

AIR DEFENSE ARTILLERY



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July-August 1987



"Ack-Ack" by Ernie Pyle ... page 8

AIR DEFENSE ARTILLERY

Inaugural Issue

This is the inaugural issue of Air Defense Artillery's bimonthly professional development bulletin. The new periodical replaces *Air Defense Artillery* magazine, one of dozens of Army magazines killed by recent budget cuts.

In its Winter 1987 issue, *Air Defense Artillery* reported that the new bulletins would be 64-page quarterlies. This report was based on an initial draft of professional bulletin guidelines. The guidelines have been subsequently revised to

eliminate restrictions on the number of pages and to permit monthly, bimonthly or quarterly publication.

The first three issues of *Air Defense Artillery* bulletin will be printed on glossy paper to satisfy the terms of an existing print contract. Subsequent issues will have glossy covers and uncoated inside pages.

DA units will receive free copies of the bulletin. Non-ADA units and federal offices which received free subscriptions to *Air Defense Artillery* magazine will have to pay for subscriptions to the new periodical.

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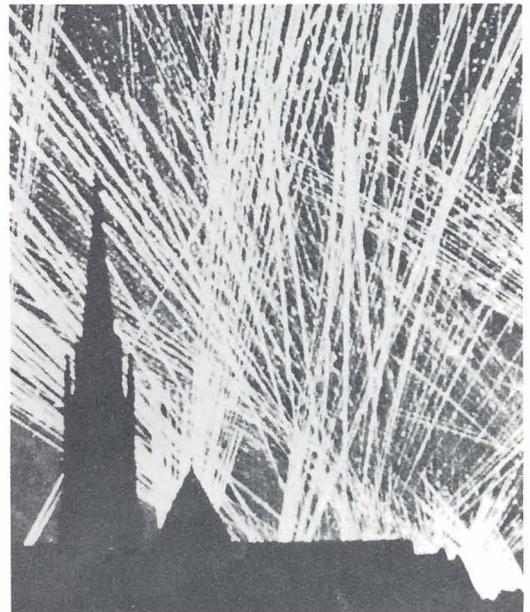
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FEATURES

Ernie Pyle Visits an Anti-Aircraft Battery	8
FAAD C ² I: Resolving the 3-D Versus 2-D Debate	16
Making the Grade	24
The ADA Advantage	29
OAC Changes	33
OAC Interaction	35
Teams are Built, not Born	37
WO Career Ladder	40
STRAC	44
From Bad to Good	47
U.S. Roland Now Totally Fielded with 'Total Army'	49
Air Defense Artillery's Writers Guide	61

DEPARTMENTS

Intercept Point	2
The Gospel According to Godfrin	3
Vapor Trails	4
ADA Officer Careers.....	51
ADA Warrant Careers	55
ADA Enlisted Careers	56
Scanning	59



"Ack-Ack" by Ernie Pyle . . . page 8

INTERCEPT POINT



Maj. Gen. Donald R. Infante

ADA: The "First Choice"

Sixty-four percent of the Active Army Officer Corps received their commission through ROTC. Of the ADA Officer Corps, 66 percent are ROTC graduates. On a recent branch selection board, 81 percent of those selected for Air Defense Artillery picked Air Defense Artillery as either their first or second choice. It is just as significant that no ROTC graduate this year will be "force-branched" into Air Defense Artillery.

When this article hits the street, ROTC summer camps will be in session. The season and the statistics lead me to reflect on what it was that motivated me to select Air Defense Artillery over other branches. Perhaps this, then, would provide some insights to youngsters in ROTC camps as to why Air Defense Artillery is not only, as its motto attests, the "First to Fire," but also the "First Choice."

As I surveyed my reasons for selecting Air Defense Artillery more than a quarter of a century ago, I discovered there hasn't been much change. I would pick Air Defense Artillery today for the same reasons I picked Air Defense Artillery yesterday.

A Leadership Challenge

Air Defense Artillery, by the nature of its mission, requires decentralized execution. An ADA platoon leader finds himself either as the chief air defender for a battalion combined arms task force, or on a hill — perhaps in a remote location — providing vital asset air defense. In either case, the problem confronting a young ADA lieutenant is not over-supervision! The youngster must know his stuff and his soldiers. He's in charge and they look to him for leadership. Maybe he can look to his captain in certain situations, but more times than not, it's the platoon leader who must make the decisions. It adds up to an enormous responsibility which is fun, exciting and challenging. Leadership is, by far, Air Defense Artillery's overriding challenge.

A Technological Challenge

Air Defense Artillery is, by any measure, a high-tech branch — some parts more than others. For example, the Patriot air defense missile system is the world's most sophisticated and capable air defense weapon system. Computer driven with "Star Wars" displays, Patriot has the versatility to counter tactical missiles as well as enemy aircraft. On the other end of the spectrum is Stinger, the deadly shoulder-fired air defense missile system that will soon be off the soldier's shoulder and vehicle-mounted on a high-mobility, multi-purpose wheeled vehicle called the "Humvee."

Pedestal-mounted Stinger will integrate a mixture of infrared devices, laser-beam riders, TV cameras, other widgets and a weapons control display that reminds one of games found in today's arcade. Supplement the Stinger missiles with a mixture of missiles and guns borrowed from armored tracked vehicles or towed guns from our light and airborne divisions, and pedestal-mounted Stinger provides a technological challenge to suit everyone. If you're looking for a branch that integrates soldiers and sophisticated war-fighting machines into a fast-moving air-land battle unit, you can find your niche in Air Defense Artillery.

Diversity

Diversity in weapon systems from Stinger to Patriot; diversity in levels of assignments from platoon to echelons above corps; diversity in division types from light, airborne or airmobile to heavy divisions; and diversity in locales including the continental United States, Korea, West Germany or Hawaii. Whether in an overseas or stateside division, within the 32nd Army Air Defense Command in the Federal Republic of Germany, or at the sprawling home of Air Defense Artillery at Fort Bliss, Texas, fun and excitement with diversity abounds.

Opportunity for Growth

Air defenders are required to know the other combined arms jobs to do their own. Air Defense Artillery integrates the two dimensions of the land battle with the third dimension of the air battle to ensure success on the air-land battlefield. Assignments at all levels of command as you progress through the ranks will allow you to grow, learn and mature.

Under Maj. Gen. Bob Wagner's dynamic leadership, ROTC and the quality of the ROTC officer have dramatically improved and will continue to improve in the future. Air Defense Artillery needs and wants its fair share of these quality youngsters. A challenge awaits them in Air Defense Artillery. The question the youngsters must ask himself is, "Do I measure up?" As some other service almost said, "we, in Air Defense Artillery, are looking for a few good men and women." Air Defense Artillery — First to Fire!

The Gospel According to Godfrin



CSM Raymond H. Godfrin

New Era for NCOs

The Army's not for everyone, but if you happen to love being a soldier, it's a good time to sign your re-enlistment papers.

I subscribe to the widely held belief that an Army can only be as good as its NCO Corps. I think the future of the Army is bright because the future is bright for the NCO Corps. The NCO Corps is in great shape now, and it is destined to get even better.

We are getting good soldiers today who try hard and have the potential to become good NCOs. The influx of quality volunteers does not alone guarantee the future of the NCO Corps. The demographic tap that the baby boom and business recessions turned on will slow once the pool of eligible 18-year-olds begins to evaporate. And

too few of today's young soldiers plan to make the Army a career. Ask young soldiers why they joined the Army and they will probably say the lack of jobs in the civilian economy, pay that compares well with the outside, an opportunity to learn a skill that can be carried back into civilian life or to save money for college.

Today's young soldiers are joining the Army for good reasons — the benefits the recruiting ads proclaim — but not for the best reason — a love of soldiering. It's up to senior NCOs to teach promising young soldiers to love the Army the way we love the Army. The way to do this is by promoting Army values — the sense of duty, commitment and camaraderie that makes Army life different from civilian life — and by demonstrating that the Army is becoming a better place for NCOs. That shouldn't be hard to do.

The new Sergeants Major Academy nearing completion at Fort Bliss, Texas, is a concrete and steel symbol of the Army's new commitment to the Non-Commissioned Officer Education System (NCOES) and the development of a more professional NCO Corps. NCOES truly does offer young NCOs the opportunity to become "all they can be."

Once, because there was no direct link between NCOES and promotion, there was little support for NCOES at the unit level. First sergeants often sent their second-best soldiers to school, and many senior NCOs were not overly inclined to prepare themselves for the next level of schooling.

That's changing today because the impact of NCOES on promotion has grown more apparent. There's now a direct link between NCOES and promotion, and the link is growing stronger. Sergeants must complete the Primary Leadership Development Course before being considered for promotion to staff sergeant. While NCOES courses are not yet a prerequisite for advancement to sergeant first class and beyond, they have become a big "discriminator" in the promotion selection process and, one day, are likely to become absolute prerequisites for promotion.

The strengthening of NCOES indicates the Army is serious about NCO professional development. Professional development is not an end product. It is a means to an end — the development of a more professional NCO Corps.

Every young NCO has to make the same decision; whether or not to make the Army a career. For me, the decision was an easy one. I loved the Army from the start and was determined to stay as long as the Army would have me. During 34 years of service, I've never regretted my decision to stick with the Army. Having just signed my retirement papers, I do regret missing out on what seems certain to be a bright new era for NCOs.

Think war!

Give a damn!



5/52nd ADA Soldiers Play 'Victims' Well

When the staff members at Winn Army Community Hospital, Fort Stewart, Ga., underwent a simulated mass casualty exercise, they were not the only ones who went to great lengths to make the injuries appear real. The soldiers who acted as victims played their roles with engaging enthusiasm.

How important is it to have victims who appear to be in real pain and wounds that look real? "It sets the tone for the exercise," said Capt. Allan Arnette, chief of plans, operations, training and security at Winn. "I think the more realistically the patients play their roles, the more realistically our people respond [to the mass casualty training]."

This simulated accident was described to medics as a parachuting accident involving 40 soldiers. The soldiers, mostly members of B Battery, 5th Battalion, 52nd Air Defense Artillery, Fort Stewart, were dressed and made up to look like they were suffering from varying degrees of injuries.

PFC Donald G. Stephens, a Stinger gunner with 5/52nd ADA, acted as a victim at the scene. Stephens was told that he had a third-degree burn to his cheek and jaw.

Starting with a plastic wound colored in multiple shades of red, SFC John Truitt, a training NCO for the Army Medical Command, applied alternating layers of putty and makeup around the injury on Stephens' cheek. As Truitt finished, he squirted a little fake blood on and around the injury to give it the final touch. He then sent Stephens into a clearing with other made-up soldiers to play his part in the exercise.

Arnette said the hospital has been fortunate to get some good amateur actors to play the roles of victims. "We're getting people who are excited about what they're



A Stinger gunner with B Battery, 5/52nd ADA, PFC Donald G. Stephens has a burn wound applied to his jaw by SFC John Truitt, a medical training NCO, during a mass casualty exercise. (Photo by Spec. Barry Reichenbaugh)

doing, and in turn it motivates our people to give their best to an emergency situation that really drains them physically."

by Spec. Barry Reichenbaugh

Missile Reload Drill Challenges 1/67th ADA

"Prepare to take weight. Take weight."

Four men carry a 200-pound training missile away from the towed Chaparral.

"Kneel!"

They drop to one knee and unlatch the missile coffin.

"Stand!"

Quickly they roll the missile from its container and reposition themselves at the rear of the system.

The missile is guided onto the launch rail and the umbilical cable is connected. With the last missile on the rail, the squad hurries to attach 16 wings and 16 fins. When this is completed, the safety streamers are removed and another Chaparral air defense

missile is ready to fire.

The drill is completed well under the nine-minute time limit set for this action. One of three drills that the Chaparral missile squad must be skilled in, the missile reload requires the greatest amount of energy and precision teamwork. However, according to 1st Lt. William Geary, D Battery, 1st Battalion, 67th ADA, Fort Lewis, Wash., all the drills are important.

The Chaparral squad must also go through emplacement and target engagement drills and take a visual aircraft recognition test. The scores from these are added to determine which is the best squad in the battery and battalion competition.

Because the towed Chaparral is relatively new, many soldiers who were trained on the self-propelled Chaparral face a real challenge, according to Geary.

NCOs who worked on the self-propelled for years not only had to become proficient on the towed Chaparral themselves but a

had to train their soldiers. Although the crew drills test the soldiers' proficiency, further



Soldiers from D Battery, 1/67th ADA, arm the towed Chaparral with four 200-pound missiles. They have nine minutes to complete the task. (Photo by Charlotte Washington)

training is necessary in the field to develop their tactical skills. According to Geary, the 1/67th ADA practices in the field at every opportunity. A recent platoon exercise emphasized the cross training of duties and fine tuning of soldier's individual duties. The

members of the platoon rotated through one another's jobs learning the ins and outs of each. It all adds up to a good day's work for a missile crew. "Prepare to take weight."

by Charlotte Washington

35th ADA Fires Up Training Firsts

Pacific Defender, a recent combined arms live-fire exercise, gave the 35th ADA Brigade its first opportunity in its two years of existence to command and control its two organic battalions, according to Col. Pete Swenson, brigade commander.

The 35th ADA Brigade had worked separately with its battalions before. The 7th Battalion, 7th Air Defense Artillery, Fort Ord, Calif., accompanied the 35th ADA

Team Spirit 86. But Pacific Defender brought all the components together for the first time. The 35th ADA was to administer the

Army training evaluation program for the 7/7th ADA and the 1/4th ADA, and the 1/4th Direct Support Battery (DSB) was to perform its annual maintenance in the field for the first time.

Since the 35th is the only corps ADA brigade, the results of this five-day exercise helped to set the tone for future corps ADA units.

About 1,200 soldiers trained in the exercise: the 35th ADA Headquarters, three Chaparral batteries from the 7/7th ADA and three Hawk batteries plus the headquarters battery and DSB from the 1/4th ADA. The 3/5th Cavalry, the Air Force and the Navy formed the opposing forces for the exercise.

Deployment was a major under-

taking for the ADA units. "This exercise represents the first time we've brought everything together," said Maj. Maynard Jean, S-4. Deployment took five days. Aircraft were used to transport much of the Fort Ord and Fort Lewis, Wash., troops and equipment. A convoy, traveling 830 miles, also made the three-day trek from Fort Ord to Yakima, Wash.

Though there were aircraft delays due to fog and vehicle breakdowns, the deployment was a positive experience, according to Jean. "Any time you stretch command and control over a thousand miles and have units going this many different places, it's very difficult to control. The junior leaders, NCOs and officers were called to make heavy decisions and to solve the problems as they came up. It was a good experience for them."

The exercise scenario tasked the 35th ADA to defend main corps elements during I Corps intervention in a fictional conflict.

The master events list consisted of 104 preselected events plus a day of events selected by the unit commanders. Controllers from the 3rd Battalion, 68th Air Defense Artillery, Fort Bragg, N.C., and the 1st Battalion, 67th Air Defense Artillery, Fort Lewis, kept score in all events.

"You can get all the book knowledge you want, but you really can't learn it until you perform the actual operation," said Spec. Ossie Peacock, C Battery, 1/4th ADA. "This is great for us because we get to see the interoperability between us and the 7/7th. That was a big challenge."

"It has been good for the soldiers," agreed Maj. Andy West, 1/4th ADA S-3. "The ability to sustain operations is something we've been trying to focus on. A lot of the exercises we have at Fort Lewis are short — two or three days — so this is a good buildup.

"Also, when we get together and



do these types of exercises with the brigade, we are not only able to practice what is written, but we can also help develop the doctrine — finding out what works best for us,” West added.

“Because this is a first-time exercise,” said Lt. Col. Jeff Jeffery, 35th ADA Brigade S-3, “it’s been difficult logistically. We’re learning by trial and error. But the fact that we’re all here, from so many different directions, is a major accomplishment in itself.”

The exercise will become an annual training event for Headquarters, 35th ADA Brigade and its two battalions.

by Brooke Bradley

WW II Unit Commander Returns to 5/62nd ADA

Retired Col. Adam S. Buynoski commanded the 1st Battalion, 62nd Antiaircraft Artillery Regiment during all eight World War II campaigns for which the 62nd AAA Regiment was awarded battle streamers.

In a ceremony at the Air Defense Center, Fort Bliss, Texas, Buynoski was officially appointed as honorary colonel of the 62nd Air Defense Artillery Regiment. The ceremony was sponsored by the 5th Battalion (C/V), 62nd Air Defense Artillery.

The position of honorary colonel of the regiment was established by the Army chief of staff after the Army began to reorganize units under the Army regimental system. The primary purpose of the position is to perpetuate the history and traditions of the regiment in order to enhance unit morale and esprit de corps.

The honorary colonel of a regiment is a distinguished retired officer in the rank of colonel or above who previously served in the regiment. His duties are cere-

monial and do not conflict with the chain of command.

Buynoski is the first honorary colonel for the recently activated 62nd ADA regiment and will serve in that position for one year. Buynoski was selected because of his distinguished service to the regiment. Under his command, the 1/62nd AAA was awarded battle streamers for: Algeria-French Morocco and Tunisia during the North African Campaign; Sicily and Rome-Arno during the Italian Campaign; and Southern France, Rhineland, Ardennes-Alsace and Central Europe during the European Campaign.

