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LIEUTENANT GENERAL WILLIAM H. TUNNER IN THE CHINA-BURMA-INDIA "HUMP" AND BERLIN AIRLIFTS: A CASE STUDY IN LEADERSHIP IN DEVELOPMENT OF AIRLIFT DOCTRINE

by

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ABSTRACT

TITLE: Lieutenant General William H. Tunner in the China-Burma-India "Hump" and Berlin Airlift: A Case Study in Leadership in Development of Airlift Doctrine

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Airpower in the early part of the twentieth century was dominated by the development and demonstration of the power of the strategic bomber and the high performance fighter. Yet, airlift, one of the last elements of airpower to emerge from this era, proved to be one of the most instrumental in our nation's ability to project power quickly throughout the world by moving large numbers of men and materiel. This is due primarily to the leadership of Lieutenant General William H. Tunner. During the decade of the 1940s, Tunner and his "hand picked" staff of innovators developed early airlift doctrine during the "Hump" airlift of World War II and the Berlin Crisis of 1948-1949 that remains as the foundation for much of today's airlift doctrine. Through Tunner's innovative ideas to change and leadership by example, he was able to turn potential disaster in both scenarios into unbelievable demonstrations of the strength of this new arm of airpower.

BIOGRAPHICAL SKETCH

Lieutenant Colonel Billy J. Hoppe is a career KC-135 tanker pilot with a deep interest in the heritage of the early days of airlift. This interest has its roots from his many "hanger flying" sessions with his father-in-law, Lieutenant Colonel(ret) George V. Pruitt, who accumulated over 800 hours of flying time in C-47s and C-46s during the Hump and Berlin airlifts.

Lieutenant Colonel Hoppe is a 1974 graduate of Texas A & M University. His professional military education includes Squadron Officer School, Air Command & Staff College, and Air War College.

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CHAPTER ONE

INTRODUCTION

Of all the elements of air power developed in the early twentieth century, one of the latest to emerge was airlift. Until World War II, airlift was virtually ignored by military aviators in the United States. The power of strategic bombing and the development of high performance fighter aircraft captivated air power enthusiasts. The doctrine and procedures to move large numbers of men and tons of materiel by air were not yet needed. Therefore, they were not developed[1]. Today, airlift sits proudly alongside other aerospace missions and is a vital element of the force enhancement role of aerospace power. Airlift provides the capability to "rapidly transport materiel and personnel without regard to surface obstacles to project power to any location in the world."[2] It is the backbone of the GLOBAL REACH portion of our Air Force concept of GLOBAL REACH-GLOBAL POWER. Yet barely fifty years ago there was no organization in American military aviation to provide for the delivery of materiel or personnel[3]. It is my proposition that this tremendous transformation is due primarily

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1 Tunner, William H., Over the Hump, Washington, DC: Office of Air Force History, 1985, p vii.
2 Air Force Manual 1-1, Vol. I, Basic Aerospace Doctrine of the United States Air Force, 1992, p 6-7.
3 Glines, C. V., "Flying the Hump", Air Force Magazine, Air Force Association, March 1991, p 102.

to the leadership of one airlift pioneer--Lieutenant General William H. Tunner. The purpose of this paper is to analyze General Tunner's leadership qualities that contributed so greatly to the development of the modern concept of airlift. In particular, I will examine Tunner's leadership style and the innovative programs he developed, tested, and refined during the decade of the 1940s in the Air Transport Command. First, I will analyze his contributions to the China-Burma-India "Hump" airlift of World War II, the first massive airlift operation in the Army Air Force's history. Next, I will examine how the leadership techniques and flying innovations he developed during the Hump operation were validated only five years later during his command of the Berlin airlift, the most massive humanitarian airlift operation in history.[4] Finally, I will analyze how the ideas developed during Tunner's decade of command established the foundation for much of current air mobility doctrine.

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4 Prochoroff, Alan, "Airlift for Freedom", SERGEANTS, September 1988, p 10.

