

AFEHRI File 100.089

**Research Materials/Source Documents
STUDENT PAPERS**

FILE TITLE: Background Paper on The History of AF Specialty Code (416X0) Munitions Systems Specialist

AUTHOR: MSgt R. C. Bussell, SNCOA Student, 13 Apr 1992

Reviewed by:

AFEHRI Representative G.R. Akin date 30 Dec 97

EPC Representative J. C. De date 9 Feb 98

Scanner Operator Sandra J. Amidon date 9 Feb 98

APPROVED BY: Gary R. Akin

GARY R. AKIN, CMSgt, USAF

Director

Air Force Enlisted Heritage Research Institute

72
19-5-97
Z

BACKGROUND PAPER

ON

THE HISTORY OF AIR FORCE SPECIALTY CODE 461X0

MUNITIONS SYSTEMS SPECIALIST

The purpose of this paper is to provide a historical background on the development of Air Force Specialty Code (AFSC) 461XX, Munitions Systems Specialist. The history of this career field is actually much older than the U.S. Air Force itself. The nature of the work is such that it originated long before aircraft were invented. In fact, it's likely that special precautions were taken for the storage and handling of gunpowder shortly after its development sometime in the 1300's. Of course the munitions of long ago were exceptionally crude and through the centuries they've obviously become much more sophisticated, but they are still inherently dangerous and deserving of our utmost respect. The men and women of our armed forces who endeavor to enter the munitions occupation are no less deserving of that same level of respect, for their history is long and distinguished. Irrespective of their branch of service, be it Army, Navy, Air Force, Marines, or Coast Guard, someone has to be the keeper of the bullets. Generally, that "someone" is an enlisted person and in the Air Force this couldn't be more true. In the modern Air Force these enlisted men and women are formally known as Munitions Systems Specialists. But as a result of their proud heritage they prefer to be called "AMMO Troops", and this is their story.

I'll begin with a historical chronology of sorts that traces the roots of the modern day Munitions Systems Specialist from the time of the American Revolution right up to the point that the Air Force became a separate service component. Then, I'll concentrate on how the munitions systems career field has evolved into a diversified, yet highly specialized combat support

function. Finally, I'll get out my crystal ball and try to see what's in the future for those who choose to make this line of work their forte in life. I've personally devoted 17 years of my life thus far to the profession of arms now known as the United States Air Force, all of it consumed in the study of munitions support. However, those of us that currently "carry the flame" owe much of our modern-day success to those that preceded us. It's only fitting to begin with a historical acknowledgment of our ancestry.

The Air Force munitions systems specialist career field was developed from air components of the original U.S. Army Ordnance Corps. According to a handout prepared by the U.S. Army Ordnance Museum at Aberdeen Proving Ground, Maryland, the Ordnance Corps dates to the early days of the American Revolution (9:--). In 1775 the Continental Congress appointed a "Commissary General of the Artillery Stores" to provide ordnance material. The appointee, Ezekiel Cheever, was in effect the first Chief of Ordnance. However, the Ordnance Department was not an official body until it was formally organized by an Act of Congress on 14 May, 1812. The functions they performed were quite broad. Their responsibilities included issuing supplies to troops in the field, working with industry in the development of manufacturing techniques, improving machine tools, and keeping records of purchases and stocks on hand. They were also responsible for operating several arsenals and armories.

According to an article in the Military Collector and Historian, the Ordnance Department was merged with artillery on 2 March, 1821 and later re-established as the Ordnance Corps in April, 1832 (12:Vol. 5). Their responsibilities for storing and maintaining the nations stockpile of munitions has apparently remained virtually unchanged since that time. Even

today there exists an agreement whereby the Army is established as the Single Manager of Conventional Ammunition. It is their responsibility to maintain control of all conventional munitions that are used by multiple departments of the military services and stored in the continental United States (6:--). Essentially, this means that the Army continues to store and maintain most of the conventional munitions in the U.S. arsenal much like they have since the birth of our nation. Why then, do we have a munitions systems career field in the Air Force instead of letting the Army provide the support. The answer lies in the development of training methods to accommodate aircraft as warfighting instruments.

A book entitled The Ordnance Department, Planning Munitions For War, provides a glimpse of ordnance training in the pre-World War II era (17:122). It shows how a series of 9 month ordnance courses provided instructions in the repair, maintenance and storage of Ordnance material from 1920 thru 1940 for 'groups of carefully selected enlisted men' who had already been in the service for at least 2 years. It's important to note that graduates of these courses were considered *generalists* in the ordnance field. The extended training programs provided them with a versatile background in what was to become several ordnance specialties. As we entered World War II (WW-II) it became obvious to the leaders of that time that the generalist force was no longer practical.

