Science and Weapons Daily Review

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Science and Weapons Daily Review

USSR: GUNNERY TRAINING DEVICE FOR ARMORED VEHICLE 25X1

A recent issue of the Soviet military journal Znamenosets describes a training device for the BMP armored personnel carrier that uses a helium-neon laser to simulate gunfire (see figure). The Soviets claim the device, designated LTU-7, has reduced the time required for BMP gunnery training by 33 to 50 percent. The laser, designated LG-78, operates at a wavelength of 0.63 micrometers and has an output power of 2 milliwatts. 25X1

According to the journal, prior to actual training, the BMP crew mounts the laser head of the LTU-7 on the BMP's antitank guided missile launcher bracket. The training director boresights the laser so that it falls on a photodetector array when the reticle of the BMP gunner's sight is laid onto a prescribed target downrange (for example, a tank at 800 meters). The training director can move the laser remotely, record the horizontal and vertical displacements required for each target, and reposition the laser before the individual targets are presented to the BMP crew. The tripod-mounted photodetector array is outside the field-of-view of the BMP gunner's sight and is not seen by the gunner during simulated target engagements (see figure). 25X1

Training with the LTU-7 occurs on a regular BMP gunnery range. During training, the BMP gunner detects and engages a target. When he fires, the LG-78 laser emits a short-duration pulse. If the gunner is on target, the laser beam is detected by the photodetector array and a "hit" is displayed; if not, a "miss" is displayed and the location of the "round" is shown for immediate feedback to and correction by the gunner. 25X1

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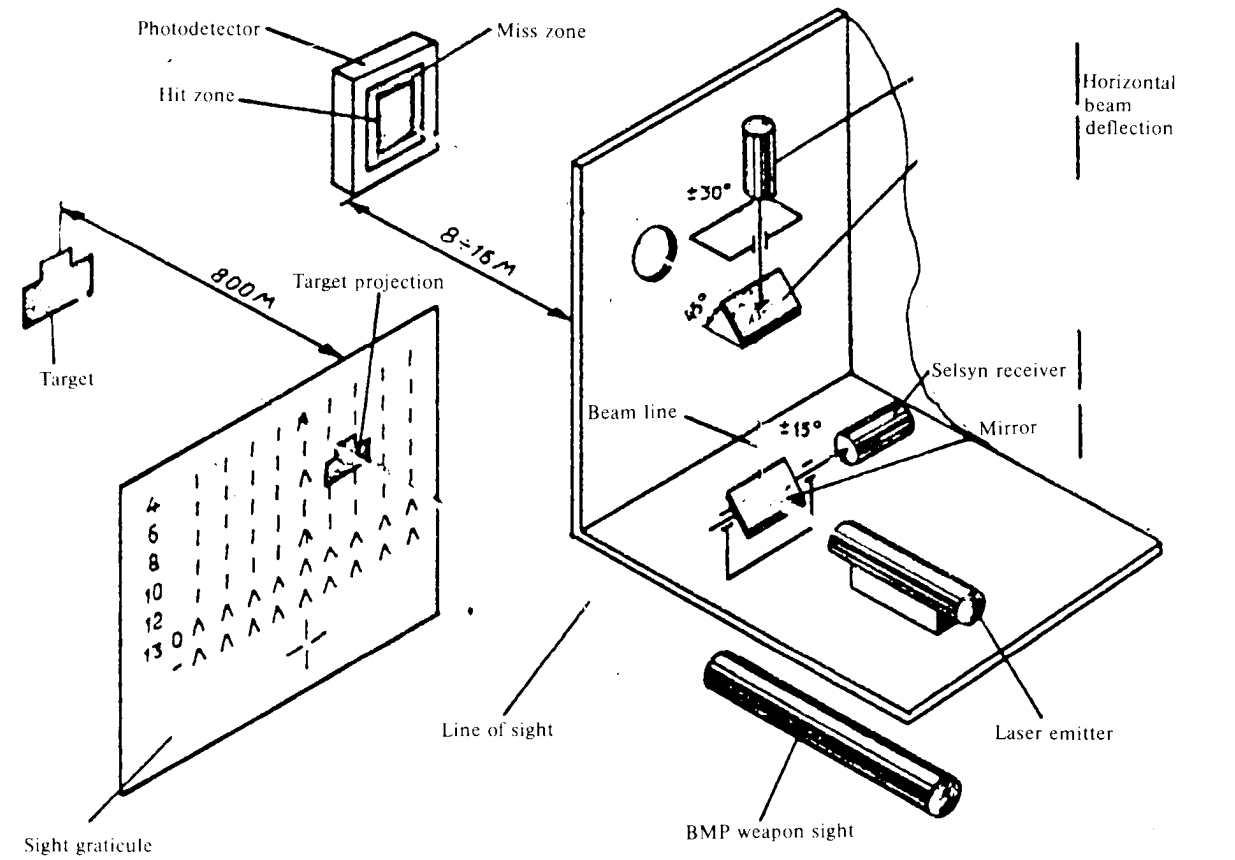
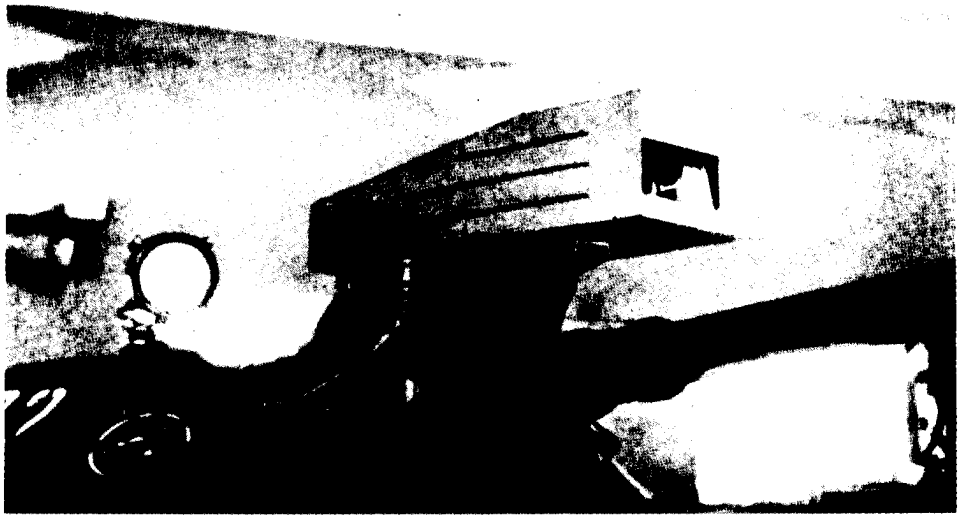
BMP Gunnery Training Device





