

**DATE:** 4/01/97

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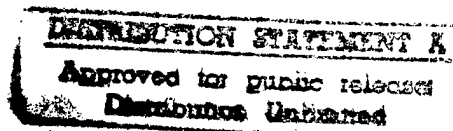
Directorate of Training and Doctrine (DTDD)

Internet Information Services Management System  
(ILSMS)

Fort Knox, Kentucky 40121-5200

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**DISTRIBUTION STATEMENT A:** Public release



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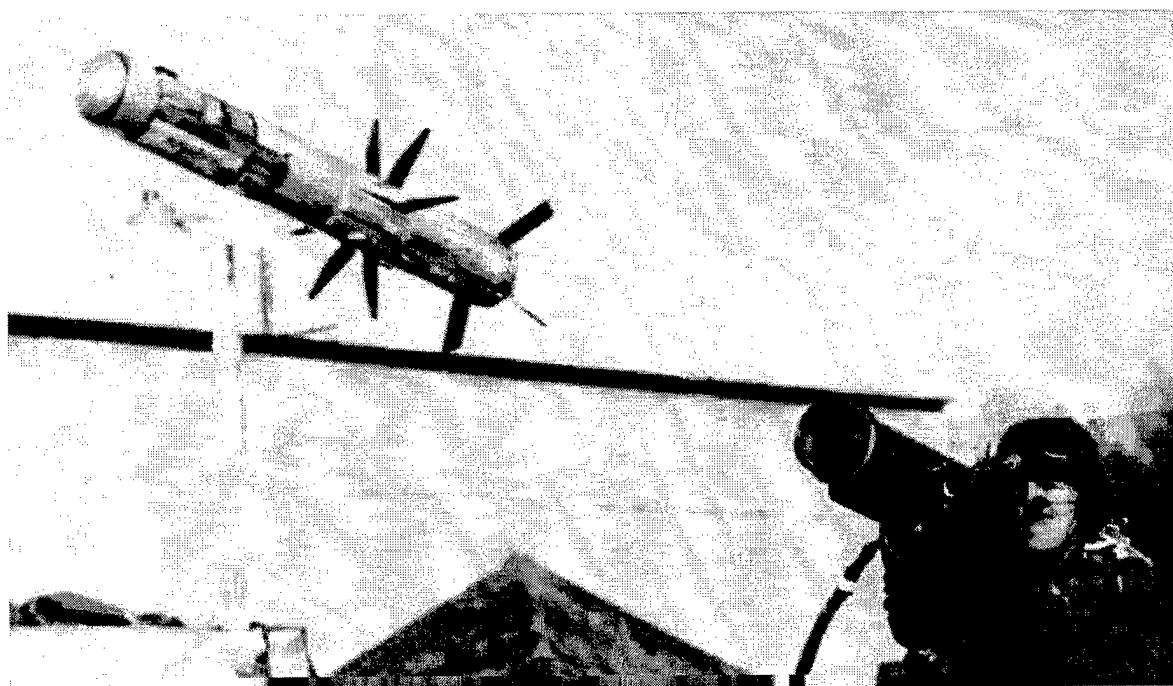
## **BACK TO THE FUTURE**

# **Javelins and Skirmishers on the Battlefield**

**by Major James K. Morningstar**

*(Major Morningstar served as a tank platoon leader and company XO in Germany and commanded Delta Co., 3-37 Armor in the Gulf War. He also spent three years as an observer-controller at the National Training Center, Fort Irwin, Calif. --Ed.)*

The arrival of the JAVELIN fire-and-forget antitank missile can allow the combat units of the United States Army to maximize the effect of direct fires in tactical depth on the battlefield by employing skirmishers. Throughout history, successful armies have adopted forward-deployed missile systems as skirmishers to effectively harass, delay, and disrupt enemy formations. Cyclic trends in tactics and technology have caused us to replace skirmishers in current doctrine with indirect artillery, but with the advent of smart missiles for ground combat we should reinstate the skirmishers to their historically proper place on the battlefield.



