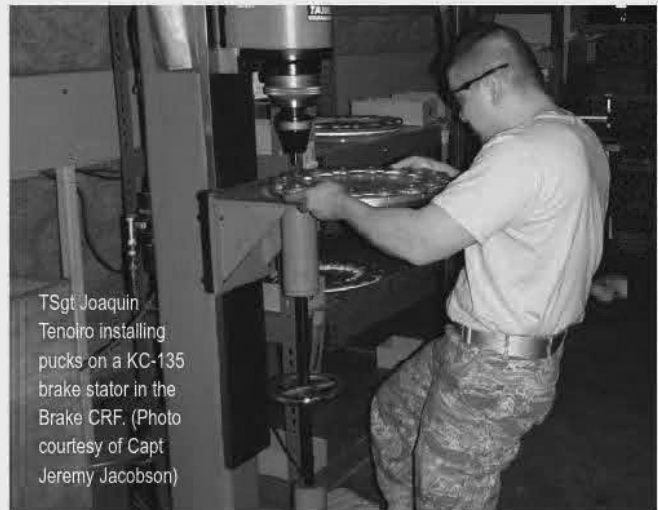


Journey to the Center of the CRF

By Capt Jeremy C. Jacobson

Many of us have been there or at least heard the stories about how challenging parts support can be in the Area of Responsibility (AOR). The Global Logistic Supply Center (GLSC) is working feverishly to source your part, but you're racing against the clock to support the 24/7/365 Air Tasking Order (ATO) that never stops or takes a "down day." All you know is that you need support now to generate a sortie to "gas it, move it, find it, fix it, or kill it" in the words of the 379th Air Expeditionary Wing Commander, Brigadier General Michael Moeller. For warfighters in the AFCENT AOR, it may not take as long as you might expect because of the Centralized Repair Facilities (CRF) embedded in the 379th Expeditionary Maintenance Group (EMXG) at Al Udeid AB, in Southwest Asia. Al Udeid Air Base, often referred to as "the Deid," has three key ingredients which make it a critical enabler of combat sustainment. First, it is centrally located in the AOR and collocated with one of the largest aerial ports in the theater. Second, although there are no hangars for flightline use, "the Deid" has incredibly robust maintenance capabilities due to its outstanding backshop facilities and equipment. Third, and most important, they are manned by highly skilled and motivated maintenance professionals from over 69 different bases, including active duty, Guard and Reserve.

The six CRFs perform two-level maintenance and calibration on over 18,000 assets per year directly supporting five Air Expeditionary Wings, as well as our Joint and Coalition partners across the theater. As Major Todd W. Andre, the 379th Expeditionary Maintenance Squadron (EMXS) Commander stated, "our goal is to attain theater-wide MICAP prevention and logistics footprint reduction by leveraging our robust and diverse maintenance capabilities to provide the highest quality, most reliable and timely products we can." Simply put, the CRFs in the 379 EMXG are major partners in ensuring combat sustainment support throughout the AOR. In total, the CRFs support 314 different customers spread over 10 countries and 3 continents; although their primary focus is on timely, reliable support to the AOR, they have contributed an annual cost savings of \$60 million by cutting approximately \$10 million in transportation costs and \$50 million in exchange costs. In the words of Colonel Carl A. Buhler, the 379th Expeditionary Maintenance Group Commander, "I'm not sure how many maintainers and loggies are aware of the unique capabilities that exist in the 379 EMXG through our CRFs. I'm proud of how the CRFs have grown to increase capacity and capability for the entire AOR; the 6 CRFs, as well as three additional theater wide maintenance centers, play a major role in supporting the execution of the ATO for each of our Air Expeditionary Wings."



TSgt Joaquin Tenreiro installing pucks on a KC-135 brake stator in the Brake CRF. (Photo courtesy of Capt Jeremy Jacobson)

WHEEL AND TIRE CRF

Al Udeid's heavy aircraft wheel and tire CRF is solely responsible for rebuilding C-130, E-8, KC/RC-135, and B-1B nose and main wheels and tires for AFCENT. The CRF performs traditional wheel and tire maintenance, just like other wheel and tire shops throughout the Air Force. The process begins once the wheel and tire assembly is received from the CRF supply center and is finished when the completed assembly is turned back to the supply system, on average a 3-day turnaround. Once released to the supply system, it can be distributed to one of the supply kits in the AOR. On average, the wheel and tire CRF produces 1,500 assets per year.

