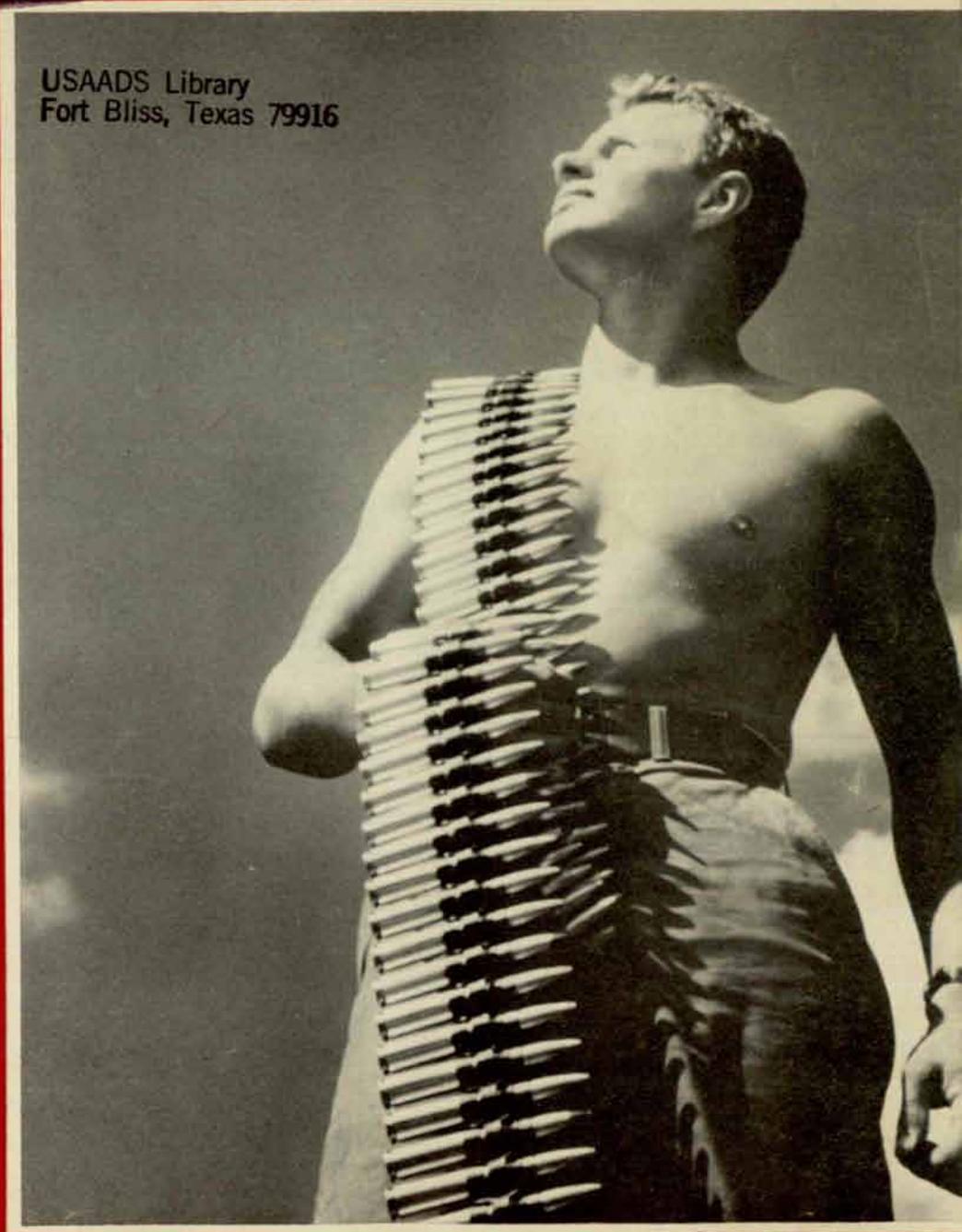


Anti-aircraft JOURNAL

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SILVER STAR MEDAL AWARDS

15th AAA AW BN (SP)

Sgt. Robert C. Turner

21st AAA AW BN (SP)

1st Lt. Richard Y. Park

1st Lt. Paul S. Vanture

2nd Lt. Leland D. Bray

2nd Lt. Joseph W. Weeks

Sfc. James T. Patterson

Sfc. Buster W. Strasser

Sgt. Woodrow McKinnon

Cpl. Herbert Stoffel

Pfc. Richard E. Blume

82nd AAA AW BN

Capt. James H. Tyree

SOLDIER'S MEDALS

21st AAA AW BN (SP)

1st Lt. Robert C. Morrison

865th AAA AW BN

1st Lt. Joseph M. Solari

DISTINGUISHED UNIT CITATION

21st AAA AW BN (SP)

Battery B, 1st & 2nd Platoons

BRONZE STAR MEDAL AWARDS

3rd AAA AW BN

Sfc. Dallas N. Norman

15th AAA AW BN (SP)

Sgt. Billy G. Lewey

Sgt. Roy W. Reynolds

Cpl. Matthew Kuza

Pvt. Gerald L. Hurles

21st AAA AW BN (SP)

Major David C. Miss (1 OLC)

Capt. Thomas R. Armstrong (1 OLC)

Capt. Richard S. Craig (V)

Capt. Billy G. Strong (3 OLC)

Capt. William E. Steinmann

1st Lt. Karl F. Bennett (V)

1st Lt. Homer J. Lockey (V)

Sfc. Shirley E. Basse (V)

Sfc. Rufus M. Gibson (V)

Sfc. Daniel R. Schmidt (V)

Sgt. Francis W. Doyle (V)

Sgt. Arthur R. Gideons (V)

Sgt. Kenneth F. Mystrom (V)

Sgt. Dexter W. Packard (V)

Cpl. Kenneth V. Bailey (V)

Cpl. Joseph B. Frye (V)

Cpl. Zeb L. Hand (V)

Cpl. Robert P. Johnston (V)

Cpl. John Walker (V)

Cpl. Roy W. Willis (V)

Cpl. George T. Woodby (V)

Pfc. William F. Chenault (V)

Pfc. Anselmo J. H. Ontalan (V)

Pfc. Felix S. Selas (V)

Pvt. Joseph Castenguay (V)

78th AAA GUN BN

Lt. Col. John B. Parratt

Capt. Ralph R. Cocchiatti

Capt. David W. Meyer

Capt. Kenneth G. Ring

1st Lt. Glennis A. Amburgey (L OLC)

Sgt. Harry M. Bukky

82nd AAA AW BN

Lt. Col. Robert H. Johnston (V)

Major John E. Clark (V)

Capt. Jack L. Waltz (V)

Capt. Duncombe M. Woodbury (V)

1st Lt. Clyde B. Cobb, Jr., (V)

Sfc. Donald J. Eskew

Sgt. Martin M. Margetich (V)

Sgt. Edward J. Sypek

Sgt. Carl G. Thomas (V)

Sgt. Andrew M. Wimberly (V)

Pfc. James D. Ketchum (V)

PURPLE HEART AWARDS

3rd AAA AW BN

Capt. Richard Pride

Cpl. Gerald R. Ellis

Cpl. Roy J. English

15th AAA AW BN (SP)

1st Lt. George E. Mitchell

Cpl. Earnest Cathey

Cpl. Wallace H. Phillips

Cpl. Jerry L. Searles

Cpl. Harry O. Smith

Cpl. Robert Weyant

Pfc. Clayton Dease

Pfc. James M. Frederick

Pfc. Raymond L. Janusch

Pfc. Alfred R. Trejo

Pfc. Wilbur H. Russell

Pfc. Willie J. Thorpe

Pvt. William J. Charles

Pvt. Joseph N. Dennis

21st AAA AW BN (SP)

Sfc. Jerry S. Ingram

Sfc. Jack F. Thurner

Cpl. Sylvester L. Guszregen

Pvt. Michael Holovoch

Pvt. J. B. Thomas

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The purpose of the Association shall be to promote the efficiency of the Antiaircraft Artillery by maintaining its standards and traditions, by disseminating professional knowledge, by inspiring greater effort toward the improvement of matériel and methods of training and by fostering mutual understanding, respect and cooperation among all arms, branches and components of the Regular Army, National Guard, Organized Reserves, and Reserve Officers' Training Corps.

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ANTIAIRCRAFT A

By Major General

THE second winter of the Korean War dominates the situation as this, the eighth report, is submitted to the ANTI-AIRCRAFT JOURNAL.

On Christmas Day the conflict entered its nineteenth month amid the low singing of carols, field services by the ever-loyal chaplains featured by a special forward area Catholic Mass by His Eminence Francis Cardinal Spellman of New York, and the usual fabulous holiday turkey dinner—all in an atmosphere of fervent hope that the cease fire negotiations would finally break the over-extended impasse and result in an armistice agreement.

After this brief emotional interlude the combat area reverted to normalcy which may be interpreted to mean that members of the combat and service units returned to the employment of all known artifices to defeat the ravages of bitter winter and a cunning and persistent—though chastened—enemy. Regardless of whether there has or has not been a cessation in actual hostilities at the time this appears in print, it can be assumed that those grand fighting men of the United Nations Force are confidently awaiting the next step, whether it be a permanent peace or a return to war, with an air of assurance that they are masters of the situation and capable of overcoming all odds no matter how great they may be. There is no way to explain battlefield morale in finite terms, but when wit-

nessing conditions such as just described, one is carried away with the firm conviction that it is divinely inspired.

That invaluable and incomparable quality of experience manifests itself in two ways on the Korean battlefields of the 1951-52 winter. In the first place the improved "know how" on the part of the soldier permits him to resist the sub-zero temperatures and reduces their effect upon his activities from major obstacles to mere inconveniences. This, of course, is largely possible through the development of highly effective equipment by the supply services after thorough research and scientific development. The five-man tent, with oil stoves, is infinitely superior to former models and will permit comfort under the most trying conditions. New types of winter clothing enhance combat efficiency and the ever-present good food always can overcome an otherwise dismal outlook. The remaining veterans of the last winter campaign have "wised up" the replacements on methodology that they had to learn the hard way.

The second contribution of experience is measured in terms of knowledge of how to resist vastly superior numbers of the enemy through the application of those two standbys of military tactics—firepower and maneuver. There was a time when overpowering hosts of Chinese Reds could control certain situations—but that time has disappeared. While the disparity of forces may be even greater than at some of the former time periods involved, the UN troops find no difficulty at the moment in containing offensive efforts of the Reds or in retaking areas temporarily abandoned for improvement of the tactical situation.

The antiaircraft artillery psychology of

the moment is the increased awareness of the mounting possibility of hostile air attack. There are evidences of far greater air power having been amassed by the enemy and of feverish activity to build airfields within striking distance of friendly installations and forces. The UN Air Force is taking care of both issues quite satisfactorily but in the midst of extreme boredom at not having any live targets to shoot at, the antiaircraftmen are conscious of the dangers of relaxed vigilance. They are on the job and prepared for any eventuality.

WHILE the infantry is mostly engaged in light patrolling, the flak wagon units have less opportunity to distinguish themselves. It is quite different from the days when our troop masses were moving forward through prepared successive defense positions, road blocks, counterattacks and similar formations or, conversely when divisions and corps were engaged in orderly large scale retirements that had to be covered by automatic weapons through various types of employment. The infantry patrols of the present period, however, have learned the advantage of flak wagon support and they call for them at all times. There is no doubt that a single automatic weapons mobile unit adds a lot of firepower to a light patrol and when integrated into patrol tactics they afford a most effective support.

Perhaps the most significant tribute to the effectiveness of the self-propelled units in support of surface action, is the development by the Communists of a special defense against their activities. Of recent date our patrols, accompanied by antiaircraft automatic weapons, have

Col. Edmunds is Chief of the Light AAA Section, Department of Gunnery AA & GM Br. T-AS. Captain A. M. Kolesar, Project Test Officer of AFF Board No. 4, consulted and advised the author in the preparation of this article. Photos by AFF Board No. 4.

ARTILLERY IN KOREA

William F. Marquat

PORT

been confronted with artillery and anti-tank weapons. This poses a new problem, but you may depend upon its being solved promptly by the ingenious ground-air artillerymen.

Lieut. Colonel John F. Goettl's 3rd AAA AW Battalion has been active with its infantry division in supporting limited objective attacks and in patrol action.

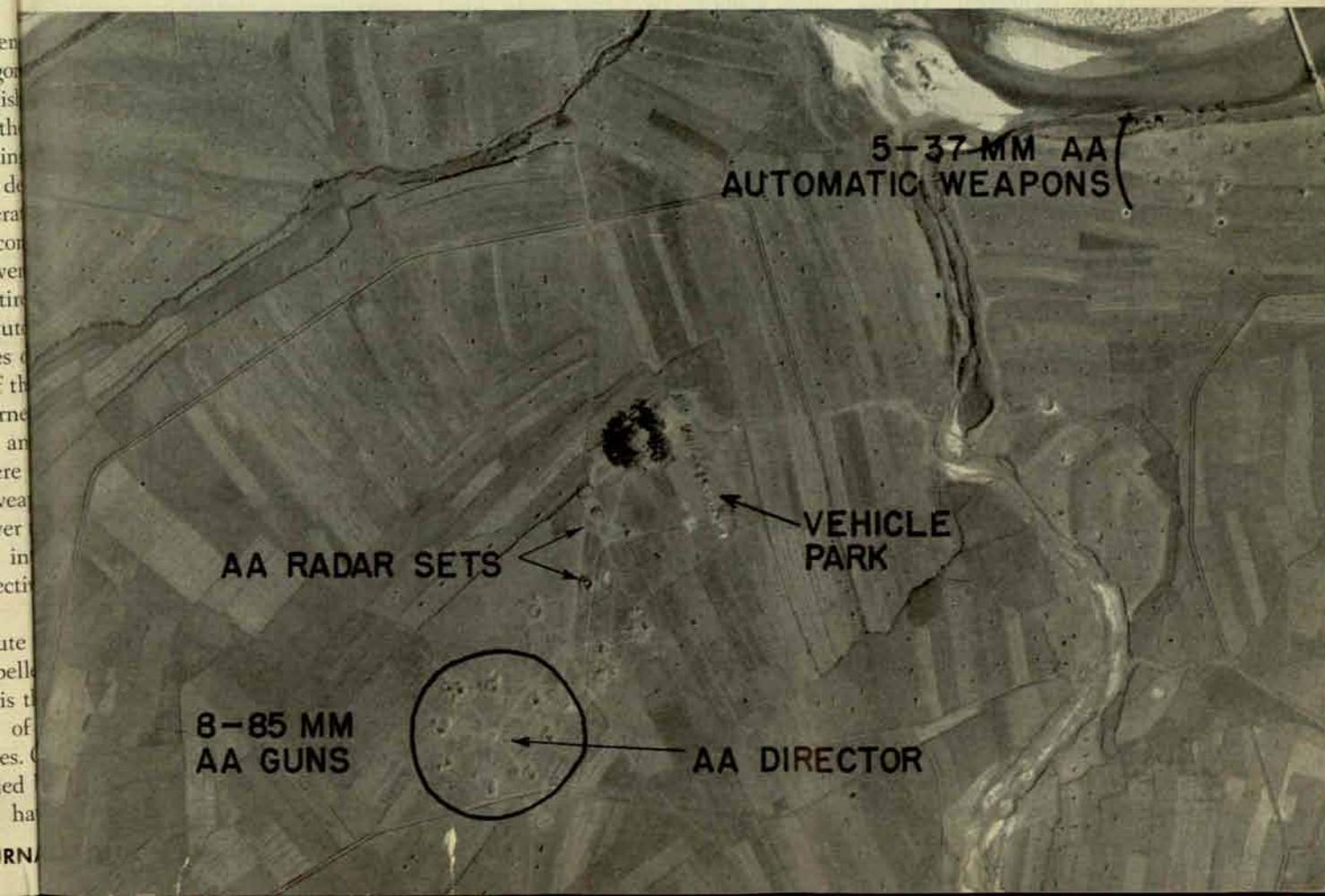
Captain James H. Furr's B Battery supported the 15th Infantry Regiment in

several hectic skirmishes with the enemy. In one attack, to capture a hill, a B Battery platoon under 1st Lieut. William F. Branigan was hit by hostile artillery as the infantry was passing through the anti-aircraft artillery position. The infantry platoon leader was struck by shrapnel and was evacuated by Captain Furr. Private Gerald Davis performed heroic feats in removing other wounded in the area while under heavy artillery fire. Cor-

poral Howard T. Peters, Sergeant John Petrak and Privates First Class Earl Grant and Arthur King distinguished themselves in the action as the automatic weapons units covered the advance of friendly infantry, silenced the hostile artillery, and shot out defensive positions strongly held by the enemy.

In a similar type of operation a platoon of Captain Richard D. Pride's D Battery, with 1st Lieut. Robert C. Steelman as

This aerial photograph, taken at Taechon Airfield (YE 1319) shows two types of anti-aircraft position areas used by the Communists in North Korea. The position near the center of the photo is an 8-gun, radar controlled heavy anti-aircraft battery. The guns are Soviet 85mm AAA guns, controlled by a Soviet Puazo 3 or 4 director and a gun-laying radar. The position in the upper right portion of the photo is a 5-gun anti-aircraft automatic weapons position. The weapons are Soviet 37mm automatic guns, aimed with an on-carriage computing anti-aircraft sight.



platoon leader, covered infantry attacks on a hill for five days. In one phase of the action the platoon destroyed forty bunkers, three machine gun emplacements and one trench mortar. Thirty enemy were killed in this action. Sergeants First Class Miller F. Downey and Charles E. Grandy, Sergeant Page and Corporal Andrew Korn were outstanding.

Lieutenants Joseph E. Markee and Lee C. Snidow of Battery A and Corporals Howard Biller and Theodore Miller of Battery B distinguished themselves on other occasions. The two corporals were with an M39 personnel carrier when ambushed by a squad of enemy armed with automatic weapons. They dispersed the enemy squad with machine gun and rifle fire, evacuated the wounded and then proceeded on their mission without interference.

During a period when the 3rd Infantry Division was in reserve, the 3rd AW Battalion reverted to an antiaircraft defense role in protection of command posts, troop areas and air strips for liaison planes. No hostile aircraft threatened any of the division installations; so the battalion utilized this time training replacements, placing armor plate shields on its weapons, and correcting wear and tear defects in its equipment. During inactive periods the antiaircraft battalion vehicles serve well in the capacity of supply vehicles and special troop transport.

THE 15th AAA AW Battalion, under Lieut. Colonel James W. Moore, supporting the 7th U. S. Infantry Division, also found the M39 personnel carrier and crew extremely effective in evacuating wounded and moving supplies to troops under fire. Sergeant John Finnigan of Whitestone, Long Island, New York, and his crew consisting of Private Franklin R. Kuhn of Gardners, Pennsylvania, Corporal Samuel A. Strangin of McKeesport, Pennsylvania, Private Michael J. Ryan of New York, and Private Albert Kalafian of Philadelphia performed heroically in an action by the First Battalion, 31st U. S. Infantry Regiment. After bringing up a load of reserve ammunition, the crew rescued wounded under fire, shot out sniper positions and took a position in a nearby ravine to perform handy man operations whenever and wherever required by the doughboys.

The famous "Battery X" of this anti-



Col. Riley E. McGarraugh from GHQ FEC congratulates Lt. Col. Thomas W. Ackert upon being awarded the Legion of Merit. The presentation took place at 10th AAA Group Headquarters, 28 October 1951.

aircraft artillery battalion, commanded by First Lieut. Floyd V. Lewis, established itself as a special supply unit of the command and is proving remarkably effective in cross-country actions where the full and half track vehicles can follow the infantry while wheel vehicles find it impracticable.

During one encounter Privates Ryan and Kalafian brought their single mount caliber .50 weapons so effectively on a machine gun nest that two Communist Chinese surrendered after two others had been killed in this two minute action.

In ground support of infantry the battalion elements have been using direct and indirect fire with excellent effect. The antiaircraft elements have been drawing rifle, automatic weapons and mortar fire but the effect of enemy fire has not been such as to defeat the support missions of the friendly automatic weapons. In the current type of action, where our infantry is engaged in taking firmly held positions to improve the friendly lines, our troops run up against well dug-in enemy troops behind protective wire and land mines. The 15th AW Battalion is using protective flak vests with excellent results under these conditions of exceptional exposure.

The 21st AW Battalion, under Lieut. Colonel Charles E. Henry, has been active with the 25th Division task forces and patrols and continues to be integrated with armor and infantry to produce excellent results.

A platoon of Battery C under First Lieut. Homer Lackey has been accounting for enemy killed regularly in raider patrol action from time to time. Another platoon under Lieut. W. O. Keeling, Jr. has been similarly engaged. Some of the combat action has been recorded by U. S.

motion picture companies for use in news reels and future cut-ins for war pictures. Lieut. Jack Vanderbleek and Lieut. Paul S. Vanture have supported RCT actions with outstanding results by their respective platoons.

Colonel Henry, as commander of the rear area defense command, in his division, located a group of subversive Communists who were performing acts of violence during the night and holing up in a small village during the daytime. Henry led a raiding party against this group and captured twenty-four of the offenders. Guerrilla activities have flared up of late but methodical search by infantry and antiaircraft troops is rapidly discouraging the underground operations.

AWARDS to the 21st AAA AW Battalion thus far include nineteen silver stars, forty-six bronze stars for valor, thirty bronze stars for meritorious service, two commendation ribbons and one hundred thirty-eight purple hearts.

First Lieut. Addison L. Lewis with the 3rd platoon of Battery B participated in a tank-infantry-quad .50 action in which three enemy were killed and a machine gun knocked out while the platoon was under heavy mortar fire in support of the infantry and tank advance. The First Platoon of Battery B under First Lieut. Robert G. Morrison engaged in a similar patrol action at close range against an enemy using rifle fire, hand grenades and machine guns. The platoon is credited with having killed twenty-three enemy, shot out two machine gun nests and assisted the infantry group in accomplishing its mission of capturing the hostile position.

Light patrol action featured the most recent employment of the division. The Second Platoon of Battery B, commanded by First Lieut. Joseph W. Weeks, and the Third Platoon of Battery B, commanded by First Lieut. Joseph R. Pirkel, both performed in stalwart fashion in combat patrol action.

Colonel W. H. Hennig, veteran commander of the 10th AAA Group, is busy keeping his air defense units on the alert for possible air assaults by the enemy, conducting training of replacements for his own and divisional units, and performing many other tasks essential to success in the Korean operation. Only a few ineffective low level attacks by obsolete

hostile aircraft have been recorded in the air defense areas. The planes keep out of range of the defense weapons, and consequently are unable to hit anything of military value.

Major General Paik Sun Yup of the Republic of Korea Army presented a set of Korean colors to the 10th AAA Group Headquarters for its service as Division Artillery command during the early campaigns of the South Korean Army.

The group project to provide shelter for Korean orphans during the coming winter has progressed most satisfactorily, supported by contributions from the personnel of the headquarters and battalions of the group.

Command of the 50th AAA AW Battalion has been transferred from Lt. Col. Lawrence J. Lesperance to Lt. Col. Werner L. Larson. This battalion is assigned to the Eighth Army, attached to the 10th AAA Group and is under operational control of the Fifth Air Force.

The Presidential unit citation of the Republic of Korea was tendered to the 50th AAA AW Battalion. Acceptance is pending official approval.

The battalion is deployed to protect air strips, supply establishments and defiles. Many alerts have been sounded but as

yet no hostile planes have ventured within striking range of the weapons.

THE 78th Gun Battalion, Lt. Col. John B. Parrott commanding, fired on five enemy aircraft during one month. The enemy planes are careful not to enter the area of air defense antiaircraft artillery fire but fly along the fringe of the effective gunfire range. It is evident that they know of the defenses and avoid any open challenge of the U. S. antiaircraft gun effectiveness.

Maintenance, training of replacements and winterizing of housing occupy the spare hours of this battalion.

The 68th AAA Gun Battalion, under Lt. Col. George B. Webster, is likewise in air defense positions. Webster replaced Lt. Col. Raymond C. Cheal who commanded this battalion from the early days in Korea.

A single nuisance raid was recorded during which Battery D fired twelve rounds. The bursts appeared on target in the scopes of two batteries and the enemy plane lost altitude quickly and disappeared. It is listed as probably destroyed.

Morale has been stimulated by effec-

tive rotation schedules. The enlisted men are relieved at a satisfactory rate, but the officer replacements have been slow in coming, resulting in delays of officer rotation.

Major William H. Lambert, Executive, Major Edward J. Hooten, S-3, and Captain Frederick Johnston, Assistant S-2, have recently arrived in the battalion.

The I & E enrollment in this battalion is extremely high. The men have time to complete courses in spite of alerts, training and normal combat readiness duties.

THE 865th AAA AW Battalion, commanded by Lt. Col. Arthur G. May, continues in air defense positions. No firing at actual targets has been recorded recently, although alerts are frequent. The battalion has been engaging in practice ground alerts "just in case."

The 933rd AAA AW Battalion, under Lt. Col. Charles E. Roden and the 1st Marine Gun Battalion under Lt. Col. C. W. May, the 26th AAA AW Battalion under Lt. Col. Roy A. Tate, the 76th AAA AW Battalion under Lt. Col. Forrest L. Martz and the 82nd AAA AW Battalion under Major Howard A. Geddis report business as usual in their respective assignments.

Since submission of the last report a GHQ inspection team headed by Colonel Riley E. McGarraugh, inspected units attached to the 10th AAA Group. Besides Colonel McGarraugh, the team consisted of Colonel Clarence A. Langford and Thomas M. Metz, Lt. Cols. Richard H. Anderson, Niram L. Sauls and Sidney D. Frampton, Major J. M. Turner, Captain Thomas E. Rogers, 1st Lt. Lawson R. Hillman and Warrant Officers Ogden L. McRae, John J. King and Edgar T. Wood. For their work the team was divided into five groups.

The inspection reports indicate a high standard of operation throughout the 10th AAA Group. Everywhere the AAA troops demonstrated their ability to improvise and take care of themselves under unfavorable conditions.

With an eye to the future and hopes for an early termination of the incident that turned out to be a full scale war, the AAA troops in Korea continue to cover themselves with great credit whenever called upon to meet the enemy in any of their various capacities as air defense or ground force supporting elements.



U.S. Air Force Photo

BLANKET DESTRUCTION—An important Communist marshalling yard and repair structures at Rashin were turned into a scene of boiling fury after B-29 Superforts of the Far East Air Forces' Bomber Command dropped a heavy tonnage of high explosives on August 25. Located in far North Korea on the east coast, Rashin's rail network had lain unmolested by the medium bombers for more than a year. Production came to a sudden halt by this devastating bombing attack.

GENERAL LUTES RETIRES

A DISTINGUISHED army career, covering nearly 35 years, ended on January the 31st for Lieutenant General LeRoy Lutes, Commanding General of the Fourth Army since October, 1949, and President of the United States Antiaircraft Association since January, 1945. As a result of his annual physical examination in October he retired for physical disability.

During World War II and since, General Lutes was the confidential assistant and friend to many leading officials such as Secretaries of War Stimson, Patterson, and Royall, Secretary of the Army Gordon Gray, Secretary of Defense Forrestal, as well as Generals Marshall, Eisenhower, and Somervell.

General Lutes is best known for his contributions and vast knowledge in the highly specialized field of general logistics and supply during World War II. As director of Plans and Operations, Army Service Forces, he was charged with the tremendous task of planning and supervising the system of supply distribution to eleven million under arms in six combat zones throughout the world. He later became Deputy and Chief of Staff to General Somervell and succeeded General Somervell as Com-

mander of the Army Service Forces. He was rated by both General Eisenhower and General Somervell as the outstanding logistical officer of the Army in World War II.

On March 9, 1942, he joined the staff of General Brehon Somervell as Director of Operations, Headquarters Services of Supply on the recommendation of General Eisenhower whose assistant Chief of Staff, G4, he had been during the Louisiana maneuvers of 1940. For his outstanding work in the supply field during the Louisiana maneuvers, General Lutes was promoted from lieutenant colonel to brigadier general in 1941 to command the 37th AAA Brigade in Los Angeles.

Under General Somervell, Chief of the Army Service Forces, General Lutes dealt with all logistical problems in a total war that posed completely new and constantly changing supply difficulties. In his new position, Lutes prepared the Overseas Supply Plan, put it into operation, and directed its successful continuation.

To accomplish these assignments he went into the field regularly to insure their execution and has a wartime record of eleven transatlantic and five trans-

pacific crossings by air. For two years he traveled to every corner of the globe as trouble-shooter, advisor, and planner to insure an all-out supply effort for our troops. In addition to the problem of transporting millions of troops, he held posts of authority and responsibility in an organization which handled more than \$100 billion in supplies during the course of the war.

On his first flight to the British Isles in 1942, General Lutes initiated plans assuring adequate supply support for American forces shortly to be based in the United Kingdom. Later in the same year he covered thousands of miles in the South and Southwest Pacific, playing an important part in coordinating supply and logistical operations in support of Army and Navy operational plans. He was instrumental in establishing the first joint Army-Navy Logistical Board in the South Pacific area.

It was on this duty tour that he and Captain Eddie Rickenbacker were guests of Lt. Gen. Delos C. Emmons at dinner in Honolulu. General Lutes invited Rickenbacker to continue to their next stop in his plane, but the latter decided to fly in the same plane in which he had started his Pacific flight. General Lutes' plane reached Canton Island on schedule. Rickenbacker's aircraft, leaving Honolulu fifteen minutes later, crashed at sea. When word reached the general he ordered his plane into the air to launch a search which continued all that night and the next day until ten search planes took over the hunt, locating Captain Rickenbacker and his party adrift on life rafts days later.

IN August, 1943, he again flew to the Pacific Theater to bolster the supply program for the combat operations of New Georgia, Buna, Salamaua, and New Guinea. After attending the Cairo Conference of Allied Governments and Allied Staffs in November, 1943, he inspected the supply functions of the I Corps Area in Italy, from front-line units to rear headquarters. He extended his personal study to the supply base at Oran in North Africa, then flew from Oran to headquarters of the China-Burma-India

Lieut. Gen. and Mrs. Lutes in their quarters at Fort Sam Houston.





Secretary of the Army, Frank Pace, Jr., and Lieut. Gen. Lutes accompanied by Maj. Gen. John T. Lewis, Brig. Gen. Frederick L. Hayden and Brig. Gen. L. E. Simon salute as departing honors are rendered at a review at Fort Bliss.

Theater at New Delhi, India. There he surveyed and helped solve logistical problems at bases from there to Assam, continued through the Ledo Road bases for U. S. Forces in Burma, then flew the "Hump" to China to coordinate supply operations between that country and India.

In preparation for the invasion of Normandy early in 1944, General Lutes was called to General Eisenhower's headquarters at London to review the logistical plans and advise on supply and logistical support of the cross channel assault. He was instrumental in expediting action that delivered critical items by air and water to meet the invasion deadline and spent two months assisting in perfecting the invasion logistical support.

General Lutes again went on duty

with headquarters of the Allied Expeditionary Forces in the winter of 1944-45 for several months to assist in logistical operations at the front and in vital supply areas throughout France. He was assisting in coordinating these operations there at the time of the Battle of the Bulge.

