



What Makes an AEA Member Shop Special?

BY GARY PICOU

You don't want just anyone working on your airplane, right? You want the most capable and meticulous hands on your machine, as if your life depends on it. So, how do you find those gifted and qualified hands?

You probably can guess by turning to the directory in the back of this *Pilot's Guide*. That's right; you find these qualities at facilities displaying the Aircraft Electronics Association (AEA) logo. But don't take it as a matter of faith; you should know what is behind this logo. You also should know what AEA member shops represent in terms of real value to aircraft owners, and understand their membership means more to them than a nice membership plaque.

The AEA is a professional organization upholding the highest international standards. It is an association of professionals who care about what they do and care about their customers.

Few get wealthy in avionics, but most are satisfied at a personal and professional level with their careers. And that's saying something, especially because the job often entails hanging upside down in a pilot's seat, in a hangar, and reaching into a dim recess filled with sharp tie-wraps to remove a balky instrument.

WHAT QUALIFIES A SHOP FOR AEA MEMBERSHIP?

The fundamental requirement for an AEA member facility is certification from its civil aviation authority, such as the FAA, Transport Canada, EASA or

lengthy process, taking months or years. Sometimes, a company can't even begin work until it achieves certification, which certainly presents an obstacle to entering the business.

To attain certification — and

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CASA. A certified repair station brings with it a degree of oversight that can't be matched in the private sector. The certification standards, which now are higher than ever, guarantee specific capabilities and functions must be fully and continuously implemented for a facility to be, and remain, approved.

All regular AEA members must be approved as a certified repair station or maintenance organization by their respective aviation agency. By using this as a benchmark requirement, the AEA is able to validate certain qualifications universally proven to make a capable organization.

Receiving a repair station certificate is a time-consuming and

hang the AEA plaque on the wall — the facility must create and get approval for all the necessary manuals and put their process in place. The initial training must be completed and documented for everyone who is working there, including any specialized training needed to qualify the technicians to work on avionics or airplanes.

Although AEA regular members must be approved prior to joining, the AEA does provide assistance in this process for prospective shops. The organization offers manual templates, best practice information, and avenues to the necessary training at the AEA's headquarters as well as at its regional and annual meetings.



OVERSIGHT

You, personally, cannot audit your avionics shop every year and find compliance with the regulations; however, the FAA (or another agency) can — and does. On a regular basis, aviation safety inspectors visit the approved facilities and conduct comprehensive evaluations of their compliance with the regulations.

Although the FAA can't regulate businesses practices, hourly rates or productivity, the agency can say if an avionics shop meets the regulatory requirements, as well as maintains standards of competence and safety in its work. Because all AEA regular members are certified repair facilities, you can be certain they have the routine oversight of their regulatory agency. If the FAA finds deficiencies, the shop will make corrections, or face being shut down if anyone's safety is compromised.

TRAINING

The focus of both the FAA and the AEA is the training process. Effective training is the key, from how the radios work to how the repair station and regulations work together to enhance safety and productivity. Airplanes and avionics are complicated and

bridge many disciplines, from sheet metal, structures and kilowatt transponder transmitters to software, barometric and gyroscopic instruments.

Avionics technicians can be specialized at a large facility or a jack-of-all-trades at a small shop. But the central concept is for each individual to be properly trained to perform the tasks assigned — all tasks, every day. To the aircraft owner, this means the job will be done correctly and in accordance with the best practices, the manufacturer's instructions and the regulations.

When a technician takes his or her place at the bench or the installation shop, the technician is adequately trained to perform the tasks (or certainly under the direct supervision of someone who is). But today's avionics industry is a dynamic environment, and what was learned last year or last week probably has evolved. This is why there is a regulatory mandate for recurrent training.

CONSISTENCY

In the United States and European Union, repair stations operate under a specific set of regulations called Part 145. Other nations have similar regulations, and each is a "recipe"

for the operation of the facility. It doesn't matter if you are in Portland, Maine; Portland Ore.; or Portland (Dorset), England, your expectations should be the same when you arrive on the ramp for avionics service.

Each avionics shop will, by law, have a manual (or two or three) describing how it will perform the work within the regulations. These manuals explain who can perform what tasks, where, and how the shop knows it is capable of the task. The manual also explains who is in charge and who inspects the work. This roster is updated, as required by law, within five days of a change in job assignment.

In addition, the manual lists the sort of facilities to be used for the repair station operations and, more importantly, from where the materials and parts used on your airplane will come. If there is a diode to be replaced or a relay to be used in your airplane, the certified repair station has defined where it comes from and how it gets there.

This qualification extends not only to the avionics repair station, but also to every subcontractor who might have access to the parts used on your air-

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plane. This includes the calibration labs for the test equipment and the instrument shops where they get the overhauled gyros. The certified repair station must ensure anyone who performs safety-related tasks for the shop must be equally qualified.

Of equal importance to who does the work, where the work is done and what tools and parts are approved are critical components of "technical data." This is a big, hairy element in the scheme of things, and often is misunderstood. Technical data means the manuals, bulletins and literature from the airframe manufacturer and the avionics manufacturer. It means the advisory circulars and publications from the regulatory bodies describing the standards and practices. And it means all of the former must be the current revision.

Installing or maintaining avionics in airplanes is a complicated and specialized business. Certified avionics shops, as representatives of avionics manufacturers, have access to all the necessary technical data needed to work on your airplane. This is not necessarily true of an A&P, or even an IA, who is not working for a repair station.

