

# AVIONICS NEWS

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# Avionics Technicians Closer to Recognition, Industry Standard

## NCATT Begins LaserGrade Testing for AET Certification Program

BY PAUL NOVACEK

**A**vionics technicians traditionally have been under-recognized in the industry. Sure, a pilot with a broken radio always is appreciative, but generally an avionics technician is not recognized for all the schooling and dedication that goes into the craft.

If only there was a badge of sorts to instantly identify an avionics technician as a powerhouse of electron wrangling. Other professions have training standards and certificates acknowledging accomplishments, but avionics technicians haven't had that recognition — until now.

Over the past few years, there have been a few attempts to offer an avionics technician license, but all have failed for a number of reasons. One reason is the attempt to arrive at a consensus on the definition of avionics is a daunting task considering how electronic controls have now infiltrated every aspect of an aircraft. Another reason is the attempt to convince the FAA to mandate the license and control its issuance is difficult.

Much to the chagrin of the avionics industry, these hurdles just haven't been scaled yet — in steps NCATT and its mission.

Floyd Curtis and his team of avionics instructors at Tarrant County College in Fort Worth, Texas, heard this plea from the avionics industry and spearheaded an effort to once and for all develop training standards and licensing for avionics technicians. Their efforts have resulted in the National Center for Aircraft



*The NCATT team from Tarrant County College: Rickey Hestilow (from left), Mickey Shriver (receiving AET Certificate) and Floyd Curtis, NCATT executive director.*

Technician Training, or just NCATT. Its mission is to facilitate a cohesive alliance of industry, government and educational institutions to promote aircraft maintenance professionalism.

NCATT's vision is to promote professionalism of aircraft maintenance by establishing industry-identified and industry-endorsed technician standards. To achieve this vision, NCATT is developing curriculum standards and offering an avionics technician certification recognized by the industry.

More specifically, NCATT is taking a three-tiered approach to achieve its goals:

- Develop training standards for avionics technician schools.
- Keep knowledge standards high with an internationally recognized certification program.
- Promote avionics technician edu-

cation in K-12 and postsecondary schools.

In 2001, NCATT received a grant from the National Science Foundation to fund the project and begin gathering all the stakeholders. Today, the NCATT technician certification program is rapidly gaining recognition. The entry-level Aircraft Electronics Technicians (AET) certification examination now is available in LaserGrade exam centers across the nation.

### Partners in Programming

Tarrant County College created the NCATT committee under the direction of Floyd Curtis, the chair of TCC's aeronautical training division. Curtis' team at TCC formed the consortium as a collaborative endeavor of TCC, Embry-Riddle Aeronautical University in Florida, the U.S. Air

Force, Pennsylvania College of Technology, San Jose State University and Weatherford College in Texas.

Embry-Riddle is leading the standards and curriculum effort with help from the Community College of the U.S. Air Force, while Pennsylvania College is responsible for electronic media. San Jose State and Weatherford College joined the effort for development and management of the outreach programs.

In addition to the partner academic institutions, experts from the entire aviation industry are members of the committee. The alphabet groups are represented, such as the AEA, PAMA and others, as well as the FAA, airlines, aviation consultants, repair stations, avionics manufacturers and each of the U.S. military branches.

### Ensuring Standardized Skills

NCATT's first educational program is the development of an industry-endorsed avionics technician curriculum incorporated into certificate, associate and baccalaureate degree programs. The committee believes the benefits of a national, industry-derived program are important for the nation's continued leadership in the aviation community.

The NCATT committee is developing curricula that can be used by any academic institution; however, those

wanting to, can apply for NCATT certification, and receive validation that ensures their curriculum meets the standards established by industry. The curriculum and standards can be presented at different levels by institutions, thus achieving full NCATT certification in stages.

NCATT will develop curricula using recognized methods, processes and practices to arrive at a set of training standards. The biggest benefit is, employers will be assured that avionics program graduates possess standardized skills regardless of where they obtained their degree or certificate.

NCATT does not require an institution use NCATT's curriculum as a basis for program accreditation, only that its avionics training program meets the industry-established and validated standards for the technician certification.

The curriculum and certificate exam standards are created during workshops offered throughout the year by NCATT committee members. The members are all subject-matter experts who are selected and invited to participate based on their:

- overall aircraft maintenance experience,
- aircraft system specialty,
- depth of understanding and level of familiarity with the specific job-



Rick Hestilow discusses the finer points of the AET with Christopher Doherty of the U.S. Navy.

oriented task and skills, and

- overall qualifications to analyze aviation maintenance activities.

In addition to identifying standards for a particular avionics maintenance activity, each NCATT committee workshop also establishes the teaching levels or the thoroughness of each subject task as it relates to performance, ability and knowledge. The results of the workshops are forwarded to the NCATT Standards and Curriculum Committee for validation.

The curriculum standards for the endorsements of communication, navigation and installation/integration are

*Continued on following page*



Tom Yanus, chair of NCATT curriculum and standards, as well as aviation maintenance science program manager for Embry-Riddle, leads subject-matter experts in their discussions concerning the AET standards.