Buynoski was commissioned in 1936 after graduating from the U.S. Military Academy. He served as a searchlight platoon leader, as a regimental adjutant, as commander for an automatic weapons battery and as the regimental S-3 for the 62nd Antiaircraft Artillery Regiment before taking command of the 1/62nd AAA in 1942.

On Dec. 6, 1986, Buynoski was inducted as a member of the Order of Saint Barbara in recognition of his lifetime contributions to the Air Defense Artillery.

by Robert Leahardy



Spec. Jonathan H. Cummings, A Battery, 5/62nd ADA, explains the Vulcan feeder assembly to retired Col. Adam S. Buynoski. (Photo by Robert A. Leahardy)

82nd Airborne Train Air Defense

Describing themselves as the only air defense and airborne sol-

diers in the free world, more than 200 soldiers from the 82nd Airborne Corps trained on the towed Vulcan at Fort Bliss, Tex., recently.

They are assigned to the 3rd



Battalion, 4th Air Defense Artillery, Fort Bragg, N.C. The Vulcan crews were at McGregor Range, N.M., to be evaluated on aerial fire, ground fire and battle drill.

The Vulcan air defense system is especially useful to the paratroopers of the 82nd Airborne because it is air portable by cargo aircraft or helicopter and can be air dropped.

During the fire evaluation, 1st Lt. Ernie Rawson, C Battery platoon leader, said, "It's difficult to shoot a target flying by with a 30-round burst. However, we have several men who will hit eight out of eight aerial targets because they spend many hours practicing. They have to be able to plan a load and fire under adverse conditions. The type of radar and sight we use takes quite a bit of knowledge and experience to operate.

"Because of our mission we travel light and fast. The Vulcan and Stinger match is perfect for our mission," added Rawson.

According to CWO 2 Alexander Sullivan, the Vulcan has the most firepower in the 82nd Airborne with its high rate of fire at 3,000 rounds per minute.

"These air defenders have been trained on infantry tactics," said Rawson. "Many of them have come from the infantry and are airborne rangers. They know quite a bit. They are well-rounded soldiers."

The 82nd Airborne's mission is to deploy anywhere in the world on no notice within 18 hours. In order to do that, they travel light and conduct a parachute assault or air-land assault into an objective area. With the Air Force capability of air refueling, they are not dependent on landing strips, roads or ports.

The airborne crews were evaluated on placing the Vulcan in a combat situation. The Vulcan gun had to be towed by a vehicle to a designated location. The eval-



A 3/4th ADA Vulcan crew, SSgt. John Royeton, Sgt. Alexander Rucker, Spec. David Renfroe and PFC John Gayer, perform an ammo upload. (Photo by Ramona Reznechek)

uators, tasked from other batteries, gave the crew a primary target line or the most probable enemy line of travel.

Immediately following the placing, the senior gunner had to prepare the system for fire.

Another evaluation included the ammunition upload. Crews had five minutes to load approximately 600 rounds of 20mm ammo onto their Vulcans.

It takes skill and technique to train for combat. The 3/4th ADA travels to Fort Bliss twice a year for training.

by Ramona Reznechek

7/7th ADA Takes A Hands-on Mission

With a rugged mission in mind, air defenders of the 7th Battalion, 7th Air Defense Artillery, Fort Ord, Calif., put in some tough hands-on training recently.

"Once a year we get to fire Chaparral missiles. Before leaving to Washington for a live-fire exercise and ARTEP [Army Training and Evaluation Program] we came out here to practice," said SSgt. William Hurley, an evaluator with 7/7th ADA.

First each squad member was checked on his aircraft recognition skills. An evaluator showed the soldiers photos of 36 different aircraft. It was up to the individual to determine if the aircraft was friendly or hostile.

The squad then moved to the next station where they had nine minutes to load four 200-pound missiles.

Next, the squads went through emplacement drills. Each squad had to place the vehicle, check the guns and lay about a quarter-mile of wire for two communications locations within 20 minutes.

From there they went through target engagement. Squad leaders were alerted that a target was approaching. They were told directions and distance. Within 12 seconds they had to give the commands necessary to prepare the guns, have them aimed and armed. During that time they were shown a picture of an aircraft and had to decide if it was friendly or enemy.

"The squads are competing for additional live rounds for their squad to fire [during their annual service practice]. The best one gets a four-day pass, too," Hurley said.

by David Crockett

Ernie Pyle Visits an Anti-Aircraft Battery

A Department of Defense spokesman, incensed at what he considered an anti-military bias in today's media, recently lamented that, "There are no more Ernie Pyles." Ernie Pyle was the legendary Scripps-Howard war correspondent who covered World War II from a foxhole. He not only shared the hardships and dangers of battle with ordinary soldiers, but wrote about combat soldiers with such empathy and understanding that he was a welcome visitor to the battlefield in both the European and Pacific theaters of World War II. The following excerpt, probably the best description of what life was like in a World War II anti-aircraft battery, was published in *Brave Men*, a collection of Pyle's wartime dispatches published during the war by Henry Holt and Co. It reappears in *Ernie's War: The Best of Ernie Pyle's World War II Dispatches* which has just been released by Random House.

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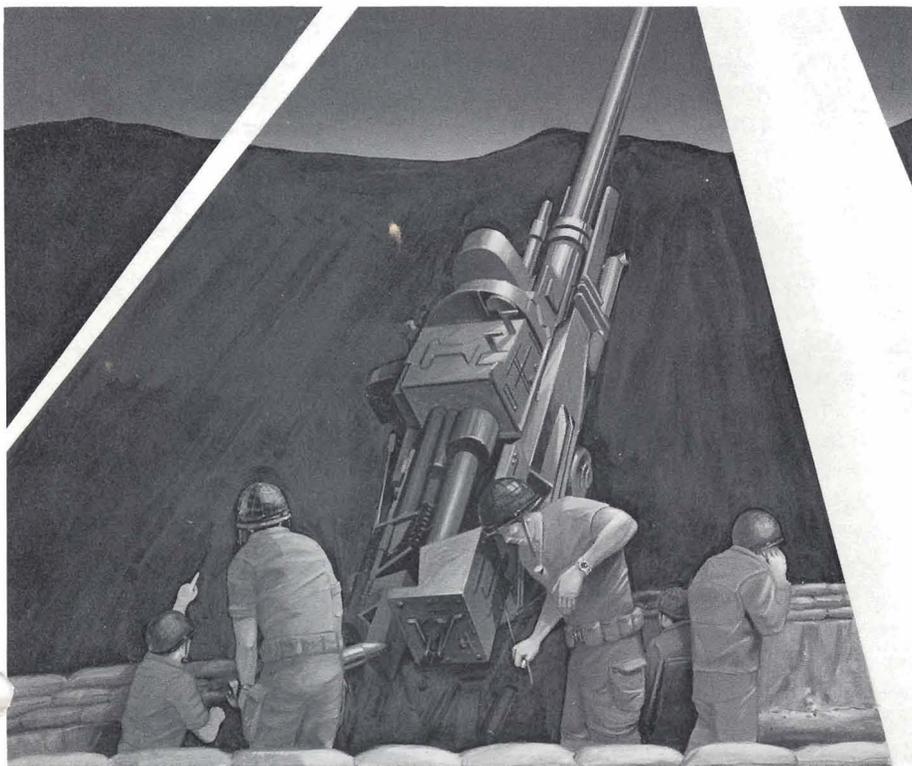
One of the vital responsibilities during those opening weeks of our war on the continent of Europe was the protection of our unloading beaches and ports. Over and through them, without interruption and in great masses, our buildup of men and material had to pass in sufficient masses to roll the Germans clear back out of France. Nothing could be allowed to interfere with that unloading. Everything we could lay our hands on was thrown into the guarding of those beaches and ports. Allied ground troops policed them from the land side. Our two navies protected them from sneak attacks by sea. Our great air supremacy made daytime air assaults rare and costly. It was only at night that the Germans had a chance. They did keep pecking away at us with night bombers, but their main success was in keeping us awake and making us dig our foxholes deeper.

The job of protecting the beaches at night was given to the anti-aircraft artillery, or ack-ack. I heard that we had there on the beachhead the

greatest concentration of anti-aircraft guns ever assembled in an equivalent space. After three solid weeks of being kept awake all night long by the guns, and having to snatch a little sleep at odd moments during the daytime, that was not hard for me to believe. The falling flak became a real menace — one of the few times I've known that to happen in this war. Every night for weeks, pieces of exploded shells came whizzing to earth within 50 yards of my tent. Once an unexploded ack-ack shell buried itself half a stone's throw from my tent. A good portion of our army on the beachhead slept all night in foxholes, and some of the troops swung over to the Anzio beachhead custom of building dugouts in order to be safe from falling flak.

Our ack-ack was commanded by a general officer, which indicates how important it was. His hundreds of gun batteries even intercepted planes before they neared the beaches. The gun positions were plotted on a big wall map in his command tent, just as the battle lines were plotted by infantry units. A daily score was kept of the planes shot down — confirmed ones and probables. Just as an example of the effectiveness of our ack-ack, one four-gun battery alone shot down 15 planes in the first two weeks.

The Germans couldn't seem to make up their minds exactly what they wanted to do in the air. They wandered around all night long, usually in singles though sometimes in numbers, but they didn't do a great deal of bombing. Most of them turned away at the first near burst from one of our 90mm guns. Our ack-ack men said they thought the German pilots were yellow, but I had seen the quality of German fighting for nearly two years, and I could hardly believe that. Often, the enemy dropped flares that lighted up the whole beach area, and then they would fail to follow through and bomb by the light of their flares. The ack-ack men



said that not more than two out of 10 planes that approached the beachhead ever made their bomb runs over our shipping. But we were liable to get a bomb anywhere along the coastal area, for many of the Germans apparently just jettisoned their bombs and hightailed home.

It was a spectacle to watch the anti-aircraft fire when the Germans actually got over the beach area. All the machine guns on the ships lying off the beaches cut loose with their red tracer bullets, and those on shore did too. Their bullets arched in all directions and fused into a sky-filling pattern. The lines of tracers bent and waved and seemed like streams of red water from hoses. The whole thing became a gigantic, animated fountain of red in the black sky. And above this were the split-second flashes of big-gun shells as they exploded high up toward the stars. The noise was terrific. Sometimes low clouds caught the crack of those many guns and scrambled them all into one gigantic roar which rolled and thundered like the blood-curdling approach of a hurricane. Our tent walls puffed from the concussion of the guns and bombs, and the earth trembled and shook. If we were sleeping in a foxhole, little clouds of dirt came rolling down on us. When the planes were really close and the guns were pounding out a mania of sound, we put on our steel helmets in bed and sometimes we would drop off to sleep and wake up with them in the morning and feel very foolish.

American anti-aircraft gunners began playing their important part in the Battle of Normandy right on D-day and shortly after H-hour. Ordinarily you wouldn't think of the anti-aircraft coming ashore with the infantry, but a little bit of everything came ashore on that memorable day — from riflemen to press censors, from combat engineers to chaplains — and everybody had a hand in it.

The ack-ack was given a place in the very early waves because the general in command felt that the Germans would throw what air strength they had onto the beaches that day, and he wanted his men there to repel it. As it turned out, the Germans didn't use their planes at all, and the ack-ack wasn't needed to protect the landings from air attack. So, like many other units, they turned themselves into infantry or artillery and helped win the battle of the beaches. They took infantry-like casualties too. One unit lost half its men and guns. I ran into the story of a crew of ack-ackers who had knocked out a German 88 deeply ensconced in a thick concrete emplacement — and

did it with a tiny 37mm gun, which is somewhat akin to David slaying Goliath.

I hunted up this crew to see how they did it. By that time they had moved several miles inland. I found them at the edge of a small open field far out in the country. Their gun had been dug into the ground. Two men sat constantly in their bucket seats behind the gun, keeping watch on the sky even in the daytime. The others slept in their pup tents under the bushes, or just loafed around and brewed an occasional cup of coffee. The commander of this gun was Sgt. Hyman Haas of 1620 Ocean Avenue, Brooklyn. Sergeant Haas was an enthusiastic and flattering young man who was practically beside himself with delight when I showed up at their remote position, for he had read my column back in New York but hadn't supposed our trails would ever cross. When I told him I wanted to write a little about his crew, he beamed and said, "Oh, boy! Wait till Flatbush Avenue hears about this!"

The outfit had landed behind the first wave of infantry. A narrow valley leading away from the beach at that point was blocked by the German 88 which stopped everything in front of it. So driver Bill Hendrix, from Shreveport, La., turned their half-track around and drove the front end back into the water so the gun would be pointing in the right direction. Then the boys poured 23 rounds into the pillbox. Some of their shells hit the small gun slits and went inside. At the end of their firing, what Germans were left came out with their hands up.

*"Oh, boy! Wait till
Flatbush Avenue hears
about this!"*

Our ack-ack can be divided into three categories. First there are the machine guns, both 50-caliber and 20mm. Airplanes have to be fairly low for these to be effective. The ack-ack branch has thousands of such guns, and so does every other fighting unit. When a low-flying strafing comes in, everybody who has anything bigger than a rifle

shoots at him, whether he is an ack-ack man or not. In the second big category of ack-ack is the Bofors, a 40mm long-barreled gun which can fire rapidly and with great accuracy at medium altitudes. Our ack-ack is equipped with thousands of these, and although they can't see their targets at night they put a lot of shells into the sky anyway. The big gun, and the elite, of our ack-ack is the 90mm. This is for high-altitude shooting. It is the gun that keeps most of the planes away, and has such a high score of planes shot down.

I spent two days and nights with one of these 90mm gun crews there on the Normandy beach-head. They were having their first taste of war, but already after three weeks or so of it they felt they were the best gun crew in the best battery of the



They were having their first taste of war



best ack-ack battalion. It was close to impossible for a German bomber to pick out their position at night, yet the crew felt that the Germans had singled them out because they were so good. As far as I could learn, practically all the other gun crews felt the same way. That's what is known in military terms as good morale.

My crew consisted of 13 men. Some of them operated the dials on the gun, others loaded and fired it, others lugged the big shells from a storage pit a few feet away. The big guns usually operate in batteries, and a battery consists of four guns and the family of technicians necessary to operate the many scientific devices that control the guns. The four guns of this particular battery were dug into the ground in a small open field, about 50 yards apart.

The gunners slept in pup tents or under half-tracks hidden under trees and camouflage nets.

The boys worked all night and slept in the daytime. They hadn't dug foxholes, for the only danger was at night, and they were up all night firing. The guns required a great deal of daytime work to keep them in shape, so half the boys slept in the forenoon and half in the afternoon while the other half worked. Their life was rugged, but they didn't see the seamiest side of the war. They stayed quite a while in one place, which makes for comfort, and they were beyond enemy artillery range. Their only danger was from bombing or strafing and that was not too great.

They were so new at war that they still tried to keep themselves clean. They shaved and washed their clothes regularly. Their service section had not arrived yet from England, so they had to cook their own meals. They were pretty sick of that and said they would be glad when the service boys and the field kitchens caught up with them. They ate ten-in-one rations, heating them over a fire of wooden sticks in a shallow hole in the ground. The battery commander was Capt. Julius Reiver of Wilmington, Del. He stayed up all night too, directing their firing from his dugout, where information was phoned to him.

On my second day with the battery, the boys asked their officers if it would be all right for them to write in their letters home that I was staying with them. The officers said yes, so the boys all got out paper, and since it had turned warm for a change, we sat and lay around on the grass while they wrote short letters home, using ammunition boxes for writing boards. When they got through, all of them had me sign their letters.

The boys said they didn't choose ack-ack but were just automatically put into it. They did like it, however, as long as they had to be in the Army. They were all over being gun-shy, and since they had been through their opening weeks of war they weren't especially afraid. They had been overseas more than six months, and like everybody else they were terribly anxious to go home. They liked to think in terms of anniversaries, and much of their conversations was given to remembering what they had been doing "a year ago today" when they were in camp back in America. They all hoped they wouldn't have to go to the Pacific when the European war was over. Although the noise and concussion of their gun was terrific, they had gotten used to it and no one wore cotton in his ears. They said the two best morale boosters were the *Stars and Stripes* and letters from home.

The boys were proud of their first night on the soil of France. They began firing immediately from a field not far from the beach. The snipers were still thick in the surrounding hedges, and bullets were singing around them all night. The boys liked to tell over and over how the infantry all around them were crouching and crawling along while they had to stand straight up and dig their guns in. It takes 12 hours of good hard work to dig in the guns when they move to a new position. They dug in one gun at a time while the three others were firing. My gun was dug into a circular pit about four feet deep and 20 feet across. This had been rimmed with a parapet of sandbags and dirt, so that when a man stood on the floor of the pit he could just see over the top. The boys were safe down there from everything but a direct hit.

The gun was covered in the daytime by a large camouflage net. My crew fired anywhere from 10 to 150 shells a night. In the early days on the beachhead they kept firing one night until they had only half a dozen shells left. But the supply had been built up, and there was no danger of their running short again. The first night I was with them was a slow night and they fired only nine shells. The boys were terribly disappointed. They said it would have to turn out to be the quietest and also the coldest night they had ever had. Just because of that, I stayed a second night with them.