CHAPTER TWO

EARLY AIRLIFT DOCTRINE DEVELOPED: THE "HUMP" OPERATION

In March 1942 the Japanese occupied Burma and sealed off the Burma Road, the only ground supply route over the Himalayan Mountains available from British-held India to western China. It was essential to provide supplies to the Chinese and American armies in mainland China as they engaged a force of over one million Japanese troops. President Franklin D. Roosevelt announced "The Japanese may have cut the Burma Road, but ... ways will be found to deliver airplanes and munitions to the armies in China."[5] The "way" was the development of the first "air bridge" in U.S. military history. This "air bridge", commonly referred to as the "Hump", was a 500-mile route over the awesome and uncharted three-mile-high peaks of the Himalayan Mountains. For the remainder of the war, the Hump operation was the sole source of supplies to the Chinese and Americans attempting to contain the large Japanese forces on the Chinese mainland.

The goal of the Air Transport Command's India-China Division was to initially deliver 2,500 tons of supplies during the early months, steadily increasing the monthly tonnage to 10,000 by the

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5 Kownig, William J., Over the Hump: Airlift to China, New York, Ballentine Books, Inc., 1972, p 18.

end of 1942.[6] This was no small task even in favorable conditions, but the Far East environment was far from favorable. When operations over the Hump began in April of 1942, any successful flight was considered a miracle. The route itself is considered the most dangerous ever assigned to air transport[7]. Aircrews, flying ill-equipped C-47s and C-46s, lived in the most terrible conditions known to the military forces of the time[8]. The weather was notorious. When the area was not receiving part of its over 200 inches of annual rainfall, the shade temperatures were so hot that it could cause second degree burns to unprotected skin[9]. In the air, conditions did not improve. Aircraft service ceilings often prohibited crews from climbing above the dense cloud covering of the mountain range. Navigational aids in the area were unreliable. Extreme turbulence near the mountains was yet another danger.[10] Aircraft maintenance was poor. Spare parts were in short supply, and maintenance personnel were inexperienced and worked in the same austere environment as the flight crews[11]. Accidents mounted.

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6 Report on "History of Air Force Activities: China Theater (1942-1945)", Prepared by HQ, AAC, China Theater, p 1-5.
7 Glines, C. V., "Flying the Hump", Air Force Magazine, Air Force Association, March 1991, p 103.
8 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 57.
9 Glines, C. V., "Flying the Hump", Air Force Magazine, Air Force Association, March 1991, p 103.
10 Ulanoff, Stanley, M., MATS: The Story of the Military Air Transport Service, Franklin Watts, Inc., 1964, p 18.
11 Report on "India-China Division of Air Transport Command During General Stillwell's Command", December 1942 to October 1944, p 1.

In spite of all these factors, the tonnage output continued to increase, but so did the loss of aviators and aircraft. In January 1944, every two hundred trips over the three and one-half hour trek resulted in the loss of an aircraft. For every one thousand tons flown to China, three Americans gave their lives[12]. Needless to say, morale was very low.

On 3 September 1944 Brigadier General William H. Tunner took command of the India-China Division of the Air Transport Command (ATC). His tasking from General Harold George, ATC Commander, was twofold: increase tonnage of supplies to be airlifted to China and simultaneously lower the terrible accident rate[13]. A certain byproduct would be an improvement in morale.

Tunner brought an innovative leadership style to the Hump operation that he had demonstrated earlier as commander of ATC's Ferrying Command. He had a great propensity to match the right person to the right job, and he knew the success of meeting General George's orders lay in the hands of the Division's key leadership positions.[14] He went right to work picking his own key staff members. He took Temple Brown, an innovative, self-made businessman who had experience in operating a regional airline and a commercial bus fleet, commissioned him as a Major, and assigned him as Chief of Supply. Tunner selected Lieutenant Colonel Robert

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12 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 55.
13 Ibid., p 52.
14 Ibid., p 64-65.

