

AFEHRI File 100.004

Research Materials/Source Documents
STUDENT PAPERS

FILE TITLE: Background Paper on Enlisted Aerial Gunners

AUTHOR: SMSgt W.O. Thornton, 19 Feb 1997

Reviewed by:

AFEHRI Representative G.R. Akin date 5 Dec 97

EPC Representative Paul C. [unclear] date 11 Dec 97

Scanner Operator Sung [unclear] date 11 Dec 97

APPROVED BY:

Gary R. Akin

GARY R. AKIN, CMSgt, USAF
Director
Air Force Enlisted Heritage Research Institute

BACKGROUND PAPER
ON
ENLISTED AERIAL GUNNERS

1. In the history of aerial warfare, there have been many significant contributions made by enlisted military members. Arguably, the group of enlisted airmen who contributed the most were the aerial gunners. I would like to discuss the contributions made by aerial gunners, starting with World War One and through World War Two. I will then highlight the mission of aerial gunners in bomber and interdiction aircraft during the Vietnam Conflict. Finally, I will discuss the roles and missions of aerial gunners in today's Air Force. First, I'll talk about aerial gunnery when it was in its infant stage during World War One.

2. Less than 15 years after the Wright Brothers' historic flight over Kitty Hawk, North Carolina, aircraft were employed in support of ground forces in Europe during World War One. Initially aircraft were only used as observation platforms to identify opposing troop formations. The observer/gunner of the aircraft was in command of the craft and was usually an officer. Due to the shortage of qualified commissioned officers, enlisted members were soon performing aerial gunnery duties. The book *Knights of the Air*, stated the first ever air-to-air victory was scored by an enlisted man. French Air Force Corporal Louis Quennault, earned distinction by registering the first air-to-air kill of an aircraft with a machine gun (1:19). In mid 1916, the French Air Force started recognizing their most proficient fighter pilots, with 5 or more kills, by calling them Aces. The commander of British Air Forces, Major General Sir Hugh Trenchard, did not like the system because it did not recognize the valiant and often sacrificial efforts of gunners and observers in combat. (1:79) . Ironically, the first person to destroy five enemy aircraft in the air was an American flying with the Royal Air Force, Corporal Frank Libby (2:5). Aircraft had little affect in the outcome of World War One, but the innovations and techniques learned during the conflict laid the groundwork for the future.

3. In the years between the world wars, air power was maturing and the roles of enlisted gunners became more clearly defined. A September 1933 War Department memo established flight pay for enlisted pilots and enlisted gunners. The memo noted that the policy was only a temporary measure, required due to a lack of qualified officers to perform flight functions (3:1-2). A 1938 memo addressed to the Commander, GHQ Air Force also expressed the

need for enlisted bombers (bombardiers) and gunners to substitute for commissioned officers. The memo also said if an enlisted person proved satisfactory in performing flight duties, the potential for commissioning in time of war was another main criteria for selection (4:1-2). The policies and decisions made between the wars laid the groundwork for the most extensive use of aircraft in history, World War Two, and played a major role in the success of Allied forces.

4. During World War Two, gunners were essential in the defense of strategic bomber aircraft in both the European and Pacific Theaters. Tens of thousands of gunners flew thousands of missions over Europe to destroy the German industrial base. Some were dual-qualified as radio operators/gunners who were required to take a six week long course in gunnery after completion of their radio course (5:74). One such "dual-hatted" gunner was Technical Sergeant Forrest Vosler. Technical Sergeant Vosler won the Medal of Honor while flying in a B-17 in a bombing raid over Germany. His medal citation described his exploits over Bremen, Germany, where Technical Sergeant Vosler was seriously wounded by German fighter aircraft. Despite his wounds, he still managed to man his gun station and keep up a steady stream of fire. Although blinded by his injuries, Technical Sergeant Vosler succeeded in repairing his inoperative radio and sent a distress signal out before his aircraft ditched (6:1). In the Pacific theater, gunners also flew missions in support of bomber protection. One such gunner, SSgt John Foley, achieved great recognition for his role as a top-turret gunner on B-26 bombers. During over 60 combat missions, Foley earned distinction by destroying 7 Japanese aircraft, including some of the vaunted A-6M Zero fighters. Sgt Foley became a folk hero and a line of clothing, watches, boots, and raincoats was marketed under the "Johnny Zero" brand name. The tradition of aerial gunners protecting bombers carried over in to the Vietnam Conflict and also expanded to the fixed-wing gunship.