The Germans were as methodical in their night air attacks on our positions in Normandy as they were in everything else. We began to hear the faint, faraway drone of the first bomber around 11:30 every night. Our own planes patrolled above us until darkness. It was dusk around eleven, and we were suddenly aware that the skies which had been roaring all day with our own fighters and bombers were now strangely silent. Nothing was in the air.

The ack-ack gunners, who had been loafing near their pup tents or sleeping or telling stories, now went to their guns. They brought blankets from the pup tents and piled them up against the wall of the gun pit, for the nights got very cold and the boys wrapped up during long lulls in the shooting. The gunners merely loafed in the gun pit as the dusk deepened into darkness, waiting for the first telephoned order to start shooting. They smoked a few last-minute cigarettes. Once it was dark, they couldn't smoke except by draping blankets over themselves for blackout. They did smoke some that way during the night, but not much.



In four or five places in the wall of the circular pit, shelves had been dug and wooden shell boxes inserted to hold reserve shells. It was just like pigeonholes in a filing cabinet. When the firing started, two ammunition carriers brought new shells from a dump a few feet away up to the rim of the gun pit and handed them down to a carrier waiting below; he kept the pigeonholes filled. The gun was constantly turning in the pit and there was always a pigeonhole of fresh shells right behind it. The shells were as long as a man's arm, and they weighed better than 40 pounds. After each salvo the empty shell case kicked out onto the floor of the pit. They lay there until there was a lull in the firing, when the boys tossed them over the rim. Next morning they were gathered up and put in boxes for eventual shipment back to America to be retooled for further use.

Each gun was connected by telephone to the battery command post in a dugout. At all times one member of each gun crew had a telephone to his ear. When a plane was picked up within range, the battery commander gave a telephonic order, "Stand by!" Each gun commander shouted the order to his crew, and the boys all jumped to their positions. Everybody in the crew knew his job and did it. There was no necessity for harshness or short words on the part of the gun commander.

When a plane either was shot down or went out of range, and there was nothing else in the vicinity, the command was given, "Rest!" and the crews relaxed and squatted or lay around on the floor of the pit. But they didn't leave the pit.

Sometimes the rest would be for only a few seconds. Other times it might last a couple of hours. In the long lulls the gunners wrapped up in blankets and slept on the floor of the pit — all except the man at the telephone. It was the usual German pattern to have a lull from about 2 to 4 a.m., and then get in another good batch of bombing attempts in the last hour before dawn. The nights were very short then — from 11 p.m. to 5 a.m. — for which everybody was grateful. Dawn actually started to break faintly just about 4:30, but the Germans kept roaming around the sky until real daylight came.

Our own patrol planes hit the sky at daylight and the Germans skedaddled. In the first few days, when our patrol planes had to come all the way from England, the boys told of mornings when they could see our planes approaching from one direction and the Germans heading for home at the opposite side of the sky.

Our own patrol planes hit the sky at daylight and the Germans skedaddled

As soon as it was broad daylight, the boys cranked down the barrel of the gun until it was horizontal, and then took a sight through it onto the stone turret of a nearby barn — to make sure the night's shooting hadn't moved the gun off its position. Then some of them gathered up the empty shells, others got wood fires started for heating breakfast, and others raised and tied the camouflage net. They were all through by 7 o'clock, and half the shift crawled into their pup-tent beds while the other half went to work with oil, ramrod and waste cloth to clean up and readjust the gun.

It was 11:15 at night. The sky had darkened into an indistinct dusk, but it was not yet fully dark. I could make out the high hedgerow surrounding

our field and the long barrels of the other ack-ack guns of our battery poking upward. We all leaned against the wall of our gun pit, just waiting for our night's work to start. We had plenty of time. The Germans wouldn't be coming for 10 or 15 minutes. But no. Suddenly the gun commander, who was at the phone, yelled "Stand by!" The men jumped to their positions. The plane was invisible, but we could hear the distant motors throbbing in the sky. Somehow a man could always sense, just from the tempo in which things started, when it was going to be a heavy night. We felt that this would be one.

A gunner turned a switch on the side of the gun, and it went into remote control. From then on a mystic machine at the far end of the field handled the pointing of the gun, through electronic cables. It was all automatic. The long snout of the barrel began weaving in the air and the mechanism that directed it made a buzzing noise. The barrel went up and down, to the right and back to the left, grinding and whining and jerking. It was like a giant cobra, maddened and with its head raised, weaving back and forth before striking. Finally the gun settled rigidly in one spot and the gun commander called out, "On target! Three rounds! Commence firing!" The gun blasted forth with sickening force. A brief sheet of flame shot from the muzzle. Dense sickening smoke boiled around in the gun pit. I heard the empty shell case clank to the ground. Darkly silhouetted figures moved silently, reloading. In a few seconds the gun blasted again. And once again. The smoke was stifling. I felt the blast sweep over me and set me back a little. The salvo was fired. The men stepped back. We took our fingers from our ears. The smoke gradually cleared. And then once more the gun was intently weaving about, grinding and whining and seeking for a new prey.

That's the way it was all night. We never saw a thing. We only heard the thump, thump of motors in the sky and saw the flash of guns and the streaking of red tracers far away. We never saw the plane we were shooting at, unless it went down in flames, and "flamers" were rare.

I found out one thing being with the ack-ack at night. A man is much less nervous when he's out in the open with a gun in front of him than when he's doubled up under blankets in a tent, coiled and intent for every little change of sound, doubtful and imagining and terrified.

We shot off and on, with rest periods of only a

few minutes, for a couple of hours. The Germans were busy boys that night. Then suddenly a flare popped out in the sky, out to sea, in front of us. Gradually, the night brightened until the whole universe was alight and we could easily see each other in the gun pit and everything around us in the field. Everybody was tense and staring. We all dreaded flares. Planes were throbbing and droning all around in the sky above the light. Surely the Germans would go for the ships that were standing off the beach, or they might even pick out the gun batteries and come for us in the brightness. The red tracers of the machine guns began arching toward the flares but couldn't reach them. Then our own "Stand by!" order came, and the gun whined and swung and felt its way into the sky until it was dead on the high flare. Yes, we were shooting at the flare. And our showering bursts of flak hit it, too.

Flares are seldom completely shot out, but they can be broken into small pieces, and the light is dimmed, and the pieces come floating down more rapidly, and the whole thing is over faster. Flares in the sky were always frightening. They seemed to strip us naked and make us want to cower and hide and peek out from behind an elbow. We felt a great, welcome privacy when the last piece flickered to the ground and we could go back to shooting at the darkness from out of the dark.

The six hours of nighttime went swiftly for our ack-ack battery, which was a blessing. Time raced during the firing and in the long lulls between the waves of enemy planes we dozed and catnapped and the hours passed away. Once, during a lull long after midnight, half a dozen of the boys in our gun pit started singing softly. Their voices were excellent. Very low and sweetly, they sang in perfect harmony such songs as "I've Been Working on the Railroad" and "Tipperary." There wasn't anything forced or dramatic about it. It was just a song some young fellows were singing because they like to sing — and the fact that they were in a gun pit in France shooting at people, trying to kill them, was just a circumstance.

The night grew bitterly chill. Between firings every man draped an army blanket around his shoulders, and sometimes up over his head. In the darkness they were just silhouettes, looking strange and foreign like Arabs. After 2 o'clock there was a long lull. Gradually the boys wrapped up in their blankets and lay down on the floor of the pit and fell asleep. Pretty soon I heard them

snoring. I talked with the gun commander for a few minutes, in low tones. Then my eyes got heavy too. I wrapped a blanket around me and sat down on the floor of the pit, leaning against the wall. The night became as silent as a grave. Not a shot, not a movement anywhere. My head slacked over to one side. But I couldn't relax enough to sleep in that position. And it was so cold. I was so sleepy I hurt, and I berated myself because I couldn't go to sleep like the others.

But I was asleep all the time, for suddenly a voice shouted, "Stand by!" — and it was as shocking as a bucket of cold water in my face. I looked quickly at my watch and realized that an hour had passed. All the silent forms came frantically to life. Blankets flew, men bumped into each other. "Commence firing!" rang out above the confusion, and immediately the great gun was blasting away, and smoke again filled the gun pit. Sleep and rouse up. Catnap and fire. The night wore on. Sometimes a passing truck sounded exactly like a faraway plane. Frightened French dogs barked in distant barnyards.

Things are always confusing and mysterious in war. Just before dawn an airplane drew nearer and nearer, lower and lower, yet we got no order to shoot and we wondered why. But machine guns and Bofors guns for miles around went after it. The plane came booming on in, in a long drive. He seemed to be headed right at us. We felt like ducking low in the pit. He actually crossed the end of our field less than a hundred yards from us, and



*"Standy by!"...
"On target!"
Three rounds!
Commence firing!"*



only two or three hundred feet up. Our hearts were pounding. We didn't know who he was or what he was doing. Our own planes were not supposed to be in the air. Yet if he was a German, why didn't he bomb or strafe us? We never did find out.

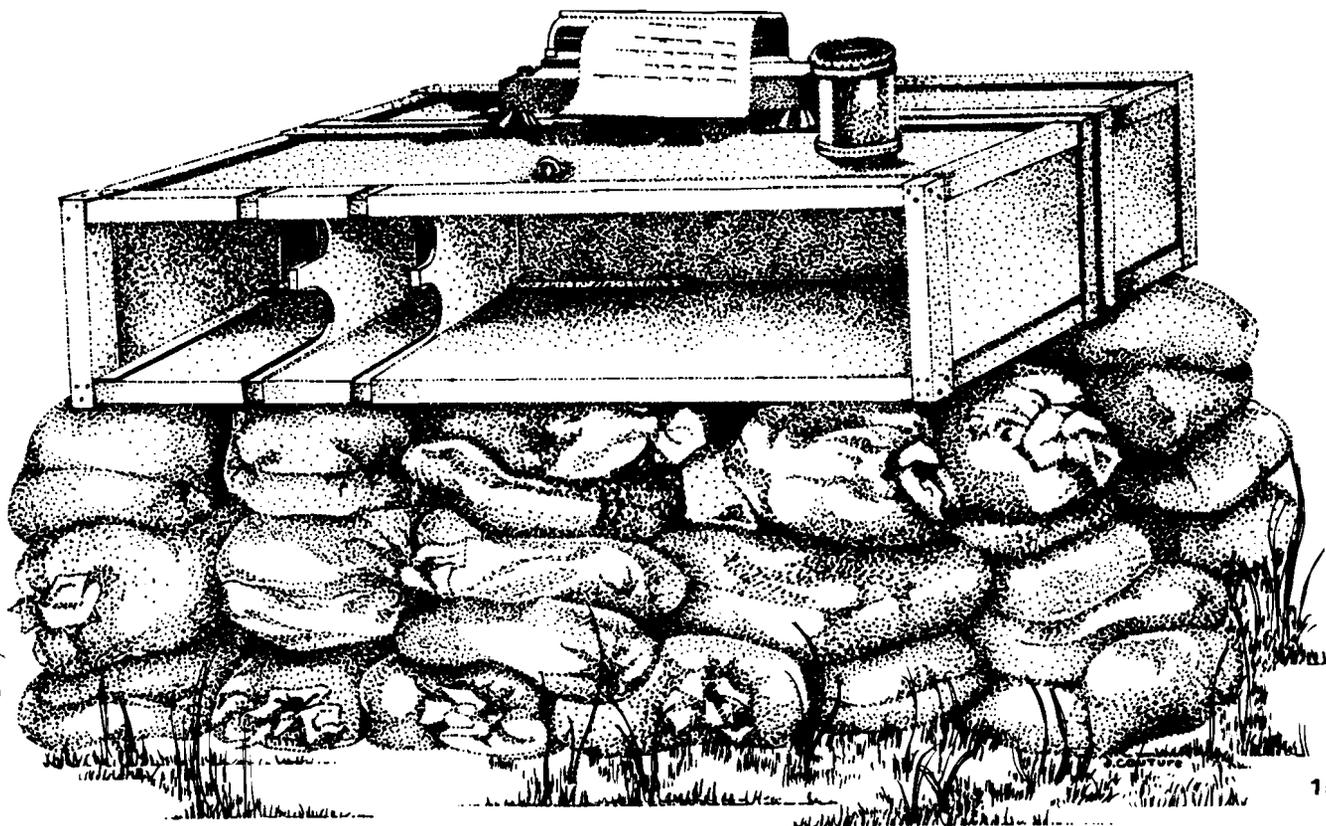
The first hint of dawn finally came. Most of us were asleep again when suddenly one of the boys called out. "Look! What's that?" We stared into the faint light, and there just above us went a great, silent, grotesque shape, floating through the air. It was a ghostly sight. Then we recognized it, and we all felt a sense of relief. It was one of our barrage balloons which had broken loose and was drifting to earth. Something snagged it in the next field, and it hung there poised above the apple trees until somebody went and got it long after daylight.

As fuller light came we started lighting cigarettes in the open. Over the phone, the battery commander asked how many shells were fired, and told us that our tentative score for the night

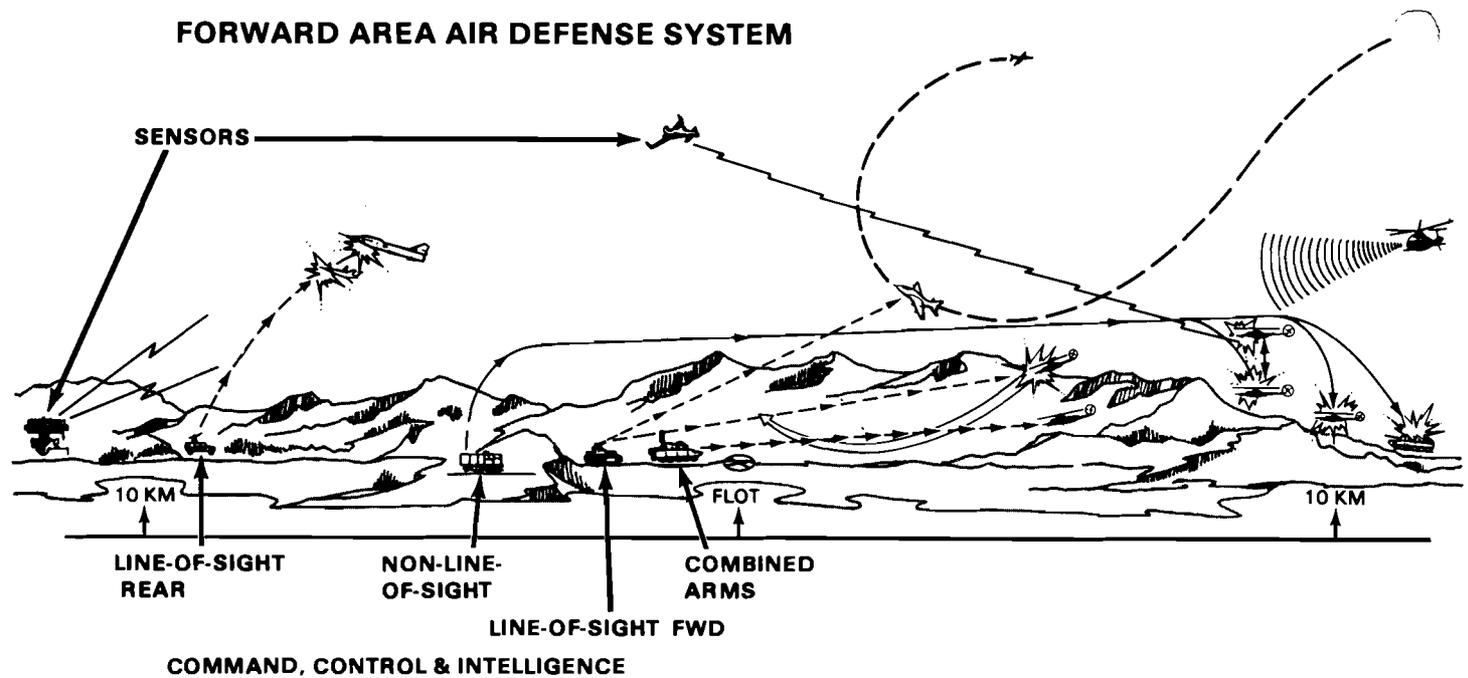
was seven planes shot down. The crew was proud and pleased. Dawn brought an imagined warmth and we threw off our blankets. Our eyes felt gravelly and our heads groggy. The blast of the gun had kicked up so much dirt that our faces were as grimy as though we had driven all night in a dust storm. The green Norman countryside was wet and glistening with dew.

Then we heard our own planes drumming in the distance. Suddenly they popped out of a cloud bank and were over us. Security for another day had come, and we willingly surrendered the burden of protecting the beaches. The last "Rest!" was given and the gun was put away. There would be no more shooting until darkness came again. □

Ernie Pyle was killed by sniper fire on the tiny island of Iwo Shima, April 18, 1945. Often confused with Iwo Jima, scene of one of World War II's epic battles, Iwo Shima was a backwater of the war. Pyle was with the 77th Infantry Division which captured the island during a minor operation at the end of the Okinawa campaign.