White, an executive for Standard Oil of New Jersey in China before the war, to oversee the Division's aircraft maintenance and inspections. White had instituted a revolutionary industrial-style of production line maintenance (PLM) in the Air Corps Training Command, and he convinced Tunner this process would work for the India-China Division as well. Tunner later reflected that he knew full well the quality of maintenance generated by the team of Brown and White would determine the success or failure of the airlift operation as it continued to expand.[15]

An equally critical member of the staff would be his Bengal wing commander, a wing whose only mission was to fly the Hump. Tunner picked an old acquaintance, Colonel Andrew Cannon. Cannon had a reputation for being loyal to his troops to the point that they would do almost anything for him. This was just the sort of commander he needed to foster a professional and competent flying corps.[16] He followed this up with the selection of Captain Kenneth Stiles, a "number cruncher" who had devised new methods to track aircraft deliveries in Tunner's Ferrying Command. Stiles would devise a statistical system to track everything from aircraft maintenance and discrepancies to accident statistics required for the new safety programs created by his flying safety officer, Captain Arthur Norden.

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15 Ibid., p 65.
16 Ibid., p 70.

Tunner also focused on the proficiency of his pilot corps. He directed his personal friend and pilot, Lieutenant Colonel Red Forman to be the Division's chief pilot. Forman had a tremendous reputation as an aviator and an equally likable personality[17]. As the supervisor of all Hump pilots, he would establish their theater checkout procedures. Now General Tunner had his team together to tackle the objectives: increase tonnage, reduce accident rates, and improve morale. The next step was to put them to work.

Tunner and his new staff took immediate steps to increase the Division's operating capacity. They introduced new administrative practices and techniques that were to have a profound impact on Hump airlift operations. One of the two critical measures of success in commanding the Hump airlift operation was, of course, increasing tonnage of airlifted supplies. Tunner implemented Lieutenant Colonel White's industrial-based version of PLM. This procedure required aircraft to be towed through a succession of seven maintenance stations where specially trained crews performed specific maintenance operations. To make this feasible, each Hump base specialized in one type of aircraft repair. Consequently, maintenance operations could be more efficient and effective. After initial resistance, PLM decreased time required for the 100 hour inspection by almost 25 per cent and increased utilization

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17 Ibid., p 67-68.

rates by over 50 per cent.[18] The PLM concept was so effective that it was adopted throughout the Army Air Forces on bases with large numbers of a single type of aircraft.[19] To ensure adequate spare parts were available to keep the fleet in the air, the maintenance division instituted an express aerial delivery service which provided parts from the U.S. to the theater in as little as four and one-half days.[20] Better maintenance procedures, higher utilization rates, and adequate spare parts partially solved the "machine" part of the "man and machine" equation to increase tonnage and reduce accidents. Tunner had new and innovative ideas on how to improve the "man" part of the equation, too.

General Tunner instituted numerous changes to flying operations designed to reduce accidents. One of the biggest changes was a very active and involved flying safety program directed by Captains Norden and Stiles. They researched reasons for aircraft mishaps and, working with chief pilot Forman, instituted procedures focused on detection, prevention, and correction of possible safety violations. Accident investigation findings were given immediate and widest dissemination.[21] This team developed a statistical tracking program to determine the

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18 Craven, Wesley F. and James L. Cate (editors), The Army Air Force in World War II, Vol. VII, Chicago, The University of Chicago Press, 1958, p 141.
19 Glines, C. V., "Flying the Hump", Air Force Magazine, Air Force Association, March 1991, p 104.
20 Launius, Dr. Roger D., "The Hump Airlift and Flight Safety", Flying Safety, November 1991, p 27.
21 Ibid., p 26-27.

causes of aircraft failures, the airfields where the most accidents took place, the weather involved, the model of aircraft most prone to failure in different conditions, maintenance deficiencies, and a host of other questions. These statistical systems were considered the best in any theater at the time. In fact, they are the foundation of our present day Air Force flying safety program.[22] He also instilled discipline and standardized procedures in flying operations. Crews were required to file flight plans, fly at assigned altitudes (flying over tree tops and through mountain passes had been routine procedure), and make mandatory radio position reports. Standardized takeoff, approach, and landing procedures were enforced.[23] Accident rates dropped sharply.

