. You will always be remembered as “The Godfather” of Flight Test Loadmasters.



MSgt Theodore (Ted) R. Venturini, USAF (Ret), poses proudly alongside the Airlift/Tanker Association 2015 Hall of Fame medallion following his induction into the Association’s Hall of Fame as one of the C-17 Pathfinder Loadmasters, during the convention’s Hall of Fame Banquet at the Orlando World Center Marriott, Orlando, Florida. (A/TA Photo Courtesy of Mark Smith).



# Remembering “The Godfather”

## Thoughts From Ted Venturini’s Fellow A/TA Hall of Fame C-17 Pathfinder Loadmasters

I first met Ted in 1985, when I was selected as the Air Force C-17 System Program Office Loadmaster. Obviously, I was a bit younger then and Ted, a seasoned loadmaster, was quite skeptical of a young red-headed loadmaster, charged with assisting and monitoring McDonnell Douglas Aircraft Company as we designed the cargo compartment of the C-17. However, Ted and I quickly became good friends and colleagues, combining fresh operational loadmaster expertise with seasoned experience to build a great aircraft. Ted was a visionary loadmaster, true friend and mentor. He was innovative, with the knowledge to make Air Mobility Command’s first single loadmaster aircraft a reality. Ted’s knowledge of aircraft systems was amazing – no aeronautical engineer could misdirect him, Ted knew the right stuff! He trained and taught many of us expert, valuable details about airlift, airdrop, and life. Our shared passion and dedication to build the “best airlifter in the world” will always be one of my most treasured memories.

I’ve often thought about the sacrifices Ted, his wife Marcelle, and daughter Lydia made as Ted remained in Long Beach for long periods of time, building the C-17 for McDonnell Douglas, while his family remained in Lancaster. It wasn’t until October 2015, 30 years after Ted and I first met, as our C-17 Pathfinder Loadmaster team was honored with an induction into the Airlift/Tanker Association Hall of Fame, that I better understood why Ted never invited me to his home in Lancaster. One of many heartfelt laughs occurred during our reunion in Orlando, when I first met Ted and Marcelle’s beautiful daughter Lydia, asking Ted why he never introduced me to Lydia during those early years of the C-17 program. Ted laughed (well, chuckled) and smiled telling me that he knew better, a fiery young red-headed loadmaster in the office was enough for him! I was honored to see Marcelle again, and meet Lydia and her wonderful husband Mark, sorta ironic isn’t it? I was also extremely pleased my college-aged kids, James and Molly had the opportunity to meet my long-time dear friend Ted and his family.

Ted’s “Godfather” image reached far beyond his brilliant C-17 contributions. I’ll never forget the teddy bear (one that made comforting sounds) Ted gave my son, when James was born during C-17 initial cadre operations in Charleston, South Carolina. C-17 “Godfather Ted” was also a kind, loving, considerate Teddy Bear himself! I truly valued our sincere friendship, Ted’s wonderful laugh, emotion and passion, and the many fun times we were able to share together. Godspeed Ted...with much love and admiration to you and your wonderful family – I will always miss you!

—CMSgt Mark A. Smith, USAF (Ret)

Fellow 2015 A/TA Hall of Fame Pathfinder Loadmaster and A/TA Past President

I first met Ted as a member of the C-5 Test Team while he was stationed at the Air Force Flight Test Center, Edwards AFB, California. Then I had the honor to work with him on the KC-10 Test Team when he first started at McDonnell Douglas Corporation in 1979. Next up was the C-17 development. Ted was the Senior Loadmaster at McDonnell Douglas Corporation during this time.

Ted’s insight into what Loadmasters needed on the C-17 was invaluable to the Military Airlift Command (MAC). He was so influential with the C-17 engineering team, that when Ted said ‘the Loads need this to operate,’ even when the Engineers put up an argument at first, they eventually bent to the will of Ted Venturini.

The C-17 is the first cargo transport aircraft specifically designed for a one loadmaster operation, setting the standard for all future mobility aircraft development, and Ted Venturini’s footprints (and fingerprints) were all over the Loadmaster Operations Panels. He demanded excellence from not only the Engineering cadre, he demanded excellence from the Loadmasters working for him as well. He always kept all the Air Force Pathfinder Loadmasters on the scene updated on what was coming down and happening, so we could tell our superiors to make them aware.

In the 25 years since first flight, Ted’s dedication is in the history books. Strategic or tactical, civil or military support, our country or the world at large, the value of the C-17 has been proven

time, and time again. All you have to do is look at everything the C-17 has done over the last two decades to realize our nation would not have been successful without the Loadmaster IIIs.

The way the airplane’s cargo bay was designed to handle every mission from humanitarian, to airdrop, to aeromedical, to basic cargo missions, was absolutely essential and we owe a debt of gratitude to Ted Venturini who made sure it fit every mission.

I consider Ted a true patriot, warrior, friend, and mentor and one of the most real, genuine people I have ever dealt with in my 51+ years in aerospace. He will be sorely missed by all, but his ideas and actions will live on forever in the C-17 world.

Rest in Peace Ted, say Hi to Bill Cannon and Tom Connell, and save me a place at the table when I get there.

—CMSgt Mike Welch, USAF (Ret)

Fellow 2015 A/TA Hall of Fame C-17 Pathfinder Loadmaster and President A/TA See Seventeen Chapter

Ted was a true gentleman and totally dedicated loadmaster. I met Ted in 1979 when he showed up at Altus Air Force Base, Oklahoma, with a prototype ADS rail section, later modified into what it is today on the C-17. Throughout design, development, test, and finally production, Ted tenaciously defended the backend of the jet. He constantly chided Mission Systems engineers anytime they came up with ideas that might reduce weight, a major problem during the early days of development, and thereby reduce loadmaster capability while increasing their workload. One of his favorite sayings had to do with what the engineers had ‘been smoking at the time they came up with these harebrained ideas.’

Ted is finally in a well deserved extended crew rest hanging with Bill Cannon and Boeing Loadmaster Tom Connell reminiscing about those challenging and most rewarding days. His legacy as the “C-17A Godfather Loadmaster” will endure for generations. He will be missed by many. Rest In Peace dear friend.

—CMSgt Jim Lis, USAF (Ret)

Fellow 2015 A/TA Hall of Fame C-17 Pathfinder Loadmaster



Crew of the First C-17 Flight, 15 September 1991 (L to R) Flight Test Engineer Henry Van De Graaf, Pilot Bill Casey, Co-Pilot Lt. Col. George London and Aircrew Loadmaster Ted Venturini. (Courtesy Photo).

# The Boneyard & Beyond

## Tales of Aircraft Storage, Disposal and Regeneration

by Collin R. Bakse

Back in the spring of 2015, while doing research for an A/TQ story, I came across a Kickstarter\* Campaign for the Commemorative Air Force's effort to raise money for the complete restoration of a Douglas C-47 Skytrain, named *That's All, Brother* that had been the lead aircraft of the Allied invasion of Europe on D-Day.

Discovered lying in an aircraft boneyard in Wisconsin, *That's All, Brother* was nearly unrecognizable and in desperate need of caring individuals to help turn back the hands of time.

The Commemorative Air Force (CAF), in partnership with loyal supporters, has taken on the task of completely restoring this historic warbird to flying condition. It is CAF's goal to return *That's All, Brother* to the skies in time for the 75th Anniversary of D-Day on June 6, 2019 when she can take a commemorative flight.

Then, at last year's A/TA Convention in Nashville I couldn't help overhearing a conversation wherein two retired loadmasters lamented the "scrapping of all of the C-141s at the boneyard." My curiosity piqued, I set about researching the matter. I knew about *The Boneyard* at Davis-Monthan Air Force Base but not much about its history or how it operated, and I had not really pondered the post-retirement fate of the Air Force's fleet of venerable C-141 Starlifters. I found the research thoroughly fascinating – on both counts.

Since both of these chance occurrences pertain to aircraft that had winged their way through air mobility history, and at last found their way to an aircraft "boneyard," I decided to tie them together for this article. I think the best place to start is with the history of *The Boneyard* at Davis-Monthan Air Force Base...

\*Kickstarter is an American public-benefit corporation based in Brooklyn, New York, that maintains a global crowdfunding platform focused on creativity. The company's stated mission is to "help bring creative projects to life."

An aerial view of a fleet of USAF C-141 Starlifters parked at the Davis-Monthan Air Force Base 309th Aerospace Maintenance and Regeneration Group (AMARG) facility prior to being systematically scrapped. the 309th AMARG is the sole aircraft boneyard and parts reclamation facility for all excess military and government aircraft. (USAF Photo).

## Welcome to *The Boneyard*

In 1919 the Tucson, Arizona, Chamber of Commerce established the nation's first municipally-owned airfield. In 1927 the airfield was moved to a site southeast of town and dedicated as Davis-Monthan Field, in honor of two Tucson natives, Lieutenants Samuel H. Davis and Oscar Monthan, two WWI pilots who died in military aircraft accidents. At the time Davis-Monthan Field was the largest municipal airport in the United States.

