

equipment, position locating computers, and ammunition that consistently has exactly the same weight and propellant for each round. This vehicle should be based either on the M2 or its replacement, with a redesigned turret containing a breech-loaded 81mm mortar and a different layout inside to accommodate at least 100 rounds of ammunition. With a crew of four, this should not be a problem.

The mortar is a very simple weapon system. Anything that detracts from this simplicity or requires complicated pro-

cedures will cause problems that we must make every effort to eradicate. The mortar must remain highly mobile, protected, and within the control of the battalion commander. New ideas and concepts must be fully thought out and, if acceptable, integrated quickly into our training. It is essential that new concepts and procedures be disseminated quickly to all TOE units and that a procedure for this be organized at the Infantry School level.

Although mortaring in its current form has been with us since 1916, only now

is it being affected by new technology and materials. Mortaring is ready for a quantum jump forward and must not be held back by repressive ideas and negative thinking.



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A Magazine for the Machinegun

CAPTAIN BRUCE P. MAMONT

Some soldiers seem to consider it the height of fashion to sling belts of M60 machinegun ammunition diagonally across their shoulders. Slinging the ammunition does permit a soldier to use both his hands for his rifle and also distributes the ammunition evenly and close to the body. Unfortunately, the first time the bearer takes cover in the prone position, the ammunition becomes fouled with mud, snow, or sand that is certain to cause it to malfunction in the machinegun.

Although I don't endorse that way of doing things, I do sympathize with the problem. Ammunition cans are unwieldy and can't be comfortably suspended on a strap to leave a rifleman's hands free. The 100-round bandoliers in the cans are no better. They are almost as bulky as the cans themselves and lack the cans' weatherproofing and security. (The full belts of ammunition that litter a squad live fire course after an exercise testify to how easily ammunition carried in a bandolier can be lost while the bearer is running.)

The original -12 operators manual for

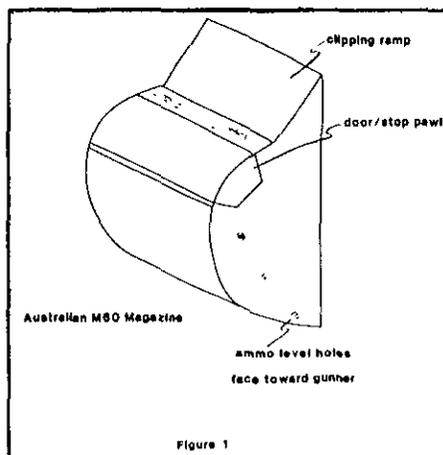
the M60 showed a magazine to hold the 100-round-belt box. This magazine encased the box in rubberized canvas to protect the belt from the elements. A sheet metal clip was mated with a clamp and lever mounted on the left side of the machinegun receiver for attaching the magazine. The belt fed into the receiver through a slot in the side of the magazine.

That magazine was not rigid enough, though, because of its canvas construction and could not support the weight of the ammunition. The solution was to

replace the magazine with the present system of a hanger group and bandolier. But the bandolier is no more rigid than the magazine was, and it provides even less waterproofing for the belt. Besides, it is not unusual to encounter ammunition not in bandoliers that lacks the web collar necessary to suspend the ammunition on the hanger group.

In reviewing small arms literature in search of alternatives, I was struck with the many types of magazines foreign machinegun designers use. One in particular looked promising—a semi-cylindrical magazine the Australian Army uses on the M60.

Constructed of sheet metal coated with nylon as a dry lubricant, this ingenious device enables a gunner to carry a short 40-round belt (see Figure 1). The small magazine keeps weight and profile low and still holds enough ammunition for several good bursts. Before a belt is expended, the assistant gunner can attach another one. The belt from an external can feeds smoothly over the magazine's round top. At the end of an engagement the belt can be broken to a length of 40



rounds and the short belt stored in the empty magazine.

A small door on the magazine acts as a stop pawl. The door is spring-loaded, which permits the magazine to be loaded or unloaded, keeps the magazine relatively weatherproof, and prevents the belt from dropping back into the magazine if the feed tray cover on the M60 is opened. The spring on the door is just strong enough to keep the door closed without creating tension on the belt against which the machinegun has to pull. Rigidly clamped to the receiver, the magazine holds the belt in a stable position for positive and reliable feeding.

During movement, the gun initially fires from the 40-round belt, as described above. When static, the belt can be clipped to an external belt without unloading the magazine. Before resuming movement, the external belt is broken at the receiver and reclipped to the short belt in the magazine.