Although Tunner provided his pilots with more reliable aircraft and gave them good training, one key ingredient for improved operations was missing. He had to prove to his people that he cared for their well-being. In this arena, flying safety was the highest priority. Tunner listened to their concerns about flying the two-engine, cargo-limited C-47s and C-46s. In fact, his first trip over the Hump just prior to assuming command had been in a C-46, and he knew personally of its power limitations

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22 Launius, Dr. Roger D., "The Hump Airlift to China, 1942-1945: An Epic in the American Military Assistance Program", Air Force Journal of Logistics, Spring 1991, p 15.
23 Spencer, Otha C., Flying the Hump: Memories of an Air War Texas A & M University Press, College Station, 1992, p 142-143.

and cargo restrictions.[24] As a result, Tunner lobbied successfully through Air Force channels for a replacement aircraft. What his pilots got was the new C-54, a four-engine transport that was safer to fly and carried significantly more cargo.[25] Now the "machine" part of the "man and machine" equation was fully solved, but the "man" portion needed further attention.

Operational fatigue was another problem in flying the Hump. The previous personnel policy had been that pilots rotated out of the theater after flying 650 hours. In order to shorten their tour length, pilots voluntarily accelerated their number of sorties to meet the 650 hour limit. As a result, some pilots met the requirement in only four months.[26] They would literally fly themselves into exhaustion. Under such intense flying conditions aircraft accidents were a direct byproduct. Tunner immediately revamped the rotation policy. The new procedure required pilots to have 750 hours <u>and</u> one year flying the Hump before they could rotate out. This new, more dependable policy may not have made some of the pilots happy, but it served to reduce fatigue, prevent accidents, balance experience levels, and more easily manage pilot rotations.[27]

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24 Tunner, William H., <u>Over the Hump</u>, Washington DC: Office of Air Force History, 1985, p 43-46.
25 Knight, Clayton, <u>Lifeline in the Sky: The Story of the U.S. Military Air Transport Command</u>, William Morrow and Co., New York, 1957, p 45.
26 Tunner, William H., <u>Over the Hump</u>, Washington DC: Office of Air Force History, 1985, p 90.
27 Ibid., p 90.

While morale was improving from the reduced number of accidents, Tunner knew that further improvements could only be accomplished by tackling the terrible living conditions and instilling discipline in the organization. Facilities were upgraded within the limits of wartime availability of resources. He had "quiet" signs posted in designated rest areas for pilots to get proper crew rest. Personnel had to be clean shaven, in uniform, and display proper military courtesies. He organized Saturday parades to instill unit pride, required uniforms to be worn to mess, and even established a mobile PX (precursor to the "Roach Coach") on the flightline to respond to the quick turnaround for crews and maintenance.[28] All in all, General Tunner showed his personal concern for the safety and well being of each individual. They responded in kind.

Aircraft accident rates dropped, tonnage increased, and morale improved greatly. The India-China Division developed pride in its accomplishments. In October 1944 Hump tonnage exceeded 24,000 tons, over 20 times the tonnage airlifted less than two years earlier.[29] The capstone of General Tunner's leadership effectiveness was demonstrated less than one year after he assumed command, when in observance of Army Air Forces Day on 1 August 1945 the Division flew 1,118 round trips with a payload of 5,327

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28 Spencer, Otha C., Flying the Hump: Memories of an Air War, Texas A & M University Press, College Station, 1992, p 141-142.
29 "Report on India-China Division of Air Transport Command During General Stillwell's Command, December 1942 to October 1944", p 13.

tons over the Hump. This averaged just over two trips per aircraft assigned. One C-54 flew three round trips, being in use 22 hours and 15 minutes. A plane crossed the Hump every 80 seconds, and a ton of cargo arrived in China every 15 seconds. All of this was accomplished without a single accident.[30]

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30 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 132-134.

CHAPTER THREE

AIRLIFT DOCTRINE TESTED: THE BERLIN CRISIS

Airlift expertise gained in World War II soon helped to settle one of the first crises of the Cold War when on 24 June 1948 the Soviet Union isolated surface access to West Berlin from the German Western Zones. Normal supply channels for the daily requirements of 12,000 tons of food, fuel, and supplies critical to the city's survival were severed. Unless the British, French, and Americans could find a way to counter the blockade, 2.5 million West Berliners faced starvation or a Soviet takeover.[31]