In March, 1946, General Lutes accompanied the Under Secretary of War on a global flight to examine the worldwide Army surplus-property situation. Later in the same year he made a flight to Alaska and the Aleutian Islands to inspect supply installations in the Alaskan Command.

Upon the passage of the Unification Act in 1947, he was selected by Secretary of Defense James V. Forrestal as the first Director of the Staff of the Munitions Board where until shortly after Mr. For-

restal's death he was charged with all matters pertaining to industrial mobilization and the coordination of requirements for Army, Navy and Air Force. Upon this appointment General Eisenhower paid this tribute to Lutes: "Never has the Army produced, in the whole logistical field, an officer of greater brilliance or one more outstanding than yourself."

THROUGHOUT his wartime career, General Lutes has held the esteem of superiors and subordinates alike. In January, 1947, General Thomas T. Handy, then Deputy Chief of Staff, recommended him as "a general officer whose broad experience and sound judgment, especially in the field of logistics, are of the highest value to the service."



Lieut. Gen. Lutes and Col. Eustis L. Poland, Deputy Post Commander, break ground for the Fort Sam Houston new elementary school.

In February, 1943, then Lt. Gen Brehon Somervell, at that time Commanding General, Services of Supply, described him as "one of the most able and best qualified officers in the Army in the field of logistics. He is a real expert and his untiring energy, his broad knowledge and experience and his sound judgment are, to a large extent, responsible for the very satisfactory supply situation throughout the United States and in our foreign theaters of operation."

Among the decorations awarded to the General are: Bronze Star Medal, January, 1945; Legion of Merit, September, 1945; Distinguished Service Medal, October, 1945; Oak Leaf Cluster in lieu of a second DSM, July, 1946; Most Excellent Order of the British Empire, degree of Honorary Commander, by His Majesty the King of England, August, 1946. He also holds the United States Typhus Commission Medal, awarded in April, 1947, by the Typhus Commission for his services in instituting extensive typhus

control programs in all theaters of war.

General Lutes was born in Cairo, Ill., October 4, 1890. His first service was in the original Coast Artillery Regiment of the Washington Guard in the Puget Sound area in 1906. He later attended the Wentworth Military Academy and was the honor graduate in 1908. He was commissioned a second lieutenant in the Illinois National Guard in 1914 and received a Regular Army commission as a second lieutenant March 26, 1917.

BETWEEN the wars he served with the Coast Artillery in the States, Panama, and Hawaii, establishing himself as an artilleryman while commanding and firing in service practices, antiaircraft, submarine mine and seacoast batteries from 3-inch up to 16-inch batteries. His last battery manned both the 16-inch seacoast and the antiaircraft battery at Fort Weaver, Hawaii. During the same time he was achieving reputation as a sound

administrator. After graduation from the Army War College in 1935 he was assigned to duty with the National Guard Bureau.

In 1937-38 General Lutes was very aggressive in promoting a new program for procuring antiaircraft weapons for the National Guard. At that time there were only a few skeleton antiaircraft regiments in the Regular Army and these had but few modern weapons. The National Guard had ten regiments but, in many instances, had but one gun per battalion. He pointed out to the Chief of Coast Artillery and General Staff that with the rate of procurement then underway, it would take ninety years to equip the few regiments then in existence. At that time, the Civil War was under way in Spain and new antiaircraft equipment made in Germany was demonstrating that moving airplanes could be shot down or badly damaged by ground fire. Unable to get vigorous support from the Regular Army for an increased program of procurement, he turned to the National Guard, and with their support was able to engineer the first large procurement program for antiaircraft equipment. The budget for antiaircraft equipment for the first time was over \$20,000,000 and the equipment procured then was largely that which was used in the beginning of World War II.

Throughout his service General Lutes has been an enthusiastic antiaircraft officer with a profound interest in the efficiency and welfare of the officers and men. Immediately after World War II the antiaircraft artillery was drastically reduced with resultant lowering of the morale of the junior officers. As President of the Coast Artillery Association General Lutes took strong action to hold the Association together and continue to publish the *ANTI-AIRCRAFT JOURNAL* as a medium for encouraging the younger officers of the antiaircraft artillery to stay with their branch and work toward its betterment.



IN SUPPORT OF THE INFANTRY

By Lt. Col. Charles E. Henry

21st AAA AW Battalion (SP)

INTRODUCTION

Dear Henry:

The purpose of this article is to provoke discussion. It is recognized that to date the 25th Division has had no air opposition to challenge the primary role of the AAA. The Division has had the opportunity to demonstrate the tremendous importance and assistance AAA can be in the ground support role. It is not necessary here to make a citation of what the doughboys in this division think about AAA support. It is apparent that they are sold completely.

Thanks for letting me comment.

BRADLEY
MAJ GEN
CMOG

WHAT's that scrap iron doing back here? That's all it is when you don't fire it, scrap iron." "It's defending the artillery, Sir," was the answer. "Defending it against what?" was the next explosive comment "You want to kill some Chinese, don't you, Captain? Then get your guns up with the infantry where they belong. Go back and tell your division commander to do something about this."

This was the conversation between General Ridgway, then 8th Army Commander, and one of my battery commanders. The date: 26 January 1951, the day the 8th Army started its "limited offensive" after two and a half months of steady withdrawals. It was also the day that the 21st AAA AW Battalion (SP) joined the 25th Division, where according to the book and time-honored custom, they were assigned the mission of defending the Division Artillery

against ground attack. The place: a field artillery battalion emplaced in firing position in a frozen rice paddy across the road from Suwon Air Strip. The occasion: Gen Ridgway was at the airstrip to meet Gen. MacArthur who was to land there, and had observed the M16's of C Battery emplaced on the artillery battalion perimeter.

This occurrence was reported to me at once by the battery commander. I, in turn, consulted Brig. Gen. George B. Barth, Divarty Commander, who was also at the airstrip.

The result: within an hour, C Battery was on its way to join the 35th Infantry; B Battery was on its way to join the 27th Infantry; and I was conferring with Colonel Kelleher, the CO of the 35th Infantry, trying to persuade him to use D Battery in addition to C Battery. "Get 'em all out of here," he yelled, "I can't use 'em, you'll block up the road and General MacArthur's on his way to my CP." I departed posthaste, and on the way out, I heard Colonel Kelleher say, "Don't go away mad, come on back tomorrow and we'll talk this over."

I hunted up Gen. Barth again at the air strip, who spoke to the division commander, who in turn spoke to Colonel Kelleher and the half-tracks of C Battery were again on their way to the 35th Infantry. General Ridgway had spoken.

The other regiment of the 25th Division, the 24th Infantry, was in corps reserve, defending the MSR, and couldn't utilize half-tracks on a tactical mission at that time. We set up a ground defense of the air strip instead, and didn't attach D Battery to them until later. Battery A joined the Turkish Brigade the same afternoon. Col. (now Brigadier General) "Mike" Michaelis then commanding the 27th Infantry, received B Battery with open arms, although he wasn't quite sure how he would use them at the time. This at first marked the attitude of the doughboys. How are we going to use this monster? Time has changed all that.

The next day as I was driving down the road toward the Turkish sector I saw a jeep with the star of a brigadier general following me. After about two or three miles of this I began to feel



General MacArthur and General Ridgway in the 25th Infantry Division area.

Lieut. Col. Henry trained the 21st AAA AW Battalion at Fort Bliss and commanded it in combat. In Korea he received a battlefield promotion to his present grade. From January to September his battalion was credited with 9,007 enemy casualties, including 56 POW. He has recently been reassigned to Fort Bliss.

uneasy and decided to stop on the side of the road and let it pass. It didn't. It stopped and the assistant division commander, Brig. Gen. Bradley, stepped out and introduced himself to me. He told me to circulate in the division and talk to the infantry battalion commanders and sell them on the capabilities of the half-tracks. After talking to me for a few minutes, he made me feel at home and like a member of the first team.

I EXPLAINED the capabilities of the tracks to the infantry battalion commanders in get-acquainted talks during the next few days. After they observed them in action, I had the job of explaining their limitations, as the doughboys couldn't get enough of them.

On arrival at the division my battalion was attached to Divarty. I further attached for operational control only, one battery to each regimental combat team and the other battery jointly to ground defense of the division air strip and ground defense of the general support battalion of Divarty. This last assignment served as sort of a rest cure for the batteries with the infantry. I rotated the battery with the air strip and artillery approximately once a month to replace one of the batteries with the infantry, to allow them to perform necessary maintenance, train emplacements for evacuated wounded personnel, and rest. The irony of this situation was that after about a week of rest, the rested were restless and to a man wanted to "get back to the line."

I want to compare our method of operation with those of the other battalions in the Korean Theater. First, we are all aware that our ground support for the infantry would be far less effective if we were opposed by armor or direct fire artillery. It is further conceded that should the division be attacked from the air that the AAA should be fulfilling its primary mission. However, I feel that in the absence of these threats the AW batteries should be attached to the infantry. In this belief I appear to have little support from most of the AAA battalion commanders in Korea. There is no doubt that batteries who operate as part of a trained team full time will be more effective than those who are on a part-time status and subject to call. This battalion has the same personnel with each infantry battalion 24 hours a day. It is included



Sgts. Rufus Gibson and Antonio Garza of the 21st pose proudly with the Quad Lightning name their battalion has earned in Korea.

in all their planning and is a part of every attack. What is more important, our platoons work with the same tank platoons daily. We have found it very important that the tanks and half-tracks work together, often for mutual protection, always for coordination of fire with the attacking or withdrawing infantry. It is apparent that a trained team of this type which knows exactly what the next move of the other members of the team is going to be, will be more effective than one which doesn't work together constantly.

Furthermore, the infantry either attacks or defends every day and night. Why should the tremendous amount of fire-power represented by 64 M16s sit back with the artillery idly awaiting attack. If an attack against the artillery is to be stopped, why not stop it, or assist in stopping it, on the MLR, instead of waiting for a break-through? During the first six months of the Korean war the lines were not as strongly held as at the time of the Ridgway limited offensive in January, and it was possible for a whole North Korean company to infiltrate our lines unobserved, with the mission of destroying our artillery with suicidal attacks. There have been no break-throughs in this division in any strength since January. I think as this condition became apparent, the employment and control of the AAA should have changed with the situation.

We hear the argument advanced by AAA commanders, "You can't turn 'em over to the infantry, you wouldn't have any control over them." Why not? Who is more capable of planning the part a machine gun plays than the infantry battalion commander? The M16 is nothing more than a mobile base of fire. When an AAA officer higher than a platoon leader attempts to control his outfit tac-

tically while supporting the infantry he's throwing a monkey wrench into a smoothly operating machine. If anyone should fear that the infantry commander might needlessly expose them, it is because they fail to appreciate the care and professional skill of the infantry battalion commander.

It is further argued that they can't be left with the infantry at night on the main line of resistance, that they would be overrun. During darkness is the time when they are needed. Chinese attacks nearly always occur at night and an MLR is an ideal weapon for mowing down human waves. The AAA troops have the will to fight and the means of doing it, and they should be trained and indoctrinated for it. Certainly some of them are going to become casualties, but we can't win a war without casualties. If withdrawal routes are properly reconnoitered there should be little danger of losing a half-track. This battalion lost five tracks in one night but the number of lives saved more than compensated for this loss.

ON the night of 23 April 1951 the main effort of the first CCF spring offensive hit the 25th Division. The right regiment withdrew through our Dog battery which laid down withering fire. The tanks preceded us and in the ensuing dust and darkness two of our tracks left the narrow road. They were under heavy enemy fire so it was impossible to recover them. Accordingly they were demilitarized and destroyed by thermite grenades and burning gasoline. On the same night and at the same time, the left regiment was hit. The unit on their flank had been given way and allowed the CCF to hit them from three sides. The reserve battalion commander immediately formed a tank-half track team which blasted way out for an orderly withdrawal. The battalion commander afterwards remarked, "I don't think we would have made it without the ack-ack." We lost three additional tracks during this action because when the yeoman service which those tracks rendered that night is considered five half tracks was a small price to pay for it.

That's the tactical side; now for logistics. An AW SP battalion is not equipped to haul gasoline and ammunition at the rate which a unit with the infantry uses them. We have fired over 2,000,000 rounds of caliber .50 ammunition along

in five months in action in Korea. Yet some battalions are attempting to supply their units using only their organic transportation. Instead we have attached 2 1/2-ton trucks from our ammunition train to each firing battery, as well as a jeep from the inactive AAAIS. The infantry regiment is responsible for the supply of class I, III, & V supplies and happy to do it. Each track carries 12,000 rounds in the bed and on the guns, while the infantry regiment holds 100,000 rounds for the battery at the regimental ASP.

For those who may think I have lost

my function as a battalion commander let me emphasize that I have never been busier in my life, nor have I had such a sense of having accomplished something useful in an efficient manner. The division commander has made it very clear that although the infantry commanders will tell my M16 units what to do tactically, it is my responsibility to train them beforehand to do it. Remember, the battalion is still under my control administratively and for training. It's a full-time job to check on the manner in which these batteries are performing their as-

signed missions. I must prepare them for combat and keep the state of morale and discipline such that they are an effective fighting unit. For the battalion commander who wants to lead his men in combat, let him roll up his sleeping bag and spend some time on the line with his platoons. I have done it many times, and it helps the morale of the men and enables the commander to better understand their problems.

We realize that this subject is controversial; however, this is our story and we are quite ready to hear the other side.

Supply For The Self-Propelled Battalion

By Capt. Robert E. Eichling

OUR training at Fort Bliss had us scanning the sky, but in Korea we started looking on the ground, hillsides and in villages for our targets. Our principal target became enemy personnel. To be able to operate efficiently with the tanks and infantrymen we had to readjust our vehicle load. This meant getting rid of some of our bulky, unused equipment, and making room for other equipment peculiar to our new duty in Korea.

We left Fort Bliss with most of the equipment as listed for a divisional type AW (SP) Battalion. We picked up the rest at the port, or in our staging area in Japan. The battalion commander, Lt. Col. Henry, consulted with the Commanding General, Japan Logistical Command, Major General Walter Weible, and with CG, EUSAK. As a result we turned in our M15's and were issued thirty-two more M16's. With a total of sixty-four M16's we had firepower to spare. Still, we had the same cargo capacity. The people who figured out the T/O&E for a self-propelled battalion must have tried out the equipment for size, and decided there was just enough cargo carrying capacity.

In Pusan we wangled enough squad

tents to house the battalion. But the tents and stoves had to be transported, and that required readjustment. On the three-day march overland to join our division at Chonan, we learned that we could successfully make longer trips than we had ever dreamed of with our types of vehicles. There we began to learn in a hurry, what our new mission would be. Three of the batteries were attached to the three RCT's for operational control. The fourth battery provided security for the medium artillery battalion, and the division air strip.

When attached to an RCT (regimental combat team), we arranged to have our units dependent on the regiment for Class I, III, and V supplies. Our ammunition section couldn't operate as a section because of the widespread area over which our platoons were deployed and the tremendous amount of ammunition expended. To compensate for this, two 2 1/2-ton trucks, drivers and assistants were sent to each battery. These vehicles were used to transport supplies and principally ammunition, from the regimental supply points to our units on line. The regimental ASP's had to carry a much larger supply of caliber .50 ammo in stock, as they were not accustomed to resupplying so much firepower. Now that our AAA units are part of the team, their resupply of Class I, III, & V is effected automatically from the regimental supply points.

The battalion supply section furnishes Class II & IV support for all units, and I, III, & V for headquarters and any unit that is in a temporary reserve status.

Soon after we joined the division, and started in with a ground support role, we realized that we had far too much equipment. The T/O&E had provided us with equipment that we would never use, and it was taking up valuable cargo space. Our combat vehicles could not support the infantry and pull their one-ton trailers. The type of terrain over which we operated plus the lack of room on the MLR precluded this. So, to be able to move with the tanks and infantry, which was constantly, the trailers were parked at the battery CP's. The battery CP's were usually located near the headquarters of the supported regiment. The battery CP moved as often as regiment moved, sometimes two or three times a week. That left twenty trailers for the battery headquarters to shuttle forward with about five towing vehicles. All equipment not needed for the mission and the unused equipment mentioned before were stored in these trailers. This shuttle operation proved to be a nuisance; so we turned in our one-ton trailers to reduce the number to five per line battery. That meant that each combat vehicle would have to carry the necessary items of equipment, clothing and equipment for all crew members, and ammunition. We were mobile.

Captain Robert E. Eichling entered the military service from Arkansas in 1941. He has served as S4 of the 21st AAA AW Battalion for the past two years.

A CHANGE to the T/O&E helped us a lot by reducing some items of equipment, but we went even further to get down to bare fighting necessities. This equipment was turned in to the appropriate technical services. Many items they were glad to get for other units; other items they had to evacuate.

Some of the items turned in were our drafting sets for line batteries, demolition equipment sets, 3.5" rocket launchers, M63 AA MG Mounts and our small detachment cooking outfits.

Having operated since early May with this reduced cargo space and reduced equipment, we feel that we could go into an antiaircraft mission and still not suffer from the loss. We know that we can still shoot at aerial targets as the battalion fired, a platoon at a time, at aerial targets

on the EUSAK firing range, as did all other AAA units in Korea.

In early September this battalion received twelve additional M16's. This additional allocation was directed by CINCFE to each infantry division. In our division it has been integrated into our unit instead of the infantry regiments, as in the other divisions, and helps us meet the demand for more quad fifties for infantry support.

The battalion commander has just made arrangements with the division commander to receive an additional six M16's, making a total of 82 of these weapons in the battalion. We have also been authorized additional personnel to man them. This additional armament puts a heavy load on our maintenance

section but we've just finished a technical serviceability inspection of our vehicles and are rated at the top of the division.

I might add that our supply section has proven to have an adequate number of personnel, as provided by current T/O, to operate efficiently in our ground support role. Part of the ammunition section was sent out to augment the additional transportation requirements of our line units. The remainder of the ammunition section was used to handle Class I and III supplies. All in all, we can say the S4 section has "no sweat."

Right now the winter clothing and equipment is being issued which is well ahead of last year's schedule. We are set for the winter ahead.

Come what may, the 21st is ready!

Baker Battery Supports The "Wolfhounds"

By Capt. John Popovics

WHEN the 21st AAA AW Battalion (SP) joined the 25th Division in Korea in January, 1951, the 2nd Platoon of B Battery found itself attached to two batteries of the 8th FA Battalion in short order and deployed in perimeter defense. We didn't stay there long. General Ridgway, noting our position on an inspection tour, remarked rather pointedly that we belonged up in the front line with the infantry. So in even shorter order we found ourselves with the 3rd Battalion of the 27th (Wolfhound) Infantry, then in the vicinity of Osan.

The infantry battalion commander was hesitant in using the quads, as he hadn't had any previous experience in using them to support his men. He wasn't sure of their capabilities or their limitations; so he used them in guarding the rear CP and assuming rear blocking positions.



D Btry of the 21st finds rough going with half tracks.

The 2nd Platoon of quads came into their own on February 5th when the 27th Infantry had an objective to take (hill 431) but were pinned down. Air and artillery came to their support but to no avail; the enemy remained dug-in and held up the advance. The quads were then called upon to take their position on a hill 1000 yards from the objective. This was as close as the quads could get and still cover the entire enemy area. I placed five tracks on the hill which was actually a razor-backed ridge.

At 0900 hours the "Quad Lightnings" began to fire at the ridge lines and at targets of opportunity. Their fire was so effective that the battalion commander

said later that there was only one tree on the hill (431) that the quads had not hit. He was so impressed with the firepower of the quads that he used them after this at every opportunity to render both defilading and overhead support to his advancing infantrymen.

During the battle when I took a track down to get more ammo, I found that the terrain was such that I couldn't get back. To this day, I am unable to explain how we got the tracks on the top of that hill. The positions had been taken during the night and all were dumfounded later as to how the quads had made the terrific slope to the top.

By 1700 hours the infantry was able to take their objective. The 2nd Platoon had fired 75,000 rounds of ammo at ranges from 1000 to 1800 yards. The quads' firing was so effective that the infantry captured hill 431 with few casualties. From here until the Han River crossing, the 2nd Platoon of Baker Battery was used in aiding task forces in feeling out and probing enemy strength. There was a steady advance of UN Forces to the now historic crossing of the Han River. This crossing gave the entire Battalion an opportunity to demonstrate the murderous fire power of the

Captain Popovics, Infantry, entered the service from Proctor, Vermont in February 1943, and received a battlefield commission in 1945. Serving with the 21st AAA AW Bn in Korea, he has been awarded a cluster to the Purple Heart and the Silver Star for gallantry in action.

M16's. The 1st Platoon, commanded by Lt. Bob Morrison, my platoon, the Second, and the Third Platoon, under Lt. John Gronsky, all of Battery B, supported the operation. The briefing showed that the infantry had to cross the river and a wide flat beach and field. The half tracks went into positions under the cover of darkness on the bank of the river in the opening. The quads and artillery laid down such a barrage of fire that it seemed as though the very heavens were raining fire on the enemy. At H hour the artillery ceased and the infantry pushed off, crossing the river with a cover of fire of caliber .50 machine gun bullets from the M16's.

THE part played by Baker Battery of the 21st AAA AW BN (SP), commanded by Captain Mike Kaminski, can best be told by the Unit Citation which was awarded them for their participation in the battle. It reads as follows: The 3rd Battalion, 27th Infantry Regiment and Battery B, 21st AAA AW Battalion, attached:

"are cited for outstanding performance of duty and extraordinary heroism in action against the enemy in spearheading an amphibious assault across the Han River in Korea on 7 March 1951. Following an intense artillery bombardment by friendly forces on the enemy positions on the other side of the river, the leading elements crossed the river in assault boats and moved rapidly and aggressively toward their assigned objectives. These leading elements were forced to cross an exposed beachhead of 700 yards, completely devoid of any natural cover, which was under a devastating barrage of artillery, mortar, machine-gun and small-arms fire from a well-entrenched and determined enemy, estimated at regimental strength. The friendly troops pressed the attack with such zeal and unrelenting fury that the enemy after suffering heavy casualties fled in panic and disorder, abandoning large quantities of equipment, weapons and ammunition. Possessed of a high degree of spirit and audacity from this recent victory, the battalion and attached units moved on to the next objectives. The enemy positions were now more formidably and fanatically defended, but the hostile forces, unwillingly and stubbornly, were forced to give ground under the tremendous onslaught of the battalion and attached units. Finally, with resolute persistence and courageous demeanor, the friendly troops succeeded in battering the hostile regiment until it could no longer muster an attack and was considered neutralized. The 3d Battalion and attached units, by their heroic deeds, breached the Han River line and opened an avenue for further pursuit of the enemy to the north. The 3rd Battalion and attached units displayed such gallantry, determination and esprit de corps in accomplishing their missions under extremely difficult and hazardous conditions as to set them apart and above other units participating in the campaign. The heroism, audacity and courage exhibited by the members of these units in denying to the enemy a vital strategic vantage area reflect great credit on themselves, their organizations, and the military service of the United States."

After the break through at the Han River, UN forces advanced against determined enemy fire. The advance at



Sfc Charles H. Moudy, mess sergeant of D Btry, receives the Bronze Star for Valor from Gen. Bradley. Sfc Paul McRoberts, right, received the Bronze Star for the same action in which he was awarded the Purple Heart.

one point slowed to a standstill when the enemy used a railroad tunnel as a road block. Here again the quads showed their ability to adapt themselves to the method of support needed. A quad was backed up the railroad tracks toward the tunnel, firing as it came. In spite of heavy counterfire, the tunnel was cleared by the blistering death spit out by the quad 50's.

Just south of the Imjin River on the 3rd of April the UN forces were moving north. Lt. Gronsky and I went on a foot reconnaissance to plot out a line of advance for our M16's. We found that the only way we could give the necessary support to the advancing infantrymen was to place the tracks in front of the MLR. The quads not only were in front for the jump off, but also advanced with the troops until their objective was secured. Here the M16's took to high ground and stood guard in order that the flanks of the advancing infantry could catch up and consolidate the lines.

Of course this wasn't done without resistance from the enemy who opened up with small arms, automatic weapons and mortar fire. One of the M16's was lost due to an enemy mine, and during the fight nine of the 21st men were wounded in action. For this the enemy received 40,000 rounds of fire from the quads. Baker Battery was accredited with 200

enemy killed in action and with taking two prisoners of war.

Then came the action at the Imjin River. Foot reconnaissance was carried out and a plan of attack was laid on with the Wolfhound 3rd Battalion officers. The reconnaissance had shown newly dug-in positions of the enemy but no sight of the enemy himself. However, he was there, for when the quads came out of a draw and rounded the hill the enemy opened up with small arms, automatic weapons and mortar fire. During the early part of this encounter Lt. Gronsky was wounded and evacuated, leaving me in command of two provisional platoons of quads.

The battle became so intense that orders couldn't be heard on the radios and some of the radios on the tracks had been hit by enemy fire and put out of commission. In order to coordinate the movements of the vehicles and the fire support for the infantry, contact had to be done by personal means. This led to eleven more of the 21st AAA men being wounded.

For "extraordinary bravery" during this battle, both lieutenants, three sergeants, three corporals and one Pfc were decorated by the Infantry.

On the 22nd of April the enemy apparently had had enough of being pushed back, for they attacked with such

fury and in such numbers the UN forces were forced to give ground. Baker Battery and the 3rd Battalion of the 27th Infantry suddenly found themselves in danger of being flanked. We executed an orderly, planned withdrawal. To help stem the tide of battle a company of rangers was called into action to assume blocking positions along with a platoon of tanks and the Second Platoon of Baker Battery. This was done to give the infantry sufficient time to assume a rear blocking position. The hordes from the north still came on and rapidly occupied UN positions as they were vacated. This necessitated the withdrawal

of the rangers who rode on the tanks and with our platoon as a rear guard as we withdrew to the south. The M16's fired upon the enemy while on the move to the rear and accounted for fifty to one hundred enemy KIA. By leapfrogging other blocking units a previously prepared line was reached. Here the enemy gave up any idea of further attack as this line was too heavily fortified.

The UN Forces dug in and waited for approximately a month and then struck back. The spearhead of our attack was the Dolvin Task Force. This was composed of the 3rd Battalion of the Wolfhounds, the 89th Tank Battalion and our

2nd platoon of Baker Battery. This hard hitting task force kept pushing the enemy back until they again reached the 38th parallel. A perimeter defense was then set up interlocking the quads, the tanks and the infantry. The defense lines were set up on the ridge lines and held for three days and three nights against enemy fire and attack. The success of Task Force Dolvin made it possible for the 25th Division to establish their MLR roughly along the 38th parallel.

The task force was relieved by the British, and the 2nd Platoon of Baker Battery, ACK-ACK, went back into reserve for a well earned rest.



865th AAA AW BATTALION (SP)

THE 865th AAA AW Battalion (SP) was activated and trained in Hawaii during the early part of World War II. After seeing action on Makin and Saipan Islands during the War, the battalion was stationed at Kimpo Air Force Base in Korea where it assumed an occupation mission from December 1946 to September 1948. During this period the battalion was the sole AAA unit in Korea. Occupation duties in Korea included the furnishing of security guard personnel for Kimpo Air Force Base and the maintenance of a mobile reserve force for the control of civil disturbances.

In 1948 the battalion moved to Japan. In 1950, after being brought up to strength and undergoing an intensive training program, the battalion was assigned to the defense of Misawa Air Force Base.

In July, 1950, Battery D was detached to Korea where it was one of the first army units to arrive after the outbreak of hostilities. There under the command of Capt. George W. Eiseman it was soon employed in air defense and in ground



Lt. Col. Arthur G. May and Major James L. Smith, Jr.

combat with task forces within the Pusan Perimeter. Later it advanced far to the north where it was the last American unit to withdraw from Pyongyang when the Chinese hordes forced United Nations troops to fall back.

In the summer of 1951 the remainder of the battalion arrived and is now employed in the air defense of an important air strip.

Since arriving in Korea the battalion

has not actually engaged any hostile aircraft; however, there have been several alerts all of which have been during hours of darkness. The battalion operates several AA type searchlights which were secured from the Air Force. Battalion headquarters is established in the old dependent housing area near by. The houses had been damaged during the fighting in this area, but all personnel pitched in and repaired enough of the houses to make them habitable.

The battalion AAOC was established on the base near the Wing tactical C.P. Later both were combined to form an air defense C.P. The combined C.P. is very desirable in that it makes it possible for very close cooperation between the AAA and the Air Force. Several OP's have been established and are tied into the early warning system for the base. In several cases gun sections and OP's are attached to neighboring Air Force installations for rations and quarters.

In addition to the tactical mission the Batteries are actively engaged in a training program.

SELF PROPELLED BATTALION IN GROUND SUPPORT

By Captain Ballard B. Small

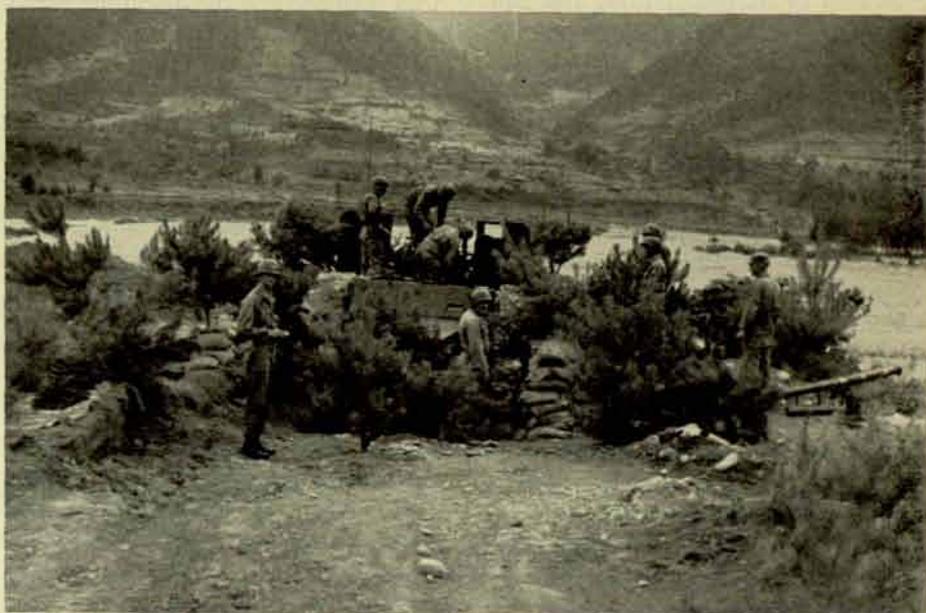
82nd AAA AW Battalion

THE 82nd AAA AW Battalion (SP), under command of Major Howard A. Geddis, continues its role with the 2nd Division. Recently both the M19 and M16 units have been employed often with tank-infantry task forces in probing attacks against the enemy on high ground to our front. In this they have operated in forward positions where they were subjected to all types of enemy counterfire. However, the missions have been executed successfully in all cases and with minimum casualties.

