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Reserve unit tests corrosion control method

by Staff Sgt. David Byron
920th Rescue Group Public Affairs

06/11/01 - **PATRICK AIR FORCE BASE, Fla. (AFPN)** -- The 920th Rescue Group here is testing a new way of fighting corrosion.

Since September 1999, the aerospace ground equipment flight in the 920th Maintenance Squadron has been evaluating "metal-arc spraying" as a new method of fighting corrosion on Air Force equipment. The Air Force Reserve Command unit is scheduled to complete the test by September.

Patrick was chosen because it is near the ocean and has a high level of corrosive salt in the air.

"Here you can sand the paint off something, go to lunch and return to find surface rust already setting in," said Staff Sgt. Dean Peterson, an aerospace generation equipment specialist.

The new process begins with high-pressure water and sand blasting of the equipment to remove paint and take it down to bare metal, Peterson said.

Then two rods -- one aluminum and the other zinc -- are melted together to form a compound that is sprayed with compressed air on the equipment where it bonds to the bare metal, he said. The zinc and aluminum compound serves as an undercoating prior to painting.

The process was initially meant for structural use, said Master Sgt. Michael Coles, AGE flight chief. His unit took it a step forward and tested it on equipment.

Commercially, it is used to undercoat bridges, service stations and other structures that come into contact with corrosion accelerators.

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So far, it has been applied to two aircraft generators, a low-pressure air compressor, an utility trailer and a B-1 Lancer aircraft maintenance stand.

"The first piece of equipment we tested it on was (the aircraft generator)," Coles said. "We picked the one in the worst condition -- nearly condemned."

After the metal-arc spray was applied, workers left the generator unpainted and outside in the elements as part of the test.

Normally, the generator would be washed every 30 days, undergo corrosion control procedures every 180 days and need complete stripping and painting every 18 to 24 months.

"Its been 18 months and counting, and we haven't needed to perform any corrosion control on it," Coles said. "We haven't even washed it. I'm a true believer. The method takes a while to complete, but it saves time and money later."

The only drawback Coles sees is the need for a specialized facility to apply the treatment. The AGE flight currently uses C-130 Hercules aircraft cleaning and corrosion control facilities to strip and coat equipment. Unfortunately, the debris and excess compound material clog the facilities' environmental air filters.

Steps are being taken to correct the situation. Air Force Reserve Command and Patrick's 45th Space Wing are pooling resources to fund construction of a $200,000 booth in fiscal 2002. The booth will allow the process to be used without impacting other facilities.

"The AGE flight has put a tremendous amount of work into this test, and the results have been excellent," said Lt. Col. Willie Cooper, commander of the 45th Maintenance Squadron. "What we're doing here should enhance corrosion control capabilities throughout the Air Force." (Courtesy of AFRC News Service)

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