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METROLOGY

AFMETCAL NEWSLETTER



Colonel Robert Gaudette: A Perspective
By Steve Keinath, 562d Combat Sustainment Support Squadron



Colonel Robert D. Gaudette Commander, 562 CBSG.

On 20 July, 2006, Colonel Robert D. Gaudette assumed his new duties as Commander, 562d Combat Sustainment Group and as the Director of the Air Force Metrology Program. His previous assignment was Director of the Electro-Optical Sensor Technology Division of the Air Force Research Laboratory, Wright-Patterson AFB, Ohio. Possessing several degrees in Nuclear Engineering and having previously served as a B-52 and U-2 pilot, a B-1B Project Officer and Program Element Monitor for Aircrew Life Support, Col. Gaudette brings a broad palette of skills and experience to bear as he leads our program over the next several years. A native of Lowell, Massachusetts, Col. Gaudette is joined during his tenure at the 562d by his wife Heather, and twin

daughters, Robin and Rory.

We interviewed Col. Gaudette in September for this feature article and his responses follow:

Question: Sir, your previous assignment was with the Air Force Research Laboratory, just some 90 miles away, so perhaps you were already familiar with the AFMETCAL Program and with the former AFMETCAL Detachment 1, now the 562d Combat Sustainment Group. What were your thoughts when you learned you had been selected to be our next commander? Now that you are here, how do you and your family like living in the Newark-Heath area?

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Colonel Robert Gaudette: A Perspective (continued)

Colonel Robert D. Gaudette
Commander, 562 CBSG



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Col. Gaudette: Colonel Marv Cook and I were classmates at Air War College in 1996. He called me in March 2006 looking for a candidate to replace him when he retired. He said he saw my name on the list of Colonels up for assignment, and thought I'd be perfect for the job so he asked if I was interested in taking over the Air Force Metrology program.

I told him I hadn't flown in years, and that being a pilot was the only experience I had with meteorology. "No, no," he said "Not meteorology, metrology." Twenty eight years in the Air Force, and that was the first time I'd ever heard the word. After we talked about metrology for a while, I told him that I was very interested in taking on the 562 CBSG.

My wife and daughters have all decided they like it here. In the last six years my twins have lived in four houses, but they love: first grade, reading at the third grade level, the pool at the YMCA, the bike trail that runs right by our neighborhood, and the fact that there are more kids around here than there were in "The Bricks" at Wright-Patterson AFB. Being so far away from the Base Exchange and the Commissary has reawakened the Warrior Shopper in my wife. She really has Bachelor's and Master's Degrees in Home Economics and she HAS to squeeze all possible value out of every dollar spent. So now she will only buy that particular product from this particular store on Tuesdays, because that's when they offer double coupons. Living on base had started to atrophy that skill set and I think it's a thrill-of-the-hunt thing.

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Disclosure

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Editorial Policy Statement: The AFMETCAL Quarterly Newsletter is the 562d Com-

bat Sustainment Group Commander's forum to share insights into policy, emerging trends and other information of interest to the Air Force metrology community. Newsletter articles cover many topics: technical issues; clarifications of policies/procedures; process improvements; and items of general interest about Air Force metrology community members. We encourage readers to submit articles that fall within these categories. Submissions should be in WORD format, accompanied whenever possible by digital pictures in JPEG format. We validate technical articles with the 562 CBSG Engineering staff to ensure we do not put out erroneous information. We also ensure submissions meet Privacy Act, OPSEC and other information security requirements.

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Colonel Robert Gaudette: A Perspective (continued)

(continued from page 2)

Question: You've been in command of the 562 CBSG for about two months, and you also had a chance to observe some of our 13th PMEL Worldwide Workshop events back in June. The organization is still adapting to life under the "Wing" concept and our recent re-organization. What are your first impressions of the Group?

Col. Gaudette: The transformation from Detachment into Group reminds me of a commercial for an IT company I saw about a year ago. It's an on-the-job interview with workers who are in the middle of building a four engine airliner, while it's flying. There are already passengers in the front half of the aircraft, and a little boy is watching out the window while workers, out in the slip stream, are installing panels on the wing surface, and bolting the engines on tight.

That is the flavor I got when I came in to the 562d, rebuilding the entire jet while we're flying it deep into enemy territory. The re-org was a bit disruptive (sometimes more than "a bit"), but the mission never stopped and we never stopped accomplishing it. That is impressive.

Now that HQ Air Force has finally approved all the details, things should settle down into the new format pretty quickly. Life goes on, and we've got the hard parts behind us.

Question: Sir, as a command pilot in the B-52 and U-2, with B-1B Project Office, nuclear engineering and AFRL experience, you bring a slightly different perspective than some of our former commanders. Would it be fair to say that you were eager to see directly how the AFMETCAL Program supports both the operational and R&D sides of the house? Do you have any particular first-hand experiences that you will reflect upon as you lead us over the next few years?

Col. Gaudette: I've said several times that, back when I was paid to fly jets, I always made friends with the crew-chief. I deliberately built a good working relationship with the people who maintained the very complex flying machine that my life depended on when I "slipped the surly bonds of earth". In all that time I never appreciated, or even

knew the existence of, all of the people who ensured that the instruments and equipment used to perform that maintenance were properly and accurately calibrated. That is not right.

There are few advantages to being the man hidden behind the curtain. I think that 80 to 90% of the Air Force has never heard of us. We need to teach them: who we are, what we do for them, and why it's so vitally important. In today's arena of precision operations, less than 1% out of spec can mean the difference between hitting the targeted command post, and hitting the orphanage two buildings away. It can certainly mean the difference between getting an aircraft back from any given sortie, or not. The men and women of the Air Force should be aware of the chain that we maintain, going all the way from NIST to the multimeter on the flight line, that makes "ops normal" possible.

Question: There are so many issues affecting the Air Force today, how we are structured and how we must operate; both now and into the future. Constrained budgets, the continued global war on terrorism (GWOT), increased ops tempo, re-capitalization of weapon systems and reduced military & civilian manning levels are just some of the "hot" buttons we're going to be dealing with. In his December 2005 "Letter to Airmen", Secretary of the Air Force, Michael W. Wynne talked about expanding LEAN concepts beyond just depot operations. That effort grew into what is now known as "Air Force Smart Operations 21" or AFMx21. Maintenance leaders from the Air Staff and MAJCOMS recently met in Dayton, Ohio to discuss the current state of Air Force maintenance, trends, fiscal realities and vision through the year 2016. This new program is known as "Air Force Maintenance for the 21st Century," or AFMx21. Thinking about the AFMx21 and AFMx21 mindsets, do you have a vision for the Air Force Metrology Program of the future?

