



Adjustable Ranging Telescope on the long-range M14 sniping rifle is a modified Redfield Accu-Range in a special mount.

Army Lab Adds ART To Sniping

New scope fits the need for long-range firing in Vietnam

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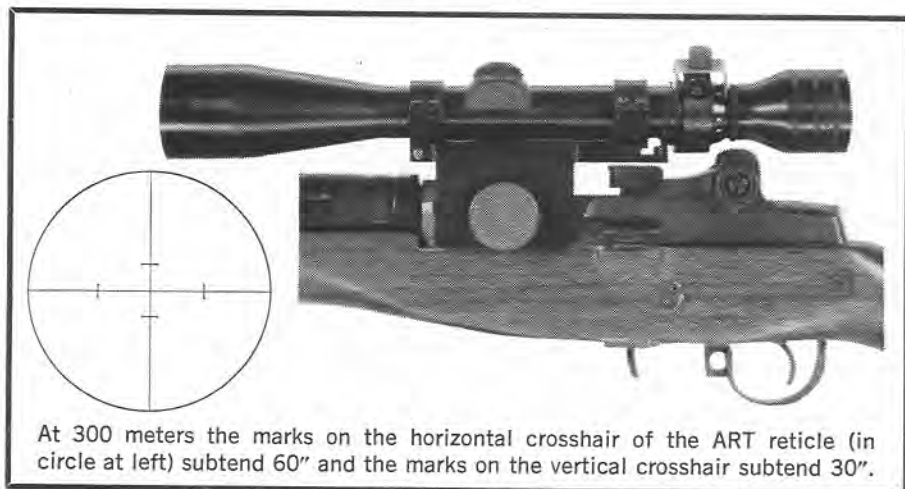
THE Army has a new sniping telescope, the Adjustable Ranging Telescope (ART). Developed by the U. S. Army Limited War Laboratory, it meets a requirement for accurate long-range sniping equipment which has arisen in our fighting in Vietnam.

The Limited War Laboratory was established in 1962 to circumvent the long delay between recognition of a requirement for new materiel and final delivery of the hardware to the soldier in the field. To accomplish this, it has assembled an array of technical, engineering, and scientific talent who have been given license to "think for themselves".

Late in 1965 the Laboratory was asked to investigate a new sighting principle invented by Capt. Jim Leatherwood, when he was a lieutenant stationed at Ft. Benning, Ga. As the result, a project was initiated to develop a sniper sighting system based on Leatherwood's principle. This culminated in delivery of a number of these systems to Vietnam for evaluation.

The Adjustable Ranging Telescope is designed around the match-conditioned 7.62 mm. M14 Rifle and the M118 Match cartridge, for long-range sniping.

The ART combines the range-finding capability inherent in the Redfield 3X to 9X variable power "Accu-Range" telescope, and an exterior cam, physically attached to the power adjusting ring, which puts on the telescope the



At 300 meters the marks on the horizontal crosshair of the ART reticle (in circle at left) subtend 60" and the marks on the vertical crosshair subtend 30".

correct angle of elevation for the M118 cartridge for any range from 300 to 900 meters. The Redfield telescope was modified by removing its interior range indicator and changing the reticle to the configuration shown. The vertical spacing of the stadia (ranging) lines remains the same as in the Accu-Range, as this separation, when projected to 300 meters with the scope at 3-power, gives a height of about 30". This is considered optimum for ranging purposes. The double space between the stadia lines on the horizontal crosshair can be used for estimating the hold-off for wind (a 10-knot cross wind at 600 meters deflects the M118 projectile about 20").

The ART is zeroed at 300 meters with the power set at 3X, since the low point on the cam introduces the proper angle of elevation for 300 meters. Firing at any range out to 300 meters is done with the scope on 3X, keeping in mind that maximum ordinate of the M118 is about 7" to 8" for a 300-meter zero. Beyond 300 meters, a 30" segment of the target is subtended between the reticle lines by adjusting the telescope power, which automatically sets correct elevation on the scope. A 30" target may be from the enemy's belt to the top of his head.

As a matter of interest, the information on the angles of departure for the M118 ammunition was found in THE AMERICAN RIFLEMAN ("The M14

National Match Rifle", May 1966, pages 46-49), as tabulated by Frankford Arsenal. These data were substantially correct out to 700 meters but the 800 and 900 meter elevations listed were low. These figures were corrected by firing tests.

The ART mounts and ballistic cams for overseas evaluation were fabricated in the LWL Technical Support machine shop, and the M14 rifles were rebuilt to Match condition by the U. S. Army Marksmanship Training Unit (USAMTU) at Ft. Benning. Reports back from Vietnam indicated good results from the system with the average rifleman. A number of first round hits were recorded at ranges out to 600 meters, with at least 2 first round hits at 300 and 400 meters at night under illumination. Several marksmen of the USAMTU at Ft. Benning recorded 10" groups at 900 meters after ranging on a standard "E" silhouette target.

Given the Adjustable Ranging Telescope system and rifle, as presented, with a long-range competition-level rifleman to use it, the field commander has another superior weapon in his arsenal. This might even be considered as an improvement in the art of sniping.

(The Leatherwood Auto/Range scope sight, manufactured on this principle by Realist Inc. for commercial sale, was described in THE AMERICAN RIFLEMAN, Sept. 1968, pages 67-74.—ED.)