C-130 ENGINE/PROPELLER CRF

You may not know that squadrons deploying to the AFCENT AOR with 2LM repairable T56-A-15/7 engines and 54H60-91/117 propellers receive most of their support from the CRF at "the Deid." Recently, Al Udeid's workload increased with the transfer and consolidation of the CRF at Ramstein Air Base into the CRF at Al Udeid. Primarily engines are inducted into the CRF to fix major engine discrepancies, such as reduction gearbox and turbine changes,



SrA Roger Sheets performing confidence check of ITA3 before testing components in the F-15E Avionics CRF. (Photo courtesy of Capt Jeremy Jacobson)



A1C Nicholas Podvasnik inspecting a C-130 main landing gear wheel bearing in the wheel and tire CRF. (Photo courtesy of Capt. Jeremy Jacobson)

or to perform dash 15 isochronal work card inspections. Each engine take about 8 days to complete, which includes a complete operational check out on the AOR's only C-130 engine test cell. Propellers are usually inducted into the CRF for hub and blade leaks. Typically, they are disassembled for individual component analysis and inspection, and the hub/blade assemblies and pump housings are pressure checked to determine serviceability. All remaining components are then removed, cleaned, inspected, and repaired/replaced as necessary. The valve housing assembly is then inspected for damage/wear and resistance tolerances per specifications in the technical data. After the components are verified as serviceable, the propeller is reassembled and operationally checked to ensure exceptional quality and performance. The entire process takes 4 days. Together the engine and propeller CRF produced 71 assets this year.

AVIONICS CRF

F-15Es operating in the AFCENT AOR provide armed over-watch for coalition forces in Afghanistan and are the sole customer of the Avionics CRF. Currently, technicians from RA Lakenheath, Mountain Home, and Seymour Johnson AFBs deploy to the CRF at Al Udeid to repair and bench check 34 of the 42 different avionics Line Replaceable Units (LRUs), such as the Heads up Display, the Multi-Purpose Display, radar system components, and electronic warfare system components. The Avionics CRF typically produces 900 LRUs per year.

PATIENT THERAPEUTIC LIQUID OXYGEN CRF

The PT LOX CRF resides within the Electrical-Environmental section and stores, repairs, purges, and services patient therapeutic liquid oxygen (PT LOX) converters for Al Udeid, Bagram, and Balad in support of aero medical intra- and inter-theater evacuation missions for the AFCENT AOR. On average, 22 PT LOX converters are deployed across the theater providing 176 hours of oxygen for 44 patients. Over the past 12 months, the PT LOX CRF has produced 2,100 serviceable assets and supported over 500 medevac missions, resulting in the movement of more than 9,665 patients from the AOR.

PMEL CRF

The PMEL CRF is the only military PMEL in the entire AOR. It is comprised of highly qualified personnel from 10 bases around the world. PMEL technicians provide calibration and repair actions on over 15,000 items for 300-plus work centers located at 31 bases in 10 countries and on 3 different continents. The support provided by the "combat PMELians" also includes equipment items for our joint and coalition partners. The average 2.5 day turnaround time is nearly twice as fast as most labs back in the states, which allows the CRF to maintain an average equipment availability rate of 96% for the entire theater.

RC/KC-135 BRAKE CRF

The RC-135 and KC-135 brake CRF performs intermediate level repairs on steel and carbon fiber brakes by leveraging support from three work centers within the 379 EMXS. Collectively, they support three bases and multiple aircraft types throughout the AOR. Performing this maintenance at "the Deid," shaves off 15 to 20 days from the average repair cycle time, while also saving transportation costs. Most of the maintenance on the steel brakes centers on repairing or replacing rotors, stators, and pressure/baking plates, whereas the carbon brakes are primarily inducted into the CRF for cracked heat shields. Every brake inducted into the CRF repair cycle is torn down, inspected by non-destructive inspection methods, completely overhauled with freshly painted components, and functionally tested with a hydraulic test stand. The CRF produces an average of 332 serviceable brakes each year.

The CRFs at Al Udeid have unique capabilities, strategically positioned in the AOR to provide front-line maintainers the fastest and most efficient source of parts available and have proven to be a critical enabler of combat airpower. As Major Joe Gardenhour, the 379th Expeditionary Aircraft Maintenance Squadron Commander stated, "without the timely assets the CRFs provide we would be unable to sustain the incredibly high operational tempo associated with meeting the ATO." He goes on to say, "their central location cuts about four days off our MICAP processing time by shortening the transportation time...this helps reduce our CANN actions while sustaining our aircraft availability." So, if you're in the AOR and need a part listed above, keep the CRFs at the Deid in your cross-check.

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 About the author: Capt Jeremy Jacobson is currently deployed from the 23rd Aircraft Maintenance Squadron, Moody Air Force Base, Georgia, and is working in the 379th Expeditionary Maintenance Squadron as the Operations Officer. Capt Jacobson is directly responsible for the maintenance production of 415 personnel spread across 9 flights & 30 work centers in USAFCENT's largest and most diverse EMXS. He is charged with maintenance oversight of AFCENT's centralized repair facilities including the AOR's only precision measurement & equipment laboratory to support generation of combat airpower for OEF, OIF, & CJTF-HOA. ✈️