



NBAA Maintenance Conference

NEWLY RENAMED EVENT WELCOMES TECHNICIAN TRIBE

Text and photography by Matt Thurber

At this year's NBAA Maintenance Conference, held in West Palm Beach, Fla., in May, the first order of business was explaining the change to the event's name. After last year's Maintenance Management Conference, the NBAA Maintenance Committee decided to shorten the event's name to the NBAA Maintenance Conference.

Jon Haag, president of Haag Aviation, is stepping down as chairman of the NBAA Maintenance Committee this month. "The Maintenance Management Conference served us well," he said, "but right now we're trying to reach out to maintenance [personnel] and the maintenance function, so the management part of it doesn't really work for us anymore. It is important to us to make sure that maintenance people get a chance to come to this. This is one of the premier conferences for the maintenance technician and for the maintenance function in the industry."

MX SUBCOMMITTEE

Haag went on to outline subcommittee projects that are under way, including new ways to sign off on maintenance remotely, record-keeping changes and training initiatives for maintenance technicians. Some of these efforts may help ameliorate the increasingly challenging technician shortage.

The maintenance roundtable group is responsible for the new maintenance sign-off process. "It's called visual return to service," Haag explained. This process could help an operator stuck somewhere remote where maintenance is available, but the local technician or maintenance shop, although trained to work on that aircraft type,

isn't qualified to sign off on a repair because they aren't approved under regulatory framework of the aircraft's country of registration.

Using common real-time video messaging systems such as Apple's FaceTime, Facebook Messenger, Google Hangouts and so on, a technician at a service center could observe the repair as it is happening, then remotely sign off the repair.

"Let's say you're in Africa with a G550 and there's a G550 tech, but it's not [an FAA repair station or A&P mechanic]," Haag said. "We're envisioning we would be able to take FaceTime and watch the different areas and what it's important to do, make sure they've got the right equipment and the right



NBAA Maintenance Conference

manuals and [we] go ahead and sign it off. It's a different thought process. It's going to be a pretty incredible ride to get there, but I think we're on the right path. We will be submitting our white paper for that [soon] to the FAA and [we'll] see if it passes their smell test."

Another maintenance subcommittee project is working with the industry on implementation of Advisory Circular 120-78 recommendations. AC120-78 outlines the FAA's guidance on "electronic signature, electronic recordkeeping and electronic manual systems/programs," and it was last updated in 2016, so it is relatively current.

"[The AC is] a much better product than what they had in the past," Haag said. "We're going to gather a bunch of the people who do this every day and start working [on] a best practice that we can put into the maintenance guidelines," he added. "If we decide we're going to go to electronic

documentation and record-keeping, we'll try to give you a guideline of how to do that."

The issue of personnel shortages is a hot topic at any business aviation conference, and the difficulty of finding qualified technicians is a major concern for the maintenance, repair and overhaul (MRO) industry. The NBAA Maintenance Committee is well aware of this issue, and now it is working with the ASTM Committee F46 on Aviation Personnel, which was formed in 2014.

According to ASTM International, "The scope of the committee shall be the development and maintenance of internationally accepted standards and guidance materials for aerospace personnel education, qualification, testing, certification requirements and continued education concurrent with technological advancement. The work of this committee will include but is not limited to maintenance. The work of this committee will be coordinated with



The annual conference focuses on the entire spectrum of maintenance personnel, from the shop floor to the management and leadership level.



NBAA Maintenance Conference

other ASTM committees and organizations having common interest.”

ASTM International helps industry develop consensus standards, for example the standards under which Light Sport Aircraft have evolved. In the case of aviation technicians, the NBAA Maintenance Committee is working with ASTM F46 to develop an industry-led certification program that would capture some of the new technologies that modern maintenance technicians are expected to encounter. Regulatory standards that apply to technicians are slow to adapt to new technologies, and the F46 work recognizes this, especially in the avionics arena. The first F46 standard will be for

certification of aircraft electronics technicians.

“Through the years you’ve heard us talk about project Bootstrap, the next-gen, next-tech concept where we build a super technician,” Haag said. “It’s coming to fruition, and we partnered with ASTM, and they have set up a consensus standard group [F46]. They’re very involved with the FAA [and other agencies], they’ve written stuff for the EASA, so this is a good way of getting this moving forward. They took a previous standard—aircraft electronic technician—and they went through the consensus standardization process to come out with a robust certification, which is step one of many. We are focused on the maintenance group now.



