



by Dale Smith

(Photo: Grypshon Industries, Grypmat Tool Mat)

Getting a grip on new hand tools for aircraft technicians.

"If the only tool you have is a hammer, you tend to see every problem as a nail."

Abraham Maslow, American Psychologist.

W

hile not long ago a well-equipped toolbox was filled with screwdrivers, spanners, sockets and the like, today's aircraft technicians will want to add some new tools to make their jobs easier and more efficient.

With all the new high-tech gadgets available to aircraft technicians, it's easy to lose sight of just how important it is to have the proper hand tool for any given job. As Andy Lobo, Director of Product Management and Development for Snap-on Tool's Industrial Division stated, "It's important in a number of ways: One you don't want to cause any tope of damage to the aircraft or yourself by trying to use an incorrect tool," he said.

And by “incorrect tool” he also means standard tools that have been customized to meet a specific need.

“We see it all the time; technicians will actually modify their tools to fit a particular task. Take a simple socket for example. Technicians needing to fit a socket into a tight space will actually put the tool on a lathe to thin the side walls down so it fits inside the area,” Lobo said. “When you do that, you weaken the socket walls quite a bit, weakening the tool. It’s not only dangerous, but the socket can easily break and fall down inside the airframe. Now the technician is left with an even bigger problem.”

Lobo explained that while this practice may have been the only option in the past, now there are now thin-walled sockets that are designed and manufactured to meet these needs.

“Even the standard Snap-on sockets are smaller in exterior diameter than store brand products,” he said. “Using the right tool for the task will save technicians a lot of unnecessary work and the uncomfortable situation of having to explain to their bosses what they’ve done.”

Custom tools to meet unique needs.

Okay, you say, so what if I have a need and really can’t find an off-the-shelf tool that works?

“Aircraft technicians are a very creative bunch and each has a particular way of doing something in a new way. They come to us all the time with one-off tools they have made to do a particular job,” Lobo said. “We have a custom tool division that can take their one-of-a-kind creation and using modern 3D printing and other manufacturing capabilities to create a custom factory-made tool that does the job, and is safer and more reliable.”

While Lobo said that “customizing” their tools is one potential mistake many technicians routinely make, it’s not the only one he sees on a regular basis.

“One of the other big problems is technicians misusing torque wrenches – especially the mechanical ‘click-type’ tools,” he said. “The wrench ‘clicks’ when you hit the required torque setting – say 100 foot/pounds for example – but, if the technician is not paying close enough attention or is not adept enough to stop turning exactly when it clicks, they can easily over-torque the fastener, which can be problematic in many situations.”

“Designers set torque limits for a reason and continually exceeding those limits can damage the fastener,” Lobo stated. “It’s no one’s fault; it’s just very hard to be that accurate with a mechanical torque wrench. The new generation of digital torque wrenches helps eliminate the over-torquing problem. Our tools have visual, audible and tactile indications that tell you when to stop applying pressure.”

Tool care tips.

Lobo said that from his experience, technicians typically take very good care of their hand tools, which is pretty easy to understand considering you’d have to work hard to mess up a screwdriver or a box-end wrench. Still, he did offer of a good bit of advice.

“One problem we see from time to time with the mechanical style torque wrenches is related to calibration. Technicians must turn the handle to tighten the compression spring that sets the target torque value, and they will sometimes forget to back the spring down to the zero setting when the job is finished,” he said. “As the tools get older, those springs can retain “metal memory,” which leads the wrench to fall out of calibration faster, especially if the wrench goes unused for extended periods of time.”

“New digital torque wrenches eliminate that problem,” Lobo said. “Since they use strain gauges instead of springs, there aren’t any problems caused by metal memory.”

New hand tools for aircraft technicians.

While digital torque wrenches are pretty cool, they’re not the only new bits you can put in your tool kit. Here are a few more tools and tool accessories that can help you do your job faster, better and more safely.

Advanced Cable Ties Inc., Cable Tie Removal Tools



Today’s aircraft are loaded with wires – literally miles and miles of them. And safely being able to clip retaining ties without damaging the wire jacket is critical. Advanced Cable Ties has created a line of specialized tools that enable you to clip retaining ties without risking the integrity of wire bundles.

The unique safety guards slide in behind the tie, strap or lacing cord, preventing the sharp blades from coming in contact with the bundled items. The units allow you cleanly cut and remove all cable tie strap widths, as well as easily strip up to 22 gauge size wires.

For more information, visit:

<https://www.advancedcableties.com/categories/cable-tie-tools/>

Grypshon Industries, Grypmat Tool Mat

Who hasn’t felt that instant rush of dread as your torque wrench slips from its fuselage perch and lands squarely on the hangar floor? Scratch one expensive too. Well, with Grypshon Industries’ new Grypmat tool mat those days may well be over.

Available in three sizes and made with a unique polymer-silicone blend, Grypmat is a new non-magnetic, non-slip, anti-static, highly flexible tool mat that can safely hold hand tools on a variety of surfaces at up to a 70-degree angle.

Grypmat’s inventor, Tom Burden said that the unique tool mat was created from his experience as a mechanic working on U.S. Air

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Force F-16s. "Tool loss and missing tools was a constant problem and I nearly fell off the plane chasing a sliding tool," he said. "Grypmat prevents these issues and makes it truly easy to keep tools and hardware within comfortable reach so you can focus on the work in front of you.

For more information, visit: <http://www.grypmat.com>

Loyd's Rivet Drill Guide



Cleanly drilling out rivets has to be one of the most frustrating jobs any airframe tech has to do. And drilling out a round-head (AN470) rivet ratchets the stress up to another level: One slip with your drill and you'll be fixing a lot more than a loose rivet.

Fortunately, Loyd's Rivet Drill Guide will eliminate much of the worry and frustration. The easy to use Guide has a depression machined into it the bottom face that fits snugly over the offending rivet, while providing perfect alignment for your drill. From there it's just a simple spin of the bit and the rivet is history. To make it even easier, the company offers an instructional video on their website.

For more information, visit: www.rivetdrillguide.com

Omega OS768-LS, Dual Non-Contact Laser Infrared Thermometer

As a line maintenance technician there is not much worse than trying to do an inspection or repair on a hot airplane, but with Omega's infrared thermometer in your toolbox that won't happen again. This is the ultimate high-temperature measuring tool for reaching into non-contact areas inside a nacelle or aircraft brake.

To provide you with the greatest accuracy and flexibility, the Omega uses both a Type K thermocouple contact to measure the true temperature, and then use the non-contact infrared to measure the surface temperature to set the emissivity.

Features include a wide temperature measurement range up to 3,272° F, an audible high/low temperature alarm, mini thermocouple for contact measurements up to 2,552° F, large LCD display, laser and backlight on/off control, °C/°F switch mode, Type K T/C input, and more.

For more information, visit: www.omega.com/pptst/OS768-LS.html

