Transforming the Light Equipment Company

By Captain Paul J. Kremer

The engineer company, light equipment, is undoubtedly one of the most versatile units in the Corps of Engineers. The variety of missions the company can accomplish epitomizes the resourcefulness of the entire engineer force. While exceptional in capability, the light equipment company must look to the future to ensure that it continues to meet the maneuver commander's needs. Through evaluation of the training in preparation for deployment to support Operation Iraqi Freedom, and the performance of the unit in theater, we in the 887th Engineer Company (Light Equipment) (Air Assault), Fort Campbell, Kentucky, have developed recommendations for the light equipment company of the future. We believe that a new modified table of organization and equipment (MTOE) should be developed, since the last complete revision was in 1983, so the light equipment company of the future will be an even more versatile asset for the Army.

Definition

The MTOE defines a light equipment company as a unit designed to augment a light engineer force. Additionally, one of the main missions of the 887th Engineer Company and the 618th Engineer Company (Light Equipment) (Airborne), Fort Bragg, North Carolina, is airfield damage repair (ADR). Both units repair airfields for the XVIII Airborne Corps. One of the companies has been attached to the 82d Airborne Division and one to the 101st Airborne Division (Assault) since 1986.

Equipment

When looking at the company motor pool, the light equipment company could be defined as a horizontal construction company with equipment that is downsized from that of a combat heavy company. For example, the light equipment company has 613B versus 621 scrapers, 5-ton versus 20-ton dump trucks, and 2.5-cubic-yard versus 5-cubic-yard loaders. The company is a construction asset that can quickly augment a light division with all the main supply route (MSR) construction/repair assets it needs—in addition to being able to quickly "open the door" for a rapid deployment force by repairing airfields for follow-on forces to flow into a forward operating base.

Training

Training is without question the key to success in combat. In preparation for the deployment to Iraq, the 887th focused on two main areas in the 6 months prior to receiving the deployment order: training on the mission-essential task list (METL) and training on the actual task of deploying.

Mission-Essential Task List

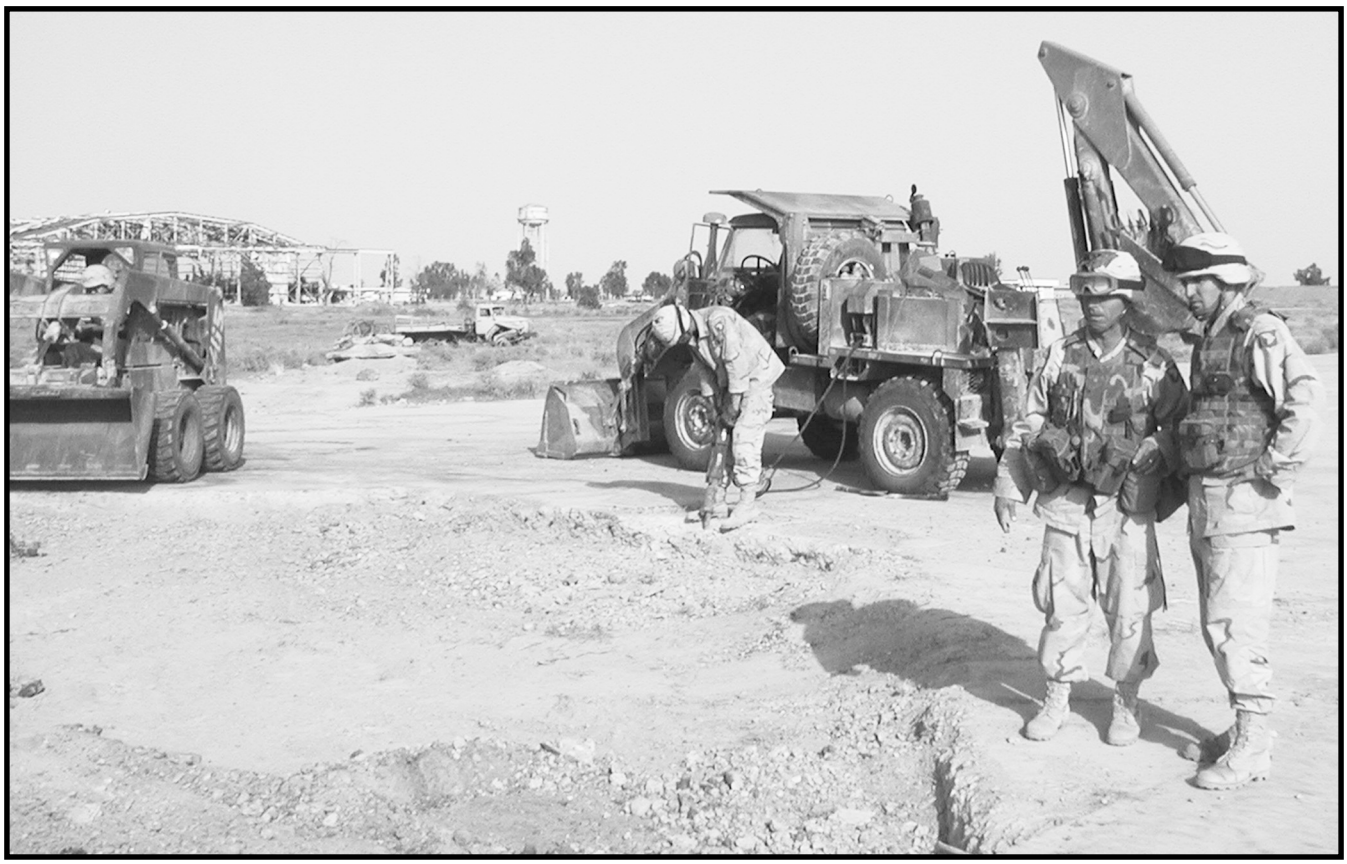
Quality time spent practicing the unit's METL is invaluable because it is what keeps soldiers alive as they accomplish missions. The 887th was able to deploy as trained (T) in seven