Along with this activity the battalion maintains a continual training program slanted particularly to integrate the newly arrived officers and men into the combat teams, and also always to stress the maintenance of our weapons, motor transportation, and other equipment.

The recent increase in enemy air activity has necessitated much more attention to the anti-aircraft defense. Although no hostile acts were committed within our area of protective responsibility, the alerts in the adjacent sectors provided the opportunity for the evaluation of our own alert system. Through practice alerts and numerous actual alerts from other sectors, the battalion has been able to strengthen its own alert system to where it is capable of providing the required anti-aircraft protection for divisional elements. This means not only training for our own personnel, but also liaison with adjacent sectors, cooperation with Air Force warning services, and improvement in communications.

From our experiences during the past year we have reached our own conclu-



Former battalion commander Maj. Robert H. Johnston inspects position of Btry. C.

sions about the capabilities and limitations of our present weapons and some ideas on proper tactical employment in ground support. They are set forth below. They are in some cases in conflict with accepted doctrine, and are often peculiar to the conditions here in Korea. The comments cannot be defended by reference to any military documents, but are submitted as our sincere convictions based on our own experience here.

PATROLLING

Often in Korea, the AW firing units have been used in lieu of tanks or other armored vehicles, or they have been used with armored patrols interspersed among the tanks. AAA units have been called upon to furnish added fire support to tank operations. In Korea, these tasks have been found to be unsuitable for AAA weapons and are not recommended. In placing AAA weapons in situations normally covered by armored vehicles, the disparity in armor usually permits the tanks to receive mortar and

small arms fire with little damage while the thin armor and open fighting compartments of the M16 and M19 are choice targets for any type of counterfire. Tanks can button up and push through grenades, small arms, mortar and light automatic fire, while the AAA vehicle is liable to serious damage from any of these.

In the case of tank-infantry operations, the accompanying infantry can dismount if enemy action makes this advisable. The AAA crew has no choice but to remain in their exposed position in order to accomplish their part of the mission. In the event of enemy opposition, the damage resulting usually is severe and out of proportion to the effect accomplished by the AAA vehicle's inclusion in the task force. Since most operations with tanks involve passage through mined areas, the relative lightness of the M16 makes it very possible that complete destruction of vehicle and serious injuries to personnel result upon striking a mine. Usually a tank will suffer only

For material assistance in preparing this article the author is indebted to other officers in the battalion, as follows: Major John E. Clark, Executive; Major Roland D. Appleton, S3; and Captain Francis J. Cronin, Asst. S3, formerly CO of Battery D.

light damage to tracks and suspension system and only infrequently, injury to personnel. If it is a leading tank that strikes a mine, the column may be halted under enemy fire—perhaps of no importance to tanks, but usually serious to the M16's or M19's.

Also, M16's do not have equal flotation with full-tracked tanks and are found to bog down where tanks can proceed unhindered. M16's, in wet ground, are liable to be more of a hindrance to the tanks than a help for this reason. The tank may perhaps be required to spend a good part of its time pulling the half-tracks out of mires.

The fact that AAA vehicles are so vulnerable makes it apparent that they should not be made integral to a tank or tank-infantry column. However, they can be used in patrolling, either foot or armored, to set up bases of fire at secure points along the route and near the MLR to protect the patrol's advance. The AAA vehicle's vulnerability and the limitations of its mobility on the terrain of Korea, make their use in patrolling activities a command decision. Essentially, it is to decide whether the high probability of their loss and the injury to personnel is outweighed by the possibility that the desired fire power will be required. In Korea, the answer has usually been "yes."

The best use for AAA vehicles is for them to fire from a series of strong points assisting the patrol to pass out from and return to base rather than accompanying the patrol with the mission of assisting by supporting the patrol in attaining its objective.

In other areas where the terrain was suitable, M16's were used successfully on patrols, but because of the rugged terrain here, the AAA vehicle cannot be successful often. The cross country mobility of the vehicle is good, but there has been little cross country—only narrow, single-road valleys and steep, rocky hills.

The blindness of tanks is widely recognized, but commanders in Korea have not always recognized the limitations and vulnerability of the AAA vehicles they use. It seems that their tremendous fire power is the only well known feature.

In Korea patrolling has often been necessary during forward displacement of field artillery units. For this, it is recommended that one AAA section be spaced in the column with the leading

field artillery battery, near the head of the column to insure that AAA and ground protection is furnished during the move and during the initial phases of occupation of position.

PREPARATION OF DEFENSIVE LINES

When AAA has supported field artillery, the normal defensive positions during daylight have usually included the consideration of AAA efficiency. The field artillery often utilizes the field mobility of the AAA vehicles by assigning them two primary positions—the daytime AAA positions and the nighttime perimeter assignments. At night, AAA sections or squads would normally occupy close positions as strong points in the field artillery perimeter, coordinated with the organic field artillery weapons, the AAA weapons usually covering the open areas or directions of most likely approach.

When in support of infantry, the AAA weapon should be sited not less than 500 yards and not more than 1000 yards from the MLR and used preferably to block long clear approaches. The AAA weapon should always be sited in conjunction with a prepared defense line where it can have flank protection by infantry forces and the support of other weapons for security against infiltration. The ground defense plan should take advantage of the vehicles' mobility by the designation and use of alternate firing positions.

FIELD FORTIFICATIONS

Static positions are not recommended because of the AAA vehicle's sensitivity to mortar and artillery fire. AAA weapons have been used in fortified positions in Korea, but such use was not efficient because of the size of the earthwork involved and the resulting loss of one of the vehicle's best characteristics—its mobility. Most defensive positions here run along the ridge lines of steep, rocky and high (500-1000 meter) hills where the emplacement of other than infantry weapons is difficult. It is recommended that AAA weapons be sited behind such lines, or to the flanks of such lines and not emplaced in fixed fortifications if the mobility and fire power of the weapons are to be best exploited.

NIGHT ATTACKS

Considering operations with field artillery, the night use of AAA weapons must be restricted to FPL fires within

field artillery perimeters. It is not always advisable to employ the AAA weapons at night because of the inability to observe results and the certainty of revealing the positions. Only when the disadvantage of the revelation of the position is not detrimental to the over-all defense or is outweighed by the situation threat, should they be used at night.

On one occasion, a team of one 155mm howitzer, one M16 and one engineer searchlight was used in connection with direct fire techniques to reduce heavily constructed bunkers. The weapons were drawn up to fire on bunkers located on part of Hill 773 (part of "Bloody Ridge") at a range of about 2000 yards. The 155mm fired to destroy the bunkers and when the enemy ran out of their fortifications, the M16 was used to spray the surrounding area. Results were reasonably successful, but were again dependent upon the peculiar operations here where the artillery counterfire has not been of much consequence.

In Korea, the front and the rear are often implications of direction only and sometimes have no significance of safety. Thus, the occupation of an exposed rear position may be as exposed as in front. Therefore, in support of infantry night attacks, AAA weapons can deliver preparatory fires and prearranged fires, but lack of visibility and the vehicles' vulnerability makes any forward displacement questionable. If displacement is ordered, the AAA vehicles should not accompany the leading elements, but should be with the main body. By accompanying it the AAA fire units can give the most useful service.

INFILTRATION

AAA weapons have proved valuable in combating infiltrating patrols which have frequently set roadblocks across division rear supply routes. When this danger is prevalent, AAA units have been used to patrol MSR's or to accompany truck columns on the road. When trouble is encountered, the M16's (usually close to the front of the column) advance to the point and reduce the opposition by spraying hills on each side of the road where the blocking force is usually deployed. Since these rear area roadblocks have usually been of small size and use light weapons, the column can continue its travel in a few minutes. Because of the M16's or M19's mobility, either can be rapidly dispatched to points

where infiltrators are active and quickly disperse them. Usually, no special organization was made for this type operation, but sections or squads simply dispatched to the affected area when requested.

AAA units have been effectively used in the relief of cut off units before the enemy had time to get well organized. AAA has also been used to interdict approach avenues used by infiltrators. Again, the AAA vehicle should have infantry support if follow-up and clean-up of infiltrators is to be accomplished.

SUPPORTING FIRES

Whether with the infantry or the artillery, any supporting fires must fall within the range capabilities of the AAA weapons. Field artillery positions usually prohibit the concurrent use of AAA in supporting fires, principally because of the terrain difficulties here in Korea. With the infantry, the AAA can deliver good support at distances of 500-1000 yards from the objectives. More targets, wider observation, and more rapid transfers across the objective are available if the AAA unit is sited at such ranges. The shift from target to target is shorter and more rapid, and larger areas of the objective can be covered. Firing at 500-1000 yards also gives the best dispersion at the target.

ASSAULT OF BUNKERS

The M16 is negatively effective against the bunkers encountered in Korea. Lucky shots into the embrasures are all that can be expected. Even the M19 should get within 1000 yards distance from bunkers to get consistent hits. To reduce a bunker with 40mm fire, it is necessary to get HE rounds *inside* and

then not so much to destroy the bunker, but to drive out the personnel inside. The 40mm has been used for pinpoint firing into bunkers for this anti-personnel effect, but even at very short ranges, the aperture is a very small target and the end result is usually simply harassing or perhaps a temporary neutralization only. In this respect, the orientation of the machine guns of the M16 has been considered to have some effect on the effectiveness of fire at the target, and on several occasions where this weapon has been used for firing at bunkers, it has been reoriented on the specific target with the hope that all fire be concentrated at that point. After the rough usage that the guns have received here, such fine orientation has not been possible because of the looseness and play in the mounts. Also, the fact that part of the guns must be out of action at a time when they might be required, has caused this to be not recommended as a usual practice. The results have not been sufficiently important to justify its continuance.

The superquick fuze of the 40mm HE round causes bursts to be relatively harmless to the basic bunker structure. The 40mm and quadruple .50's are nonetheless extremely effective against the communication trenches and foxholes which are always a part of the bunker organization. These can be made unusable so as to isolate bunkers for assault by closer weapons.

RELIEF OF FRONT LINE UNITS

Where artillery is being relieved AAA provides sections for both AAA and ground protection during withdrawal,

displacement and moves into new positions. AAA is usually the last weapons out in retrograde moves.

With the infantry AAA can deliver covering fires during relief and set up a series of defensive points along the route of withdrawal around which the infantry can assemble, organize and then continue to the rear. AAA has been used to secure the line during relief. For example, holding the edges of hill positions while the infantry assembles behind the hill; the infantry mortars covering the immediate front of the hill and assisting in the flank coverage. AAA can also protect assembly areas and other critical points along the infantry march.

SUMMARY

The reader may be interested to know that, to date, the 82nd AAA AW Bn (SP) has fired at only one enemy airplane in Korea. This airplane was shot "up" rather than "down" since it was surprised on the ground along with 200 Chinese troops in January 1951. The 82nd's activity has been concerned primarily with the ground role. Based upon this experience, the most serious deficiency apparent in current AAA weapons, is the lack of armor protection for the M16 and M19, and its relative lack of flotation in comparison to tanks and other full-tracked vehicles. The development of some type of weapon with full tracks and bullet-proof blister turrets capable of the present tracking rates so arranged that visibility is not seriously affected, is the greatest advance which could be made in AAA vehicles and mounts which are to be used in divisional AAA missions.

AAA Association Annual Election

With the close of balloting on December 31, the slate of officers nominated to fill vacancies created by expiration of term of office were declared elected.

Major General Willard W. Irvine, Commanding General Army Anti-aircraft Command, was elected to replace Major General Lyman L. Lemnitzer whose two-year term as Vice-President expired at the year's end.

The four members of the Executive Council who were elected to serve for two-year terms were:

Brig. Gen. Robert W. Chrichlow, Jr., R&D Board, Dept. of Defense.

Colonel Norman E. Hartman, Chief AA Sec., Career Management, AGO.

Lt. Colonel Francis X. Bradley, Ass't Sec'y General Staff, OCSA.

Major James E. Calkins, Asst. G1, 8600 ASU.

24th DIVISION AAA

By Corporal John S. Aaron

26th AAA AW Battalion

FOR the first hard-fought months of the Korean campaign the 24th Infantry Division had only one Antiaircraft battery and this was Battery A, 26th AAA AW Bn (SP). Speaking now to the few old timers who remain with the battery, one learns that at first they were alone and felt alone. The battery learned combat the hard way, but it rapidly became a seasoned outfit of determined fighters. It had to.

Under Captain Charles W. Harrison the battery was alerted in Japan on 30 June, 1950, and landed at Pusan on 5 July. On 10 July it arrived in Taejon on flat cars to join the division on the battlefield. 1st Lieut. Daniel J. Garvey was the executive and WOJG Athos W. Brannon, the unit administrator.

The 2nd Platoon, under 2nd Lieuts. Frank S. Mikulski and Douglas W. Blacklock was left in Taejon to protect the division CP and installations. The 1st Platoon under 1st Lieut. John R. Grimes, with elements attached to both the 21st and 34th Infantry, met the enemy on July the 12th west of Songdong-ni. In their first ground fighting they were also strafed by Yak fighter planes. The men held up under their first baptism of fire in magnificent fashion, but the going was rough and getting rougher.

The Kum River defense line was started on 16 July, but the 1st platoon had to be removed from action with three half tracks and other vehicles completely destroyed. The 2nd platoon was attached to the 34th Infantry and engaged the enemy on 19 July near Yusong-mya. There they broke into ground combat and also shot down three Yak fighter planes during the action. The enemy's superior numerical forces cracked the 24th Division defense line, however, and the division was forced to withdraw. Pulling back along the route west of Taejon, the battery ran into an enemy roadblock where it lost three half-tracks, three trucks, seven men wounded, and nine men missing in action.

Reorganizing at Ahwa-ni, the battery



An enemy land mine put this track of D Battery, 26th AAA AW BN out of action in October.

was loaded on flat cars enroute to Masan. During the first ten days of August the battery was in constant contact with the enemy and suffered the loss of three more half-tracks. The unit was finally withdrawn to Kyongsang to pick up much needed equipment and replacements.

During these early weeks, supply, administration, and maintenance of vehicles was a critical and difficult problem. Repair operation often had to be done while the vehicles were in position and under enemy fire. Every man had a key job and all of them performed heroically. Supply sergeants Charles Greer and Andrew Shimko did an excellent job in obtaining supplies from whatever sources were available at the time. Platoon sergeants, M/Sgt. Clifford Nelson and Sfc. Fred Jorgensen were constantly in the thick of the fighting encouraging and helping their men. Sgt. Richard Gunn proved to be a shark in maintaining communications by his alertness and determination.

The battery had to perform for itself the normal battalion functions. Accordingly, a battalion headquarters section of six men was operating. M/Sgt. Walter Morehouse was the S3, M/Sgt. George H. Trout was the S2. They were both constantly busy reconnoitering and plan-

ning for the frequent movements and maneuvers so necessary to keep the enemy off balance. Much of it had to be done at night and all of it with acumen to outsmart the infiltrating guerrillas and enemy snipers.

ON 24 August when the battery had completed its reorganization and had been inspected by Brigadier General H. D. Meyer, commanding the 24th Infantry Division Artillery, the headquarters section was attached to the headquarters of Division Artillery. The 1st Platoon was attached to the 13th FA Battalion and the 2nd Platoon to the 52nd FA Battalion. By this time the United Nations forces had withdrawn and formed the Naktong perimeter defense around Pusan with the left flank at Masan and the right flank in the east coast city of Pohang. This was a critical period of action and the 24th Infantry Division was used as a maneuver unit to close any penetration made by the enemy into our lines. The job of the Battery A was to protect the field artillery from enemy infiltrators. The battery moved from positions at Taegu to Pohang to Masan within a period of twelve days.

The perimeter was successfully defended against fanatical attacks by the enemy and huge losses were inflicted upon him. Then on 15 September, 1950 the 24th Division in conjunction with the other U. N. forces was able to breakthrough and begin an offensive that was to lead part of Battery A to within sight of the Yalu River.

The route north was familiar to the members of battery A. Here and there they spotted some of the old equipment of their organization with bumper markings still discernible. It was a happy move northward and morale was high. Making a number of halts, setting up perimeter defense, and taking 19 prisoners during the interval, the battery made a triumphant entry into Taejon on 20 September, 1950.

Moving on rapidly, Battery A entered Seoul on 7 October and drove across the 38th parallel shortly thereafter. Victory appeared to be in sight when the battery entered Kusong, far to the north, on 1 November and saw the broad Yalu stretching before it.

This illusion was short-lived, however, as Chinese Communist forces entered the war, and a new chapter of the Korean conflict began. On 26 November, 1950, the U.N. troops turned their backs to the Yalu River and the victory that seemed so near as the Chinese Communist Forces struck in overwhelming strength.

This withdrawal continued in Korea's bitter winter weather for six weeks until the 24th Division had fallen back south of Seoul.

In the Uijongbu sector where Battery A supported both the 5th and 19th Infantry Sfc Neal M. Morris, Macon, Georgia, distinguished himself by extraordinary heroism and was posthumously awarded the Distinguished Service Cross. The half-track in his command was overrun by enemy infiltrators during the night, and with the driver of the vehicle killed he was forced to abandon the track and withdraw on foot. Reorganizing his crew, he led them in a counterattack against far superior numbers. Advancing with his crew members to within a hundred yards he continued to proceed alone when the advance was pinned down. He gained the possession of the vehicle once more only to be blown off mortally wounded as a grenade was thrown directly on the track.

DURING the withdrawal the expansion of the divisional antiaircraft to a full strength 26th AAA AW Battalion began to take shape when Hq and Hq Battery, 52nd AAA AW Battalion joined the division in Inchon late in December under command of Lieut. Col. Roy A. Tate. Key members of the staff included Captains Robert E. Broomfield, executive; Albert Baray, S3; and Melvin Johnson, S4. It had been activated at Fort Lewis, Washington, at reduced strength with personnel from the 11th AAA AW Battalion. Eventually this headquarters unit was to be redesignated as Hq and Hq Battery, 26th AAA AW Battalion. Meanwhile it received its division code name, "Defender," which was promptly adopted as the battalion motto. Battery

A, 26th AAA became "Defender Able."

Shortly thereafter Battery A, 21st AAA AW Battalion under Capt. Dan W. Williams joined the Divisional AAA. It became "Defender Baker" and was earmarked for redesignation as a part of the 26th.

Meanwhile the battalion began to function with the two batteries and to participate in offensive action to the north.

Defender Able moved to Sinwang-ni where its platoons were attached to task forces for close supporting fires. All of the old M15 and T19 weapons were replaced with the M16's.

As rotation began in April Captain John J. Harvey became the battery commander as the battery, moving to the north, crossed the 38th parallel for the third time.

Battery A took up a position and remained in Chipori until the morning of 23 April when it was compelled to withdraw. At this time the battery was giving protection to the 555 FA Battalion and as the long convoy moved south and through a very narrow pass the enemy struck from ambush in regimental strength in what many have termed the toughest roadblock ever encountered.

Zeroed-in mortars knocked out some vehicles with the first round. A direct hit on one M16 half track injured all of the crew members except the driver, Corporal Thomas Wolset. Wolset sensing the situation immediately lowered himself in the gunner's turret and, directing nearby infantrymen to come up and act as cannoners, he opened fire on the enemy.

During the five hour engagement each vehicle was under constant small arms, machine gun, and mortar fire. One of the lead vehicles in the column commanded by Sergeant Kenneth F. Bunting received two mortar hits wounding two crewmen and setting the vehicle on fire. When ordered to abandon the vehicle Sergeant Bunting assisted the wounded to safe ground and then returned to get the Caliber .30 machine gun off its tripod, carrying it to a nearby hill. Manually holding and operating the light machine gun without the aid of a tripod he helped repulse the enemy attack on his position. Both Sergeant Bunting and Corporal Wolset received the Bronze Star Medal for Valor.

Acting as gunner on the vehicle com-

manded by Bunting was Corporal Eugene C. Mitchell. Firing his individual weapon after the quad caliber .50 turret ceased operating, he remained coolly on the burning vehicle until told to abandon it. Pfc. Franklin D. Winey was cannoner on the same track and was the third member of the crew to receive the Bronze Star Award. He carried his injured comrade to safe ground and then repulsed the attack on his position firing his individual weapon.

Recipient of the Purple Heart during the battle was Corporal John W. Yocum, who noted that the gunner on his M16 was injured and trapped in the burning turret. Corporal Yocum freed the injured man receiving painful burns himself.

IN June Battery C, 26th AAA AW Battalion was activated in the battle area with Capt. Thomas E. Kavanaugh in command. In July the activation of Battery D under Capt. Alvin P. Labsinger brought the battalion to full strength. Personnel and equipment from existing batteries were used to form the new batteries, and supplemented to equip each with sixteen M16's.

With so many new replacements Colonel Tate arranged to give each battery a brief intensive training period. During this all gun crews got target practice both at aerial targets at Inchon and at ground targets in the combat area.

Defender Dog received its initial combat experience in the IX Corps offensive in October 1951. The newly formed battery fired the staggering amount of nearly one million rounds of caliber .50 ammunition during this action in which it gave close support to the 19th Infantry and protection to the 13th FA Battalion. They made a reputation as a fighting outfit, but their casualties were high in this first engagement. Many of the wounded, however, were able to return to duty within a few days.

Defender Baker supported the 21st Infantry and the 555 FA Battalion. Defender Charlie gave support to the 5th RCT and the 52nd FA Battalion. The protection of the various air strips, bridges, and the Division CP was left to Defender Able.

The operation once again proved the combat effectiveness of a self propelled battalion. The fire power of the M16 half-track kept the enemy pinned down

while the Infantry attacked their positions under the fire of the M16. The Infantry respects the ack ack weapon and crew for its fire power and its close contact with the foot soldier.

The battalion's dream-weapon, an M39 personnel carrier with a quad-fifty M45 turret, again showed up to great advantage. The new weapon was conceived by Lt. Col. Roy A. Tate, Battalion commander. Being mounted on a full

track vehicle, more effective fire can be brought even closer because it is not hampered so by boggy terrain or steep ground.

Finally on 10 November, 1951, Hq and Hq Battery, 52nd AAA AW Battalion and "Defender Baker" of the 21st were redesignated in the 26th AAA AW Battalion (SP) making it a full strength battalion and an organic part of the 24th Division. This, of course, was merely a

paper operation, duly approved, with no material effect on the battle. But it did serve well to end the attendant confusion already a year old as to whether the Division had three AAA battalions, three batteries, or what have you.

Born on the battlefield, the battalion is now a veteran organization proudly and well integrated into the operations, the traditions, and the *esprit* of the 24th Infantry Division. "Defender" is our motto.

Self Propelled Antiaircraft In Korea

By 1st Lieut. Edmund A. Krekorian

THIS is a brief discussion of the activities of the antiaircraft automatic weapons self propelled platoon in Korea and some conclusions which were arrived at as a result of these activities. It is not written with any idea that the opinions should be given any form of universal application, or used as a basis to revise present tactics. Rather it is written for the general information and benefit of those who are concerned with light antiaircraft and to describe some variations and refinements of automatic weapons technique which were found by experience to be necessary.

An automatic weapons platoon in Korea was frequently assigned to an artillery battalion to participate in both the antiaircraft defense and perimeter defense of the battalion. Each fire unit in the platoon was assigned two positions: one was an antiaircraft position to be occupied from dawn alert until dusk alert; the other was a position included in the perimeter defense. The AAA position was located anywhere from the edge of the objective to about 500 yards out. The perimeter defense position was as close in to the defended area as was considered practical, so as to utilize the organic weapons of the defended unit.

The actual disposition of the individual fire units was as varied as the terrain encountered. Generally, AAA

positions were selected on the highest points in the vicinity; ground defense positions were selected which could utilize defilade for cover and concealment.

PLATOON COMMUNICATIONS

GOOD communications was essential to the adequate control of all fire units. To this end, the platoon wire crew began laying wire immediately upon occupation of position, often before. Frequently wire crews were required to work late into the night to get in all the wire; however, the advisability of laying wire at night was determined by local conditions. The existence of mines, booby traps, duds, trip flares, and trigger-happy guards indicates wisdom in laying wire by day. Communication during the interim was accomplished by means of the radio. Each unit checked into the platoon net every half hour. When checks were not being made, radios were turned off. This required the use of radios only a few minutes every hour. However, radios were to be turned on immediately if any hostile action developed. In areas where possibilities of enemy action were great checks were made every ten or fifteen minutes, or radios were continuously on.

COMBAT ATTITUDE

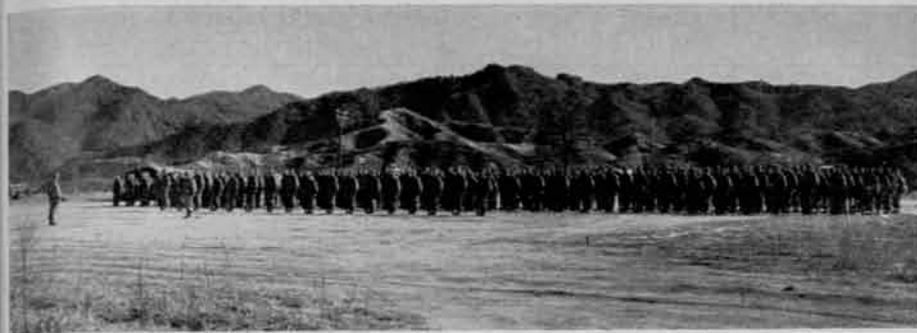
SELDOM, if ever, did the ideal conditions prevail as were described in the field manuals. We found that it was not always possible to anticipate every development with an adequate prepara-

tion. Therefore, it was necessary to modify our philosophy of complete preparation and to learn rapidly that the degree of success of any mission was a function of both preparation and adjustment on the spot. Men and officers require emotional and intellectual preparation to maintain a healthy approach to the normalcy of the abnormal in combat. To this end it is recommended that future training include the preparation of personnel on battery and platoon level to make rapid decisions in unexpected and undesirable situations, and that any TFX include an organized effort to disorganize and create as much of the abnormal as is typical to any combat situation. Only by such training can we develop confidence, self-reliance, and the ability to meet new situations.

WITH THE INFANTRY

THE activities of an automatic weapons platoon assigned to an artillery battalion were not necessarily confined to that battalion. Frequently the platoon received infantry commitments, which had a dawn to dusk duration. It was found that the infantry commander, without exception, held a profound affection for the ack-ack, so much so that often he overlooked its limitations. The AAA platoon commander, therefore, was required to be thorough in the understanding of the capacities and limitations of his equipment. This understanding was combined with a diplomatic firmness in associations with supported units to the extent that no tragedy would result from the misemployment of his

Lieut. Krekorian served with the 3rd AAA AW Battalion (SP) in Korea and is now assigned to the 11th AAA Group at Fort Bliss, Texas.



Lt. Col. Charles E. Henry presents battle awards to the following members of the 21st AAA AW Battalion: (Silver Star) SFC James T. Patterson, SFC Buster W. Strasser, Cpl Herbert Stoffel; (Bronze Star V) SFC Douglas L. Dever, SFC Rufus M. Gibson, SFC Daniel R. Schmidt, Sgt Francis W. Doyle, Sgt Dexter W. Packard, Sgt Melvin D. Straw, Sgt William H. Tildsley, Cpl Kenneth V. Bailey, Cpl Joseph B. Fye, Cpl Zeb L. Hand, Cpl Ralph R. Perkins, Cpl John Walker.

platoon. However, occasions arose which involved the use of automatic weapons in such a manner as to make its survival a matter of speculation. In these situations the platoon commander and his men had to be prepared to compensate for the evident shortcomings of the weapons by a judicious utilization of their obvious merits.

One of the outstanding problems in many infantry support missions was the length of time between occupation of position and commencement of fire. When ideal conditions prevailed which permitted an adequate orientation, there were few problems. However, in many instances the reconnaissance and occupation of positions was accomplished within minutes after the identification of the target area was made. Therefore, any period in which an AW platoon commander searched for the target area, or searched for good gun positions, was usually a period in which the AW units came under enemy observation. One result was that the enemy, who had a profound respect for AAA AW, made every effort to gain cover; many Communists were observed running over ridges to reverse slopes of hills when AAA AW came into view. A second result was that the enemy gave the self propelled weapons a very high priority for artillery and mortar fire. It was obvious, then, that any period of prolonged observation to the enemy was to the disadvantage of the AAA AW. Any method or technique which decreased the period of unproductive exposure contributed to the increased effectiveness of the AAA AW mission.

THE initial problem, as the AW units approached the target area, was a rapid

identification of the target area. If time permitted and there were a liaison officer, and there were defilade, units were parked in defilade; unit commanders were called to a point of concealment from which the target area could be seen and defined to them by an officer of the supported unit. More often such preparation was not practicable due to the lack of desirable liaison, time or defilade. Sometimes without adequate liaison or previous reconnaissance when immediate firing was required, the identification of the target area was done by a careful observation of friendly artillery and mortar bursts, by observing the termination of friendly tracers or the origin of enemy tracers, or by noting the position of appropriate panels. This method was used only when the more desirable methods were not practical or possible. It was acknowledged as a dangerous method and could have resulted in tragic consequences if the bursts, tracers, and panels had been misinterpreted.

Once the target area was identified, the next step was to occupy firing positions in relation to it. The track drivers and squad leaders knew from previous experience the approximate displacement desired. It was an easy matter for the platoon commander to talk the units into position from his command vehicle by radio. An alternate method was to personally direct each track into position, instructing each crew at the time. This was, at best, a lengthy process, particularly when under fire.

The tactical displacement most frequently employed involved two complete sections and possibly an M39. This number of units permitted good con-

trol by the platoon commander, and also satisfied the requirements of most support missions. The displacement was made with the M16's on the flanks and the M19's in the center. The tentative distance between units was approximately 25 yards. The M16's on the flanks were in position both to deliver fire on the target area and to discourage any attempt to attack the AW units from the flanks. The M39 when it was present, remained some 50 yards to the rear to protect against attack from that direction.

Following the occupation of position, the next requirement was the designation of sectors of responsibility, the specific areas into which each complete AW section fired. These sectors could be identified in terms of prominent terrain features, or by bursts from 40mm shells as directed by the platoon commander. Usually the designation of sectors of responsibility and identification of target area was done concurrently.

Generally, the infantry expected two types of fire from AAA automatic weapons in support of any action in the offensive, preparatory fire and neutralization fire. Preparatory fire was considered to be a large volume of continued fire delivered into a specified area, usually the sector of responsibility, either prior to or concurrent with the advance of infantry. Neutralization fire was employed in the sense of aimed fire on a particular target or on a target of opportunity. Whenever applicable neutralization fires were also executed during preparatory fire.

To mass platoon fire on a specific target the platoon commander declared a general cease fire for the platoon; then he directed the fire of one M19 into the target, with the other units ordered to observe the bursts. Then, the remaining units were directed to fire a specified number of rounds at the bursts of the registering piece, after which each unit returned to its individual firing.

Any displacement forward for small distances was done, when possible, in echeloned formation, one section at a time. The stationary units covered the advancing units. Enemy mortar, artillery, or heavy machine-gun fire might necessitate the advancing units to halt and seek cover until the incoming fire ceased or decreased.

With the approach of darkness, the platoon commander made every effort to

return his units to the comparative safety of the artillery battalion area. However, this action was and should be determined by the battery commander or battalion S3.

