

the M9 ACE

Rugged, Responsive and Ready for AirLand Battle

by Victoria McAllister

This summer the Army will accept bids to begin production of the M9 Armored Combat Earthmover (ACE) — a \$45.7 million congressional authorization to begin buying 22 M9s in FY 86. The Army Systems Acquisition Review Council chaired by the Vice Chief of Staff and the Under Secretary of the Army has agreed to procure 580 M9s over the next 6 years.

The 14 initial production models that were used during strategic and tactical mobility evaluations in 1985 will be fielded this year:

- Seven to the 7th Infantry Division for light infantry use,
- Four to TRADOC to develop instructional programs and train training teams,
- Three to AMC for ongoing tests.

In 1988, the 9th Infantry Division (motorized) is scheduled to receive 18 of the 22 M9s that will be built under the FY 86 contract. The remainder will go to TRADOC and AMC.

As production proceeds through 1991, the priority for distribution will be first to forward deployed division engineer battalions and armored cavalry regiments and to TRADOC, and finally to selected light forces and the remainder of the forward deployed heavy force.

The M9 gives combat engineers an earthmoving system that keeps pace with lead elements at a time

when AirLand Battle challenges engineers to be responsive over greater distances in less time.

The M9 is far more versatile than the bulldozer tractor/trailer system it replaces. Functionally, it is a rugged combat vehicle that brings protected earthmoving capability to the forward brigade area. In addition to digging at a rate comparable to the D7, the M9 can haul and place fill, transport up to 200 cubic feet of cargo, winch, and tow. It is able to negotiate slopes up to 60% and side slopes up to 40%.

Its mobility improvements over the D7 are significant. It moves cross-country and can achieve road speeds of up to 30 miles per hour. It swims at 3 miles per hour in a current of 1.5 meters per second. The M9 can be air transported by a C-130, C-141 or C-5A cargo plane compared with the D7 which requires a C-5A. This strategic mobility improvement is especially important for our light forces.

The M9 is equipped with a smoke grenade launch system; and its armor protects its driver from chemical and biological agents, small arms fire, and artillery fragments. A radio makes it easy to dispatch the M9 to new positions by allowing contact with an engineer platoon or supported maneuver force's communications net.

On the offense the M9 prepares crossing sites, breaches antitank ditches and clears rubble from attack routes to sustain the momentum. In the defense, it digs fighting positions for weapons systems and assists in shaping terrain to meet the commander's intent by digging antitank ditches and helping construct obstacles.

How valuable is the M9 ACE to the combined arms team?

While performing on a par with the D7 in work productivity (90% digging capability) and reliability, the M9 during Fort Hood tests demonstrated it exceeds the D7 in mobility, responsiveness and survivability.

During the FTX phase of the evaluations conducted at Fort Hood in 1985, an M9-supported platoon performed with a D7 tractor/trailer system-supported platoon in head-to-head competition.

At the Engineer Commanders' Training Conference in November 1985, MG Kem described the results:

"For example, during a deliberate attack — a run of the western corridor on the second of the 5-day FTX — the tank-mechanized infantry task force conducted a forward passage through two points along Elijah Road, continued north across Cowhouse Creek, then attacked to seize the objective on



Manning Mountain. There were two teams, each with its own engineer platoon . . . one supported by M9s; the other by D7 dozer systems.

"Crossing the line of departure, they immediately met complex obstacles. The M9 breached the anti-tank ditch in 3 to 7 minutes and moved on to the next obstacle line at Cowhouse Creek. Meanwhile, the D7 system didn't get there for 1½ to 2 hours. Consequently, the D7-supported task force moved over to use the M9 breaches and moved on to the next phase line. Because of their inability to follow the tank-infantry force cross-country, the D7s were sent over a nearby (out of the maneuver box) asphalt road so they could continue to move.

"At Cowhouse Creek . . . the M9 got its task force through the obstacle system. Once again the D7 was unable to close with the obstacle system; and its task force crossed using AVLBs, CEVs and borrowed M9s.

"The task force moved on up to Manning Mountain — the objective! The roads were cut so the M1s could not get up the mountain. The M9s backed around and filled in; the M1s went on up and achieved the objective. The D7 system never completed the mission and the team it supported never completed its assault on the objective . . . mission failure due to the D7.

"There were six different tasks on the way up. The M9 accomplished

six out of six; the D7 accomplished one out of six."

The results come at a time when National Training Center experience — where the combined arms team performs together rather than simulates — is again teaching the Army the value of the combat engineer on the battlefield. In deep battle, the onus is on the combat engineers to maintain the ground forces' ability to maneuver — to get them to the right place at the right time. But equipped with the D7, the engineers are too slow and cumbersome to be counted upon.

The missions haven't changed:

- **Mobility** — remove obstacles, breach minefields, cross gaps in stride and under fire.

- **Counter mobility** — construct more fighting and protective positions faster.

- **Survivability** — emplace obstacles and minefields rapidly.

However, the windows of opportunity when the maneuver commander must act decisively have narrowed. Engineers are challenged to perform the same tasks over greater distances in less time. The M9 met the challenge.

A maneuver commander at the Fort Hood FTX summed up the improvement. "The engineers," he said, "are finally going to get rid of their ball and chain."

Victoria McAllister is Features Editor of ENGINEER Magazine.



Hotline Q & A

Q. When will Army National Guard engineers be allowed to participate with combined arms at the National Training Center?

A. National Guard engineers are already allowed to participate with combined arms at the National Training Center. National Guard units can submit a request through command channels to FORSCOM. Funds are available. Rotation dates are not optional, and units must accept the date assigned by FORSCOM. Participation by National Guard units would take a heavy load off active units now being overtasked with maneuver and OPFOR requirements.

Q. What method is used to obtain water for troops when the well-drilling rig isn't available?

A. The new well-drilling rig has the same maneuverability as a 5-ton truck. However, in rare situations when the well-drilling rig is not available, use the tactical water distribution system (TWDS).

Q. When probing a minefield using nonmetallic probes, does the prober carry his weapon with him?

A. When breaching a minefield with a nonmetallic probe, the soldier should strap the weapon securely on his back.

Q. What is the NSN for screw-type pickets?

A. Screw-type pickets (NSN 5660-01-072-2977) are not available at the depot. They have been replaced by U-shaped pickets which are easier to use, transport, and store. Also, U-shaped pickets are commercially used while screw-type pickets are not. The NSN for U-shaped pickets are 5660-00-270-1587 and 5660-00-270-1589.

Q. In a combat heavy engineer battalion, the alpha company direct-support shop is authorized a maintenance supply section. Is the mission of this section to support only the direct-support shop Class IX requirement or does it support the entire battalion of engineer Class IX repair parts?

A. The support battalion with Class IX repair parts is only for engineer equipment and power generation equipment. See MTOE 0511SHFC10.

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The Hotline telephone number is (703) 664-3646; WATTS 800-336-3095, extension 3646; or AV 354-3646.

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