

Pentagon Develops New Weapons for Small Units

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WASHINGTON, Feb. 14—The Pentagon is developing specialized weapons and tactics designed to enable a handful of soldiers to operate more effectively 10, 20 or even 100 miles behind enemy lines to collect intelligence or call in air strikes on well-camouflaged military installations.

The weapons include a portable laser device able to guide bombs to within a few feet of their target, an infrared scope that can pick up a foe's body heat in pitch darkness, a lightweight grenade that can be thrown the length of a football field and a jamproof rifle that fires 35 dartlike bullets.

Military sources say an exhaustive, two-month field test of the new arms and techniques began last week at Ford Ord, Calif. Later this year the development effort, which has been run by the Pentagon's Advanced Research Projects Agency (ARPA) for two years, will be turned over to the Army and Marine Corps for application in Southeast Asia.

Inadequacies Reported

Defense Department officials say the need for an improved

approach to small-unit missions has become apparent during the Vietnam war as reports sifted back to Washington of inadequacies in existing arms and doctrine.

To get a clearer view of what was needed 500 patrol leaders were interviewed at length and more than 4,000 reports, written following combat and intelligence missions, were studied.

The special weapons and techniques developed in the ARPA program, officials say, should be quickly applicable to American ground reconnaissance units operating from bases in Vietnam along the Ho Chi Minh trail in Laos. Potentially, they add, the approach should be of use wherever the United States gets into extended warfare.

Said one official: "We can visualize many, small, long-range reconnaissance patrols operating behind enemy lines in Europe, trying to detect, locate and identify enemy forces as they move forward toward our regular forces."

Radio Communication

One of the most frequent complaints of those operating behind enemy lines was the unreliability and short range of radio communication. A patrol spotted by the enemy might seek immediate aid in the form of jet fighters to protect them or a helicopter to lift them out, but a mountain between a patrol and its home base 10 miles away might prevent the call for help from getting through.

By placing radio relay equipment in a balloon or a light aircraft high overhead, radio

transmissions can be relayed as far as 100 miles, officials say.

Another complaint concerned mud or dirt jamming the M-16 rifle. The Advanced Research Projects Agency is developing a low-maintenance rifle utilizing special lubricants and a stainless steel barrel. The new rifle carries a magazine with 35 flechettes, dartlike bullets. Because of the light weight of the ammunition, sources say, each soldier could carry many more bullets than at present.

To help the patrol to guard against being surprised at night, an infrared scope was developed to enable a member of the patrol to detect the body heat of someone 200 feet away, even under dense jungle cover when no starlight or moonlight filters through.

Lightweight Grenade

Both to cut down the weight of the packs carried by members of the patrol and to extend the reach of their weapons in the event they are discovered and have to fight their way out, hand grenades roughly half the weight of standard grenades were developed. According to one officer, a man "with a reasonably good arm" can throw the new grenade 90 to 100 yards.

One mission frequently assigned long-range patrols is to locate and call in bombers against enemy communications facilities, weapons bunkers, truck parks and headquarters. But when such installations are hidden under trees or in caves, pinpoint bombing is difficult.

Military technicians have de-

veloped a laser device weighing 5 to 10 pounds. A member of the patrol shoots a beam of laser light, invisible to the human eye, into the center of the target while a bomber drops a 750-pound bomb equipped to home in on the point of light.

In the tests under way at Fort Ord, military sources say, about 20 six-man patrols, utilizing these and other new devices, will attempt to sneak up on "enemy" forces, determine their size, locate key targets, and call in simulated bomber and artillery fire.

Since those running the tests know precisely the number and location of the "enemy" forces and their installations, they will be able to score the effectiveness of the small reconnaissance units and their equipment, officials say.