A TYPICAL MISSION

SHORTLY after the Communist Spring Offensive began in April, 1951, two sections of antiaircraft automatic weapons plus one M39 were parked on a side road waiting to pull into the MSR and join the traffic southward. All vehicles were pulling heavily loaded trailers, and also carrying one or two 55 gallon drums of gasoline somewhere on the track. An MP jeep with an MP officer drove up to the platoon commander with orders for the platoon commander to report immediately to the assistant division commander. This the AAA platoon commander did. He was asked by the general if the ack ack had plenty of ammo and were eager to shoot, to which there was only one answer. The platoon commander was then ordered to report to a regimental commander who described the situation and the ack ack mission. The communists had pinned down about a battalion of infantry and were preventing the withdrawal of that battalion. The communists were somewhere down the road and across a stream, both of which were indicated on a 1:50,000 map to the platoon commander. Immediate action by the ack ack was required to relieve the pressure on the infantry, enabling them to continue their withdrawal. Tanks would be sent to help the ack ack as soon as tanks were available.

WHEN the platoon commander returned to his units a short briefing was held prior to departure with the squad leaders who had gathered at the M39. Trailers and gasoline drums were dropped and all units moved out down the road. As the platoon proceeded every one was conscious of the ominous quiet. The road circled the base of a 500 foot hill, passed through a flat area of about 2000 yards, and circled the base of a second and larger hill, about 800 feet in height. Both hills were joined by a narrow ridge to form sort of a horseshoe, with the road across the open end of the shoe. The outlines of eight or ten individuals were observed silhouetted against the skyline on the second hill. There

was doubt as to the identity of these silhouetted individuals; however, while the doubt was being resolved, all units moved off the road away from the hill to displace and obtain a better field of fire. About 600 yards south of the second hill, a number of individuals, about 200 or 300, were observed moving southward. The platoon began to receive small arms fire from the direction of the second hill. More figures were observed running over the ridge to the reverse side of the hill. The platoon commander concluded hastily that the large body of men observed moving south were the pinned-down infantry and that the small arms fire being received was coming from the enemy on the second hill. Without further delay, all sections were assigned sectors of responsibility and ordered to open fire. During the firing, the M39 was ordered to return to the regimental commander and act as liaison with him. It was regretted at the time, that this had not been done prior to departure.

The technique of fire was to sweep the ridges and downward with 50 cal MG fire; to fire into cracks and holes and trees with 40mm fire. Any target of opportunity was to be engaged immediately upon observation. The enemy small arms fire increased and then ceased shortly after the AW opened fire.

THE noise of approaching tanks came from the direction of the MSR. In a few minutes twelve US tanks rounded the first hill. The AA Platoon commander briefed the tank platoon commander on the situation. Within seconds, the guns of the tanks were added to those of the ack ack. After several minutes of firing, the tank force commander notified the AAA platoon commander that the ack ack had been ordered to return to MSR immediately and bring up the rear of the division convoys. This was done without haste, pausing only to pick up the trailers.

For some reason, the radio would not reach the battalion staff or the battery commander. However, a platoon of another battery relayed the message to the battery commander. A return message instructed the platoon to continue down the MSR until a rendezvous was made with the battery commander.

In the meantime, one M19 had driven off the road and got stuck. Fortunately it had been the lead M19, and the trailing

M19 was able to pull it back on the road. Then an M16 slid off the narrow road thirty minutes was expended in effort by the trailing M19 to return the M16 to the road. The main body of the platoon did not halt for any of the units in trouble. These units were instructed by radio to continue down the MSR until flagged down by a member of the platoon. Next, the trail M19 developed engine trouble. It limped along on one good engine and made slow but sure progress.

RENDEZVOUS with the battery commander was made about 0100 the next morning. The new mission for the platoon was to establish the immediate defense of a field artillery battalion. Reconnoitering for positions in the darkness both the battery and platoon commanders got lost. However, an hour later the positions were picked out. The battery commander returned to his CP and the platoon began the slow process of walking each track into position in order to avoid running over sleeping personnel. Finally all the tracks checked in and were positioned by 0400. By 0700 the platoon had moved to the battery CP where they fed gassed up, and were off on a new mission.

In closing I might well illustrate that many unusual procedures are developed right on the spot. In one instance, a mosquito spotter (AT6) was unable to locate a target, which was visible to personnel in an AAA AW unit. The forward controller close by offered to indicate the target area with 40mm AW bursts. The pilot agreed to watch for the bursts on his next pass. About twenty rounds were fired, which were spotted immediately by the aerial observer. Within seconds, four F51's were working over that area.

A turn about of this procedure occurred when a mosquito spotted an enemy force on the forward slope of a hill; however, no flights were available at the time. The forward controller requested the mosquito to indicate the target area with a rocket, so that AAA units could fire on it. This the mosquito did and the rocket burst was easily seen. One M19 promptly fired 200 rounds to rout the communists from the area and over the ridge to the reverse slope. At this time the mosquito caught a B26 which worked over the enemy on the reverse slope.

OPERATION ORPHAN

By Captain William F. Rawcliffe

MODERN warfare produces various forms of misery. Possibly the most pathetic result of the war in Korea is the multitude of children who are left helpless, parentless and homeless in the wake of advancing armies. It was to alleviate this situation that the 10th AAA Group, with its attached units, undertook Operation Orphan. The need was evident all around us—especially in view of the coming winter. Thus it was in mid-September, 1951, the call went out for the chaplain and special service officer of each battalion to meet with the group executive and special service officer. Thus the 10th Group Korean Orphans Committee proceeded to plan the strategy by which the operation was to be carried out.

Prior to the meeting, the group executive officer had investigated several local orphanages. Contact was also made with the local UN Civil Assistance Commission. The Chang-Choen Garden (later to become the AAA Children's Home) was selected to be the recipient of Group aid. This orphanage was composed of almost three hundred children, ranging in age from one to fourteen years. They were all evacuees from front-line areas and depended on relief rations of rice and beans for their existence. They were housed in three places, each place being a partially destroyed private home. Their clothing consisted of what was on their backs, and was hardly adequate for summer. Many were in dire need of medical attention.

The committee made plans for four general phases of the program: (1) a fund drive, (2) assembly of the orphans under one roof, (3) appeal to friends, organizations and relatives, in the United States for winter clothing, and (4) continued assistance consistent with requirements and the presence of the group in Korea.

Phase I, the fund drive, was started on 30 September 1951. To implement this drive the group commander, Colonel W. H. Hennig, published a letter to all battalion commanders outlining the pro-



Lt. Col. Young with children at the group orphanage.

gram in general and requesting support of the operation. With this letter was enclosed a bulletin which gave more details of the plan, and instructions to all personnel on how they could help. The results of this phase were very gratifying—the total money collected was over \$5,000.00.

Phase II of the operation, moving the orphans under one roof, was started the first week in October. A compound with several buildings (formerly a temple) was procured and a temporary dispensary established. The buildings required considerable rehabilitation—such things as windows, doors, paint, electric and plumbing facilities, being in poor condition or totally lacking. It was decided to move the children in immediately and repair the buildings as rapidly as possible. Enlisted men of the 50th, 68th, 78th and 865th Battalions all lent a hand in this urgent task. The 76th, 933rd, and the first Marine Gun Battalion aided by collecting and purchasing much needed medical supplies, Korean foods and kitchen equipment. Native labor was added—payment being made from the fund collected. To date over \$3,000 has been spent on these buildings. Included in this expenditure are such things as mess tables, kitchen equipment, electric fixtures, stoves, firewood and coal.

The work in this phase is nearly com-

pleted. A local contractor has offered to complete the job as his contribution.

PHASE III, the appeal for clothing, was started at the same time as Phase I. The results of this appeal have already started to arrive. To date over one hundred (100) packages have been received for the orphanage and some nine hundred (900) more are en route. In all cases the items received have been serviceable and very much appreciated by the children. Several newspapers have printed appeals for the orphanage—and in some cases money has been sent as well as clothing. These appeals originated with men of the 10th Group sending letters home or to the editors of their home town papers. Cpl. Ray Halliman, Headquarters Battery, 10th AAA Group wrote to the *Courier Express*, Buffalo, New York and his appeal was taken up by columnist Jerry Evarts, who writes "As I See It" for that paper. Pfc Thomas Jacobs, Btry A, 68th AAA Gun Battalion, has received over forty (40) packages as a result of an appeal to his home town of Madison, Wisconsin. Pvt. Thomas J. Schooner, Btry C, 78th AAA Gun Battalion, has written his home town newspaper, the *Toledo Blade*, in Toledo, Ohio. Pvt. Richard R. Burkhart, Hq Btry, 10th AAA Group, has received over twenty (20) packages resulting from his letter to the *Evening Free Lance*, Hollister, California. Captain Lincoln Hayes, Headquarters, 68th AAA Gun Battalion, through his sister, Mrs. Elizabeth Line, has over 40 barrels of clothing coming from the Owens-Illinois Glass Co. The *Los Angeles Examiner* also publicized Captain Hayes' appeal with the result that the Black-Fox Military Academy is sending over 400 complete woolen uniforms.

The response to this phase will be quite considerable and it is planned that those items excess to the needs of the AAA Children's Home will be distributed to other orphanages through the Civil Assistance Commission.

Phase IV, assistance on a continuing basis, will take over when Phase II and III are completed. This will consist of monetary aid to augment the help received from the Civil Assistance Commission. The money will be used to purchase native foods, medicines, coal, school supplies and other miscellaneous needs. A portable sewing machine has been purchased and delivered to the orphanage. It is planned to use this as a nucleus around which to build a sewing class to serve the twofold purpose of repairing and altering clothes as well as teaching the older girls the art of sewing.

Haircuts for the children presented a problem until several sets of barber clip-



Sfc Burnett and Pfc Bray fit clothing.

pers, combs and scissors were purchased.

The result of these endeavors are plainly evident. The transformation wrought in these children in the short time the operation has been under way

is amazing. Youngsters with wan and drawn faces, youngsters who were cold, hungry and sick with a haunting look of fear in their eyes, are now romping around the orphanage grounds with smiles on their faces and flesh on their bones. Best of all, their eyes sparkle and the look of fear is gone. It has been truly said, "a little child shall lead them." These children have led us all to a greater realization of the great truths of freedom for which America stands and for which we fight. The results obtained by putting into practice the generosity for which America is noted is a heart-revealing sight in more than one respect; it makes you feel proud to be an American.



Teeter-totter is a prime Korean sport.

Korean Mud Helps To Save Marine Flyer

On the early morning of August 14, 1951 1st Lieut. Joseph M. Solari, Battery B, 865th AAA AW Battalion, slept in his tent by Airstrip K-14 in Korea, which his battery was defending. About four thirty he was suddenly awakened by an airplane crash nearby. He jumped up and rushed to the scene.

In his haste and due to the fog and darkness, Lieut. Solari soon found himself floundering in the middle of a freshly planted rice paddy as he sought the most direct route to the site of the crashed plane. But still stumbling he hurried on, emerging from the paddy plastered from head to foot with Korean mud, normally a sad situation especially with their "honey cart" fertilizer. But this time fate made it otherwise.

Arriving at the scene Lieut. Solari found the pilot hanging from the cockpit, strapped, in a dazed condition and unable to free himself from the flaming plane. Other would-be rescuers, trying to relieve him, could not withstand the terrific heat. Seizing a knife from a soldier who had just failed in the attempt, Lieut. Solari rushed to the pilot's aid. With the mud serving as valuable insulation he succeeded in cutting him loose and dragging him to a position of safety just as the cockpit became completely enveloped in flames and before the ammunition aboard began to explode.

The pilot thus miraculously rescued was Major Evans C. Carlstrom, USMC, son of Colonel Carlstrom, whose raiders bore his name with honor and distinction during World War II.

For his "complete disregard for his own personal safety," his "quick thinking and prompt effective action" Lieut. Solari was awarded the Soldier's Medal.

Any contributions, funds, food or clothing, adult or children, may be sent to:

*Special Service Officer,
10th AAA Group,
APO 301, c/o Postmaster,
San Francisco, Calif.*

(For the Orphanage)

Western Army AA Command Inspections

By Major James E. Hurley, Jr.

FOR the units of Western Army Antiaircraft Command, 1951 ended in a blaze of inspections involving no less than nine general officers.

Major General Willard W. Irvine, Army Antiaircraft commander, began the inspection cycle in October with a three-day tour of units of Brigadier General Robert W. Berry's Western Army AA Command.

General Irvine spent October 29, 30, and 31 visiting AA units in San Francisco, Seattle, Fort Lewis, Yakima, and Camp Hanford, Washington.

Two weeks later eight of the nation's top-ranking air defense officers—headed by United States Air Defense commander, General Benjamin A. Chidlaw—gathered at the Yakima Firing Center to observe firing demonstrations by two Western Army AA units.

Accompanying General Chidlaw were Maj. Gen. Irvine; Maj. Gen. Herbert B.

Thatcher, Western Air Defense Commander; Maj. Gen. Grandison Gardiner, chairman, Air Defense Board; Brig. Gen. Clifton D. Vincent, 25th Air Division commander; Brig. Gen. John M. Hargreaves, Surgeon, Air Defense Command; and Brig. Gen. Hobart Hewett, 31st AAA Brigade commander.

On hand to fire for the inspecting party were the 719th AAA Gun Battalion and the 30th AAA Automatic Weapons Battalion. Both units were at Yakima for regularly scheduled firing. That was the way the Western AAA Command wanted it. This was not to be a rehearsed exhibition. The inspecting party wanted to see typical units on the range.

The day before the inspection, Armistice Day, held no time for quiet meditation for the men of the 719th and the 30th. Preparedness understands no calendars, observes no holidays. Armistice

Day was just another day in which to make ready for their mission.

When the ranking visitors arrived November 12, they were greeted by an honor guard of men for the 719th. Following an inspection of the guard, the party observed gun emplacements and AAA equipment of each of the units.

Next on the schedule were the firing tests. The 719th Battalion moved to positions as a B-26 bomber soared overhead towing its target.

Later the men of the 30th AW Battalion opened fire with 40mm and M45's and dropped the sleeve in seconds.

In the third phase of the demonstration, a radio-controlled aerial target was sent across the line. The 30th Battalion gunners promptly shot it down, too.

General Chidlaw expressed keen satisfaction with the marksmanship displayed by the gun crews.

The third inspection of Western AAA Command units found the 250th AAA Group in the San Francisco area coming under the eye of Major General Thatcher. The commander of the Western Air Defense Force, accompanied by General Berry, inspected battery training locations of that unit November 20.

High praise for the group and its commander, Colonel Aaron M. Lazar, was given by General Thatcher in a letter to General Berry following the tour: ". . . The progress made is remarkable and greatly enhances the capabilities of the Antiaircraft Command in the problems of its mission in this area. The snap and precision of the gun crews and of all personnel observed seemed to reflect the drive and ability of the Group Commander. . . ."

ROUNDING out the inspection cycle was a week-long tour of all West Coast artillery by Maj. Gen. Charles D. Palmer, Inspector of Artillery, Office, Chief of Army Field Forces.

General Palmer flew from Fort Monroe, Va., arriving at Western Army AA



Air Force General Benjamin A. Chidlaw, United States Air Defense Commander, and 2nd Lt. Hubert A. Nixon (left), 719th Bn. Honor Guard Commander, salute the colors.

Command headquarters December 17. Following an inspection of the 250th Group, the Artillery Inspector and General Berry flew to Washington State to observe operations in the Northwest sector. At the conclusion of the Washington tour, General Palmer departed for southern California and an inspection of field artillery and antiaircraft units in that area.

These inspections have had a stimulating effect on the entire command.

Personnel are happy and anxious to have such high-ranking visitors observe firsthand the conditions and difficulties with which they are continuously faced. The realistic field training, the high state of operational readiness and the resolving of myriad administrative problems were appreciated more vividly by them on the ground.

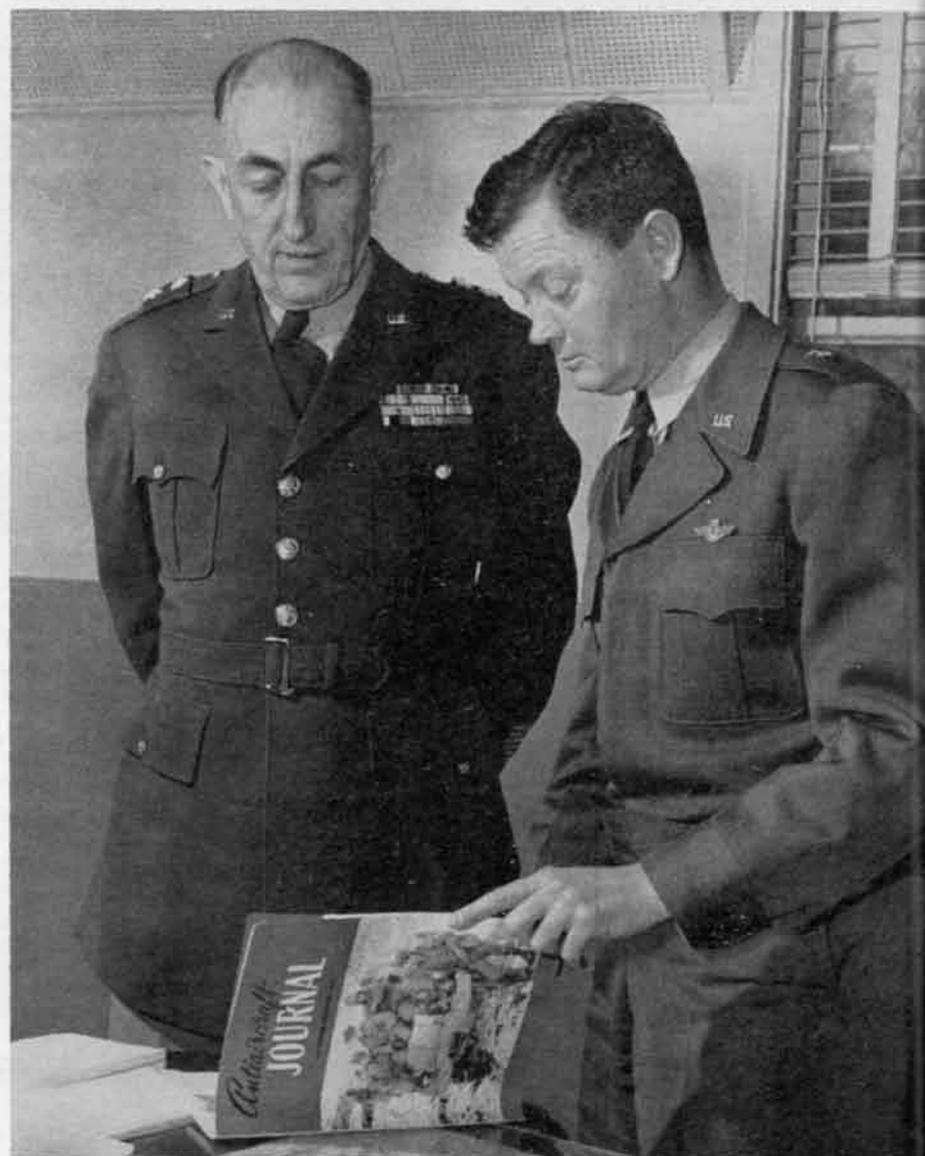
Comments of these inspectors offer strong testimony of the tremendous progress made in this command's con-

tribution to the Air Defense picture during 1951. However, all officers and men are fully and constantly aware of the difficulties ahead and work under goals laid down by General Berry towards constant improvement to the end that all units will be prepared to perform effectively both air and ground missions, that all individuals will be thoroughly trained and physically and mentally prepared in 1952 to more fully accomplish their assigned mission.

Eastern Army Antiaircraft Command

AN important element of Major General Willard W. Irvine's Army Antiaircraft Command is Major General Paul W. Rutledge's Eastern Army Antiaircraft Command, short title EASTARAACOM. General Rutledge commands all army antiaircraft units allocated to the air defense of the Eastern Air Defense Region. This is the area east of Wisconsin and Illinois, including portions of those states, and north of the border of Tennessee and North Carolina. With its many industrial centers, ports and large cities, including the seat of the federal government at Washington, D. C., this area is of extreme importance to the United States. Air Defense of this region is the responsibility of the Eastern Air Defense Force, with headquarters at Stewart Air Force Base, New York. EADF is commanded by Major General Frederic H. Smith, Jr., son of a former Coast Artilleryman, F. H. Smith, Major General, USA, retired. General Rutledge, in addition to his command responsibilities, is the principal antiaircraft staff advisor to General Smith.

Headquarters Eastern Army Antiaircraft Command, which was activated at Stewart Air Force Base on September 1, 1950, with an initial strength of one officer, is still a streamlined organization with an over-all strength of slightly more than 100 officers, enlisted and civilian personnel. This growth, however, coupled with lack of facilities at Stewart Air Force Base, necessitated moving the headquarters to its present location at Middletown, N. Y., which is in the vicinity of Stewart AFB. An Army Antiaircraft Representative with a small staff is maintained at Headquar-



General Rutledge and General Smith confer informally.

ters, Eastern Air Defense Force, to provide close staff coordination.

General Smith and General Rutledge through their official and personal relationships have established in the command genuine cooperation and unifi-

cation. General Rutledge will leave Eastern Army Antiaircraft Command on February 12 for an assignment in Germany, the Department of the Army announced a few days ago. His successor has not been named as yet.

A Trial Shot Target For VT Fuzes

By Colonel Arthur H. Bender

IN a recent report of target practice firings, a battery commander made the recommendation, "that a trial shot target be developed for VT fuzes."

At first glance this recommendation evoked considerable merriment among the officers receiving the report, because it is not very practicable to develop a fixed target in the sky fastened up there by "sky hooks" or other imaginative device. However, it is believed that back of this recommendation the battery commander had some sound ideas. What he really meant was that he would like someone to devise a method by which the results of firing problems, using mechanical time fuzes, could be correlated with variable time fuzes so that the corrections developed as a result of the trial fire with MT fuzes would be valid when VT fuzed ammunition was subsequently fired. And that is worth careful investigation.

While it is rather impracticable to mount a target for VT fuzed ammunition at likely battle altitudes, it should be practicable to mount such a target at a lower altitude on some of our firing ranges where mountain ranges exist. Trial shot firings on such a target would probably produce valuable information on the muzzle velocity and over-all ballistic results. Certainly the results obtained from VT fuzed ammunition could be compared with the results obtained from the same ammunition with MT fuzes. It should serve to give our battery officers more solid information on which to operate, and we trust it would also give them more confidence in their ammunition.

Whether such firings at a matériel target can or cannot be made practicable,

for our battery commanders at large we can well pursue further the basic subject.

Obviously one of the first steps is to select for the trial fire the most suitable ammunition. Referring to Lieut. Ralph Swann's excellent article, "Ammunition For The 90mm Gun," in the November-December, 1951, *JOURNAL*, we find that shell cavitized M71 fuzed with M43A4 fuze has approximately the same ballistic characteristics as the same shell fixed with fuze VT. Accordingly, if possible that fuze is used with the M71 shell for the trial shot problem to obtain corrections for VT fuzed ammunition.

HOW do we fire a trial shot problem? Before we fire this problem, we choose a point in space at which to shoot, we check the orientation and synchronization of the battery, we get the best and latest meteorological data possible, and we try to make a good estimate of the muzzle velocity of our guns firing the particular lot of ammunition. We take these factors into account, compute the corrections, and apply them to our computer. We lay the guns in azimuth, elevation and fuze, and fire, say five rounds, at this point in space. We record the deviations of the burst of the rounds from this point in space by means of our radar and telescope. If everything has been perfect and we know the muzzle velocity of the guns, if our meteorological message was perfect, our computer made no errors, and we made no human errors in setting our corrections and data into the computer, then the algebraic sum of the deviations should be zero and the center of burst should occur at the trial shot point.

Unfortunately, in practice this seldom happens. Normally, the center of burst is not at the trial shot point; so we compute corrections to be applied to our equipment to take care of this deviation. Now, we hope that this correction will

hold good when we fire at an enemy plane, a sleeve target, or a drone aircraft. Provided that all things are done carefully, and the computations are carefully worked out and applied, the chances are that these corrections will hold good, if we fire with the same type of ammunition with which we fired the trial shots, i.e., the same lot of ammunition, and the same lot of mechanical time fuzed projectiles.

This brings us to a point which we need to study carefully, as we propose now to shift to fire for effect with the same lot of ammunition but with the VT fuzes. The mechanical time fuze has demonstrated a high degree of accuracy in its timing; accordingly, in our trial fire solution with the M9, M10, or previous directors we assume that the mechanical time fuze functions perfectly as to the time of running. We move the plotted burst center (CB) to the MV differential line by an elevation correction and from that intersection we determine the muzzle velocity correction. Now if there is an error in the fuze timing—and there have been indications that such errors have occurred—then our solution will give us an error in muzzle velocity. In that case the CB should first be moved by a fuze correction along the trajectory, or parallel to the normal trajectory to a corrected CB which is based on accurate timing. Then from that corrected CB the elevation correction and the muzzle velocity correction are determined.

This point is of particular importance when the VT fuzes are to be used since the VT fuze does not make a time error. It explodes when and if it approaches the target. Here we wish to determine accurately the true muzzle velocity and we wish to strip out any error that may be due to fuze error.

There is no desire here to cultivate any lack of confidence in our ammunition, but it is desired to emphasize that if there be an error in the MT fuze timing, it will lead to unsatisfactory cor-

Colonel Bender served with antiaircraft artillery in Africa and Europe in World War II. He has served since then as chief of staff, 7th Division in Korea; as CO, 1st Guided Missile Group; G3, the AAA & CM Center; and now as the deputy commander, Eastern Army AA Command.

rections for VT fuze firing. The matter is well worth checking.

HOW can the time of flight of the MT fuzes be measured accurately? With the latest type of fire control equipment an electronic means is provided to make such measurement. If available, it should be used by all means.

Other means of measurement are available, though less reliable. With accurate meteorological data and accuracy throughout in computing, gun laying, and burst observation, the plotted position of the CB will indicate the time error. If the CB is above the MV differential effect line, that indicates that the time of fuze running is short, and vice versa. The amount can be measured parallel to the normal trajectory from the plotted CB to the MV line. This method has been used with good results. Normally, however, the fuze error determination should not be accepted un-

til confirmed by at least two trial-shot problems.

Another means of measurement is by stop watches. Unfortunately, this means is apt to be quite erratic. I once conducted some experiments of this nature, using three sets of observers and three stop watches, with instructions to the observers to start the watches at the flash of the gun and to stop the watches at the flash of the bursts which they observed, looking through B.C. telescopes. The times varied by as much as two-tenths and three-tenths of a second between the observers and varied by about the same amount from the accurate time of flight, which was obtained with kine-theodolites.

If the watches are adjusted and the observers carefully trained, the results may be used as a check. Unless the results are verified by other means of measurement, they should be questioned.

Let us hope that such a check will confirm the accuracy of the MT fuze.

However, if reliable measurement shows a fuze error, then the fuze error should be stripped out and corrected, as indicated above, before determining the muzzle velocity correction for VT fuze firings.

Incidentally, the use of such a method would improve the accuracy of fire with the time-fuzed ammunition, as well as solve the problem of the relationship of firing either mechanical or variable time fuzed ammunition. If the same procedure were followed and that part of the movement of the burst due to error in time is applied as a fuze correction, then the resulting fire with mechanical time-fuzed ammunition would also be more accurate.

If it is found that the MT fuzes often give time errors, then it may become necessary to call upon the Ordnance Corps to design and furnish a time-measuring device for use with the WWII types of fire control.

Notify the Journal of Your Address Change



Points In Preparing Gun Fire

IN our service we appropriately lay great stress on the preparation of AA gun fire. There are, however, wide differences of opinion as to the purposes of and practical limitations in the successive steps involved. With the hope of arousing further discussion, thought and healthy argument, we shall spotlight briefly some personal views on the main points in such preparation.

The most important step in the preparation of fire for AAA guns involves the emplacement, level, orientation, adjustment and synchronization of the guns and fire-control equipment. The battery can be leveled, oriented, and synchronized accurately for firing throughout the field of fire by optical and mechanical methods, and no amount of magic, sorcery, or trial firing can fully compensate for error in this basic preparation.

If trial fire should develop inexplicable errors in azimuth or elevation, the thing to do is to go back and check the level and orientation by prescribed methods.

In this connection it is well to appreciate that trial fire and calibration fire are problems in advanced gunnery. Unless they are conducted with know how and a very high degree of accuracy, the results may be worse than valueless. Actually the guns and ammunition perform with a high degree of accuracy and consistency. To measure this performance to any advantage it is necessary to achieve a higher degree of accuracy in the instrumentation involved in the preparatory firings. And, we emphasize, that is not automatic in many gun batteries. It is easy to make errors in preparing firing data, in gun laying,

and in observing the bursts. To get sound results every step is carefully checked and each observation is verified by another instrument operating independently.

Calibration Fire is very instructive and is recommended for such purposes. The results can well be used as trial fire for determining muzzle velocity and fuze errors, if any. But we would make calibration corrections only when the need is definitely established. So often one battery commander fires his calibration and comes up with his corrections. A year later another battery commander with the same guns and equipment comes up with a different solution. The logical conclusion is that the guns were probably more accurate than were the people who conducted the firings.

There is also another angle. Of course we want accuracy and we want to eliminate excessive dispersion, but there is no advantage in tightening up the gun dispersion below the probable accuracy of the fire control in battle. There is no advantage in putting all the bursts in a pickle barrel unless that barrel is big enough to permit the fire control to place some part of it on the target.

The better solution on calibration in a battalion is to assign the guns to batteries according to muzzle velocity. This may give one battery commander the most worn guns and he may not like it, but it will be better for the battalion as a whole.