Col. Gaudette: I might be naïve, but I don't see AF Metrology traumatically changing from what we have right now. I don't say that nothing will change; I mean that I don't anticipate any upheavals. I know that's reassuring coming from the guy who'd never

heard of Metrology six months ago, but as I see it, the kinds of things that LEAN and AFMx21 are meant to accomplish are things we are already doing.

The AFMETCAL Det 1 is dead, long live the 562 CBSG! As expected, we were reduced and reshaped as a part of that regime change. Many of the AF PMELs have been commercialized to reduce infrastructure and costs. The rest of the PMELs are blue-suit, by HQ Air Force design, to provide surge and deployment flexibility. The Torque Sites are scheduled to smoothly phase out of existence, and their workloads will be absorbed into the PMELs. This has all been planned and executed to get the mission done with utmost efficiency. Even during the ongoing reduction of 50,000 people Air Force wide, the fair share for the entire Metrology field is less than a dozen bodies. That's because the powers-that-be seem to realize we are already trimmed pretty close to the bone and that cutting too much can result in those bombed orphanages and lost aircraft.

What's my vision for AF Metrology? Continue to perform the mission as it grows and the required tolerances become even more exacting than they are now. Use our own form of automation to maximize what the folks in the field can accomplish in any given day. Encourage people to suggest new methods, new processes, or new equipment. Not to generate change just for the sake of change (that's called anarchy), but to find even better ways to accomplish the mission. If a new way doesn't work, don't punish the failure, learn from it and spread the word so other folks don't waste time trying the same thing. And finally, to come out from behind the curtain, and show the huge part of the Air Force that's never heard of Metrology, how very much they have always, unknowingly, depended on us to fly, fight, and win.

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News and Notes

International Military Metrological Conference



Colonel Gaudette marched with other conference military officers to lay a commemorative wreath at Auschwitz' "Wall of Death."

Colonel Gaudette had the privilege of participating in the 3rd International Military Metrological Conference generously organized and hosted by the Polish Ministry of Defense Metrology within his first 60 days of command. Ms Karen Semer and Ms Jennifer Fleenor accompanied Colonel Gaudette to Wadowice, Poland, 3-8 September and presented briefings on Interlaboratory Comparisons at the US Defense Primary Calibration Laboratory Level and US Air Force Calibration Technical Order Development, tying into the Conference's theme—"Modern Military Metrology-NATO Forces Military

Technology Parametric Interoperability Guarantee."

Ten countries were represented by 60 conference participants, sharing 13 presentations. Daily excursions to visit historic sites in Poland, evening dinners highlighting Polish cuisine, and folk music ensured a memorable visit.

Jennifer Fleenor
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AFPSL Expands Its ISO 17025 Scope of Accreditation



Harry Moody, center, A2LA Lead Assessor, presents initial briefing to the AFPSL Management Team on 26 June. A2LA assessors Jim Allred, left, and Jeff Gust, right.

The Air Force Primary Standards Laboratory at Heath, OH, Significantly Expands Its ISO 17025 Scope of Accreditation: Harry Moody—past president of NCSLI, Jeff Gust—current NCSLI president, Jim Allred—Manager of the Idaho National Laboratory (DOE), and Dana Leaman— Manager of American Association of Laboratory Accreditation (A2LA) Calibration Assessment Program visited the AFPSL the week of 26 June 2006 to conduct their "renewal assessment". These highly capable assessors, renowned experts in various metrology disciplines, were extremely impressed with the technical capability, professionalism, and expertise at the AFPSL. The laboratory

selects commercially viable parameters for accreditation and had previously been accredited in 30 parameters but decided to add 11 more for this audit. Their plan is to add more parameters annually until all measurement disciplines are well represented. The assessment went remarkably well but, considering the talent at the AFPSL, we all knew it would. The scope of calibration for the AFPSL is available on the AFPSL web site. **THREE CHEERS FOR THE AFPSL!!!**

Mike Cadenhead
Bionetics



Troy Brock (right), lead tech in the RF/Microwave lab, explains his calibration process to Dana Leaman



Sam Lieb, Physical-Mechanical Department technician, explains an angular dimensional calibration process to Harry Moody.



Chris Pero, Electronics Department engineer, explains data accumulated during a high voltage calibration process to Jim Allred. Carl Oblinger, Electronics Department technician looks on.

Official Tasking for 4th CMS from CENTAF/CAOC/A4/C4

After more than 4 years of work, Team Seymour finally gets to see the fruit of their labor as RASCAL 2 is placed on trucks for shipment to the AOR. The Seymour Johnson PMEL was originally tasked to build the second of two existing RASCALs in February 2002. After acquiring bits and pieces from AF PMELs all over the world, a little bit of innovative engineering and acquisition, and a lot of hard work, it was deployment ready in May 2006.

Senior Master Sgt. Steven Hilker
 Seymour Johnson AFB, NC
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Mint condition RASCAL shelters being placed on trucks.



Left to right--Master Sgt. Abrahamson, Technical Sgt. Peny, and Senior Airman Wickwire.



OOPS! Is that Technical Sgt. Peny?

MetWeb Recent Changes Notification

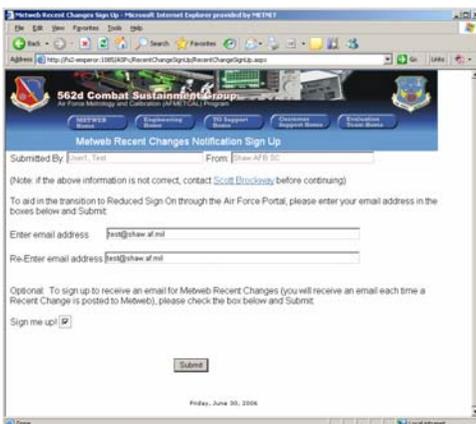
MetWeb users can now sign up to be notified by email for all recent changes to MetWeb. Authorized users must go the Recent Changes page on MetWeb and click the link for "Recent Changes Notification Sign Up". The page below will be displayed:

Web updates. A verification screen will appear. Now you will receive an email for any future update to MetWeb.

