1 AERIAL TRACKING SQUADRON

MISSION

LINEAGE
Tow Target Detachment constituted, 29 May 1941
Activated, 1 Jul 1941
Redesignated 1 Tow Target Squadron, 9 Jul 1942
Inactivated, 26 Oct 1945
Activated, 10 Oct 1947
Inactivated, 12 Oct 1949
Activated, 22 May 1950
Redesignated 1 Aerial Tracking Squadron, 8 Dec 1960
Discontinued and inactivated, 1 Jul 1962

STATIONS
Mitchel Field, NY, 1 Jul 1941
Manchester Air Base (later, Grenier Field), NH, 12 Aug 1941
Hyannis Municipal Airport, MA, 25 May 1942
Otis Field, MA, 21 Nov 1942
Bradley Field, CT, 1 May 1944
Camp Patrick Henry, VA, 22 Jul 1944
Pomigliano Airstrip, Italy, 13 Aug 1944-6 Oct 1945
Camp Patrick Henry, VA, 26 Oct 1945
Biggs Field (later, Biggs AFB), TX, 10 Oct 1947-12 Oct 1949
Biggs AFB, TX, 22 May 1950-1 Jul 1962

ASSIGNMENTS

WEAPON SYSTEMS
B-29
B-45
B-57

COMMANDERS
Maj Thomas B. Joyce, #1949
Lt Col S. H. Howell, #1954

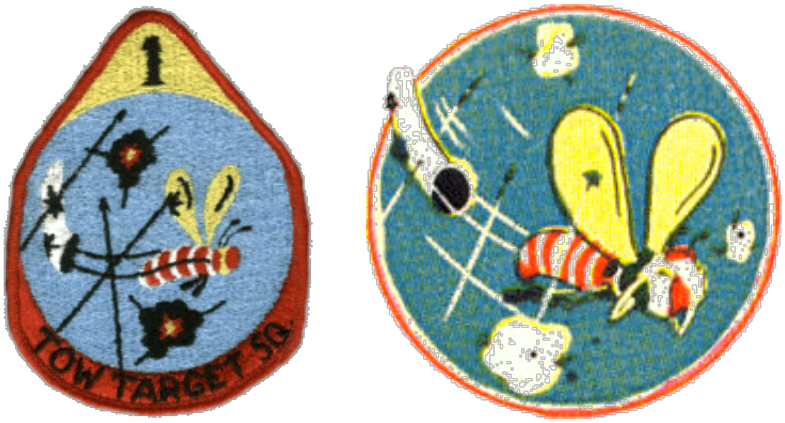
HONORS
Service Streamers

Campaign Streamers

Armed Forces Expeditionary Streamers

Decorations

EMBLEM



1 Tow Target Squadron emblems

MOTTO

OPERATIONS
The 1 Tow Target Squadron operates at wing level for many purposes. It has its own Statistical Control Section, cuts its own special orders for personnel, manufactures its own red tape, and is generally pretty independent in function. On a tow mission, silk sleeves for AA gunnery practice, or wire mesh panels for air-to-air gunnery practice are towed. The length of cable used varies from 12,000 feet (used by the B-29 above 3,000 feet altitude) to 1500 feet used for air-to-air gunnery.

In September 1949, Headquarters, Twelfth Air Force, alerted the 1st Tow Target Squadron at Biggs AFB, Texas, that deliveries of J35-powered B-45As could be expected shortly, although these remained at Barksdale AFB until squadron personnel were sufficiently versed in maintenance and operational procedures. The first Tornados arrived the following spring and tests commenced by towing MK-22 target sleeves until the streamlined Aero X-27A high-speed tow targets became available. Not unexpectedly, old problems of maintenance difficulties arose, particularly as J35 engine liners had to be inspected or removed following only 50 hours of service. Consequently, three months of operations resulted in only 235 hours of air time for Tornados, as opposed to 1,531 for Douglas B-26s on station.

As the months ground on, part shortages and other mechanical problems reduced B-45 flying time to 122 hours with a daily in-commission status of 28 percent by July. Incessant problems with J35 engine liners remained the biggest obstacle, and B-45 work crews were broken up into two flights for closer supervision of maintenance. By this time seven Tornados were on station, but their employment as target aircraft remained problematic simply because the 45-foot long Mk-22 target sleeves would "oscillate prohibitively at high speeds. There is no question that only when high speed targets are made available will the B-45 be useful in towing missions.”

