The National FAA Safety Team Presents

- **Cordless Electric Tools**
- **When, Why, How and what now**

Cordless Electric Tools

Safe for Aviation Use?
Think twice

The following situation happened recently to someone I know. After hearing about it I had to ask myself why or how this same thing never happened to me. I'm sure put in the same circumstance most of us would have done the exact same thing.

I don’t think you could find a hanger not using cordless electric drill/drivers today.

My friend's body was found in the corner of the hangar behind a Cessna amphibian 206. That's where he collapsed, and also where a fellow employee extinguished the fire on him.

He was assisting with the annual on a Cessna 414 that had not been defueled, the employees believed there were around 100 gallons in that wing. He was supposed to be removing a panel by the left main landing gear for inspection of that area. We can only speculate that maybe he was distracted and attempted to remove the fuel panel by mistake.

As he started removing the panel, fuel started leaking and running down his drill and onto his arm and onto his chest and face, he did what all of us would do…. Stop the leak by reinstalling the screws using the drill that is already in his hand. The drill driver on the floor in this photo is exactly where he dropped it under the wing after the explosion.

Some interesting takeaways from this accident.

1. These kind of accidents **are not** tracked.
2. The FAA and the NTSB did not investigate.
3. Aviation/FAA approved tools?
4. The original cause of the accident was using a tool that **was not** brushless type.

So we don't accually know if this is the 1st time or 500th time this has happened.

Hi Charles:
Really sorry to hear about such a terrible accident.
It has been a while since I worked with the Naval Air Force but Makita still sells a cordless screwdriver that is a Class I Division 2 approved it is our HAZLOC series. These tools were originally developed to be used on planes such as the V22 for the removal of inspection panels along the wings. But as you know, this tool due to its classification, would only be allow to be used if the fuel had been removed from the fuel tanks.
In addition this tool is provided with a special clutch design intended to deliver very accurate torque output for the proper tightening of fasteners.
The UL listing card is attached and if you are interested in these tools I can put you in touch with one of our representatives who work with the military on a regular bases.
Also attached is some of the original information published on these tools.
I think the GSA number was 5130-01-508-1221 UI: EA, SCREWDRIVER, BATTERY POWERED.
If you are interested I can put you in touch with our specialty tool sales representatives to see if the HALOC series can meet your needs.
Take care,
Stan Rodrigues
Manager, Regulatory & Compliance Dept.

Makita U.S.A., Inc.

NEWER, SAFER CORDLESS DRILL AUTHORIZED FOR AIRCRAFT MAINTENANCE

By Harold Kimball

For the last few years, the military has been searching for a cordless-driver tool to be used during aircraft maintenance in Class I, Division 2 locations, but the need always was ahead of available technology. Recent technological developments now have made a cordless driver available to the fleet.

The "HAZLOC" is a brushless and sparkless 12-volt driver for removing and replacing aircraft panels. These drivers will save countless maintenance man-hours spent working on overtorqued aircraft panels and fasteners. The drivers are Underwriters Laboratories certified, meet NEC article 513 aircraft-hangar requirements, and have been tested to MilStd 810F, method 511.4 explosive atmosphere. Two models are available in the stock system: model BFH040SAE, NSN 5130-01-508-1221; and model BFH090SAE, NSN 5130-01-508-1222. The BFH040SAE version is seven-to-40-inch pounds, and the BFH090SAE is 30-to-80-inch pounds A third model is BFH120FSAE and 44-to-106-inch pounds This model currently is available only through open purchase.

All models are adjustable in one-inch pound increments. The drivers have a built-in, torque-limiting system that prevents fastener overtorque. The built-in limiter shuts off the driver when the preset torque is reached—accuracy is plus or minus 10 percent. The drivers weigh only 3.3 pounds and are nicely balanced. The driver has five key features: a quick change quarter-inch hex chuck, LED indicator for low battery, forward and reverse switch, battery slide switch, and anti-slip dimpled grip. The driver kit includes a driver, two 12-volt, 2.0-amp batteries, one charger, and a steel case. A few restrictions apply: The drivers are not designed to be, nor are they approved for use, as a drill. They also are not a substitute for a torque wrench.

