

## **The B-47 *Stratojet* Association**

**DB-47B**



**The DB-47B with GAM-63 "Rascal"**

The YDB-47B version of the Stratojet was intended to carry the Bell GAM-63 Rascal air-to-surface guided missile. The designation Weapons System 112L was also assigned to the Rascal project, and the project development began in 1949.

The name "Rascal" was actually an acronym that stood for RAdar SCAnning Link, so named for the guidance system that was used during the missile's dive onto the target. This guidance system was to be installed aboard the controlling aircraft. This system was to be developed jointly by Bell Avionics, Radio Corporation of America (RCA), and Texas Instruments.

The GAM-63 missile was powered by a Bell-designed liquid-fueled rocket engine made up of three vertical in-line thrust chambers and developing a thrust of 4000 pounds. It had a launch weight of about 13,000 pounds and was 31 feet long with a body diameter of four feet. At a top speed of Mach 2.95, the missile could carry a 3000 pound nuclear warhead up to 100 miles.

The Strategic Air Command was never very enthusiastic about the Rascal program, believing that the missile was far too complex, with a guidance system that was likely to be prone to frequent failures and which would be relatively easy for an enemy to jam. However, the Air Staff pushed hard for the Rascal concept, and SAC was forced to go along.

The Rascal missile as originally conceived was earmarked for the Convair B-36 and the B-60, as well as for the B-47 and the B-52. In March of 1952, the list of candidate aircraft for the Rascal was reduced to the B-36 and the B-47, with the B-47 being assigned the first priority.

The first Rascal air launch took place on September 30, 1952, from a modified Boeing DB-50D. Despite official resistance from SAC, in 1953, B-47B serial number 51-2186 was modified as a Rascal carrier under the designation YDB-47B. The missile was to be suspended from the starboard side of the fuselage. At launch, the missile would be

released from its supports, with the rocket motor firing once the Rascal had dropped a safe distance away from the YDB-47B. In addition, two B-47Es (51-5219/5220) were earmarked for conversion to Rascal carriers.

As the Rascal program proceeded, SAC's sense of unease increased still further. SAC felt that equipping the B-47 fleet with the large and bulky externally mounted Rascal would degrade the aircraft's performance to such extent as to make the whole concept of dubious value. SAC also feared that the guidance system would never work very well, and they were reluctant to add even more complex electronic equipment to an already electronically packed B-47. Modification costs (about a million dollars per aircraft) were high, and personnel training demands were considerable. Nevertheless, the Air Force decided in June of 1955 that the B-47 and not the B-36 would carry the GAM-63, and most of the DB-36 modification contract was canceled. As part of the program, 30 B-47Bs, originally earmarked for Ebb Tide would now be converted to DB-47 configuration as Rascal carriers.

Despite a successful first Rascal launch from a DB-47E in July of 1955, the entire project seemed to falter. In early 1956, it was decided that the requirements for DB-47Es would be limited to only the first two. In May of 1957, it was announced that only one rather than two DB-47/GAM-63 squadrons would be fielded. That still did not satisfy SAC, since they felt that the Rascal program would be outmoded by the time it achieved operational status. Nevertheless, by the end of 1957, crews of the 321st Bomb Wing were involved in Rascal training.

It was planned that the 321st Wing's 445th Bombing Squadron would operate from Pinecastle AFB in Florida. Formal acceptance of the first production GAM-63 took place at Pinecastle AFB on October 30, 1957. However, even by early 1958, Rascal facilities were still not yet in place at Pinecastle.

My sources differ on the effectiveness of the Rascal. Pelletier claims that the Rascal turned out to be a fairly accurate and effective missile, with examples from the service test batch scoring four consecutive direct hits on targets at the Air Force Missile Development Center in New Mexico. In point of contrast, Knaack concluded that the results of Rascal testing were dismal - out of 64 scheduled launches, only one being a complete success, more than half being canceled and the others being failures.

In any case, the Rascal concept rapidly became obsolete in the face of new developments in the field of air-launched missiles. SAC finally got its way, and the Rascal program was formally canceled on September 9, 1958. On November 18, AMC was directed to dispose of the 78 experimental and the 58 production Rascal missiles that had been accepted.