Davis-Monthan Airport became Tucson Army Air Field in 1940, and was renamed Davis-Monthan Army Air Field on December 3, 1941, just prior to the Japanese attack on Pearl Harbor.

The outbreak of World War II brought major changes to Davis-Monthan, with units of the 1st Bombardment Wing and 41st Bombardment Group (BG) departing for the Pacific theater. In January of 1942 jurisdiction of the field transferred from the 4th Air Force to 2nd Air Force. The following month the 39th BG arrived and began training B-17 Flying Fortress and B-24 Liberator units and crews. By mid-1942 B-24 Liberator training became the sole mission of the 39th BG, with all other flight training phased out. In December of 1944 Davis-Monthan became home to the B-29 Superfortress.

Training at the airfield came to a halt in August 1945, when the Japanese unconditionally surrendered. Davis-Monthan also played a post-war role by housing German POWs from June 1945 to March 1946. Immediately after World War II, the Army's San Antonio Air Technical Service Command established a storage facility for B-29 and C-47 aircraft at Davis-Monthan AFB. By May of 1946, more than 600 B-29 Superfortresses and 200 C-47 Skytrains had been moved to Davis-Monthan. Some were preserved and returned to action in the Korean War, others were scrapped.

The hard alkaline soil geology of the desert allows aircraft to be moved around without having to pave the storage areas. Plus, the area's low humidity in the 10%-20% range, meager rainfall of 11" annually and high altitude of 2,550 feet allows the aircraft to be naturally preserved for cannibalization or possible reuse. Because of this unique set of variables, Davis-Monthan AFB is a logical choice for a major storage facility. In fact, the base, home to the 309th Aerospace Maintenance and Regeneration Group (AMARG), the sole aircraft boneyard and parts reclamation facility for all excess military and government aircraft, has evolved into "the largest aircraft boneyard in the world."

In February of 1956, the first Convair B-36 Peacemaker aircraft arrived at Davis-Monthan AFB for scrapping. All of the fleet of 384 Peacemakers would ultimately be dismantled except for four remaining B-36 survivors saved for air museums.

In 1965, the Department of Defense decided to close its Litchfield Park storage facility in Phoenix, and consolidate the Navy's surplus air fleet into Davis-Monthan. Along with this move, the name of the 2704th Air Force Storage and Disposition Group was changed to Military Aircraft Storage and Disposition Center (MASDC) to better reflect its joint services mission.

In early 1965, aircraft from Litchfield Park began the move from Phoenix to Tucson, mostly moved by truck, a cheaper alternative than removing planes from their protective coverings, flying them, and protecting them again.

The last Air Force B-47 jet bomber was retired at the end of 1969, and the entire fleet was dismantled at Davis-Monthan except for about 30 Stratojets which were saved for display in air museums.

In 1985, the facility's name was changed again, from MASDC to the Aerospace Maintenance and Regeneration Center (AMARC) as outdated ICBM missiles also entered storage at Davis-Monthan. In

the 1990s 365 surplus B-52 Stratofortress bombers were dismantled at the facility.

Over the 70+ years of operation, many airlift and aerial refueling aircraft, among other types, have made the trip to *The Boneyard* at Davis-Monthan, and the 309th AMARG, the sole aircraft boneyard and parts reclamation facility for all excess military and government aircraft.

As part of the Ogden Air Logistics Complex at Hill AFB, Utah, the 309th Aerospace Maintenance and Regeneration Group at Davis-Monthan Air Force Base in Tucson, Arizona, is a key player on the Air Force Sustainment Center team, the "numbered" Air Force for readiness. World-renowned as "The Air Force's Boneyard," the facility has transcended its traditional role of storage and is now a proven



**World-renowned as "The Air Force's Boneyard," the AMARG facility at Davis-Monthan AFB has transcended its traditional role of storage and is now a proven source of repair, refurbishment and modification for weapon systems worldwide – a National-Level Air Power Reservoir meeting our nation's warfighting needs. (U.S. Air Force Photo).**

source of repair, refurbishment and modification for weapon systems worldwide – a National-Level Air Power Reservoir meeting our nation's warfighting needs.

As the Department of Defense continues to adjust to national security threats and fiscal realities, AMARG will remain a key force enabler allowing the United States to rapidly adjust to the global environment and provide world-class aircraft maintenance and logistics support as part of the larger AFSC enterprise that supports the DoD, our allies and other government agencies.

Six mission elements make up AMARG's support for joint, allied and coalition warfighters: aircraft storage and preservation; aircraft parts reclamation; aircraft regeneration; aircraft disposal; Financial Improvement and Audit Readiness management; and, limited depot-level maintenance.

The Air Force Materiel Command's 309th Aerospace Maintenance and Regeneration Group (AMARG) is organized as follows:

- 576th Aerospace Maintenance and Regeneration Squadron
- 577th Commodities Reclamation Squadron
- 578th Storage and Disposal Squadron
- 309th Support Squadron

Aircraft from the Air Force, Navy, Marine Corps, Coast Guard, NASA and other government agencies are processed at AMARG, which employs a small number of active duty military personnel and nearly 700± civilian technicians.

Most of what comes out of *The Boneyard* is aircraft parts – the AMARG team returns an average of 12,000 parts to service every fiscal

year. Many parts, particularly for older aircraft, can't be found on the open market, so it's usually cheaper to get the parts from stored aircraft than it is to manufacture them. The reclaimed parts often keep a fleet from being grounded. Another role of AMARG is to support the program that converts old fighter jets, such as the F-4 Phantom II and F-16, into aerial target drones. It also serves as an auxiliary facility of the National Museum of the United States Air Force, and stores tooling for out-of-production military aircraft.

AMARG's typical inventory comprises more than 4,400 aircraft, which makes it the largest aircraft storage and preservation facility in the world.

### Aircraft In-Processing

When aircraft arrive at the AMARG they are met by the "receiving branch." Each aircraft brings along its entire history of documentation, including maintenance actions over its years of service. All aircraft going into storage are processed as follows:

- All guns, ejection seat charges, and classified hardware are removed, along with clocks and data plates.
- Each aircraft is washed on arrival. The washing is especially important for aircraft that have served aboard aircraft carriers or in tropical locations where they were subject to the corrosive effects of warm, salty air.
- The fuel system is protected by draining it, refilling it with lightweight oil, and then draining it again, leaving a protective oil film.
- The aircraft is sealed from dust, sunlight, and high temperatures. This is done using a variety of materials, ranging from "spraylat" (a white, opaque, high-tech vinyl plastic compound sprayed on the aircraft) to simple garbage bags. With the white coating, interior temperatures will usually remain within 15 degrees of the outside ambient air temperature.
- The plane is towed by a tug to its designated "storage" position.

### Aircraft Inventory Types Used by AMARG

AMARG uses the following official four tier "Type" categories for

aircraft in its care:

- Type 1000 - aircraft at AMARG for long-term storage, to be maintained until recalled to active service. These aircraft are "inviolate" - have a high potential to return to flying status and no parts may be removed from them. These aircraft are "repre-served" every four years.
- Type 2000 - aircraft available for parts reclamation, as "aircraft storage bins" for parts, to keep other aircraft flying. The majority of the aircraft at AMARG are in Type 2000 storage. When an order comes in for a particular part - for instance, a hydraulic pump for a C-130E for an international operator - the AMARG technicians use a negative inventory system to find it. Checking the inventory, the remaining pump in the best condition or with the fewest flight hours is chosen. The aircraft where the part is located is identified. The pump is removed, checked, and then prepared for shipment. Shipping parts is an art in itself. Nothing is standard. Usually a specialized container for a particular part has to be built at the on-site carpenter shop. For large structures like wings, the shipping container is simply built around the outgoing part. Over time, some of the Type 2000 aircraft are reduced to skeletons with multiple parts and structures removed. At this point AMARG carpenters build wooden stands to support what remains of the aircraft.
- Type 3000 - "flying hold" aircraft kept in near flyable condition in short-term, temporary storage; waiting for transfer to another unit, sale to another country, or reclassification to the other three types. The engines on these aircraft are run up regularly.
- Type 4000 - aircraft in excess of DoD needs - these aircraft have been gutted and every useable part has been reclaimed. They will be sold, broken down into scrap, smelted into ingots, and recycled. These aircraft have been used up for parts support and the next step will be destruction. A big, red letter D cancelled with an "X" painted on the nose means that particular aircraft has been demilitarized, toxic materials have been removed, and it's ready to be scrapped. This was to be the fate of the C-141 Starlifter fleet.

## The Venerable C-141 Starlifter

Introduced to replace slower piston-engined cargo planes such as the C-124 Globemaster II, the C-141 was designed to requirements set in 1960 and first flew in 1963.

The C-141 Starlifter was the workhorse of the Air Mobility Command from the 1970s into the early 2000s. The Starlifter fulfilled the vast spectrum of airlift requirements through its ability to airlift combat forces over long distances, delivering those forces and their equipment either by air, land or airdrop, resupply forces and transport the sick and wounded from the hostile area to advanced medical facilities.