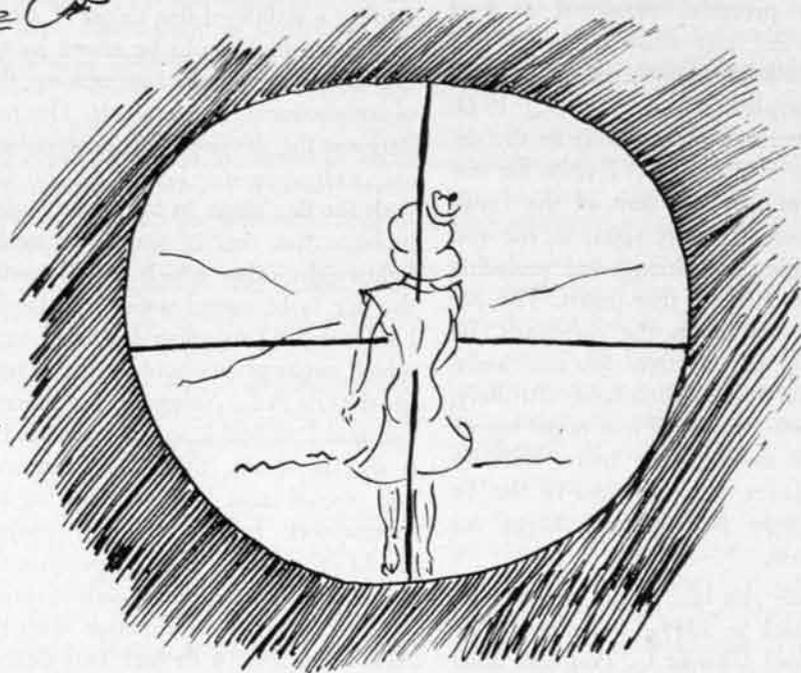
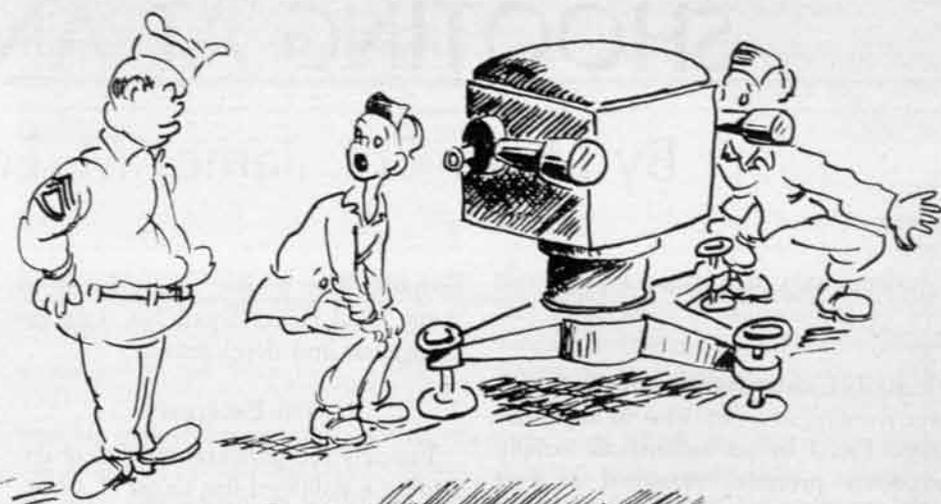
TRIAL FIRE

Any idea that trial fire can be used as a catchall for all unknown errors in the battery system is fallacious and dangerous. If there are errors in orientation or synchronization the only satisfactory correction lies in the recheck and correction by the prescribed methods.

Likewise any idea that we can rely on trial fire conducted just prior to battle appears to be wishful thinking. Even if it were practicable, conditions would hardly be favorable for the required accuracy. Should the battery commander wish to conduct such trial fire just to check on the meteorological conditions, then he should at least realize that he has a real problem on his hands to compensate for wind errors. The better solution is to get an accurate met message on present conditions.

The purpose of trial fire is to determine for a given lot number of ammunition 1) the developed muzzle velocity and 2) the fuze error, if any. With these data the battery commander has something of value to use in determining the daily firing corrections.

To achieve that purpose, accuracy in the orientation, level and other matters of the basic preparation is essential. Likewise, sound meteorological data are also essential. Without these essentials the results of trial fire will have little value for the future. However, with accuracy in all phases the results should be consistent in the trial shot problems from day to day, or week to week. Obviously in determining the muzzle velocity and fuze errors all previous problems with that lot of ammunition should be considered. If the MT fuzes are



"We're Backsightin', Sarge!!"

found to be functioning accurately, then the problem resolves into one of muzzle velocity determination.

It is not necessary, and it may be impracticable, for each battery to fire trial fire with each lot of ammunition. The results of such fire from any battery in the battalion should be usable in each other battery. The guns of one battery may not give exactly the same muzzle velocity as those of another battery; however, the relative factors on this can be and should be determined in each battalion.

Our experience has been that the guns perform quite uniformly with few exceptions. In normal AAA firing they seldom heat up much, and consequently, the loss of muzzle velocity is surprisingly slight—probably not true at all for prolonged ground firing.

Trial fire is appropriate in each battery to be sure. However, it should be realized without prejudice that some batteries may not be completely proficient in the matter. However, each battalion will probably develop a few officers who truly are experts in the problem. They could well be used to assist in some batteries.

Battery commanders may fire burst problems with great freedom, but when it is desired to determine the developed muzzle velocity or fuze error, then it is time to make careful preparations, and to eliminate every possible error in trial fire.

To repeat, these views are controversial. If you should care to take them apart, or to add variations, by all means give us a chance to publish your views.

—C.S.H.

SHOOTING AT AN IDEA

By Lieut. Col. James M. Edmunds

THE OQ 19-D TOWS A FLAG

LIGHT antiaircraft artillery troops are shooting at a new idea in aerial targets. Paced by an enthusiastic supply economy program, personnel at Fort Bliss, Texas, have added a towline and flag target to the Army's latest radio controlled airplane target, the OQ 19-D. Although the project is still in the developmental stage, RCAT units are saving up to fifty per cent of the funds which were formerly spent in the cost of salvaging, repairing, and replacing OQ's which were shot down. The Air Force is sharing in the dividends. By providing an effective, low-cost aerial target for Light Antiaircraft Artillery, local "radio controlled tow target squadrons" are saving many hours aloft for the airplanes and personnel of the 1st Tow Target Squadron of Biggs Air Force Base.

Actually the idea is not a new one. As far back as 1945, Lieutenants John P. Fee and Charles G. Pou and other personnel of the Seventh and Ninth Armies were towing a flag target with the OQ 2-A. However, the OQ 19-D with a flag target in tow presented a new problem in the development of methods adapted to the rotary launcher and the jet assist take-off from the A7

catapult. The project was referred to Army Field Forces Board No. 4 for investigation and development.

THE PROBLEM

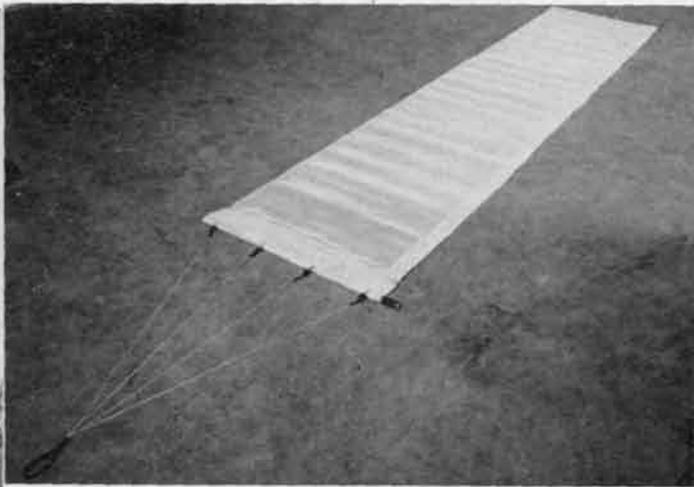
Basically the problem was that of designing a stabilized flag target of a suitable size which could be towed by the OQ 19-D at speeds approaching that of conventional towed targets. The next step was the development of procedures and techniques for launching the OQ with the flag target in tow. A secondary problem was that of finding a strong, lightweight cable which would permit the flag to be towed sufficiently far behind the OQ to allow for lead errors which might place rounds in the vicinity of the RCAT. Although Lieutenants Fee and Pou had long since reverted to a civilian status, they were contacted and proved most helpful in laying the groundwork for the current project. Rapid progress has been made since the first successful flights in early September. Working in coordination with the AFF Board No. 4 Project Test Officer, Captain A. M. Kolesar, personnel of the Department of Gunnery and the OQ Section of the AA and GM Branch, TAS, the 47th, 52nd, and 53rd RCAT Detachments are contributing their ideas and assisting in the development and testing of techniques and procedures.

TARGET DESIGN

After testing several materials it was determined that flag targets fabricated from the plastic mesh salvaged from A6A and A6B flag targets were the most satisfactory. Flags varying from 11 feet 3 inches to 14 feet in length and from 30 to 36 inches in width have been towed successfully. (The OQ 19-D is 12 feet, 3 inches long.) Whenever possible, strips are ripped out of the damaged A6 type flags in such a manner that the finished edges along the long axis of the plastic mesh are left intact. This eliminates the necessity for hemming and sewing. The target is constructed quite similarly to the A6. The tow bar to which the bridle is attached has been fabricated from a variety of materials ranging from broom handles to 3/16 inch seamless steel tubing. Any material which is strong and light in weight will serve the purpose. The leading edge of the flag is folded over about ten inches and sewed in place. The tow bar is inserted in the fold and secured in place by twisted safety wire or by four clamps bolted through the material and the bar. A lead positioning weight (stabilizer) of approximately ten ounces is secured to one end of the tow bar for vertical towing and in the center of the bar for horizontal towing. A simple weight can



OQ—tow cord rigging completed for JATO launching.



Details of bridle and target construction. The weight is in position for vertical towing.

be produced by pouring lead into a mould made of a two-inch length of one-inch pipe. A hole may be made in the weight by placing a bar in the pipe while the lead is being poured. The bridle is composed of two single strands of parachute shroud lines which are attached to the bar in four places and secured to a ring or knotted together to form a towing loop. The length of the bridle will vary from 30 to 36 inches, depending on the width of the target. The speed of the OQ will be decreased by fifteen to twenty miles per hour depending on the size and construction of the target. To reduce drag, careful attention should be paid to streamlining the bridle and the tow bar. All raw edges of the target should be hemmed to prevent fraying.

TOW CABLE

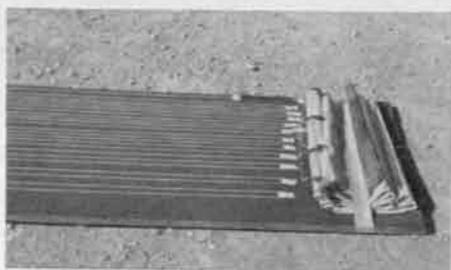
The search for a suitable towing cable resulted in another use for the shroud lines of irreparable parachutes. When these very strong lines were spliced together to make a single length, the search for a tow cable was over. Test flights employing up to 550 feet of tow cord have been most successful, and indications are that up to 1,000 feet could be used without excessive drag and line sag. A 500-foot tow cord is ample protection for the towing RCAT on crossing courses. Greater lengths are required for incoming courses. Splices in the tow cord should be carefully taped to reduce drag.

LAUNCHING TECHNIQUES

At the same time that flag targets were being developed, techniques for launching were studied, developed, and tested. Pioneer work in this field was carried on by personnel of Army Field Forces Board No. 4 and the attached 44th RCAT Detachment. The results of their work are being implemented and field tested by local RCAT Detachments. This combined effort has produced several successful techniques, the most practical of which will be discussed in detail.

JATO LAUNCHING

When the A7 catapult is employed to launch an OQ with a flag target in tow, the target is accordion-folded tail to bridle and placed on the ground, bridle up, at a point 100 to 150 yards in front of the catapult and one yard



Details of preparing the flag and tow cord for rotary launching.

to the left of the flight path. The OQ 19-D is placed on the catapult and the running end of the tow cord secured to the stern lift. (When the OQ 19-D has no stern lift, a hole is drilled in the keel and a suitable towing ring bolted thereto.) The cord is then payed out to the outer edge of the lift stabilizer and attached thereto by means of three to four six-inch strips of one-inch masking tape. From this point the cord is payed out and attached to a point under the tip of and near the leading edge of the left wing by five or six strips of tape. The cord is then brought to the ground and laid out in several parallel lines running from the OQ on the catapult to the flag target. The end of the cord is finally attached to the target bridle, and the OQ is ready for launching in the conventional manner. The several parallel lines of cord permit the OQ to gain considerable speed and altitude before the target becomes airborne. The masking tape serves to keep the cord from fouling on the catapult during launching and acts somewhat in the capacity of a shock absorber for the cord as it rips through the tape and lifts the target into the air. Care should be taken that the cord describes a smooth "U" on the ground when direction of pay out is reversed and that the parallel lines of cord are spaced at least one foot apart. Otherwise the cord will foul on itself during the launching phase. The number of parallel lines of cord and the exact location of the flag target with reference to the launcher will be dictated by the length of the tow cord. The ground upon which the tow cord is payed out should be level and smooth. It must be carefully checked and cleared of anything which might foul or burn the cord during launching. As in any launching, the area in front of the catapult must be clear of trees, buildings, personnel, and equipment.

The recommended rotary launching technique for an OQ with a flag target in tow grew out of an idea originated by Sergeant First Class George W. McDaniel of the 44th RCAT Detachment (AFF Board No. 4). Although the method requires somewhat more preparation than catapult launching, prior planning and preparation of flag targets in advance of requirements will eliminate delays at the launching site. Sergeant McDaniel's idea provided a rotating platform from which the flag is launched. A metal plate thirty inches square is bolted to the top of the pylon. A rectangular-shaped target launching platform is constructed of wood and bolted to the metal plate so that the center (length and width) is over the pylon and the long axis of the platform is aligned with the pylon arm. Wing nuts reduce the time required for changing platforms. The platform must be smooth and free of nails and splinters. The side of an OQ 19-D packing crate has proved to be a very satisfactory platform expedient, although longitudinal reinforcing is required if it is to be used extensively.

The platform is removed from the pylon and placed on the ground to facilitate preparations. The target is accordion-folded tail to bridle and placed bridle up on one of the platforms. The target is secured by an elastic band or one to two strips of masking tape. The tow cord is secured to the towing ring of the bridle and the assembly brought over to the right side of the platform where it is taped in position as shown in figure 6. The bridle lines should be gathered and secured to the platform immediately



Tow cord suspended beneath target catapult cable. Final tie-in suspends car-pylon cable close to cable. Note launching platform and flag target atop pylon.

adjacent to the folded target. This will prevent them from fouling the tow cord during launching. Having taped the towing ring and bridle into place, the tow cord is payed out and placed in parallel lines on the platform. Each loop must be taped in place to prevent fouling during launching. Sufficient cord is left free to span the distance from the platform to the OQ. A loop may be easily added to or subtracted from the cord on the platform to take up slack or provide any additional length required.

With the target and tow cord thus prepared, the platform is attached to the pylon and the remainder of the cord payed out. The end is secured to the stern lift (towing ring) on the OQ and the cord attached to the right stabilizer in the same manner as for catapult launching. The cord is then brought to a point directly below the outside edge of the right wing where it is suspended from the target car-nylon cable by a strip of masking tape. The tape must be of sufficient length to permit the cord to be separated from the cable by a distance of six to eight inches. The cord spanning the distance from this point to the platform is likewise suspended

six to eight inches below the target car-nylon cable by single strips of tape spaced at intervals of approximately thirty feet. The last suspension is located at the point where the cable joins the pylon arm. Here the cord is taped close to the cable (figure 9). Elsewhere, if the cord is suspended too near the cable, the two are likely to become snarled in the launching process. After a final check, the assembly is ready for launching in the normal manner. The launcher chief takes a position under the platform as close to the pylon as possible. He is joined at this position by the cable man as soon as the OQ starts on its course around the track. For obvious safety reasons, the number of personnel in the center of the track is reduced to the absolute minimum. The platform and target assembly atop the pylon produces little or no drag, and the metal plate can be left in place for conventional launchings.

FLYING THE OQ WITH FLAG TARGET IN TOW

Flying the OQ 19-D with a flag target in tow requires no special techniques. Since the flag closely adheres to the

flight path of the OQ, it may be put through basic maneuvers without snarling the tow cord. When the parachute is opened, the flag quickly becomes suspended beneath the OQ and in no way interferes with normal recovery. On the Light AAA ranges at Fort Bliss, these easy-to-fly money savers are rapidly growing in popularity. Except for a slightly reduced speed, they offer all the advantages provided by conventional flags towed by man-carrying aircraft. The OQ 19-D flag target combination provides a variety of courses and permits a more realistic approach to flag target engagements by eliminating the necessity for adhering to strict safety regulations designed for the protection of the aircraft and the crew.

Flag targets should not be considered a complete substitute for OQ's in the training phase. Sufficient OQ's should be allocated to provide each gun crew with at least a few courses of live target motivation. For the remainder of the time on the range, the OQ-flag combination will save a tidy sum and prove to be an idea worth shooting at.

34th AAA BRIGADE SPONSORS YOUTH CENTER

By Major Theodore Wycoff

UNDER the sponsorship of the 34th AAA Brigade Headquarters, 62nd AAA AW Battalion, 95th AAA Gun Battalion, and the 504th and 505th Operation Detachments, the German Youth Center in Gartenstadt, Mannheim was opened in November.

The Center will serve about 600 youth from kindergarten to adult age. The facilities include an auditorium for lectures, meetings, ballet and orchestra practice and recitals, a German-American library, showers for boys and girls, game room, wood and metal crafts room, sewing room, nursery, classrooms, photo lab, and a kitchen for instruction and for preparing snacks. Outside facilities provide for games and kindergarten.

Cooperating with Brig. Gen. Raleigh R. Hendrix, brigade commander, and the officers and men of the brigade, the Army authorities in Heidelberg, Dr. Heimerich, Oberbürgermeister of Mannheim,



General Hendrix opens the Center. Left is Herr Trumpfheller, Bürgermeister of Mannheim. Below: Lt. Col. Everett T. Renicker, officer in charge of German youth activities at Heidelberg Military Post.

and hundreds of German citizens have contributed tremendous help. The cen-

ter was built from the ground up largely by American and German volunteers. Volunteers from local engineer units did the clearance and evacuation. Other volunteers constructed the buildings largely from Army salvage materiel. The city of Mannheim donated the land and utilities. Necessary funds were obtained from other German Youth projects, such as dramatic and musical productions.

Major Roger L. Steltzner is in charge of brigade German youth activities. Mr. Hans Berger is the Center leader. Marshall Plan funds will contribute toward the maintenance. Policies of the Center will be guided by a German adult committee from the community, assisted by a youth council.

The auspicious inauguration of this Youth Center and the enthusiastic response indicate that it will serve a great purpose toward the development of a healthy youth in this community.

BIRDS OF MARS*

By Jonathan Norton Leonard

Behind a black wall of secrecy, the U.S. is climbing slowly toward a new level of warfare. In every U.S. aircraft factory, every technical institute and every electronics laboratory, the military phrase of the day is "guided missiles." What are these missiles? What is the source of their power? What can they do? Herewith a report on the newest weapons of war by *Time's* Science editor, Jonathan Norton Leonard:

THE desert Tularosa Basin in southern New Mexico is a valley without a river. Fierce winds sweep across it, and dust devils whirl in the sun. On most days the valley is quiet, with only a scattered coming & going of military vehicles from White Sands Proving Ground (Army Ordnance) or Holloman Air Force Base. But sometimes a screaming roar echoes among the mountains, and a monstrous bird with a tail of flame flies straight into the sky. Or a slender, dart-like object slips out of the belly of a B-29 and streaks over the horizon at several times the speed of sound.

These "birds" (so the missilemen call them) are the heirs presumptive of war. They fly from New Mexico; from Point Mugu, a pleasant Navy station on the coast of Southern California; from Patrick Air Force Base in Florida; from the deck of the Navy's converted seaplane tender *Norton Sound*. Few ordinary citizens have ever seen them fly. Few more have heard their roar or seen their soaring sparks of light or puffs of dust on the desert. But in closely guarded factories all over the U.S., the birds are hatching. The head of one U.S. aircraft company predicts that within ten years they will dominate air warfare, and that piloted aircraft will be used only for transport.

WEAPON GENETICS

The new war birds are direct descendants of the three great inventions of

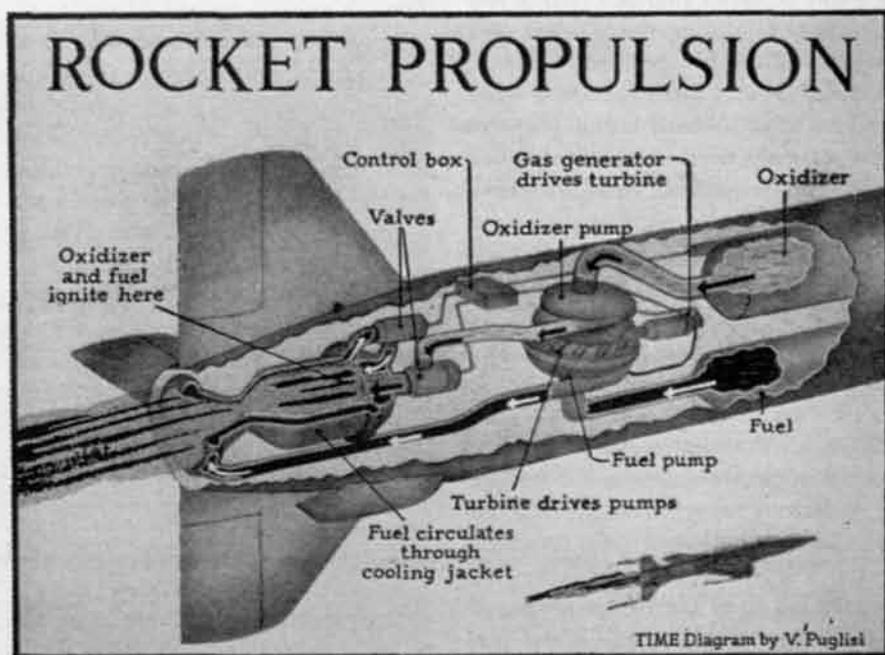
World War II. Only one of the three—radar—came to full use in combat. The German V-2 rocket, a scientific triumph but a military failure, was developed too little; the atom bomb came too late. Both were held over as unfinished business for the next meeting of arms.

But things have changed since then. Radar and its electronic relatives promise exact guidance for the new missiles. The atom bomb makes even the most costly of the birds a sound military investment. From this ancestry have sprung the four principal types of guided missiles now under development.

SURFACE-TO-AIR missiles, designed to bring down enemy aircraft, are gracefully tapered objects, 10 to 15 ft. long and 1 ft. or less in diameter. They are launched from a kind of gunmount. On their tails they have four fixed fins arranged at right angles to one another.

These keep the missile stable in flight, like the feathers of an arrow. The control surfaces are four small, triangular, movable fins one-third of the way back from the missile's nose. They can steer the missile, roll it and even give it lift, like an airplane in flight. All the fins have supersonic shapes; they are made of solid metal, with thin, diamond-shaped cross sections.

AIR-TO-AIR missiles (fired by aircraft against other aircraft) need not be as big as their ground-launched relatives. They need carry less fuel because they do less climbing. Surface-to-air and air-to-air missiles may well spell the doom of conventional bombing tactics. Even when they rise all the way from the ground, the flaming birds will reach the bombers' altitude in something like one minute. They cannot be shot down and they cannot be dodged. They close so fast that a

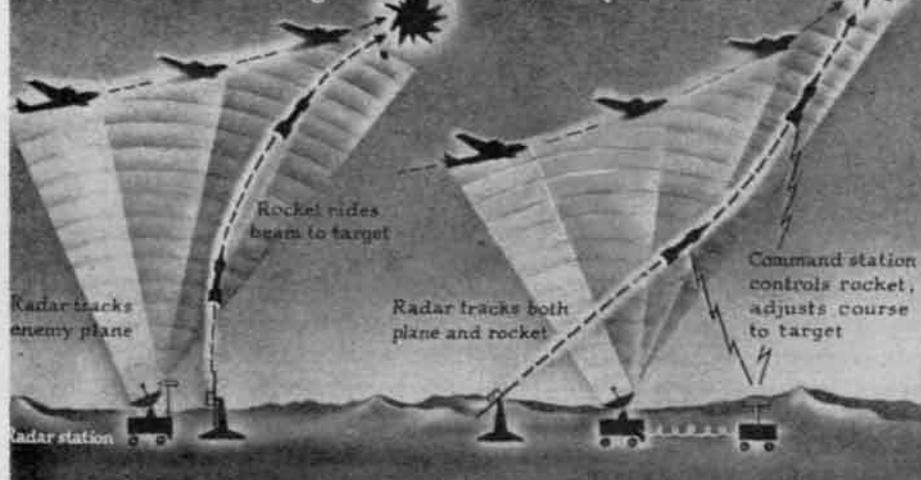


ROCKET MOTOR for guided missiles, no larger than an ashcan, develops enormous power (100,000 lbs. of thrust) in a fraction of a second. When the motor is started, small amounts of fuel (aniline, alcohol or gasoline) combine with an oxidizer (liquid oxygen or fuming nitric acid) in the small gas generator. The hot gases produced spin a turbine to run centrifugal pumps. The bulk of the fuel is pumped first through the hollow walls of the tailpipe, serving as a cooling agent to keep the metal from melting. When the fuel meets the oxidizer in the main combustion chamber, the rocket motor fires.

*Courtesy of *Time*, copyright *Time*, Inc., 1951.

Surface to Air

(by Beam Riding... .. and by Command)



bomber's "evasive action" is like the slow writhing of a caterpillar trying to shake off a wasp.

AIR-TO-GROUND missiles are the bombers' best chance of passive defense, may allow them to stay out of reach of their new enemies. The air-launched missiles will be "airplanes" powered by rocket motors that may push them up to 2,000 m.p.h. They will not look like airplanes; their fixed tail fins will have respectable size, but their four movable wings amidships will be metal triangles only a few feet long. The slim, sharp birds will swing out of the bomber's belly on two stiff arms. When fired, they will shoot ahead and vanish with blinding speed. Their accuracy need not be "pinpoint," for they can be made big enough to strike with atom bombs.

SURFACE-TO-SURFACE missiles are the biggest family of birds. They will range from modest "artillery" rockets to vast intercontinental monsters (still in development) whose designers already complain that they are in danger of "running out of earth." A typical surface-to-surface missile is about the size of a V-2 (which was 46 ft. long, weighed 12.5 tons), but looks slimmer and longer. It is stabilized like the V-2 by carbon vanes acting on the gas blast from the rocket motor. It has more power than the V-2 and presumably much more range.

ROCKETS & BOOSTERS

Basic to all guided missiles is the rocket motor, generally liquid-fueled. When actually pushing a bird it vanishes in seconds, leaving only a vapor trail to

remember it by. In its captive state—on a test stand, for example, at Reaction Motors, Inc. of Dover, N. J., or at Aerojet Engineering Corp. of Azusa, Calif.—it has a frightening sort of beauty.

When cold, the motor itself is not at all impressive. Sometimes it is cylindrical; sometimes it has a distorted "Mae West" shape. At one end is a flaring tailpipe, at the other a complex snarl of pumps, tubes and valves (see diagram). But when the motor fires, things happen fast.

In a fraction of a second, a long, stiff, roaring flame stands out from the tailpipe. With some fuels the flame is bright, and must be observed through dark glasses. Sometimes it is faint blue with bright golden "leaves" (caused by shock waves) standing stock-still in its core. With certain experimental fuels the flame is brilliant green with clouds of purplish smoke. The noise is beyond description: a ground-shaking roar combined with a high-pitched scream. On top of this rides ultrasonic sound that tears at the vitals, seeming to bypass the ears entirely.

The rocket motor takes an appreciable time to get the missile moving fast enough for the tail fins to grip the air. So most surface-to-air missiles are launched by boosters attached behind the missile's tail. These contain a solid propellant (a slow-burning explosive) that gives an enormous push for a second or so, and starts the missile fast enough to fly straight and true. When the booster burns out, it falls to earth with a whickering scream. The liquid-fueled motor takes over and brings the missile up to

speed—several thousand m.p.h.

RAM-JETS & PLANES

Not all missiles use rocket motors exclusively. Some have ram-jets, powerful jet engines that burn fuel (gasoline or kerosene) with the air that is crushed into their open noses by the speed of their flight. The great advantage of ram-jets is that they need no oxidizer (e.g., fuming nitric acid), which makes up two-thirds of a rocket motor's fuel load. Their chief weakness is that they have no starting thrust, and are not very efficient until they reach supersonic speed.

Ram-jet enthusiasts are sure that these faults can be overcome by rocket boosters to get the ram-jets started, or by launching them from fast airplanes. Many ram-jet missiles have been tested already, and some have vigorous admirers in the armed services. They will have to stay in the atmosphere, say at 70,000 ft., but they will gather oxygen as they fly, and their controlling fins will always have air to act upon.

It is the vast power of rockets and ram-jets, realized in speed, that makes guided missiles so important for war. The German V-2 was as brainless as an artillery shell, but it plunged toward the ground at 3,000 m.p.h. Not a single V-2 was ever shot down and most were not even seen.

Since the V-2 days, the missiles have taken on even more range and speed. Just as important, they have acquired brains (computers) and senses (guidance systems) to put them on their targets. These new devices, which bring weapon and target together, give the new missiles their devastating power to destroy.

RIDERS & SEEKERS

The simplest guidance system for surface-to-air missiles is radio "command guidance." The invading bomber will be tracked by a radar on the ground. When the missile is fired, its image will appear on the radar screen. Then the missile's radio pilot (safe on the ground) will steer his destroying bird close to the bomber, where a proximity fuse will explode its powerful warhead.

Another possibility is beam riding. As soon as the bomber is discovered by radar, a narrow radio beam will be trained upon it. The missile will contain electronic apparatus to pick up the beam

and steer the missile toward its center. As the beam swings with the motion of the bomber, the missile will swing, too. Coached by an automatic computer, the beam operator can lead the target (like a hunter leading a duck) and set the missile on a true collision course.

These systems have a common weakness. Their guidance is fuzziest just where it should be clearest: close to the target. Seeking or homing missiles will be free of this disability. Ground guidance will bring them to the general vicinity of the target. Then they will be on their own, to search for the target with their own senses and brains.

Passive seekers will pick up an emanation (light or heat) generated by the target and steer themselves toward it. Active seekers will send out radar pulses and steer toward anything solid enough to bounce them back. A hybrid is the semi-active seeker. In this system, a ground transmitter will illuminate the target with powerful radio waves. These, reflected from the target, will be picked up by the oncoming missile and will guide it in for the kill.

TELEVISION STEERING

For air-launched missiles directed against invisible targets many miles from the mother plane, the problem is more difficult. They must gather their own

guiding information. They may seek the target, attracted like deadly moths by the heat given off by a city or industrial area. More likely they will watch the ground ahead with radar or television eyes. The picture will pass over a microwave beam to the mother airplane. Sitting in his cockpit, the bombardier can watch a screen and see what the missile itself sees. If the missile is off its course (as determined by a map), he gives it radio hints that point it toward the target. When the doomed city comes in sight (at 30 miles per minute), he turns the missile downward. Then another radio signal or an automatic fuse explodes its atom bomb.

This baleful guidance system is not so futuristic as it sounds. Television-guided aircraft have already flown over U.S. cities. The remote-control pilots several hundred miles away saw rivers, bridges, buildings. "We picked out the city hall," said one pilot. "We could have flown that plane right into the mayor's office."

The television or radar-picture guidance system is good only for some 500 miles. At greater distances, the microwave beam between missile and mother plane will hit the curving earth. But less range than 500 miles is plenty for many vital missions. Keeping safely out of reach of enemy radar, the bomber could launch its attack. Presumably both plane

and missile would keep radio silence until the missile has only minutes to fly. This would leave time for the guiding system to correct the course of the missile. It would not leave time for enemy interceptors to reach and attack the bomber.

