



Homer M. Brett

Military Historian ★ Writer ★ Consultant

P.O. Box 111 Alexandria, Virginia 22313 USA

Tel. Voice (703) 548-9694 Fax (703) 548-4582



Subject: The Lan-Cay designed, "Light Weight" M9 Bayonet, U.S. Army Pattern.

From the very beginning of its existence the two major negative aspects of the U.S. Army M9 bayonet have been its mass (size) and its weight (on the heavy end of the infantryman's weight scale). Phrobis originally had to cut a number of manufacturing corners in order to bring its original XM9 Trials bayonet in under the maximum specified weight limit for the Army's XM9 Bayonet Trials in 1986. Phrobis successfully did so, and subsequently won the trials, winning the U.S. Army bayonet competition, thereby introducing the Army's first M9 bayonet.

However, from its inception, through to today, the weight and the mass problems of the M9 have often caused unfavorable comparisons to be made with other military bayonets of our era. Additionally as the weight load of the American combat soldier has steadily climbed, so has the desire to shave off every ounce possible off of every piece of equipment possible.

In 1998 I personally hand-made the "Compact" (reduced mass) M9 prototypes as concept samples for the Marine Corps consideration and for Lan-Cay, in the Lan-Cay factory. These were crude in their construction, with reduced mass scabbard bodies and hand-modified ergonomic grips, but they were a real-time physical illustration of what was still possible to improve on the M9 bayonet.

The Army's limitations to improvements to the M9, were that whatever improvements were made, the improved part(s) MUST be totally interchangeable with all existing generations of the Army's previously and currently purchased M9 bayonets. This requirement still remains in force today. The interchangeability requirement excluded shrinking the thickness or width of the M9's blade, one of the major contributors to the bayonets weight. It also prohibited the parallel reduction in the M9s scabbard width, which would have reduced its overall mass too.

Lan-Cay chose to participate in the Marine Corps' numerous bayonet projects starting in the mid 1990's (which ultimately led to the Marine Corps last and final competitive bayonet test and selection project), and the company worked on reducing the weight of the M9 in a variety of ways, since the Marines had no limitations on the bayonet's modification, as they were open to any kind or form of improvements.

When the Marine Corps, finally announced its Bayonet Trails in 2002, Lan-Cay, as part of its competitive submission manufactured some extremely light weight crossguards made from a thin metal stamping, with a non conducting plastic molded around it. These guards were submitted to the Marine Trials, accompanied by a special aluminum tang rod (the standard M9 tang rod is steel). This guard broke in the testing and the aluminum tang rod also failed in its testing phase.

After losing the Marine Bayonet trials, Lan-Cay continued to develop its improved M9 weight reduction features and the company produced specially hardened and specially coated aluminum tang rods and crossguards. These were meant to be used as a set to replace the steel tang rod and guard of the M9 in new bayonet contracts. The original steel parts jointly weighed 4.2 ounces, while the aluminum parts jointly weighed 1.6 ounces, a saving of 2.6 ounces. The lighter hilt then caused a modest change in the balance of the bayonet when it was held as a tool or combat/utility knife.

Ontario proposed these special weight-reducing parts to the Army via Rock Island, and the company was given the go-ahead to produce and test a prototype group of bayonets to Rock Island's specified standards.

In June of 2004 Lan-Cay assembled and tested a set of seven M9 bayonets with the aluminum guards and tang rods, alongside five standard Army bayonets with steel guards and tang rods. Upon the successful completion of the testing Lan-Cay submitted a formal report to Rock Island.

The aluminum guards and tang rods passed their physical tests exceptionally well. After a few months of time Rock Island requested ten examples of these new bayonets for their use, and Lan-Cay responded in early 2005 by producing a total of 100 pieces of this new lightened M9 bayonet. The only difference between the first handful of test pieces, and the 100 pieces produced for the Army was that Lan-Cay strengthened the area between the tang rod's wider diameter head and the tang's smaller diameter body, by machining an angled bevel between the two sections, which are machined as one solid piece.

When assembled on the Army M9 bayonet these parts are quite distinctive. The crossguard is thicker than the traditional steel guard, and is laser cut, out of special aluminum stock. This process gives the guard a rough outer edge with small craters on the edges from the laser process. The guard is then heat treated and coated with a special process which penetrates the metal and further increases its hardness. Its final color is black. The tang rod is likewise machined out of solid, special aluminum stock, is also heat treated, and then coated with a flat gray color which also penetrates the aluminum and give it additional strength.

Upon completion of the 100 sets of parts, Lan-Cay assembled more bayonets and these were tested to destruction at Lan-Cay. Examples of the new Light Weight bayonets were then placed in the hands of a number of U.S. Army units deploying to Iraq and Afghanistan. It was my responsibility to place these bayonets and keep track of their use and durability.

After providing bayonets to specific Army units, Lan-Cay asked Rock Island what it wanted to do next. Rock Island replied that it wanted Lan-Cay to supply the Army with 100 of the lightened M9 bayonets, but incredibly and quite unreasonably, it wanted


Lan-Cay to do so, at Lan-Cay's expense, not the Army's. At the time of this Army request, there was no M9 contract of any sort in the offing or promised.

This bizarre turn of events brought the entire project to a stand-off, as it was ridiculous for the Army to expect Lan-Cay to provide 100 bayonets at no cost to the Army. At the same time there was a turnover of Rock Island personnel, due to the Congressional base realignments and closings, which led to no further action being taken of any sort for more than a year.

Currently the Army is strained for money by the war, and although Rock Island says that they want to pursue the project further, they have no money to do so, and Lan-Cay has told them that it cannot afford to fund the project out of their company pockets, with no specific contracts in sight.

The bayonets manufactured for this project were standard U.S. Army 3rd generation M9 bayonets in form, fit, function and markings, except for the special aluminum crossguards and the special aluminum tang rods. The Rock Island designation was "the Light Weight M9".

Respectfully submitted,


H.M.B.---February 2006