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Armies as old as the early Greeks came to dominate their opponents with tactics that included skirmishers. They would open battle with javelin throwers or slingers hurling volleys of missiles to break the enemy's formation. Their armies combined the effect of accurate missile fire followed by the superb shock effect of the phalanx of heavy infantry. By 352 B.C., Philip of Macedonia built the world's finest combined arms army, with lines of heavy infantry phalanxes flanked by groups of heavy cavalry. "The extreme end of the right wing consisted of light cavalry and sometimes archers and slingers who were ready to move out as a screen of harassers and skirmishers to open the action. When these were driven back by the advance of the enemy, they ran to the rear through lanes opened for them by members of the phalanx." Philip's son, Alexander, inherited this army and with it conquered the known world.

The Romans also relied on skirmishers. Vegetius tells us, "The most active and best disciplined men were selected for this service; and as their number was not very great, they easily retired in case of a repulse through the intervals of the legion, without thus occasioning the least disorder in the line." Vegetius goes on to say that, if the skirmishers repulsed the enemy, they would pursue. The heavy

infantry would never pursue because it would break their disciplined formations.

When the shock action of heavy cavalry dominated the battlefield, skirmishers adopted the bow and crossbow. At Crécy in 1346, French skirmishers opened battle with the English. The French employed Genoese crossbowmen who shot one bolt per minute at targets up to 350 yards away. The English longbowmen, whose range was only 280 yards, answered with 10 arrows per minute. The thousands of longbow arrows released that day broke the French skirmish line and cavalry charges. Like latter day indirect artillery, the high-angled fire of the longbow seemed to displace the shots from the skirmishers.

The advent of gunpowder increased the role of skirmishers. In the early 1700s, Field Marshal Maurice de Saxe described his very successful tactics when he wrote:

*"In attacking infantry, the light-armed foot are to be dispersed along the front, at the distance of a hundred, one hundred fifty, or two hundred paces in advance. They should begin firing when the enemy is about three hundred paces off, without a word of command and at will, until the enemy approaches within fifty paces. At this distance, every captain is to order a retreat, taking care to retire slowly towards his regiment, keeping up his fire from time to time, until he arrives at his battalion, which should be starting to move."*

He dismissed the notion that his skirmishers were endangered when outnumbered by the enemy, saying, "Can they fire against seventy men scattered along the front of my regiment? It would be like firing at a handful of fleas." His time and distance calculations convinced him that his skirmishers would each get off thirty well aimed shots at the advancing enemy. (Imagine thirty accurate antitank missiles launched by each skirmisher today!) Skirmishers eroded the enemy both physically and morally by targeting their leadership in the front ranks. This led the field marshal to conclude, "I contend that a single shot from one of these irregulars is worth ten from any other."

Skirmishers became more widely used as accurate rifles became available in the latter half of the eighteenth century. The British army resisted adopting skirmishers until General Braddock's force ran into them in the French and Indian War. They then established a "light" company in each foot regiment to cover advances and perform other special missions. The French abandoned linear tactics altogether, along with military organization, as a result of the Revolution. They covered the dense formations of the *levée en masse* with "clouds of skirmishers," a habit Napoleon would retain even after he restored discipline to the army. Throughout the American Civil War both sides employed skirmishers as an essential element of their battlefield tactics.