FORWARD AREA AIR DEFENSE SYSTEM



FAAD C²I

Resolving the 3-D Versus 2-D Debate

by Maj. Michael I. Howell and Capt. Steve Peters

Three-dimensional (3-D) radars are more effective and, in the final analysis, less expensive than two-dimensional (2-D) radars. They should become the cornerstone of the Forward Area Air Defense (FAAD) system's command, control and intelligence (C²I) component.

FAAD C²I component is the "glue" that holds the FAAD system together. To understand the

importance of resolving the 3-D versus 2-D debate, it is first necessary to understand the counterair concept and capabilities of the five FAAD components.

The Forward Area Air Defense (FAAD) system provides dedicated air defense artillery and facilitates combined arms and joint contributions to the counterair fight in the forward area of the air-land battlefield. A complementary mix of technologies and capabilities, FAADs synergism effectively counters the growing air threat to the forward area. Derived using the concept-based requirements system, as constrained by manpower,

budget and technology, FAAD meets the requirements of a proactive, attrition-oriented and highly flexible combined arms counterair concept. FAAD is comprised of the following five components:

- Combined Arms Initiatives (CAI) to proliferate counter helicopter capability by enhancing maneuver weapons in the forward area to provide better self-defense against helicopters. In addition, CAI exploits field artillery, Air Force and Army aviation capabilities in the counter helicopter fight, and inculcates proactive self-defense tactics against the helicopter threat in combined arms training and doctrine.

- Line-of-Sight Forward (LOS-F) to maneuver with the combined arms team at the forward line of own troops (FLOT) supplementing CAI and providing long range anti-helicopter fires. LOS-F, a hybrid missile/gun system, also provides the anti-fixed wing capability in the forward area.

- Non-Line-of-Sight (NLOS), the Fiber Optics Guided Missile (FOG-M), to acquire and kill the stand-off, masked helicopter. Deployed just behind the maneuver elements, FOG-M also supplements the division anti-armor capabilities with long range anti-tank fires.

- Line-of-Sight Rear (LOS-R), the Pedestal Mounted Stinger, to provide a weighted, attrition-oriented air defense of the brigade and division rear areas.

- FAAD C²I, a near real-time command, control and intelligence and targeting system, to integrate the division counter air fight and serve as the ADA node of the Army's Tactical Command and Control System.

The counterair concept and capabilities of the FAAD components create the basis of the FAAD battalion's operational employment. This employment mixes standard tactical missions and new roles — targeting support, alerting and potentially cueing to the combined arms contributors. LOS-F will deploy in direct support of and maneuver with combined arms task forces and teams — a mobile point defense. NLOS will deploy in direct support of ground maneuver brigades. LOS-R will deploy in general support of brigades and the division — a weighted, attrition-oriented area defense.

The FAAD C²I component employs netted sensors to detect and track air platforms. Aerial sensors provide target acquisition forward of the forward line of own troops (FLOT), and behind mask and into clutter. Ground-based sensors provide target acquisition, and, potentially, air traffic control, and Army airspace command and control (A²C²) over the division area of influence. Cueing

ADA FAAD components wherever they are deployed within the division is but one challenge that dictates both sensor operational requirements and general support employment. The C²I component must also service the targeting needs of combined arms contributors — alerting armor and infantry elements while cueing aviation assets.

The mission of cueing all counter air users drives the need for accurate and timely air attack information. Specifically, air track data must be accurate enough to allow rapid acquisition of the target within the weapon system sensor field of view. Although the FAAD C²I sensor provides track information that exceeds this requirement, delays due to communications and processing tend to degrade the initial track accuracy. Therefore, the FAAD C²I sensor's accuracy is also impacted by the capabilities of the FAAD C²I.

A discussion of the architectural characteristics of the C²I component which allow it to meet this challenge was presented in the Fall 1986 *Air Defense Artillery* magazine. The focus of this article is on the characteristics of the ground-based sensor component; in particular, on the requirement for a 3-D radar versus the 2-D radar used for traditional air defense concepts and air surveillance.

The premise is that the counterair concept and FAAD dictate the requirement for a 3-D (X = range, Y = azimuth, Z = elevation) cueing sensor. Not only is 3-D an operational necessity, it also provides operational enhancements to the FAAD C²I component and minimizes total cost of the FAAD system.

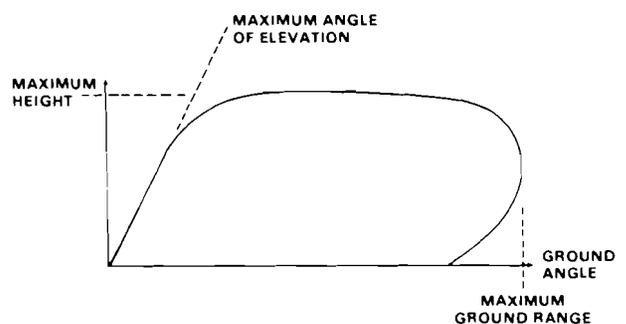


FIG 1 — 2D SURVEILLANCE RADAR VERTICAL COVERAGE DIAGRAM

To ease the following discussion, we'll briefly review radar types. A 2-D radar, typically called a surveillance radar, provides target location in range and azimuth only. It rotates at a fixed rate to provide 360-degree coverage to a specified range and height. Its antenna and circuitry produce a fairly narrow beam in azimuth which is high in

elevation to give the required altitude coverage. The beam shape, known as cosecant squared because of its geometry, spreads its energy uniformly in elevation. The forward area alerting radar (FAAR) is an example of this type radar.

Alternatively, a 3-D radar, typically used as a tracking radar, provides target location in range, azimuth and elevation. Like a 2-D radar it rotates at a fixed rate to provide 360-degree coverage to a specified range and height. However, providing the target elevation requires a different antenna technique. One alternative is to stack multiple beams with overlapping elevation. The signal processor compares differences between the receivers to establish the target elevation. This technique is known as monopulse. While more complex, the technique is relatively easily applied to upgrade a simple 2-D radar.

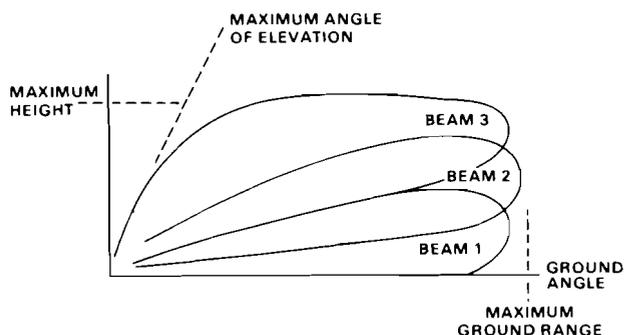


FIG 2 — MULTIPLE 2D BEAM RADAR VERTICAL COVERAGE

Another technology that provides 3-D performance is that of the phased-array radar. Here, narrow pencil beams are electronically steered through the surveillance volume to provide the required coverage, an example being the Patriot radar. Some phased-array antennas can also be rotated at a fixed rate to provide 360-degree coverage.

The following comparison of capabilities is based on a simple cosecant squared antenna for the 2-D radar and an electronically scanned phased array antenna for the 3-D radar. These radars represent the differences in cost, complexity and performance. Attributes of the stacked beam, monopulse antenna would fall somewhere within the spread of differences (depending upon the number of beams stacked) but will not be addressed in this article.

3-D — Operational Necessity

The 3-D radar is an operational necessity for three reasons. First, it ensures, with a high probability of success, that remotely acquired targets can be placed within the field of view (FOV) of a weapon system's passive target acquisition device (a forward looking infrared radar, for example).

Second, it can be used to implement automatic identification algorithms, such as that employed by the Patriot system, that assess identification based upon factors such as compliance with Air Force airspace management and A²C² measures.

Third, it allows target prioritization by FAAD fire units based upon engageability in addition to, rather than solely upon, threat ordering.

Target Handover. Target handover's objective is to pass potential targets to a weapon system from a remote, external sensor with enough accuracy and timeliness to allow engagement at the maximum effective range of the weapon. This process does not imply a target-to-weapon pairing as is the case in high- to medium-altitude air defense. Line-of-sight determinations and fire unit situation are not determinable above the FAAD platoon or section level. Rather, the fire unit will select engageable targets given the rules of engagement, weapons control status, primary target line and other procedural controls. Target handover ability is a function of the C²I system software and sensor accuracies. (Communications delays are overcome by software extrapolation of target position.)

Using simple trigonometry, 3-D radars compute target elevation and ground range

All sensors have a degree of uncertainty about the true position of a target. This confidence factor will be referred to as the sensor's "uncertainty box." Inherent design constraints of a 2-D radar cause its uncertainty box to be large and rectangular as opposed to the 3-D radar's smaller, squarish uncertainty box. This design causes scan-to-scan and multi-sensor correlation problems for the 2-D radar. More important, though, is the resultant difficulty and, at times, impossibility of cueing a weapon system to accomplish target handover.

A 2-D radar, upon detecting a target, establishes the azimuth and slant range to the target. The slant range is used to approximate ground range. Together, slant range and azimuth determine the X and Y coordinates of the target. In addition to azimuth and slant range, the 3-D radar determines the elevation angle from it to the target. Using simple trigonometry, the 3-D radar computes both the elevation of the target and the ground range. Since the azimuth to the target will be the same for both radar types, we'll look at a vertical representation of the results:

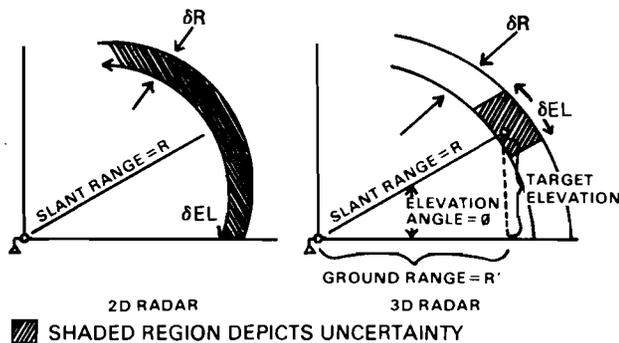


FIG 3 — SLANT RANGE MULTIPLIED BY THE SINE OF THE ELEVATION ANGLE θ EQUALS ELEVATION

Where R = Slant Range and θ = Elevation Angle, R' = the ground range to the target that the 3-D radar provides.

If we assume that both the 2-D and 3-D radars have the same degree of accuracy in establishing target azimuth, we can define their respective uncertainty boxes in terms of the vertical plane. The 3-D radar's uncertainty box is a function of its range and angle accuracies and can be visualized as a square about the target. The 2-D radar's box of uncertainty is more a factor of design — its height equals elevation coverage, its width is determined by the slant range to ground range inaccuracy and is approximated by line W below.

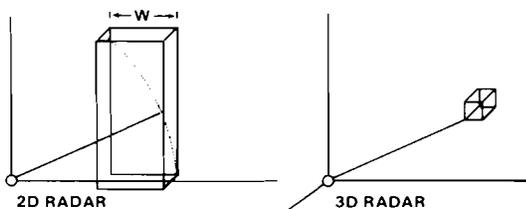


FIG 4 — COMPARATIVE SIZING OF 2D AND 3D RADAR'S "BOX OF UNCERTAINTY"

A 2-D radar detected target could be anywhere along the search arc. This physical reality has implications for both target correlation and target handover. Correlation difficulties can be accommodated but handover difficulties increase: the closer the target is to the fire unit, the higher the target elevation is; if the fire unit is perpendicular to the radar-to-target line, the larger the range inaccuracy (W) appears to the fire unit.

On a scan-to-scan basis, 2-D radars have difficulty correlating with themselves. This difficulty increases when they have to correlate with each other. A short range 2-D radar with a 1.6-second scan period was tested in January 1982 at Fort Bliss, Texas, against a target aircraft flying a straight and level 2,000m altitude, 250m/sec course with a small (50m) offset from the radar. The 2-D scan-to-scan tracking worked fine when the target was more than 3km away, but as the target passed overhead, the tracker (treating slant range as horizontal range) displayed the target as flying a 2,000m semi-circle around the radar. The maneuvers were too much for the radar tracking filter to follow. The radar failed to correlate its scan and the software created and displayed 14 tracks.

Parallax, the apparent displacement of the target from its true position caused by 2-D slant range inaccuracies, also hampers radar-to-radar correlation. For low altitude targets the parallax is small, but then it is unlikely that multiple radars will see the target simultaneously due to terrain masking. As the target gets higher, more radars see the target and the parallax problem gets worse. For short-range 2-D radars and higher altitude targets, miscorrelations will be frequent and the C²I system could be saturated with false tracks. This problem can be overcome by increasing the correlation cell size to equal a cube, each equal to the box of uncertainty. However, increasing the correlation cell size decreases the accuracy of targets displayed at FAAD weapons, and increases the probability that multiple targets will be reported as one target.

If a gunner is given a precise target cue in 3-D, he can quickly place his weapon sight (forward looking infrared radar [FLIR] or other optics) or his onboard tracking radar onto the target. If the cue is 2-D, he must search in elevation. Worse, a slant range problem that introduces a significant parallax may cause the gunner to look in the wrong direction. For example, the error in ground range

for a target at 2,000m altitude and 4km east of a radar is 472m. For a gunner 2km south of the target, this results in an azimuth pointing error of 14 degrees. For a one-on-one engagement at maximum range, 2-D radar parallax problems are minimized and may be overcome by a tracking radar's box search or a wide field of view FLIR. The latter radar or FLIR solution may be appealing but field experience has shown gunners have difficulty in finding targets using the FLIR wide field of view.

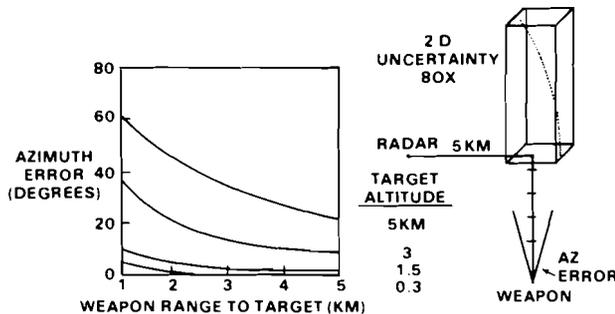


FIG 5 — 2D RADAR SLANT RANGE ERROR IMPACT ON TARGET HANDOVER FOR VARIOUS ALTITUDE TARGETS

Target Identification. Aircraft, or target, identification is a critical task for effective air defense. A variety of techniques — direct and indirect, and cooperative and non-cooperative — is employed to establish identification. One indirect, cooperative technique, procedural identification, is employed by Patriot. FAAD C²I will also implement the Patriot algorithm. This algorithm considers a number of factors: a key one is compliance with Air Force airspace management and A²C² control measures. These control measures, such as low-level transit routes or restricted operations zones, are defined as 3-D volumes in length, width and altitude. A radar that cannot determine target elevation cannot assist in identifying targets through procedural rules.

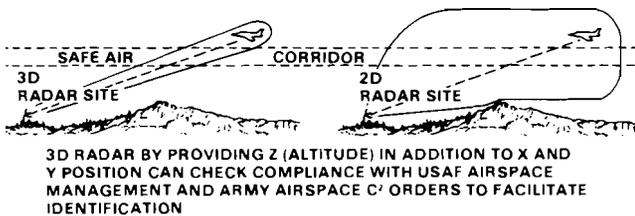


FIG 6 — PROCEDURAL AIRCRAFT IDENTIFICATION

Target Prioritization. All air defense systems threat order targets. Essentially, threat ordering is ranking known targets according to their prox-

imity, modified by expected time of arrival, to the fire unit or its defended asset. For systems such as Chaparral and Vulcan, threat ordering is a mental task of the squad leader — predominantly, the first potential target detected is the first to be engaged. For Hawk or Patriot, the task is automated as multiple targets become known to the system. For FAAD weapons, simple threat ordering must be modified by engageability.

Consider a situation in which the C²I system is tracking six hostile targets within the area of interest of a weapon as determined by their range and direction of flight with respect to the weapon. The squad leader's display might appear as on the left while the actual air situation is depicted on the right.

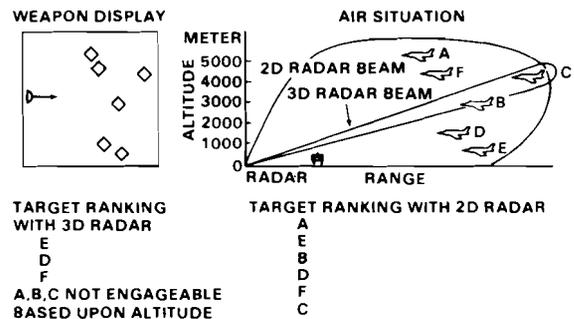


FIG 7 — TARGET PRIORITIZATION

Assuming all targets are moving at the same velocity, target prioritization based upon 2-D radar information could result in A, E, B, D, F and C as the order of engagement. Alternatively, using 3-D radar information the priority for engagement could be E, D and F, assuming A, B and C are not engageable based upon altitude. This is a simple example but it illustrates the point and the futility of expecting a man to perform similar calculations. FAAD C²I's software will implement a prioritization routine based upon threat ordering, engageability and primary target line assignment. Prioritization contributes to the effectiveness of FAAD by ensuring that the most urgent threat is defeated first.