**The first C-141A Starlifter, delivered to Tinker Air Force Base, Oklahoma, in October 1964, began squadron operations in April 1965. (U.S. Air Force Photo).**

A total of 285 C-141 aircraft were built at Lockheed Martin's Marietta, Georgia facility from 1963 to 1968. The peak year for production was 1967, when 107 C-141s came off the assembly line. The military C-141 fleet (284 aircraft) recorded a grand total of 10,645,726 flight hours, or

an average of approximately 39,465 hours per airframe. The military fleet tallied 1,026,695 full-stop landings. One Starlifter was delivered as a commercial L-300 transport and was used as a company demonstrator. It was later used by NASA as an airborne observatory.

A total of 251 C-141s were retired to the Aerospace Maintenance and Regeneration Center at Davis-Monthan Air Force Base, Ariz., where they were eventually dismantled and scrapped.

The first flight of the first C-141A (there was no prototype) came at Marietta, Georgia, on December 17, 1963, the 60th anniversary of the Wright Brothers' first powered flight. That aircraft (Air Force serial number 61- 2775) is now on display at the Air Mobility Command Museum at Dover AFB, Delaware. The Starlifter entered operational Air Force service at Tinker AFB, Oklahoma, in April 1965 and since that time more than 30 squadrons with 15 active duty Air Force, Air Force Reserve Command, Air National Guard, Air Education and Training Command, and Air Force Materiel Command units flew the aircraft.

In August of 1965, the first C-141 missions were flown to Vietnam. The C- 141A aircraft were capable of carrying either 138 troops or approximately 62,000 pounds of cargo, reducing what had been a 72-hour trip with stops from Travis AFB, California, to Tan Son Nhut AB, South Vietnam in a C-124, the C-141's piston-powered predecessor, to 36 hours. On the return trip, the crews could carry up to 80 litters plus attendants on medevac flights. Some 6,000 medevac flights were flown on Starlifters from 1965 until 1972.

In 1969, a C-141A was used to fly the Apollo 11 astronauts and their special containment house trailer from Hawaii to Houston after the first moon landing mission was completed. In October 1973, Starlift-



er crews flew 421 missions and delivered more than 10,000 tons of equipment and supplies to Israel during the 1973 Yom Kippur War.

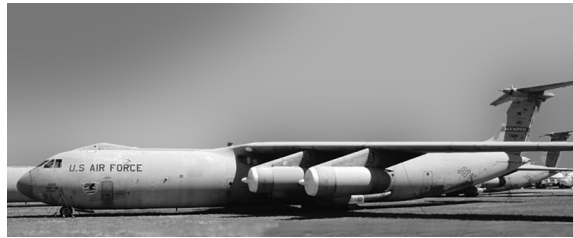
Recognizing that the C-141 often filled up well before its max cargo capacity was reached, the Air Force had 270 C-141 aircraft "stretched" by adding two plugs in the fuselage, increasing usable volume by nearly 75 percent. The first modified aircraft, redesignated C-141B, was flown in 1977 from Marietta and the modification program, which also included provisions for aerial refueling, ran until 1983.

The C-141B could carry 200 troops, 155 paratroops, 14 aeromedical attendants and a maximum of 103 litters – although the usual load was 76 ambulatory and litter patients when comfort pallets (a cargo pallet-mounted lavatory and kitchen combination) were used, or 68,725 lbs (31,239 kilograms) of cargo. Aeromedical crews considered the C-141 a nearly perfect long-range evacuation platform, as the injured could be loaded directly from ambulance busses, the aircraft had its own patient oxygen lines, and carried its own stanchions. No special pallets or floor-loading of patients was required.

Starlifter crews conducted Antarctic resupply flights for nearly three decades, landing directly on the ice without skis at McMurdo Station. C-141s were also used for flight research, including serving as the tow aircraft for an F-106 and as an advanced radar test bed aircraft. The NASA aircraft, based at Ames Research Center in California, was christened the Kuiper Airborne Observatory. It had a 36-inch infrared telescope that weighed 7.5 tons mounted in a hatch in the forward fuselage. It served science for two decades.

Starlifter crews flew suspected terrorists to the detainment facility at Guantanamo Bay, Cuba.

From 2003 until the Starlifter's last combat mission in September 2005, C-141 crews flew more than 70 percent of the aeromedical evacuation flights from points in the Middle East and Iraq. From 2002 until 2005, C-141 crews flew more than 2,000 combat sorties and moved more than 70 million pounds of equipment and materials in theater.



**Ex-Memphis-based C-141 67-0029 at The Boneyard at Davis-Monthan AFB. This aircraft last flew with the 164th Airlift Wing, Tennessee Air National Guard. The aircraft wore the nose art of an eagle holding a sword with the words "Let's Roll" against the American flag in tribute to those who perished in the 11 September 2001 (9/11) terrorist attacks. (U.S. Air Force Photo).**

The Air Force officially retired the last active-duty Starlifter on 16 September 2004. The Air Force retired the last Lockheed Martin C-141 Starlifter to the National Museum of the United States Air Force (formerly known as the Air Force Museum) in ceremonies held at Wright-Patterson AFB the morning of 6 May 2006, closing out the transport's 43-year career. That last C-141 aircraft in Air Force inventory (Air Force serial number 66-0177), a C-141C known as the Hanoi Taxi, was flown by a 445th Airlift Wing crew from the unit's base on the Patterson side of the 8,300 acre installation to

the Wright Field side of the base where the National Museum of the United States Air Force is located. The final flight lasted about an hour and included several passes over the museum.

On February 12, 1973, this particular aircraft, then a C-141A, had been flown to Gia Lam Airport, near Hanoi, North Vietnam in the first mission of Operation Homecoming, the repatriation of former American prisoners of war. There were 40 former POWs on that first flight, many of whom were in Dayton for a reunion in conjunction with the C-141's retirement. On 5 May 2006, the POWs flew once again on the Hanoi Taxi in a re-creation of that historic flight.

## Scrapping the Starlifters

Owing to the rapid retirement of so many C-141s to AMARG it wasn't long before the large scale scrapping of the type began. With no airframe life remaining there was no chance of them retuning to the USAF active inventory and with so relatively few C-141s operational at that time, there was no requirement for a large number of reclamation aircraft to remain at AMARG. The C-141 cutting work was started during July of 2003 and initially targeted the older arrivals in the reclamation area which had been languishing since the mid 1990s. By mid August many of the Starlifters had been removed.

Due to the size of the C-141 initial scrapping was done in situ using the same method honed over the years from scrapping the mighty B-52 Stratofortress. A crane with a slipper gear raises a 13,500lb guillotine blade to a height of approximately 60 feet then drops it on the predetermined cut point, severing the aircraft with ease. This technique appears simplistic but proves extremely effective. Some of the C-141s were towed out on their own landing gear behind the tractor units that regularly traveled between AMARG and HCF West's premises. HVF West is the metal processing company responsible for the removal and processing of the remains at their facility located a few miles from the AMARG main gate. There the aircraft sections were ground down into very small metal fragments ready for smelting down into ingots for recycling. HVF West has been heavily involved



**At the contractor's yard, heavy equipment was used to reduce the aircraft into manageable sections. Here, a hydraulic shear is working its way through an unidentified Starlifter's wing box. A good heavy-equipment operator can have this section smashed and loaded into a rail car in a matter of hours. (U.S. Air Force Photo).**

with AMARG for a number of years, most notably with the disposal of the B-52 bombers cut up as part of the START II Agreement.

During the scrapping period it was hoped that a few C-141s would find new homes at museums or acting as gate guards even though their size would have made that a difficult and costly option. In the

end, only one escaped scrapping when C-141C 65-0248 flew out on 3 June 2005, bound for the museum at Warner-Robins AFB. The last C-141 Starlifter to leave AMARG was C-141B 66-0160 which was destined to be used for Accident & Battle Damage Repair (BDR) training

on a remote area on the east side of Davis-Monthan AFB. The last of the nearly 260 C-141s stored in the desert was cut into sections and destroyed in place in early 2013. It is a shame that so few C-141 Starlifters now survive after having such a stellar career with U. S. Air Force.

## Saving "That's All, Brother" – The Douglas C-47 Skytrain that Led the D-Day Invasion

Discovered lying in an aircraft boneyard in Wisconsin, the Douglas C-47 *That's All, Brother* was nearly unrecognizable. The lead airplane in the formation that delivered the surprise attack at Normandy on D-Day, 6 June 1944, *That's All, Brother* was in desperate need of caring individuals to help turn back the hands of time.

The C-47 was at Basler Turbo Conversions a company that converts DC3/C-47s for commercial purposes. Matt Scales, a Staff Sergeant in the Alabama Air National Guard and a historian was researching the story of John M. Donalson, who had piloted the airplane on D-Day. Matt recognized the possibility of what the aircraft could be. Basler postponed any work on the airplane hoping someone would step forward to restore it. The Commemorative Air Force (CAF) saw information about the aircraft posted online and decided to dig in deeper.

