Modern Storage Systems for Marines

by Leonard Cercone

If the Marine Corps is to keep up with doctrine that requires rapid movement, quickly collapsible container systems need to be procured that ensure a small logistical footprint and relative ease of use. Engineered Air Systems, Inc. thinks it has the solution.

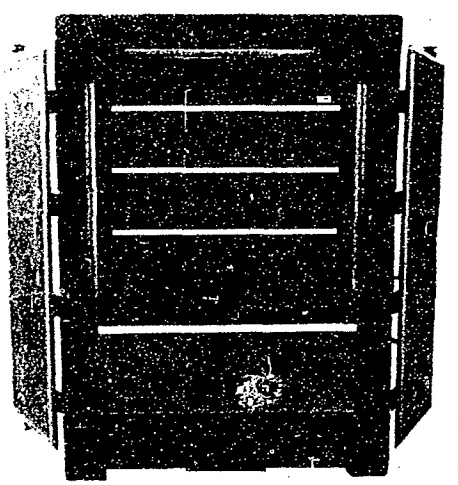
On the road to the frontlines, space is a precious commodity. Getting the most from what you have requires a fresh look at the basics, like storage systems. The Marine Corps has examined their unique storage problems and found a tough, efficient storage system that should make Marines' jobs a little easier.

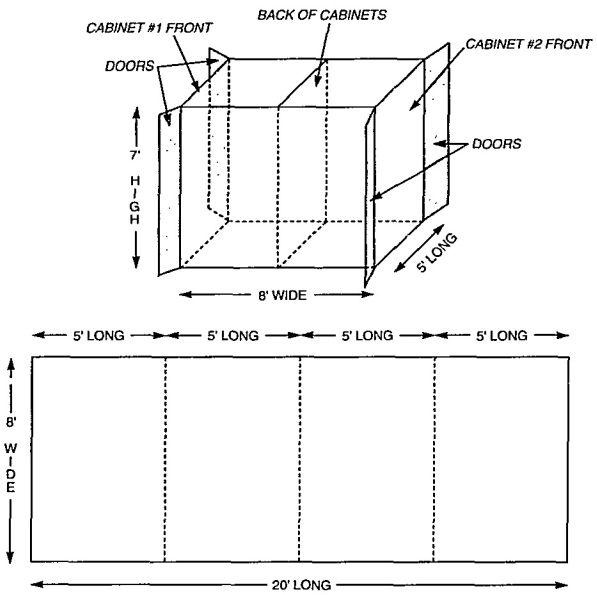
It's hard to imagine how any storage equipment could face a more rigorous test than a battlefield, but that's the challenge Engineered Air Systems, Inc. (EASI) of St. Louis, MO, faced when the Marine Corps contracted it in 1989 to deliver drawer storage cabinets that could be integrated with transportable storage containers.

These cabinets would have to hold virtually everything: repair parts, medical supplies, field manuals, tools, etc. The solution: a small item storage container which is little more than a high-density cabinet and drawer system. The rewards: faster put away and retrieval time, better inventory control, reduced damage, and better mobility. These new systems are designed to play a major role in the Marine's "move forward" logistical concept. This concept dictates that loads can be easily consolidated at the initial shipping point and quickly broken down into smaller and smaller shipping modules at various transit points—ultimately for rapid deployment to the frontlines. Flexibility and durability were the first things EASI thought of when designing this system.

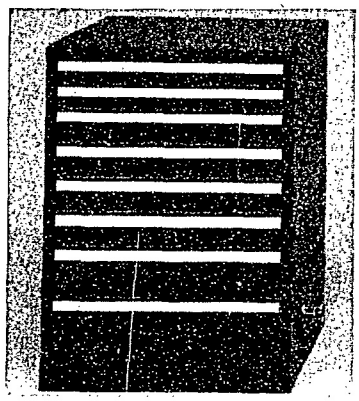
Essentially, much of the work for this project had already been accomplished, as EASI had available a cargo container it felt was perfect for the job. Called a Quadcon, this container is a steel framed, reusable, weatherproof container whose exterior dimensions measure 7-feet high by 8-feet wide by 5-feet long with a volume of 210 cubic feet. Using end couples and corner fittings, four Quadcons can be joined together to form a standard international 20-foot modular assembly unit. EASI had used these containers in conjunction with racks and tote boxes for government orders in the past. The cabinets provide accessibility to small parts either as a stand-alone unit or grouped together as part of a larger system.