5. During the Vietnam conflict, the crew of a B-52 consisted of a pilot, co-pilot, radar/navigator, and a defensive aerial gunner. B-52 Defensive Aerial Gunners, like their World War Two contemporaries, were responsible for bomber defense, but unlike gunners in World War Two, did not actually point and shoot their guns. Guns mounted in the rear of the B-52 were actually locked on their targets with radar and shot by the gunner remotely at a station several feet away from the guns. The gunner's radar was also used as a backup to the aircraft's primary radar

bombing system in the event of system failure. A bomber in flight formation could lock its gun radar on to another bomber in the flight, determine its position relative to that bomber, and successfully drop a bomb load. Guns varied in size and configurations from the four .50 caliber machine guns on the B-52D to a 20 millimeter gatling gun on other models. Two gunners were credited with destroying Russian made MiG aircraft, SSgt Sam Turner and Airman First Class Al Moore, though many other kills were claimed, but not confirmed. A long and proud tradition ended in 1991 with the elimination of enlisted aerial gunners defending bomber aircraft (7:5).

6. Another innovation that was used in Vietnam was the employment of fixed-wing gunships with side-mounted guns, starting with the AC-47 aircraft. According to the book *Gunships*, by Larry Davis, gunners assigned to these aircraft did not actually fire the weapons, but serviced them and fixed malfunctions in flight (8:11). AC-47s were effective against lightly armored targets and personnel, but lacked the armament to destroy larger targets. These gunships were armed with three 7.62 millimeter gatling guns, not the 20 millimeter type installed in the AC-47 static display at the Senior Noncommissioned Officer Academy. According to Mr. Nunzio Zummo, a 40-year veteran of aircraft weapons testing at Eglin AFB, Florida, the reason the AC-47 was replaced by the AC-130 was because of the need for a more heavily armed weapons platform (9). Unlike the relatively primitive AC-47, the AC-130 was equipped with forward looking infra red (FLIR), and an advanced targeting computer. The first AC-130 models were armed with four 20 millimeter and four 7.62 millimeter gatling guns. As deployment progressed, the aircraft received upgraded armament, including a 40 millimeter Bofors cannon and a 105 millimeter cannon (8:16). The AC-130, which first entered service in 1967, is still in service today, along with two armed helicopters, the MH-53 and MH-60, in the Air Force Special Operations Command.

7. AC-130 gunships are operated by the 16th Special Operations Wing, Hurlburt Field, Florida. The primary mission of these heavily armed machines is interdiction and destruction of enemy supplies and personnel. The aircraft are currently armed with two 20 millimeter cannons, a 40 millimeter Bofors cannon, and a 105 millimeter cannon. The newest version of the AC-130, the AC-130U, features a 25 millimeter cannon to replace the two antiquated 20 millimeter guns. The 20 millimeter gatling guns are the same used in most U.S. fighter aircraft and the 40 millimeter cannon is essentially the same gun used by anti-aircraft units in World War Two. Sometimes, the 105 millimeter

cannon is mistakenly called a *howitzer*, but that terminology is incorrect in this application of the weapon. A howitzer, by definition, is a large caliber, *indirect* fire weapon which lobes its shells at high trajectories. The 105 millimeter cannon on the AC-130 is used as a *direct* fire weapon and not an *indirect* fire weapon. All guns are aimed by a sophisticated fire control system and fired by the aircraft commander. The gunner's function is to fix malfunctions on all guns and manually feed ammunition into the two larger cannons. AC-130s were used extensively in support of special warfare in the Gulf War and the only special operations casualties in the war, were the 14-member crew of an AC-130, shot down in action over Kafje, Saudi Arabia (10). Aerial gunners are also used on special operations rotary-winged aircraft.

