

CIRRF'S

Up

Senior Airman Derrick Brooke, 379th Expeditionary Maintenance Squadron, prepares the "One-Person" buildup machine for wheel assembly.

Centralized Immediate Repair Facility saves time, money in AOR

**story and photos by
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Maintainers measure an aircraft tire's usability by inspecting for wear and visible cords.

"A good tire will last up to 120 landings," said Master Sgt. Charles Miller, a shop chief assigned to the 379th Expeditionary Maintenance Squadron. "After that, it's time to get them replaced, or the tire treads may separate."

In the AOR, damaged and overused wheels and tires used to be sent to Ramstein Air Base, Germany, or Royal Air Force Lakenheath, England. But a new Centralized Intermediate Repair Facility in Southwest Asia saves precious time and money associated with the repair process.

"The savings to taxpayers are tremendous," said Lt. Col. Kurt Kolch, 379th EMXS commander. "A recent study estimated \$2.1 million savings in per diem, and more than \$8 million with the reduction in airlift transportation."

On any given day, tire technicians assigned to the 379th Air Expeditionary Wing fix three to five aircraft tires. Several weeks ago, the team that specializes in C-130 and KC-135 aircraft tires fixed 50 in seven days during a surge in operations.

Wheel and tire damage occurs throughout the AOR when tires get "cut-down" or worn-out from constant use. Rocks also play a role, and the desert heat takes a toll on the aircrafts' magnesium wheels. Strange things happen to tires in the desert.

"The weirdest thing I saw was an antiskid failure," said Tech. Sgt. John Clardy, a senior EMXS technician in the CIRF wheel and tire shop. "The brake locked up and the wheel stopped rotating, and the tire was shredded to nothing."

Damaged tires typically arrive at the CIRF on their original rims. To fix a tire, the team disassembles the wheel, splitting it in half by removing the bolts that connect it together. The tire itself is shipped to a contractor and rethreaded, but a new supply of tires ensures one is available for reassembly on the spot. Once they reassemble the wheels, the team inflates the tire to 150-170 pounds-per-square-inch. They keep the tire on hold for 12-24 hours, checking for leaks, before releasing it for use. The repairs take place in hardened tents on maintenance row.

A couple doors down from the tire shop, Staff Sgt. Joshua Slater works on fixing KC-135 landing gear brakes.

"We take the brakes apart and break them down to their individual components," explained the 379 EMXS Airman deployed

from McConnell AFB, Kan. "The corner and ring goes to sheet metal and the sheet metal guys blast off the dust, dirt and paint. Then the parts are examined by nondestructive inspection specialists, and, if deemed usable, they're painted and returned to us for reassembly."

The team then reassembles the brakes with necessary new parts, and tests them on a hydraulic pressure system reaching 1,200 pounds-per-square-inch for five separate brake cycles. Each brake includes five rotors and four stators.

Deployed CIRF Airmen also work on C-130 propellers and engines.

"We tear down the props to individual blades," explained Senior Airman Chandler Boettcher, a 379th EMXS technician. "Then we reseal the blades, and do any repairs to the blades themselves," he said. The 379 CIRF propeller shop gets a "lot of business" from forward deployed locations in the AOR. "It's easier for units to send their props here," said Senior Airman Boettcher. "We're closer, and this saves a lot of time and money."

In another CIRF building two doors down, Tech. Sgt. Robert Moore works on C-130 engines. Repairing the T-56 engine means removing damaged modules and tearing the engine down to its basic core components.

"Most of the time we are replacing turbines or reduction gear boxes," said Sergeant Moore, who is deployed from Little Rock AFB, Ark. "We've been fixing engines here for about a year, and take them from any of the FOBs (forward operating bases) in the AOR."

According to

Sergeant Moore, the life of an engine depends on the how many hours it's flown.

"A turbine rotor typically lasts around 6,000 hours, and then we replace it," he said. "It doesn't necessarily mean the engine is broken, but shortly after the 6,000 hour mark we start to see significant signs of degradation."

The CIRF also repairs patient therapeutic liquid oxygen converters. "We've been doing this for more than a year," said Senior Airman Scott Labonte, a 379 EMXS Airman deployed from Cannon AFB, N.M. "It links us right to the lifesaving mission of our wing's aeromedics."

Oxygen converters contain liquid oxygen that some critically ill patients need for survival. Mechanical failure can make the difference between life and death.

Airman Labonte said the CIRF's oxygen converter repair facility was the bright idea of an Airman several rotations ago.

"Our standard job was to repair liquid oxygen systems on fighter jets," he said. "And someone said 'why not use this same technology to service the oxygen converters for patients?' It was a great idea and excellent use of our talents."

And the talent is good news all around. Colonel Kolch estimates the CIRF has repaired more than 2,400 units and 31 engines while reducing the turn-around time to an average of 20-days.

"There's no doubt in my mind the CIRF increases mission capability in the fight against terrorism," he said. "And we're proud of our role we play in Operation Iraqi and Enduring Freedom missions. Reducing the transportation requirements for these items provides more space for other critical parts and equipment."

Staff Sgt. Joshua Slater, 379th Expeditionary Maintenance Squadron, installs a brake piston bushing on a KC-135 aircraft brake assembly.

