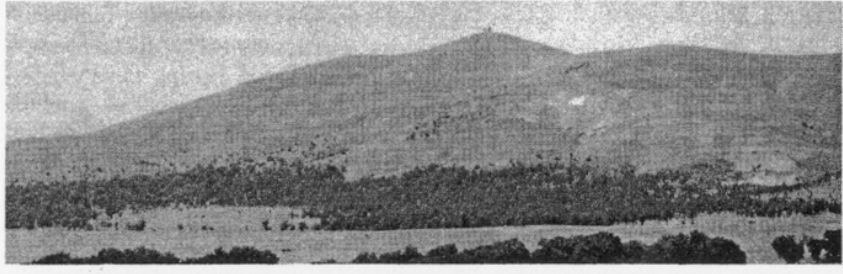


# Instructional Department Notes



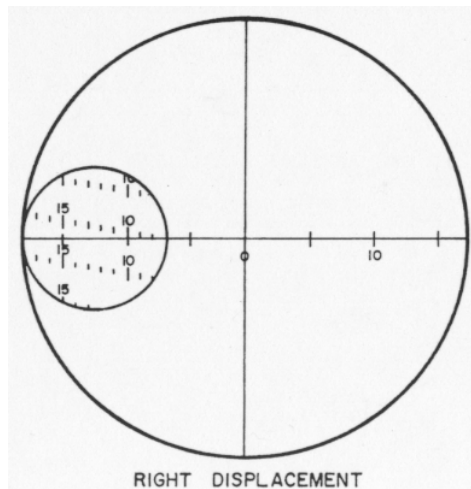
## Gunnery Department

### COLLIMATOR

The following publications contain an error on the illustration showing collimator displacement. The illustrations, which show the correct alignment, were erroneously labeled left displacement when they should be labeled right displacement.

- \* **ARTILLERY TRENDS**, January 1967 issue, page 39.
- \* **Fire Control and Coordination Information Letter . . . . 2, M1 Collimator**, 18 February 1967, page 14.
- \* **Notes for the Battery Executive**, July 1967, page 17.
- \* **PS Magazine**, Issue 183, 1968 Series; page 10.

The correct labeling of the illustration is as shown below.



**Figure 1.**

The US Army Artillery and Missile School is publishing a revised information letter on the M1 Collimator. This letter, entitled, "**Fire Control and Coordination Information Letter . . . 2 (Revised), M1 Collimator**", will correct the error in sight picture labeling, and give increased coverage on employment, to include use of the collimator in conjunction with aiming posts for a 6,400-mil capability.

The article which appears in PS Magazine, Issue 183, 1968 series, contains excellent information on the care and handling of the M1 Collimator.

There is no organizational maintenance manual on the M1 Collimator. Information on organizational maintenance of the collimator will be included in future changes to pertinent weapons technical manuals. The only weapon technical manual which presently contains this information is **TM 9-1015-234-12, Operator and Organizational Maintenance Manual-Howitzer-Light Towed: 105MM, M102.**

**TM 9-1240-324-35** covers DS, GS, and Depot Maintenance of the M1 collimator.

### **FADAC**

The School has published Fire Control and Coordination Information Letter #5, FADAC. That information letter, and the article entitled FADAC in this issue of Artillery Trends, apply to the phase III, issue I Cannon Program tapes which are presently in use with FADAC,

Upon issue of the new phase III, issue II Cannon Program tapes, presently scheduled for issue in the near future, appropriate literature for the new tapes will be distributed.

### **175-mm Gun**

Weapons Information Letter Number 1, 175-mm Gun, dated 5 November 1966, contains an error in section XIV. Section XIV should be deleted and replaced with the revised section XIV as shown below.

#### **SECTION XIV. — TORQUE LOCK AND ELEVATING AND TRAVERSING TRAIN GEAR ALINEMENT**

32 and 33. M107/M110 Elevating Slip Clutch Adjustment:

a. Some units in Vietnam have experienced problems with the Traversing Drive Assembly Slip Clutch and the Elevating Drive Assembly Slip Clutch for the M107/M110. It was found that some of the torque settings were either greater or less than the torque settings stated in TM 9-2300-216-85/2, paragraphs 23 and 59.

b. The U. S. Army Tank Automotive Command (ATAC) has authorized weekly instead of bi-monthly inspections of these weapons by Field Maintenance. During these inspections, Field Maintenance should test the torque on both the traversing and elevating slip clutches. Tests by Field Maintenance must be made with a torque wrench before applying any adjustment as authorized and described in figures 15 and 19, pages 31 and 35, of TM 9-2300-216-35/2.

c. ATAC has verified the slip clutch settings listed in the manual and no changes are required.