Against insurmountable odds the incredible Berlin airlift began in late June 1948. The airlift would eventually defeat Stalin's plan to strangle West Berlin, but it began with grave concern over the suspect capabilities of an American military that was headlong into post-World War II demobilization. An Air Force that only one year earlier had gained its independence from the Army was composed of skeleton units, with little sense of mission, and largely outdated aircraft in the European theater.[32] The American military governor for West Berlin, General Lucius Clay, believed the airlift mission to resupply the city was impossible. In fact, his original order to General Curtis LeMay, the USAFE

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31 Harrington, Dan, "The Salvation of a City", Airman, May 1988, p 36.
32 Ibid., p 36.

commander, was to temporarily supply only the U.S. Berlin garrison; West Berliners were not included. General Clay was unsure of the ability to airlift adequate supplies to just the military forces in the city. He felt certain the airlift could not take on the added task of resupplying the entire sector's population.[33]

Both General Clay and General LeMay had good reason for doubt. Western allies' resources in the region were dismal. The U.S. Air Force had only 104 cargo planes in all of Europe, mostly C-47s. The British could muster only about 25 cargo planes, while France had none. To compound the problem, there was a critical shortage of qualified pilots, and Berlin's airfields were more suitable for fighter operations than for transport operations. Consequently, on the first day, LeMay's forces delivered only about 15% of the initial goal of 500 tons a day.[34] Eventually, more capable C-54s deployed to the theater, and airlift capability gradually improved. However, as lift capability increased, the mission quickly expanded to include the long-term sustainment of all the occupants of West Berlin, military and civilian. This increased the daily lift requirements to 4,000 tons.[35] Survival of a city or its downfall to Communism lay in the balance of the success of "Operation Vittles", the popular nickname given to the Berlin airlift by the aviators.

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33 Ibid., p 36.
34 Ibid., p 36.
35 Ibid., p 36.

It was evident the operation had to become more efficient. Airlift successes from World War II were still considered an anomaly by the combat seasoned fighter and bomber pilots who ran the Air Force. The Hump airlift had largely been "carried out in a vacuum on the other side of the world in the midst of a global war,"[36] and many government and military leaders had not fully understood the potential of this new arm of airpower. Ironically, one exception was an army officer, General A. C. Wedemeyer. Wedemeyer remembered the success of one of his former subordinates, Major General William Tunner, in supplying his ground troops in the C-B-I theater. Wedemeyer recommended to Air Force Chief of Staff Hoyt Vandenberg that Tunner take over the Berlin airlift. Vandenberg agreed, and Tunner took command of the Airlift Task Force just one month after the first airlift sortie into West Berlin.[37] With his hand-picked staff of 20 officers, Tunner left for Berlin, expecting to return to the U.S. in only a few months. It would be a year.

Tunner had been observing the airlift from his position as Deputy Commander of Operations for the Military Air Transport Service (MATS). The command had been created only weeks before the airlift, but Tunner felt that MATS should have been involved from day one. He had his own agenda on how to improve the

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36 Tunner, William H.. Over the Hump, Washington DC: Office of Air Force History, 1985, p 158.
37 Martin, Lt Col Jimmie D., "The Berlin Airlift", Flying Safety, April 1988, p 21.

airlift. Tunner took command in his typical fashion. Taking many of his leadership techniques and airlift innovations developed during the Hump to the next level, Tunner was prepared to prove the capabilities of airlift to the world. This operation would not take place in a vacuum. The survival of a society that wanted to maintain its freedom depended on it.

General Tunner felt there was no better way to assess the capability of an operation than to become an integral part of it. So, two weeks after assuming command he scheduled himself for a routine sortie into Berlin to get a personal feel for the operation. After launching from Wiesbaden, the enroute weather became severe, with conditions at his destination, Templehof, falling well below landing minimums. Arriving aircraft were unable to land. Instead, they were sent to a "holding pattern" where every three minutes newly arriving aircraft were being stacked on top of each other in a tiny holding pattern over the island field. Any aircraft straying from this twenty-mile circle over West Berlin was tempting bait for Russian fighter or anti-aircraft fire.[38] As panic-stricken controllers attempted to sort out the chaos, the weather conditions worsened, and flight crews were forced to attempt to land their fuel-starved planes at "weathered in" Templehof. Disaster struck. Thirteen aircraft and 39 crewmen were lost.[39] This incident, known as "Black Friday",

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38 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985. p 152-154.
39 Ibid. p 55, 152-154.

telegraphed to Tunner the serious problems confronting his task force. True to form, he was quick to act.