STARS & MAGNETISM

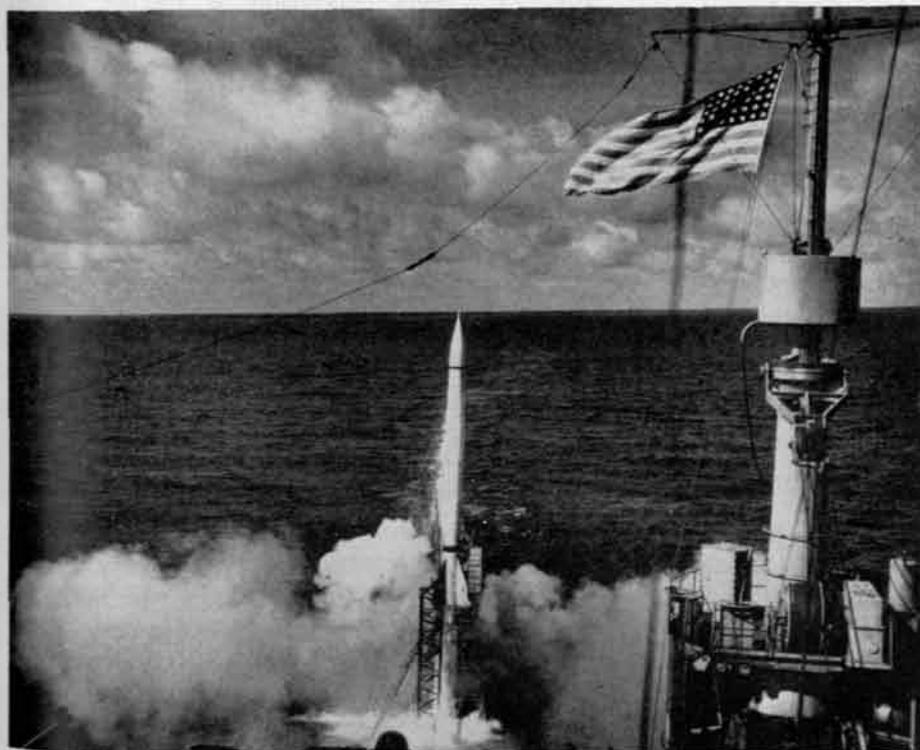
Surface-to-surface missiles will have a wide choice of guidance systems. If the target is visible (from the ground or a high-flying airplane), the missile will be steered to it by radio command guidance. Usually the target will not be visible, but its position will be known on a map. Then the missile will follow a radio beam or steer automatically toward a selected point in a pattern of radio waves marked out in space. When it reaches that point it will curve downward. If the target's position is not known accurately, the missile will search for it with television or radar eyes, reporting its findings to a screen at a faraway control point. An operator watching the screen will steer the missile to the burst point.

Beyond the range of line-of-sight radio (a few hundred miles) the guidance problem gets tougher. The missile is on its own, and it must steer itself by some "frame of reference" that reaches all the way to the target. Several systems are in development, two of them familiar in principle: magnetic (compass) navigation and navigation by the stars.

Magnetically guided missiles steer, like ships, by following automatically the pattern of the earth's magnetic field. When a long-range missile is guided by "automatic astro-navigation," it flies by night and has wise little telescopes to pick up certain stars. Photo-sensitive tubes note the position of the stars. This information, processed by a complicated electronic brain, tells the missile the course it is following over the surface of the earth. It corrects its own course if necessary; it knows when it reaches the target and when to explode its bomb.

TEST FLIGHT

Developing a missile is astonishingly difficult. It demands new metals, new chemicals, new electronics, even new kinds of thinking that only computing machines can do fast enough. There is, in addition, a very special headache. A missile cannot be flight-tested by a human pilot who lives to make his report.



Shaking off ice formed during fueling operation, a Viking rocket leaves the deck of the U.S.S. Norton Sound.

Once the missile is fired, it is gone forever. It turns into junk on the desert or sinks under the sea. So the missilemen have developed other methods of testing their single-flight birds.

The missile's first flights are generally made on a calculating machine, such as the REAC (Reeves Instrument Corp.) analogue computer used by CalTech at the Army's Jet Propulsion Laboratory near Pasadena. The performance characteristics of the missile's components go into this brainy machine in the form of dial settings; the results come out as curves drawn on paper. A simulated flight takes only a few seconds and costs almost nothing. Between flights, adjustments can be made to see if the missile can be improved by altered tail surfaces or controls. To test such details by actual flights would cost a whole missile each time.

Real flame-and-metal tests are done at ranges equipped with elaborate instruments to catch and record every shred of information. The Army, whose domain is ground-launched missiles, does its testing at White Sands Proving Ground in New Mexico. The Navy uses White Sands too and also conducts tests at Point Mugu, between Los Angeles and Santa Barbara, or from the *Norton Sound*. The purpose of both Point Mugu and the *Norton Sound* is to support the fleet in its introduction of the new weapons.

The Air Force tests a great variety of missiles at Holloman near White Sands. Its Patrick Air Force Base at Banana River in Florida (150 miles south of Jacksonville) will be the testing ground for missiles of all the services that have ranges too long for safe testing elsewhere. Patrick's advantage is that it can fly its birds over the thinly inhabited Bahamas, where a chain of instrument stations is now being built.

SACRIFICE ON THE DESERT

A "shot" at White Sands Proving Ground or Holloman Air Force Base is solemn with ritual. The dusty desert to the east of the Organ Mountains is sown with nonhuman eyes: radars, telescopic cameras, instruments to measure the missile's enormous speed. Housed in small concrete buildings or perched on platforms, they cover the whole range, which is roughly 40 miles wide and 100 miles long. Roosting on high mountains are astronomical telescopes with 16-inch mir-

rors that can photograph the missile like a planet in space.

Among these stations run 8,000 miles of wire, and through the web throbs a pulse: an accurate time signal from a central station. The missile stands graceful and alone in the center of this great assembly like a sacrificial victim eyed by a thousand priests. The time signal beats the seconds over a chain of loudspeakers, and a grave voice counts the minutes before the moment of sacrifice. "Zero minus ten," chants the voice. "Zero minus nine, zero minus eight . . ."

In the peak-roofed concrete blockhouse near the launching point, red lights on a control panel are turning to green. All of them must be green before the missile is fired. If one light remains red, it means that some instrument or safety precaution is not in operation. Since 1947, when White Sands tossed a V-2 into an uninhabited hillside at Juárez, Mexico, some 50 miles away, the base has been preoccupied with safety. If a missile becomes "errant" (threatens to fly off the range), a safety officer "deconstructs" it by exploding it in the air.

At "zero" the bird flies off, trailing a shattering roar that echoes from the Organ Mountains. It disappears quickly in the deep blue sky. For human eyes the flight is over, but instrument eyes are still watching. The antennas of the radars crane to follow the missile. The telescopes and cameras turn. When the missile starts falling they follow it down to its death far off on the desert.

MELODY FROM SPACE

Sometimes the reports from the missile's instruments are recorded on magnetic tape in the form of audible tones that make a strange sort of music. The first thing heard when the tape is played back is the sound of the missile at rest. It is standing on the launching platform and is still at peace with the world. Some of its instruments make continuous tones, deep or shrill, like the drones of a bagpipe. Others report only at given intervals. These play a weird little tinkling tune, over & over, like a schoolboy proud of mastering his first piano exercise.

When the missile is fired, some instruments change their pitch as the temperature rises in the combustion chamber or the pressure increases. The tinkling melody plays on, but as the missile gathers speed, unpleasant sounds obscure it. The

control fins struggle to keep the missile straight. Vibration builds up with the speed and makes a quavering growl. When the missile rolls, it sends out a long, often-repeated groan. All the sounds blend together, like modernistic discords on top of the tinkling melody.

At last the missile rises above the earth's atmosphere, and the discords die away. While the missile flies its vacuum course, there is no air to make it roll or vibrate. The fins no longer move. The bird is at peace in space, serene as an asteroid, and its instruments sing the cheerful song of a happy child.

When the missile curves back to the atmosphere, trouble starts again. The fins renew their struggle. Vibration and roll build up. Louder & louder rises their clamor, drowning the melody. Then comes a crackle of jumbled noise. The missile has reached the end of its flight and the singing instruments are dead.

BRAIN PROBLEM

Missilemen feel that the propulsion question is now near its solution. Modern rocket motors are already powerful enough for most practical purposes and ram-jets are coming along. Guidance is a deeper problem. It is comparatively easy to design electronic senses and brains that will enable a missile to do almost anything, but building them so they will work dependably is another matter. Many a missile has misbehaved because of the failure of a 50¢ electric relay. "That bird cost \$100,000," the missilemen say. "It should have cost \$100,000.05."

An additional hazard is enemy countermeasures. Whenever a bird is in flight, it is possible, at least theoretically, to interfere with the forces that guide it. The enemy can confuse the poor bird by jamming its radio frequencies. He can make it seek electronic mirages to lure it to destruction. He may even seduce it by false instructions and make it destroy its friends.

Much work has been done on gadgets to prevent such misfortunes, but the battle of countermeasures will never be over. New tricks and countertricks will always be possible. This eerie electronic warfare is the job of special groups in all the services. When countermeasure officers visit White Sands, the missilemen "treat them like Russians."

DROPPING THE PILOT

When military soothsayers try to look into the future, they confess to considerable bewilderment. None can now predict how the new weapons will react upon one another and upon older weapons. Another unknown quantity is their cost, which is sure to be high. But many advantages are gained by dispensing with the human crewmen, who need space, visibility, heating and cooling, oxygen and pressurizing apparatus. And the crew of the modern bomber is an expensive item itself; it takes money and time to train its members.

Since the missile makes only one flight, it needs no fuel for a return trip. It has no landing gear or defensive armament. All these savings cut its cost while improving its performance. Probably the biggest saving will come from reduction of running life. A missile must be dependable, but it does not have to be built (like an airplane engine) so well that it will last for thousands of hours. In most cases a few minutes or hours is all the life it needs. When designers and manufacturers adjust their thinking to take advantage of this fact, great savings will result. One authority believes that if all possible savings are realized, a guided missile will cost only one-tenth as much as an airplane built for comparable duty.

THE AGE OF MISSILES

All the experts agree that guided missiles make the most difficult problem that military scientists have tackled so far—more difficult even than atomic bombs. The program has already drained the country dry of specially qualified scientists. Every missile plant and laboratory has a welcome for the dewiest young technician. When large-scale production begins, the pinch will be even tighter. Some missilemen think that the Govern-



Pfc Chester Kase of the 22nd AAA Bn. demonstrates the caliber .50 machine gun to General Ridgway.

GENERAL RIDGWAY VISITS OKINAWA

General Matthew B. Ridgway, accompanied by Major General Robert S. Beightler of the Ryukyus Command and Colonel Joy T. Wrean of the 97th AAA Group, inspected AAA Installations on Okinawa on October 27.

Firing practice of the Group was witnessed by General Ridgway, prior to meeting with General Collins who was touring Army installations in the Far East.

Units of the 97th Group visited were: 65th AAA Gun Battalion (120mm), Lt. Colonel Harry A. Brown, commanding; 22nd AAA AW Battalion (mbl), Lt. Colonel Harold P. Willis, commanding.

ment should shut down the television industry to free electronic men for guided-missile work.

No one thinks that the age of missile warfare will come all at once. It will develop gradually, painfully and expensively, with many costly mistakes. There will never be a golden age of push-button war, with the U.S. getting all the victories and the enemy getting all the grief. The older weapons, including the small arms of the infantry, will still be needed, and must not be neglected. The Russians

undoubtedly have missiles, too. They captured thousands of German V-2 men and put them to work at once.

The missilemen seem to love their roaring, destructive birds. They admire their naked grace and praise the flash-quick cleverness of their electronic brains. But in their more reflective moments, they are likely to quote or paraphrase an aphorism which they attribute to Einstein: "If World War III is fought with atom-armed missiles, then World War IV will be fought with clubs."

"Recently I visited our Antiaircraft Center at Fort Bliss, Texas, and our Guided Missile proving ground at White Sands, New Mexico, and I can assure you that genuine progress is being made. We have under development an antiaircraft rocket which we believe will effectively combat high speed aircraft at altitudes and ranges which lie beyond the capabilities of antiaircraft guns, and an anti-aircraft guided missile, which gives promise of providing the even greater accuracy and lethality we seek."—Gen. J. Lawton Collins.

HONOR ROLL

Original Honor Roll

88th AAA Airborne Bn
Lt. Col. R. B. Barry, Jr.
228th AAA Group
Col. D. W. Beithe, Jr., S. C.
107th AAA AW Bn (M)
Lt. Col. T. H. Pope, Jr., S. C.

Separate Commands

Army AAA Command
Maj. Gen. W. W. Irvine
Third Army Training Center
Brig. Gen. C. H. Armstrong
East AAA Command
Maj. Gen. P. W. Rutledge
Central AAA Command
Col. D. J. Bailey
West AAA Command
Brig. Gen. R. W. Berry

Guided Missile Dept.

AA & GM School
Col. F. M. McGoldrick

Brigades

32nd AAA Brigade
Col. M. W. May, Jr.
34th AAA Brigade
Brig. Gen. R. R. Hendrix
35th AAA Brigade
Brig. Gen. Homer Case
38th AAA Brigade
Col. J. D. Sides
40th AAA Brigade
Brig. Gen. James G. Devine
47th AAA Brigade
Col. G. C. Gibbs
56th AAA Brigade
Brig. Gen. H. F. Meyers
104th AAA Brigade
Brig. Gen. V. P. Coyne, Mass.
105th AAA Brigade
Brig. Gen. A. H. Doud, N. Y.
107th AAA Brigade
Brig. Gen. J. W. Squire, Va.
111th AAA Brigade
Brig. Gen. Chas. G. Sage, N. Mex.
112th AAA Brigade
Brig. Gen. J. W. Cook, Calif.
114th AAA Brigade
Brig. Gen. G. W. Fisher

Groups

1st AAA Training Group
Col. E. W. Heathcote
2nd AAA Group
Col. C. G. Patterson
10th AAA Group
Col. W. H. Hennig
16th AAA Group
Col. F. J. Woods
19th AAA Group
Col. H. P. Gard
65th AAA Group
Col. S. J. Goodman
97th AAA Group
Col. J. T. Wrean
197th AAA Group
Col. A. S. Baker, N. H.
200th AAA Group
Col. C. M. Woodbury, N. Mex.

204th AAA Group
Col. F. C. Grevemberg, La.
205th AAA Group
Maj. N. Cook, Adj., Wash.
207th AAA Group
Col. G. T. Stillman, N. Y.
208th AAA Group
Col. H. S. Ives, Conn.
209th AAA Group
Col. E. J. Welte, N. Y.
211th AAA Group
Col. G. F. Lineham, Jr., Mass.
214th AAA Group
Col. J. G. Johnson, Ga.
216th AAA Group
Col. W. E. Johnson, Minn.
218th AAA Group
Col. V. P. Lupinacci, Pa.
220th AAA Group
Col. R. H. Hopkins, Mass.
224th AAA Group
Col. E. W. Thompson, Va.
226th AAA Group
Col. John D. Sides, Ala.
227th AAA Group
Col. P. L. Wall, Fla.
251st AAA Group
Col. A. M. Lazar, Calif.
302nd AAA Group
Col. John M. Welch, Ohio
313th AAA Group
Col. A. F. Hoehle, Pa.
326th AAA Group
Col. M. D. Meyers, Pa.
374th AAA Group
Col. T. F. Mullaney, Jr., Illinois
515th AAA Group
Col. F. G. Rowell, N. Mex.

Battalions

3rd AAA AW Bn
Lt. Col. J. B. Goettl
3rd AAA Tng. Bn.
Lt. Col. E. E. Twining
4th AAA AW Bn (M)
Lt. Col. R. J. Connelly
9th AAA Gun Bn
Lt. Col. H. D. Johnson
15th AAA AW Bn (SP)
Lt. Col. Jas. M. Moore
21st AAA AW Bn (SP)
Lt. Col. Chas. E. Henry
35th AAA Gun Bn.
Lt. Col. J. E. Burrows
39th AAA AW Bn (M)
Lt. Col. P. J. Lacey, Jr.
46th AAA AW Bn (SP)
Lt. Col. Wm. M. Vann
48th AAA AW Bn.
Lt. Col. O. K. Marshall
50th AAA AW Bn (SP)
Lt. Col. W. L. Larson
60th AAA AW Bn
Lt. Col. R. T. Cassidy
62nd AAA AW Bn (SP)
Lt. Col. C. E. Meadows
63rd AAA Gun Bn
Lt. Col. B. I. Greenberg
64th AAA Gun Bn.
Lt. Col. R. A. Lanpher
65th AAA Gun Bn
Lt. Col. R. F. Moore
68th AAA Gun Bn
Lt. Col. R. C. Cheal
71st AAA Gun Bn
Lt. Col. A. J. Monfrone
75th AAA Gun Bn
Lt. Col. A. A. Koscielniak
78th AAA Gun Bn
Lt. Col. J. B. Parrott
79th AAA Gun Bn
Lt. Col. F. E. Pratt
80th AAA Airborne Bn
Lt. Col. L. W. Linderer
82nd AAA AW Bn
Maj. H. A. Geddis
95th AAA Gun Bn
Lt. Col. L. S. Daugherty
101st AAA Gun Bn
Maj. L. D. Collins, Ga.
102nd AAA Gun Bn
Lt. Col. M. H. Roesser, N. Y.
115th AAA Gun Bn
Lt. Col. W. D. McCain, Miss.
120th AAA Gun Bn
Lt. Col. H. C. Gray, N. Mex.
126th AAA AW Bn
Lt. Col. R. C. Carrera, Mass.
127th AAA AW Bn (SP)
Lt. Col. H. G. White, N. Y.
142nd AAA AW Bn
Lt. Col. C. Beckman, N. Y.
150th AAA Gun Bn
Lt. Col. L. O. Ellis, Jr., N. C.
238th AAA Gun Bn.
Maj. T. P. O'Keefe, Conn.
243rd AAA AW Bn.
Lt. Col. E. E. McMillan, R. I.
245th AAA Gun Bn
Lt. Col. C. M. Brown, N. Y.
250th AAA Gun Bn
Lt. Col. A. J. Twiggs, Ga.
256th AAA AW Bn
Lt. Col. R. W. Hoag, Minn.
260th AAA Gun Bn
Lt. Col. R. H. Stephens, D. C.
337th AAA Gun Bn.
Lt. Col. J. W. Dry, Pa.
340th AAA Gun Bn
Lt. Col. G. V. Selwyn, D. C.
369th AAA Gun Bn.
Lt. Col. C. S. Heming, N. Y.
385th AAA AW Bn
Maj. D. K. Scott, Illinois
398th AAA AW Bn
Lt. Col. L. B. Dean
420th AAA Gun Bn.
Lt. Col. G. S. Green, Wash.
443rd AAA AW Bn (SP)
Lt. Col. J. F. Reagan
489th AAA AW Bn
Capt. J. E. Cornish, Illinois
502nd AAA Gun Bn
Lt. Col. P. G. Brown
507th AAA AW Bn
Lt. Col. S. J. Paciorek
685th AAA Gun Bn
Lt. Col. C. A. Fraser, Mass.
697th AAA AW Bn
Maj. W. C. Thompson, N. Mex.
698th AAA Gun Bn
Lt. Col. F. Monico, Illinois

707th AAA Gun Bn.
Lt. Col. F. Fulton, Jr., Pa.
709th AAA Gun Bn
Lt. Col. L. A. Long, Pa.
710th AAA Gun Bn.
Lt. Col. C. C. Berkeley, Va.
711th AAA Gun Bn
Lt. Col. N. J. Walton, Ala.
712th AAA Gun Bn
Lt. Col. H. H. Taylor, Jr., Fla.
713th AAA Gun Bn
Lt. Col. B. N. Singleton, S. C.
715th AAA Gun Bn
Maj. J. Y. Woodruff, N. Y.
716th AAA Gun Bn
Lt. Col. Joe R. Stewart, N. Mex.
717th AAA Gun Bn
Lt. Col. E. D. Pelzer, N. Mex.
718th AAA Gun Bn
Lt. Col. J. J. Loughran
720th AAA Gun Bn.
Lt. Col. G. A. Duke, Calif.
726th AAA Gun Bn
Lt. Col. John T. Watson, N. Mex.
728th AAA Gun Bn.
Maj. G. C. Moore, Calif.
730th AAA Gun Bn
Lt. Col. C. D. Holliday, Calif.
736th AAA Gun Bn
Lt. Col. F. T. Lynch, Dela.
745th AAA Gun Bn
Lt. Col. Geo. B. Webster, Conn.
747th AAA Gun Bn
Lt. Col. J. F. Kane, Mass.
753rd AAA Gun Bn
Lt. Col. W. H. Nicolson
764th AAA Gun Bn
Lt. Col. Wm. J. Bennett
768th AAA Gun Bn
Lt. Col. T. H. Kuyper, Illinois
772nd AAA Gun Bn
Col. F. S. Grant, Mass.
773rd AAA Gun Bn
Lt. Col. G. F. Slavin
804th AAA AW Bn (M)
Maj. S. N. Caudill, N. Mex.
867th AAA AW Bn
Maj. S. M. Arnold
903rd AAA AW Bn
Lt. Col. J. D. Shearouse

Operations Detachments

102nd AAA Opns. Det.
Capt. G. J. Lahey, N. Y.
115th AAA Opns. Det.
Maj. E. F. DeLeon, Wash.
177th AAA Opns. Det.
Maj. W. F. Hale, Va.
181st AAA Opns. Det.
Maj. R. H. Moser, N. Mex.
186th AAA Opns. Det.
Maj. Wm. S. Wall, Calif.
286th AAA Opns. Det.
Capt. C. W. Carpenter, Dela.
501st AAA Opns. Det.
Maj. E. F. DeLeon
503rd AAA Opns. Det.
Capt. L. Koenitsberg
510th AAA Opns. Det.
Capt. F. R. Kane

JOURNAL HONOR ROLL CRITERIA

- To qualify or to requalify for a listing on the Journal Honor Roll, units must submit the names of subscribers and a roster of officers assigned to the unit on date of application.
- Battalions with 80% or more subscribers among the officers assigned to the unit are eligible for listing, provided that the unit consists of not less than twenty officers.
- Brigades and groups with 90% or more subscribers among the officers assigned to the unit are eligible for listing, provided that the unit consists of not less than seven officers.
- Units will remain on the Honor Roll for one year after qualification or requalification.

Impressions Of Life In The Soviet Union*

Soviet Citizens Are Not Allowed to Visit, to Entertain or to Know Foreigners

Not Just Americans Are Taboo—But ALL Foreigners

By Alan G. Kirk

United States Ambassador to the Soviet Union

AFTER living over two years in Moscow, perhaps the most striking impression of the Soviet Union one carries away is that of its *mass*. This huge land area with its mighty rivers, its wide plains, its mountains, its deserts, its great inland seas and lakes, its many swamps, is so enormous that one easily comprehends that it comprises a vast amount of the land area of the earth—one sixth, in fact. Naturally all foreigners, including the diplomats, are intrigued by its size and want to visit and see it, but unfortunately there are restrictions placed on foreign diplomats which prevent the freedom of movement we Westerners are accustomed to, at home and abroad.

In 1941, after the war began, the Soviet Government issued a decree restricting access by foreigners to large areas. This decree was reaffirmed in September, 1948. In general, the areas thus restricted are: the western frontiers, the Black Sea coast lines, the Baltic Sea coast, Central Asia, Northern Siberia, Eastern Siberia, and many towns on certain rivers and railway lines. Those of us who live in Moscow are restricted to a distance of 50 kilometers and that only on certain roads.

But a curious exception has been made by the Soviet Government for selected visitors. There have been groups of Par-

tisans of Peace, or Trade Union delegations or medical groups, coming from various western countries, such as Great Britain, France, and even the United States, who are allowed to see, in fact are taken to see, many of the places denied accredited diplomatic missions. Among places thus visited are Tashkent and Alma Ata in Central Asia, or a city like Kiev in the Ukraine.

We have been forced to conclude that these special groups given this special treatment consist of people selected for their sympathy with the Communist cause, and whose reactions will be along anticipated lines. These groups go on planned tours; they are hurried from place to place; they are generally pretty exhausted at the end of the day; and, as they are not experienced observers, the comments they make when they return to their own countries should be treated with reserve.

IN another way also the diplomatic personnel are discriminated against; that is, by the exasperating obstructions and delays in trips to authorized areas. They are often told that unfortunately there will be no hotel accommodations, or that there is no space on the train or the plane, and they may arrive at a given destination to find there are no rooms. Tickets for trips in the Soviet Union are generally delivered but a few hours before the time of departure of the train or plane, so that the traveler is left in uncertainty until the last moment as to whether he will make the trip or not.

Placing obstacles in the way of travelers is a highly developed art in the Soviet Union, and this skill in dragging the feet is one which must be weighed in several other connections.

My own travels in the Soviet Union

included authorized trips to places such as Stalingrad, Leningrad, Lake Baikal, Tiflis, and several towns close to Moscow. To me the trip to Lake Baikal was the most interesting although I did have some difficulty in persuading the authorities to let me make this trip. First of all it was asked: Why do you want to go? There are no hotels. The little town is inadequately equipped for visitors, and so on. However, my reply was that the lake was the most interesting fresh water lake in the land-mass of Asia, 300 miles long and the deepest indentation of the earth's crust outside of the sea, has seals, sturgeon, and of course is completely frozen over in winter. Well, an approval finally was given and we left—a party of three plus the four Soviet secret service men who always accompany the American Ambassador even on trips.

LEAVING Moscow at 8 P.M. on a Thursday, we arrived at our destination at 9 A.M. the following Friday week. The train was composed of 13 cars, one a Pullman of 1906 vintage, one a restaurant car, and the engine. It was interesting to note that the train traveled all the way to Novosibirsk with only one engine, which meant the crossing of the Urals was over grades sufficiently low for a single engine to pull the train. We had dinner every night in the restaurant car where the menu included caviar, borsch, shashlik, beef Stroganov, vegetables, compote of fruit; and for beverages we had beer, Russian wine or tea. Most of the distance the track was single with long sidings for passing. This railroad has a 5-foot gauge and the train rode quite comfortably. We saw many track gangs, composed usually of girls plus one man, working to keep the roadbed in repair. They were laying the rails, or the ties,

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On the evening of October 18 was held a memorial dinner for Alfred E. Smith, in the Waldorf-Astoria Hotel, New York. Among those present was Governor Dewey. The principal speaker was The Honorable Alan G. Kirk, United States Ambassador to the Soviet Union. When thanking the Chairman for his warm introduction, he said, "You all understand, certainly, that I am still United States Ambassador to the Soviet Union. Further, as my speech tonight will necessarily be short, it may contain certain categorical statements for which I ask your indulgence, as there is not the time to explain in detail."

and shifting ballast. They seemed quite happy to do so. At all the stations the station clock kept the hour of Moscow even though we were several hours east and Radio Moscow blared out the Party line at each stop, and in the train itself. At each station also there was the office of the Security Police, the MVD. On most station platforms there would be for sale chicken, eggs, fruit, sometimes bread.

In Central Siberia the land is rolling, like our western prairies, and has been brought under rather extensive cultivation. We saw some fields which we estimated to be 5 miles in length and stretching over the horizon. They had obviously been plowed and sown by mechanized agricultural machinery and we passed a number of Machine Tractor Stations.

ON arrival at our destination, the little town of Sludyanka, we were met by the local security representatives who took us to a small house where we were to spend the night. This was the customary Russian log hut, one story high, with three small rooms and kitchen. It had been prepared for our reception. A radio was installed, also a telephone. We were protected by the local militia and at night the wooden shutters were closed, ostensibly because of an impending hurricane. Our hostess was a fair cook and was as hospitable as she could be under the circumstances. Cars were provided for a short trip along the shores of the lake and we were able to hire a dory for a row on the lake.

Our principal guide was a Mr. Smirnov, who was carefully coached to give the most noncommittal of answers to all our simple questions. For example, when we spoke of the lake water being very cold, he said, "Yes, sometimes it was cold but sometimes it was warm." We asked if it were frozen over in winter. He said, "Yes, sometimes it was frozen and sometimes it was not." Was there good fishing? Yes, in some spots, other places, no. Did they have violent storms on the lake? Sometimes they did, sometimes they didn't. Was it a fact that seals existed in the lake? This he was rather vague in answering, not having been briefed as to that particular question. As a matter of fact there are, for at some point in the past, seals swam from the Atlantic Ocean up the Yenisei River, up the Angara, and got into the lake—where they still exist.

The return the following day was by train as far west as Novosibirsk, where we took a plane, flying in the night in the rain, and stopping at Omsk, Sverdlovsk, and Kharkov. The pilot was competent, brought us down on grass runways, and landed us safely at Moscow airport in the early morning.

A TRIP of this kind is very instructive, giving an indication of the size of the country, the wide spacing between towns, the lack of a road-net paralleling the railway, and an atmosphere of hustle, bustle as of frontier towns. There is imagination and driving force at work in this part of Siberia, which is being brought under intensive modern cultivation and with new towns and industrial plants springing up at many places.

Let us ask now, who are these people that inhabit the Soviet Union?

Here I am obliged to state that, except for certain officials of the Ministry of Foreign Affairs and certain Soviet employees of my Embassy, I know no Russians. Soviet citizens are not allowed to visit, to entertain or to know foreigners. It is not just Americans who are taboo—it is *all* foreigners. This may seem extraordinary, but it is a fact. Can you imagine living two years in Rome and knowing no Italians? Or two years in Paris and knowing no Frenchmen? Yet such is the case in the Soviet Union—we Westerners know no Russians.

Therefore, when answering the question, "Who are these people who inhabit the Soviet Union?" my reply has to be based on information other than that derived from personal contact with the people themselves. There are 200 million of them, as we estimate, since no trustworthy figures on population have been issued since 1939; a people of mixed races and tribes with the Slavic, or Great Russian type predominating. Even in the Associated Soviet Socialist Republics it would seem that by translation of population the Slavic strain is now over 50 per cent. As it is the policy of the Communist Party to keep Slavs in control in all these areas, the change in populations has been enormous. For instance, Moscow itself has a population of 5 to 6 million souls, composed of persons most of whom never lived in Moscow before the Revolution. Needless to say, those of the other regime, or as the Russians

call them, "the other people," are gone, and gone forever.

Certain major points of difference in the historical background of these people around Moscow may be of interest. We know that the Great Russians centered around Moscow were subjected to many invasions from the East. There need only be mentioned, in passing, the Golden Horde or the invasions of the Tartars; but in the end Moscow prevailed and the Slavs clung to their land and beat off the invaders. It was Ivan the Terrible who stormed the stronghold of the Tartars at Kazan and, to commemorate this victory, had the Crescent placed under the cross, where it remains to this day.

When Christianity came to the old Russia it came from Byzantium and is therefore that of the Greek Orthodox Church. But the Russians did not participate in the Crusades, nor was there experienced the great Renaissance, in our terms, when art, architecture, literature, and music underwent that tremendous revival which profoundly affected our western civilization. There was no Reformation as we knew it, and liberalism in thought was delayed and sluggish. It is true Catherine the Great was influenced by the writings of Voltaire, and some liberal thought did spread from France prior to the French Revolution; but, when that Revolution occurred, Russia closed her doors to all except the émigré royalists, and the effect the French Revolution had on western Europe was not duplicated in Russia. You will note, therefore, that the historical background of the Russian people varies greatly from our own. We Westerners inherit certain traditions which the Russians do not understand, and things we take for granted in the historical sense mean nothing to them.