During the Internet of Airborne Things session, business aviation flight department, OEM and airborne connectivity leaders helped attendees learn about the importance of airborne telecom system installation and maintenance. (Left to right): Elaine Karabatsos, aircraft program manager, Coca-Cola; Dana Kirchmar, senior director customer operations, Gogo Business Aviation; Holly Linaugh, master Total Technical Training instructor, Gulfstream; Charlie Clark, business development manager, Panasonic Avionics; Christine Lawson, director of business aviation, Inmarsat.



NBAA Maintenance Conference

Haag noted, “If you notice [F46] is aviation personnel. We envision at some point there will be people from the pilot side, the cabin attendant side, just a multitude, and they’ll have a place to build these standards. It’s exciting.”

Haag concluded by encouraging the maintenance community to volunteer and help with the NBAA Maintenance Committee’s and ASTM F46’s efforts. “The Maintenance Committee is built of people within our industry,” he said. “We are on a constant membership drive, and we are looking for the right people. There’s a lot going on, technology is taking over the world, and we need to continue expanding our group. If you have any interest at all, see me, or see our leadership team.”

ANGELS IN BLUE

Capt. Greg “Boss” Woolridge, the only commanding officer who was flight leader of the U.S. Navy’s Blue Angels for three separate tours, gave the keynote speech at the Maintenance Conference, setting the tone for the theme of team engagement and leadership on the first morning of the event.

Using the example of Blue Angels pilots flying their F/A-18s with as little as 18 inches of separation during formation aerobatics, Woolridge emphasized the importance of team engagement and trust. He also pointed out that the six Blue Angels pilots have to welcome three new members every year, and that one third of the team’s technicians and other members also rotate out each year.

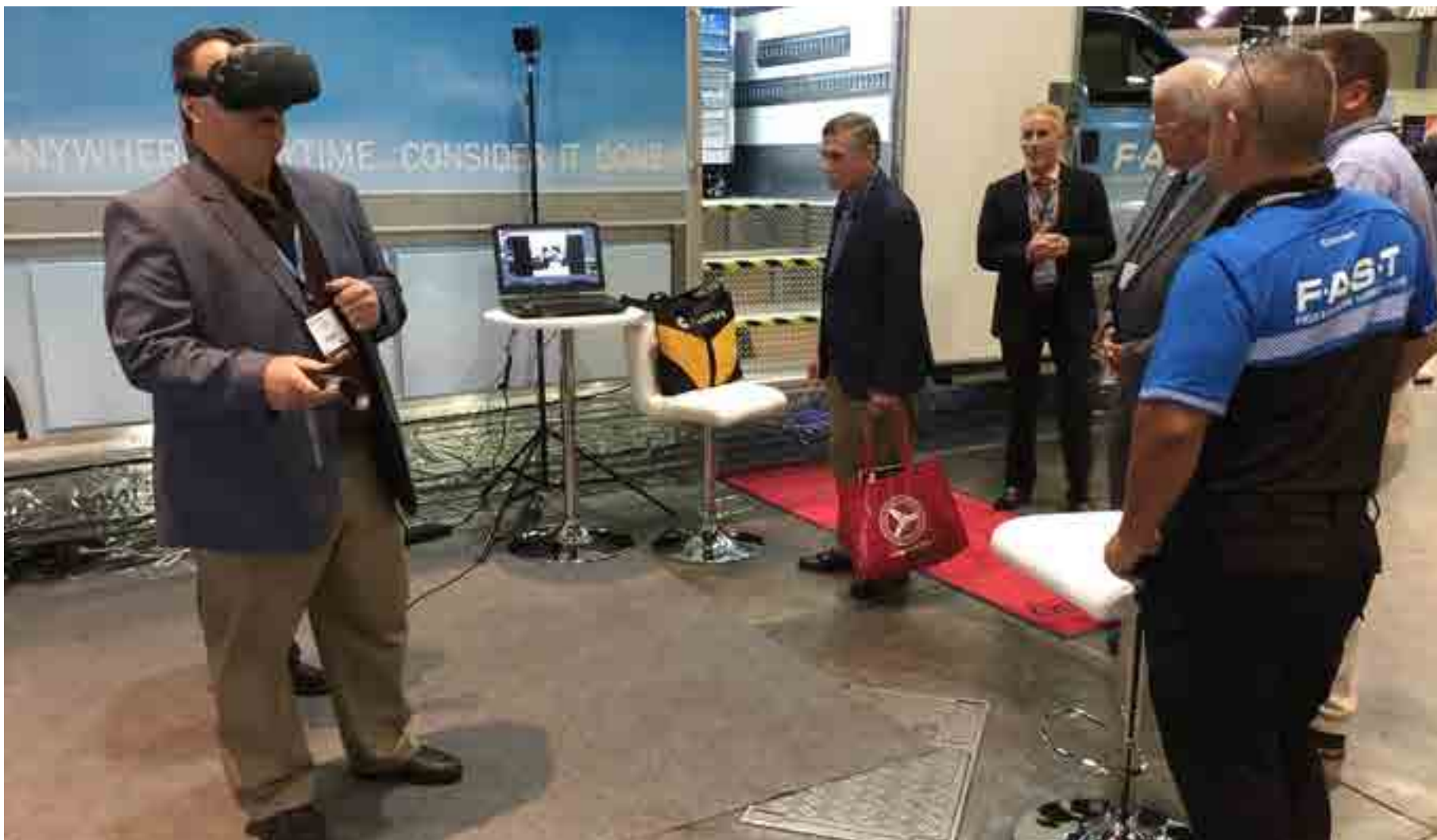
“We had 50 percent turnover in our upper management,” he said. “Onboarding is critical.” Introducing the new members to the Blue Angels culture was an important part of his job as a leader. “It’s a culture of excellence, but it’s also a culture of caring: caring for your customers, your boss, your teammates and your family. Because without caring, you can’t have excellence.”