Convinced that the operation was a job for professional airlifters, he sought to make the airlift "as inflexibly systematic as a metronome."[40] He had assembled a leadership team during the Hump that performed miracles. Many were still around, and he called upon their expertise once again to turn the Berlin operation around. Heading the delegation of Hump old-timers was Colonel Red Forman. He became Tunner's chief of operations. Onboard Tunner's aircraft during the "Black Friday" fiasco, Forman was able to experience the airlift operation firsthand and identify problems.

Within two days after the "Black Friday" disaster he and Major Ed Guilbert, who worked Hump air traffic control and cargo handling, radically revised the flying part of the operation. The first change was to make the three narrow corridors of airspace that connected West Berlin to the free world one way traffic. As simple as this change sounds, it virtually eliminated the chance of mid-air collisions between opposite direction traffic, a major cause of aircraft accidents. In addition, emphasizing the use of the shorter central and northern corridors saved nearly one-third flying time over the longer American-controlled southern corridor. The payoff was immediate in the form of higher aircraft

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40 Collier, Richard, Bridge Across the Sky, McGraw-Hill Book Company, New York, 1978, p 101.

utilization rates and increased tonnage capabilities.[41] These early changes enhanced the efficiency and safety of the airlift, but there were equally serious challenges in the supporting infrastructure, maintenance, and manpower.

New air traffic control procedures for destination airfields into Berlin were instituted. The old system stacked arriving aircraft at separate altitudes until they were sequenced in for landing. Each aircraft was let down and worked separately through approach and landing. This time-consuming and work-intensive process was revised. Forman and Guilbert devised a system where all aircraft flew standardized enroute procedures (timing, speed, altitude) to allow routine step-down in arrival altitudes and straight-in approaches. There were no second attempts at landing. If a pilot went missed approach, instead of being directed back into the congested, but systematic, sequence, he simply flew back to his departure base. This relieved the pressure on the air traffic controllers and prevented the disruption of ground unloading and loading operations.

Tunner's staff also worked on improving the support structure for aircraft arriving into the Templehof area. Air traffic controller manning and proficiency received immediate attention. Radio frequencies were expanded to reduce radio "chatter" during

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41 Martin, Lt Col Jimmie D., "The Berlin Airlift", Flying Safety, April 1988, p 22.

the critical approach and landing phases of flight.[42] Once on the parking ramp, aircrews were directed to remain with their airplane while it was unloaded. During this time they received operations briefings on the return flight out of Berlin. This further reduced aircraft "turn time". All these initiatives were brought about to eliminate what Tunner called "a real cowboy operation" to be replaced by a system that was "no more glamorous than drops of water on a stone."[43] Despite the around-the-clock operation and miserable weather, these safety measures lowered the accident rate of the Berlin airlift to less than the overall U.S. Air Force average for the same period.[44] Nevertheless, more changes had to be made to satisfy the huge tonnage requirements. Tunner's people responded.

The infrastructure to support an airlift of this magnitude was grossly insufficient. Only two airfields, Templehof in the American sector and Gatow in the British sector, were available during the early days of the airlift. With Tunner's persistence and the construction expertise of another "Humpster", Lieutenant Colonel Kenneth Swallwell, these airfields were expanded, and a new airfield in the French sector was built from scratch. To bulk up departure airfields outside of Germany, Tunner negotiated for a

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42 Launius, Dr Robert D., "The Berlin Airlift-Refining the Air Transport Function", Airlift, Summer 1988, p 14.
43 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p xi.
44 Martin, Lt Col Jimmie D., "The Berlin Airlift", Flying Safety, April 1988, p 23.

combined British-American airlift operation using the RAF bases closest to the two shorter northern and central corridors.[45]