When the next change to MetWeb occurs you will receive an email similar to:

Subject: MetWeb Recent Change

New Updates.



08 SEP 2006	Engineering Support	K-Area/K1/Volt/DC/LF Support	Added HP/Agilent 3458A-15B Maintenance Service Note
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If you ever wish to stop receiving the updates, just go to the sign up screen and make sure the "Sign me up!" box is not checked and Submit.

Simply add your work email address and re-enter for verification. Then check the box for "Sign me up!" and click Submit to be included for email notification of all Met-

Scott Brockway
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AEDC Has Six New Certified Calibration Techs

ARNOLD AIR FORCE BASE, TENN – Arnold Engineering Development Center (AEDC) continues to take the lead in adding American Society of Quality (ASQ) certified calibration technicians (CCT) to the small group of 21 specialists at the center already serving the Air Force.

Jerry Erickson and Barry Benson, all with AEDC's Precision Measurement Equipment Laboratory (PMEL), recently earned their CCT credentials, bringing the total of those who are CCT qualified at the PMEL to 15. Leonard Cooper, John Bowen and David Jones, who all work in the center's Utilities Operations Department, received their CCT accreditation in June. Greg Holcomb, with Flight Systems Test Support, earned his CCT credentials and also helped to teach the most recent preparatory class.

"All of these individuals either studied and took the course on their own time or went through Motlow State Community College on their personal time," said David Compton, PMEL's manager. "They took the initiative to do this off the clock, and I salute each of them for reaching this milestone."

Erickson explained that certification takes considerable time and effort.

"To qualify for this certification and recognition, one must put in some serious self study over a period of several months in subjects such as general metrology, measurement systems, calibration systems, applied mathematics, quality systems and uncertainty," he said. "Two tests are held in the region per year, each with 125 questions and four hours to complete, and it takes every minute of the allotted time."

The national pass average is about 60 percent, so we are proud to state that the PMEL is at a 100 percent pass rate.

All of the center's newest CCT-qualified individuals are employees of Aerospace Testing Alliance (ATA), the support contractor for AEDC. ATA is a joint venture of Jacobs Sverdrup, Computer Sciences Corp. and General Physics Corp.

Philip Lorenz III
Public Affairs
Arnold Engineering Development Center



McGuire PMEL Bids Fond Farewell to CMSgt Truax



Left to Right - Senior Master Sgt. Coleman, Chief Master Sgt. Holmes, Master Sgt. Niemann, Col. Harvey (MXG/CC), Senior Master Sgt. Perusse and Lt. Col. Wagner (MXS/CC).

The 305th Maintenance Squadron Test, Measurement and Diagnostic Equipment Flight was recently recertified by the 562 CBSG team. The team consisted of Chief Master Sergeant Buddy Truax, Senior Master Sergeant Greg Perusse and Team Chief, Master Sergeant Woody Niemann. During the Team's time at McGuire, Sergeants Perusse and Niemann participated in the Maintenance Group's weekly "Fun Run". Where was Chief Truax during the run? Apparently he was practicing his favorite pastime, racquetball. He thoroughly trounced the McGuire racquetball players, losing only one set out of about 50 that he played.

Many players were heard to cry "Uncle" during the heated games.

The men and women of McGuire PMEL would like to thank Chief Truax for his outstanding service to our country and specifically, the PMEL community. His knowledge, experience and wisdom have helped all of us. Not only has he taught us a little about the technical side of our career field, he has taught us life lessons we can all use. Thanks again to a great Chief who helped make our Air Force great.

Chief Master Sgt. Gale Holmes
McGuire AFB, NJ

The Bionetics Operated Air Force Primary Standards Laboratory, Located at the Central Ohio Aerospace and Technology Center, Passes Intense Air Force Assessment with Flying Colors!



Colonel Robert D. Gaudette, 562 CBSG Commander, presents The Air Force Metrology and Calibration Program Certificate of Compliance to Ben Fullen, Air Force Primary Standards Laboratory Program Manager. The ceremony took place at the out-brief following an Air Force Evaluation Team assessment of the laboratory's ability to meet stringent Air Force program requirements.



Chief Master Sergeant Walter Truax lauds Bionetics employees for their exemplary performance and continued outstanding support to the Air Force "War fighter."



Bionetics Corporation President Jack Silvey congratulates employees of the Air Force Primary Standards Laboratory for their outstanding performance during the recent Air Force Evaluation. The lab finished the two-week intensive evaluation on September 15 with excellent results. The laboratory also recently underwent an ISO 17025 assessment by the American Association for Laboratory Accreditation which they also passed with flying colors. Bionetics was selected by the Air Force as the contractor of choice to operate the laboratory in 2001.



News Release, September 29, 2006
Debra Hamrick
Bionetics

About People

Master Sergeant Anthony Dreiling Retires

Master Sergeant Anthony Dreiling retired from the Air Force in a ceremony held at Scott AFB, Illinois on 19 June 2006. The ceremony honored Sergeant Dreiling's nearly 23 years of faithful service to his country.

Sergeant Dreiling entered the Air Force on 12 October 1983. Following technical school at Lowry AFB, Colorado, Sergeant Dreiling was assigned to Offutt AFB, Nebraska. Subsequent assignments include: Andersen AB, Guam; Elmendorf AFB,

Alaska; and finally Scott AFB, Illinois where he initially worked in the PMEL prior to transferring to HQ AMC.

Sergeant Dreiling will remain within the Air Force Metrology community; he has accepted a job at the Forbes Field, Kansas PMEL. We wish Anthony and his family all the best in his retirement.

Senior Master Sgt. Lee Wood
AMC PMEL FAM
edward.wood-01@scott.af.mil



Master Sgt. McMillan retires from active duty.

Master Sergeant Ken McMillan Retires

Master Sergeant Kenneth S. McMillan retired from the Air Force in a gathering held near Mountain Home AFB on 18 August 2006. Several co-workers and friends attended to honor his commitment and sacrifice for 24 years of service in the Air Force.