Woolridge pointed out what he calls “the high-performance zone. It’s the gap between where you are right now and where you want to be.” The way to close that gap quickly is to apply four key steps: know the vision for the organization, develop a plan, execute that plan and follow up on feedback from the team members. “You see through your metrics how you’ve come up short. As we move ahead toward the goal, you need to give updates. Are you going to the centerpoint? If you’re not aligned toward that, then work on it.” Of course it is important for everyone to understand the centerpoint for the organization.

He cited as one example the Blue Angels’ historic visit to Moscow in 1992, as part of the team’s European tour. “The overarching centerpoint for Moscow was to be an ambassador of goodwill,” he recalled. “What did I learn? We connected at the heart.” Woolridge and his colleagues learned that their Russian counterparts shared the same priorities, such as devotion to family, and their efforts led to (at the time) a breakthrough in relations between Russia and the U.S.

A pearl of wisdom that Woolridge threaded throughout his speech was also left at the seat of each attendee in the form of a sticker carrying the words “glad to be here.” As the speech progressed, the meaning of the words became clear. The phrase doesn’t just mean that we should all be grateful for our lives and waking up each day, but also makes sense in the context of working with our colleagues.

Blue Angels post-flight debriefs, for example, have “the DNA of ‘glad to be here,’” Woolridge explained. Instead of turning a debrief into a negative experience full of blame for those who made mistakes, the debrief should be a blameless sanctuary where team members show gratitude to each other. “We had this tremendous respect



Gulfstream demonstrates virtual reality in the realm of maintenance.

for each other,” he said. “It doesn’t matter what you do. Everybody has a voice. Take it back with you. Be glad to be here. Make it vibrant, grateful, thankful!”

PROMOTING PROFESSIONALISM

Although the Maintenance Conference has refocused on a broader set of technical personnel, there remains a strong focus on helping attendees learn about management and leadership. After all, today’s shop-floor technician is a likely candidate for promotion, and training for leadership roles is essential.

JD McHenry, president of training provider Global Jet Services and holder of FAA A&P and inspection authorization certificates and a doctorate in business management, is a long-time champion of professionalism in aviation

maintenance. “Today it’s all of our jobs to make sure we create a positive environment in [our workplaces],” he said.