of its eight tasks. The unit trained almost year-round since it does not have a habitual association with a maneuver brigade and therefore does not repeatedly enter into a "tasking" cycle. In addition, enlightened leaders tasked the 887th to work construction projects for the post instead of performing nonengineer tasks. Each year, the countless post projects the unit completed ensured that operators refined their skills. From the METL, there were some tasks that proved essential for combat.

Convoy Live Fire. In the 12 months before deployment, the 887th conducted four convoy live-fire exercises. Each platoon conducted one of these 24-hour events that incorporated a dry blank live fire, day and night sequence of events. As additional challenges for the convoy commander, the exercises also included OH-58D helicopter support—a real-time 9-line request for medical evacuation using the post's UH-60s; nuclear, biological, and chemical scenarios; and vehicle breakdown scenarios. The leadership was fully tested under constantly changing conditions with live ammunition during both daylight and darkness. The leadership training was crucial to our future success in Operation Iraqi Freedom. Little did we know that we would be convoying more than 1,100 kilometers along future MSRs in Iraq. Since every mission required convoying to the mission site, this training was validated on a daily basis.

Airfield Damage Repair. The task the unit wanted to be absolutely 100 percent prepared for was ADR. In the year before deployment, 3d Platoon spent 6 months in Kandahar, Afghanistan, making daily repairs to the airstrip. The hands-on experience made them ADR experts. To ensure that the rest of the company also achieved the highest training levels, the company planned three ADR exercises off post. Over the course of 5 months, the 887th sent platoons to Malmstrom Air Force Base, Great Falls, Montana, to train with the 819th RED HORSE; Fort Bragg, North Carolina, to train with the 20th Engineer Brigade; and Germany to train with the Southern European Task Force. Training with rapid deployment engineers from both the Army and Air Force allowed the 887th to display its skills on ADR as well as watch the other units perform their battle drills. Once the training was completed, the 887th knew it had the best-trained and most experienced ADR experts in the armed forces.

Combat Lifesaving. Combat lifesaver training should be required of every company on a quarterly basis. For the 887th, the week-long training proved its worth. The company suffered several injuries over the course of 2 weeks during Operation Iraqi Freedom, including cutoff fingers; an unexploded ordnance explosion causing shrapnel wounds and lost toes; and an enemy grenade attack on a stopped vehicle, which caused extensive shrapnel wounds to a soldier. But amazingly,



Soldiers from the 887th Engineer Company use a small emplacement excavator (SEE) and a Bobcat® to repair a crater in an airfield in northern Iraq.

not a single soldier was killed during these incidents. Combat lifesavers were on the scene in each instance, and without question they saved lives. It was difficult to have soldiers injured, but it would have been tragic for them to die.

Deployment Exercise

In November 2002, the 887th was directed to conduct a deployment exercise, which would become one of our best training events to date. The exercise required that we fully upload and roll everything out of the motor pool; move to a scale house for weigh-in; and have the vehicle secondary loads inspected, which included preparing hazardous material (HAZMAT) paperwork. At the end of the exercise, we would be ready to load the train in preparation for war and have an extremely accurate automated unit equipment list/deployment equipment list.

The 887th spent a week conducting the deployment exercise as the company prepared more than 100 vehicles to move. As the unit left the motor pool, it was simple to verify the accuracy of the non-mission capable (NMC) report—an additional bonus before deployment. As the unit moved through the various stations, it became obvious which HAZMAT teams were best, who packed their secondary loads best, and what load plans needed refining. Having railroad company personnel at the last station to inspect the vehicles was essential to success. They showed us what would not pass their inspection team in the future and helped the unit executive officer replan a few secondary loads. Once the exercise was complete, the company knew how to upload for war and how long it would take, which unit movement officer and HAZMAT teams were best, and that the company master load plan was accurate.