In November 1982, Sergeant McMillan began his Air Force career at Lowry AFB, CO where he attended technical school. His first duty station was at Langley AFB, VA, and subsequent assignments included Iraklion AB, Greece, Aviano AB, Italy, Seymour Johnson AFB, NC, Howard AB, Panama, Dover AFB, DE and Mountain Home AFB, ID. He also did four rotations to our Area of Operations. The last couple years at Moun-

tain Home AFB, Sergeant McMillan was the Plans and Programs Flight Chief for the 366th Component Maintenance Squadron. Ken is planning on becoming an engineer for transportation ships in the Gulf of Mexico.

The 366 CMS TMDE Flight personnel would like to thank Ken for his outstanding service and dedication to the Air Force. He will definitely be missed and not forgotten. We wish Ken and his wife, Joyce the best of luck in their future.

Master Sgt. William McMahon
Mountain Home AFB, ID
william.mcmahon@mountainhome.af.mil



Technical Sgt. Stephenson's Basic Training & Retirement photos.

Technical Sergeant Tom Stephenson Retires

Technical Sergeant Tom Stephenson officially retires 1 December 2006 after 20 years of dedicated service to the Air Force. His retirement ceremony was held on 29 September 2006 at the Seymour Johnson AFB Community Center. Tom played a vital role in shaping the PMEL career field as a tech school instructor from 1992 through 1999. He trained Apprentice PMEL technicians at

both Lowry AFB Colorado and Keesler AFB Mississippi. He plans to move to Ohio and continue to work with the Air Force through Bionetics.

Senior Master Sgt. Steven Hilker
Seymour Johnson AFB, NC
steven.hilker@seymour.johnson.af.mil

Technical Sergeant Samuel Aragon Retires

Technical Sergeant Samuel Aragon retired after 20 years and 28 days of dedicated service to his country on 31 October 2006. He will join his wife, Christine, and their daughters,

Courtney and Erika in Japan. We wish them the best of luck!

Senior Master Sgt. Daniel Tibayan
 Nellis AFB, NV
daniel.tibayan@nellis.af.mil



Technical Sergeant Aragon retires from active duty.

Nellis TMDE Flight Recognizes Quarterly Award Winners

Nellis AFB TMDE Flight would like to recognize two of our superstars, Master Sergeant Joseph K. White and Mr. John Jacobsen Jr. Sergeant White was selected as the 57th CMS SNCO of the Quarter and Mr. Jacobsen was selected as 57th CMS Civilian

of the Quarter for April-June 2006. Congratulations on a job well done!

Senior Master Sgt. Daniel Tibayan
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Master Sgt. White and Mr. Jacobsen, 57 CMS Quarterly Award Winners.

Nellis TMDE Flight Recognizes Excellence in Action

Congratulations to Airman First Class Stephanie Gunner on her selection for the Nellis Chiefs "Excellence in Action" award. She was nominated by her supervisors for her outstanding workmanship and professionalism. She was personally interviewed

by two Chief Master Sergeants, and won them over with her positive attitude. Way to go!

Senior Master Sgt. Daniel Tibayan
 Nellis AFB, NV
daniel.tibayan@nellis.af.mil



Airman 1st Class Gunner, Excellence in Action Recipient.

Nellis TMDE Flight Recognizes Promotions

Nellis AFB TMDE Flight would like to recognize two of our superstars, Master Sergeant Dennis H. Strehlow and Technical Sergeant David J. Stellini. Sergeants

Strehlow and Stellini were promoted on 1 August 2006.

Senior Master Sgt. Daniel Tibayan
 Nellis AFB, NV
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New promotees: Master Sgt. Strehlow & Technical Sgt. Stellini.

New Faces at 562 CBSG

Nathan Plank, GBNA



Mr. Nathan Plank, 562 CBSS/GBNA.

Nathan joined the 588th Combat Sustainment Squadron on June 26th of 2006. He recently graduated from Ohio University with a Bachelor of Science Degree in Electrical Engineering. He will start out spending most of his time in the Microwave Labs and with the other members of the Technology Applications Flight, and they are both thrilled to have him.

Nathan resides in a nearby community, where he has lived for the past 20 years. He enjoys shredding his guitar in his spare time. He also likes to frequent the basketball courts for a friendly game of hoops. Nathan is looking forward to training with his new flight and taking on new challenges.

Mr. Dan Zander
588 CBSS/GBNA
dan.zander@afmetcal.af.mil



Mr. Scott Knight, 588 CBSS/GBHA.

Scott Knight, GBHA

Scott Knight joined the 588th Combat Sustainment Squadron, Cal and TO Management Flight after working in the contractor operated Air Force Primary Standards Laboratory (AFPSL) for the past 10 years. Scott previously worked in the quality office and as the Customer Service manager for the AFPSL since his retirement from the USAF. He retired as a Master Sergeant in 1996 after

a distinguished 24 year career culminating in his position as an evaluator for the Laboratory Certification Office. Please welcome Scott and his wife Hilde in the new assignment with the 588th Combat Sustainment Squadron.

David Wells
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Mr. James Stone, 588 CBSS/GBEA.

James Stone, GBEA

James (goes by Jimmy) Stone joined the 562d Combat Sustainment Group on 12 September 2006. He is a recent graduate of Wright State University, where he obtained a bachelor's degree in Computer Science. He is new to Metrology and Calibration, although he is eager to learn this interesting science. Jimmy is working on the NextGen Automation team with a group of GBEA programmers led by Mr. Marc Monnin. He has started computer based training in numerous fields of calibration, which will help

prepare him to work on the NextGen software drivers for new measurement instruments. Jimmy, from a suburb of Dayton, now resides locally and enjoys movies and gaming. Look for some of his work to be hitting the field in future NextGen software releases.

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Gone But Not Forgotten From 562 CBSG

Mr. Alan Clune Retires

Alan Clune bid hail and farewell to the 562 CBSG on July 28th, 2006, as he put the wraps on his civilian career. Alan's service with the 562 CBSG culminated as Director of the 562d Combat Sustainment Support Squadron. He previously served as AFMETCAL Det 1 Management Operations (MLS) Division Chief and as AFMETCAL Det 1 Outsourcing Office (MLX) Chief. Frequently the Commander's and Deputy Director's right-hand man, Alan staffed many hot-button issues and acted as a key interface for our PMEL FAM community and Air Staff liaison on AFMETCAL policy, plans, internal and public affairs and the AFMETCAL Advisory Group, to name just a few.