3-D — Operational Enhancements

A 3-D radar provides operational enhancements in four ways. First, it reduces the loss of surveillance and target tracking volumes due to enemy jammers.

Second, it simplifies the processing, thus software complexity, of triangulating to determine the position of self-screening and stand-off jammers.

Third, it reduces the vulnerability of active sensors to enemy electronic intelligence (ELINT) systems which identify and locate friendly emitters for attack.

Fourth, it minimizes mutual interference between adjacent radars to reduce frequency management complexities.

Effects of Jamming. Threat forces will extensively employ radio electronic combat (REC) on the modern battlefield. Air defense forces will be targeted for several types of jamming. Stand-off jammers and self-screening jammers have the same objective — to deny or spoof targeting information and thus to reduce air defense effectiveness. Jamming denies the radar range information in the azimuth of the jammer. The radar knows something is there but can't tell where or what it is. A 2-D radar sees the main beam of the jammer when their azimuths coincide, effectively blocking a wedge out of its coverage and masking any targets that may be within the wedge at higher or lower elevations than the jammer.

A 3-D radar can look above and below the jammer due to multiple beams and thus can only see the main beam of the jammer when the azimuths and the elevation angles coincide.

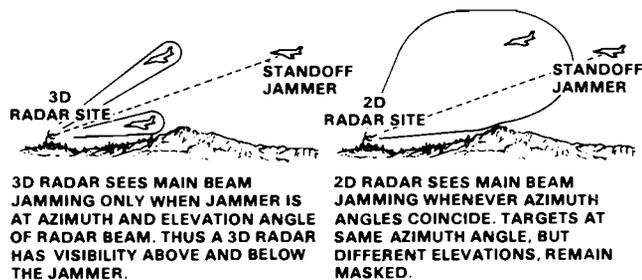


FIG 8 — EFFECTS OF JAMMING

Triangulation of Jammers. Jamming aircraft must be targeted rapidly. A standard technique to determine the target position in range is triangulation, which is similar to the intersection technique of map reading. Aerial targets, though, are complicated by the vertical plane elevation. A 2-D radar is denied range information and will only be able to establish the azimuth to the jammer — a jam strobe. Three or more 2-D jam strobes are required by a C²I system to locate the jammer and

eliminate ghost returns (false tracks) from being reported. Likewise, a 3-D radar is denied range but is able to discern both the azimuth and elevation of the jammer. Triangulation and deghosting can be performed using only two 3-D radar strobes. Operational effectiveness is enhanced by the 3-D radar since there is a greater likelihood of two radars seeing a target than three or more. In addition, software complexity in the C²I system is reduced for 3-D triangulation which will be considered in the cost comparison.

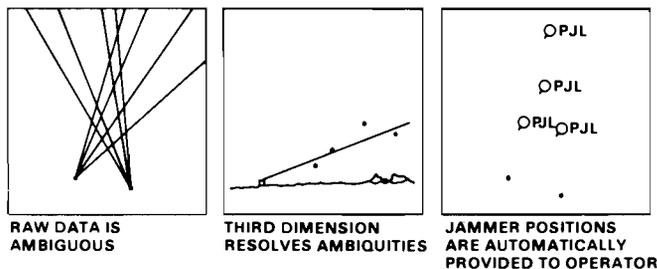


FIG 9 — JAMMER TRIANGULATION WILL BE ACCOMPLISHED BY FAAD C²I

ELINT Vulnerability. Another facet of REC is ELINT. ELINT seeks to identify and locate emitters for exploitation or elimination. An enemy ELINT system is painted by the main beam of a 2-D radar on every scan when their azimuths coincide. A 3-D radar, though, paints it only when both the azimuth and elevation of the pencil beam coincide with the ELINT system. Thus, the ELINT system gets fewer looks at the main beam of the 3-D radar, thereby increasing the difficulty of identifying and locating the 3-D radar — a survivability enhancement.

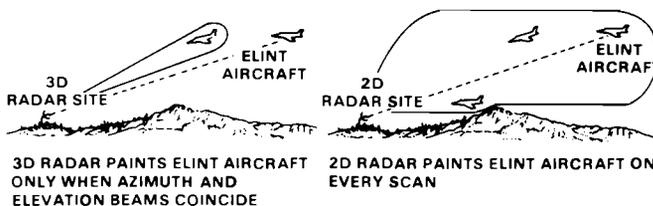


FIG 10 — ELINT VULNERABILITY

A secondary consideration of ELINT survivability of the 3-D radar over the 2-D is the relative side lobe levels of the two classes of radars. A 2-D radar generally has a higher radiated energy level in its side lobes (that area to the sides of the actual

main radar beam) than does a 3-D radar. This situation is represented below:

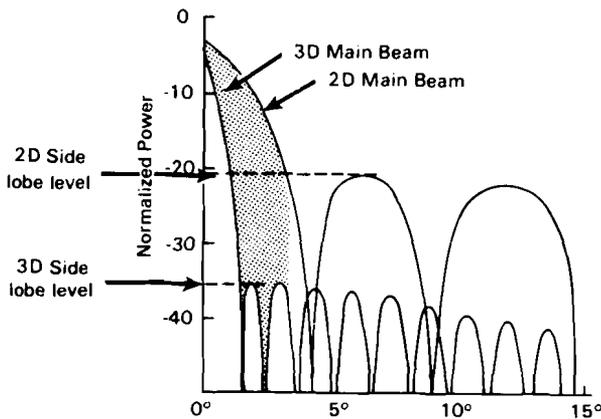


FIG 11 — ELINT SURVIVABILITY

The actual power level of these side lobes may assist in detection of the radar by ELINT devices. Additionally, many anti-radiation missiles (ARMs) use the side lobes of the radar to home in during their terminal maneuvers.

It is possible to design a 2-D radar with low azimuth side lobes, but the beam remains the same in elevation. Payoffs include increased X and Y accuracy along with increased ELINT and ARM survivability. However, the cost of the improved 2-D radar will increase to close to that of a 3-D without the benefit of an accurate elevation measurement capability.

Mutual Interference. In like manner, the main beam of a 2-D radar radiates an adjacent radar on every scan. This is a potential cause of interference which must be managed by frequency assignments or other techniques. A 3-D radar generally radiates its neighbor on a scan only if its beam elevation coincides with the elevation angle of its neighbor. In either case, the best means to overcome mutual interference remains judicious placement of the sensors.

The operational benefits to the FAAD mission of a C²I system configured with a 3-D radar may be but the proverbial tip of the iceberg. The C²I netting of the individual sensors to form a comprehensive division air picture has great potential for accomplishing the division's A²C² mission and augmenting the division's Army air traffic control capabilities. The abbreviated cost comparison of 2-D and 3-D radar C²I configurations that follows does not address this benefit though.

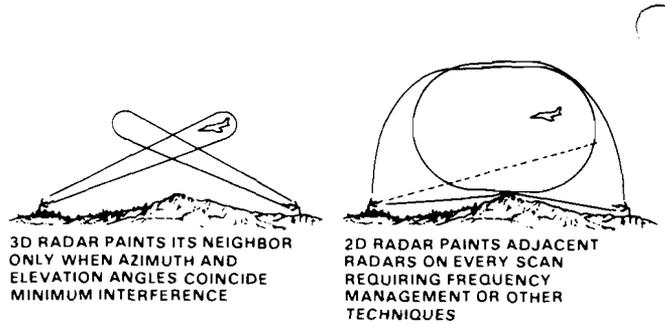


FIG 12 — MUTUAL INTERFERENCE

Total System Cost Advantage

The 3-D radar minimizes total system cost. A 2-D radar might have a procurement cost advantage over a 3-D radar. But this initial cost advantage is more than offset by the increased complexity of C² software and FLIR acquisition costs.

Comparing only the acquisition cost, 2-D radars would be favored over 3-D radars. However, total cost of all elements affected by the 2-D versus 3-D radar decision must be considered. To simplify the discussion, we'll assume that the operating and support costs are relatively equal and limit the comparison to radar, software and fire unit FLIR costs.

Factors that tend to reduce the cost of a 2-D radar are simpler electronics and antenna design. A 3-D radar may have one or more receiver channels and must have multiple beams and/or beam steering with either phase shifters or frequency changes. We'll assume a 2- to -1 hardware cost advantage for 2-D radars: \$1.5M/2-D radar and \$3M/3-D radar.

An additional element is the software complexity and cost of the C² system which manages the radars and processes the data into battlefield information. Because the 2-D radar has less data to work with, it cannot develop an accurate air situation. The burden of sorting out altitude and range ambiguities of multi-sensor correlation, similar to the triangulation problem, is left to the C² system. The algorithms for sorting multiple targets from incomplete data are complex and correlation boxes are large. Miscorrelations result in false and duplicate tracks which increase commo loads and decrease soldier confidence. The software cost of the radar, C² and weapons can be estimated. Assume, for example, that the corresponding C² software cost for both radars is \$200K.

The third element to consider is the weapon systems. All line-of-sight FAAD weapons will employ FLIR devices in their passive acquisition suite.

The 2-D radar advocates often recommend using sophisticated FLIRs with a wider field of view, such as that of the Chaparral, to offset the 2-D radar's inability to cue to narrow field of view. A Chaparral FLIR costs \$324K, according to the Army Master Data File (AMDF). An M-1 tank FLIR, which has been adapted for use in at least one Pedestal Mounted Stinger candidate, costs \$56K by the AMDF.

Considering that a FAAD battalion will employ six radars, 36 PMS and 36 LOS-F, the cost comparison looks like this:

2-D Radar Solution

6 Radars at \$1500K =	\$ 9,000K
1 Software at \$200K =	200K
72 FLIRs at \$324K =	23,328K
	\$32,528K

3-D Radar Solution

6 Radars at \$3,000K =	\$18,000K
1 Software at \$200K =	200K
72 FLIRs at \$56K =	4,032K
	\$22,232K

Thus, a software cost of a factor of fifty (x50) or a FLIR cost at a factor of three (x3) can be the break-even point for 30.

The cost advantage has dramatically shifted. From a total cost standpoint, a 3-D radar is clearly the winner.

The example is simplistic, but the result is informative. As line-of-sight FAAD weapons will be procured off-the-shelf, we won't be able to choose between a Chaparral and an M-1 FLIR. The relative cost difference, though, is indicative of the cost that must be paid by the weapons to overcome the limitations of a 2-D radar. The cost is not only in dollars but also in operational freedom, when the weapon's are allowed to remain totally passive or at most require only a simple box search by an onboard tracking radar.

Another advantage that will accrue to 3-D radars is the potential for increasing the robustness of the weapons' fire control system and thus of

weapon availability. Each weapon will be interfaced with FAAD C²I. High quality data available with a 3-D radar provides a backup to the onboard subsystems such as a laser range finder (LRF). Should an LRF fail, the weapon's fire control processor could extract the range information from the FAAD C²I target data and complete the engagement. Similar backup capabilities can be devised for handling multiple targets and other critical tasks, providing redundancy without the expense of backup hardware to increase availability.

A payoff that cannot be measured in dollars is the increased capability of FAAD weapons to effectively engage air targets. With precise, 3-D target data available, squad leaders can better decide which target to engage, gunners can put steel on target faster and the target is not forewarned that an ADA weapon has locked on it.

Conclusion

The FAAD system counters the air threat to Army divisions preserving freedom of maneuver and the ability to sustain the fight. FAAD is an integrated system of systems. It is a synergistic concept employing complementary weapons and sensors integrated by a robust command and control system.

As with any system, the upper bound on performance is limited by the weakest link. The sensor suite cannot be the weakest link in FAAD. The cornerstone of the suite — ground-based radars — must be up to the task. A 3-D radar, an operational necessity and an operational enhancement, provides the lowest total system cost to assure the effectiveness and efficiency of the FAAD system. □

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Captain Steve Peters is the assistant TRADOC system manager for FAAD C²I sensors, Fort Bliss, Texas.

Making The Grade

Air defenders ride the crest by knowing what counts in the promotion process

by Lt. Col.(P) David K. Heebner

"I would follow him into combat out of sheer curiosity."

This quote from an officer's efficiency report illustrates that raters can be both creative and humorous in rendering performance ratings, but . . . the message must be clear. Officer efficiency reports (OERs) must create an accurate and informative mosaic of an officer's performance and potential.

As the air defender on the FY 1987 Majors Promotion Board, I have some insights to share concerning the promotion process. How a board operates and my opinion of what's important at promotion time is my message. We all know that strong performance, properly reflected on OERs, is the path to success. But, there are other things that influence promotion boards as well. (More on this later.)

First, the bad news: too many good air defense captains with competitive files will not be promoted. Army authorizations for promotion to major limit the number of officers who can be promoted. That means the best qualified succeed, leaving

many fully qualified officers below the cutoff line. The good news: air defenders are very competitive with their contemporaries, and the system is fair in ensuring that our soldiers receive the best leadership possible.

How do promotion boards work? Board members are selected from commands around the world. Eighteen senior officers, including a general officer board president, convene at the Military Personnel Center (MILPERCEN). They are assembled into three panels of six each. Each panel has a cross section of combat arms, combat support and combat service support specialties. Minority, female and other than Regular Army officers are included to ensure balanced representation.

Boards receive initial guidance that gives board members a common baseline for evaluation and lays out special tasks. This year's board was reminded to consider the following:

- The potential to perform as a major; the officer must be ready for more responsibility.

- Use a whole-record concept; every job is important, so consider the officer's ability to per-

form in diverse jobs and environments.

- Integrity and character; there is no substitute for an ethically based officer corps.

- Attitude, dedication and service; consistency and trends in performance are strong indicators of potential.

Additional guidance identified specific Army needs. Specialty goals established the minimum number of officers desired in each specialty code. These were goals that reflected an Army "wish list" of skills needed to meet known requirements; they were not mandated minimum numbers. If there are not enough qualified officers in a specialty, boards do not promote officers whose files show them to be unqualified.

Further guidance was given the board members to identify especially deficient or sub-standard officers who should be directed to "show cause" for their retention on active duty.

Reinforced with this important Army guidance, the board began the process of selecting our newest field grade officers. This occurred in two phases.

Phase I was the voting phase. The three panels moved to separate rooms, and the voting began with all "above

zone" (or previously considered) and "in zone" files mixed together. Every file was voted on by every member. Scores could range from a high of 6 to a low of 1 with a plus or minus possible for added emphasis. Files were circulated randomly within and among panels. Each member's vote was concealed until all panel members voted. When all the files were voted upon, scores were totaled and an order of merit list (OML) was created. The file with the most points was first and the file with the least points was last.

Next, files for the entire "below the zone" eligible group were brought out. The below zone files were voted on in a two-step process. First, they were screened by board members voting "yes" or "no" to identify those officers most competitive for early promotion. This first step was a quick method of culling out files that clearly had no chance for early selection. That left more time for a careful review of the most competitive officers in the below zone year group. The remaining below zone files were scored in step two just as in zone files had been voted on earlier. The result was an OML for below zone candidates. That ended Phase I.

Phase II took place with all the board members in a combined session. First, below zone files were discussed and a decision was made on the precise number of below zone selections to be made. (Remember, no more than five percent of the total selected for promotion can come from below the zone.) The below zone files were then merged with the in zone and

above zone OML. The cut line was determined based on Army guidance which established the maximum number to be promoted.

Next, statistics from the board's current list were reviewed. The board decided collectively whether officers from any possible underslected group would be advanced from the fully qualified, but below the cut line, to above the cut line to meet Army goals. Once completed, the list of recommended selectees was locked away. Promotions will be made from this list based on date of rank.

Board results are then checked for accuracy

Two very important tasks then remained. The entire board reviewed the files of officers recommended for "show cause." Officers with consistently poor performance or significant character deficiencies, identified during the voting phase, were discussed individually and voted on by the combined board. Those determined to warrant "show cause" were referred to the Department of the Army (DA) for approval and to MILPERCEN for administrative processing.

Officers who had failed selection for a second time were then considered for selective continuation in their current grade. There is no prescribed formula for this process. Criteria for selection can range from special

Army skill requirements to circumstances such as combat awards, prior enlisted service or even years of service. The officers who are selectively continued are then kept on active duty as captains for three years. If not selected for promotion by then, they are once again considered for further continuation in grade.

Board results were then checked for accuracy and completeness; a final report was completed and the board adjourned. The whole process took nearly six weeks. The promotion list was forwarded for the required congressional approval prior to official release. So that's the board process.

For rated officers

What can officers do to help their own cause? It is important to know what board members see that influence their opinions. The file photo, officer record brief (ORB), loose papers and the performance microfiche are your representatives. Each has impact. Until this board experience, I thought the OER was the only input that really counted. I think differently now.

The file photo does more than provide visible proof that you exist. It creates a more personal relationship between you and the board member than is otherwise possible with just words and numbers in your reports. Make certain there is a recent photo in your file, and look it over carefully before sending it in. Retake the photo as many times as necessary to be certain it shows you at your professional best, confident and relaxed.