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[redacted] 25X1

Comment:

The LTU-7 has several advantages:

-- It can reduce the time required to master basic gunnery skills. Soviet estimates of timesavings of 33 to 50 percent are reasonable.

-- It is safer and far less expensive to use for gunner training than live ammunition.

-- It is a good training tool because it is used with actual combat equipment. Gunnery training occurs in a BMP, requires detection of targets through actual BMP optics under natural observation conditions at realistic ranges, and employs established fire-control procedures. [redacted] 25X1

A major disadvantage of the LTU-7 is that it can be operated only when the target is stationary; the gunner cannot engage moving targets. US training systems include laser detectors mounted on moving targets. [redacted] 25X1

The Soviets' use of a helium-neon laser is logical. Such lasers are cheap and compact, require little power, minimize eye hazard potential, and are visible--a condition desirable for alignment during setup. [redacted] 25X1

[redacted] 25X1

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THE NETHERLANDS: US UNDERWATER CAMERAS RELEASED BY DUTCH CUSTOMS FOR SHIPMENT TO USSR

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According to the US Embassy at The Hague, Dutch customs has lifted its hold on two underwater cameras, allowing the purchaser--the Dutch firm Ortech--to ship them to the USSR. Dutch officials had detained the US-manufactured underwater cameras, which can operate at a depth of 11,000 meters, at Schipol Airport just prior to shipment to Moscow. Officials were suspicious because Ortech is not a valid manufacturer, distributor, or sales representative for marine equipment, and is well known to Dutch intelligence services for its trading activities with Warsaw Pact countries.

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Comment:

Although the cameras do not incorporate state-of-the-art technology, they do provide access to the entire ocean floor, including the Marianas Trench. Dutch officials made every effort to respond to US concerns, but had no legal basis to seize the equipment, which was not on the Dutch national control list. Although the cameras are not COCOM controlled, they require a license from the State Department's Office of Munitions Control, which would not have issued one in this case. Most countries, including The Netherlands, do not recognize the US legal principal of extraterritoriality. Equipment under unilateral US controls, therefore, can be legally shipped through third countries to proscribed destinations.

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