After conducting quality training for 18 months and completing a highly successful deployment exercise, everyone knew we were ready for combat—that we could get to war in a well-planned, well-rehearsed manner and subsequently execute any missions assigned to us once in theater.

Operation Iraqi Freedom

The 887th received the order to move to the rail yard in early February 2003 to began preparations for overseas movement and arrived in theater on 1 March. The company operated over the entire division area of operations, providing the engineer battalion commander the ability to quickly weight any main effort. During the initial assault into Iraq, survivability of forward area rearming and refueling points (FARPs) was key. The 887th assembled all its blade assets and some SEEs to protect them and to dig in command and control nodes. Once in the vicinity of An Najaf, the 101st Airborne Division required survivability support as it reconsolidated. FARPs were constructed, division command and control nodes bermed, borrow pits operated, and Patriot batteries dug in as the 887th received mission after mission.

When the 101st moved to Baghdad, the 887th provided support by clearing 50 kilometers of Highway 8 and 70 kilometers of Highway 1 of all obstacles emplaced by Iraqis and more than 60 vehicle hulks destroyed by the 3d Infantry Division. With the highways cleared, the 4th Infantry Division was able to move into sector along a high-speed MSR during its movement north.

The 101st then began taking successive airfields—Al Iskandariyah, Mosul, Qayyarah West, and finally Tall Afar. The 887th assembled teams for each one, clearing the airfields, sweeping the area for helicopter/Air Force operations, and conducting ADR. As airfield runways were being worked, the 101st also required survivability/force protection support as units closed on those airfields. The 887th again supported that effort. Other missions included hauling rock to projects, clearing airfield hangers, hauling division command post equipment, and constructing/emplacing force protection measures around the base camps.

Future Organization

While the unit was highly successful during Operation Iraqi Freedom, there are always ways to improve. Two problems were obvious after only 2 months overseas: transportation and maintenance.

Transportation

During all phases of Operation Iraqi Freedom, the 887th was required to move very long distances, mostly without additional transportation support. The unit made three moves of 200-plus miles, starting in Kuwait and eventually ending in Mosul, Iraq. Obviously, our construction equipment fleet was not able to drive itself that far, so external transportation assets were required.

The first movement of the 101st to An Najaf went very well, with heavy equipment transport support from the Corps, although the trucks were a week late in arriving because of their nonstop schedule. This delayed much of our equipment from moving north with our convoys of family of medium tactical vehicles (FMTVs) and high-mobility, multipurpose wheeled vehicles (HMMWVs). As the war progressed, we moved to Al Iskandariyah, south of Baghdad, and then on to Mosul, which required that we move via internal lift assets.

The best way to reduce transportation requirements is to reduce equipment. The light equipment company is very large; however, with a few equipment modifications, it could reduce its fleet in some areas but retain almost all of its capabilities.

Graders. The company has nine graders but could accomplish all its missions with eight. More importantly, we should trade all Caterpillar® 130GSs for Volvo G86 graders. Because the G86 is lighter than the 130GS, it can be moved via CH-47 helicopters without sectionalization. The G86 can also use external hydraulic attachments, similar to the Bobcat. One such attachment is a vibratory roller that can be towed behind

The 887th Engineer Company clears battlefield debris (destroyed T-72s) using the company's DEUCEs in the town of Al Mahmudiyah, Iraq, south of Baghdad.

the grader. Multiuse vehicles are the key to the future for the entire engineer force, not just the light equipment companies.

Loaders. The 950BS should be replaced with a smaller loader from the Family of Loaders Operational Requirements Document (ORD) currently being developed at the U.S. Army Engineer School. The light equipment company needs five new loaders from the Family of Loaders ORD that can be moved by one CH-47, air-dropped, and outfitted with other hydraulic attachments (such as concrete mixers, impact hammers, moldboards/blades, and modified scraper bowls) to make it a multiuse vehicle.

Scrapers. The 887th rarely uses scrapers in garrison and even less in combat. The company has nine MTOE scrapers but only deployed with six because it did not expect projects that would require the use of a scraper. After a couple of months in theater, we decided that even six was too many. There is very little possibility of constructing a new airfield, so few scrapers are required in the inventory. Preexisting airfields in every country make it easy for our rapid deployment forces to seize a functional or damaged airfield for operational use. It will always be faster to repair a damaged airfield than to build a new one. Therefore, light equipment companies of the future should only have three scrapers.