The CAF, in partnership with loyal supporters, decided to take on the task of completely restoring this historic warbird to flying condition. Knowing that it would take a lot of time, and more urgently a lot of money, CAF launched a Kickstarter Campaign on June 5, 2015. Following the Kickstarter Campaign work to restore *That's All, Brother* began. The CAF has more than 11,000 members – teachers, photographers, pilots and people who are retired. Many of whom are current and former Air Force. Although CAF members are involved with the organization, and some even with this aircraft, the majority of the restoration is being done by Basler Turbo Conversions in Oshkosh, Wisconsin.

### The Commemorative Air Force

On September 6, 1961, the Confederate Air Force (CAF) was chartered as a nonprofit Texas corporation in order to restore and preserve World War II-era combat aircraft. By the end of the year, there were nine aircraft in the CAF fleet.

The CAF began with a single plane.

Lloyd Nolen and a small group of ex-service pilots from the Rio Grande Valley in Texas pooled their money to purchase a P-51 Mustang in 1957. They formed a loosely defined organization to share the pleasure and expense of maintaining the Mustang.

A short while later, the group added a pair of F8F Bearcats to the P-51 Mustang. At this point, the mission of the CAF became clear: save an example of every aircraft that flew during World War II – a

mission no one else was undertaking. What had started as a hobby became an urgent mission to preserve history.

By 1960, the group began to search seriously for other World War II aircraft but it quickly became apparent that few remained in flying condition. By the end of World War II, America had produced nearly 300,000 aircraft. Just 15 years later, almost all the warbirds were gone.

Decommissioned and stripped of armament and instruments, most of these proud warriors were scrapped or abandoned. No one, not even the Air Force or Navy, was attempting to preserve the historic aircraft that changed the world forever.

In 1965, the CAF's first museum building consisting of 26,000 square feet was completed at old Rebel Field, Mercedes, Texas. The CAF created a new Rebel Field at Harlingen, Texas, when they moved there in 1968, occupying three large buildings. The CAF fleet continued to grow and included medium and heavy bombers such as the B-17, B-24, B-25, and B-29.

The organization was originally known as the Confederate Air Force. Following a membership vote

in 2001 and made effective on January 1, 2002, the organization is now called the Commemorative Air Force.

Collecting aircraft for nearly a half a century, the CAF now ranks as one of the largest air forces in the world. Today the CAF has and a fleet of more than 165 aircraft representing more than 60 different types – including planes from several foreign countries and other military conflicts since World War II.

The Headquarters of the CAF is located in Dallas. CAF members live in every state and 28 foreign countries. In 26 states and four foreign countries, our members have joined together and formed units to foster camaraderie and, in many cases, actively support one or more of the classic military aircraft operated by the CAF.

### Basler Turbo Conversions

As close as the piston DC-3 came to perfection, Mr. Warren Basler knew that there was a need for a better and more efficient version of this highly reliable aircraft. With this vision, Basler Turbo Conversions was created. Production began in the new 75,000 square foot facility in January, 1990 at Wittman Regional Airport in Oshkosh, Wisconsin. Since that time, BT-67 aircraft have been manufactured and sold to customers from every corner of the



In a work shop at Basler Turbo Conversions in Oshkosh, Wisconsin, the C-47 named *That's All, Brother* undergoes conversion back to its World War II D-Day condition. *That's All, Brother* was constructed at Douglas Aircraft, Tulsa, Oklahoma and departed for England on 16 April 1944. The storied aircraft took part in many Allied Airborne operations in Europe during WW II including: Operation Overlord (D-Day) on 6 June 1944; Operation Dragoon in southern France on 15 August 1944; Operation Market Garden in Holland on 17-23 September 1944; Operation Repulse for the relief of Bastogne from December 1944 into January 1945; and, Operation Varsity in support of crossing the Rhine on 24 March 1945. (Photo Courtesy CAF).

world.

In 1996, control of the company was assumed by Jack Goodale, an aviation minded entrepreneur from Grand Rapids, Michigan. Mr. Goodale brought his considerable skills and background as a builder of businesses to the company and has nurtured and guided the business to its current standing as a complete and focused aircraft manufacturing company.

Basler Turbo Conversions takes the legendary DC-3/C-47 and puts it through the industry's most extensive remanufacturing process. Built into each airframe is the sum of the company's knowledge and proprietary processes, along with state-of-the-art components, world-class Pratt & Whitney Canada PT6A-67R engines and Hartzell propellers.

The BT-67 modernization includes a complete airframe overhaul, aerodynamic improvements, structural modifications that increase strength and improve performance, and new systems that improve reliability.

All changes are certified through extensive testing to FAR Part 25, the same tough criteria applied to the latest generation of commercial jet liners. The resulting product, the BT-67, defies standard comparison. It is unquestionably the most highly evolved and proven transport system in its class, both in terms of productivity and cost effectiveness.

The end product is an essentially new aircraft with its gross take-off weight increased to 28,750 and an unbeatable combination of simplicity, reliability, and operating performance.

Today, Basler Turbo Conversions and the BT-67 configuration of the DC-3/C-47 stands as a rare example of successful and complete remanufactured aircraft. The BT-67 and company staff proudly serve a world wide base of customers.

### The *That's All, Brother* Restoration Effort

Working together with the employees at Basler Turbo Conversions, the CAF has assembled a restoration team made up of historians, pilots, veterans and volunteers to determine the path of the project. The detail-oriented approach to the restoration has necessitated frequent use of vintage microfilm reels and historic pictures – many of them submitted from family albums of Kickstarter supporters following the project launch in 2015. CAF Curator Keegan Chetwynd explains, "It is our expectation that *That's All, Brother* will be among the best restored C-47s in the world. Very few people have taken a C-47 back to its precise war-time configuration. This historic airplane, however, is too important to have it any other way."

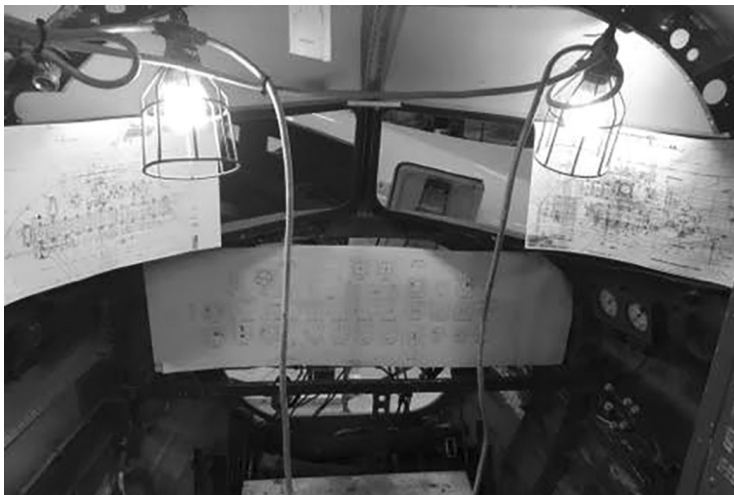
In addition to supplying their knowledge and know-how to the project, the Basler Turbo Conversions team has been instrumental in sourcing many of the more unusual parts needed by *That's All, Brother*. Because they have been actively gathering C-47 parts for decades, their warehouses hold countless treasures – unusual, or rare parts – in unopened boxes, still in their war-time wrapping paper.

One of the more noteworthy components, which has been a focal point of the restoration, is the aircraft's autopilot. The FAA requires

certain modern concessions in the way of avionics, preventing even the most die-hard restoration from being totally period-correct in appearance. Eager to find a way around this obstacle, the restoration team has elected to place the modern Garmin-supplied instruments in the center of the panel – where the faceplate of a vintage autopilot will allow them to be concealed while the aircraft is on the ground. Also hidden in the aircraft's instrument panel will be modern engine monitoring systems and poor-weather flying equipment – aimed at the long-term preservation and protection of the aircraft.

Even the World War II-configured astrodome – a transparent, Plexiglas dome on top of the forward crew compartment – has been installed. While it may seem like a minor cosmetic aspect, the astrodome played an important role in the war-time function of the airplane, used both for navigation and signaling on her important missions. Provisions have even been made to re-configure the aircraft's exhaust system, taking it back to its wartime specification. This will allow for fitting of flame-arrestors to the finished airplane, just like the unique British-designed ones the airplane had on D-Day.

The CAF recently received the good news that the painting of the exterior of the plane will be donated by a major US corporation. This will allow for significant savings, and the CAF is working



In an effort to keep *That's All, Brother* as close to its D-Day configuration the modern avionics needed to fly in today's airspace will be concealed under period-correct panes. (Photo Courtesy CAF).



Interior renovations are moving along at a brisk pace, and the CAF recently announced that a major US corporation will sponsor the painting of the the aircraft's exterior. (Photo Courtesy CAF).

to get more donated or advantageously priced components for the restoration project.