The generalists were graduating from a lengthy training course and being thrown into an enormous variety of field functions for which they may, or may not have been qualified. According to one 1944 report, ordnance roadside service stations were established by ordnance-men at 50 mile intervals along the German autobahn to provide maintenance capability to ammunition haulers

(14:--). This effort apparently met with great success. However, another report by Colonel N. M. Lynde, Deputy Ordnance Officer, Headquarters, First U.S. Army, 15 December 1943 to 5 February 1945, detailed how, "Personnel of Ordnance evacuation companies (collecting) learned to drive all types of equipment on the job. They also learned rigging and obtained a knowledge of mines and booby-traps by actual experience." But an important caveat followed this statement. He said, "In handling enemy ammunition frequent accidents occurred among officers and enlisted men of Ordnance evacuation companies of the First and Fifteenth U.S. Armies while operating in the collecting role (15:--)."

There can be no doubt that specialized training could have prevented accidents such as those mentioned above and the Army may have already recognized this problem in a much broader context. The need to begin the process of separating support for Army Air Forces from that of ground forces became increasingly evident. But it's not clear whether they truly saw this need and made conscious changes or if they simply reacted to individual problems in a consistent fashion. Nevertheless, the Army Air Force required technical specialists and leadership began sorting out how to train them as such.

General Kutz, who became the chief of Military Training Division in 1943 described the problem and its solution in simplistic terms. He said, "We discarded the time-consuming endeavor of trying to train a Jack-of-all-trades and concentrated, instead, upon turning out highly skilled technicians in specialized fields (17:125)." In actuality the U.S. Air Force Munitions Systems field sprang forth from this specialization effort. In fact, the Army Air Corps had apparently seen the need for specialized training of its support

troops as early as 1942 and had established an Ordnance Technical School at Westover Field, Massachusetts on 25 February 1943 (11:--).

According to a letter from the commander of the Westover Field school to the Commanding General, Air Forces, E.D.C. and First Air Force, Mitchel Field, New York, this school had the specific purpose of providing training for ammunition and armament specialists who were to be sent to fighter squadrons in support of the war effort. All students received the same course for the first 11 days of training. They were then split into two sections consisting of ammunitions handlers and armorers. During the last 3 days of training they were brought back together for instructions in general supply, bomb disposal and general automotive information.

If the school at Westover was in fact the *first* technical training course specifically for aircraft related munitions personnel, Sgt W. McIntosh of the 320th Fighter Squadron, and Sgt T.B. Weiler of the 322nd Fighter Squadron were the first technical training instructors for what is now known as the munitions systems career field. In any case, it had been recognized that there was an inherent difference between munitions support for ground forces and that for air forces. They were also beginning to see some differences between the armament (now known as 462X0 Weapons Maintenance) career field and the ammunitions (now known as 461X0 munitions systems) career field.

The dissimilarities and interdependency of these two fields of study were evidenced by a series of combat reports to Western Technical Training Command in 1943. There was concern by field commanders that graduates of armament courses at both Lowry and Buckley Fields, Colorado were insufficiently trained (10:1960-1966). One of these letters indicated that several serious accidents had occurred while loading fuzed demolition bombs larger than 500 lbs. on

tactical aircraft. Fuzing and finning procedures were normally accomplished by Ordnance Corps personnel after which the complete rounds were delivered to Army Air Force personnel for installation on the aircraft. It was recognized that close coordination between these two groups of people could help prevent accidents. But, specialization had become so prolific that it was often difficult to tell who was responsible for accomplishing given responsibilities.

Air Evaluation Board reports had generated some concern that organizational and training problems were difficult to overcome throughout WW-II (15:--). The development of numerous specialties was apparently a reactionary attempt to overcome these problems. Army Air Force Manual (AAFM) 35-1, Military Personnel Classification and Duty Assignment, dated 1 July 1945, showed the following breakdown of munitions related jobs (7:55-86).

<u>MOS*</u>	<u>Duty Title</u>
505	Ammunition Supply Technician
815	Ordnance Supply Technician
901	Ammunition Handler
949	Ammunition Renovator
662	Aerial Torpedo Mechanic
967	Aircraft Loading Technician
786	Toxic Gas Handler

* Military Occupational Specialty (MOS)

By the time the Air Force was established as a separate service component in 1947 it appeared that specialization was here to stay. By 1949 the list above had grown to more than 20 different specialties that were associated with armament, according to a MOS listing with proposed Air Force Specialties

(1:--). By March 1953 that list of 20 specialties had evolved to those listed below according to Air Force Manual 35-1, Warrant Officer and Airman Classification Manual (3:46-1 thru 46-25).

