An Automated Production Control System for the Corps' Maintenance Depots

by Maj Felix M. Bush

Automation is the key to turning the Corps' maintenance depots into efficient and reliable assets.

The Marine Corps' depot maintenance activities (DMAs) are in a state of dynamic change due to the base realignment and closure issue and as a by-product of the overall shrinking of the military's budget. DMA's name, in fact, has even changed to reflect more accurately the functions provided to the maintenance community. Thus, the Marine Corps Logistics Bases (MCLBs) established the Marine Corps Multi-Commodity Maintenance Centers (MC3s) Advisory Board to review lessons learned from competition and to assist the depots in future competitive actions. The Board also provides recommendations to the MCLBs executive steering committee for future improvements.

One major concern involves the depots' ability to survive in a competitive marketplace without significant computer automation or system enhancements to the current Depot Maintenance Management Subsystem (DMMS). DMMS is a subsystem of the Marine Integrated Maintenance Management System (MIMMS). However, whether the competition is other Department of Defense (DoD) depots or commercial vendors, no amount of automation alone will allow the depots to compete against specialized facilities that can "pick and choose," which production lines they will handle.

Marine Corps depots have the capability to rebuild almost every piece of ground tactical equipment in the Marine Corps' inventory. This makes them extremely effective when responding to the needs of the Fleet Marine Force. Yet, it also requires the depots to support and fund a variety of production lines, with all the associated personnel, tooling, facilities, and training requirements that such production lines involve. This equates to thousands of dollars and not necessarily efficiency.

To illustrate the depots' effectiveness, one can look to a specific example. The D-7 dozer armor plate kits used in DESERT STORM were designed, prototyped, tested, manufactured, shipped, and installed by MC3 personnel within a 65-day period prior to the outbreak of the war. Still, in order to remain competitive, the MC3s do need a new data collection system and the automated programs to keep them abreast of the myriad information required to make sensible decisions in the front office and on the production line. But the DMMS and its upgrade or replacement is not a panacea for depot competitiveness, and the continued existence of DMMS does not mean absence of change. An automated system, no matter how good it is, is not the end-all answer, but it will help.

The key to remaining competitive is not DMMS or the Class 1 system that will be forthcoming from the corporate information management initiative. The primary impetus for survival of the depots will be the arrival of an automated system that allows personnel to better manage labor, job status, inventory, shop floor control, and other related functions. Consequently, the MC3s are being redesigned for future workloads that include fast setup, quick turnaround, and optimum throughput operations. They are, in fact, moving forward to provide automation to support these operations. The Automated Production Control System (APCS), in particular, is expected to perform many of these functions. Several other projects to automate the depots were attempted over the last 10 years with several false starts. But recently, MCLBs teamed with Volpe National Transportation Systems Center (VNTSC) to implement a process that will place an automated system in the two repair divisions. Since November 1991, this initiative has picked up steam. In February 1992, a Request for Proposal was released. In April 1992, VNTSC announced PRC, Inc. as the prime contractor for the APCS project and work commenced in May at both sites. Under a joint Marine Corps-VNTSC management contract, the first block of Phase I of APCS is expected to be completed later this month.

The first phase will replace the functions of ESSEX, an antiquated data collection system (80-column punch cards), which tracks job time, labor, and attendance, as well as some inven-

Update on DoD Maintenance Policies

In June 1990 Defense Management Report Decision (DMRD) 908 was implemented—a DoD initiative prompted by force reductions and declining budgets (see pp. 40–43). This decision required the Marine Corps Multi-Commodity Maintenance Centers (MC3s) at Marine Corps Logistic Base (MCLB) Albany and MCLB Barstow to compete with all other DoD depot maintenance activities and with private industry for maintenance contracts.

