NIAR seeks ways to keep tankers in air

BY MOLLY RASMUSON
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Mike Lohrke, a senior research engineer at the National Institute for Aviation Research, talks about parts of an air refueling tanker that is being disassembled at the Kansas plant.

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Jodie Hartley, a research associate at NIAR, works on a section of a tanker at NIAR's WABER (Wichita Aircraft Refueling) facility.

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The type of aluminum used in the piece is high-strength but brittle and susceptible to damage, she said.

Should it ultimately need replacing, "this will mean a month in depot maintenance," Laubach said.

Reach Molly McMillin at 316-269-6706 or mnmcmillin@wichitaeagle.com.

"It's a "load-carrying" part, she explains.

NIAR executive director John Tomblin said.

After they're assessed, NIAR will use metal damage progression techniques to determine how cracks or corrosion might grow over the years and affect the fleet, Tomblin said.

"We extrapolate what it might look like in 10 or 20 years," Tomblin said.

Under a separate $2 million contract, NIAR developed the protocols used for the work. It must document, log and photograph the work for a massive database.

From that, the Air Force will determine what repairs or replacements might be needed, Tomblin said.

The project is a way to proactively make sure a problem won't appear that could ground the fleet, he said.

"We need to protect those who are protecting us," said Chuck Knapp, an adviser to Rep. Todd Tiahrt, who helped secure the money for the project.

NIAR has the unique abilities to carry out the work, he said.

"They contribute greatly to the aviation industry, and now they're contributing greatly to the defense of this country," Knapp said.

NIAR has experience working on aging-aircraft issues, performing similar work on commuter aircraft.

It also is performing similar work on F-18A fighter jets for the U.S. Navy.

Under a $1.6 million contract, NIAR will inspect the joints that hold the bonded wing to its titanium root, Tomblin said.

That work also will take two years, Tomblin said.

Laubach points out a piece from the tanker's wing, called a "beaver tail."

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than 18,000 missions and off-loaded 1.1 billion pounds of fuel.

Yet plans to replace them have been delayed for years by contract disputes and political squabbling. A new round of bidding should begin later this year.

In the meantime, the Air Force is trying to keep the current tankers flying for another 30 years, the time that it will take to replace the fleet.

"Boeing and the Air Force identified 300 hot spots on the airplane they're concerned about," Laubach said.

On Tuesday, more pieces of the first tanker — large sections of a plane that had been involved in an incident overseas — arrived from Tinker Air Force Base at a 10,000-square-foot hangar at Augusta Airport.

NIAR leased the hangar because it needed the room to do the structural tear-down and dissection of the large aircraft sections.

Other work is done at NIAR's aircraft structural testing and evaluation center at Hawker Beechcraft.

Eventually, sections of the tanker will be cut in pieces no larger than a kitchen table.

After removal of the rivets and any coatings, the testing begins.

It's time-consuming work. Every rivet hole must be numbered and probed to check whether a crack has formed.