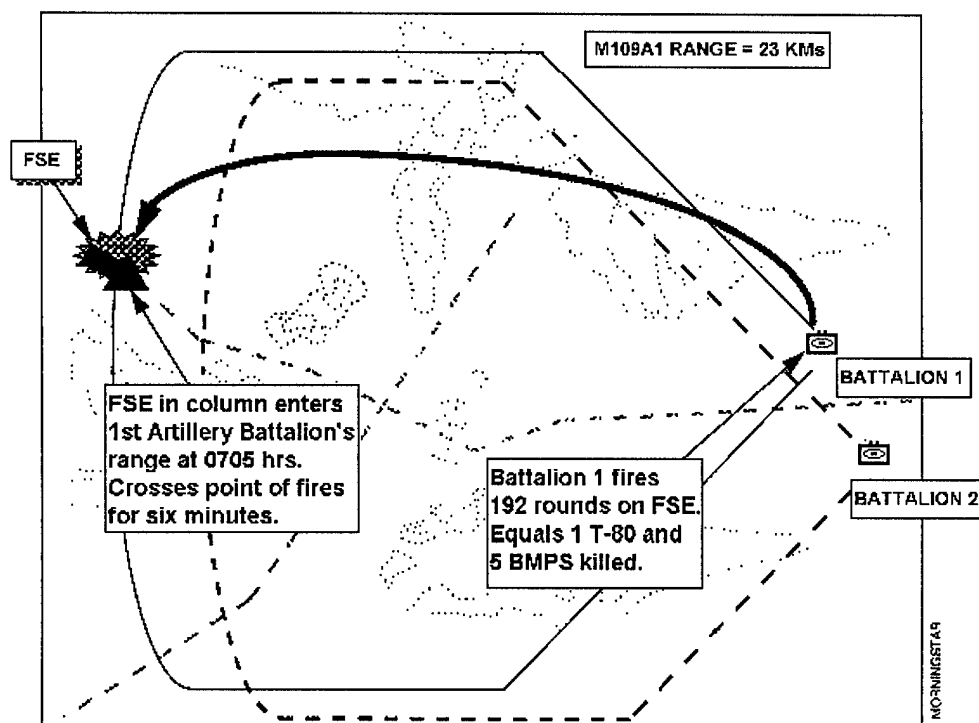
Skirmishers fell out of favor as artillery and mechanization began to dominate the battlefield. The deadly effect of artillery and machine guns effectively transformed the infantry attack. No longer would soldiers form into the tightly packed masses which were so vulnerable to the skirmishers. By World War II, the battlefield was dominated by indirect artillery, the shock power of armored tanks, air power, and amorphous groupings of infantry. Once again, skirmishers lost their place on the battlefield.

Shadows of things past still emerge in the present on today's battlefield. In the past, massed infantry would be exposed to the slings and arrows of the enemy before closing to destroy the other side's massed infantry. Today, massed armored vehicles are attrited by indirect fires before closing to destroy the other side's massed armored vehicles. Artillery has displaced skirmishers as the dominant forward missile weapon, with one important difference: the skirmisher *aimed* for *particular* targets. Artillery most often uses forward observers and spotters to direct artillery into a general area.

Skirmishers of the Civil War would aim and rapidly fire specifically at the lead horsemen of the attacking cavalry formation. Killing those leaders could have two effects. First, an obvious loss in cohesion would follow. Second, other leaders might be more reluctant to step forward. This is how enemy formations and intentions were broken by skirmishers.

Indirect artillery *on its own* cannot reproduce the effects of skirmishers. Two displays of artillery used against an opposing force (OPFOR) at the National Training Center (NTC) illustrate this point. In the first case I notionally apply artillery against an OPFOR formation depicted as it actually looked on an

attack in the fall of 1994. The conditions are ideal for artillery as the OPFOR attacks through constricting terrain in column formation with a lead Forward Security Element (FSE) followed by the Advance Guard Main Body (AGMB). In this example, I use two notional artillery battalions that are timely, perfectly accurate, and never lose a gun.



**Figure 1. The initial artillery strike in a perfect world.**

In Figure 1, the first artillery battalion engages the enemy FSE as it enters the battalion's maximum range. The FSE, consisting of three T-80 tanks and seven BMP armored personnel carriers, takes 6 minutes to cross a point on the ground. If the 24-gun battalion fires on the FSE for 6 minutes, 192 rounds land on the FSE (3 rounds per tube for the first minute, 1 round per tube per minute for the next 5 minutes). By the standards set at the NTC, that translates into enemy losses of about one T-80 tank and five BMPs.

The minute it completes its fires, the battalion does a doctrinal survivability move to avoid enemy counterbattery fires. It takes a good battalion, under ideal conditions, about 15 minutes to break down, 3 minutes to move the minimum of 1 kilometer, and another 15 minutes to set up again. Add to this the 7 minutes the battalion will need to obtain its next target and we cannot expect to have the first artillery battalion available to fire again for forty minutes. While the M109A6 Paladin-equipped battalion reduces the time thresholds for all operations, the sequence of events remains the same.