# Communication/Electronics Department

## AN/PRC-25 AND ITS DERIVATIVES

A number of new radio sets, derived from the AN/PRC-25, will be issued to troop units in the near future. A comparison of the characteristics of the AN/PRC-25 and the new sets and a brief discussion of the sets are given here.

When the AN/PRC-25 was designed, and subsequently manufactured and distributed to troop units, a transistor capable of handling the output load of the radio set had not been developed. Since that time such a transistor has been developed and is used in the final stage of the transmitter of the redesigned PRC-25, which has been designated the AN/PRC-77. The transistor eliminates the undesirable radio frequency interference with other electronic equipment caused by the vacuum tube, power amplifier circuit of the transmitter of the PRC-25. The newly designed circuit provides more reliable and sturdier internal components, extends the life of the internal components and batteries, and reduces maintenance time.

The AN/PRC-77 will eventually replace the AN/PRC-25 on an attrition basis. Therefore, both the PRC-25 and the PRC-77 will be in the hands of troops for some time to come. These radio sets are fully compatible with each other and with the VRC-12 series of radios. A separate, lightweight (4 ounce) speaker, the LS-549, has been designed for use with either the PRC-25 or the PRC-77.

The PRC-77 is more versatile than the PRC-25, since it can be used with the new radio frequency amplifier AM-4306/GRC without causing mutual interference. The addition of the amplifier AM-4306/GRC will increase the range of the PRC-77 two to three times its basic range, all other factors remaining the same. Because the PRC-77 includes an X-mode interface facility for secure voice communication, the radio set can be used with the KY-38.

The major end item in the PRC-25 series, the RT-505/PRC-25, is used in the following configurations:

| <b>AM-4306</b> |                      |            |
|----------------|----------------------|------------|
| AN/PRC-25      | Manpack only         | AN/PRC-80  |
| AN/GRC-125     | Manpack or vehicular | AN/GRC-162 |
| AN/VRC-53      | Vehicular only       | AN/VRC-66  |

The major end item in the PRC-77 series, the RT-841/PRC-77, is used in the following configurations:

| <b>AM-4306</b> |                      |            |
|----------------|----------------------|------------|
| AN/PRC-77      | Manpack only         | AN/PRC-79  |
| AN/GRC-160     | Manpack or vehicular | AN/GRC-161 |
| AN/VRC-64      | Vehicular only       | AN/VRC-65  |

In lieu of the short (3-foot steel tape) or long (10-foot whip) antennas, which are issued with the sets, the elevated ground plane antenna RC-292 or the long-wire antenna AT-984 may be used to increase the range. However, antenna AT-984 will not be used with a set that has been converted for high-power transmission unless the antenna is marked to warn personnel of the danger. (See TB Sig 291 for additional precautions.)

No special training is required for operation and maintenance of the AN/PRC-77 series if the personnel are familiar with the AN/PRC-25 series. However, operator and maintenance personnel must insure that the plug-in test set AN/GRM-55 is not to be used with the RT-841/PRC-77 at organizational level. Organizational maintenance authorized to be performed on the PRC-77 is described in TM 11-5820-667-12, (June 67).

### **Nonresident Instruction Department**

Following is an unsolicited statement made by Captain Stephen L. Ammon, now assigned to the Gunnery Department, USAAMS:

"As Vietnam calls more and more artillerymen to take their turn, both officers and enlisted men are being assigned to duty they have been away from for awhile. The men of the 7th Battalion, 11th Artillery, 25th Infantry Division found a solution to this problem—to enroll in the extension course program offered by the Nonresident Instruction Department of the Artillery School at Fort Sill. The solution is not original but is quite effective.

"The extension courses not only were a valuable aid to junior officers in enlarging their store of knowledge, but also served as excellent, easy-to-read references for teaching classes. Since the extension courses are updated frequently, they are often more valid references than field manuals and technical manuals.

"In a combat situation well-trained personnel are essential, but are often difficult to find. Whether you need a sophisticated on-the-job training program or merely an effective MOS refresher program, extension courses provide an excellent foundation."



### **SPRINT TESTED**

The Army's SPRINT anti-missile, in a successful October test flight at White Sands Missile Range, New Mexico, hit a computer drawn target in the sky.

The 27-foot long, high-acceleration missile hit the imaginary intercept point after a flight that included several planned sharp maneuvers.

The point, which was programmed into the missile's flight controlled computer, was designed to simulate the intercept point for a real incoming missile.

The SPRINT will be one of two interceptor missiles deployed with the nation's ABM system. It is currently in its flight test program at White Sands.

Test officials said the missile is launched from an underground cell and performed according to plan.