ORBs are equally important. They offer a one-page, career snapshot that establishes a first impression. Data that is incorrect or incomplete can give a confusing introduction to your file. Each of us is charged to review and verify the data annually. So the onus is on us to make our ORB's accurate.

Loose papers included in a file can be useful in conveying important information such as the completion of education courses or degrees. However, loose papers take valuable time, so be certain they have a real message. MILPERCEN adds OERs and awards in paper form that are received too late for addition to the microfiche. Personal letters from you to the board president are also authorized, but they should be limited to new information in a concise, factual format.

Resist any temptation to tell the board, "If you knew me like I know me, you would love me like I love me," regardless of how creative you might be in disguising the thought. The best letter input I observed was simple and direct — "I look fat in my photo, but I'm not. I've been a power lifter for 15 years, and my body fat has been measured at 15 percent." This is an important message, clearly stated, concise and factual — that's the ticket.

The microfiche performance file is unquestionably the single most significant item in your file. It provides your raters' views of your performance and potential, and establishes trends. Every board member uses his own system and standards in reviewing OERs, so there is no simple, all-inclusive description of how an

OER is measured. However, there are some conclusions I have drawn that may be useful.

First, all reports count. In my opinion, recent reports count more, and command reports count most. If you have a slip in performance, try not to have it just prior to a board action and not during command. This is especially true for captains competing for major. If you have a weak command rating, try to get another command. Don't be overly concerned with the type of command. We all want to lead soldiers in fighting units, but board members realize that other commands are equally important and challenging.



The senior rater's potential evaluation and comments appear to carry the most weight



What is the most important aspect of an OER?

There is no simple answer. Everyone has his opinion, and here's mine. At one time or another, I used all the information available on our current OER form. That doesn't mean I used it all for every file. There were different circumstances with each officer that required different pieces of information. Our reports today are effective in communicating a wide range of data. However, the senior

rater's potential evaluation and comments appear to carry the most weight. Closely behind that are the rater's comments on potential, followed by the rater's details on performance.

Here are some other factors to consider. If you are selected for Army-funded civilian schooling, be successful. Having been selected means you have a strong file, but failure to perform academically thrusts you back into the pack at warp speed. For those who are close to their maximum weight, any height increases over time (as weight increases) are suspect. Finally, the old rumor is true, mustaches can't help.

To put a few overarching thoughts together for rated officers, there are five points to remember in planning a strategy for success, and five equally important factors that can propel you in the opposite direction.

Steps to the top

- Have a recent, sharp photo on file.
- Be certain your file is complete and accurate.
- Have consistently strong OERs, or at least a strong positive trend.
- Have evidence of ethical, dedicated service on record.
- Be certain your file indicators highlight your fitness to fight.

Steps to the bottom

- Receive letters of reprimand.
- Have Uniform Code of Military Justice actions.
- Exhibit any integrity flaws.
- Be overweight.
- Show negative trends in performance.

For rating officials

How well are raters performing their important tasks? Air defenders are generally doing well. Raters are communicating the quality of the branch effectively, and it shows in the competitiveness of our officers. Senior raters are also doing well in developing meaningful profiles and emphasizing the potential of officers they rate. Considering this and the fact that the selection results confirm the competitiveness of air defenders, there will be no lectures here on supporting the system and the branch. However, there are a few thoughts that are worth noting as a reminder to some raters.

Don't feel compelled to use all the space in a report. The task is to clearly and concisely communicate performance and potential. Board members want only the facts needed to make their decisions in the most direct form possible. There is no relationship between the number of words and the probability of selection — so be succinct.

Some officers elect to use non-standard typewriters, perhaps for uniqueness, perhaps convenience. However, the best product is a neat, uncrowded report using standard, 10-pitch type.

Use simple, direct, declarative sentences. With thousands of files to read, there is no time to trudge through convoluted thoughts. And say the most important things first. That way you can be certain your bottom line will be received. Avoid jargon, acronyms and clichés. They make comprehension difficult and send a subtle message that you didn't think

***Be
consistent
and
tell it
like it
is***

enough of the rated officer to be original with your words.

Be consistent with words and numbers. The most frequent complaint among board members was the tendency of some senior raters to inflate words while showing a low-profile standing. That presents a dilemma, not only to the rated officer who needs to understand your rating, but to board members who don't have the opportunity to discuss it with you. Be consistent, and tell it like it is. When senior rater profiles are very small, it is helpful to include a statement such as, "I intend for the third block to be my center of mass."

It also helps occasionally to add thoughts like, "This is one of the three best battery commanders I have rated in the brigade." It adds special emphasis when your profile doesn't tell the whole story. Senior raters should not parrot the rater's comments on performance; rather they should direct their comments to potential and make specific recommendations for jobs, schools and advancement.

The senior rater blocks are so important that every effort should be made to ensure each

report includes a senior rater. Too many officers receive reports for periods in excess of six months without a senior rater. This creates a hole in the rating sequence which becomes especially critical if it includes command time. Use the senior rater option report liberally to minimize the time without a senior rating.

Also, duty titles in Part IIIA are important because there is rarely enough time to read the details in the job description. Terms like battery commander, adjutant or aide-de-camp are easily understood by everyone. However, job titles such as SAM allocator mean very little to most non-air defenders. Try to use terminology that is easily understood. Another effective technique is to select job titles that have the most impact. For example, one Training and Doctrine Command school uses the job title instructor/author for their instructors who also write manuals or other publications. It has the subtle effect of highlighting an important aspect of the job, which might otherwise go unnoticed.

The bottom line

How effective is the process? After finally seeing the promotion process from the inside, my confidence in the system is reaffirmed. The system is fair and just. That doesn't mean improvement is not possible, nor does it mean that every officer selected is more deserving than those not selected. There are undoubtedly some inequities in all systems. However, taken on balance, the system is working well.

Our latest OER, DA Form 67-8, has survived longer than any other performance report in our history. From a promotion board perspective, it provides the information necessary to make important decisions concerning a most significant Army resource. But remember the adage about computers, "garbage in, garbage out." Raters must communicate accurately and informatively.

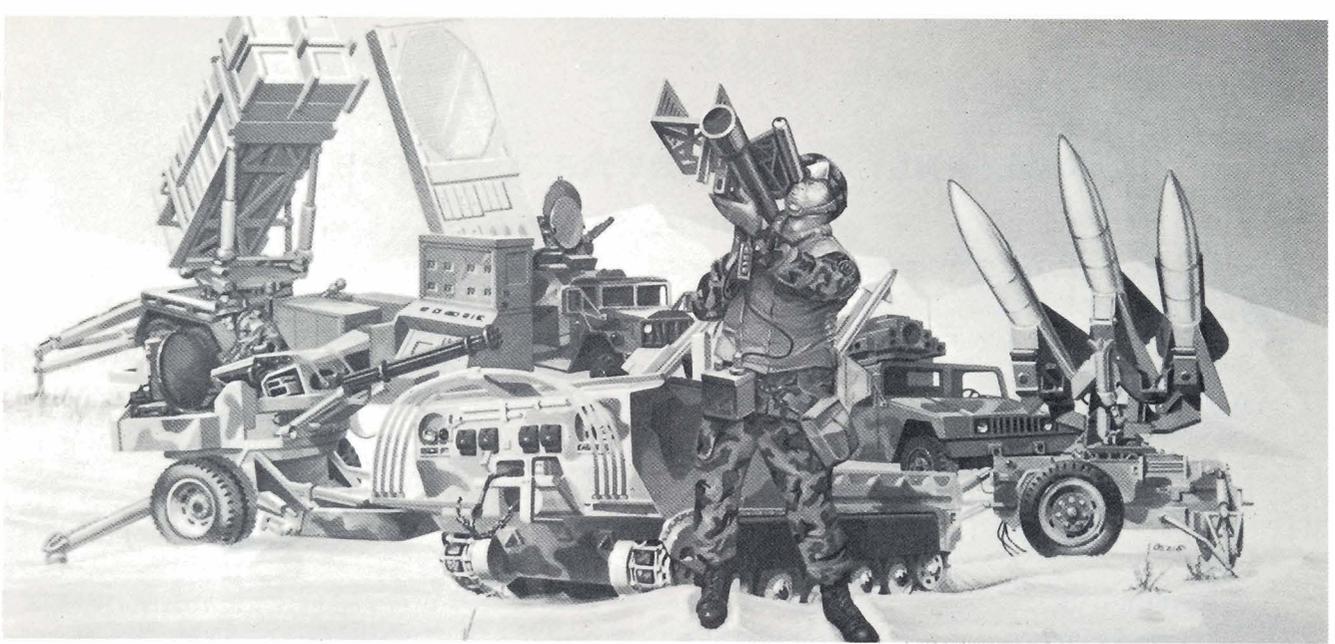
Boards must review files rapidly, but not too quickly to assess the important information. Each file gets reviewed by the total board for 30 to 45 minutes, and some files much longer, if needed, to understand special circumstances. The fact that officers are being promoted with fourth and fifth block ratings is testament to the fact that every rating need not be a

top block, and that officers are being promoted based on their total file and overall potential.

The promotion system is working well today, and there is every reason to believe it will continue to improve in the future. Air defenders can ride the crest by knowing what counts in the promotion process and doing something about it. Doing the right things is neither difficult nor complex. Just a little system "savvy" mixed with a modest amount of personal energy, added to an established pattern of strong performance can provide the edge needed for success in our competitive promotion system. □

Lt. Col. David K. Heebner is the air defense team chief, Firepower Division, Assistant Deputy Chief of Staff, Operations, for Force Development, Headquarters, DA. (AV 227-9595)

In the recent major promotion board, 136 ADA officers were selected. Air Defense Artillery's 57.9 percent selection rate was slightly below the Army average of 60.5 percent.



The ADA Advantage

ADA offers future officers challenging careers

by Tom Wiggins

Air Defense Artillery is one of the most demanding and challenging branches in the combat arms team. The ADA motto is "First to Fire." Being first takes teamwork and leadership to bring it all together — the troops, the weapons, the tactical plan, and the desire to win on the battlefield.

Today's leaders must be smart, aggressive and independent thinkers. They must also be technically and tactically proficient to win on the modern battlefield.

Wars may be fought with weapons, but they are won by soldiers. As an ADA officer, you will have the honor of leading soldiers who are among the finest in the world. They are high tech warriors whose versatility and valor have been demonstrated on the battlefield.

In today's air-land battle, air defense gives the combined arms team the freedom to maneuver on the entire battlefield. The air defense battlefield extends from well beyond the forward line of troops to the support routes that make it possible to maintain the initiative to the depots where the

resources to continue the battle are gathered.

If we are to fight to win, we must train to fight. In Air Defense Artillery, we consider training as the combat imperative. Following are the weapon systems that you will train and fight with:

- Man-portable air defense weapon systems are short-range, shoulder-fired, infrared-guided missile systems — either Redeye or Stingers. Its firepower takes on enemy high speed, low-altitude, ground-attack aircraft and helicopters.

- Vulcan is a short-range air defense gun with a high rate of fire. Air Defense Artillery uses the Vulcan to protect forward area combat forces and works very well with the combined arms team.

- Chaparral is a highly mobile guided missile system generally used to protect critical assets, within a division, against low-flying attack aircraft.

- Hawk, using command-guided missiles, protects against low- to medium-altitude attack aircraft. Hawk's far reaching range means it can engage aircraft well beyond the forward line of troops.

- The Patriot missile system can engage and destroy threat aircraft operating at all altitudes. With state-of-the-art design, Patriot will be effective against the air threat for years to come.

(Cont. on page 32)

AIR DEFENSE ARTILLERY AROUND THE WORLD

UNITED STATES



HAWAII

SCHOFIELD BARRACKS

25th Infantry Division
1st Bn 62d ADA (C/V)



ITALY

VICENZA
559th USA Arty Group

KOREA

CAMP CASEY

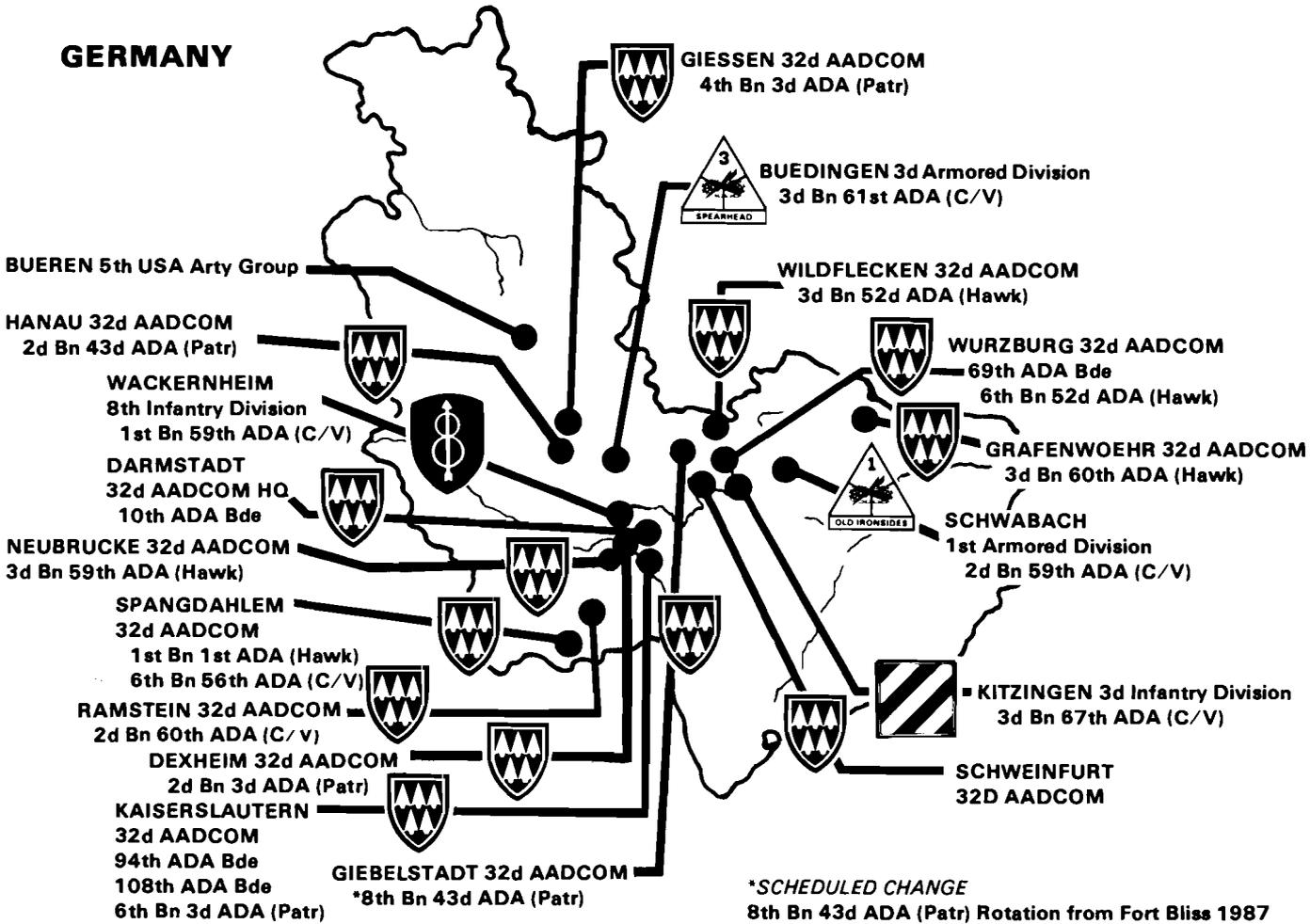
2d Infantry Division
2d Bn 61st ADA (C/V)



GREECE

ELEVSIS
558th USA Arty Group

GERMANY



**SCHEDULED CHANGE*
8th Bn 43d ADA (Patr) Rotation from Fort Bliss 1987

		AIR DEFENSE ARTILLERY	
1st Infantry Division	35th ADA Bde		2d Armored Division
2nd Infantry Division	11th ADA Bde	USAADASCH	3d Armored Division
3rd Infantry Division	7th Infantry Division	I CORPS	1st Cavalry Division (Airmobile)
4th Infantry Division	8th Infantry Division	32d AADCOM	82d Airborne Division
5th Infantry Division (Mechanized)	9th Infantry Division	1st Armored Division	101st Airborne Division (Air Assault)

ADA offers challenging high-tech careers

(Cont. from Page 29)

With Patriot's long range and lethality added to the Hawk, Chaparral, Vulcan and Stinger, Air Defense Artillery offers the combined arms team protection never before dreamed of by the combat commander.

When you attend the Air Defense Artillery Officer Basic Course (OBC) at Fort Bliss, Texas, you will be trained to lead and to fight to win. You will train in —

- Air defense planning
- Logistics management
- Integration of combined arms tactics into air defense
- Leadership

The small-group teaching concept, a recent innovation in OBC, ensures depth in learning a wide variety of subjects. The weapons training gives each student the opportunity to develop valuable technical skills.

