

Missiles 1960

Anti-tank

Bantam

Light infantry weapon

SWEDISH ARMY

DEVELOPED by Aktiebolaget Bofors as a private venture, Bantam was designed for deployment by infantry operating in adverse terrain at temperatures well below freezing. Accordingly the missile is relatively small and light—it is perhaps the lightest guided weapon in the world—and performance and killing power have had to be slightly sacrificed. Much of the airframe is of reinforced plastics, and the four wings fold at mid-span to fit a slender carrying box. The missile can, in fact, be launched directly from its box, and conical camber on the wing leading edges first unfolds the wings and then rolls the missile. The wire signals are passed to a transistorized guidance package which biases the trembling of trailing-edge spoilers. Flight trials have been in hand for at least two years.

Bolkow 810

Wire-guided missile for infantry

WEST GERMAN ARMY AND (EVALUATION) US MARINE CORPS

KNOWN until late 1958 as Cobra, the Type 810 was designed by Bolkow-Entwicklungen as a replacement for the SS.10. It is lighter and smaller than the pioneer French missile, and has a velocity control system which has been rationally and painstakingly thought out. An infantryman can very easily carry a complete round in a foamed-plastics container, requiring only assembly of the missile and warhead. Unusual features are that the tips of the moulded wings are thickened and

rounded so that the weapon can be launched directly from the ground, that the tracking flare and battery are housed in a fairing above the body and that the boost motor is a separate charge clipped on underneath, with a nozzle canted downwards through 20°.

All that the operator needs is a simple control unit, weighing 5lb, containing coaxial cable sockets, a missile-selector dial, launch button and joystick. The tracking flare is red, and a telescopic sight can be used at ranges greater than about 1,000yd. The West Germany Army is already introducing the 810 as a standard weapon. A major commercial success was achieved when the American electronics firm of Daystrom Inc purchased manufacturing and sales rights for North America, and sold 100 German-made missiles for evaluation by the 1st Marine Division. It seems likely that the USMC will adopt the weapon.

Entac

Light wire-guided missile

FRENCH ARMY

DEVELOPED in competition with Nord's SS.10 by the Government Direction des Etudes et Fabrications d'Armement, Entac (Egin Tactique Anti-chars) appears to be slightly less refined than the privately produced missile but should be somewhat cheaper. In its transport container it forms a 53lb package which can be carried by an infantryman, although it is usual to deploy the missile on vehicles. A common arrangement appears to be for a jeep to carry eight rounds and to tow a trailer carrying three, both sets of missiles being mounted in batteries pivoted on hinges for elevation. A possible disadvantage

of the system is that a crew of two is needed to operate it: a command-post supervisor and an optical tracker.

Malkara

Heavy missile for deployment from vehicles

BRITISH ARMY

FOR many months it has been the avowed belief of the British War Office that the small infantry-borne missile cannot carry a warhead of the killing power required for modern tanks. Arguments about hollow charges and squash-type heads have raged loud and long, and the decision to conduct official assessment trials with Vigilant (*q.v.*) suggests that the official view may not long prevail; but while it held undisputed sway Fairey Aviation were given a contract to develop a heavy missile known as Orange William, and in August 1959 the Australian Malkara was bought for assessment trials. Eventually, the Fairey missile was cancelled and some 400 Malkara Mk 1 missiles were bought as an initial inventory quantity at a cost of about £1m. Malkara is to become the standard guided weapon of the Royal Armoured Corps and is to go into service next year. It can be deployed on any armoured vehicle, but will be particularly associated with a special air-portable scout car.

Details of the weapon, and of its history of development between the RAE and the Australian Government Aircraft Factories, were contained in our 1959 review. After departing from its overhead zero-length launcher, Malkara is guided by twin trailing wires from a control unit which not only provides correctly shaped signals in response to joystick demands but also incorporates checking and monitoring circuits. The circular-section rear body houses the blast tube from the boost/sustainer motor and carries four fixed fins indexed at 45° to the moving wings around the square-section centrebody. Tracking flares are mounted on the wingtips, and it is worth noting that at a demonstration near Lulworth in June a direct hit was achieved at a range of over a mile. Fairey Engineering has the sales agency for all countries outside the US, and has also been appointed the Australian Department of Supply's delegated authority to assist in the introduction of Malkara to operational service and to design and produce modifications.

ANTI-TANK MISSILES: 1, Entac; 2, Bantam; 3, Nord SS.10; 4, Nord SS.11; 5, Malkara Mk 1; 6, Mosquito; 7, Bolkow Bo 810; 8, V.897 Vigilant; 9, Pye PV. The tinted background panel represents a width of 12ft

