Chapter 6
BOMARC and Falcon

The waning days of 1957 were an important period for the two additional types of arms slated to join the American nuclear antiaircraft arsenal. In early December, the Air Force announced the construction of the first launching sites for its long-delayed BOMARC surface-to-air missile. Later the same month, the development of an atomic warhead for the Falcon, the air-to-air guided weapon then being carried, in conventional form, by some fighter interceptors, was proposed. The BOMARC and nuclear Falcon, however, came about amid continuing budget stringency, and at a time when policy makers were shifting their attention to the impending threat posed by intercontinental ballistic missiles. These circumstances influenced the deployment plans for both the BOMARC and nuclear Falcon and affected the public’s perception of these weapons.

The conventionally armed Falcon missile, which used a small, built-in radar to guide itself toward a target after being launched by an interceptor, first equipped a specially modified squadron of Scorpions (designated “F-89H”) in Michigan in March 1956. The Falcon was a complex and sophisticated weapon that had been in development by Hughes Aircraft since the late 1940s. At the time it was fielded, it was nearly two years behind schedule and still beset with performance and reliability problems. These difficulties were not resolved until July 1957. Despite the drawbacks, the Falcon offered some improvement over the guns and the folding-fin aerial rockets then available for interceptor aircraft, and the circumstances of the missile’s deployment demonstrated the continuing perception that there was an acute need for effective anti-bomber weapons.

Indeed, not long after the initial group of F-89Hs became operational, the planes began to be supplanted by the F-102 “Delta Dagger,” which had been specifically designed as an interceptor and was meant to
redress the altitude, speed, and other shortcomings that plagued the modestly capable Scorpion. (The F-102’s introduction did not affect the F-89s that were undergoing modification to the “J” version in order to be equipped with the Genie.) Like the F-89H, the F-102 carried six Falcons. On the Delta Dagger, the missiles were nestled in a compartment inside the plane’s fuselage. (Doors on the belly of the F-102 swung open to allow missiles to be launched.) This stowage method gave the new interceptor good aerodynamic characteristics, and allowed it to enjoy greater agility and speed than the plane it replaced. Significantly, because the Delta Dagger’s development had been finalized before the Genie had been authorized and the rocket’s physical dimensions and aircraft mating mechanisms had been determined, the F-102 could not accommodate the MB-1 once it became available. The plane’s inability to carry the Genie later posed a dilemma.

Initially the Air Force planned to field the F-102 only for a relatively brief period. Within a few years it hoped to replace the Delta Dagger with an equal number of the F-101 Voodoo and versions of an upgraded F-102 then under development. Both the Voodoo and the improved Delta Dagger could carry the Genie internally. Thus, once the Air Force’s contemplated modernization program concluded, all the service’s interceptors were to have been equipped with the MB-1. Given the rocket’s lethality and reliability, the Air Defense Command believed its collective “kill probability” would be commensurately increased.

Although the modified F-102 closely resembled its predecessor, the engines and fire control system were considered sufficiently distinctive that the plane received a different designation (F-106) and nickname (“Delta Dart”). By the time the F-106 was available in the late 1950s, however, budgetary restrictions resulted in the purchase of fewer planes than anticipated. This meant that the F-102 was slated to comprise a larger portion of the inventory for longer than had been intended. This caused concern, because Air Force leaders believed the Delta Dagger’s inability to be fitted with nuclear armament threatened to weaken the effectiveness of its interceptor force. Consequently, in December 1957, General Curtis LeMay, then the Air Force vice chief of staff, urged that a nuclear version of the Falcon be fielded so it could be carried by the F-102.

A guided air-to-air missile with an atomic warhead offered not only high lethality, but also the utilization of interception techniques that were not otherwise possible. Conventional radar-guided Falcons were best suited to attacking from the side. A perpendicular approach maximized the size of the target, which aided the missile guidance radar. An approach from the side or from behind also limited the evasive options of the plane being engaged. By contrast, a head-on