Using high tech weapon systems, you will gain confidence with the equipment and experience working as a team. Training in OBC prepares you to become a platoon leader — most likely your first assignment with Air Defense Artillery. Typically, you will not be in that position long before you will be moved into an even more responsible position. Air Defense Artillery officers are stressed early. Because of the demanding role of Air Defense Artillery in protecting the maneuver forces, the ADA officer has to make independent decisions far sooner than officers of other branches.

Some of the possible assignments and locations you may receive after training range from leading a few men in a Stinger or Redeye platoon at places like Fort Ord, Calif., or Fort Bragg, N.C., to leading more than a hundred soldiers in a Hawk battery at one of several locations in the United States. (See the ADA Unit Locations map on Page 30.)

You may also travel overseas to one of several locations in Germany, Hawaii, Italy, Korea or Greece assigned to a Chaparral or Vulcan unit. Also, you may be assigned to a Patriot battery where you will have control of a truly awesome air defense weapon system.

After a tour of troop duty, you will be eligible to attend the Air Defense Artillery Officer Advanced Course (OAC) at Fort Bliss, the home of Air Defense Artillery. The OAC prepares you for command assignments at battery level and to serve as staff officers at battalion, group and brigade level.

Down through the years, Air Defense Artillery has developed from the most basic weapons to the most technically advanced systems in today's arsenal of weapons. Currently being tested is the latest air defense system concept developed so far. It is called the Forward Area Air Defense (FAAD) system.

FAAD is a fully-integrated, multidimensional system designed to combat the threat at or near the forward line of own troops. Some of the candidates being tested for FAAD are —

- Line-of-Sight Rear — operates at the rear of the maneuver force to provide a weighted, attrition-oriented air defense of the brigade and division rear areas.

- Non-Line-of-Sight — operates at maneuver brigades engaging aerial and ground targets at more than 10 kilometers. The fiber-optics guided missile's mission is to acquire and kill the stand-off, masked helicopter.

- Line-of-Sight Forward — combines a multiple role of gun and missile to engaged fixed- and rotary-wing aircraft near the forward line of own troops.

- The combined arms initiative combines the combined arms unit's weapons with air defense weapons to assist in their own protection.

- Tying this all together is the command, control and intelligence (C²I) system which is the nerve center of FAAD.

FAAD will round out the complete ADA weapons arsenal providing leaders with the assurance of winning on the battlefield.

The combined arms team depends on Air Defense Artillery to protect the maneuver force and defend the critical assets from air attack. If you want a challenging career, there is an exciting and rewarding opportunity for you in the Air Defense Artillery branch. □

OAC Changes

Air Defense Artillery's Officer Advanced Course has a new learning style that capitalizes on the experiences of attending professionals

There is no reason why military learning should be a solitary, face-in-the-crowd, one-directional experience. The U.S. Army Air Defense Artillery School, Fort Bliss, Texas, has embarked on a venture to make its Officer Advanced Course (OAC) less a solitary experience and more a group experience.

The school's goal for OAC is to graduate leaders: physically fit leaders who are ready to command a battery, ready to take an ADA battalion principal staff job and ready to function in a combined arms arena.

While the goal for OAC has not changed significantly, the process to develop these leaders has changed dramatically. The most obvious change is in classroom style. It has switched from large lecture classes to small group seminars. A less obvious, yet no less critical, change is in the teaching approach.

The old OAC style, as most graduates remember, followed the same teaching process that the officers encountered in first grade. The teacher told them what they needed to know, reinforced the teaching and then tested the students on their ability to remember what they had been taught.

Officers, usually senior lieutenants and captains, attending OAC are now approached as professionals who can help define what must be studied. Within that broad framework, the OAC challenges the officers to:

- Focus not on the facts, but on the art of application — the thought and analysis processes related to those facts.

- Concentrate on what they need to know in a captain's job — the course has boiled down the content, aiming it at making good battery-level commanders and battalion or higher staff officers.

- Roll the facts and application together within a combined-arms perspective — how ADA fights the air-land battle in conjunction with the combat arms.

For officers who have graduated from OAC and have since attended the Combined Arms Service Staff School (CAS³), the small group model and the art of application aspects of the new OAC must sound familiar. Undoubtedly the success of CAS³ and the changing demands on ADA captains were catalysts to develop the new approach.

The ADA School's Combined

Arms and Tactics Department (CATD) is responsible for OAC. Maj. Charles E. Kirkpatrick of CATD was one of the key officers involved in the OAC transformation. He explained, "We recognized shortcomings in the old OAC format and, in December 1985, started to formulate a more progressive OAC course. The first class taught in this new style began late in 1986."

In order to focus on "how to think and not what to think," a different relationship between students and OAC instructors was needed. "Col. James L. Smith [director, CATD] selected some of his most experienced instructor captains to head seminar groups made up of no more than 15 people," said Kirkpatrick. These team leaders, all with command and most with CAS³ experience, are each assigned an individual seminar group to work with throughout the course.

"The team leaders do not teach in the seminar; the officers teach themselves. The team leader is a guide and a source of information to help keep group discussions on a fruitful and professional level," he said. "That means the team leaders may look for questions

for the group to consider, summarize key points or hit on what they might miss.”

Another key difference between the old and new OAC is the switch to subjective evaluation. The seminar groups are no longer expected to take in innumerable facts only to expel them in rudimentary fashion on tests later in the course.

“The course is not graded in a traditional sense. Each day group leaders observe the hard work, the performance of the officers in the group. An evaluation is made in terms of progression and contribution to the day’s work,” Kirkpatrick explained.

There is a demanding workload which includes a great deal of reading. “The students must read at least six books, not all military subjects, related to course goals. The students then discuss their readings in the next professional readings seminar. Their peers are very critical, and they have to be prepared to defend their points in class,” observed Kirkpatrick.

The level of learning and dedication observed in this first class of small-group instruction has been tremendous. They soon realized that they were not studying for a test, they were studying for themselves, and they attacked the subjects with a fervor. Also, “the students are setting the standards, and frankly, they are tougher on themselves in comparison to what has been expected of students in the past,” he said.

The performance evaluation process is based on the following:

- A research project.
- Professional reading presentations.

- Oral presentations and briefings.

- Staff papers, estimates, plans and orders.

- Seminar participation.

- Formal counseling and rating on an academic evaluation report by the team leader.

- Peer rating on progress and contributions.

The officers, enjoying the participatory professional atmosphere, are clamoring for more. “The course allows for small group discussion every



The team leaders act as daily support and role models



morning and additional self-paced learning or large-group lecture in the afternoon. But we’ve been getting suggestions to eliminate even more of the lecture we are still giving. They are ready to investigate these topics on their own,” said Kirkpatrick.

Though the officers’ learning experience is not as rigid as before, they are getting more advisory and mentoring support. The team leaders act as daily support and role models, but a higher level of professional support is also built into the new OAC design. Each sem-

inar group is assigned a lieutenant colonel or colonel stationed at Fort Bliss. As the senior advisor and mentor for the group, he shares his experiences, insights and wisdom with the group’s officers.

One such mentor, Lt. Col. Donald Murray, director of the school’s SHORAD Department, emphasizes that the senior advisors share experience. “We’ve probably experienced in the last 20 years most of what they are discussing. When I have the time, I like to sit in on the discussions and, as a senior guy, share why a suggestion won’t work, or reinforce a good idea that works well.”

“The students are energetic and I hope to continue these mentoring relationships after they leave to their new assignments. It’s important to share experiences that help apply the theory they are taught here,” he said.

Besides changing the methods of learning, the course has changed the stress on topics taught. In the old OAC, for example, seven weeks were devoted to equipment familiarization, and then, following graduation, the officers attended weapons qualification courses as needed. “It’s just not likely that people are going to remember all the facts about the equipment without using it. We don’t want to just overload their minds with facts that will ‘dump’ or deteriorate within weeks or months,” explained Kirkpatrick. So the new course, in favor of exploring theory and application over fact memorization, devotes only one week to equipment. After OAC, graduates being assigned to units with equipment the officers have had no experience

with can receive technical training.

The bulk of the 20-week course, 12 weeks, focuses on combined arms and tactics. Everything taught, read and discussed during this time is done from a combined-arms perspective.

The course is not entirely academic; good old-fashioned soldiering skills are built in too. The class, with the intensity of Ranger School, spends a week in a leadership field training exercise (FTX). The FTX fosters team-building and cohesion, develops light leadership skills and challenges the officers' physical conditioning.

The course outline includes the following:

Week 1 — Administrative and welcome.

Week 2 — Leadership fundamentals and ethics and values.

Week 3 — ADA weapons orientation.

Weeks 4-7 — Preparation for war with battery command and battalion staff emphasis.

Week 8 — Leadership FTX.

Weeks 9-11 — Fundamentals of combined arms operations including air-land battle doctrine, threat, NBC, task organization, graphics, military history.

Weeks 12-19 — How to fight ADA in the air-land battle.

Weeks 19-20 — Command post exercise, leadership capstone, graduation.

Weeks 20-26 — Technical modules on ADA weapon systems

as required.

"These officers are expected to be literate with FM 100-5, FM 44-1 and FM 101-5 when they graduate. We want them to be the best battery commanders and staff officers they can be. We evaluate on progress; we expect progress," said Kirkpatrick.

Summing up the new OAC, Kirkpatrick borrowed a quote from one of the books OAC officers are expected to read. "In the *Challenge of Command*, the author Col. Roger H. Nye, advises officers to 'create new answers to old questions that never get solved.' That's the goal: leaders who can search out new answers." □

OAC Interaction

*ADA's OAC focuses on
"how to think, not what to
think"*

"The majority of commanders in war react conservatively," explained Capt. Richard Phillips, a member of Officer Advanced Course Class 1-87, as he began his professional-reading seminar.

As 14 of his peers and his seminar's team leader listened, Phillips explained a theory which capitalizes on the conservatism of the enemy. "If the enemy is on its way to attack a commander's rear area, the conservative move would be to mass the

forces to protect his rear. A risk-taking commander would forge forward and destroy the enemy's rear area instead of retreating to protect his own," Phillips said.

"But that just makes both armies ineffective," came a reaction.

"No, not necessarily," Phillips defended. "If 80 percent of commanders react conservatively, and the conservative thing for a commander to do is to

protect his rear area, then a risk-taking commander could force the conservative commander to stop his progress toward destroying his rear by making the conservative commander retreat to defend his own."

"So, this commander is gambling," came a raised voice out of many.

The group leader interjected, "Perhaps it's more of a calculated risk?"

"Yes, yes. Clausewitz emphasizes that a commander must read copiously and think in terms of alternatives — the best possible solutions within the context that he is fighting. He stresses there is no right answer for each situation. It's important to consider the variables and then be daring, take risks," added Phillips.

"Don't be wishy-washy," confirmed a listener.

And so it went around a long table within the confines of a narrow room. Though it was a rather concentric discussion of military theory, this interaction sparked individual conflict or agreement, and then ultimately understanding.

This is the interactive nature of the new small-group style of the U.S. Army Air Defense Artillery School's Officer Advanced Course (OAC).

"The old OAC just gave them the answers to military problems. It did not give the officers the tools to get to that end point," said Capt. Norman Jones, an OAC team leader. "Now we work to give them the tools to come up with their own answers."

As team leaders within this new OAC format, Jones and his counterparts literally have their work cut out for them. "Instructors for the old OAC taught one block of instruction. They had to know that area very, very well. Now, however, the new OAC team leaders are with a seminar group for the entire course. We must be subject-matter experts on everything taught here. In order to create an interest in the topic, we have to do some homework on our own," said Jones.

"We are all students and all teachers in our group. I don't walk in there prepared to just give them the answers, but I had better be prepared to help them focus on the issues we are to discuss and to develop answers on their own. I enjoy playing the devil's advocate, to ask the 'why' questions. Sometimes people will come in with a case of tunnel vision. I have to help open them up," he said.

This small-group format versus the large lecture format is a hands-down winner, according to Jones. "Sharing experiences helps the school and

the officers attending. We can throw up a subject for discussion and dissect it, look for the flaws, discover the alternatives. It just can't be done in a dogmatic large lecture forum. There is a creativity sparked here; the variables of small-group dynamics make that possible. A rigid routine might stifle this."

"When we play the 'what if?' games, we are applying what we've learned"

The new OAC format, by its very nature, stifles little. Candid comments from officers attending the very first OAC class under the new style follow:

"There's a 'charge' in making a statement and defending it well."

"In OBC people formed cliques. There was a lot of separateness. Students don't tend to interact with other students who are different. Here we were assigned a group and soon we had group cohesion. We are different people, but we have a common cause; there is a togetherness that fosters understanding."

"I'd advise officers to gain a variety of experience before coming here. Lieutenants tend to get comfortable in one job in one level of the organization, say an XO at a battery, and never venture into a battalion or brigade staff to find out what they are doing. It's better to have a number of experiences to draw from while you are here."

"When we play the 'What if?' games, we are applying what we've learned. I'll be more certain to retain these lessons longer."

"Read. Before you come here start reading, researching areas you are interested in. We do a lot of reading."

"This is a good atmosphere in which to work on personal shortcoming. I've never been a good briefer; actually I have a problem doing it. My group has been very supportive and demanding, I'm progressing."

This first OAC class under the new seminar format has been learning to ask questions and offer opinions. They have been learning "how to think, not what to think." □

Teams are Built, not Born

The team-building program at 32nd AADCOTM has helped create a close-knit, effective staff through demanding physical activity

Volksmarches. Cross-country skiing. Mountain climbing. The 32nd Army Air Defense Command (AADCOM) headquarters discovered that the coordination and communication — in other words, good old-fashioned teamwork — fostered by these team activities unleashed staff effectiveness and efficiency.

A large number of individuals, who must deal effectively with complex issues each day, make up a division staff. Unfortunately, teamwork among the members of any given staff is not inherent; instead, it is created, built with the rigorous demands of personal and physical effort. Individuals who work within successful staffs must know the abilities and limitations of their fellow staff members: Team-building teaches team members about each other.

To promote teamwork through team-building exercises, Chief of Staff Col. Richard Kurtz, 32nd AADCOTM, Federal Republic of Germany, has constructed an aggressive and demanding program of sports and physical activities.

The contribution that sports and physical exercise make to

team-building has long been recognized. Not surprisingly, the current program for the 32nd AADCOTM headquarters has significantly improved the staff's cohesiveness. Large dividends come in daily as staff members move more freely from office to office, section to section, and coordinate staff actions with other members of the team. Team-building has helped establish new communication channels.

Staff members' participation in a German volksmarch laid the foundation for team-building. The group set its goal: to complete the volksmarch as a team. The pace was established to accommodate the slowest walker, but at a rate which challenged the whole team. At the midway point, the team had to decide whether to take the shorter or longer route to the finish line: The team unanimously chose to walk the longer course. The strategy had worked.

The volksmarch provided an important step in team-building. The camaraderie the staff developed during the walk through the German countryside continued at headquarters for succeeding days. Since im-

portant personal channels of communication had been established, problems between staff sections became less difficult to solve.

The volksmarch was a relatively easy start to team-building. The chief of staff turned next to a more complex and tougher exercise that also relied on greater interaction among the team members: cross-country skiing.

Anyone who has ever skied cross-country knows that the sport demands physical stamina as well as a mastery of unique techniques. Cross-country skiing presented an excellent team-building exercise. Most participating staff members had never been on skis. So, before the group was ready to go cross-country on skis, those with expertise had to teach the non-skiers.

The non-skiers' initial efforts, understandably, often met with failure. This was not the easy task many had expected. Several bruised learners soon equated the training on skis to similarly punishing experiences at airborne school. Through the encouragement of the experienced skiers in the group, however, all the rookies

finally mastered the techniques sufficiently for the group to embark on a 10-kilometer cross-country trek.

Skiing through 10 kilometers of demanding terrain is not easy. For the group to achieve its goal of finishing 10 kilometers on skis before nightfall, it had to adjust the pace to accommodate the weakest skier. Cooperation, encouragement and helpful assistance were the order of the day. The group accomplished the task because those who could ski well shared their experience with those who couldn't.

Cross-country skiing, like the volksmarch, contributed significantly to the staff's team-building training. Individual qualities such as athletic skill,

stamina and enthusiasm became strikingly apparent during challenging physical activities. With few exceptions, these same personal qualities manifested themselves in an individual's performance as a staff officer.

The latest challenge to both the cohesion and the physical stamina of the 32nd AADCOT staff was a mountain climbing expedition to the Zugspitze, the highest peak in the German Alps.

Adopting the philosophy that nothing is too tough if the members of the team work together, 14 officers from the 32nd AADCOT staff loaded their backpacks and began the climb in a steady, cold rain — a true test of individual determination



A pair of 32nd AADCOT staff officers, Lt. Col. Karl Miller and Capt. "Sid" Barringer, negotiate the 10-kilometer cross-country hike during one of the command's early team-building ventures. (Photo by Maj. Joe Padilla)



32nd AADC headquarters staff members prepare to climb the Zugspitze.

and stamina. That first day, despite slippery conditions that would challenge the most experienced mountain climber, the group made it to the 3,000-foot mark on this 9,721-foot mountain. At an Alpine hut, the day's inclement weather was steamed out of each climber's gear; with dry clothes came the satisfaction that the team had successfully completed a demanding day's climb. Enthusiasm for the climb also returned as the staff prepared for the second day, the climb to the peak.