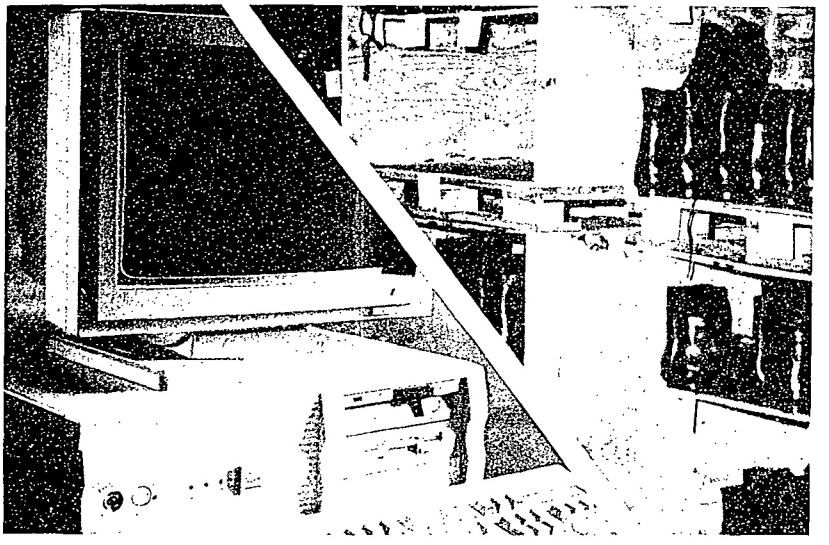
Other decisions reduced the number of Marines working at the MC3s, and in February 1991 DMRD 971 required the Corps' MC3s to reimburse the Military Personnel Account for the pay of all active-duty personnel remaining on their roles. This requirement effectively increased the cost of operating the MC3s as these Marines had additional duties and training periods during which they could not work on maintenance projects even though their salaries were still chargeable to the MC3s.

Now almost all Marines have been transferred to the Field Maintenance Branches within the Fleet Support Divisions at Albany and Barstow. The Fleet Support Division's responsibilities include storage and care-in-storage of all principal end items held in the Marine Corps Stores System and of a sizable portion of FMF tactical equipment that is beyond the FMF's storage and maintenance capability. The Marines assigned to the Field Maintenance Branches will continue to be called on to work at the MC3s as required, but will be hired or contracted for "only on an as-needed basis."

tory functions for the depot. In addition to the replacement of ESSEX, the first phase of APCS will provide the hardware and software platform on which other functional modules will eventually be inserted.

These modules are tailored to meet the remaining priorities necessary for the depots to manage their operations, such as shop floor control, inventory management, hazardous material control, bid costing and budgeting, capacity analysis, production planning, and workload forecasting. APCS will perform these modular functions without DMMS modifications. APCS does not replace DMMS, however, it works in conjunction with it to supplement and enhance it. DMMS will continue to process the data, but any shortcomings it experiences will be addressed by APCS. For example, the material subsystem of DMMS limits management's use of the resident inventory control capability because information is batch processed and not readily available in a resident database for use by managers. APCS will fill that void by establishing a relational database available to supervisors and work center managers via a local area network.

APCS's inventory control will consist of a modular software insert to the APCS platform. Once APCS has been inserted, the data collected on the shop floor will be transparent to DMMS. This enables information to be up/downloaded to DMMS without any changes to the Class 1 system data format. Therefore, the information provided by APCS is available for management use without disruption to those functions still controlled by DMMS. If the corporate information management effort dictates another Class 1 system, APCS can readily adapt due to its modular construction and its transparency to the Class 1 system.



As in everything else, automation enhances productivity, a fact now dawning on Marine Corps supply depots as they seek to keep pace in an ever-more sophisticated environment.

Past *Gazette* articles have given the impression that the Corps' depots are in jeopardy of being unable to support Marine Corps fleet units and that the MC3s are unable to remain competitive in the open market place. APCS, however, when fully integrated, is expected to end this problem, as it will tie together and unite the MC3s. The depots are rapidly becoming state-of-the-art and should be retained as key components of DoD's depot maintenance community. USMC

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The Corps' Depot Maintenance Support Centers and the MPF

by Maj William R. Hestir

Few Marines realize the important role played by the Marine Corps Logistic Bases at Barstow and Albany with regard to the Maritime Prepositioning Force Program.

The industrious and highly professional efforts of the Blount Island Command in supporting the Corps' maritime prepositioning forces (MPF) have been well reported over the last few years. The Blount Island Command has been and will continue to be the focal point for support to the MPF. The purpose of this article, however, is to explain the role of the two Marine Corps multicommodity maintenance centers, or MC3s (formerly known as depot maintenance activities) located at Marine Corps Logistics Bases (MCLBs) Albany, GA, and Barstow, CA, in support of the Blount Island Command and the MPF.

The mission of the two MC3s is to provide depot-level maintenance support for all types of ground combat, command support, and combat service support equipment for the Fleet Marine Force (FMF). This includes supplying the FMF and the MPF with fully operational equipment through rebuilding programs, the inspect and repair only as necessary (IROAN) program, and through technical assistance. Supporting functions of the two MC3s include preparation-for-shipment and care-in-storage support to the remote storage activities at Albany and Barstow.

The bulk of the work performed at Albany and Barstow is preprogrammed months or years in advance. In the wake of DESERT STORM, the repair and return program was instituted to address specific requirements that the FMF had for the repair time of a specific end item.

The work schedule and repair and return workload, however, takes a backseat to the requirements of the MPF. Few Marines realize the flexibil-