The CAF plans to fly *That's All, Brother* to Normandy in 2019, for the 75th Anniversary of D-Day. There are a few milestones along the way, like getting the C-47 airworthy, hoped to be completed by the Fall.

As soon as the CAF is confident of the date the aircraft will fly, there will be a public event surrounding that milestone. Everyone at CAF and Basler is anxiously awaiting her first flight, and the CAF will put the information on their website: [www.CommemorativeAirForce.org](http://www.CommemorativeAirForce.org). If you are interested in helping with this project the CAF post updates and accepts donation on the website: [thatsallbrother.org](http://thatsallbrother.org). ■

# SMOOTH *Transitions*

Smooth Transitions is a recurring feature highlighting the interesting work, stories or adventures, of Mobility Airmen outside or after their 'traditional' service. Col Mike Cassidy, USAF (Ret), the A/TA Secretary, is in search of more of these great stories, please contact him at [secretary@atalink.org](mailto:secretary@atalink.org) with your adventures.

## Transferring Your Air Mobility Skills Appropriate Speed & Caution

by MSgt Mark Heflin, USAF (Ret)

When people go to a movie to watch the latest high octane action flick they expect to be blown away. Many of the scenes take the actors far beyond the boundaries of physics and regulations governing health and safety. Therefore, the movie studios frequently use Computer Generated Images (CGI) to escape the laws of the universe and the US government. However, in order to make things appear truly real it is often necessary for



After extensive safety management planning and risk mitigation a 1968 Dodge Charger is air dropped from a C-130 for an action shot in the Universal Studios movie *Fast & Furious 7*. (Universal Studios Stock Footage Photo).



Subaru Impreza WRX STi being loaded onto IAR C-130 for its airdrop sequence in *Fast & Furious 7*. (Photo Courtesy of Mark Heflin).

them to include a degree of...well reality. But reality means the inclusion of planning, safety and risk mitigation; concepts not normally associated with kick-butt Hollywood action. Several small companies with strong roots in the Air Mobility world applied their talents and expertise to deliver exactly what Hollywood needed. Talon Solutions, International Air Response (IAR) and Big Sky Aviation International combined their years of airdrop expertise and fleet of commercial Hercules aircraft to turn reality into movie magic. These companies were contracted to support the filming of an airdrop action sequence for the Universal Studios movie *Fast & Furious 7* in 2013. Movies in the franchise are known for featuring exciting car chases and previous movies had been shot on and around aircraft, but there had never been an airdrop scene in any of the movies. Therefore, when full project details were briefed expectations ran high for something spectacular.

Universal Studios hired the team to airdrop the 5 cars driven by the movie's heroes from 10,000 ft. The drop sequence was scheduled to be shot over 5 days starting in October 2013. But first they had to execute a rehearsal in order to work out the fabricating, rigging and drop procedures, which are the routine pre-mission tasks of a standard airdrop test. They quickly learned that rehearsing a scene for a movie isn't just about



Parachute suspension slings are adjusted during the rigging sequence of the 68 Dodge Charger to create a dynamic descent angle for the camera. (Photo Courtesy of Mark Heflin).

creating, executing and recording the objective event. The rehearsal is also when the film crew and stunt unit determine the number of cameras required, their subsequent locations and how to install them. They also establish shot dynamics, angles and lighting, etc., plus pre-plan the location and movements of all personnel involved in the shot. Every single aspect of the entire sequence was pre-determined, pre-planned, choreographed, documented, discussed and coordinated in

planned, choreographed, documented, excruciatingly precise detail.

Safety management planning and risk mitigation were the prime directives for every area of activity. The level of planning involved for what ended up being about a 1-minute transitional sequence onscreen was staggering.

During my career in military and civilian flight test I've managed and participated in highly complex and challenging developmental and certification programs, conducted at top tier test centers in the US and overseas. Without doubt the attention to detail, degree of intensity and expertise applied to the planning of this scene rivals anything I've experienced. While the title of the movie may be *Fast & Furious*, the approach taken to accomplish the task of filming it was definitely... **appropriate speed & caution.**

For more information about the Air Mobility team who put the airdrop magic into *Fast & Furious 7* go to: [www.talonsolutions-airdrop.com](http://www.talonsolutions-airdrop.com), [www.bigskyaero.com](http://www.bigskyaero.com) and [www.internationalair-response.com](http://www.internationalair-response.com). If you haven't already, go to <https://www.youtube.com/watch?v=ak8YUzo8YFQ> to see the results of this great Air Mobility team.



A 1968 Chevrolet Camaro Z28 inflight onboard the IAR Hercules just prior to slow-down for airdrop. (Photo Courtesy of Mark Heflin).

**About the Author** Mark Heflin is a retired USAF MSgt. He is a military and commercial Loadmaster, with 6500+ flight hours on 10 different versions of the C-130 to include: A, E, H, HC-H, HC-N, HC-P, J, K, MC-H and L-100. He is currently the Executive Director of Talon Solutions. Talon Solutions specializes in providing consultation services, subject matter expertise, technical support and project management to customers engaged in flight test programs, aerial delivery product development, aircrew training, research, development and engineering (R,D&E) projects and the motion picture industry. ■

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## Boeing, Travis Partner for KC-46A Testing

by Capt. Lyndsey Horn, 60th Air Mobility Wing Public Affairs

A Boeing KC-46A Pegasus team conducted testing at Travis Air Force Base, California, March 7 to 10.

This testing was a combined effort between Boeing Test & Evaluation and the 418th Flight Test Squadron, Detachment 1, both of which are collocated at the Boeing Facility in Seattle, Washington.

"The KC-46A is at Travis AFB to conduct military and Federal Aviation Administration certification testing," said Capt. Dylan Neidorff, 418th FLTS KC-46 test operations engineer. The team of 48 Boeing and four Air Force personnel accomplished both ground and flight testing during the four-day trip.

"We decided to come to Travis since the base is right in the temperature band required for the testing," said Neidorff. Historical temperatures in Northern California average between 50-70 degrees Fahrenheit.

Aside from the ideal temperatures, other factors made Travis the best choice.

"Because of this type of testing, we needed to offload all of our fuel. Travis has underground tanks, which makes it infinitely easier," said Paul Briedé, test director

for Boeing Test & Evaluation. "At another base we would've needed at least four other fuel trucks."

"We also saw Travis AFB as a target of opportunity since they are to be one of the next KC-46 bases for AMC," said Neidorff.

In January, Air Force officials announced Travis, as well as Joint Base McGuire-Dix-Lakehurst, New Jersey, as preferred locations for the next active duty-led bases for the service's most modern aerial-refueling aircraft.

Since a KC-46 had never landed at Travis, the 60th Operations Support Squadron first needed to figure out how to support the mission.

"We did the proper research," said Maj. Matthew Bartomeo, 60th OSS assistant director of operations. "Travis can absorb requests like this because we are built to do it."

The airfield on base runs 24/7 operations, 365 days a year. It has one of the busiest aerial port squadrons in the Air Force and regularly supports transient aircraft.

Bartomeo and Maj. Brad Echols, also an ADO with the 60th OSS, worked with the 418th FLTS, Det. 1 to ensure the KC-46 would have fuel availability, a parking space

and required maintenance supplies.

"The 60th OSS has been our one-stop-shop for contacts around the base as well as the center of the planning effort to bring the tanker to Travis," said Neidorff. Airfield Management and Air Traffic Control professionals along with members of the 60th Maintenance Group supported with supplies the tanker team needed while on base. The 60th Logistics Readiness Squadron also helped to ensure the KC-46 had the current fuels, Neidorff added.

"We embodied that 'there are no bounds' here at Travis," said Bartomeo, referencing the 60th Air Mobility Wing's motto. "We found a way to make it happen."

When the KC-46 team wasn't conducting testing, it provided tours to more than 40 Airmen from the 60th AMW.

"This was an opportunity to work with Boeing and create a relationship," said Echols. "It's pretty exciting our Airmen got to see the new aircraft."

According to Air Force officials, the first KC-46As are expected to begin arriving at McConnell AFB, Kansas and Altus AFB, Oklahoma in fall 2017. ■



A Boeing KC-46A Pegasus arrives at Travis Air Force Base, California, as a C-17 Globemaster III takes off, 7 March 2017. Travis was selected as a preferred location for the Air Force's newest refueling aircraft in January. This was the first time the aircraft had flown at an Air Mobility Command base. The KC-46 was scheduled to complete ground and flight testing during its time at Travis. (U.S. Air Force photo by Louis Briscese).

# Contracting Airman Helps Guard Base to Welcome KC-46

by Senior Airman Christopher Thornbury, 22nd Air Refueling Wing Public Affairs

The arrival of the KC-46 Pegasus will be colossal for the Air Force, but the small contracting office at Pease Air National Guard Base, New Hampshire, needed assistance to transition smoothly.

Pease's contracting office has less than one-third of McConnell Air Force Base's manpower; yet the base has the most construction projects of any Air National Guard base, which is why Airman 1st Class Philip Gray, 22nd Contracting Squadron contract administrator, left McConnell in January to lend his skills to the overwhelmed unit for the next three to four months.