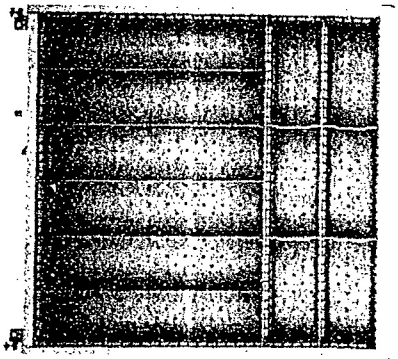
Next, EASI had to choose a supplier of storage drawer cabinets that could withstand the punishment of rough handling under any conditions. They chose Lista International of Holliston, MA. One of the deciding factors in choosing Lista was their reputation for durability. Their equipment also has a couple of other features that most container makers don't, namely handles that extend fully across the front of the drawer; this provides for maximum cubic storage capacity. The Lista cabi-





At left, a Quadcon is a drawer system enclosed within a single cabinet section (note the swinging doors). A diagram of the cabinet's measurements is illustrated on top right. Cabinet sections are fastened together using end couplers and corner fittings creating an ISO 20-feet long modular assembly unit as depicted at bottom right.





The drawer system (pictured at left) can be configured differently depending upon the material to be held within each shelf. (Up to 10 shelves can be housed within each drawer system.) Above right, an overhead view of one shelving unit.

nets also provide full sidewall height drawers, which ensures that nothing is going to fall out. The cabinets' drawer configuration varied according to Marine specifications. Four drawer units were needed for large parts; smaller parts fit nicely in nine-drawer units.

To ensure that the cabinets fitted snugly inside the containers and did not move during transit, EASI fabricated sheet metal casings that wrapped around the entire drawer cabinet. The cabinet is secured inside the casing, which has a pair of hinged doors that allow access to the drawers when inside the casing and the container. Each cabinet has its own locking bar and padlock as a security measure. Two of these drawer units are slid back-to-back inside a Quadcon container.

After EASI put the pieces together, they had to prove that their system could take the beating expected of it. Every drawer of a nine-drawer casing/cabinet unit was filled with 220 pounds of metal. Loaded with almost one ton of metal, the unit was hoisted by crane and dropped from a height of one foot onto a concrete pad. The unit came through with flying colors. All nine drawers worked perfectly—a storage system tough enough even for Marines.

Over the course of a year, EASI filled the contract of 664 storage system (casing/drawer cabinet) amounting to more than $1.3 million worth of equipment. EASI delivered the entire order 8 months ahead of schedule, making it available just in time for Operation DESERT STORM where it performed well.

Victory in the Gulf took a lot of work from a lot of people. Maybe tough, efficient storage systems helped make the job a little easier. USMC

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The Next Wartime Showstopper: No Spare Parts on the Shelf

by Maj Paul D. Adams

The Marine Corps, as well as the rest of the Defense Establishment, had better start thinking about what might happen if spare parts don't get the attention they deserve. If we're not careful how we downsize, that could indeed happen.

The scenes of victory will not soon be forgotten. Marines advancing forward into the smoke and din of battle defeating all in their path. It could not help but give one the feeling of power and accomplishment as the long columns of tanks, light armored vehicles, and assault amphibious vehicles streamed forward, propelling beleagured Iraqis back from whence they came.

But in reality, what enabled all of the implements of war we used in the Gulf to successfully perform? The answer is spare parts. Yes, spare parts. Those diverse pieces of the whole that allow rifles to fire, forklifts to lift, radios to transmit, and battlefield commanders the means to command and control. From the photos and television reports of the sheer magnitude and power of America's military might displayed in Saudi Arabia, one might be miffed at the thought that it could all grind to a halt for want of one widget. But reality is a strong medicine taken only by the brave.

America is about to lose its ability to win future wars. It will be done in the name of peace, on the road called economics. Plainly said, the American military-industrial complex is systematically and rapidly losing the ability to produce the millions of parts that make up weapons systems from the simple to the advanced. Major defense contractors are barely able to produce major end items, let alone keep up with all of the subcontractors who supply much needed expertise and parts to bigger firms and producers.

How have we come to this juncture? Simply put, peace and economics. The fall of the Berlin Wall, the Strategic Army Reduction Talks (START) and the Conventional Forces in Europe (CFE) accord, the collapse of the Warsaw Pact, and many other factors known and unknown have brought the world closer to real peace than many would have ever thought possible. A result of this political transformation is the desire to reduce, dramatically and radically, U.S. military forces. Many of the Nation's civilian leaders