It is an easy thing to buy a transponder from the Internet or a classified ad, but another thing entirely to get access to the current installation manual, or maintenance manual, necessary to legally test and install the unit in an airplane. Many times, an installation is not just a simple wire-up and bolt-in job; it requires interface to several other avionics or airframe systems. The installer must have access to the technical data, approved by all manufactur-



More than 75 hours of specialized training was offered during the 2009 AEA International Convention & Trade Show.

ers and regulatory agencies, to make a safe installation.

Sometimes, the biggest problem in a service industry is the "not-my-job" attitude. In a certified repair station, the regulatory bodies hold someone, a real person, accountable for the proper and safe conduct of the organization.

The "accountable manager," which is the official term, can lose his or her certification, business and liberty for failing to uphold the regulations and safety standards.

No one wants this to happen. And this is where the AEA helps.

THE ROLE OF THE AEA

When an avionics shop is approved for AEA membership, it has access to an organization working for the shop, which helps maintain a healthy industry. And a healthy avionics industry pays dividends to the aircraft owner community in terms of qualified technicians, stable business practices and safe operations.

Through a global staff at the association's headquarters outside of Kansas City, Mo., and offices in Washington, D.C., and Europe, as well as a board of directors elected by the membership and standing commit-

tees comprised of a dozen or more volunteers, the Aircraft Electronics Association is a powerful force for the general aviation industry as a whole.

The organization takes on regulatory and industry issues affecting a scope beyond wires and gadgets. Avionics is a small industry, but its roots are wired deeply into the airplanes of the customers and must function as a complete system to get anywhere.

During its annual convention, at its regional meetings, in conjunction with IA refresher seminars, and in its purpose-built, 100-seat training facility at its headquarters, the AEA provides hundreds of hours of training to members and other industry professionals each year, often at a reduced cost. The training includes everything from entry-level installation basics for new technicians to specialized training on integrated avionics suites provided by avionics manufacturers such as Avidyne, Aspen, Garmin, Honeywell, L-3 Avionics Systems, Universal Avionics and many others. During the 2009 AEA International Convention & Trade



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Show, more than 75 hours of specialized training was offered.

AEA regular members who participate in these training sessions and programs, including the annual Technical Training Exam published in the AEA's monthly magazine, *Avionics News*, qualify for the Avionics Training Excellence Award. This award further signifies an avionics shop's commitment to providing the best service to its customers. Among the hundreds of AEA regular member companies, 87 qualified for the ATE Award in

2009, with each proudly displaying the award plaque on its shop walls.

LEGISLATIVE ALERTS

In the work-a-day world of running an avionics shop, the critical events, such as completing a customer's airplane on time or fixing a leaking static system, naturally take priority compared to what's happening in Washington, D.C.; Cologne, Germany; Ontario, Canada; or Canberra, Australia.

To help them stay abreast of current regulations, AEA members count on the association's vice president of government and industry affairs, a team of international regulatory consultants, and a volunteer committee of member shops and manufacturers — all of whom consistently monitor regulatory agencies around the world.

This crew interacts with the FAA, EASA, TCCA, CASA and others to ensure all sides understand the impact of proposed and enacted rulemaking, and they make comments in the interests of the industry (which means in the best interests of pilots and aircraft owners, too). In this multi-faceted and global business, the AEA also works with the Transportation Security Administration, the Department of Commerce, import and export regulations, environmental and hazardous material regulations, and more.

For example, many people don't realize an altimeter removed from an aerial application aircraft could have been contaminated and should be treated as hazardous when transported to the instrument



shop for overhaul, or that an RVSM air-data computer contains technology that could be considered vital to national security; therefore, selling one as part of a package to a foreign-registered aircraft can land you in jail. The AEA's membership receives this type of information and much more from the association.

Not only does accurate, timely access to regulatory updates keep AEA members from running afoul of the law, but it also ensures all of the work done will be in compliance and your airplane will be airworthy to the letter of the law.

BUSINESS ADVICE

Let's face a basic fact of the avionics industry: Many brilliant technical minds who can visualize a cockpit makeover might not have much background or acumen in running a small business. Finance, marketing and basic sales skills often are lacking in a technical or engineering discipline. This is another area where the AEA, working with successful business people, consultants and motivational trainers, helps inspire the business skills of avionics shop owners and staff.

Each month, the association's *Avionics News* magazine features articles on improving business, from basic shop appearance and using the press effectively to making small talk with customers and networking with potential clients. Regular features about successful avionics shops also are published in the magazine and help emphasize these principles.

During the AEA's annual convention, attendees are provided with programs and presentations from business coaches and mentors. After attending these seminars, shop owners and their staff go back to their workplaces motivated and with valuable business strategies.

The AEA provides some financial tools for its members as well. Avionics is not a cheap

commodity; an avionics shop has made an investment well into six figures for the test equipment needed to just open the doors. The avionics also must be purchased before selling them to you.

For aircraft owners, the AEA features aircraft improvement loans through a recognized bank. These loans range from \$15,000 to a megabuck, at competitive rates, which helps you upgrade your cockpit and brings business to the members.

For members who have trouble with open invoices when airplanes depart with unpaid-for avionics, the AEA has an arrangement with a collection agency to help shops get paid for their work. The brightest avionics technician can't stay in business if the cash flow doesn't

work, and where does this leave the pilot? Without someone local to trust with his airplane.

All of this exposure to business advice, training and other resources means an AEA member facility has the opportunity to grow as a professional company in more than just technology. Isn't this the type of shop you want working on your airplane?

Few aircraft owners or pilots are avionics experts, but finding a qualified avionics professional can be a daunting task. The Aircraft Electronics Association, in partnership with its membership and the regulatory agencies, makes it easy to tell when an avionics facility has met the grade as a provider of competent, effective service with an emphasis on safety. □