Squadron authorities believed that future utilization of B-45 aircraft hinged upon the acquisition of tow targets that were better suited for high speed. Until that eventuality, the Tornados would be utilized for acquiring firsthand experience in jet engine maintenance.

The Army sought using the B-45s for radar ground tracking projects; the planes were to be flown at high speed and high altitude to simulate Russian jet bombers. The 1st Tow Target Squadron complied, but this placed additional work on ground crews to keep the "in commission status" as high as possible. Experiments with the much anticipated Aero A-l (X-27A) tow target also proved dismal and of fourteen flights, the majority either disintegrated in flight or were damaged after landing under tow. Squadron leaders also began pressing for higher thrust J35-A29 engines to replace the existing variants in use. This modification would ameliorate pressing and dangerous problems associated with lengthy takeoff rolls and the future necessity of these aircraft outweighs the expense of the installation.

Safety precautions were prevalent in target towing throughout this period, but no pilot savors the prospects of being shot at on a daily basis. "I was a little leery of the F-86s," Captain Walker reflected. "We towed a radar target for them in the B-45 at 30,000 feet out at Yuma. At first we had some problems with their radar walking up the cable the pilot couldn't see that happening. I was worried that they were getting behind that damn thing and firing rockets." Worse, as in any live fire practice, there was a certain element of danger to every flight. Captain Drain recalls one time when an F-89 Scorpion pilot unwittingly disabled his own radio then secured a target lock on the Tornado. "He had his mike button depressed we could hear him breathing, but we couldn't talk to tell him. And there was a chase plane pilot also trying to tell him that he was locked on us and not the target! He fired all his rockets at us they went around us and not one rocket even scraped the aircraft. We were screaming at him on the radio trying to tell him, Don't fire! Don't fire! You have the tow ship! but he never heard a word. We figured they'd take care of him when

they got him back." Fortunately, no one was ever injured during these live fire drills and the squadron compiled a respectable safety record in their TB-45s in spite of fighter pilots.

The Tornado's performance as tow target aircraft improved somewhat over the next five years, principally through adoption of equipment better suited for the task. Previously, they employed somewhat primitive arrangements for target towing, which were dangerous and ill-suited for high speed flight. According to Captain Drain, "They installed a huge reel in the bomb bay of the B-45 and we had about 7,000 feet of armored, steel cable that we used to drag what they called a 'radar reflective target' that they could locate on their radar screen and they would fire the pods of rockets from F-89s and from the bottoms of F-94s." The chutes, unfortunately, proved unstable at high speeds and fluctuated widely as pilots drew their bead. A new system was developed that allowed the tail gunner to operate and control the tow reel, which was reeled into the bomb bay, fitted with new targets, and redeployed in flight. Tornados, were still prohibitively expensive to operate and maintain, so squadron leaders began pining for modified Martin B-57 Canberras when they became available. These smaller, lighter aircraft promised better performance on a more cost-effective basis. Stringent requirements for jet pilot ratings were also introduced, which were impractical to attain for an outfit reduced to flying only four TB-45s. Therefore, in January 1955 an appeal went out for the assignment of T-33s to the squadron on a permanent basis to maintain pilot proficiency.

The period 1955-1957 were twilight years for TB-45s with the 1st Tow Target Squadron at Biggs. The most noted event during this interval was conversion of all aircraft to J47 engines by North American officials at Yuma County Airport. An even bigger change proved to be the adoption of a so-called "Dart target" mounted directly into the tail gunner position and operated from there. Sergeant Lloyd Miller did the initial engineering drawing for the device and it was constructed at the base machine shop. By this time, increasing numbers of B-57s were on hand to perform the same chores and the Tornados began falling by the wayside. The end came in September 1957 when the four remaining aircraft were declared surplus and placed in storage to await their final disposition.

DEPARTMENT OF THE AIR FORCE ORGANIZATIONAL HISTORIES
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Sources

Air Force Historical Research Agency. U.S. Air Force. Maxwell AFB, AL.
Unit yearbook. Biggs AFB, TX, El Paso, TX. 1949.
Unit Yearbook. 810 Air Division. Biggs AFB, TX. 1954.
John Fredriksen. *The B-45 Tornado.* McFarland and Company, Inc., Publishers. Jefferson, NC. 2009.