NOW the Russia of today, or the Soviet Union, or the Union of Soviet Socialist Republics, is a totalitarian state, based primarily on the theories of Marx, Lenin and Stalin, and governed by the Bolshevik Party, some 6 million strong who rule the remaining 190-odd millions. It is a one-party system with control vested in the Central Committee of the Communist Party—and this is a fact, unpalatable though it may be to us. Furthermore, it is a fact accepted by the masses of the Russian people, too. It is government by coercion and persuasion.

It is a nation governed by a new set of rulers who gained power by force, and the former ruling groups have been eliminated and are gone. There are new people in government, in industry, in agriculture, in the arts. They have made technological advances which we must not overlook, even though it has often been by pirating the inventions of other nations.

This is a young nation with an average age probably between 30 and 35—200 million strong and working. There are not many old people in Russia but there are lots of young. In some ways the present situation in the Soviet Union can be compared to that of the United States in the early 1800s. They too, are a young race, virile and vigorous, with imagination and inspiration. They are governed and controlled by an elite Communist Party which works constantly to maintain the power of the Party. They are likewise an educated people, for schooling is compulsory. There is an urge to learn. They feel that knowledge is power. There is competition for advancement to the higher schools of learning. Literacy is widespread, perhaps reaching even 85 per cent. All want to learn, all want to know, all want to understand. finds little sign of human kindness, com-

IN this competitive atmosphere one passion, courtesies, aiding the weak. It is each one for himself. They are a serious people, their sense of humor is very limited and blunt. One rarely sees smiles on faces of people in the streets.

The Communist Party direction extends everywhere. It is designed to preserve the Communist regime in power. There is a constant stream of propaganda and agitation to "the masses" through the press, through the radio, movies, television. The Government has no Department or Ministry of Public Information, but the Central Committee of the Communist Party has a Department of Propaganda and Agitation which controls all media of mass communication. From *Pravda*, the organ of the Central Committee, to the smallest town newspaper, everything that is printed is prepared and calculated to produce a desired effect on the Russian people. But the spoken word is also employed in face-to-face contact with the masses, when selected workers of the Party, better known as "agitators,"

educate small groups in face-to-face contact by explaining a single idea very carefully and thoroughly—to the Party's advantage. It is a form of personal indoctrination which is most important.

Naturally the régime must protect "the masses" of the people from Western ideas so that thinking may continue along lines of "truth"—as seen by the Politburo. Whereas, in our country we welcome the exchange of ideas with other nations, we read their newspapers and books, we view their plays, we listen to their music, we receive their travelers, in the Soviet Union that is not true, except for some classical works of music, certain classical writings, because nothing like this is allowed to take place.

For current events, only items of foreign origin which are critical of the capitalistic world are allowed to be circulated.

And news of the outer world is always colored and distorted to the detriment of the truth. So most citizens of the Soviet Union live in considerable ignorance of us as we really are. Their picture of us, and especially of the United States, is one of poverty, deprivation, slums, endless toil, low standard of living. This picture is served to them by the Communist Party daily, and to some extent is accepted. Is there any skepticism among the people? Most likely, but concealed.

BUT does the Soviet citizen not long for freedom, for liberty? Is such an urge inherent in man? Is it self-generating? We wrote in our Declaration of Independence: "We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain inalienable Rights, that among these are Life, Liberty and the pursuit of Happiness."

These are pregnant words to us, but I should hesitate to attempt to define the Soviet citizen's reaction to a similar statement in his own language.

So one is forced to ask: Is the concept of liberty, or of freedom, inspired by tradition, or is it instinctive? Is it self-generating? Can Soviet thought parallel, or be in consonance with our own concept? The answer to this would be important.

Similarly, in religious matters you will recall that when the Communist Party seized power it abolished religion; and that every member of the Communist Party is *ipso facto* an atheist. Entering Red Square between the walls of the

Kremlin and those of the Historical Museum one sees on the latter a plaque which reads: "Religion is the opium of the masses." This, on the site of the famous church of the Iberian Virgin, is highly symbolic of the Communist Party's attitude.

Another interesting sidelight—guides in museums or galleries when referring to dates of past events never use our system; that is to say, by A.D. or B.C., but always use the term "our era." Thus, they say "the 5th century of our era," or "the 3rd century before our era," rather than the 5th century A.D., or the 3rd century Before Christ.

Nevertheless, there is some toleration of religious practices and customs. There are regular church services, and the feast days, such as Easter, are days of great solemnity and ceremony. The Orthodox Church remains a force but not a force *against* the State; rather is it tolerated by the Communist Party because it reinforces passivity among the people, and, in fact, supports the State.

HERE arise other great and grave questions. Can the religious instincts of man, if never nourished, be obliterated by the passage of time? Is it possible that, after several generations of repression, this instinct in man will disappear? Can materialism satisfy the human soul? What will be the effect of education on the religious instincts of these people? I myself would rather think that man is inherently and instinctively aware of and recognizes a Higher Power; that broader intellectual capacity will of itself generate doubts concerning the atheistic attitude of the Communist Party; that man's innate humility will bring him to realize there is a Higher Order than pure materialism.

Of course our own immediate concern is not with the masses of the Soviet Union but with its Government; that is to say the Politburo of the Central Committee. We should realize, I feel, that these are men, humans, not supermen nor superhumans. They have made mistakes but those mistakes are concealed from "the masses," from the people.

For this Politburo is responsible neither to any Parliament, nor to any Congress, nor to the People. There are no questions, no investigations, no airing of abuses for all people to see.

We must also recognize that this gov-

ernment has large forces at its disposal. In the military sphere their strength appears formidable, although there is certainly a lack of industrial capacity for its support. Nevertheless, we should remember that in 34 years the Communist Party and the Soviet Government have restored the boundaries of Peter the Great. They have added the satellite states on the West. They have gained the adhesion of China to their doctrine.

We should recall, I suggest, the fate of Europe in the Seventh Century when the Saracens overran the Mediterranean Basin and in 60 years conquered nearly all its shores, plus the Iberian Peninsula. The rapidity with which that avalanche took place, should give us pause.

SO a menace to our peaceful existence does exist, whether by subversive methods or otherwise, and to compose our differences by negotiation is difficult. Under the tenets of the Politburo, *they* are always right.

What then is our duty?

It seems to me we must refresh our moral and physical strength, keep our own ideals bright, and show by our example what real democracy means. We must be calm, cool, and cold-blooded. We must keep our physical strength at a proper level. We must accept the fact that a challenge to our way of life does exist, that it is serious, that it must be met squarely.

To do this, we of the Western World must make the necessary sacrifices, and it may be that our way of life will have to be modified. We cannot negotiate with the Soviets when we are weak. We must have strength, and our rearmament is designed for the purpose of making our voice listened to in negotiations—and for that alone.

But our strength must be actual, in being, not potential. In our dealings with the Soviet Government we must be strong, we must be firm, and we must be consistent.

But most of all we, as Christians, must keep our faith in God and, as free men, be prepared to defend our liberty.

CANAL ZONE TRAINING

By SFC Don Hatt

WITH the increment of several hundred newly inducted troops from Puerto Rico, the 65th AAA Group has launched into a training program that included instruction in artillery as well as English for those whose knowledge of the language was inadequate for purposes of military instruction.

Two training detachments were established on either side of the Canal Zone, staffed with experienced officers and non-coms, to undertake the integration of these new arrivals to the anti-aircraft defenses of Panama.

During a six-month training cycle, the new soldiers learn many things. The education centers at Forts Gulick and Clayton have them for two months when the men are taught basic English. This is followed by a concentrated period of four months when the Trainees study such subjects as basic artillery, drilling, aircraft identification, signal communications, censorship, map reading, individual weapons and equipment, military justice, and anti-aircraft technique.

The technical program includes periods devoted to individual welfare and morale, conducted by local chaplains and responsible officers.

The 903d Antiaircraft Artillery Battalion Training Detachment is operated by



"Ready, HEX-ercise," says the training sergeant.

the following members of the 65th Group: First Lieutenant L. L. Cockerell (recently replaced by First Lieutenant J. R. Emery), First Sergeant Bert Combs, Sergeant First Class Miguel Nieto, Field First Sergeant Elroy Nesbit, Sergeants Sam Jones and Robert Reed, Corporals Juan Maisonet, Jose Diaz, Archie Sanders, Gerald Walton, William Ostradick, Juan Colon Cristobal, Heber Crosby and Donald Roth.

The staff of the 764th Antiaircraft Artillery Battalion Training Detachment also

includes members of 65th Group. Among them are: First Lieutenants Henry A. Hertwig and Robert J. Carroll, Second Lieutenant James R. Thompson, First Sergeant Joseph Wieland, Field First Sergeant Bruno Caballero, Sergeants Benjamin Pierce and Carmelo Porras, Sergeants First Class Vergil Daniels, Russell Mann and Angel Santiago-Montez.

When thoroughly grounded in English, these soldiers from Puerto Rico develop into splendid troops.

ANTI-AIRCRAFT AIRLIFT

By Sgt. William J. Tobin

FOUR C-46 transport planes of the Tactical Air Command, circling down from 5,000 feet, landed at Liberty Field, Camp Stewart, Ga., one sunny day last November, and delivered more than 100 anti-aircraft men to the spacious artillery firing ranges forty miles from Savannah. The men who stepped down from the planes were regarded as among the best 90mm AAA gunners in the country—and it was their job to provide proof in a new training experiment for the Army Anti-aircraft Command.

This flight to the sprawling tent city of Camp Stewart was the first airlift of a 90mm outfit in the nation's history. The men who made it were from Battery C, 736th AAA Gun Battalion, a former Delaware National Guard unit which had trained at Camp Stewart before assuming a tactical mission in the Eastern Army Anti-aircraft Command. They were to spend no more than six days, including travel time, in firing a regular service practice and completing the return to their home station.

It was the mission of this airlift operation to determine the practical problems involved in transporting the personnel of an anti-aircraft gun battery to a distant firing range by airlift, firing service practices, and returning to station promptly. That, generally, was the meat of the matter as conceived by the Army Anti-aircraft Command. Needed to test the plan was a battery now on tactical duty, whose mission actually is affected by the time which must be spent on the firing range each year.

The assignment fell to the 736th, stationed at Fort George G. Meade, Md., under the command of Lt. Col. Frank T. Lynch. He selected as his firing battery one commanded by a veteran artillery officer who has served 12 years—both as an enlisted man and officer—in the same Battery C of the 736th. The battery commander, Capt. Austin C. Chidester, Jr., picked the men to make the flight for his battery. The only equipment the men were to take were uniforms and personal gear—all supplies, guns, equipment and motor transportation were to come from the Third

Army AAA Training Center at Camp Stewart.

Colonel Lynch led a four-man advance detail to Camp Stewart five days before the main body. This liaison group made arrangements for messing and billeting of the battery, in addition to requisitioning necessary ammunition and completing plans for use of the Camp Stewart firing ranges.

The 107 man main body, including Capt. Chidester and two battery officers, loaded onto four buses at Fort Meade on the morning of November 5 and were moved to Bolling Air Force Base, Washington, D. C. There the four C-46 transports awaited them, and a short time later were airborne with the men and baggage aboard. Each man carried his own duffle bag onto the plane on which he rode. Brig. Gen. Homer Case, commanding general of the 35th AAA Brigade, was on hand to see the airlift under way.

A little over three hours later the men were on the ground at Camp Stewart, being welcomed by Maj. Willard Jones of the Camp G3 section, personal representative of Brig. Gen. Claire Armstrong, commanding general of the Third Army AAA Training Center. After a quick change from their Class "A" traveling uniform into work fatigues, the men

moved to the range and began to emplace the equipment which the Training Center had lined up on the firing line. The guns, directors and radar were emplaced and oriented by 4:30 o'clock, less than seven hours after the battery had left its home station.

Seven practice courses were fired the next day. Rain on the third day delayed firing, but three record courses were fired during the afternoon. The remainder of the record courses were fired on Thursday, and the equipment cleaned and march ordered. Thus the prime mission of the airlift was accomplished in four days. On Friday, the last day before the return flight, the battery conducted anti-mechanized range firing. On Saturday morning the men again boarded the C-46 transports at Liberty Field, and were back at Fort Meade in time for lunch and a week-end pass. General Armstrong personally witnessed the take-off.

This first airlift, accomplished with expected speed, none the less brought to light a number of problems which the experiment was expected to reveal. It demonstrated that it is difficult for men to take over equipment of another unit and fire on a par with past standards, without having time to become familiar with the idiosyncrasies of the



Arrival at Camp Stewart. (Left to right): Maj. Willard Jones, Lieut. Col. Frank Lynch, Capt. A. C. Chidester and men of Btry C, 736th AAA Gun Bn.

individual pieces of equipment. The airlift showed that equipment failure, particularly the SCR 584 radar, could hamper the tight firing schedule.

However, Colonel Lynch reported, and the others agreed: "We regard the airlifting of an anti-aircraft battery to a firing range for service practice firing as

a definite step forward in AAA training." The officers and men of Battery C enjoyed the test thoroughly, with a marked increase in morale and esprit.

FORT BLISS ACTIVITIES

IN KEEPING with the "Cost Consciousness" program recently intensified throughout the Army, Fort Bliss units have had the urgency of conserving the U. S. taxpayer's dollar forcefully brought home by a series of price tags on AAA equipment. This was a part of the Service-wide program to eliminate waste and to impress upon all military personnel the importance of conserving supplies and equipment at all levels within the Armed Forces.

GUIDED MISSILES GROUP

Now in its sixth year of operations, the Guided Missiles organization celebrated its first anniversary on October 11. The GM unit has expanded since its activation as a battalion to group size and its field of activity has increased proportionately.

Colonel Ovid T. Forman commands the 1300-man unit whose present mission includes: testing and developing GM artillery, organization and training doctrine, tactics, technique and logistics; to train cadres and replacements for GM units; assist in the conduct of engineering and other tests of guided missiles. In addition to the individual, unit and combined arms training in the employment of missiles, the group also provides trained personnel for radio controlled airplane target detachments.

Units of the group are spread between such widely separated development centers as Fort Bliss and White Sands Proving Ground, New Mexico, to Chino Lake and Point Mugu, California. Small detachments of personnel are frequently sent on temporary duty with manufacturing contractors of guided missiles.

Recent firing was conducted with the Lark and Loon missiles on the Fort Bliss range.

MEETINGS AND VISITORS

Meeting for the first time at Fort Bliss, the Permanent Joint Board on Defense, Canada-United States, con-

ducted a three-day session beginning November 12, that included visits to the Fort Bliss ranges and White Sands to witness firing demonstrations. The international board alternates its meetings between Canada and the United States.

Earlier in November, representatives of the six Army commands, including Puerto Rico, attended a five-day conference on ROTC affairs. PMS&T officers on duty with AAA ROTC units considered training problems relating to ROTC.

Brig. Gen. F. L. Hayden conferred with the visitors on the November 5th opening of the meeting.

General J. Lawton Collins visited the Post on November 26-27 and witnessed firing of AAA weapons at the Dona Ana and Hueco ranges and on December 11, Col. J. F. Steenmetzer, Inspector of Artillery for the Royal Netherlands Army, arrived for a three-day tour of the area.

SCHOOL NOTES

During the fall, classes of the Senior Officers' Guided Missiles Orientation continued with instruction on tactical employment of surface-to-surface and surface-to-air missiles, their power plants and guidance and control systems.

The three-day courses include practical demonstrations at White Sands and AAA firing on the ranges.

Major Generals C. D. Palmer, Inspector of Artillery; A. G. Paxton, commanding the 31st Infantry Division, and T. F. Hickey of the 82nd Airborne Division, were among the ranking members of the class held December 5-8.

On December 10, the second OCS class of 194 students started the 21-week course leading to commissions as AAA officers. Gen. Hayden, with Col. R. H. Krueger, school commander, welcomed the new class.

During the same week, 137 officers graduated from the Associate Battery Officers' Course No. 35. Other classes

completed at the same time were: Officers' Electronic Course No. 13, Radar Maintenance No. 29, Light AA Mechanics' No. 13, and Medium and Heavy AAA Mechanics' No. 14.

In all, 283 graduates received diplomas from the various courses at the AA and GM School.

FORT BLISS ANNIVERSARY

Celebrating its 103rd anniversary, the Post held ceremonies on November 7 at the Replica of Old Fort Bliss which was erected by the city of El Paso in 1948 in connection with the Centennial Celebration commemorating the War Department General Order which established the Post in 1848. Civilian and military visitors were taken on a tour of the exhibits maintained by the school.

DECORATIONS

Two posthumous decorations were presented on December 1 by Major General John T. Lewis, Commanding General, Fort Bliss, to families of men killed in action in Korea.

Mrs. Maria S. Burgess received the Bronze Star with V, in behalf of her husband, Pfc. Earl J. Burgess. Ignacia Perez, father of Pfc. Manuel G. Perez received the Purple Heart in a ceremony at the American Consulate in Juarez, Mexico.

Others to receive decorations included Sfc. Archie G. Shingledecker who was awarded the Bronze Star for his service in Germany in May, 1945.

Bronze Stars were awarded to the following for service in Korea: Captain Gerald F. Buschmeyer, 2nd OLC; 1st Lieut. Jose E. Olivares; Spl. Lowell B. Anderson; WOJG George B. Harrell; M/Sgt. Daniel C. Campbell; Sgt. James L. Cox, 2nd OLC, and Cpl. Elbert A. Lange.

Cpl. James W. Ballard received the first OLC to the Purple Heart. The awards were made by General Hayden

By Maj. B. G. Oberlin

ANTI-AIRCRAFT artillerymen will be interested in a book by Colonel William J. Wuest, *History of Heavy AA Fire Control and Matériel*, recently published by the AA & GM Br, TAS. Collecting and coordinating the material has been a hobby with Colonel Wuest for more than twenty years, and many of the sources have long been out of print. The book traces the development of AA guns and fire control devices from World War I to the end of World War II in 272 pages with 175 illustrations. It is for sale through the Book Department, AA & GM Br, TAS, Fort Bliss, Texas, at \$1.25 per copy.

The next six months of the fiscal year should see a volume of new training literature on antiaircraft artillery subjects including manuals on new matériel, revisions of existing manuals, changes, and new special texts. Some already in preparation are described below.

FIELD MANUALS

FM 44-33, Service of the AA Fire Control System T33, was prepared as a training circular but due to its length will be published in manual form. This manual will include illustrations of this new equipment and many schematic diagrams.

FM 44-69, Service of the 75mm Gun Mount T69 (Skysweeper), was also prepared as a training circular but will be published as a field manual. The matériel is described in detail and well illustrated. This manual, along with the manual on the T33, is already in the hands of the printer.

FM 44-19, Examination for AA Artilleryman, has been printed and is in distribution. This manual approaches the problem of training and selecting personnel to be known as second class, first class, and expert antiaircraft artilleryman by outlining the subjects to be covered but leaving the actual preparation of questions to an examining board. The Department of the Army thus avoids a series of stock questions which put a premium on a soldier's memory, but may not bring out his thorough understand-

Army Extension Course Program

Having learned so well that our wars are largely fought by a citizen army and also that the effectiveness of this citizen army depends so much upon the training and efficiency of its officers, the Army has now in full swing its Army Extension Course Program. This program takes the school to the officer, offering in each branch a specific series of practical courses for each grade from second lieutenant (20 series) to lieutenant colonel (60 series).

Enlisted men also may enroll in the ten series to assist them in qualifying for commissions. Warrant officers, too, can take this series as well as other courses applicable to their work.

Trojan work has been accomplished at Fort Sill and Fort Bliss in the past few years to bring the Artillery and Antiaircraft courses up to date to parallel the current resident instruction at both schools. As a result of this improvement the enrollments have increased at a tremendous rate. While the antiaircraft courses are prepared by the AA and GM School, the extension course programs for all artillery officers is administered by the Artillery School at Fort Sill.

As an example of the scope, the Antiaircraft second lieutenant gets in the 20 series such courses as Map and Aerial Photograph Reading, Military Law, Motor Vehicle Operation and Maintenance, Communications, and AAA

ing of the matériel, its function, and its operation.

FM 44-57, Multiple Machine Gun Mounts, is in the hands of the printer. This manual covers the multiple caliber .50 machine-gun mount M45 on the motor carriage M16 and the mount M45C on trailer M20. This combination is known as the M55. The manual illustrates the matériel and describes service of the piece. Distribution is expected by February 1952.

FM 44-1, Antiaircraft Artillery Employment has been approved and should be printed and in distribution by early summer.

FM 44-60, Service of the 40mm Gun and Associated Fire Control Equipment, will be rewritten to permit inclusion of matériel on the improved 40mm gun but should be printed by late summer, 1952.

Gunnery. The captain gets in the 40 series advanced courses which also include tactics and staff functions.

The courses are designed primarily for the civilian component officer on inactive duty. However, many officers and men on active duty are taking the courses on their own volition.

Completion of these courses affects assignment and promotion and also counts towards retirement credits. However, perhaps the greatest reward to the individual comes from the pleasure in pursuing the course and the satisfaction he derives in knowing that he is better qualified practically to perform his duties.

For enrollment the procedure is prescribed in AR 350-300 and SR 350-300-1. The application is submitted through channels to the Artillery School, Fort Sill, Oklahoma. When approved TAS sends directly to the student texts, instructions and the first lesson. Thereafter the contact is direct. Completed lessons are graded and returned promptly, and so long as the student keeps the pace he can progress through the entire series in a logical sequence without further red tape.

For further information see your unit instructor or post school officer or direct inquiry to the Director, Department of Non-Resident Instruction, TAS, Fort Sill, Oklahoma.

FM 44-38, Service of AA Directors M9, M9A1, M9A2, and M10, is in final stages of preparation at AA & GM Br, TAS. This large, well-illustrated manual will explain in detail the tests and adjustments for these directors. It will not be ready for distribution before fall, 1952.

SPECIAL TEXTS

ST 44-152, Defense of AAA against Enemy Ground Attack, is being printed and will be distributed this spring. It will include the latest techniques in perimeter defense developed in Korea.

ST 44-153, Service of AA Fire Control System T33, is also stocked at the Book Department and may be bought for 75 cents a copy. Until publication of FM 44-33, this text is used in instruction at AA & GM Br, TAS. It has 220 pages and 97 illustrations of this new matériel.

TM 44-225, Orientation for Artillery, is in the hands of the printer and will be in distribution by March. It contains up-to-date information on the theory and use of grid reference systems.

TM 20-300, Use of Radio-Controlled Airplane Targets, and TM 44-234, AAA Service Practice, are both in final stages of preparation. Distribution is expected by summer 1952.

TRAINING CIRCULARS

TC 28, The Antiaircraft Operations Center and Antiaircraft Artillery Information Service, has been printed and is in distribution. This circular sets forth the principles of organization and operation and the functions of the AAOC and AAIS. The relationship between these and other agencies is discussed, and a number of terms are defined.

TRAINING FILMS

Training films on Light AAA with the Infantry and Armored Division and Light AAA in Close Support of the Infantry have been finished at Fort Hood, Texas. Final preparation is under way at Army Signal Corps Photographic Center, and distribution is expected this spring.

Scenarios for training films on AAOC, Skysweeper, and AAFCS T33 are in preparation.

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38th AAA BRIGADE

By Major Robert D. Rutherford, Brigade S2



THE 38th AAA Brigade was reactivated at Fort Bliss on 14 March 1951 with General Frederick L. Hayden commanding. Cadre and filler training was initiated 11 June 1951 and the unit entered Basic Unit Training phase of ATP on 25 June 1951. All enlisted men and most of the officer positions were filled from sources at Fort Bliss.

General Hayden left the Brigade 30 July to become the Assistant Commandant, AAA and G/M Branch, The Artillery School. On the same date the Brigade Headquarters became operational, taking on the Administrative and Training requirements of three groups, eleven battalions, five AAAODs, an Army Band, an RCAT, a Transportation Truck Company and several SRMUs. At this time Colonel John D. Sides, who brought the 226th AAA Group to active Federal Service at Fort Bliss from the Alabama National Guard became Brigade Commander. The Headquarters and Headquarters Battery entered Advanced Unit Training on 27 August 1951.

Initially the brigade was busily engaged in three major endeavors: supervision and support for all attached troop units, completion of its own ATP and the establishment of the Command, to include formulation and publication of Brigade SOPs and other directives on training.

In September the brigade took its first annual Fourth Army 100% Ordnance inspection. Over-all results were excellent. Indicative of the emphasis placed on maintenance and quality of performance is reflected in that Army inspected a total

of 521 wheeled and tracked vehicles in the brigade, with a score well above the standard requirements.

The Brigade participated in its Army Training Test from 11 through 19th October 1951. Two Groups, two AAAODs, Five Gun Battalions, 3 SRMUs, a Signal Construction Company, an MP Escort Guard Company and a Transportation Truck Company made up the list of participating units. In addition to these "live" units 2 Groups and 5 AW Bns were played on Paper. Named "Operation Full House" the exercise was both comprehensive and successful. Numerical score attained by the Brigade was 97.4%. Umpire and Control Group were provided by AAA and G/M Branch, The Artillery School.

In the 20 weeks of its operational existence the 38th Brigade has spent 9 weeks in the field in close contact with attached organizations in advanced fire and field exercises. Physical conditioning, vigorous training, and emphasis on responsibilities of command and leadership have maintained morale and *esprit* at high levels.

At this time the three Groups, seven Battalions, and miscellaneous units attached to the 38th have all completed the ATP and are engaged in Post Cycle Training.

Key members of the Brigade staff include: Col. Kenneth R. Kenerick, Exec.; Lt. Col. A. M. Ahrens, S3; Capt. H. N. Cline, S1; Major Robert D. Rutherford, S2; Major Eugene V. Joyce, S4; Major John J. Maykovich, Radar; Capt. Wilfred J. Lescarbeau, communications; and Capt. Marvin L. Sinderman, B.C.

COMBAT PAY

Statement by General J. Lawton Collins, before the Senate Armed Services Committee, Thursday, April 5, 1951

Mr. Chairman and Members of the Committee:

There is a time-honored principle of our democracy that those who in their work brave extra hazards shall receive extra recompense.

This principle has in the past been carried over into the military field by the Congress when it enacted legislation to provide the present scales of pay for servicemen. Consequently, Army paratroopers, Navy submariners, Air Force, Navy and Marine flying personnel, and others, are currently receiving extra compensation for those periods of their service during which they incur extra hazards.

THE proposal of the Department of Defense that you are considering today would merely extend this principle—according to already established rates for hazardous duty—to the American fighting men who are today incurring very real hazards in Korea. It would not, therefore, inject into our pay system a new principle, but would simply remove an inequity that has existed in that pay system and which has been made more poignant by the fact that others in our Armed Forces are today receiving extra pay for duties which surely are no more hazardous than those of the front-line fighting man.

Although this proposed legislation makes no distinctions as to Service or branch among the Armed Forces who may be eligible for its special provisions, and certainly there are marines, sailors, and airmen, as well as soldiers, incurring hazards in Korea, still the great majority of Americans actually in the front lines in Korea are soldiers of the Army. Because of this fact, and because I, as Chief of Staff of the Army, am more familiar with their particular problems, I would like to discuss the question of combat pay as it would affect the Army.

It is my earnest opinion that the case

for extending hazardous duty pay to the combat soldier in Korea is logical and compelling. For not only would it remove an inequity that has existed in our pay system for the servicemen in Korea, but it would also have a very salutary effect upon the morale—and consequently upon the combat effectiveness—of the fighting men in Korea.

THE provision of combat duty pay for the front-line soldier would afford him some measure of recognition for his vital role in the defense of our Nation. Such recognition has been long overdue.

It seems that we must learn and relearn with every war that the ultimate decision in war—and the greatest amount of risk—rests upon the foot soldier, who must meet the enemy face to face on the ground and contest him for that ground.

I cannot emphasize too strongly the need for recognition of the role of the ground soldier. His is an extremely hazardous business. In World War II, the Army sustained almost 75 per cent of the total battle casualties of the U. S. Armed Forces and in Korea, the Army is bearing 83 per cent of the total U. S. casualties. Added to this is the fact that our front-line combat soldiers in Korea have been living and fighting under almost incredibly severe conditions of weather, filth, and emotional strain. In addition to the highest casualty rate, they must endure sleeping out-of-doors in mud, in cold, often without warm food, dry clothing, or bathing facilities.

There is no measure that could adequately compensate in terms of money for the hardships that our ground soldiers are enduring in Korea, and that is why I place such high value upon the importance of the recognition that special pay would give these brave men. And although I do not wish to minimize the importance of the pay that they would receive, I believe that the recognition of their sacrifice which your ac-

tion would evidence would be more important than the pay itself to them and to their loved ones.

It would be fundamental in the establishment of combat duty pay for combat personnel that it should go to those who actually incur that hazard. As far as the Army is concerned, only approximately 60 per cent of its personnel in Korea would receive this pay; the bulk of it would go to front-line units which are composed of infantry and the supporting elements such as artillery, engineer, medical and others. I believe this is as it should be, and assure the members of the Committee that in the Army this principle would be strictly adhered to.

DURING the various trips I have made to Korea, I have talked to our soldiers there of all grades. One of their greatest preoccupations is the thought that the people back home do not realize and do not care what they are undergoing. The passage of this bill would show them that we do know that they are making sacrifices, that we do care, and do want to give concrete evidence of our recognition.

I am very proud of what the American soldier has done, and is doing, in Korea. They have done a marvelous job under the most adverse conditions imaginable.

I believe that hazardous duty pay for the combat man in Korea should be provided simply in terms of equity, in terms of consonance with established civilian and military practice, and to give due recognition to the men who in every war that this nation has fought have borne the greatest burden of hazard—the ground combat soldiers.

I therefore recommend your urgent and favorable consideration of the Department of Defense proposal to provide additional compensation for members of the Armed Forces during periods of actual combat duty in Korea.

The Invisible Steel Core

By A. T. Lawson

IF you take a look at a cartridge of fixed ammunition for machine guns you won't see the Armor Piercing steel core enclosed in its brass jacket which has been fitted into the case or shell. You may have fired many thousands of rounds of this ammunition without giving that little piece of steel more than a passing thought. Yet, on the core, more than any other part of the cartridge, depends whether or not your fire is accurate and effective. No other part of fixed ammunition is given as much expert attention for proper balance as is the core.

There are more than twenty operations, tests and inspections before the core is housed in its brass jacket. These tests are necessary to make sure the bullet will go where your gun is aimed. If the core was just cut off the steel rod as it comes from the steel mills and then tapered and put into the shell it would be unfit for the rapid fire guns of today, and it wouldn't be tough enough to be named *Armor Piercing*.

