

VC-7 AND THE DEVELOPMENT OF AIR-TO-GROUND ROCKETS

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The air-to-ground missiles that are such a common element of today’s combat arsenal evolved from air-to-ground rockets first employed in combat in the Pacific theater during WW II. The author reflects on his unique experience when, as a lieutenant (jg) with VC-7, he was chosen to pilot one of the test flights for the new weapon.

In fall 1943, VC-7 was stationed at Naval Air Auxiliary Station Ream Field, just south of San Diego, Calif. The squadron’s torpedo division, flying TBM Avengers, was assigned to work with the California Institute of Technology (Cal-Tech) in Pasadena on a secret project to test fire a new rocket developed by that scientific and research institution.

On a bright October day in 1943, a three-plane division, led by VC-7 skipper Lieutenant Commander Bill Bartlett, took off from Ream Field for Goldstone Dry Lake (today, part of Naval Air Warfare Center Weapons Division China Lake). We did no firing on this first trip to Goldstone. Rather, we met the team in charge and received a briefing on the project.

We learned that in August 1943 the Navy had become so interested in the Cal-Tech air-to-ground rocket project that scouting began to find a suitable site for a testing facility where the actual firing could be done. A deserted little aircraft landing field west of the inconspicuous village of Inyokern, about 50 miles from Goldstone, was selected as an appropriate location. On 8 November 1943 the U.S. Naval Ordnance Test Station, located at the Inyokern Naval Auxiliary Air Station, was officially established at this site.

On 3 December 1943 LCdr. Bartlett called me into his office at Ream Field. “Robbie,” he said, “I want you to fly to the air station at Inyokern. Cal-Tech is ready to fire their air-to-ground rockets there. You are the one to go.” So, my radioman, George Dreisbach, and I took off in a

TBM Avenger for the quiet little auxiliary air station at the base of the towering Sierra mountain range. When we landed, not another military plane was on the field—a welcome respite from the busy air bases in the San Diego area.

Dr. Emery Ellis, the project director from Cal-Tech, took us in his Jeep over the undulating terrain of rock, sagebrush and juniper to a clearing in the desert, several miles north of the field. “There is your target. It isn’t much, but it will do the job,” he said. A 20-by-20-foot target of mesh and boards had been hung between two salvaged telephone poles. “Do you think you can hit



Photos courtesy of author

Ltjg. Robinson, left and below right with a plane captain at NAS North Island, Calif. Robinson flew his TBM Avenger, nicknamed “JoDo,” on a test flight of air-to-ground rockets at the newly established Naval Ordnance Test Station Inyokern, Calif., in 1943.



Photo courtesy of author



The author played a role in the testing of air-to-ground rockets, which his squadronmates of VC-7 would employ in the Marshall Islands in February 1944, left, flying from Manila Bay (CVE 61), below.



rapid testing and development process, which demonstrated the promise of the new technology. Soon, air forces would have the same firepower in a single rocket as in a shell from a light cruiser—a significant jump in military might.

When VC-7 arrived aboard *Manila Bay* at Pearl Harbor, Hawaii, a month later, our rocket-equipped Avengers became a source of interest to the Navy brass there. Rear Admiral Ralph Davidson, Flag Commander of Carrier Division 24, operated from *Manila Bay*. On the way to the invasion of the Marshall Islands, he ordered a demonstration of these new aerial rockets, so one afternoon I was catapulted into the clear Pacific sky at the lead of a three-plane division. A cable-attached spar had been rolled out astern of the carrier. I thought the target was too close to the carrier so I radioed a request for more cable to be let out, but was told, “The admiral wants a good view!”

I made the first dive, increasing speed until firing at 1,000 yards. The eight rockets hit around the target spar with a giant thump, exploding shrapnel high into the air. Some of the fragments fell onto the carrier’s flight deck, causing no damage but considerable dismay. “Cease fire!” the order came.

that target?” he asked.

“I’ve never fired these rockets before, but I’ll give it a try,” I replied.

By the time we returned to the airstrip at Inyokern, eight rockets had been mounted under the wings of the plane. We climbed into the Avenger, and as I fired up the big 1,700-horsepower radial engine I felt reassured as the familiar plane came alive with a deep and pulsating roar. The 200-mile-per-hour dive was turbulent and bumpy, and it was difficult to keep the electric gunsight on the target. I had another problem. The trajectory of the rockets after being fired from 1,000 yards out necessitated a correct calibration from the launch position to the point of impact.

Radar had recently been installed in our planes for night combat work, and before our first flight George and I talked about the possibility of using the radar to accurately determine the distance to a target during the dive. He suggested that he mark each 1,000- and 100-yard point on the radar screen, then he would call out the distance throughout the duration of the dive to the target. It was worth trying.

The next time I brought the diving plane on target, George called out our distance over the intercom: “2,000 yards, 19 hundred, 18, 17, 16, 15, 14, 13, 12, 11, fire!” His rhythmic call gave me the pattern I needed. This quickly designed technique worked well and the eight charged heads hissed off and exploded on target, breaking the desert silence with a roar.

This success was just one element of what would be a



High-velocity aircraft rockets, like these on the flight line of Marine Fighter Squadron 214 in the Korean War, evolved from the Navy’s fledgling testing program of the early 1940s.

That was the last time we put on a demonstration. I was told later, “The admiral was duly impressed.”

The Navy was similarly impressed by the success of these air-to-ground rockets during their first use in the Pacific theater. Cal-Tech produced the first 100,000 rockets for the fleet on an emergency basis, and soon the nature of naval warfare was changed forever. ✈️

Following his WW II service, Lt. Robinson worked in public education for 30 years.