Always ready and eager to take on a challenge, Mr. Clune cheerfully accepted new tasks as the Air Force Metrology Program continued to evolve in step with changing Air Force mission requirements. Deftly skilled at delegation, he wasn't shy to involve many of us in the projects he was currently working. Whenever the 562 CBSG [AFMETCAL] staff saw Alan coming down the hallway, we'd all duck for cover. (Just kidding!)

Alan's total Air Force service spanned over 36 years. His active military career began as

an Aircraft Maintenance Officer in the 301st Air Refueling Wing, Lockbourne AFB, OH; proceeding through various maintenance and command positions, to Commander of the 914th Logistics Group, Niagara Falls IAP-ARS, NY. His civilian AF service began as Chief of Supply and A-76 Accountable Officer with the 95th Logistics Group, Edwards AFB, CA. As if this wasn't enough, in 1971 when he left active duty, Alan utilized his Master's degree in history and began a teaching career. Continuing his civilian career in education, while also serving as an Air Force Reservist, he ultimately rose to the position of Principal, Mahar Regional High School in Orange, Massachusetts.

During his retirement ceremony, Alan was presented the Outstanding Civilian Career Service Award. Alan and his wife Alice currently remain in the Newark area and are occupying their time with travel to see their friends, relatives, children and grandchildren, as well as active service to their church. Their long-term plans may include relocation to the east coast. Please join the 562d in wishing Alan and his wife all the best for a rewarding retirement.

Steve Keinath
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Henry "Hank" Blackburn

Former Air Force veteran Henry "Hank" Blackburn, 40, of Albuquerque, N.M., died in a motorcycle accident 22 September 2006 in the Sandia Mountains in Albuquerque. Hank served 8 years in the United States Air Force where he developed the skill of equipment calibration which he continued to use in his civilian career. Hank will be remembered most for his passion for computer gaming, his love of motorcycle riding, his quick wit and his wonderful, quirky smile.

Hank worked at Kirtland AFB PMEL as a civilian and prior to that he worked at Malmstrom AFB PMEL for a civilian contractor.

Please visit the *Notice* for **Henry "Hank" Blackburn** at:

<http://www.legacy.com/Link.asp?Id=LS19375884X>

Bob Majerus
Malmstrom AFB PMEL
bob.majerus@malmstrom.af.mil



MLC Chief's Corner

Recognition

During the successful July evaluation of the Otis ANG PMEL, I had the opportunity to recognize a couple of exceptional performers and present them with the PMEL Chief's coin; though the entire operation did an outstanding job. Mr. Ferd Angeles runs an extremely impressive scheduling and materiel control section supporting the entire Northeast region of the U.S. I also presented a coin to Mr. Todd Morley (lab chief) who literally had his hand in every facet of the operation. This successful evaluation was the result of a lot of hard work and effort on everyone's part and we encourage the team to continue working to maintain program requirements.

My next stop on the summer trip was at McGuire AFB NJ where I presented coins to four outstanding performers; Staff Sergeant Lekia Parker (K3/4), Staff Sergeant (select) Heather Mater (K3.4), Staff Sergeant Barry Mann (Materiel Control) and Ms. Linda Keilman (Scheduling). Again, the entire effort contributed to the successful certification but our team was extremely impressed with some exceptional performances.

From there, we traveled to the Langley AFB VA PMEL and once again were awed by another outstanding crew. Several individual exceptional performers were again recognized for their individual contributions to overall success; yet it was another classic example of the entire team working towards a common goal-CERTIFICATION. Senior Airman Laws, Senior Airman Franklin, Staff Sergeant Alexander and Staff Sergeant Mariani all received coins for their exceptional performance.

And last, but certainly far from least, please join me in congratulating our own Master Sergeant Danna Parrish who was selected as the 562d Combat Support Group Senior NCO of the Quarter (Apr-Jun 06). Danna then competed at our parent wing level and was selected as the 542d Combat Sustainment Wing SNCO of the Quarter. She then com-

peted at the Center Level (Robins ALC) but unfortunately my lack of writing skills failed to adequately capture her fantastic accomplishments.

Personnel

But the good news is that Chief Master Sergeant Matt Brown is now on board and should be able to help take our stellar team members to the next level of recognition. Chief and his family arrived in mid August and have gotten settled into their new home and the Chief is off and running in regards to his new duties. Please provide him with the same level of support that you have for me over the last four years and I guarantee he will ensure each and everyone of you gets the appropriate assistance you deserve as our customers. And please ensure everyone in the field understands that Chief Brown is now running the show, it would be unfair to continue to come to me with issues when he has assumed responsibility for the evaluation program.



Chief Master Sgt. Matt Brown, 562 CBSG/QP

Please join me in welcoming Master Sergeant Billy Larkins and his family to the 562 CBSG evaluation team. They arrived on station and are settled in (they also bought a home in the local area); Sergeant Larkins is ready to get out on the road and some of you will see him in your labs this



Master Sgt. Billy Larkins, 562 CBSG/QP

month. He comes to us from Eglin AFB FL PMEL and looks forward to meeting you during his tour of duty.



Master Sgt. Rick Jordon, 562 CBSG/QP

We also want to welcome Master Sergeant Rick Jordon who just arrived on station and is getting settled into his new place. Sergeant Jordon comes to us from the Holloman AFB NM PMEL and will be visiting you in the near future on an assessment team coming to your lab.

Now that we've covered all of the welcomes I realized I neglected to recognize the departure of Master Sergeant Al Markovich and his family last quarter. We are extremely grateful for the excellent job Sergeant Markovich did for the entire AFMETCAL program and especially with his primary duty as an evaluator. *(continued on page 13)*



MLC Chief's Corner (continued)

(continued from page 12)

His efforts had impact across the entire function. He has returned to the field and is back at the Travis AFM CA PMEL where he previously served earlier in his career. We are confident he is truly “making a difference”. We wish Sergeant Markovich and his family the best of luck during this next stage of his career.

One of my goals has been to recruit younger evaluators, afford them the opportunity to learn more about the overall AFMETCAL program and specifically the evaluation program and then get them back into field. We have been quite successful with this endeavor and hope to continue to do so. In fact, we have several upcoming opportunities for anyone meeting the criteria and wanting to experience the most challenging, yet rewarding, job in our career field. We went almost four years with an all volunteer team but unfortunately can no longer boast that statistic; in fact numerous individuals elected to retire versus accepting the special duty assignment to the evaluation team as non-volunteers.