Gene Gollahon, U.S. Navy (from left); Tony Stone, U.S. Navy; Bill Gremier, American Airlines; Chuck Tays, Texas Aviation Services; Rich Ochs, Spirit Avionics; and Corey Weiland, U.S. Air Force participate in discussions concerning the AET.

## NCATT

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in the final stages of development and soon will be distributed.

### AET Certificate in Hand

Aircraft maintenance technicians are required to attend more than 1,900 hours of school and take an exhaustive A&P exam before being allowed to work on an airframe or engine. It's a proud day when that certificate is finally in hand, saying to the world, "I'm now trained to work on an aircraft, and the world is mine!"

Avionics technicians, however, have never had that badge to wave around — until now. The second task of the NCATT consortium is to create an industry-recognized avionics technician certificate, which they've named the AET, or Aircraft Electronics Technician certificate.

Previous attempts at licensing avionics technicians have not been successful mainly because the FAA is finding it immensely difficult to create a license for a moving target. The avionics industry changes so quickly that as government standards were created — no matter how well intended — they most likely would be obsolete upon their release. However, an industry-administered standards committee, such as NCATT, would be a little quicker on their toes and able to keep up with industry needs and trends.

The founders of NCATT looked at



other fast-moving industries and how they certify technicians. For example, the automotive industry has an excellent program in place. The ASE certificate program tests technicians on core competency, then provides further tests on specializations, called endorsements. NCATT adopted this scheme because it allows technicians to achieve the basic AET certification, then choose which technical area to gain specialized knowledge.

The core AET exam covers areas such as basic electricity, common avionics, instruments and maintenance fundamentals. The additional certifications and their endorsements delve much deeper into specific avionics equipment, such as autoflight, advanced digital, communication, navigation, surveillance, weather avoidance and display systems.

"Aircraft electronics is the most


dynamic aspect of the aviation industry with technology advances almost daily," Curtis said. "The highly trained technicians can now be recognized for the knowledge and skills they have acquired and employers have standards and measures of a technician's attainment of the desired knowledge and skills."

### LaserGrade Testing Begins

Although the endorsement testing structure is still being finalized, this building-block approach will be a benefit for technicians just finalizing their schooling, as well as for technicians already established in the industry. The core AET exam, however, already is finalized and available through LaserGrade testing centers.


Beta testing was completed this past spring when the NCATT team from Tarrant County College offered the AET exam to technicians at various conventions and through academic groups. Technicians who passed the exam already are receiving their certificates and wallet cards.

NCATT has partnered with LaserGrade to administer the AET exams. LaserGrade has a network of more than 1,000 testing centers throughout the world, and has been providing computer-based FAA written exams for many years. An applicant pays a fee for the exam and is directed to a computer terminal in a



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secluded room to take the exam. The process is proctored by the establishment, often an airport FBO, and the results are instantaneous.

Experienced technicians will not be grandfathered in for certificates. Besides, the AET certification is industry-sponsored and not required by the FAA or FCC to repair or install avionics. Although it may be required someday, for the near future its primary purpose is to evaluate a technician's knowledge and skill for prospective employers.

In preparation for the AET exam, the NCATT website ([www.NCATT.org](http://www.NCATT.org)) offers a self-evaluation form and prep guide. This self-evaluation is recommended for all technicians who are interested in taking the AET certification exam, and to help in determining if their education, training or experience has provided the specialized background necessary to successfully pass.

The self-evaluation is not a requirement to take the AET exam, but it's a good tool to identify subjects and areas that need additional study prior to attempting the exam.

### Outreach for Young Minds

Strong and vibrant educational systems are required for a nation to be successful, strong and secure. To support and advance the aviation-critical K-12 and post-secondary educational systems, NCATT has formed a national strategic partnership. With a grant from the National Science Foundation (NSF), NCATT has partnered with aviation businesses, industry organizations, organized labor, the U.S. government and nationally recognized educational institutions.

NCATT will sponsor and support aviation-themed summer camp programs for students, teachers and counselors in the K-12 and postsecondary school systems. These outreach programs, coupled with the FAA's

Aviation Education Program, will provide hands-on teacher education workshops and resource kits. These kits are easily duplicated at the local level and will provide teachers with new educational tools to educate and motivate young minds.

NCATT's K-12 outreach program also will support and become an active partner with the FAA and Experimental Aircraft Association's annual teacher workshop in Oshkosh, Wis.

The NSF provided funding for the development of the training, testing and outreach programs, but once testing begins, NCATT will be self-sustaining. As with similar industry certifications, a fee will be charged for the AET exam. In addition, NCATT will provide other fee-based services to industry and educational institutions. It is expected these fees will support the costs of maintaining the NCATT

structure after NSF funding ends.

"We are extremely excited about the opportunities this project presents to aviation through the support of the National Science Foundation," Curtis said. "This is the first step in a long overdue certification of aircraft electronic technicians."

The NCATT website contains a wealth of information. Pre-exam evaluation forms and prep guides are available, as well as the capability to search for a local LaserGrade testing center.

In the near future, the member's area of the website will provide for the recording of a personal transcript. All of a technician's certificates, qualifications, training and education records can be kept in one place and recalled from any Internet connection.

For more information, visit [www.NCATT.org](http://www.NCATT.org). □

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