<u>AFSC*</u>	<u>Duty Title</u>
46100	Munitions Superintendent
46170	Munitions Supervisor
46150	Munitions Specialist
46171	Munitions Disposal Technician
46200	Weapons Maintenance Superintendent
46270	Weapons Maintenance Supervisor
46250	Weapons Mechanic
46300	Nuclear Weapons Mechanical Superintendent
46370	Nuclear Weapons Mechanical Technician
46350	Nuclear Weapons Mechanical Specialist
46010	Munitions and Weapons Maintenance Helper

* Air Force Specialty Code

Note: There were numerous shred-out, or sub-specialties that are not shown.

The duties accomplished by each of these specialties were now more clearly defined than ever before. No longer were the lines of support so uncertain as they had been in the days of the Ordnance and Armament Specialists of WW-II. In 1953 the 461XX specialty was primarily responsible for the storage, assembly, maintenance, handling, and inspection of all conventional munitions, and was the feeder specialty for munitions disposal duties. The duties have remained essentially unchanged since then with the exception of some merging of functions and changing of AFSC number designators. The following is not

intended to be an all-inclusive narrative of alterations to the field since 1953. Rather, it highlights the more significant changes that have been made.

By December of 1959, AFM 35-1, Airman Classification Manual, no longer showed the 46100 designator and had replaced it with AFSC 46190. This indicated the removal of Warrant Officers from the Superintendent position and realignment of the AFSC's to match the new skill level qualification standards for enlisted people (2:46-1). The 46100 was reinstated as a Chief Enlisted Managers Code (CEM) in a 1978 change to AFR 39-1 Airman Classification Regulation (4:46-1). In 1980 AFR 39-1 reflected the merger of the 316X1L tactical missile career field with 461XX (5:46-1). This enlarged the 461XX career field to include maintenance of guided and unguided missiles and bombs. Also, the 46171 specialty was apparently changed at some point in the 1960's to create a separate career field for Explosive Ordnance Disposal. The designator for this field became 464X0 and remains that way as of this writing. Looking back, we can see that the evolution of the 461XX career field is long and tumultuous. Yet, due to ever increasing technology, the AMMO warriors of today face nearly as much diversification as the Ordnance Corps did during WW-II. The modern complexities of the art of war continue to change the face our world, our nation, and our Air Force.

The period from about 1958 to 1972 was truly the dawn of a new technological era in the age of aviation as it relates to munitions improvements. Senior leaders in the Air Force munitions community saw this era coming and in 1959 they convened a conference to discuss improved ways of doing business (13:--). This was apparently the first World-Wide Airmunitions Conference. It was held at the Newhouse Hotel, Salt Lake City, Utah and covered a broad range of topics. Agreements made during this conference laid

the groundwork for how we 461X0's manage airmunitions to this day.

Training was but one of the items on the agenda at this historical conference and of course the plight of the AMMO troop was discussed. Major J. W. Waller, Chief, Armament Training Division, HQ Air Training Command described a problem wherein the 461X0 was being trained to handle, store, maintain, and inspect munitions, but after arriving at his duty station was being tested on how to load bombs on aircraft. This growth process indicated that there was still a misunderstanding of what specific functions to use an individual for at the unit level. Specialization would only work if the individual was used in the capacity for which he or she was trained. Apparently this problem was later overcome since the 461X0 was primarily used to store, handle, assemble, maintain and inspect munitions throughout the Vietnamese conflict.

Vietnam was to be the first true test of the modern-day munitions systems professional. According to a report on the establishment of the Airmunitions Transportation System, the Air Force requested its first 18,929 tons of munitions in 1961 to support the Vietnamese conflict (8:--). Although this report doesn't provide a complete picture, and actual figures are not possible to obtain, we know that more than 3 million short tons of airmunitions were sent to South East Asia (SEA) during the period of 1965 to 1968 alone. What this means is that there were AMMO troops on the other end of the pipeline transporting, storing, maintaining, assembling, and inspecting all of these assets. Their *primary* job, however, was storing, handling, and assembling an ever-increasing array of complex airmunitions. Maintaining and inspecting the munitions is mostly a peacetime mission.