This certainly is not my first choice, but we must have adequate manning to conduct our mission and the non-volunteer process will be used when necessary. Hopefully some of you reading this article will consider this duty and apply when the jobs are posted in the very near future.

Master Sergeant Mike Sumich was notified in June that he successfully completed all the stringent requirements and was named an American Society for Quality (ASQ) Certified Calibration Technician (CCT). He is the third assessment team member to achieve this distinction though we only have two current members on board. As a result of this significant accomplishment, both Sergeant Sumich and Senior Master Sergeant (select) Niemann were asked to participate as subject matter experts for the ASQ CCT exam review that took place in Milwaukee in September.

From the Field

Please note that as a result of YOUR inputs a new item has been posted to the evaluation team page (support) on MetWeb. You will now have access to our checklists with the explicit caveat that they are provided as a TOOL ONLY. **“THESE CHECKLISTS ARE PROVIDED AS A TOOL ONLY. THE USE OF THE CHECKLISTS WILL NOT ENSURE A LABORATORY WILL MEET ALL CERTIFICATION REQUIREMENTS, THEY ONLY AID IN THE DECISION PROCESS. THESE CHECKLISTS MAY NOT INCLUDE ALL REQUIREMENTS. SEE APPLICABLE TOS AND PUBLICATIONS FOR SPECIFIC REQUIREMENTS.”** Additionally, we have posted an excellent product on Root Cause Analysis—it captures the entire curriculum from our seminar presented at the Worldwide Workshop. It also expounds on some issues brought up during the workshop and even has some examples for your consideration.

Another item of interest is our new fully automated critique program. It is being beta tested at the Air Force Primary Standards Laboratory who just finished a very successful evaluation. This should streamline the process and make it easier for you to provide feedback to our organization. The procedures will be outlined for you during your next evaluation and we will make adjustments to the program as appropriate. I highly encourage all personnel (military, contractor and civil service) to participate; again this entire effort is an effort to provide you better service.

You may have noticed that we are no longer MLC but rather QP as a result of our approved re-organization. Information on changes is available on MetWeb.

Chief Master Sgt. “Buddy” Truax
562 CBSG/QP

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“THESE CHECKLISTS ARE PROVIDED AS A TOOL ONLY. THE USE OF THE CHECKLISTS WILL NOT ENSURE A LABORATORY WILL MEET ALL CERTIFICATION REQUIREMENTS, THEY ONLY AID IN THE DECISION PROCESS. THESE CHECKLISTS MAY NOT INCLUDE ALL REQUIREMENTS. SEE APPLICABLE TOS AND PUBLICATIONS FOR SPECIFIC REQUIREMENTS.”

From the Bench



Fluke 5700A Multifunction Calibrator.

5700A Multifunction Calibrator Upgrade

The GSA schedule now has a listing to upgrade existing 5700A Multifunction Calibrators to the 5700A/EP Upgrade. This 5700A/EP Upgrade essentially has the same performance specifications as the 5720A Multifunction Calibrator while utilizing the mainframe and some of the existing circuit cards of the 5700A. The GSA unit price is \$18,101.54 for this upgrade. You will have to schedule and give up your 5700A to Fluke during the time this upgrade takes place. Normally this would be less than 120 days. The AFPSL recently had two 5700A Multifunction Calibrators upgraded to the 5700A/EP Upgrade configuration. 562 CBSG has no plans to upgrade the 5700A Calibrators at the PMELs, as 5720As were acquired and fielded to the PMELs five to seven years

ago. This is not an endorsement for Fluke, but merely information on another way of achieving 5720A Multifunction Calibrator performance, especially if your 5700A is quite old and you are facing repairs. Your 5700A will be evaluated by Fluke to determine if this upgrade is possible. The GSA price on a new 5720A Multifunction Calibrator with wideband is \$45,470.53, and a new 5720A Multifunction Calibrator without wideband is \$36,943.03. The GSA schedule for all of these products is GS-24F-1029B. The GSA Advantage website is <https://www.gsaadvantage.gov>

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5901/9210 Triple Point of Water.

5901/9210 Triple Point of Water Outdated Technical Manuals

We recently discovered that we had outdated technical manuals for the 5901/9210 triple point of water maintenance apparatus. While doing a QR on a 2000M portable V/A/T calibrator, a variation of up to 8 μV was noted. We contacted Hart Scientific and discovered that the technical data had been updated. We downloaded Rev. 580501 for the 5901 and Rev. 610201 for the 9210. Both are copyrighted 2005. On page 44 of the 9210 manual, paragraph 7.2, are the instructions for making a triple point of water. "Best results in maintaining the triple point are achieved when the thermal conductivity between the cell and the block is good. A small amount of denatured alcohol should be put into the block well around the TPW cell to fill the gaps and the re-entrant well of the TPW cell. For best results, fill the well around the TPW cell until the level of the ethanol is slightly above the top of TPW cell. Consider keeping a plastic squirt bottle filled with ethanol handy while operating the 9210 so the gap can be filled as needed. Do not put so much ethanol into the well that it overflows.

The top insulation plug fits into the top of the block well over the TPW cell. It has a hole in the center through which thermometers can be inserted. The top insulation plug has two purposes. First, it helps ensure an even temperature profile in the block and cell allowing a longer lasting and more accurate triple-point realization. Second, it protects against excessive moisture condensation and ice buildup at the top of the cell and block. Condensation can lead to corrosion over the long term and freezing water can damage the block. Always operate the 9210 with the top insulation plug installed when the block temperature is near 0°C or lower".

We followed this procedure, along with using the top insulation plug, and achieved excellent stability and repeatability. You can download the current technical data for this unit at www.hartscientific.com, publications, product user's guide (manual).

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Replacement of Ruska 2465 Deadweight Pressure Standard

After years of faithful service, the Ruska 2465 deadweight pneumatic pressure standards are being retired and replaced by way of a recent 562 CBSG contract award. The Ruska 2465 is being replaced by the DH Instruments PG7601-SYS-AF. This system was also demonstrated at the 2006 Air Force Worldwide PMEL Workshop.

The following are updates and new information pertaining to the PG7601-SYS-AF:

Timeline to begin fielding units is being pushed back a couple of months. The original timeframe was around the end of September, but will now be in November.

PG7601-SYS-AF is the system part number, and is listed in the T.O. 33K-1-100-2.