McHenry warned that there are two big issues facing the maintenance business. The first is that the industry is losing talent, with large numbers of upcoming retirements by an aging workforce. The second is that the maintenance business is setting itself up for failure, by not training technicians how to move up into management positions. “We learn by trial and error,” he said.

To help future managers understand their new jobs, McHenry described how he motivates his company’s employees. Instead of assuming that employees are happy just because they are getting paid to work, he believes that thanking people and making sure they are happy in their personal lives is fundamental to a strong



NBAA Maintenance Conference

and effective workplace. “The number-one goal at Global Jet Services is to make sure our employees are happy in their personal life,” he explained. “If they are happy at home, they will be happy at work.” And this helps in many ways, including worker longevity and better service for customers. At Global Jet Services, in the 25 years the company has been in business, he added, “we have not had one turnover. Nobody left because they didn’t like it.”

“Thank them, keep involved and help them with their personal problems,” he concluded. “Because we are a special candlelight, we should give it away every day. And give it with nothing expected in return. If you give it, it only glows brighter and stronger.”

ENCOURAGING NEW TECHS

“This is our future,” said Jim Huntoon, introducing the winners of the 2017 NBAA Technical Reward and Career Scholarships (Tracs). Huntoon is director of strategic partnerships for Satcom Direct, a member of the NBAA Maintenance Committee and a long-time champion of the Tracs program.

This year, there were 39 Tracs recipients. According to NBAA, “The maintenance Tracs program is open to current and aspiring A&P mechanics and to military personnel who are making the transition to a civilian career in business aviation.”

The following companies donated training courses to the recipients: Abaris Training Resources, AeroTechna Solutions, Bombardier Aerospace, CAE Simuflite, Dassault Aviation, FlightSafety International, Garmin, GE Aviation, Global Jet Services, Gogo Business Aviation, Gulfstream Aerospace, JSSI, Maintenance Directors Roundtable, Pioneer Aviation Management, NCATT/ASTM, Rockwell Collins, Rolls-Royce, Satcom Direct, Textron Aviation, USC Viterbi School of Engineering and



Snap-on donated a toolbox to fundraising efforts for the NBAA Tracs (scholarship) program.

Williams International. Snap-on donated the toolbox for the fundraising raffle at the conference, and Gulfstream’s Shannon Hicks designed the graphics that adorned the toolbox.

“This is an easy thing [to] do to change somebody’s life,” Huntoon said. “These folks represent the best of the best, these are the top five percenters.”

The NBAA Maintenance Committee maintains a current list of the 150 technician schools in the U.S., and Huntoon encouraged conference attendees to “reach out to a school in your area. These are the people that you are going to employ in the future. We need to get into more of these [schools] and we need more ambassadors to speak at the schools.”

Other interesting sessions at this year’s Maintenance Conference included the Internet of Airborne Things, 3D printing, Cost & Common Sense in determining maintenance department benefits, OEM breakout sessions and much more.

Next year’s NBAA Maintenance Conference is scheduled for May 1 to 3 in Albuquerque, N.M. □



NBAA Maintenance Conference

Michael Parrish, Elliott Aviation; Joe Spring, StandardAero; Steve Bates, West Star Aviation; and Scott White, Signature TechnicAir, provided insight into effective preparation for a business jet maintenance visit.



During a panel session on preparing for an MRO visit, representatives from Elliott Aviation, StandardAero, West Star Aviation, Signature TechnicAir and Pioneer Aviation Management outlined their advice to maintenance managers on how to prepare for maintenance events.

Elliott Aviation: Michael Parrish, senior director of sales and business development “Don’t be shy,” Parrish advised. “Be proactive, reach out and figure out your top criteria, and hold true to those.”

It is important to begin the sales/quoting process five to six months before a major event, he suggested, and especially to make sure all upcoming due items are considered. The maintenance shop providing the quote should be given access to the aircraft’s maintenance tracking software to help capture due items and any other required maintenance.

Then, when comparing quotes from different shops, he added, “compare apples to apples.” This includes reviewing the fine print in the proposal, such as the cost for interior removal, if needed, and other considerations.

After accepting a quote, the next step is the planning and debrief before the job begins. “This is critical, and it’s a key component of the MRO visit,” Parrish said. This step is where discussions about what was promised and the scope of the work are agreed on, including details about expectations for how the work is done, parts and repair cost notification thresholds, parts shipping limitations, how unexpected discrepancies will be handled, test flight expectations and how the shop will communicate with the customer.