Although we could use the second artillery battalion to continue pounding the FSE, we wait to fire on the AGMB. If we did engage the FSE, calculating as we did above, we would kill about one T-80, three BMPs and four AT-5 anti-tank systems. This battalion would then have to conduct a survivability move and may not be ready when the AGMB arrives. As it turns out, the FSE was scattered over nearly eight kilometers following our first strike and does not offer much of a target.

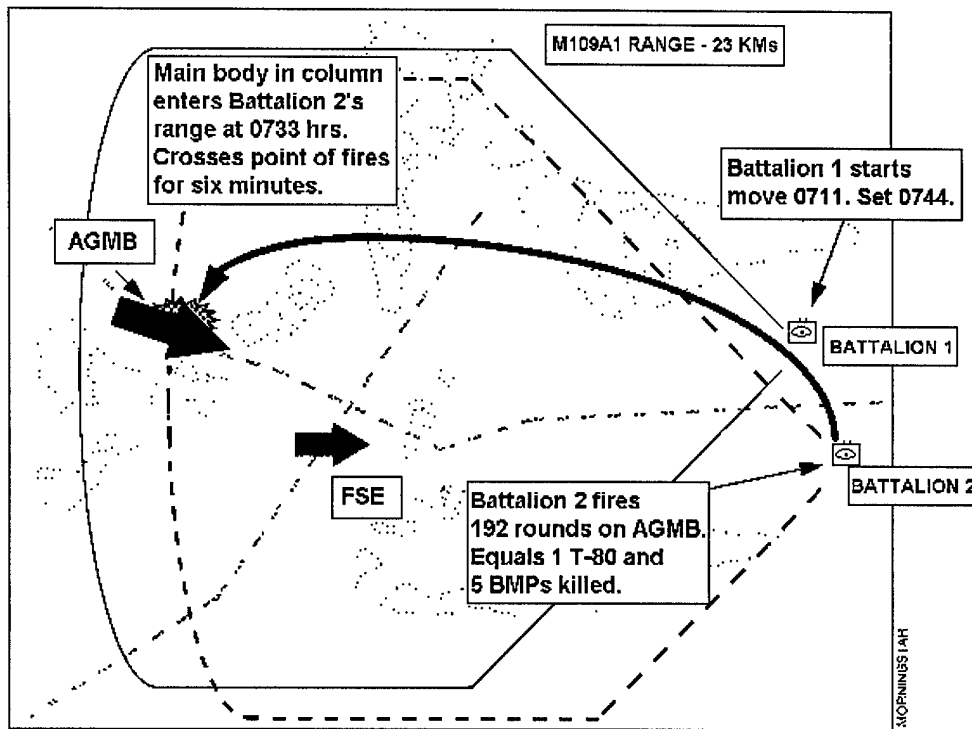


Figure 2. The continuing use of artillery in a perfect world.

Meanwhile, in Figure 2, we see that the enemy AGMB enters the second artillery battalion's range at 0733 hours. If we calculate fires as above, the second artillery battalion would destroy one T-80 and five BMPs. We accept the risk of keeping the second battalion from moving until the first battalion is set to fire at 0740 hours. In the seven minutes from 0733 to 0740 hours the second battalion fires only an additional 48 rounds, enough to kill perhaps 2 BMPs if they could adjust fires on the moving target. Before the enemy enters the close engagement area range, the first battalion gets one more shot at the main body. Results: one more T-80 and five BMPs. Total enemy losses are: FSE lost one T-80 and three BMPs; the AGMB lost two T-80s and 12 BMPs. That leaves in these units about 10 T-80s and 28 BMPs rapidly concentrating on a point in our defensive line.

This scenario assumes perfect conditions for the artillery. The enemy attacks in columns right into our targets, we never miss, and we avoid counterbattery fires. Our survivability moves were only one kilometer, allowing us to recycle our artillery very quickly. In this perfect world we destroy about 23 percent of the enemy's tanks and 35 percent of his personnel carriers. In reality, ten to fifteen percent would be very good. That is why, time and time again, we see brigade commanders who told their fire support planners to delay, disrupt, or worse, *destroy* the enemy disappointed at battles end.

Compare the results above with what happened in another battle at the NTC in the fall of 1994. A brigade in the defense had expected the enemy to attack with an FSE followed by a AGMB (Figure 3). They decided to place one company team forward of their main defenses as a screen line to engage and destroy the FSE and then fall back to a reserve position. The enemy, however, decided not to use an FSE; they led with a whole battalion.