Based on feedback from the Worldwide PMEL Workshop demonstration, the AFPSL is creating a piston-cylinder disassembly/cleaning/assembly instructional video. These videos will be distributed to the PMELs in advance of receiving the new system.

T.O. 33K6-4-3583-1 is being written for calibration of the secondary measurements (ambient temperature/pressure/RH, piston PRT, and vacuum gauge). A calibration/adjustment tool spreadsheet has been devel-

oped that will assist in recording data, determining “pass/fail” results, and automatically calculating the adjustment coefficients for the piston PRT and vacuum gauge calibrations. Please see the MetWeb Pressure site for more information and to download the file.

The “basic package”, which includes all equipment other than the piston-cylinders and mass set (which are the “exchange package”), will be direct shipped from the manufacturer to the PMEL. This will be done prior to your receipt of the calibrated piston-cylinders and mass set from the AFPSL.

CalTool for PG7000, which transfers the calibration data from the AFPSL calibration to the PG7601-AF platform, will not be CPINed since there are no calculations taking place. Additionally, after transference of data, T.O. 33K-2-11 directs user to verify the transferred values against the hardcopy AFPSL calibration report.

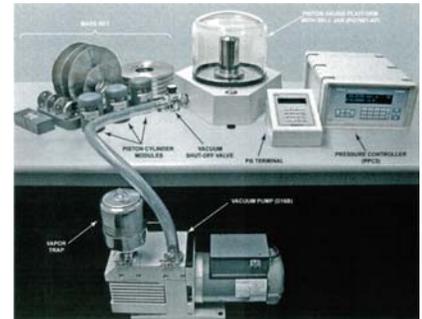
See MetWeb Pressure site for more information.

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Mahr Federal CX1 Height Measuring Station

By now all PMELs have received the Mahr Federal CX1 Height Measuring Station. The CX1 can measure vertical heights along with making squareness measurements. The CX1 must be set with the reference granite angle plate before measuring a part. Along with this mastering process, the correction factors along the X- axis are deleted. If the correction factors for the Z-axis are mistakenly deleted, the CX1 is rendered useless. The message across the top of the DX1 informs the user of the Wrong Gage Head. This means the calibration of the CX1 is null and void. The next step has been to contact 56 CBSG and describe the problem, which

leads to the manufacturer getting the information from Mahr in Germany. Needless to say, weeks if not months pass by before the CX1 is operational again. I spoke with Mahr Federal and they sent me a master CD with most of correction factors on it. Correction factors for 60 of the 71 gages were copied to a disk along with the loading instructions and sent to the appropriate PMELs. I am maintaining the master CD as a back up to the CD sent to each PMEL. You should receive this CD by the end of September. I am still awaiting the data for the remaining gages. Please send in the data if you have not done so. If you have any



DH Instrument PG7601-SYS-AF, Deadweight Pressure Standard.



Mahr Federal CX1, Height Measuring Station

questions, please contact me at kevin.john@afmetcal.af.mil or DSN 366-5161.

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Quick Tech Tip: Using AM for Better Amplitude

“Can you remember instances in your Procedures when you were asked to set exact amplitude references, but the generator you had available on your bench didn’t have the amplitude resolution to hit the reference exactly on the mark?”

Can you remember instances in your Procedures when you were asked to set exact amplitude references, but the generator you had available on your bench didn’t have the amplitude resolution to hit the reference exactly on the mark? Well, does your generator have AM Mod capability?

If so, then there’s an easy way to get almost unlimited amplitude resolution. Since everybody has a 3325A or B, you can set it into DC Offset mode, attach one or even two 20dB (X10) Attenuators with a 50 ohm load on the end, and run that to the DC Coupled AM input of your RF Generator. By swinging the DC of the 3325 up and down you can vary the amplitude of your Generator output. Using the 20dB attenuators allows you to multiply the possible amplitude resolution of 3325’s AM control DC – the attenuators allow you to make relatively small RF changes of amplitude with rather large swings of DC Offset...the smaller the changes to the DC Offset translate into almost imperceptible and miniscule changes to the RF Generator’s output. The more attenuation you have between the 3325 and

the DC Coupled AM input of your Generator, the more possible places of Amplitude Resolution you can control to.

It can really work well. Back in the old days when Technicians had old HP Basic HPIB controllers, it would be easy to write small programs lashing RF Generators and 3325’s together, with the 3325 feeding a DC AM control signal into the RF Generator, with a Voltmeter or Power Meter monitoring the Generator’s output. A simple control loop program could be written that could give you a veritable RF Calibrator, with your RF Signal being accurate precisely to the same resolution as your monitoring device. Using attenuators on your 3325, you could easily go out to six digits of amplitude resolution, for instance, if you were using a 3458A as your monitoring device. But that was then. Now that we are in the future, we no longer have bus controllers on our benches.

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HP/Agilent 3458A Information



HP/Agilent 3458A Digital Voltmeter.

Service Note 3458A-15B was discovered on the Agilent website by Mr. Robert Jarvis and Mr. Gournette Richardson of the Moody PMEL. This service note discusses CAL RAM preventative maintenance. The CAL RAM integrated circuits are on the A5 Assembly and contain the calibration data. The batteries in these CAL RAM circuits allow the 3458A to retain the calibration data while the meter is turned off. According to the Agilent service note, the CAL RAM circuits should be replaced every ten years.

562 CBSG suggests that action be taken only when failure to the batteries occur. The service note, which can be found on MetWeb and on the Agilent website, lists the errors that can be displayed as a result of this failure. The preventative maintenance costs approximately \$1530.00 per unit and is the same maintenance you would receive if there was a failure.

It appears that AFPSL units and PMEL units are lasting well beyond the recommended 10

year period. Moody has at least one unit and the AFPSL have several units that the battery has lasted almost twice the time and are still going. This is probably because most PMELs leave their equipment on all the time, which means the batteries are hardly used.

Another useful piece of information was also found on the Agilent website. An article titled “How can I retrofit options or tell which optional features are installed on my Agilent 3458A?” can be found in the FAQs of the 3458A product page. This article describes what to look for inside the 3458A to determine whether you have a standard unit or the 001, 002, H01, and/or the HFL options installed in your unit. So if you were ever wondering which unit you have, this article should help you alleviate any doubt.

