

TB0052 – Fastener Removal Tool

Aircraft panel fasteners sometimes stick or corrode making them difficult for the maintenance technician to remove. Stuck fasteners are also costly in terms of aircraft out of commission. To combat this problem, many maintenance units fabricate their own tools to remove stuck fasteners. This solution temporarily solves their problems but does not provide a standardized tool for use Department of Defense (DOD)-wide. B&L International has recently designed a fastener removal tool called eL-Brutus™ (U.S. patent number 4,375,772) for removing screws, with any type head, from aircraft panels. B&L International makes the tool in two sizes: small for screws such as #8, #10, and ¼ inch and large for screws between ¼ and ¾ inch.

To use this fastener removal tool, remove one screw (preferably near the stuck screw) from the panel, remove the tool's pivoting chuck and place the screw inside so the threads stick out the end of the chuck. Put the screw back into its nutplate and tighten. Reinstall the pivoting chuck onto the tool and hand-tighten. Now that the screw has been reinstalled, the screw and pivoting chuck become a fixed point for the tool. Then, select the correct bit for the stuck screw and install the bit into the tool's sliding chuck. Next, adjust the sliding chuck and bit to the correct distance for the screw to be removed by inserting the bit into the stuck screw's slot and turning the height adjustment knob until the tool is level.

To remove the stuck screw, apply pressure to the screw head with the tool's handle and turn the sliding chuck and bit with a ratchet or T-handle. Once the stuck screw turns two or three

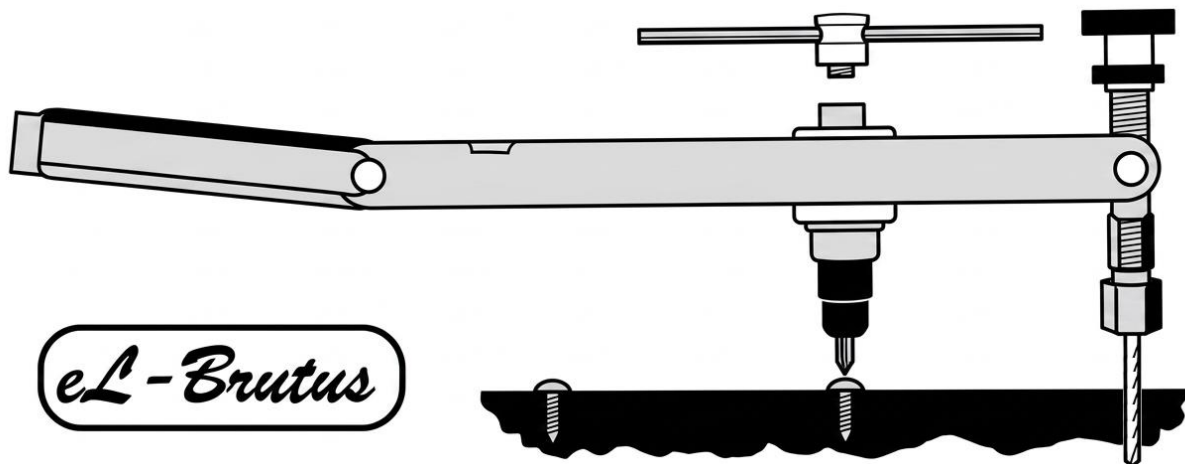
times, release pressure from the handle to prevent damaging the nutplate. When the stuck screw is loose, it should be removed by normal means. If the screw head is damaged, a larger bit may be used. After use, the fastener removal tool folds into a compact package for quick storage.

The FACTS (Fasteners, Actuators, Connectors, Tools and Subsystems) Program Office (see Just the FACTS!, TechTIP, TA 9118, 27 Feb 91, revised 13 April 1994) recently purchased 22 tools for testing at Little Rock AFB, AR; Mountain Home AFB, ID; Travis AFB, CA; Kirtland AFB, NM; and Eielson AFB, AK. Of 31 responses to a FACTS user survey, 20 respondents stated that the tool was either above average or superior to other fastener removal tools they have used, nine stated that the tool is about average, and two stated that it is below average. All respondents recommended the tool be listed in the GSA Standardization and Control of Industrial-Quality Tools (SCIT) catalog.

The General Services Agency (GSA) completed cataloging action for the tool and assigned the following National Stock Numbers (NSNs): 5120-01-398-2868 for the large tool and 5120-01-398-2869 for the small tool.

POC

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