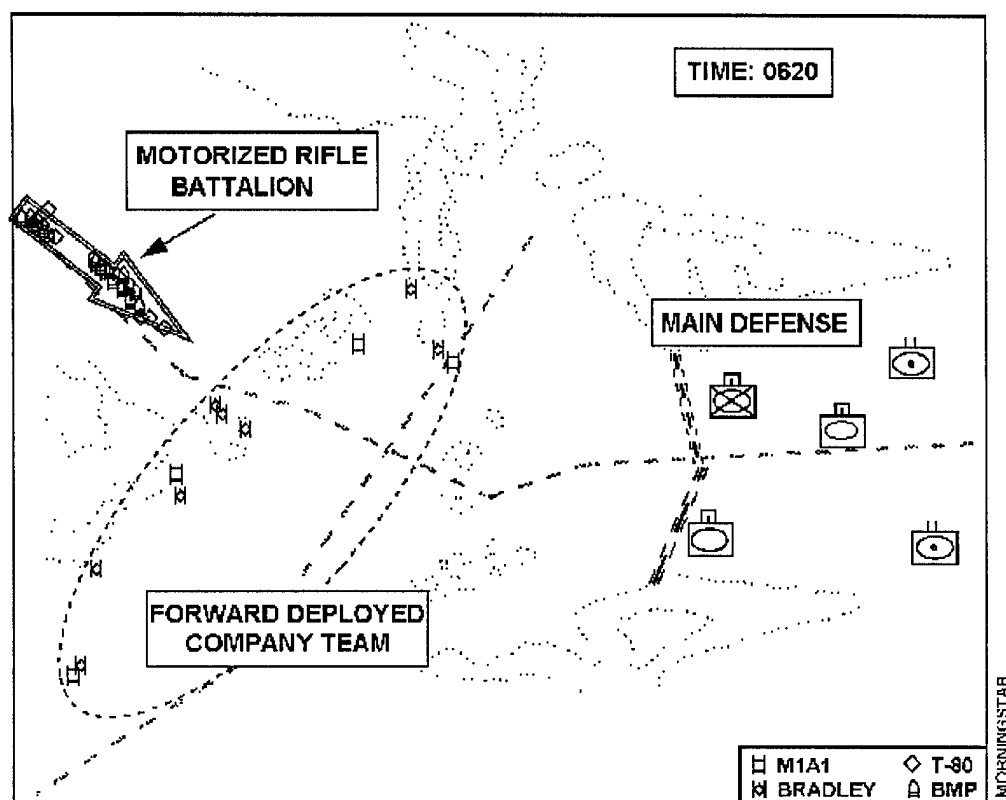


Figure 3. A forward deployed company team ready for the FSE is surprised by an entire MRB.

As shown in Figure 4 the company team engaged the enemy battalion as it emerged from the passes. By the time they realized they had their sights set on something big, it was too late to fall back. The brigade's artillery had a better than average deep fight and killed one tank, one AT-5, and seven BMPs, which equates to about 8 percent of the enemy's tanks and 16 percent of his other systems. The forward-deployed company did even better, killing two tanks, two BRDMs, and 11 BMPs and raised the total enemy casualties to 23 percent of his tanks and 43 percent of his other combat systems. Remember also that part of the artillery's success resulted from the enemy's delay on targeted areas while his lead elements tried to deal with the forward-deployed company team. The forward company team was an ad-hoc skirmish line.