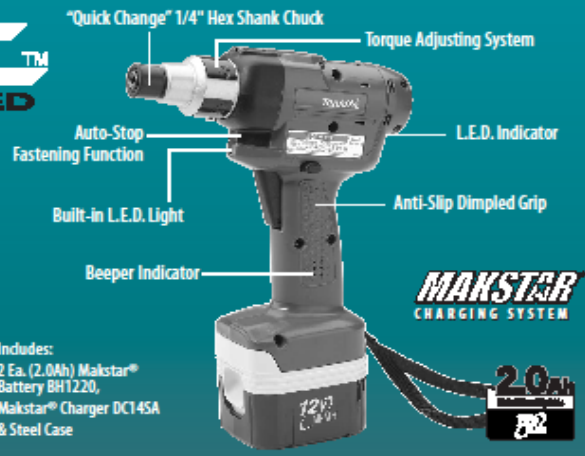
Mr. Kimball works for NAVAIR at NAWC Lakehurst, N.J.

Thank you to, Marty Reagan of PMA-260 (an ex-AMDO) for steering the article to Mech *and Randy Spotwood of Makita for a follow-up and photos.—Ed.*

The Naval Safety Center is dedicated to reducing mishaps by 50 percent in two years.

Makita 12V CORDLESS HAZARDOUS LOCATION DRIVERS

HAZLOC™
CLASS1 DIVISION2 RATED



Includes:
2 Ea. (2.0Ah) Makstar® Battery BH1220,
Makstar® Charger DC14SA
& Steel Case

CLASS I DIVISION 2 RATED

ADVANCED TECHNOLOGY

- UL listed for Class I Division 2 locations for maximum 50°C ambient
- Meets the NEC Article 513 Aircraft Hanger requirements for Class I Division 2 locations
- Tested to Mil Standard 810F, Method 511.4

SMART SYSTEM

AUTO BATTERY SHUT-OFF

- Shuts-off the tool when battery capacity is less than 20%

Indication Lamp and Beeper

- Precision sensor indicates following conditions with light and/or beeping: sufficient fastening, insufficient fastening, low battery power, and battery too low to operate

REPETITIVE ACCURACY

TORQUE ACCURACY

- Torque accuracy of: +/- 10% or +/- 3 sigma
- Automatically shuts-off tool when pre-set fastening torque is reached to ensure accuracy

			L.E.D. LIGHT SERIES		
Models	**BFH040SAE**	**BFH090SAE**	**BFH040FSAE**	**BFH090FSAE**	**BFH120FSAE**
Fastening Torque: in. lbs. N•m	7 - 40 0.8 - 4.5	30 - 80 3.4 - 9.0	7 - 40 0.8 - 4.5	30 - 80 3.4 - 9.0	44 - 106 5.0 - 12.0
No Load Speed (RPM)	400	400	400	400	400
Class I Division 2 Approved	Yes	Yes	Yes	Yes	Yes
Torque Adjustment Grip	Yes	Yes	Yes	Yes	Yes
L.E.D. Light	No	No	Yes	Yes	Yes
L.E.D. Indicator	Yes	Yes	Yes	Yes	Yes
Beeper Indicator	No	No	Yes	Yes	Yes
Reverse Switch	Yes	Yes	Yes	Yes	Yes
Length (w/2.0Ah Ni-MH Battery)	7-15/32"	7-15/32"	7-15/32"	7-15/32"	7-15/32"
Height	10-15/32"	10-15/32"	10-15/32"	10-15/32"	10-15/32"
Width	2-13/16"	2-13/16"	2-13/16"	2-13/16"	2-13/16"
Weight (w/2.0Ah Ni-MH Battery)	3.3 lbs.	3.3 lbs.	3.3 lbs.	3.3 lbs.	3.3 lbs.

CLASS I DIVISION 2 RATED

ONLINE CERTIFICATIONS DIRECTORY

XKWH.E230321
Portable Electric Tools for Use in Hazardous Locations

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Portable Electric Tools for Use in Hazardous Locations

See General Information for Portable Electric Tools for Use in Hazardous Locations

MAKITA USA INC E230321
14930-C NORTHAM ST
LA MIRADA, CA 90638 USA

Class I, Division 2, Groups A, B, C and D.

Cordless screwdrivers, Models BFH040, BFH040F, BFH090, BFH090F, BFH120F when used with Makita Battery Part Nos. BH1220, BH1233, BH1220C, BH1233C.

Last Updated on 2004-10-13

Questions? Notice of Disclaimer Page Top

Questions?

Thank you for attending

- **You are vital members of our GA safety community**