One of Tunner's other priorities was to get the command and control right. He knew that some form of unified control was necessary to coordinate the combined RAF and USAF efforts, which from the beginning were proceeding independently. There was a good deal of difference in determining how far the integration should go. The RAF generally felt that coordination of air traffic control was the only element that needed attention, while Tunner pushed for one office to have operational control of the entire airlift operation. The issue was not resolved for four months, but the outcome reached in October 1948 posted Tunner as the commander of the Combined Airlift Task Force.[46]

Aircraft maintenance was perhaps the biggest challenge. In the beginning, there was a shortage of qualified mechanics, spare parts, and tools. Some of the mechanics actually had to buy their own tools.[47] The maintenance schedule was impossible. Both routine and periodic maintenance procedures were performed in crowded facilities with little order. Tunner's maintenance team, spearheaded by Captain Jules Provost, still another Hump veteran, instituted a procedure similar to the highly successful Production Line Maintenance (PLM) system developed in the C-B-I theater.

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45 Ibid., p 22.
46 Jackson, Robert, The Berlin Airlift, Patrick Stevens, Wellingborough, England, 1988, p 68.
47 Martin, Lt Col Jimmie D., "The Berlin Airlift", Flying Safety, April 1988, p 22.

Rigid procedures were developed and followed. Periodic checks of airlift aircraft were scheduled for every 25 hours of flight up to 200 hours, after which they were sent to a depot for a major inspection. At 1,000 hours they were returned to the U.S. for a comprehensive overhaul.[48] Since most maintenance was done at the squadron level, General Tunner directed equal distribution of maintenance technicians to the various bases used for the airlift, concentrating expertise for similar types of aircraft at the same base. This system proved so successful that the in-theater 50- and 150-hour inspections for C-54s were cut to 5.5 hours, half the time required to perform stateside C-54 inspections.[49] The need for a major maintenance depot in the theater was finally satisfied in November 1948, where PLM procedures pioneered during the Hump were put to great use. Augmented by German mechanics, the facility averaged performing seven 200-hour inspections per day.[50]

Tunner's plan was coming together. Through changes, new procedures, and better equipment, airlift capacity exceeded 5,000 tons daily by the fall of 1948. The operation was settling down to a predictable, reliable system, but the coming poor winter weather, coupled with continued stressful long duty hours and poor living conditions, presented Tunner with the ultimate challenge. He had a system in place to satisfy the critical relief efforts,

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48 Launius, Dr Robert D., "The Berlin Airlift-Refining the Air Transport Function", Airlift, Summer 1988,p 10.
49 Ibid., p 14.
50 Ibid., p 14.

but the most volatile part of the equation, the human element, needed further attention. Living conditions were rough. One flight surgeon compared sleeping quarters with those found in concentration camps. Flight crews were lucky to get five hours of rest between flights. Morale suffered as family separations were extended from 45 days, to several months, to uncertainty.[51]

Although everyone worked long and hard hours, no one worked harder than Tunner. The environment he worked in was just like that of his people. Never one to run the operation from his headquarters office, Tunner would often shuttle from Wiesbaden to Templehof and back, clothed in an old rankless flightsuit, talking to his people. This direct communication gave him "the insight into the true operations of the airlift that could never be obtained at a desk reading filtered reports."[52] As the airlift extended into the winter months, Tunner knew he had to devise ways to keep the men motivated. With little control over the austere conditions and long hours, he focused on issues he could influence. One such program was to institute daily unit quotas. Fostered on the American spirit of competition, each unit's accomplishments were printed in the Task Force Times, the airlift's own daily paper.[53] The friendly competition and General Tunner's carte blanche approach given to the newspaper's editor

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51 Harrington, Dan, "The Salvation of a City", Airman, May 1988, p 38.
52 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 177.
53 Ibid., p 180-181.

improved morale, eased tensions, and increased tonnage. In anticipation of long-range requirements for pilots to fly the airlift, Tunner even established a replacement training unit back in the U.S. to rotate in new, but well trained, replacement pilots.[54] Throughout the winter these "people programs" were instrumental in increasing tonnage. The airlift kept West Berlin alive.