Parrish recommends that the customer send a representative to the shop during the event if possible, or at least to be there during the arrival and departure. Ultimately, he said, “Maintenance technicians and managers are people. If you show respect, you’ll get respect. If you have a bad experience, [MRO] companies need to know about it. It’s how we improve, get better and grow.”

StandardAero: Joe Spring, eastern avionics sales manager

Preparation work is key to an efficient avionics event, according to Spring. He often gets calls from customers saying that their aircraft is scheduled for a maintenance event, and how about adding an ADS-B out upgrade while it is in the shop. This is rarely possible, and just like big maintenance events, avionics work needs to be scheduled well in advance. “It’s never too early,” he said. “Let’s talk about what makes sense.”

Spring recommends that as part of the preparation process, the customer and the avionics shop develop a checklist before the job, to ensure that everyone’s expectations are met.

His recipe for a successful avionics job: provide access to maintenance-tracking data; complete an electrical load analysis; supply current electrical system drawings and the weight-and-balance documents and equipment list; include a list of any discrepancies and MEL deferrals; provide subscription information for avionics databases; and develop a current antenna placement map.

One factor that customers must consider, he explained, is any certification issues that could affect exporting the aircraft outside the U.S., in case of a future sale. For example, a field approval for a unique upgrade instead of an STC could make exporting to Europe difficult. “It’s important to review the proposal carefully,” Spring said, “and not just look at the price.”

West Star Aviation: Steve Bates, technical sales manager, East Alton, Ill. facility

For paint and interior refurbishment, Bates said, “The most important factor is planning.”

There are many elements to consider when planning a refurb, from the design of

the new interior and the materials for carpets and seats to building in time to order all the materials. If the aircraft is flown under Part 135, or if it might be sold to a charter operator someday, additional fireblocking standards must be considered.

While the interior is removed, it might be a good time to replace or upgrade the cabin management and/or entertainment systems, especially if they are obsolete and no longer supported. Customers might also consider adding an airborne connectivity system, another item that is easier to install when the interior is removed.

For paint work, Bates recommends timing the paint stripping to coincide with a major maintenance event.

For any major refurb job, he suggests developing a budget first then asking for quotes from two or three vendors.

Signature TechnicAir: Scott White, Bombardier service specialist

White tackled the challenging subject of pre-buy inspections on business jets, a task that is often fraught with potential pitfalls for the aircraft owner and buyer as well as the shop that does the inspection.

The first step for a pre-buy inspection is to define the workscope, he explained. Large MRO providers all have their own checklists covering the key items that should be examined.

The buyer and seller should also agree on a financial disclosure that outlines who pays for what repairs for items discovered during the inspection. This should also list who is the authorized representative to approve the repairs, whether it is the pilot, the current owner, the broker, director of maintenance and so on.

Among the elements that a pre-buy inspection must cover is an examination of the logbooks to determine whether the aircraft has been inactive. If this is the case, then during the period of inactivity, certain maintenance tasks must have been accomplished, such as running the APU and engines on a specific schedule. These tasks must be properly documented, and if not, some additional work may be required.

Deal killers that come up during pre-buy inspections, White said, include engine problems, undisclosed damage and logbook issues.

Pioneer Aviation Management: Marlin Priest, CEO/owner

Priest outlined sections of the NBAA Management Guide that are helpful for maintenance managers, including section 4-12 (Elements of Maintenance Activity), 4-13 (Quality Assurance) and 4-16 (Outside Maintenance). “We want to make sure what we are doing is relevant,” he said.

When getting work done outside the company flight department, Priest recommends using the request-for-proposal process. “Few operators do that,” he said. Another consideration when the aircraft is undergoing extensive maintenance away from its home hangar is insurance. It might be necessary to add MROs where work is typically done as additional insured on the aircraft’s policy.

Priest emphasized the importance of good record-keeping to help preserve the value of business aircraft. “Records represent up to 53 percent of the value of the aircraft,” he said. If information is missing, such as documentation of a maintenance task or compliance with an airworthiness directive, then that work must be redone. “If it’s not recorded, it’s not done,” he said. ■