Contract Airmen solicit and award contracts, work with local contractors for construction projects and ensure the government is getting the best value possible.

"Most people don't realize that everything they see on an installation was contracted for," said Maj. Mark Wagner, 22nd CONS commander. "Computers, roads, buildings, furnishings and all the contracted support. It's a lot of work to put that together, it's built on a mountain of paperwork that few people see or appreciate but it has to happen."

A1C Gray is strengthening the Air Force's total force by integrating into the Air Guard unit and paving the way for the Pegasus,

which will continue providing global reach.

"Gray is a trustworthy and skilled business professional," said Wagner. "Since he has lived the high construction contracting tempo we have around here, I knew he was ready for the challenge at Pease. I had a high degree of confidence that he would knock this out of the park, which he is."

His tasks at Pease are similar to prior experiences. At Pease the office works extensively with the Army and

performs under Army regulations, but his work with Fort Riley, Kansas helped prepare him for the transition.

"A big difference is that it's a joint effort with the Army," said Gray. "Overall, the work I am doing here is pretty similar to what I would do at McConnell. The major difference is that I am working specifically on projects that pertain to the arrival of the KC-46."

Contracting professionals arrange agreements that shape the installations that we fight from, said Wagner.

"My experience here has been absolutely amazing," said Gray. "It's been [insightful] seeing how another contracting unit handles similar issues that I've seen at McConnell. It's [given me] a fresh perspective and reassured me to see that mindset at two different bases now." ■

*"Computers, roads, buildings, furnishings and all the contracted support. It's a lot of work to put that together, it's built on a mountain of paperwork that few people see or appreciate but it has to happen."*

—Maj. Mark Wagner, 22nd CONS commander



Senior Master Sgt. Regina Rockwood, 157th Mission Support Group superintendent, left, and Airman 1st Class Philip Gray, 22nd Contracting Squadron contract administrator, review site visit details, 16 February 2017, at Pease Air Force Base, New Hampshire. Contract Airmen solicit and award contracts, work with local contractors for construction projects and ensure the government is getting the best value possible. (Courtesy photo)

# Strategic Airlift Capability Pays Tribute to Fallen Hungarian Soldiers

by Captain (OF-2) Henrik Gebhardt, Swedish Air Force, Public Affairs Officer

On Wednesday 12 April 2017, the Strategic Airlift Capability (SAC), Pápa Hungary, conducted a local low-level training mission to support the commemoration ceremony for Hungarian soldiers killed in an aircraft accident that occurred in Jutaspuszta near Veszprém on that same date in 1941.

The 1941 mishap aircraft was a Savoia-Marchetti SM.75, a transport aircraft manufactured in Italy. Hungary operated five SM.75s for paratrooper transport. The Paratroopers onboard the lost aircraft were stationed at Pápa Air Base.

With the location of the accident being so close to the SAC program home station in Pápa, that used to be the home station for the Hungarian Paratroopers, and the obvious connection with a transport aircraft involved, it was satisfying and an honor to pay tribute to the lost Hungarian soldiers. In addition to the C-17 fly-by, the SAC was represented at the commemoration ceremony by HAW Vice Commander, Colonel Bjørn Gohn-Hellum and HAW Protocol Officer, Captain Miklos Pelsöci, who laid a wreath in memory of the fallen Hungarian colleagues.

Over the years many things have changed when it comes to transport aircraft, but some things remain the same. The C-17 operated by the SAC program perform similar airdrop missions as the lost SM.75 did. Although there are obvious differences between the two aircraft, there are similarities too. The SM.75 was designed to be able to operate on short runways and secondary airfields, much like the C-17 with its capability for what today is known as Semi-Prepared Runway Operations (SPRO).

The accident in Jutaspuszta killed Airmen and Paratroopers of the Hungarian Defense Forces, and happened just after take-off from the airfield that was situated in Veszprém. Today there is an airdrop zone in the vicinity of where the airfield was located that the SAC program uses for local airdrop training on a regular basis.

The Strategic Airlift Capability is an initiative by ten NATO countries plus two partner countries to acquire, manage, support and operate three Boeing C-17 strategic transport aircraft. The aircraft operate out of Pápa Air Base in Hungary. The aircraft are operated by multinational aircrews under the command of a multinational military structure – the Heavy Airlift Wing (HAW). The HAW is manned by personnel from all participating nations. ■

# Travis Receives Final KC-10 with New Modifications

by 2nd Lt. Sarah Johnson, 60th Air Mobility Wing Public Affairs

The 59th and final KC-10 Extender was modified and flown to Travis Air Force Base, California, on 28 March 2017, signifying the completion of a six-year project.

Since 2011, KC-10 fleets at Travis and Joint Base McGuire-Dix-Lakehurst, New Jersey, have been undergoing flight management system modifications. The new system, called the Communication, Navigation, Surveillance/Air Traffic Management system, modernizes the aircraft, increases mission effectiveness and improves fuel efficiency.

Aircrews previously operated the Flight Management System 800, but have gradually been turning over to the CNS/ATM, developed by an Air Force contracting company. Multiple tankers from Travis and JBMDL were flown in succession over the course of the project to Will Rogers World Airport, Oklahoma City, Oklahoma, to undergo the modification. Once there, the modification process took several months to complete.

Once a jet was finished, aircrews went back to Oklahoma City to receive the aircraft and complete an acceptance check flight to ensure the upgrade was fully effective. If so, the jet would be flown home to be replaced by the next in line.

The 59th and final ACF was especially significant, said the aircrew that completed it.

"It was an honor to pick up the last modified jet from an important modernization program that will keep the KC-10 in the fight for years to come," said Capt. Melissa Hughes, 9th ARS instructor pilot. "There has been a ton of spotlight on the KC-46 [Pegasus] as the tanker of the future, but the KC-10 has been an important asset for the last 35 years and will remain relevant for years to come with this upgrade."

"We were sitting on the runway ramp about to do the ACF and we could look outside and all the [contracting] team, all the people who were managing this entire project, were watching us leave," said 1st Lt. Robert Bedell, 9th ARS pilot. "It was their milestone. For them it was huge, and you got to see them excited that their project is done."

The ACF consisted of seven approaches and various flight maneuvers fully testing the modification.

"The check flight was the most intense because of the scenario we had to fly," said Staff Sgt. Ryan Young, 6th ARS instructor flight engineer. "There were a lot of things going on all at once, so it's pretty involved."

Upon a successful landing from the ACF, the crew of four was presented with a coin



The aircrew who completed the final KC-10 Extender modification flight displays the coin they received to signify the completion of the project April 5 at Travis Air Force Base, California. The 59th and final KC-10 was modified and flown home by the 9th and 6th Air Refueling Squadrons at Travis March 28. (U.S. Air Force Photo by 2nd Lt. Sarah Johnson).

from the contracting team, signifying the completion of the entire project and the acceptance of the 59th aircraft.

"When we were coined, it was unexpected," said Tech Sgt. Daniel Flenniken, 6th ARS instructor boom operator. "But I finally realized the huge milestone that it was."

The previous FMS 800 system used gyroscopes to display functions and status of the aircraft, such as the accelerometer. These gyroscopes would often overheat and require maintenance.

"The old gyroscopes generated a lot of heat, which affected other components [of the aircraft]," said Flenniken. "They would fail."

The CNS/ATM replaces the old gyroscopes with an infrared laser system. The system increases accuracy while generating significantly less heat, which in turn increases fuel efficiency for the aircraft, said Flenniken.

"Especially in a deployed environment, where you're in 100-degree weather and you have a component that has to run at 60 degrees and it's running at 105 degrees, you're going to run it ragged a lot faster," said Bedell. "For completing the worldwide mission of deployments and getting around the world, it will be a lot better for that."

The CNS/ATM also features a working

phone, allowing aircrews to call anywhere in the world right from the aircraft, in flight. This capability makes a world of difference in communication, said Young.

"I've seen in critical situations, it helps being able to call back to the home station or call the director of operations and get the right words instantly, 'this is what needs to happen, this is what you need to do,' from the other side of the world," he said.

Weather can also be requested in flight using the new system.

"We can request weather wherever we're headed to right from the box, and it'll give us the weather for that location like a text message," said Flenniken.

The CNS/ATM is more reliable and decreases workload for both aircrew and maintenance, said Bedell.

Despite initial resistance at having to retrain to a new system with new checklists, personnel are now seeing the payoff, said Flenniken.

"After people started using the CNS box, they found out how much it could do and

now everyone prefers the CNS," he said.

After the final ACF was complete, the aircrew signed for the aircraft, confirming it was fully modified and in working condition.

"It was a bit of a shock when I was asked to sign for possession of the aircraft on behalf of the Air Force and Travis AFB," said Hughes. "There is nothing quite like signing your name for an \$88 million aircraft and being trusted to bring it home from a major upgrade safely."

The aircrew felt humbled to be part of a significant milestone in Air Force history, they said.