My unit, the 1st Battalion, 4th Infantry, 3d Infantry Division, set out to make one of these magazines. A prototype based on the Australian pattern was made by Staff Sergeants Roy McCarty and Jimmy Watson. First, a cardboard model was used as a mold for a fiberglass magazine. Although it was light and rigid, this fiberglass prototype was not satisfactory because of its method of attachment. A web strap similar to that on the present cloth bandolier was tried, but it would not hold the magazine tightly enough. The fiberglass was then replaced with metal so that the magazine could be welded directly to the hinged hanger group, an organizational Class IX repair part. M60 ammunition cans were cut with a band saw to form the sides, bottom, and back of the magazine; the rounded top was made of fiberglass; and a door was adapted from an M16 dust cover. A slot by the door allowed the door to function as a stop pawl, just as in the Australian design, and a metal strip welded at the top of the magazine formed a firm platform for clipping new belts of ammunition onto the last round of the belt being fired. The sides of the box were left about one-half inch higher for a length of one inch to guide external belts and to prevent a belt from twisting laterally (see Figure 2).

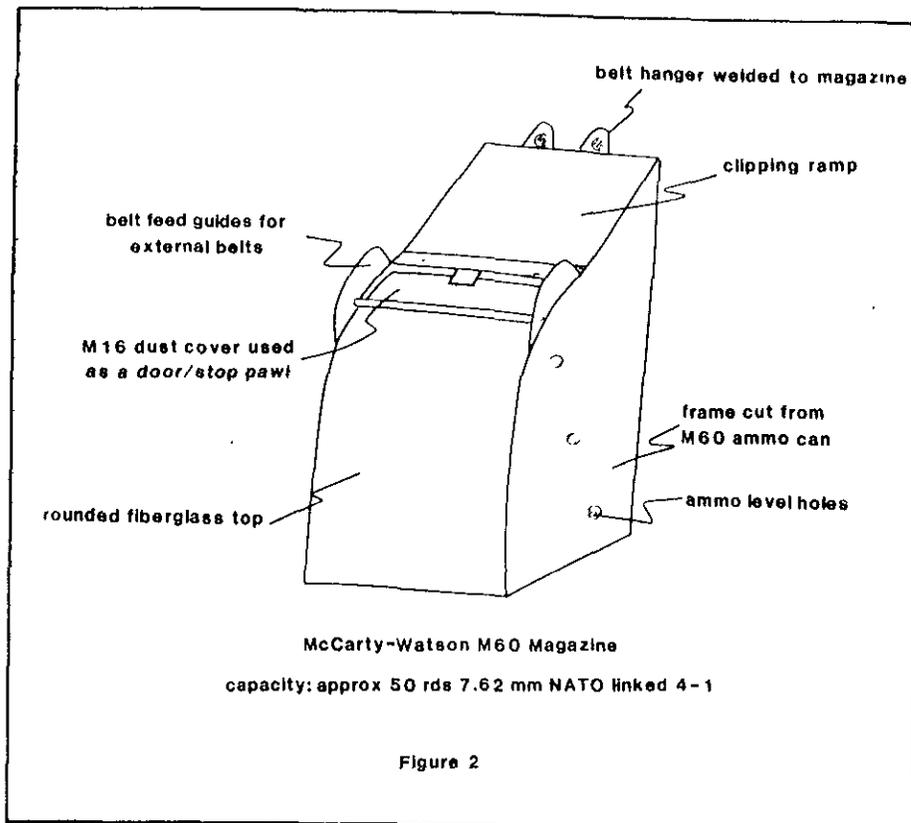


Figure 2

In the spring of 1983, two of these magazines were constructed of metal and tested with blanks during a 12-day FTX. The magazines performed as expected.

Even a roughly fabricated field expedient magazine such as this would offer our Army many advantages over no magazine at all. When clean ammunition is positively positioned for best feeding, a machinegun is much more reliable, and it lasts longer. But this magazine would not solve the problem of carrying additional belts of ammunition.

During a discussion of this problem in our unit, Captain John D. Gardner suggested that the assistant machinegunner hand-carry a small field pack (the "butt pack") containing 300-400 rounds. When the machinegun was put into action, the pack would be placed alongside the gun. The belts inside the pack would then feed from underneath the flap on the side of the pack. Unfortunately, the pack would still have to be replenished from cans carried by the squad members.

An Australian innovation again suggested an alternative. Australian M60 ammunition is packed in 100-round belts that are put into plastic sheaths, similar to socks. A "sock" can be pulled on and

off, or can be ripped open in an emergency with a pull tab. Ammunition in a sock-sheath similar to this could be slung or carried in another field expedient container, well protected from the elements. Better yet, ammunition pouches could be used that would hold a 100-round belt each. These pouches could be carried by squad members or designated ammunition bearers.

The U.S. Army has apparently succeeded in solving the problem of carrying ammunition for the M249 Squad Automatic Weapon (SAW). The ammunition for the SAW is issued in 200-round belts already packed in a magazine. Illustrations of the operational tests on that weapon show ammunition pouches that enable the gunner to carry magazines securely. If the same thought process that provided a complete system for the M249 were applied, it should be fairly easy to solve the problem for the M60 as well.

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