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Researchers Aim to Redesign EA-6B "Prowler"

By Cynthia Greenwood

The EA-6B "Prowler" is getting a facelift. The Navy is collaborating with the Rochester Institute of Technology (RIT) and industry to improve and better sustain its fleet of EA-6B Prowler jets. To enhance the structure of the aircraft's turtleback—the metal cover over the fuselage—RIT engineer Michael Haselkorn is leading a research team to redesign and improve its components.

Haselkorn, a senior staff engineer at RIT's Center for Integrated Manufacturing Studies, and Raymond Grosshans, a professor of industrial and science technology at RIT, are using a new laser scanning technology to create a 3-D, digital schematic of the turtleback. They will use it to build a solid model that allows them to analyze the turtleback to identify its flaws so they can improve its structural quality. Previously, such analysis proved very time-consuming because accurate schematics were lacking," RIT officials said. These delays hindered improvements in parts manufacturing, they said.

The EA-6B, a fixed-wing fighter aircraft, is critical to Navy operations within conflict zones such as Iraq and Afghanistan. The Navy relies on the aircraft to support air strikes and ground troops by interrupting enemy electronic activity. Improving the jet's component design is expected to reduce costs and improve its safety, RIT officials said. The process supports the Navy's goal of improving the turtleback's design and lowering the price of mitigating corrosion and maintenance problems.

"We apply the newest scanning methods to provide an analysis of the dimensions and schematics of the turtleback, information that was previously not available in this detail," Grosshans said. "This data is essential to analyzing the structure of parts to enhance quality and increase useful life." The research team involved includes Haselkorn, Grosshans, engineers from Acro Industries, a manufacturer based in Rochester, NY, and others.

"This technology can be used in numerous industries to transform existing parts and structures into digital models that can then be analyzed, redesigned, and improved," Haselkorn said.

An EA-6B pilot assigned to the Lancers electronic attack squadron from Whidbey Island Naval Air Station lands on the U.S.S. Abraham Lincoln. Photo courtesy of U.S. Navy.

The fuselage cover of the EA-6B Prowler has been targeted for a re-design by researchers from the Navy and the Rochester Institute of Technology. Photo courtesy of U.S. Navy.

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