"It's always cool to be a part of a stepping stone in history," said Young. "It was cool to say 'hey, I brought that there and I did that.'"

"I'm [moving] this summer, so it was cool for me to be able to make a contribution to Travis AFB and the KC-10 community before I go," said Hughes. "We have been exceptionally busy lately with fighter movements, cargo runs and missions downrange, and we have been struggling with having enough tails available to do these important missions. It was awesome being able to bring another aircraft back to the fight." ■

# Team Morón: The Front Line of Rapid Global Mobility's Coronet Operations

by Captain Alan R. Foote

The quiet Spanish countryside joltingly awakes as a dozen screaming fighter jets and four fully-loaded tankers accelerate down the runway into the rising sun's glare. The quaint rolling hills blanketed with sleepy olive orchards don't prepare an unsuspecting onlooker to admire the raw power of America's military, yet the deafening roar as jet after jet leap skyward beckons every passerby to pause and admire. There aren't many sights in the world more awe-inspiring than the coordinated launch of sixteen eager aircraft.

This scene occurs like clockwork a dozen times during each semi-annual "coronet" operation at Morón Air Base, Spain. Each of these coordinated launches requires a detailed logistical, maintenance, and operational agenda to ensure the fighter jets arriving from the USA are in pristine mechanical condition for their next long-haul, and the escorting tanker aircraft are equally ready and packed with 360,000 pounds of fuel to drag the fighters to the destination.

The plan begins months earlier when United States Central Command analyzes emerging threats in their area of operations and determines the number and types of combat aircraft they want deployed to execute Operations such as INHERENT RESOLVE and FREEDOM SENTINEL. United States Transportation Command then performs a transportation feasibility analysis on moving those fighter jets into the Middle East from their stateside bases, and creates a movement plan.

The rough plan emerges: fighters would take off from their home base, rendezvous with a few Air Mobility Command tankers to cross the ocean, then land at Morón Air Base, Spain to perform maintenance on the aircraft and allow the aircrews a chance to recover from the transcontinental flight. After two days, the plot would continue as the tankers drag the fighters to their destination in the Middle East.

In theory this is simple enough, until variations are considered for stormy weath-

er, broken aircraft, and the need for prepositioning fighter and tanker maintenance personnel and equipment at Morón Air Base prior to the arrival of their aircraft. It's a logistical challenge requiring coordination across four major commands: Air Mobility Command, Air Combat Command, United States Air Forces in Europe Command, and United States Central Command.

The two-person permanent-party team of the Air Mobility Command unit at Morón

communications support to all the transiting aircraft and personnel.

During a typical five-week Coronet season, Team Morón generates over 60 Air Mobility Command sorties which deliver close to three million of pounds of fuel in-flight to nearly a hundred fighter jets. Dozens of deployed Air Mobility Command maintenance and logistics personnel and hundreds of KC-10, KC-135, C-17, and C-5 aircrew play a critical role in making this herculean

movement successful. The relatively small number of logistics and maintenance Airmen at Morón Air Base can be proud to know they are on the front lines of sustaining Rapid Global Mobility's unmatched fighter deployment capability.

## About the Author:

Captain Alan Foote is a Phoenix Horizon-Torch officer currently serving as a Deputy Branch Chief within HQ AMC/A4 at Scott AFB, Illinois. In this position, he oversees aerial port resources, training, and programs while also developing and executing the first aerial port Line Operations Safety Audit (LOSA) to reduce safety mishaps across the Command.

The Phoenix Horizon-Torch program is one of three tracks (along with Phoenix Horizon-Mobility and Phoenix Horizon-Reach) under the umbrella of "Phoenix Horizon," targeting pilot, maintenance, logistics, and airfield management AFSCs. Phoenix Horizon is one of AMC's young officer development programs, drawing Captains who are competitively-selected to diversify the traditional

leadership development model with the intent of creating well-rounded senior officers. The Torch track brings a select few officers to HQ AMC staff for two years, placing them in developmental and broadening positions, pairing them with a senior officer mentor, and exposing them to a different set of experiences than the typical Air Force Captain would likely otherwise gain. Following completion of Torch, pilots have the opportunity to train into a different airframe. ■



Scenes from Moron AB, Spain, during Coronet operations. During a typical five-week Coronet season, Team Morón generates over 60 Air Mobility Command sorties which deliver close to three million of pounds of fuel in-flight to nearly a hundred fighter jets. (Courtesy Photo).

Air Base specializes in orchestrating these operations. The Commander leads an augmentation force of logistics personnel to expertly support all the incoming aircraft, personnel, and maintenance teams to keep all those tanker aircraft functioning. The Superintendent flows information between all involved agencies and coordinates requirements with the host unit which provides fuel, aircraft servicing, transportation, billeting, dining, flight planning, and com-

# INDUSTRY PARTNER *Spotlight*



The David Clark Company, Inc. is an American manufacturer, best known for noise attenuating headsets with boom microphones and aircrew and spacecrew protective equipment..

The company, located in Worcester, Massachusetts, was founded in 1935 by David M. Clark. It started in the textile business with the development of unique knitted materials for specialty undergarments and over time evolved to making communications and aerospace related products.

The David Clark Company has been involved in the design and manufacture of air-space crew protective equipment since 1941, beginning with the design and development of the first standard anti-G suits and valves used by allied fighter pilots during World War II.

David Clark also designs and manufactures headsets and intercom communication Systems for Air, Land and Sea Operations. The company is dedicated to designing, engineering and manufacturing communication solutions for the most demanding environments and critical operations. In the air, on the ground, or on the water, David Clark has the capability of providing unsurpassed noise-attenuating headsets and communication systems for virtually any environment military forces may encounter.

David Clark headsets ensure clear, crisp communication for military pilots, ground support crews, marine crews and more. These tested and proven products help to ensure the safety and enhance the performance of military, defense and law enforcement professionals.

Today, more than ever, military personnel require flexible, rugged and dependable communication solutions for use in the air, on the ground and on the water—

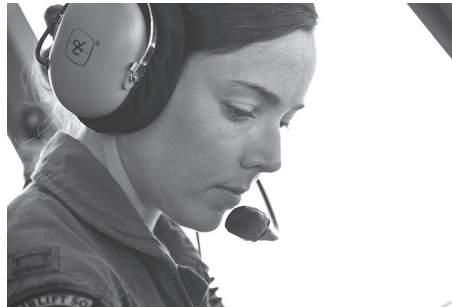
#### ***In the Air:***

- U.S. Air Force – Air Crew and Special Application Aviation Headsets.
- U.S. Air Force – Headset solutions for

piloting UAVs.

- U.S. Air Force – Man-portable Surveillance and Target Acquisition Radar Systems Headsets.

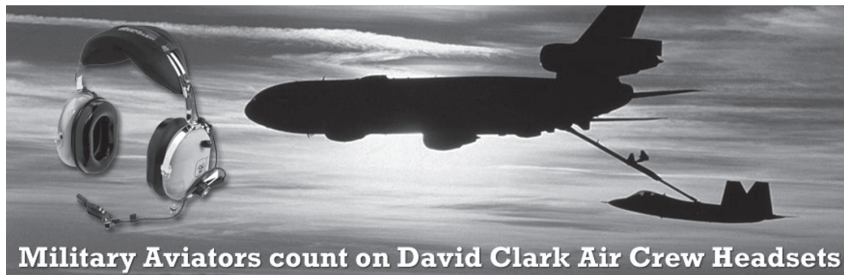
- Aerospace – Headsets developed for Launch Control during Space Shuttle program.



**Capt. Jamie LaRivee, 21st Airlift Squadron C-17 Globemaster III pilot, using a David Clark headset as she simulates aircraft procedures at Travis Air Force Base, California, on March 14, 2017 (U.S. Air Force photo by Senior Airman Sam Salopek)**

#### ***On the Ground:***

- U.S. Army – Portable Dual-Radio Communication System for Light-Armored Vehicles.
- U.S. Army – Headsets for Ground Support Operations / Two-Way Radio Communications.
- U.S. Army – Multi-Channel Communication System developed for White Sands Missile Range.



**Military Aviators count on David Clark Air Crew Headsets**

#### ***And, on the Water:***

- U.S. Customs, U.S. Border Patrol, U.S. Coast Guard, U.S. Navy and Foreign Military Service (FMS) – Marine Intercom Systems.
- U.S. Army, Air Force, Navy and Marines – Special Operation Headsets.

David Clark's capability for designing and

manufacturing special headsets and intercom systems for specific applications is unmatched in the industry. From prototypes, to real-world trials, to final production, David Clark can be counted on for quality, reliability and performance.

The need for versatile, secure wireless communication equipment is served by David Clark Series 9900 Wireless Communication Systems designed for a wide variety of air, land and sea communications. The company's wireless systems provide maximum freedom and mobility while personnel are able to move about and communicate freely without being tethered to vehicles, vessels or aircraft. Safety and situational awareness are greatly enhanced.

