



Process strips paint off B-1s

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7/18/2003 - **TINKER AIR FORCE BASE, Okla. (AFPN)** - Layer by layer, a B-1 Lancer here sheds paint under a pressurized assault by tiny bits of plastic.

It is the first aircraft at the Oklahoma City Air Logistics Center to be stripped by the dry-media process in the high-tech facility used to remove paint.

The medium is a mix of plastics, each with different densities and cutting qualities. The texture is like grains of sand, according to Brian Koehl, a B-1 structural engineer.

The plastics are safe to use on both aluminum and composite parts, which is important since the B-1's 10,500 square feet of surface area is 10 percent composite, he said.

Previously, workers would "scuff sand" the bomber's skin to remove enough of the existing coating to create a surface to which new paint could adhere. Throughout the course of depot maintenance cycles, however, that became more difficult to do, he said.

"We had to find some way to get the paint off," he said.

The B-1 test subject was built in 1986 and underwent its first depot maintenance in 1990. By 2003, its paint coatings were 15-one-thousandths of an inch thick, five times the thickness of the Lancer's original paint job.

The aircraft was weighed before and after the chemical stripping, Koehl said, showing it was carrying 1,800 pounds of paint before the chemical strip.

Such weight, "potentially could reduce the (bomber's) range or increase fuel usage," he said.

Two years ago, the logistics center workers chemically stripped a B-1. Not only was the process time consuming -- three weeks to mask the aircraft and two weeks to strip it -- but the chemicals could not be used on the plane's composite parts.

The time it took to mask and strip this B-1 was 18 days, but workers have a goal of 12 days, according to David Painter, a production supervisor.

The new process is a prototype for the B-1, Painter said.

The dry medium, he said, is performing up to expectations, although there have been a few mechanical problems with equipment.

"As far as ... how (well) the blaster removes the paint, everything looks great," Koehl said. "The B-1 program has been looking at processes to remove paint since the early '90s. Media blasting has been around a number of years, but it just now got to the point (where) it's safe on composites."

The spent media is swept up and put into a recovery system, where a series of shakers filter out dust and paint chips. It can be cleaned and reused an estimated 10 times.



TINKER AIR FORCE BASE, Okla. – Depot workers (from left) Jeff Lair, Kenneth Gilbert and Patrick Lemmings use a dry media propelled by high pressure to strip multiple coats of paint from a B-1 Lancer here. This was the first B-1 at the Oklahoma Air Logistics Center to use the process. (U.S. Air Force photo by Meredith Zimmerman)

The process is preferred by most workers, he said, because there is no chemical smell.

“But this (process) is labor intensive,” Painter said. Workers must hold a hose to spray the composite at 30 pounds per square inch for “four to five hours at a time.”

Both the B-52 Stratofortress and KC-135 Stratotanker have been approved for dry-media stripping. The B-1 was “kind of unique” in that time constraints and the potential for damaging composite parts made traditional chemical strippers unfeasible, Koehl said.

The dry media is a “real good option to try to do away” with pollution caused by chemical strippers, according to Painter.

Twelve B-1 aircraft come through the center each year for depot maintenance, he said.