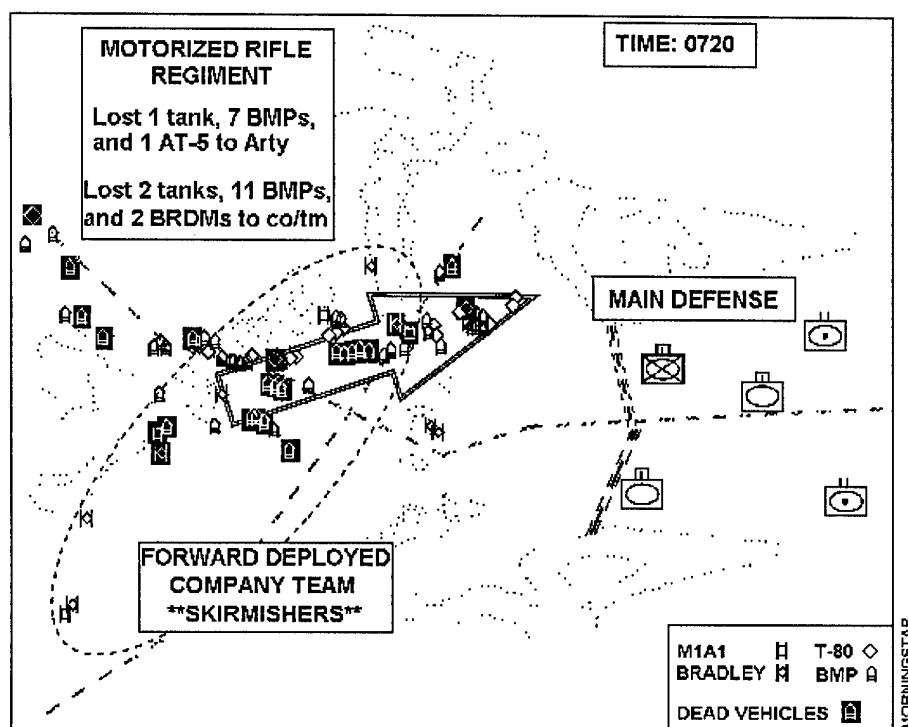


Figure 4. The Team skirmish line greatly increases enemy losses. Between 0620 and 0720, the entire enemy regiment advances only 9 kilometers.

Imagine if the team employed above had been trained to execute as true skirmishers with fire-and-forget weapons. They could have planned to fire and fall back along the enemy flank in successive positions all the way back to friendly lines. What would be the compounded effects of targeting enemy lead, command, and engineering vehicles? How can such actions be tied into our indirect fire plan, obstacle plans, and close air support?

One of the problems preventing the proper employment of skirmishers has been the lack of proper weapons systems to do the job. The wire-guided missiles require crews to visually track the missile into their target and they are too cumbersome for the skirmish role.

When a BRDM fired a SAGGER at my company in the Gulf War, at least six tanks saw the flame of the missile's launch and fired at the BRDM **before its missile reached us**. Add the technical limitations of firing wire-guided missiles over trees, water, or snow and such missiles are impractical for use by skirmishers. Laser designators are vulnerable to tracking difficulties, too unwieldy for run-and-gun tactics, and require coordination for munitions. Current tanks are potential skirmishers but are better designed for shock weapon roles. Recent technological advances now offer a perfect solution for arming skirmishers.

The new breed of smart missiles are about to fundamentally change ground battle systems, organization, and tactics. One such missile, the JAVELIN, offers us the opportunity to gain tactical depth by adopting skirmishers. The JAVELIN utilizes an infrared seeker that takes only 10 seconds to cool down and can defeat smoke and fog. The missile flies 2,000 meters, then uses a top-attack flight path to strike the thin top armor of an enemy tank with a tandem warhead that also defeats reactive armor. Unlike wire-guided missiles, the JAVELIN can be fired over trees, water, and power lines. The fire-and-forget technology means the gunners no longer have to track the missile optically, so they can quickly move, set up, and engage with reduced risk of observation. It enables rapid direct firing against selected targets in enemy formations, thus increasing our ability to disrupt the enemy. With the latest communication and battlefield awareness technology, the effect of skirmishers directed by an informed commander can be like that of a scalpel in the hands of a surgeon.

Half a century ago it was common for big ships to carry big guns and close to within sight of each other to duel. Now smart missiles reach out and touch enemy ships. Fighter pilots who flew into the teeth of enemy formations to bring down bombers now release missiles from standoff ranges. Before long, it is possible that skirmish lines with smart missiles can similarly change armored warfare. These weapons and tactics are a critical step in the "smart weapon" revolution. Skirmishers can make a shot from such a weapon, to paraphrase Marshal Saxe, "worth at least ten from any other."

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08 Mar 97/dcn

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