ACLC
AVIATION CENTER LOGISTICS COMMAND
FT. RUCKER, ALABAMA

ARMY FLEET SUPPORT

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"Considered the *Nobel prize* of manufacturing, the Shingo Prize for Excellence in Manufacturing...awards...sites that have achieved dramatic performance improvements..."
—*Business Week*

The UH-60 720 Hour Phase Maintenance Inspection Project

ABOVE THE BEST

Installation Profile
The Aviation Center Logistics Command (ACLC) and Army Fleet Support (AFS), form a Government Owned-Contractor Operated (GOCO) joint partnership operation in support of flight training at the USAACE. Flight training is provided to our nation's military pilots at Fort Rucker include multiple aircraft launches over 500 times each day and requires 24 hours a day, seven days a week maintenance, repair and overhaul activities for fleet sustainment. Fort Rucker is located 25 miles west of Dothan, Alabama on a 56,000 acre site with 772,000 square footage of space employing over 8,000 military and civilian personnel making it one of the largest employers in the state.

Mission/Vision
ACLC's mission, as a US Army brigade equivalent organization, is to provide a full spectrum of aviation maintenance and supply to the U.S. Army Aviation Center of Excellence (USAACE) to ensure mission capable aircraft are available for all aviation training and mission requirements. AFS's mission/vision is to deliver world-class aviation logistical support by continuously improving our processes; developing our workforce and protecting our environment, while meeting and exceeding our customer's requirements through the use of AFS's Business Objectives.

Environmental Health and Safety
The FY08 Environmental Health and Safety program has a Recordable Incident Rate (RIR) of 3.6 (Industry average is 8.7) and Lost Time Rate is 0.63 (Industry Average is 3.6). Other programs include DuPont Safety model training programs, acquisition of fall protection docking stations, an innovative Hazardous Energy Control Program, Hexavalent Chromium mitigation techniques, and a close coordination with the AMCOM G-4 (Environmental) Clean Laser system for paint stripping, and other environmental pollution prevention programs.

Achievements and Awards
- 2008 Runner Up Chief of Staff Army, Supply Excellence Award.
- 2008 HQ AMC Supply Support Activity of the Year Award.
- 2008 Daniel Pratt Industry Award - Enterprise Chamber of Commerce.
- 2008 AMC/AMCOM Blacks in Government Award.
- 2007 Shingo Prize Winner – Bronze Award.
- 2007 White House Closing the Circle Award – Honorable Mention – Absorbent.
- 2006 FAA national AMT Diamond Certificate of Excellence Award.
- 2006 Chief of Staff Army, Supply Excellence Award.
- 2006 Workforce Initiative Award – Enterprise Award.
- 2006 and 2007 Employers for the Support of the Guard and Reserve (ESGR) Award.
- 2005 Disabled American Veterans Large Employer of the Year.
- 2004 ISO 9001:2000 Certification; Re-certification in 2007.

Additionally the ACLC/AFS Team was the recipient of the United States Army Chief of Staff of the Army Award for outstanding management of the supply warehouse in 2008. Also, the ACLC/AFS Team qualified as a National Maintenance Program provider for over 56 critical parts.

Shingo Candidate
ACLC/AFS's candidate for the Shingo Prize is the UH-60 720 Hour Phase Maintenance Inspection (PMI) Project. Lean concepts were applied to the 720 hour phased maintenance inspection to reduce the cycle time, improve the flow, increase the throughput and positively impact the out-going quality of the UH-60 helicopters.

People
The UH-60 Black Hawk is the primary division-level transport helicopter, providing dramatic improvements in troop capacity and cargo lift capability compared to the UH-1 Series "Huey" it replaces. A cross functional team was formed, consisting of ACLC, Lean-Six Sigma process experts, aircraft mechanics, support services personnel, supply technicians, and numerous others who touched the phase

maintenance process including outside vendors. Using Principles of Continuous Improvement, the empowered team focused on improving the UH-60 Black Hawk, maintenance process resulting in finding and eliminating waste, and reducing variation. The outcomes were dramatic, with significant improvements in First Pass Yield and Turn-around Time. Additionally, numerous lessons learned and benefits of the LEAN improvements in process flow have been applied to similar processes within phase maintenance operations.

Processes

The "Before & Early efforts Lean/Six Sigma" picture in the Army's UH60 helicopter training aircraft was not nearly as efficient or effective as necessary to meet the high operational tempo required to support our nation's defense commitments was noted in 2007. While cost effective, an analysis of the student training load and environmental demands placed on this Military Utility Tactical Transport Aircraft System (UTTAS) resulted in less than desirable availability rates due primarily to excessive down time for phase maintenance repair. For this reason it was selected to be one of the first strategic Kaizen events by the ACLC/AFS Team. By incorporating Lean/Six Sigma Maintenance, Supply Chain Management, Repair and Overhaul process improvement techniques so much goodness and stability was serendipitously achieved that this project was nick-named "the Solidity Project." The ACLC/AFS team used a process that included performance tracking to align resources and enhance communication to reduce waste in the phase process. In a statement by the former Commander of the U. S. Army Aviation and Missile Command: "Lean Six Sigma was introduced wherever possible to optimize operations and reduce operating costs in the shortest amount of time." (Lieutenant General James H. Pillsbury, Deputy Commanding General, U. S. Army Materiel Command)

As a result of Lean Six Sigma efforts on the UH-60, several key changes were made to facilitate the flow which included:

- A time saving parts requisition process called "Kitting" which included working with Parts Suppliers to produce two types of repair Kits (that have most often used parts pre-assembled for ease of use by the mechanic) so that time and manpower is saved through cost avoidance process improvement.
- Providing a standardized phase chart for phase time tracking, assist with cell floor decision making, identify continuous improvement opportunities, record delay issues, and communicate future continuous improvement actions, projects or events.
- With added commitment of upgrading hanger facilities and working with our School house partners, Value Stream Mapping identified and reduced total mileage traveled by aircraft from 9.3 miles to 3.1 miles.
- First Pass Yield improved from 46.1 % in January 2008 to 84.6 % in September 2008.
- Throughput increased from 3 in October of 2007 to 8 in October of 2008.
- Turn-around Time (TAT) improved from 70.7 Days in January 2006 to 38 in November 2008.

For more information contact:

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