Let's follow the caliber .50 core through the plant and see how it is made ready for accurate firing. The caliber .50 core is about two inches long (caliber .30 is about one inch long). It has a cylindrical body with an ogive (pronounced "ojiv") head. The part that fits in the mouth of the cartridge case is called "boattail." This boattail shape gives the bullet a streamlined effect in its flight and increases accuracy over the old time bullets of several years ago.

In the receiving room we find bundles of rods or bars made from the best grade of steel. There are about fifteen rods to the bundle of the caliber .50 size.

Mr. A. T. Lawson, an ex-service artilleryman, is now a management engineer with the St. Louis Ordnance Plant.

They are twelve feet long. Bundles are stacked near the screw machines where oil is poured over them to prevent rust.

These bars, or rods, are trucked to the machines as needed. Six bars are placed in a twelve-foot spindle attached to the machine for automatic operation. There are six separate movements completing four distinct operations. These four operations are (1) indexing; (2) forming; (3) shaving; (4) cutting off.

Each operation is done under a continuous flow of oil which is sprayed from the top of the spindle. The oil runs down to the bottom and is pumped again to the sprayer.

As the indexing tool finishes its job the spindle turns automatically and the indexed bar stops under the forming tool, then to the shaving tool and last to the cut-off tool. The entire cycle is completed in four seconds, which means that fifteen cores are shaped and cut off every minute from a machine.

One man attends to a battery of several machines. If one machine begins to produce visible rejects it is because that machine is out of adjustment. The machine is stopped and the man taking care of it corrects the adjustment immediately.

After the cores are cut off they are carried to a near-by computing scale having a ratio of 50 to 1, to be counted.

From here on out until the core is finished, the men handling them are carefully trained to use extra precaution to make sure every operation is correctly executed. They are constantly reminded by pressure of training and inspections that machine guns must be fed with perfectly balanced bullets if they are to have the effect intended for them.

The next step, the bullets are placed in a spiral type washing machine in a solution mostly of hot water, after which

they are dried with a blast of hot air. Now they are heat treated in a gas heated spiral type furnace where a constant heat of more than 1,500 degrees F. is maintained. If there are any impurities in the metal the core couldn't stand up under the sudden shock of impact against steel armor and still have enough toughness to penetrate. This heat either corrects any small blemish or makes the rejects more prominent.

Now they are dropped automatically into an oil quench. This quench aids in giving the core proper temper and prepares them to resist rust.

From the oil quench they are placed in a spin type cleaner where all oil is spun from the outside surface. Each operation is done with several hundred cores, or a batch called drums.

The drums are handled by electric hoist. A small fraction of them are taken from the drum and checked by machine to test their toughness. This test check must be C-62 to C-65 which is comparable to the hardness of a drill used in cutting steel. If they are not perfect they are thrown out as rejects.

They are now placed in another furnace for reheating to draw them, thus giving them more toughness. From here they are moved to a centerless grinder and ground to a set dimension. During this grinding process the cores are kept cool by a continuous spray of oil and water mixed with a cleaning powder made for that purpose. After this operation they are again oiled to prevent rust.

Now they are sent to tables for a 100 per cent visual inspection. Those with the slightest defect are thrown out. After this inspection they are again machine checked for toughness. Now the final check for size and proper balance is given them, after which they are ready for the brass jacket.



78th AAA Gun Battalion In Air Defense

AFTER participation in the rugged combat as division and corps artillery last year all over Korea, the 78th AAA Gun Battalion is now deployed in air defense. It provides antiaircraft protection for a front and other important installations in support of the Eighth Army and Air Force and Naval facilities.

All of the batteries have organized strong positions. Some are dug in with a rather familiar pattern; others have found it necessary to build up the positions.

While the enemy air activity over its area has been entirely negligible, and spasmodic at that, the battalion has had thirteen firing engagements with enemy aircraft and claims two probable kills.

Lt. Col. John B. Parrott assumed command of the Battalion in August, 1951, relieving Lt. Col. Thomas W. Ackert, who was transferred to the 10th AAA Group.

Battery Able, commanded by Captain Michael J. Malone, has a particularly well camouflaged position. Equipment has been dug in and buildings painted to blend with the surrounding terrain.

Battery Baker, Captain David W. Meyer, commanding, recently completed experiments using a diesel generator as power supply for the firing element of the battery. Captain Meyer and M.Sgt. Robert E. Nichols, Range Platoon Sergeant, state that the diesel generator is far superior to the gasoline driven generator presently furnished gun battalions.

1st Lt. Glennis A. Amburgey assumed command of Charlie Battery in August, 1951, relieving Captain Alvin Ash, who returned to the ZI on rotation. Due to the sea level location of Charlie Battery it was necessary for the battery to build up emplacements rather than dig in. Almost 200,000 sand bags were used in the operation.



GOR 78th AAA Gun Bn (90mm). Plotters seated and standing at operations table: L. to R.: Pfc Fisher, Pfc Petcovic, Sfc Jensen. At the phones: L. to R.: Capt. Yamaki, Capt. Cachiotti, M Sgt Nagy, M Sgt Miller (now WOJG), Maj. Harris. Standing at rear: Lt. Col. Parrott.

Dog Battery, commanded by Arthur C. Brooks, Jr., has excellent installations, to include an outstanding command post. It is underground and has a fire direction center for field artillery set up in addition to the normal AA command post set up.

The battalion, while remaining in a state of combat readiness to carry out its assigned mission, has been undergoing extensive training, 90mm AAA gun firing, automatic weapons firing, small arms firing, field artillery practice firing and of course the necessary basic subjects.

M.Sgt. Lincoln Hayes was recalled to active duty in the grade of Captain, and the following noncommissioned officers have received appointments as Warrant Officers Junior Grade: M.Sgt. Raymond A. Gard; M.Sgt. Harry D. Truax; M.Sgt. Elmer D. Weppner; M.Sgt. Harmon G. Sprinkle; M.Sgt. Arthur J. Miller; M. Sgt. William Ettingoff; M.Sgt. Freddie O. Sconce; Sfc. Angus M. Bush; Sfc. James I. Blair; M.Sgt. Daniel D. Elliott; M.Sgt. Walter T. Lideen and M.Sgt. James N. Brookfield.

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ECONOMY

From an editorial, *Cost Unconscious!*, in the January-February, 1952 issue of *Ordnance*, we quote:

"All the defense efforts of the free world, whatever immediate purpose they serve, are focused upon one dominant objective—the prevention of war without the surrender of the liberties that are dearer to free men than their lives or any material thing they possess.

These efforts are directed toward creating and maintaining so much defensive strength—moral, military, and economic—that the aggressor must be persuaded of the hopelessness of his scheme of world conquest and the certainty of his own eventual destruction if he attempts to win by force what he cannot otherwise obtain. No patriotic and loyal American can have any quarrel with these noble objectives of freedom and peace.

It can also be said with equal certitude that very few people have any doubt about the design of Soviet Russia. It may be recalled that within the last eleven years Soviet Russia has been increasing its tributary territory at the astounding rate of forty-four square miles an hour. If we should permit the strength of the other nations of the free world to continue to be added to the strength of the Communists, then surely our own freedom would ultimately be destroyed. We therefore find ourselves in what ought to be a genuine partnership with the other free nations for the security of all.

The underlying philosophy of our national-preparedness program makes considerable sense. But we do take very serious objection to the extravagant means that are currently being employed to strengthen the ramparts of free institutions everywhere.

We have been, and are continuing to be extraordinarily wasteful and prodigal in practically every phase and aspect of the national-defense program."

* * * * *

"The only faltering ray of sunshine on the pres-

ent spendthrift scene is that a few people are slowly becoming aware of the fact that we cannot achieve world security at the price of American insolvency."

In initiating the Army economy program Secretary of the Army Frank Pace, Jr., put the matter in a nutshell:

"Every effort must be made by all concerned to obtain the ultimate value from our appropriated dollar."

It is refreshing and reassuring to note that Secretary Pace has initiated the economy program in a far-reaching manner. The word has reached the troops. The captains, lieutenants and sergeants are stressing the care of government property to assure maintenance and to prevent loss and waste. They are also counting noses to assure the maximum number in combat training and the minimum number on overhead and housekeeping duties.

We trust that the word is also reaching the overhead installations and the higher staffs with equal effectiveness.

The purpose is clear and worthy of our determined effort: to build, equip, and maintain more combat strength with the funds and manpower available. More combat strength means more combat battalions and more combat supporting units. Manpower economy in all other activities offers one key to the solution.

Much of the secondary activity is essential, but in all of it there is the eternal tendency toward empire building and the elaboration of fringe programs. One great handicap to manpower economy is the oversized staff with its tendency to hedge, restrict, hamper and tax the subordinate commander.

It is a task which the Army must do for itself. We cannot rely on management engineers and efficiency experts to do the job for us. It is a command responsibility. And it is frequently necessary to wield the axe to achieve results.

One swallow does not make a summer. One drive will not finish the problem. This we have with us always.



BOOK REVIEWS

RED CHINA'S FIGHTING HORDES. By Lieut. Colonel Robert B. Rigg. Military Service Publishing Company. 378 Pages. \$3.75.

The rapid rise from the ragged Communist guerrilla army that existed in 1944 to a relatively well-equipped and formidable ground army currently engaged in Korea and presently a serious threat to Indo-China, offers a fascinating study in modern military achievement.

Colonel Rigg served as assistant military attaché in China in 1945-48 and had a splendid opportunity to observe at firsthand the action of the Chinese Nationalist Forces against the victorious Communists. He outlines in all clarity the ruthless and relentless methods used to build this impressive fighting force in a nation that has long been regarded as among the World's most backward.

The initial chapters of the book describe the PLA (People's Liberation Army) high command. The Red leaders, their background and experience in the long civil war in China and the war against the Japanese invader give a comprehensive picture of their individual make-up and methods of operation.

Training, equipment, size and character of the various army commands of the PLA are dealt with extensively and the author's description of the Chinese Red soldier is a most absorbing account of this individual segment of mass cannon fodder that is so ruthlessly expended by the Russian-trained and indoctrinated leaders.

General Mao Tse-tung, the Red dictator, is said not to fear Atom-bombs and his whole philosophy of war as outlined by Colonel Rigg, should make important reading to all military personnel who may face the Chinese Communists in Korea or elsewhere in the war against Soviet terror.

The book is well and interestingly written and will contribute to the knowledge of those whose business it should be to "Know Your Enemy." —RWO.

WHAT OF THE NIGHT. By Ernest L. Klein. Farrar, Straus and Young. New York. 268 Pages; \$3.00.

Dr. Klein planned first to write this book as a diary of his tour of the World in 1946 and experiences as a special assistant to Ambassador Edwin W. Pauley on the Reparations Commission. As actually published it is primarily a study of the present world conflict, enlivened with an interesting narrative of his experiences.

He moves to the crux of the matter on page 1: "The United States and Russia, the only surviving titans, confront one another with hostile eyes. Between themselves they divide the world."

Born in Chicago, but reared and educated in Germany, Austria, Switzerland and France, Dr. Klein has an insight into European and Asiatic history which many of us lack. With this insight he writes two outstanding chapters, *The Conflict of Empire* and *The Conflict of Ideologies*. Here he develops the conflict between the East and the West and that our present conflict is not just one against communism but rather against Stalinism, a combination of communism, oriental despotism, Pan-Slavic nationalism, and Russian imperialism.

In his study of the problems of Germany the author evinces strong feeling. The Nazis are Germans and the Germans are Nazis, and he bitterly opposes any idea of permitting the development of any war potential there ever. On the contrary, his treatment of Russia is entirely dispassionate. While this contributes to the readability of the study, we find ourselves in disagreement with many of the author's conclusions.

Dr. Klein's study is not one in support of our present international policies. His conclusion that we should "put our own house in more satisfactory and more durable order before we attempt, Atlas-like, to shoulder the world" will strike a big response. And likewise his suggestion that we need to cultivate "true allies, not merely mercenaries."

However, the author's main theme is

indicated in the following quotation:

"If the war, with all of its disastrous consequences, is to be avoided, both nations must cease the further development of that unreasoning mutual hatred, begotten of fear, which has sprung up since the war; they must sacrifice a measure of their assumed self-righteousness, and must learn to talk calmly and in an open-minded manner about topics on which they are in disagreement, and they must cease their perpetual vilifications; they must take the determination of future policies out of the hands of the military; and they must learn to practice some of the democracy they both preach."

After all, Henry Wallace and others have entertained like hopes in the past. But can we now find much further basis for wishful thinking?

Dr. Klein's report of what the Russians did with industrial plants in Manchuria and Korea is very illuminating.

Many of our readers will find particular interest in that Dr. Klein is a brother of Brig. Gen. Julius Klein, former commander of the 109th AAA Brigade in the Illinois National Guard. —CSH.

AMERICAN CAMPAIGNS. By Matthew Forney Steele. Combat Forces Press, Washington, D. C., 1951. 2 Volumes.

A new edition of Steele's Campaigns is a recognition of the fact that it still stands among the best contributions in the field of military history made by an American. First published in 1909 as a War Department document, it quickly became a standard textbook in our military schools and has remained one ever since. The sections dealing with military operations in the Civil War campaigns have established it as a classic in scholarly historical research and writing.

As in earlier editions, this one appears in two volumes, the first containing the narrative, the second maps. It is in the latter volume that decided changes have been made. Thanks to larger sized pages and the cooperation of the Department of Military Art and Engineering at the United States Military Academy headed

by Col. Thomas Stamps which supplied accurate and detailed maps based on fuller information than that which originally was available to the author, the map volume is a distinct improvement over those in former editions. An innovation of questionable value however is the double column spread in the text.

Since the author first prepared his famous lectures for publication nearly a half century ago, much new evidence has been found by Freeman, Williams and others which has shed additional light on controversial points and forced scholars to differ with some of Steele's conclusions. The work as a whole however has borne up remarkably well, a tribute to the thorough and objective manner in which it was originally prepared. Its weakness is that of most writing on military matters in the past. The emphasis is entirely on combat. Administrative, organizational, and logistical problems of war are almost completely ignored. While battle must rightly be viewed as "the pay-off," all factors bearing on the outcome must be considered and evaluated by the historian. Victory, especially since the industrial revolution, has gone almost without exception to the belligerent who has brought the greater strength in men and sinews of war to the battlefield.

The value of Steele's contribution to historical writing is not to be found so much in doctrines he expounds or tactics he describes as in his objective approach and his recognition of basic principles, many of which are as old as man's organized efforts to protect himself or do violence to a neighboring group. In these times of great scientific advance and rapid economic and social change, it is easy to become confused and lose sight of the things that have permanence. For the military man interested in advancing himself professionally, Steele's classic should serve as a stabilizing influence.

COL. L. J. MEYER

BRINGING UP THE BRASS: My 55 Years at West Point. By Sergeant Marty Maher (with Nardi Reeder Champion). David McKay Co. 237 Pages; \$3.00.

WHAT FATHER FORBADE. By Virginia Conner. Dorrance & Co. 219 Pages; \$3.00.

When two authors, both of whom have spent most of their lives on army posts and are close to seventy-five years

old (young would be a more appropriate word), can turn out two as amusing books as these, it must be a good Army, after all. The fact that one is a retired enlisted man, and the other is the widow of Maj. Gen. Fox Conner, may appear to make the matter more remarkable, but anyone who has known the Army at all well in the last fifty years will know that it would be hard to decide whether Marty Maher or Mrs. Conner had more friends among the "brass."

General Eisenhower is a case in point. From 1921 on, he was closely associated with General Conner, serving for several years on his staff. For Sergeant Maher he breaks "a long-standing and inflexible policy" by writing a foreword for his book. He records that "Marty first became my particular friend in 1912," and says that his foreword is "a testament of the admiration and affection one soldier feels for an old friend, associate and helper."

MAJ. GEN. H. W. BLAKELEY,
USA (Ret.) Armed Force.

DANGER SPOT OF EUROPE. By Alan Houghton Broderick. Philosophical Library. 192 Pages; \$3.75.

West Germany, most exposed region in Western Europe, is the tinderbox which could set off World War III if the Soviet rulers should so decide.

Mr. Broderick has paid this country another visit to revive memories for himself and to find how they are living now. What they think of the Americans, British, French, Russians. He loves the scenery, the vineyards, the wine and the people of the Rhine valleys. And he understands something of their industrial problems, too.

An unconventional, stimulating, readable travel book, written from the British viewpoint.

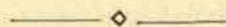
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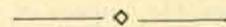
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News and Comment

General Lemnitzer In Korea

Major General Lyman L. Lemnitzer, formerly commander of the 11th Airborne Division at Fort Campbell, Kentucky, arrived in Tokyo early in December by air to take command of the 7th Infantry Division in Korea.

During the past four years as Vice President of the Coast Artillery Association and the Antiaircraft Association, General Lemnitzer has been active in promoting and directing the publication of this JOURNAL.

2nd AAA Group

The 2nd AAA Group at Camp Edwards completed in December Exercise "Helpful," carried out in conjunction with the 151st AC and W Group, U.S.A.F. Colonel Charles G. Patterson, Group Commander, and Colonel Connelly of the Air Force arranged this interesting exercise and staged it in preparation for Exercise "Snowfall," which begins in January. We plan to publish an article in the March-April JOURNAL outlining the highlights of the exercise.

Former AAA Officers in Civil Defense

Major General John L. Homer, Chicago, Illinois; Brig. General William Hesketh, Bridgeport, Connecticut; and Colonel Donald L. Dutton, Newark, Delaware, were prominent in the National Conference of State Directors of Civil Defense held in Washington, January 8th to 11th. They were received by the President at the White House at noon on January the 11th.

Colonel Foote Retires

Colonel William Cooper Foote retires for age in Washington, D. C., on January the 31st, having completed almost 43 years of service. Colonel Foote's last assignment was in the office of the Secretary of the Army where he has served for the past two years as President of the Army Discharge Review Board. Colonel and Mrs. Foote will reside in their Washington home at 3408 Lowell Street, N.W.

AAA Display Draws Thousands

On November 11, 1951, Battery D, 41st AAA Gun Battalion (90mm) furnished a detachment of three officers and 101 enlisted men to demonstrate antiaircraft guns, radar and fire control equipment in Middletown, N. Y.

Major General Paul W. Rutledge, Commanding General, Eastern Army AA Command, arranged for the display which attracted wide interest among the civilian population.

Similar displays of equipment were given by the unit at Stewart AF Base and West Point, N. Y. First Lieutenant Lloyd E. Webb is battery commander.

The 41st is commanded by Lt. Colonel Carl F. Chirico; it is a part of the 16th AAA Group, Fort Hancock, under Colonel Fred J. Woods.

Col. McGarraugh Returns

Colonel Riley E. McGarraugh, formerly the Executive of the AAA Section FEC in Tokyo, returned to the States in January for duty in Washington, D. C. During the past year as the Far East representative of the JOURNAL, Colonel McGarraugh has rendered invaluable service in promoting and submitting articles and photographs on the action in Korea.

Colonel Aloysius J. Lepping has replaced Colonel McGarraugh as Major Gen. Marquat's Executive and as our representative.

Gen. McConnell To FECom.

Brig. Gen. Frank C. McConnell, formerly Commanding General, Camp Gordon, Georgia, has recently been transferred to FEC. His new assignment in FEC has not been announced.

National Guard Raises Enlistment Age For AAA Units

Major General Raymond H. Fleming, Chief of the National Guard Bureau, has announced that qualified individuals through the age 17 to 55 will be accepted for re-enlistment in National Guard nondivisional AAA units if they have at least one year of previous honorable service in the Armed Forces of the United States.

The upper age limit for original enlistment in National Guard divisions remains at 35.

Need More Indians!

TO THE EDITOR:

One of the problems encountered in modern line units is the development of leadership in junior noncommissioned officers. We hear comments about the lack of it. Let us examine to see if there are reasons for this prevalent problem other than the too common phrase, "lack of leadership."

In the reduced strength of a 120mm AAA gun battery, TO&E 44-117, there are three officers, one warrant officer and 108 enlisted men. In the enlisted strength there are 3 E-7, 9 E-6, 22 E-5 and 30 E-4, a total of 64 NCO's, leaving 40 EM below the NCO grade. Could it be these junior noncommissioned officers are lacking in leadership simply because they do not have the opportunity to practice those qualities that make leaders? Are the proportions correct?

We realize of course that the battery operates and maintains expensive and complicated equipment in its guns, radar, director, power plants and electronic equipment. And that requires personnel with high degree skills. However, I am still old-fashioned and it seems to me the old concept of a private first class plus a specialist rating was good.

There is also another matter. Constantly in our organization and operations it is pertinent to give the NCO a definite job and pin the responsibility on him. Take the I and E NCO. His importance is rightly stressed, so let's add on school applications, all education activities, keeping required charts up-to-date and make it a full duty assignment. He would certainly have leadership opportunities galore in such a setup.

Another question also arises, are too rigid MOS boundaries a barrier to leadership development? In each MOS I would designate a group of related schools to be flexible but consistent in constructing such a group. For instance, a Mechanic, 4014, wants to further his schooling. You decide to send him to Automotive Fuel and Electrical System Repair which trains him for MOS 3912. This MOS is unauthorized, but is consistent with the automotive repair and maintenance field and also with bat-

tery requirements for long field service.

If such schooling could be provided, it would give personnel an incentive to improve their skills. Improved skill brings confidence. Lack of confidence is a major failing among young soldiers who suddenly find themselves supervisors. Secure in their knowledge of their field, they can move more confidently.

Our young soldiers still have the inherent ability if we develop it properly.

JOHN I. HANCOCK
WOJG

75th AAA Gun Battalion

To The Editor

Received your copy of "Better Wind Data" for comment. My staff and the faculty members of the Far East Anti-aircraft Artillery School have conducted a study and commented on your article. A series of tests were performed to determine the difference in wind data obtained using the plotting method and the simplified method outlined in your article. The simplified tables in TM 20-241 were used in lieu of your wind speed computer.

Results of these tests indicated that the wind azimuth differed by approximately 100 mils and the wind speed by two (2) miles per hour. Since wind azimuth can be set in the computer only to the nearest 100 mils and wind speed to the nearest four (4) miles per hour, it is considered an unnecessary requirement to compute wind data more accurately than the capabilities of the equipment.

Your method is, however, a sound workable solution to the problem, but it appears you have offered quicker wind data and not better wind data. Accurate wind data is obtained using rawin.

Your method and methods outlined in TM 20-241, properly employed provide data sufficiently accurate for AAA purposes. Extremely accurate wind data is not the single solution to AAA difficulties. The major difficulty in obtaining accurate trial fire results can generally be attributed to lack of proper pre-firing checks of matériel, failure to properly check cable systems, careless orientation procedure, and inadequate supervision of personnel in performance of the "routine" but necessary preparation for, and then the actual conduct of, fire.

Your interest in the many problems

which exist in our branch and your efforts to solve these problems are appreciated. We are always available to you for development of any of your new ideas to improve the accuracy of anti-aircraft artillery fire, and I think you are courageous to put out these articles to stimulate the thought of others. If a decent opportunity presents, I will submit some articles on AAA in the Far East Command.

Best regards,

40th AAA Brigade JAMES G. DEVINE
APO 713 Brig. Gen., USA

To the Editor:

The JOURNAL is getting ever better. How General Marquat finds time for his invaluable contributions only he can tell, but they contain a treasure house of AAA in its broadened and deepened role.

I welcome Colonel Hatch's reply to what seemed to me a most inexplicable attack on military justice by Prof. Keeffe.

My experiences check with Colonel Hatch's capable and thorough rebuttal of the charges. Well done!

RUSSELL K. HAVIGHORST
Miami, Fla. Col. Arty., USAR

To the Editor

Enclosed you will find a roster of the officers assigned to the battalion, together with a Post Office Money Order for subscriptions from all who do not presently subscribe. Thus, the 15th AAA will retain its status on the Honor Roll.

We are now engaged in drawing up some additional articles for the JOURNAL, and they should reach your office early next year. For the past month we have been firing M16s in support of infantry, using indirect fire on observed and harassing and interdiction fire missions. We have fired more than 1,500,000 rounds; and while we've learned a lot, we still have much to learn. I hope to incorporate our experience and conclusions in an article for the JOURNAL after we have completed this mission and digested its results. The infantry loves it.

We are looking forward to Colonel Henry's article on attachment of batteries to RCTs in close support. Our view is that any advantages gained relative to operational control are more than offset by difficulties encountered in improper tactical utilization of M16s and M19s by the infantry, administration and logisti-

cal support. More detailed discussions of this important matter will be forthcoming at a later date.

15th AAA AW Bn. JAMES M. MOORE
Korea. Lt Col, Arty

To the Editor

Many of your readers will regret to hear that Antonio Sarubbo, 69, died in the Dixie Hospital on January the 10th.

Tony the Barber was a fine man, an artist of sorts, and a mine of information on the whereabouts, status and activities of Coast Artillerymen. He must have worked here, first at the Sherwood Inn and later at the Chamberlin, for more than forty years and hundreds of service men will remember him with affection. An impressive turnout of military men headed by Gen. Clark and six other general officers, active and retired, attended the funeral services.

Old Point Comfort, PAUL B. KELLY
Va. Brig. Gen. (Ret.)

Four New AAA Groups At Stewart

Group commanders have been assigned to the four new groups to be activated at Camp Stewart, Ga.

Colonel Murry J. Martin has been ordered from Chicago to the 7th AAA Group; Colonel William A. Cauthen, Washington, Ga., to the 14th AAA Group; Colonel William J. Wuest from Fort Bliss to command the 6th AAA Group and Colonel Walter J. Rude, San Francisco to head the 13th AAA Group.

208th AAA Group To Meade

The 208th AAA Group, commanded by Colonel Howard S. Ives, has recently moved from Camp Stewart, Ga. to Fort Meade, Md., where it becomes a part of the 35th AAA Brigade under Brig. Gen. Homer Case.

THE HARD WAY HOME

By Col. William C. Braley

From Corregidor to Manchuria—

the author describes life and conditions in eight Japanese prison camps during World War II.

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COLONELS

Adams, Edward F., to USA Alaska, Ft. Richardson.
Bowers, Alvin T., to Far East Comd., Yokohama, Japan.
Britt, Albert S., to EUCOM, Bremerhaven.
Bush, Ernest L., to Hq 4th Army, Ft. Sam Houston, Texas.
Carey, George P., FEC, Yokohama, Japan.
Dixon, Fred, to Army Sec Joint Air Def Bd 8621st AAU Ent AFB, Colorado Springs, Colorado.
Ellery, Frederick W., to Army War College, Carlisle Bks, Penna.
Follansbee, Conrad G., to 4th Army 4305th ASU Texas ORC Instr Gp., w/sta., Dallas, Texas.
Hall, Francis G., to Stu Det Armed Forces Staff College, Norfolk, Virginia.
Kopcsak, Peter J., to US Naval Forces Ea & Med, Naples, Italy.
Martin, D. D., 19th AAA Group, Ft. Meade, Md.
Raymond, Charles W., to Stu Det Army Lang Sch., Monterey, Calif.
Wahle, Carl B., to 2nd Army 2305th ASU W Va NG Instr Gp, Charleston, W. Va.

LIEUTENANT COLONELS

Best, George W., Jr., to 71st AAA GUN Bn, Ft Belvoir, Va.
Brunzell, Robert L., to European Comd, Bremerhaven, Germany.
Clark, Howard K., to Far East Comd, Yokohama, Japan.
Cuthbert, Clarence T., to Far East Comd, Yokohama, Japan.
Ferre, Nevin F., to Far East Comd, Yokohama, Japan.
Gibbons, Ulrich G., to Stu Det Armed Forces Staff College, Norfolk, Virginia.
Harper, William E., to Far East Comd, Yokohama, Japan.
Harvey, Albert W., to 4th Army 4052nd ASU AAA & GM Center, Fort Bliss, Texas.
Hennessy, James T., to Far East Comd, Yokohama, Japan.
Heyenga, Lawrence E., to Far East Comd, Yokohama, Japan.
Hines, Carol C., to 4th Army 4052nd ASU AAA & GM BR., Arty Sch, Fort Bliss, Texas.
Hood, Ralph E., to U S Army Alaska, Ft. Richardson.
Hussey, William J. A., to Stu Det Armed Forces Staff College, Norfolk, Virginia.
Isbell, William H., Jr., to Far East Comd, Yokohama, Japan.
Kelley, Stanley R., to 1st Army 38th AAA Gun Bn, Cp Edwards, Mass.
Lancey, William S., to USA Caribbean, Fort Amador, CZ.
Lessard, Wilfred E., Jr., to Far East Comd, Yokohama, Japan.
McDonald, Robert B., to Far East Comd, Yokohama, Japan.
Millett, Edward B., to U S Army Alaska, Ft. Richardson.
Montrone, Alfred, to Armed Forces Staff College, Norfolk, Va.
Morse, Henry P., to 4th Army 4054th ASU AAA & GM Br., Arty Sch., Ft. Sill, Okla.
Naylor, Arthur S., to 4th Army 4052nd ASU AAA & GM Center, Fort Bliss, Texas.
Schuelke, Ernst R., to USA Caribbean, Ft Amador, CZ.
Selsor, Mark A., Jr., to 3rd Army 56th AAA Gun Bn, Cp Stewart, Ga.

Stephens, Richard H., to Far East Comd, Yokohama, Japan.
Swain, Oren, to Army War College, Carlisle Bks, Penna.
Tall, Charles H., Jr., to Far East Comd, Yokohama, Japan.
Van Slyke, Thomas G., to Far East Comd, Yokohama, Japan.
Winstead, Elton D., to USA Caribbean, Ft Amador, CZ.
Wright, Wm. P., Jr., to 3rd Army 77th AAA Gun Bn, Cp Stewart, Ga.

MAJORS

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Brenneman, Curvin E., Jr., to Far East Command, Yokohama, Japan.

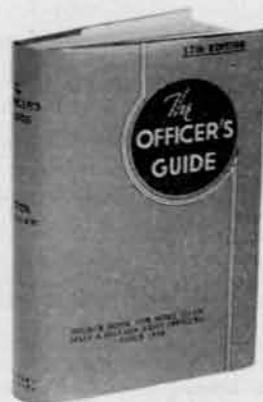
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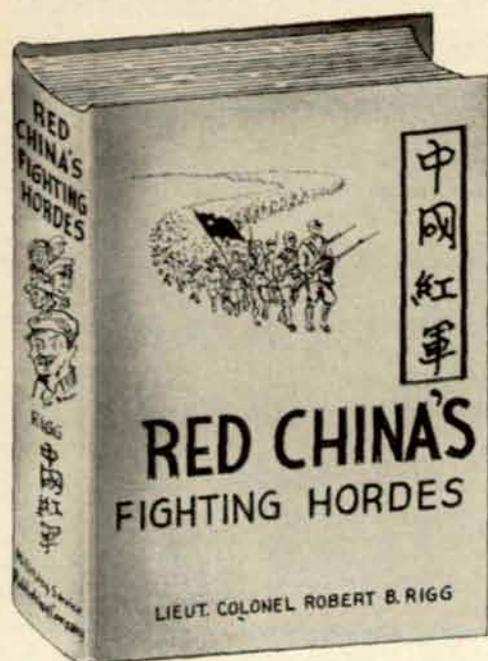
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