

AFMDC's TM-76A Goes Operational!

Martin MACE Is Added To Tactical Air Command Punch

by John P. McAvinue

Carefully developed and rigorously tested at the Air Force Missile Development Center, Holloman Air Force Base, New Mexico, the mighty MACE weapon system, the TM-76A, is about to be placed in operational employment tests overseas and throughout the Air Force. Such plans have already placed the TM-61 MATADOR in operational service with units about the world. This older work-horse missile, the TM-61, now in front-line service in Germany, Korea and Formosa, was also developed by the Martin Company.

The MACE's all-weather flight capability and its long-range-developed ATRAN guidance system have already been proven by many joint Martin-ARDC research and development flights over the long six-hundred-forty-four-mile corridor extending from the White Sands Missile Range to the impact area at Wendover, Utah. Now launch crews of the Tactical Air Command have arrived at the Air Force Missile Development Center from Orlando Air Force Base, Florida, to take over firing TM-76A's.

Highly mobile and virtually jam-proof, the MACE can fly at near sonic speeds close to the ground. Independent of electronic signals, it guides itself by matching a film strip of its assigned route to the terrain over which it flies. By streaking overhead close to the surface, the TM-76A is virtually immune from enemy radar detection, which must rely upon line-of-sight acquisition for detection and must track a missile's course before defensive action can be taken. Furthermore, the MACE can be programmed to alter both its altitude and direction during flight while enroute to its target.

Capable of delivering a devastating payload upon targets at intermediate missile ranges, the TM-76A weapon system is designed to operate from mobile launchers hidden in frequently-changed launch sites. A "Translauncher" serves as both zero-length launcher and transporter, and a "Teracruzer" serves as a prime mover for all ground-support equipment. Both of these specially-designed vehicles travel on gigantic balloon-type tires which may be automatically inflated or deflated to meet particular terrain conditions.

The nine-man launch teams from Task Force Number One of TAC's 4504th Missile Training Wing will be molded into fast-acting, hard-hitting units at the Air Force Missile Development Center. Later, they will in turn train other missile crews of the Tactical Air Command in the operation and maintenance of the TM-76A. While most of these men have been training at Orlando, a TAC detachment has been stationed at Holloman since 1957, observing the research and development phases of the MACE and preparing for the large-scale training program to follow.

The TM-76A is one of the first missiles developed under the Air Force weapon-system approach to reach operational status for overseas deployment. Under this system, the Martin Company, in Baltimore, was made responsible for developing a completely integrated missile system, including launcher, prime mover, test equipment and ground handling equipment, all specifically designed for the MACE and used with missiles, resulting in operational, maintenance and field and used with missiles, resulting in operational, maintenance and supply complications. Both the MACE and the earlier MATADOR were developed and placed in the operational inventory at the Air Force Missile Development Center.

The Martin Company and AFMDC began cooperating in missile development at Holloman in 1948. The results of earlier programs were extremely valuable and contributed greatly to the early overseas deployment of the MATADOR, the nation's first operational surface-to-surface missile. The wealth of missile technology developed at AFMDC during the early programs has been fed back into the design and development of the new long-range, self-guided TM-76A MACE.

TAC Missile Warriors Place MACE In Arsenal

Under command of Col. Charles F. Matheson, TAC Task Force One has arrived at Holloman to take over operational training and firing of the TM-76A. Col. Matheson's key operations officers are Maj. Dawson K. Hargrove and Capt. Nicholas A. Stathis. In charge of maintenance are Maj. Edward T. Card and Capt. Joseph Hearn. Capt. James E. Falconer is armament officer and Lt. Walter D. Hugo, Jr., is in charge of launch and other ground equipment. Commander of the launch crews is Capt. Grant H. Benson, and the crew commanders are Lts. Donald J. Alser, Robert L. Bennett, Richard P. Guest and Robert F. Vaselenko.



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AFMDC's Range Facilities Speed MACE Development

The unique advantages of the missile test range facilities of the Air Force Missile Development Center have greatly accelerated the operational readiness of the MACE weapon system. The optical and electronic instrumentation of the famous White Sands Missile Range — finest in the world for so vast an area — has provided vital data to speed the research and development phase of the TM-76A and other missiles. Also important is the Air Force's six-hundred-forty-four-mile flight corridor stretching from Holloman Air Force Base, New Mexico, to the impact area near Wendover, Utah. This has permitted full-scale flight testing.

Less obvious, but fully as important, have been the superior climate for testing and data gathering, and the ability to recover intact the test vehicles on the land range and carefully examine any malfunctioning part or subsystem.



TAC MISSILE LAUNCH CREW — TM-76A launch team standing before one of their deadly MACE tactical missiles. One of the crews of Detachment 1, 4504th Support Squadron, Tactical Air Command, these men have had two years of intensive technical training on the many aspects of the MACE weapon system. Many of them are veterans of the early TAC

weapon teams which deployed the famous MATADOR — the Air Force's first operational tactical missile — in areas of Europe and elsewhere. Team officers shown are Capt. Grant H. Benson, Flight Commander, and Lt. Richard P. Guest, Launch Officer.

(USAF photo)