8. Unlike their fixed-wing comrades, aerial gunners on MH-53 Pave Low and the MH-60 Pave Hawk helicopters operate in much the same way as their counterparts in the two world wars. Pave Low and Pave Hawk gunners actually aim, shoot, and fix malfunctions on their weapons. Both the Pave Low and Pave Hawk carry the same armament, a 7.62 millimeter gatling gun and a .50 caliber machine gun. The gatling gun is essentially the same one used on the AC-47 gunship and the .50 caliber machine gun is a linear fed weapon, very similar to guns used in World War Two fighter aircraft. According to SSgt Tony Gentile, a gunner with the 20th Special Operations Squadron, the primary mission of these helicopters is infiltration and extraction of special forces into combat areas (11). The MH-53, heralded as the most sophisticated helicopter in the world, actually led U.S. Army AH-64 attack helicopters to targets in Iraq, identified the targets, and led the strike force back out (10). SSgt Gentile served in the Persian Gulf War and was also involved in operations in the African nation of Liberia, where he performed non-combatant evacuation of American citizens in 1996 (11).

9. In my discussion on aerial gunners I explained the contributions and sacrifices made by aerial gunners, starting with World War One. I then described some events which took place between the world wars that helped shape the future of enlisted aerial gunners. I then discussed training requirements for some aerial gunners during World War Two and gave examples of some of their exploits in both the European and Pacific theaters. I then highlighted the mission of defensive aerial gunners on B-52 aircraft during the Vietnam Conflict and discussed the introduction of the fixed-wing gunship, starting with the AC-47 and ending with the powerful AC-130 Specter. Finally, I discussed the

roles and missions of aerial gunners in the Air Force Special Operations Command on both fixed-wing and rotary-winged aircraft. Although the number of enlisted aerial gunners has been reduced in recent years, they still make significant contributions to the mission of the Air Force. In these uncertain times with no well defined enemy, the role of special operations forces and aircraft have expanded and gained much greater importance. Clearly, there will be a need for enlisted aerial gunners to support those operations well into the foreseeable future.

BIBLIOGRAPHY

1. Ezra Bowen, *Knights of the Air*, Time Life Books, 1980.
2. Charles A. Watry and Duane L. Hall, "Aerial Gunners: The Unknown Aces of World War II," Extract from the Enlisted Heritage Hall, Maxwell-Gunter AFB, Alabama.
3. Memorandum from The Adjutant General, USAF, 15 September 1933, USAF Collection, AFHRA
4. Memorandum from The Commanding General GHQ Air Force, 9 February 1938, USAF Collection, AFHRA
5. Bruce D. Callender, "The R-O Gunners," *Air Force Magazine*, January 1994.
6. Medal of Honor Citation, Forrest L. Vosler, Enlisted Heritage Hall, Maxwell-Gunter AFB, Alabama.
7. David L. Snyder, Captain, USAF, *Combat Crew*, December 1991
8. Larry Davis, *Gunships*, Squadron/Signal Publications, 1982
9. Nunzio Zummo, Telephone conversation, Ft Walton Beach, Florida, 16 February 1997
10. CMSgt Lampe, Sergeant Major, U.S. Special Operations Command, Special Operations Briefing, 12 February 1997, Senior Noncommissioned Officer Academy, Maxwell-Gunter AFB, Alabama.
11. Staff Sergeant Tony Gentile, MH-53 Aerial Gunner, 20th Special Operations Squadron, Hurlburt AFB, Florida, Telephone conversation 7 February 1997