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High Impedance Voltmeter-Null Detector 845AB S/N 2995014

During our 562 CBSG Recertification Evaluation on July 26, 2006 a lab item, 845AB High Impedance Voltmeter-Null Detector S/N 2995014 (calibrated on January 20, 2006 and due again on September 20, 2006) failed 33-1-32 inspection due to a measured resistance of 2.9 ohms from the ground blade to the chassis exceeding the maximum allowable resistance of 2 ohms.

After the failure, the item was examined by lab personnel to determine the cause of the excessive resistance measurement. The cause was found to be an oxidized contact at the spring clip which holds the power receptacle in the rear instrument panel and provides the only connection from the ground blade to the chassis. (See Photos #1 & #2) The receptacle was removed and the patina that had developed on the steel spring where it mated to the aluminum panel was removed using a fine grit emery cloth. The receptacle was replaced in the rear instrument panel and ground checks re-accomplished. Resistance between the ground blade and the chassis was less than 0.01 ohm.

It was noted that another lab item 845AB S/N 4715008 has a power receptacle which is riveted to the rear instrument panel. (See Photo #3) The ground blade of the power receptacle of S/N 4715008 is hard wired to a ground lug on the rear instrument panel instead of depending on the friction connection the ground blade depends on for S/N 2995014. (See Photos #4, #5 & #6) This is a more positive approach to achieving a dependable ground for input power on these units.

T.O. 33A1-6-115-1 does not differentiate between the newer or older style of input power receptacles. The part number for the input power receptacle connector Fig. 5-1 Ind. 27 is M1548GS which is the old style spring clip mounted connector. (The poorly grounded style)

If all 845AB High Impedance Voltmeter-Null Detectors were equipped with the newer style, (See Photo #3 & #4) riveted input power receptacle connector with a hard wired connection to a chassis mounted ground lug as in Photo #6, the chances of failing to meet the requirements of 33-1-32 would be greatly reduced.

All PMELs would be well advised to examine the input power receptacle connectors on 845ABs and other similar Fluke items (931B for instance) and take appropriate measures to insure a dependable ground connection exists.

845AB HI IMPEDANCE VOLTME-
TER - NULL DET. RECEPTICLE

Spring Clip Style Input Power Receptacle Connector



Photo 1

Ground Blade friction type Connection to Chassis



Photo 2

Riveted Style Input Power Receptacle Connector

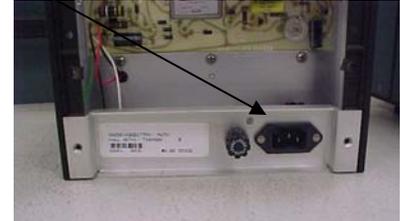


Photo 3

Ground Lug Rivet

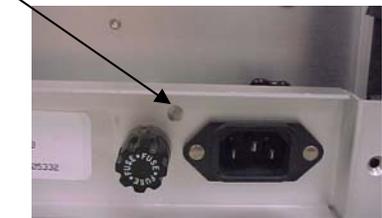


Photo 4

Hard Wired Ground Lug

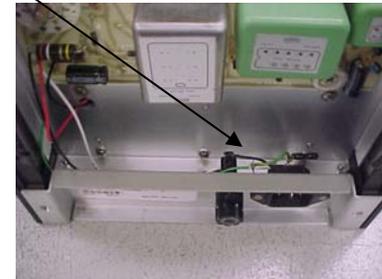


Photo 5

Ground Blade Soldered to Ground Lug & Riveted to Chassis



Photo 6

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PGM-50 Battery Care



PGM-50 Multi-Gas Monitor.

The PGM-50 Multi-Gas Monitor is new to the Air Force inventory and is replacing the 514M, Combustible Gas Detector. One of the most important, and least known, issues centers on the battery; the standard PGM-50 comes with a rechargeable Lithium battery. The great thing about this type of battery is that it doesn't develop a memory like other rechargeable batteries do. As with all things, however, this comes with a trade-off: rechargeable Lithium batteries don't respond well to being discharged (a process known as "Deep Cycling"). Every time the battery is Deep Cycled, it's damaged just a little bit and after enough times the battery doesn't work any more. Shouldn't be a problem, right? Just keep your equipment turned off when you aren't using it and make sure to keep the battery topped up. Sadly, this won't work with the PGM-50. As it turns out, this unit has a particularly useful feature: all of its sensors are powered up, even

when the unit is off. Over time, the sensors will run the battery completely out (it takes about a week for new batteries). I spoke with the engineers at RAE Systems regarding this and they assured me this is intentional. The feature ensures that from the moment the unit is turned on, it's capable of identifying dangerous concentrations of oxygen or other gases. Personally I think the design is a good idea, I just wish they'd say something about it in the commercial manual. To keep this feature from destroying the battery keep the unit connected to its charger whenever it's not in use, and please let your customers know this. Constant charging won't damage the batteries, and it will save you the time and cost of a long wait for a new battery (last time I had to order one, it took about a month).

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6625AF Resistance Measurement System.

6625AF Resistance Measurement System (RMS)

The following is what's new with the 6625AF RMS:

Computer Base Training for the 6625AF RMS was added to MetWeb in October 2006— please follow the training links on MetWeb's home page. It covers System Configuration, Common Terms, Transfer Standard Utility for the SR1060, Measuring 742A-1 ohms resistor, inter-comparison of the 4310AF, Calibration of the Fluke 5700A and more. Please provide positive or negative feed back to us.

History shows eighty percent of warranty

repairs are stuck relays. If you are not using your system on a regular base, please exercise it at a minimum of once a month.

The 6625AF RMS system will be going on a 1-year calibration interval using CTO 33K8-4-1171-1 starting in December 2006. Please place yourself on ID for this CTO. If your system's warranty date is close, calibrate your system before the warranty runs out.

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We're on the Web!

www.afmetcal.af.mil

Top Ten Reasons I Give to CFC

10. It's a great tax write off.
9. To give something back to the community.
8. I get another button to add to my button and coin collection.
7. I can choose who I want my contribution to support.
6. My parents taught me, "it's better to give than to receive."
5. It's fun to watch the contribution thermometer rise.
4. It feels good to help someone in need.
3. I love the bake sales, chili cook-offs, silent auctions, spaghetti feeds and sloppy joe sales.
2. It's a great way to be a role model for co-workers, friends and family.

1. IT MAKES ME FEEL GOOD!!!

USAF Metrology



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