As springtime arrived and political tensions loosened on the Soviet stance toward the blockade, Tunner planned for an even greater demonstration of the power of airlift. The system was primed for one giant surge with a quota set in advance far greater than ever achieved before. Centered around Easter Sunday, Tunner called the operation an "Easter Parade of airplanes, an Easter Sunday present for the people of Berlin."[55] In that 24-hour period, the airlift flew 1,398 flights and delivered 12,941 tons of cargo, averaging nearly one flight per minute.[56] Throughout the day, flying safety remained paramount. There was not one mishap or injury. Although the tonnage dropped after this all-out surge, it remained at a higher level than that achieved before the push.

General Tunner summed up the achievement, "It was that day, I'm sure, that broke the back of the Berlin blockade. From then

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54 McKinney, Maj William, "Lieutenant General William H. Tunner: Father of Military Airlift Command", Air Command & Staff College Paper, 1987, p 17.
55 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 219.
56 Ibid., p 220-222.

on, we never fell below 9,000 tons a day; the land blockade was pointless."[57] A month later, the Soviets grudgingly reached the same conclusion. They ended the blockade and opened surface traffic into and out of West Berlin.

Since powered flight there had never been an airlift operation as decisive as this one led by General Tunner. Unlike the foundation of airlift doctrine poured in the jungles of Burma during World War II, Berlin had not occurred in a vacuum. This time the power of airlift had been demonstrated to the entire world.

57 Ibid., p 222.

CHAPTER FOUR

CONCLUSION

Airlift operations pioneered during the Hump airlift of World War II and tested during the Berlin airlift less than five years later proved to be tremendous successes. The leadership of Lieutenant General William H. Tunner and his "hand picked" staff is the primary reason these two airlift operations succeeded against tremendous odds. In each scenario, they literally turned the operation upside down in less than a year. The tonnage of supplies drastically increased while the number of accidents decreased proportionally. How was this done? It was accomplished by a person who knew how to lead and how to motivate others to lead and follow. It was done by someone who never asked his people to do anything he had not already done himself. It was done by someone who had the vision and innovation to incorporate new ideas into the airlift operation to make it better. This person instilled confidence in everyone. General Tunner said it best, "I never doubted, not ever, that we would succeed."[58]

Tunner and his Hump India-China Division had no historical precedence or previous theory about airlift doctrine. Yet, through their innovative programs such as PLM inspections, express

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58 Tunner, William H., Over the Hump, Washington DC: Office of Air Force History, 1985, p 58.

aerial delivery service, meticulous flying safety programs, discipline and standardization of flying operations, and, perhaps most important, caring for the people, the impossible mission became a genuine success.

A similar, but certainly more visible, challenge awaited the Tunner team in Berlin. Using many of the doctrinal procedures developed in the far off jungles of the C-B-I theater during the Hump, Tunner tested these new innovations in an extremely confined environment to demonstrate the power of airlift to an anxious and nervous world. Again, Tunner applied his leadership formula of stressing flying discipline, providing the best supporting infrastructure possible, and taking care of his people. Just like earlier episodes, this rather obvious and simple approach produced incredible achievements and literally kept a city of 2.5 million alive for over one year.

The results of the Hump and Berlin airlifts are clear examples of how General Tunner's leadership contributed to the effective development and refinement of the early airlift doctrine of the Army Air Force. The India-China Division demonstrated that large scale air supply was practical for delivering military assistance anywhere in the world. The lessons learned from the Hump airlift, although not widely disseminated throughout military channels, were put to the test in Berlin and openly demonstrated the strength of this new arm of military power.

While procedures have been refined and equipment adapted to new technology, the basic airlift procedures pioneered over fifty years ago by General William H. Tunner remain in operation today.[59] Specialized maintenance procedures similar to production line maintenance have become the Air Force benchmark. Standardized flying operations and safety innovations form the foundation of our current Air Force safety programs. Yet the most important element in the success of both the Hump and Berlin airlifts that is as universal today as it was fifty years ago is also the most intangible. This element is the leadership demonstrated by a commander who knew that if he took care of his people then they would accomplish the mission, no matter how difficult or dangerous. We have General William H. Tunner, his Hump staff of the India-China Division, and his Berlin staff of the Combined Airlift Task Force to thank for this lesson in leadership in the development of airlift doctrine.

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59 Launius, Dr. Roger D., "The Hump Airlift Operation of World War II", Airlift, Fall 1985, p 15.

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