The difficulty of the role these AMMO warriors played was perhaps best

portrayed in a recently declassified SEA report on Out-Country Strike Operations (16:26). This report discussed organizational problems detailing the need to have both 461XX and 462XX personnel in the same squadron in order to adequately support all types of aircraft. It also highlighted the diversification and complexities of the munitions support mission by showing the transportation shortages encountered, storage problems, and general logistical support difficulties that existed throughout the entire period of the SEA conflict. The important thing to remember here is that the AMMO troops always came through. For them, "AMMO ingenuity" was not just a catch-phrase, it was, and is, a life-style. That same spirit lives on today and was most recently evidenced in the Desert Shield/Desert Storm conflict.

Yes, AMMO troops were in South West Asia (SWA) also, assembling bombs as long as airplanes were there to fly them. At this writing, more than a year after Desert Storm has ended, AMMO troops are still there. For you see, the work of the AMMO troop isn't over when the last battle ends. He or she must stay to disassemble the munitions that are left over and ensure they are repackaged, stored, shipped, or destroyed. It's a huge undertaking that involves millions of rounds of ammunition and bomb components, and hundreds of thousands of bombs. The job requires the AMMO troop to stay long after everyone else has gone home to victory parades. But you won't hear any complaints from these "grunts" of the Air Force. They are true warriors who know what's required and are willing to do it. So what lies in the future for this career field and those that will choose it as a way of life?

The answer is simple. The world has not changed so much that we are no longer required to fight wars. Unless lasers or other technological inventions replace munitions as killing devices there will always be a need

for someone to get the right quantity, of the right munitions, to the right airplane, at the right time, to fly them against our enemy. My guess is that AMMO troops will always be there to do just that. As you have seen, their history is rich in accomplishment. Before closing, let's look one more time at the high points of their great history.

The lineage of the U.S. Air Force AMMO troop began with the labor pains of our great nation when the Ordnance Department was first formed as a branch of the Army. Later, as aircraft were developed and seen as instruments of war it became necessary to begin separating munitions support for aircraft from that provided to ground equipment and troops. WW-II set the stage for a dramatic shift in the types of training that enlisted munitions and armaments workers were required to undergo.

The leaders of that time recognized they were on the brink of a technological revolution in the age of aviation. Soon after, the Army Air Force became the U.S. Air Force and there was a short time that a sort of grey area existed concerning the real tasks required of the 461X0 vise that of his armament (462) counterparts. Vietnam proved that both were needed and each had a distinctly separate yet interrelated function to perform.

AMMO troops once again answered the call of battle during the Persian Gulf conflict and at this writing, many are still in the desert sands of South West Asia. These are the modern-day warriors that carry the flame of liberty. None are more dedicated to the cause of freedom nor more willing to risk their lives to defend it. They know that many have fallen in the path before them and that those who pick up the flame must be willing to carry it high, for it lights the way of a *free* nation.

BIBLIOGRAPHY

1. Armament Systems Career Field, MOS-AFS Listing, June 1949.
2. Air Force Manual 35-1, Airman Classification Manual, December 1959, Vol. I, p. 46-1.
3. Air Force Manual 35-1, Warrant Officer and Airman Classification Manual, March 1953, pp. 46-1 thru 46-25.
4. Air Force Regulation 39-1, Airman Classification Regulation, June 1977, p. 46-1.
5. Air Force Regulation 39-1, Airman Classification Regulation, April 1980, p. 46-1.
6. Air Force Regulation 136-5, Single Manager For Conventional Ammunition, March 1986.
7. Army Air Force Manual 35-1, Military Personnel Classification and Duty Assignment, July 1945, pp. 55-86.
8. Development of the United States Air Force Airmunitions Transportation System, 1961 - 1968.
9. Handout from the U.S. Army Ordnance Museum, Aberdeen Proving Ground, 1991.
10. A History of the Army Air Forces Western Technical Training Command, Vol. IV, Denver, Colorado, 1944, pp. 1960-1966.
11. Letter from Commander, Westover Field, Mass. to Commanding General, Air Forces, E.D.C. and First Air Force, Mitchel Field, New York, 7 April 1943.
12. Military Collector and Historian, Vol. 5, No. 4, December 1953.
13. Minutes of the Air Force World-wide Airmunitions Conference, March 1959.
14. Operation of Ordnance Roadside Service Stations, Report of the General Board, United States Forces, European Theater, Study #97, 1944-45.
15. Ordnance General Supply and Maintenance, Air Evaluation Board, SWPA, Report No. 14, 1 May 1946.
16. Out-Country Strike Operations in SEA, Vol. IV - Support Logistics Report, February, 1970, pp. 26.
17. UNITED STATES ARMY IN WORLD WAR II, The Technical Services, The Ordnance Department: Planning Munitions For War, 1955, pp. 122, 125.