Skid Steers. Without question, the 887th could not have accomplished its missions without its six Bobcats—the most important pieces of equipment in the motor pool. As in Kandahar, Afghanistan, they were once again in constant use during the deployment. The unit used the sweeper attachments for everything from clearing airfields of debris to clearing out buildings for tactical operations centers. The pavement breaker, vibratory roller, and combination bucket were used during ADR. The only problem with the Bobcat is the lack of national stock numbers to requisition parts through the Unit-Level Logistics System–Ground (ULLS-G).

Vibratory Rollers. The light equipment company has six CS-433C vibratory rollers, and each of the six Bobcats in the 887th inventory has a vibratory roller attachment. The Bobcat roller is certainly best for repairing small craters on an airfield. Line platoons can survive with only the Bobcat. Support platoons should retain two CS-433C vibratory rollers for the company as a resource for large crater repairs (as experienced at Qayyarah West) and for large-scale compaction efforts on dirt airstrips.

Water Distributors. The current light equipment company has three water distributors. Two of the soon-to-be-delivered 613C models would be more than sufficient. We could have used these distributors constantly during Operation Iraqi Freedom, but we could not have procured enough water and soil stabilization solution to keep three water distributors in use. While the need is great for dust control in any operation (for debris control at airfields and especially for dirt MSRs and shoulders), the resourcing of the material to fill the tank is extremely challenging. A technique for the future is to fill the water distributor's empty tank before deployment with 5-gallon buckets of the soil stabilization solution. Therefore, once in theater the only required resource is water. An even better solution to further reduce the required transportation support is to field two to three skid- or trailer-mounted water tanks with spreader bars and/or sprayer attachments. This would cut the transportation requirement even further with no loss

in capability. A pressurized spraying capability would be a significant enhancement to soil stabilization and dust control.

Other Equipment. There should be no change in the M1094 dump trucks, deployable universal combat earthmovers (DEUCEs), M1088 tractors, M984 heavy, expanded-mobility, tactical truck (HEMTT) wreckers, and HMMWVs, as they proved their value in type and quantity. Obviously, the table of organization and equipment (TOE)/MTOE writers should emphasize the need to retain the end strength of the company. Reducing the quantity of equipment and retaining the same number of soldiers and transport assets is essential. The most important weapon system on the MTOE is the soldier, and the unit could not function in theater without each of them. Planning convoys with a shortage of soldiers was extremely difficult. Additionally, trying to support operations on four airfields with a shortage of unit mechanics was a challenging problem to solve.

Providing security for missions further drained the already strained platoons. For several missions within Baghdad, the company had three times as many soldiers in the streets pulling local security as it did on the heavy equipment clearing the roads of battlefield debris. In addition, the battle losses from unexploded ordnance and enemy contact further depleted the ranks since five soldiers who were evacuated to the combat support hospital were losses for the remainder of Operation Iraqi Freedom. For these reasons, the value of every engineer soldier on the MTOE is far higher than any piece of equipment.

Maintenance

After Operation Iraqi Freedom, it is apparent that two fixes are needed to better maintain the light equipment company. The mechanics and noncommissioned officer leadership performed in an outstanding manner and kept the fleet moving, but a few changes would greatly improve the unit.

Hydraulic Systems Test and Repair Unit (HYSTRU) Trailer. The lack of a HYSTRU trailer caused delays in repair times, which hampered the unit significantly.

Direct Support. The light equipment company must have a direct support maintenance section on the MTOE, because it is often impossible to get support.

Summary

The light equipment company is an outstanding resource for the combat engineer battalion to which it is attached. The 887th Engineer Company was able to provide support to any mission required by the 101st Airborne Division. At one point, the 887th had assets at four different airfields, demonstrating the flexibility and capability of the unit. To guarantee its continued usefulness to maneuver commanders, the light equipment company must be transformed into a more rapidly deployable team, in parallel with the rest of the Army. In doing so, the Engineer Corps will ensure that it continues to have the light equipment company as a fully capable—and even more versatile—tool in the force structure.

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Operation Iraqi Freedom Warfighter Conference

The U.S. Army Engineer School (USAES) is hosting an Operation Iraqi Freedom Warfighter Conference in conjunction with the Society of American Military Engineers (SAME)/Army Engineer Association (AEA) South Central/South Atlantic Regional Training Conference in Savannah, Georgia, from 3-5 November 2003. Due to space constraints, only formal invitees may attend.

For registration and additional information, please visit the conference Web site at <*www.same.org/savannah/_2003/savannah2003.htm*>. The conference point of contact is Ms. Lindsay Fox at (912) 234-5300 or <*fox.l@thomas-hutton.com*>. The USAES point of contact is First Lieutenant Elizabeth Helland at (573) 563-7293 or <*hellande@wood.army.mil*>.