



ACHIEVEMENTS

The AV-8B (Harrier) aircraft production program has been instrumental in providing manufacturing, repair, and overhaul (MRO) services in direct support of Department of Defense (DoD) air forces, and are vital to the Global War on Terrorism (GWOT). Using the toolset of a Continuous Process Improvement (CPI) initiative, known as *AIRSpeed* that consists of industry best business practices Theory of Constraints (TOC), Lean, and Six Sigma the AV-8B aircraft production program has become the model for process improvement efforts at Fleet Readiness Center (FRC) East. The improvements from this initiative have increased the efficiency and effectiveness of the AV-8B aircraft production program. Tangible benefits have included an increase in quality and throughput while decreasing costs to the warfighter, our ultimate customer. Particular achievements have included:

- Overall AV-8B aircraft throughput increased from 11 aircraft in Fiscal Year (FY) 2004, to 19 in FY2007, and 20 aircraft projected in FY2008
- Reduced AV-8B PMI-1 cycle times from 224 days, prior to Lean integration in Dec 2004 (Baseline for CPI efforts) to 183 days for FY2008 through March 2008, an 18 percent reduction in turnaround time
- Reduced discrepancies on Aircraft Discrepancy Reports (ADRs) from 11 accepted discrepancies in FY2004, 4 accepted discrepancies in FY2007, to zero discrepancies thus far in FY2008.
- Established point of use (POU) resources, i.e., tools, support equipment, hazardous materials, miscellaneous parts and supplies, saving millions in reduced travel and wait time, increasing the productivity of artisans.
- Cost avoidances from all events/projects completed on the AV-8B program total \$5,578,146 annually.

INDUSTRY RECOGNITION

FRC East was selected as winner of the 2007 Charles B. Ryan MRO Award for Business Innovation. The award, presented by Aviation

Week and Overhaul & Maintenance, recognizes industry-leading organizations that develop innovative ways to improve operations and service, profits, products, efficiency, and effectiveness, while sustaining or improving safety and technical proficiency. Due largely to the results of implementing CPI initiatives in the AV-8B program, Aviation Week judges selected FRC East as one of two winners in the operator category. The AV-8B aircraft production program's management of hazardous materials and commitment to the environment played a major role in FRC East earning the 2005 Chief of Naval Operations Environmental Award. The AV-8B program's implementation of CPI initiatives was also largely responsible for the command receiving two 2004 Naval Air System Command awards in the Business Operations category for reducing costs and improving quality.

PEOPLE

The AV-8B aircraft production program has embraced CPI since the start of initiatives in FY2004. Its success is directly linked to its workforce of innovative and passion people who daily seek out and find improvement opportunities while providing a quality product, on time, and at cost. With a primary workforce of 188 people that includes military, civilian, and contractor personnel the program provides superior aviation logistics support. Leveraging buy-in at all levels of the organization, the AV-8B aircraft production program has implemented an aggressive CPI program to reduce cycle times, decrease WIP, and provide a cost savings even as the cost of goods and services have risen. The stimulus behind the improvement in the AV-8B aircraft production program is leadership's continual commitment to providing an environment in which employees feel respected, challenged, and empowered to make a difference.

PROCESSES

The foundation for empowered employees is created in an environment where people have a sense of mutual respect and ownership of the processes. The AV-8B program produced significant results by implementing TOC, Lean Manufacturing, and Six Sigma process improvement tools. Coupled with the CPI efforts are other industry best practice process tools including three International Organization of Standards (ISO) Certifications (AS9100 Aerospace, ISO14001 Environmental and OHSAS18001 Safety), Manufacturing Resource Planning (MRPII)

production management system and enrollment in the Voluntary Protection Program (VPP) for Safety. The AV-8B aircraft production program has been relentless in evaluating existing processes, developing strategies for improvements, implementing changes and monitoring the results. Enabling success is their ability to learn and use new process improvement tools, the transfer of knowledge to the workforce, and the sustainment of improvements. Examples of their efforts include bringing repair capabilities and support functions closer to the artisans, and using value stream mapping processes to create flow and eliminate waste. The AV-8B aircraft production program was one of the first aircraft repair programs to establish Integrated Quality Teams (IQTs). This forum provides daily guidance and recommendations on quality, engineering, production, planning, and material resource issues in real-time on the production shop floor. These structured teams are the front line mechanism to stimulate new process improvement ideas and ensure the sustainment of existing CPI initiatives.

PRODUCT

The AV-8B Harrier single seat Vertical/Short Takeoff and Land (V/STOL) aircraft is the primary close air support/intermediate range intercept/attack mission fixed-wing aircraft for the Marine Corps. The TAV-8B is a dual seat trainer. The FRC East AV-8B aircraft production program provides depot-level maintenance repair services that include Planned Maintenance Interval (PMI) integrated maintenance, crash damage repair, and in-service repair (ISR) support to Marine Corps Harrier squadrons. The Integrated Maintenance Program (IMP) is intended to retain/improve the material condition of the AV-8B aircraft and to extend the service life far enough to accommodate the schedule for its replacement Joint Strike Fighter aircraft. FRC East provides scheduled PMI-1 depot level maintenance support for seven operational one training squadron, encompassing 149 aircraft fleet-wide. They also provide PMI-2 and PMI-3 depot level support for east coast AV-8B squadrons, encompassing a wide range of rework and overhaul type services. Since the implementation of IMP, FRC East has performed 30 PMI-1 events, 23 PMI-

2/3 events, and completed one crash damage aircraft. As such, FRC East expends more than 500,000 hours per year in direct support of AV-8B aircraft, engine, and component workload. This is approximately 16 percent of the total workload and 22 percent of the total aircraft work accomplished by FRC East

PLANT

FRC East provides extensive aviation maintenance and logistics support to Navy and Marine Corps aviation, as well as other armed services, federal agencies, and foreign governments. The AV-8B aircraft production program plays a significant role in the overall operations of the facility. Beginning in 1943 as the Assembly and Repair Department, FRC East has grown to become eastern North Carolina's largest industrial employer and now employs approximately 3,800 civilian, military, and contractor personnel. As a large part of FRC East's aircraft operations, the AV-8B production program has repaired, reworked, and returned more than 50 aircraft to the warfighter since the beginning of the IMP program in 2004. The AV-8B work area occupies approximately 43,761 square feet of hangar space, used for aircraft, wing, and component repair. Support shops occupy an additional 2,597 square feet, performing administrative, engineering, planning, supply, and inspection functions in support of the aircraft production line. FRC East takes great pride in providing a superior product to our customers, and a safe and healthy work environment for a highly skilled and trained workforce. Within our plant, the AV-8B aircraft production program's processes have been standardized via ISO certification. ISO surveillance audits attest that FRC East and that the AV-8B aircraft production and related programs are measurable, effective, practical, perpetual, and cost-effective.

ABOUT FRC East

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