David Clark Company Wireless Headset Communications Systems have been developed for a wide range of applications including Aero Medical Evacuation; Blackhawk Helicopter Intercoms; Search and Rescue; Ground Support and Maintenance Repair and Overhaul Applications; Light Armored Vehicle Communications; Patrol Boat and Gunboat Communications; and, Tug and Workboat Communications.

Since 1935 David Clark Company has been dedicated to the development of products calling for unsurpassed excellence in quality, design and performance. From its humble beginnings in the textile business with the development of unique knitted materials for specialty undergarments, the company's focus has evolved to products that enhance communications, protect people and save lives.

As the industry leader in virtually every niche market the David Clark Company serves, the company's employees are dedicated to maintaining the high standards that their Company founders established. David Clark Company, Inc., has earned a reputation for excellence; and intends to keep it, and to continue deserving the confidence of their customers. ■

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## Industry Partner HIGHLIGHTS

Abilene Military Affairs Committee	Honeywell Aerospace
Aerial Refueling Systems Advisory Group International, Inc. (ARSAG)	Jeppesen
Airborne Global Solutions, Inc.	JLG Industries, Inc.
Airbus Group, Inc.	L-3 Communications Integrated Systems Group
Altus Military Affairs Committee	LifePort
Atlas Air Worldwide	Lockheed Martin Aeronautics Corporation
Booz Allen Hamilton	Louis Berger Services (Aircraft Services Division)
Bose Corporation	McClellan Jet Services
CAE	Million Air – an Aviation Services Company
Capewell Aerial Systems, LLC	National Air Cargo
Chromalloy	Northrop Grumman Corporation
Cobham	Omega Air
Consolidated Air Support Systems (CASS), LLC	Parker Aerospace
David Clark Company Incorporated	Phoenix-Mesa Gateway Airport
DRS Technologies, Inc.	PlaneTechs
Elbit Systems of America	Pratt & Whitney Military Engines
Essex Industries	QinetiQ North America
Field Aerospace	Rockwell Collins
Flightcom Corporation	Rolls-Royce
FlightSafety International	Satcom Direct Communications
ForeFlight	Stephenville Airport Corporation
Gander International Airport Authority	The Boeing Company
GE Aviation	USAA
Georgia Tech Research Institute	UTC Aerospace Systems
Global Ground Support, LLC	Volga-Dnepr Airlines
Gulfstream Aerospace Corporation	Zodiac Arresting Systems America
Hilton Software LLC	ZOLL Medical Corporation



Col Cary Walgamott  
USAF (ret)

on specific mobility issues. This is the place for you to showcase your services/equipment and interact with the individuals who establish requirements as well as build, operate, maintain and make decisions on airlift and air refueling aircraft as well as related systems for USAF.

Exhibit Packages with information on how to apply for this year's convention have been emailed to Industry Partners, Industry Supporters, Government Supporters and Pro Bono organizations. If you did not receive an Exhibit Package and desire to participate, please send me a note at [IndustryVP@atalink.org](mailto:IndustryVP@atalink.org). In addition, you can review the most current information on exhibitor registration, floor space layout, and related information on the A/TA website at <http://atalink.org>. Just click the Convention Tab for general attendance information and then click the Exhibitors Tab to see the exhibiting overview. Next, click on the exhibitor package top tab to review all the related documents.

We are always looking to expand our program and increase our number of exhibitors. If you know of any companies or organizations that might be interested in showing their products or services, please let me know.

This year's Convention, Symposium & Exposition is lining up to be one of the best to date! We look forward to teaming with all of our loyal industry supporters once again. I hope to see you all in Orlando!

Cary Walgamott

Our Airlift/Tanker Association's 49th Annual Convention and A/TA and Air Mobility Command Symposium & Technology Exposition will take place at the Marriott World Center in Orlando, Florida, October 26 - 29, 2017. Our theme for 2017 is: **"Mobility Airmen: Always Present – Agile, Innovative, and Ready to Roll!"**

We are planning for another excellent convention this year! We will have sufficient exhibit space available for our Air Mobility Technology Exposition that will provide exhibitors with a knowledgeable and enthusiastic audience sharply focused



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# AIR MOBILITY Classics

Air Mobility Classics is a recurring feature contributed by Lt Col Douglas H. Lloyd, USAF Ret.

There's an old axiom of aviation that says "if an airplane looks right, it flies right."

Think British Spitfire, Boeing 707, Learjet...all beautiful, iconic designs. But if we accept that premise, we must also accept the inverse. And no plane illustrates that better than our subject for this issue: the homely, hard-luck Curtiss C-76 Caravan.

The Caravan was born out of a 1941 AAF requirement for a purpose-built transport aircraft to replace the Douglas C-47, while at the same time conserving strategic materials. It may be difficult for us to fathom in light of the "Gooney Birds" now legendary status, but in early WWII, the AAF considered the C-47 a stopgap airplane. It was, after-all, designed as a passenger airplane, and was deemed to have several shortcomings that made it less than ideal as a military transport. The tail-wheel configuration and resulting sloping floor, as well as the relatively small side cargo door, made it difficult to load and secure bulky cargo. The payload was also considered too light, and surprisingly, it was considered old technology, since it was derived from the early 1930s DC-1/DC-2 series.

The Curtiss-Wright Company was therefore given a contract in 1941 for 11 YC-76 pre-production prototypes to be built at their St. Louis, Missouri plant, with grandiose plans for production C-76s to be built at a purpose-built Louisville, Kentucky Curtiss factory. In addition, the Higgins Aircraft Company was awarded a contract to build 1,200 Caravans at a new factory in New Orleans, Louisiana.

Curtiss-Wright's chief designer George Page Jr. designed a high-wing, twin-engine cargo transport with the company designation CW-27. The aircraft had a length of 68', a wingspan of 108', and a design gross weight of 28,000lbs which provided a nearly 8,000lb payload. Power was furnished by two 1,200hp Pratt & Whitney R-1830-92 radials, which gave a projected 160mph cruise speed. The rectangular-shaped cargo box could accommodate jeeps and small artillery pieces or 23 troops. Ease of loading was a primary consideration. A tricycle landing gear arrangement provided a level cargo deck at truck bed height. The nose section was hinged to open to the right, permitting straight-in loading. To maximize interior cargo box volume, the flight deck was located in a rather inelegant "hump" above the wing. But by far, the C-76's most notable feature (as well as

its ultimate downfall) was its all-wood construction.

Monocoque plywood construction was indeed a proven and efficient method for building strong, lightweight aircraft structures. The highly successful British Mosquito bomber employed a ply construction of balsa wood core sandwiched between birch exterior plys. Curtiss-Wright engineers eschewed this approach, however, in favor of mahogany plywood. While strong, the dense mahogany greatly increased the plane's weight. Curtiss-Wright enlisted the expertise of a number of furniture manufacturers to build most of the components for its wooden aircraft. Interestingly, the Baldwin Piano Company was a major sub-contractor.

The flight test program began in early May 1943...and it was a disaster. On its maiden flight the YC-76 was found to be woefully underpowered and vibrated so badly that the test pilots made an immediate return after takeoff. On the second flight the aircraft literally shook itself apart; the tail separated from the aircraft, and the three-man test crew was killed. The AAF Material Command acceptance trials rated the YC-76 deficient in virtually every performance category, to include payload, speed, range and ceiling. More critically, the airplane had major structural and aerodynamic flaws. The wing spars failed load tests eight times at just 40% of the predicted maximum load. The control surfaces were unbalanced and tended to "flap" back and forth uncontrollably in gusty winds. The aircraft had serious center-of-gravity issues that made it dynamically unstable when flown empty. Unbelievably, in order to obtain a stable CG when not carrying a load, the plane had to be ballasted beyond its maximum takeoff gross weight! Attempts to strengthen the structure by adding additional fasteners, wood ply reinforcement, and metal stirrups (YC-76A) only served to increase the plane's weight and further reduce its already abysmal performance.

On 3 August 1943 the War Department cancelled its orders for the Caravan. By this time Curtiss-Wright had delivered all 11 YC-76s, 5 production C-76s, and 9 YC-76As. All the surviving aircraft were grounded or condemned. Their only useful service was as instructional airframes for mechanics. The AAF Material Command later estimated that the entire C-76 program had cost the government \$400 million dollars and wasted several valuable months of production time. ■

## CURTISS-WRIGHT C-76 CARAVAN



U.S. Air Force Photo

# *Mark Your Calendar & Pack Your Clubs!*

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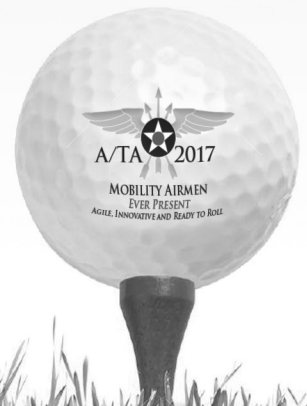
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C-130  
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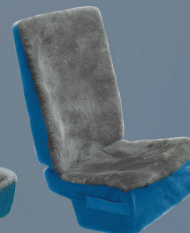


C-130  
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# KC-135



KC-135  
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