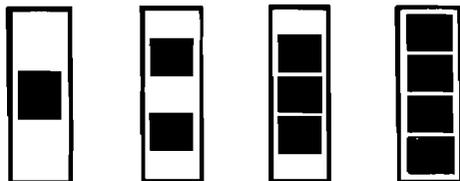
The second day's sun-filled dawn forecasted the staff's success. A crisp, clear day lightened the team's load as it climbed toward the summit. This leg of the climb required each team member to do his part as the team wound its way up steep ascents and across the glacier.

Once again, the team had to pace itself to the speed and ability of its slowest member. Rock formations and slippery slopes demanded that each individual care for his own safety

and for that of fellow team members. Reaching the top was a testament not only of each individual's stamina but also of the common sharing and help the team members provided to each other. The 14 staff members returned to the 32nd AADC headquarters, sharing pride in a remarkable individual and collective feat.

The 32nd AADC team-building program is not a cure-all for staff efficiency problems. Certainly not every staff has access to established programs like volksmarches or to natural resources like cross-country ski areas and the Zugspitze. Then again, the importance of team-building rests not in the means but rather in the end: teamwork. The bottom line is that, for a minimal investment in imagination, the 32nd AADC headquarters staff achieved a large return in teamwork. The team-building program at 32nd AADC has helped create a close-knit, effective staff through demanding physical activity. □

WO Career Ladder



The Total Warrant Officer Study fills in the missing rungs of the WO professional development ladder

CWO 3 Jim N. Cupp

The predecessors to today's Army warrant officers were not commissioned officers, and were initially considered civilians. It took the Army's judge advocate general to determine that they held military status.

Perhaps it was that early role confusion which forced these unique soldiers to forge their own workable place in the Army. Often they picked up the chores and responsibilities that did not clearly fall to either commissioned or non-commissioned officers.

But this unique place has also left warrant officers without a clear career management system, at least until the recent Total Warrant Officer Study (TWOS). This Armywide study, begun in 1983, has been an effort to provide a reasonable progressive professional development plan for warrant officers.

TWOS' significant proposals include the following:

- Gradation of positions by rank group.
- A new definition and use policy.
- Reorientation of the warrant officer training system to support branch technical requirements at each level.
- Authorization of six percent of the total warrant officer force to be CWO 5. (ADA's share would be 28 CWO 5s.)

What is a warrant officer?

A concise new definition of warrant officer,

which includes all warrant specialties, gives clearer direction on the assignment and employment of warrant officers. The Army chief of staff approved the new definition which states that:

A warrant officer is "an officer appointed by warrant by the secretary of the Army, based on a sound level of technical and tactical competence. The warrant officer is the highly specialized expert and trainer who, by gaining progressive levels of expertise and leadership, operates, maintains, administers and manages the Army's equipment, support activities or technical systems for an entire career."

Key terms used in the definition are amplified below:

■ *Officer* — identifies the warrant as an officer possessing the special values required of an officer, including personal and professional ethics, integrity, confidence, competence and warrior spirit.

■ *Sound level* — establishes entry-level competence which is certified by the proponent. This also means that a warrant officer is appointed at an acceptable level based on military occupational specialty (MOS) requirements determined by the proponent.

■ *Technical and tactical competence* — recognizes different competencies throughout the range of warrant officer specialties, determined by the MOS proponent based on the requirements of the MOS.

■ *Trainer* — institutionalizes the historical role of the warrant officer as the in-depth technical system and equipment trainer, a vital role in this modern Army.

■ *Progressive levels* — recognizes that the knowledge, ability and professional-development demands required of a WO 1 are significantly different from those required of a CWO 4. This reflects the philosophy of the skill hierarchy that exists in warrant officer MOSs, but that is not currently reflected in personnel authorization documents.

■ *Leadership* — mandates that warrant officer leadership is needed to keep technical elements of the team functioning as an efficient part of the total Army effort.

■ *Equipment, technical systems or support activities* — includes the full range of warrant officer specialties, from the warrant officer helicopter pilot to the warrant officer physician's assistant to the warrant officer personnel administrative technician.

Warrant assignments

Army policy requires that a warrant officer be assigned to a position authorized for a warrant officer and classified in the individual's primary or additional MOS. If a warrant officer cannot be assigned to a valid warrant officer position in his or her primary or additional MOS, the immediate commander must report the circumstances to the Department of the Army (DA).

Also, DA must approve placing warrant officers in positions outside their primary or secondary MOS. This policy is born out of a concern to keep warrant officers' technical skills sharp. Failing to adhere to these policies tends to dilute warrant officer skills. This is a disservice to the individual, who must compete with contemporaries; to any subsequent commander, who must assume the warrant is fully MOS qualified; and to the spirit of the development program, which strives to give individuals full exposure to the tasks within their specialties.

Warrant officers, however, are encouraged to seek additional duty to gain experience and knowledge in Army functions. On the other hand, warrant officers should not be assigned additional duties that detract in any way from the performance of their primary duties. CWO 3s or higher should not be assigned duties normally performed by company grade commissioned officers. Commissioned and non-commissioned officers will not be assigned to warrant officer positions unless the unit's immediate mission cannot otherwise be accomplished.

Procuring warrants

A specific procurement program outlined in DA Circular 601-85-4 for each fiscal year lists the MOSs which are open for procurement. It also specifies eligibility criteria and provides instructions on processing applications. Each application is evaluated by the DA warrant officer selection board.

Those selected are scheduled for the Warrant Officer Entry Course and the appropriate warrant officer technical certification course throughout the year. The direct appointment program was terminated in FY 1985.

The enlisted feeder MOSs for the appropriate ADA warrant officer MOSs follow:

Warrant Officer MOS	Enlisted Feeder MOS
221B Missile Assy Tech Nike	24U
222C Patriot Missile Tech	24C,E,G,P,Q,R,T,U
223B Hawk System Tech	24C,E,G,P,Q,R,T,U
224B C/V Systems Tech	24C,E,G,M,N,P,Q,R,S; 26H
225B Command & Control Tech	24C,E,G,P,Q,R,U; 25L; 26H

Developing warrants

Warrant officers do have a professional development program. The program includes civilian and military schooling, progressive assignments, and guidance to develop the special attributes and abilities needed by successful Army warrant officers.

Until now, for the most part, warrant officer professional development was attempted by personnel managers and concerned commanders. There was neither a strategic plan nor an institutionalized management system.

The proposed TWOS plan incorporates progressive schooling along with solid developmental assignments. These combine to give warrants in-depth technical, tactical and leadership expertise. The plan sets up a three-level skill hierarchy that codes position requirements in authorization documents as warrant officer, senior warrant officer and master warrant officer. According to the U.S. Army Military Personnel Center, full implementation of the three-tiered warrant officer training system is expected in early 1988.

Warrant officer schooling starts with a basic skills course. This training, conducted in a high-stress environment, includes proponent certification of critical technical and tactical task knowledge of the MOS at entry level.

All warrant officer candidates attend warrant officer training. Once they successfully complete the training they are certified and appointed by their MOS proponent. Selected warrant officers then have the opportunity to compete for a full warrant officer career.

The new plan has a structured training strategy for higher levels of military training, civilian education programs and training with industry. The plan includes the type of training and a time frame for this training.

The objective has been to design a program that measures technical and tactical skills at each career phase. This gives individuals and commanders a foundation on which to base self-study and individual training programs. This also means that warrant officers will be certified on technical and tactical skills repeatedly throughout their careers. The measure of these skills involves the individual, the rater and his commander at each career phase — warrant officer, senior warrant officer and master warrant officer.

The warrant officer would attend a service school at each training phase. Critical skills would be obtained, validated through testing and certified. The results would be entered on the academic evaluation report (AER). The AER would be a central record validating that the warrant officer has met required technical and tactical certification standards for the respective skill level.

When not in training, the warrant officer, his rater and his commander would work to maintain the warrant's proficiency. One way would be through a self-study program of common military and warrant officer skills. (A warrant officer common skills manual will be developed and published by the Training and Doctrine Command.)

The validation standards used while the warrant officer is in a field assignment would then be incorporated into the officer efficiency report (OER). The AER and OER submitted on the warrant officer would make up the certification record for his or her career.

Promotion proposals

The TWOS has proposed a new rank for warrant officers, CWO 5. And, the study has mapped out a promotion route from WO 1 on up.

First, appointments normally will be made to the grade of WO 1 in the U.S. Army Reserve. However, those already serving on active duty would remain on active duty.

The proposal is to have five permanent grades, WO 1 through CWO 5, for both active component and reserve warrants. The minimum time-in-grade for permanent promotion to the next higher grade will be prescribed by law, Title 10, U.S. Code.

The desired normal permanent promotion follows:

- Three years time-in-grade as a WO 1 for promotion to CWO 2.
- Six years time-in-grade as CWO 2 for promotion to CWO 3.
- Six years time-in-grade as CWO 3 for promotion to CWO 4.
- Five years time-in-grade as CWO 4 for promotion to CWO 5.

Legislation will provide "grandfathering" for the existing force

A provision will exist for below-the-zone promotions for both the active component (AC) and the reserve components (RC). Army Reserve and National Guard promotions will be the same as permanent Regular Army promotion for the AC.

A one-time non-selection will result in separation from warrant officer status for Army U.S.(AUS) CWO 2 AC or for CWO 2 RC. Not being selected for promotion to CWO 3 or CWO 4 may result in one of the following:

- Separation from the service for both AC and RC warrants.
- Selective continuation in grade to meet the needs of the service.
- Retirement if the member is eligible.

The secretary of the Army has the authority to selectively continue warrant officers in the grades of CWO 2 or CWO 3 who have been twice non-selected for promotion to grades CWO 3 and CWO 4.

However, non-selection to CWO 5 will not constitute a pass over. The CWO 4s not selected for

promotion to CWO 5 will continue to serve in grade and will be considered for promotion to CWO 5 throughout the remainder of their career. In the event that CWO 5 is not approved by Congress, CWO 4 will become the master warrant officer.

Warrant officers elected for promotion to CWO 3 will be offered integration into the Regular Army. If accepted, integration will occur prior to promotion. Warrant officers declining integration will not be promoted to CWO 3 and will be released from active duty.

Legislation will provide "grandfathering" for the existing force. The opportunity for individual Regular Army application prior to mandatory integration will be continued. Warrant officers may submit voluntary applications for Regular Army status after completing two years of warrant officer service.



The TWOS proposed professional development plan is a powerful instrument



Selective career extension

The TWOS has proposed that selective career extension applies to both AC and RC and requires enactment of legislation. It will be similar, but not identical, to the DOPMA (Defense Officer Personnel Management Act) provisions covering selective early retirement of commissioned officers.

Selective career extension provisions would be implemented as follows:

- A Department of the Army-level board would perform the selective career extension.

- Only retirement-eligible personnel who have at least two years time-in-grade would be considered.

- All MOSs would be considered. The board would be furnished "floor and ceiling" guidance for each MOS.

- Personnel once considered by a board would not be reconsidered for two years based on board convening dates.

Personnel identified as marginal performers

would be provided the following options:

- "Show cause" within 60 days from date of notification as to why they should not retire. (Personnel electing this option and failing to satisfactorily show cause would be required to retire within three months from date of notification that their reclama was unsuccessful).

- Retire within six months of notification.

Warrant Officer's evaluating system

A warrant officer is evaluated on his or her performance and potential. Following are the three types of evaluations given:

- Duty evaluation. The officer efficiency report is used.

- School evaluation. The academic efficiency report is used.

- DA evaluations. Selection boards and personnel management systems are used.

Duty and school evaluations are single time and place evaluations. They are used to make DA evaluations. DA evaluations cover an officer's entire career and include promotion, elimination, retention in grade, retention on active duty, reduction in force, school selection, assignment, specialty designation and Regular Army integration.

Each report must be a comprehensive appraisal of the warrant officer's abilities, weaknesses and potential. Reports that are either incomplete or fail to give a realistic and objective evaluation make it difficult to determine a warrant officer's true potential.

The evaluation process starts at the beginning of the rating period. At that time, the rated warrant officer receives a copy of DA Form 67-8-1 (support form) from his military personnel officer or administrative office.

Chapter 3 of AR 623-105 contains the responsibilities of the rating chain. Additional information on rating warrant officers is contained in Chapter 6, AR 623-105 and in AR 611-112.

The TWOS proposed professional development plan is a powerful instrument to help warrant officers forge their unique place in Air Defense Artillery and the Army. □

CWO 3 Jim N. Cupp is the professional development manager for ADA warrant officers with the Office, Chief of Air Defense Artillery, U.S. Army Air Defense Artillery School, Fort Bliss, Texas.

STRAC

A recent armywide STRAC evaluation took a hard look at weapons training strategies, ammunition requirements and simulation devices in the field

The U.S. Army Air Defense Artillery School, like other weapons proponent schools, is making changes in its STRAC program. Recommendations, new training strategies and new devices and simulators contained in the final report of an 18-month FY 1986 STRAC evaluation were the basis for these changes.

These changes are included in DA Pamphlet 350-XX which replaces the reportedly cumbersome DA Circular 350-85-4, Standards in Weapons Training. DA Pam 350-XX is user friendly, according to Capt. Terry R. Murphy, the school's ADA STRAC representative. "The old circular got bad reviews during the survey. It was reported as being difficult to understand, and required going back and forth between chapters to glean the information an air defender might need. The new pamphlet is well organized and will be updated every six months," he said. DA Pamphlet 350-XX should be fielded before July 1987.

Beginning in August, STRAC representatives will visit the field to brief soldiers on the new DA Pamphlet 350-XX. This effort will determine the validity of the standards, training strategies and ammunition resourcing contained in the new DA pamphlet. It will also evaluate the Roland, Patriot, M-21 sniper rifle, AT-4 anti-tank weapons and the 9mm pistol. These are new weapons which were included in the DA pamphlet for the first time.

The purpose of the FY 1986 STRAC evaluation was to —

- Assess weapons standards and determine if notional training programs lead to attainment and sustainment of the stated standards.
- Determine if ammunition required under STRAC is the correct quantities and mixes.
- Assess the program's field training devices

and simulators for frequency of use, availability and utility, and determine adequacy of the doctrinal literature describing their use.

A representative sample of over 450 battalions was selected for the evaluation. They came from the major commands, moved across the training readiness conditions (TRC) and represented both the active and reserve components.

The evaluation listed findings for each weapon system. It discovered, generally, that the most prevalent reason given by units for not attaining standards was lack of range facilities. A particular problem was the lack of facilities to accomplish the newly introduced night-fire requirements in many of the standards.

The Army is now beginning to see the results of the efforts of the Directorate of Army Ranges and Targets. The directorate was formed in 1982 and designated as the Department of the Army (DA) executive agent for the Army range programs. Many of the ranges begun some years ago are coming on line.

After lack of range facilities, lack of training ammunition was given by many units as a major reason for not attaining standards. For FY 1986, the major commands returned \$300 million of unused conventional ammunition (less missiles) to Headquarters, Department of the Army. While STRAC requirements were slightly higher than previous years' authorizations, turn-back by the major commands remained at previous years' levels, \$250 to \$300 million. For example, last year approximately one million rounds of Vulcan ammunition were turned back in.

Of course, some of the factors that preclude use of authorized ammunition were lot suspension, weather (dry conditions creating fire hazards, snow, rain and fog), non-availability of ranges,

ammo distribution and too many sustainment exercises in the notional programs. While STRAC has done a good job in the past of identifying more realistic training ammunition requirements, training ammunition audits suggest that further adjustments should be made.

The evaluation's final report recommends that the FY 1988 STRAC evaluation focus more on distribution and use of training ammunition. Prior to the FY 1988 evaluation, however, a team headed by DA and supported by the STRAC Program Directorate should look into the management and distribution of training ammunition, the report said.



ADA STRAC Summary

Armywide, 90 percent of short-range air defense (SHORAD) units evaluated, with the exception of Redeye and Stinger, meet STRAC standards. Approximately 45 percent of the Redeye units and 29 percent of the Stinger units reported they were meeting standards. None of the Redeye and Stinger units, in fact, could meet the standards because the Stinger Training Launch Simulator (STLS) will not be fielded until FY 1988. Firing at least two STLS is required for STRAC standards to be met.

Two surveyed Vulcan units reported they were unable to meet standards due to a lack of ranges. According to Capt. Murphy, range inadequacies are a real obstacle for some Vulcan units. "The

Vulcan units at Fort Bragg must travel to Fort Bliss in order to live fire. That sort of restraint can put a kink in the notional training strategies set up in the STRAC program," he said.

A small percentage of Chaparral units reported they were unable to meet standards due to personnel turnover. Still, 67 percent of SHORAD units participating in the evaluation felt the standards were achievable and only 26 percent reported a need to change the current standards. A majority of units participating in the survey responded that the recommended live fire exercises (LFX) in the training strategies were adequate.

Training devices and simulators for air defenders were available to most of the reporting units. The Army Reserve and National Guard, however, did report that Duster training devices are not available. The consensus of all units surveyed indicated training devices and simulators were effective and the frequency of use should remain the same.

Eighty-two percent of the participating Air Defense Artillery units, except for Redeye and Stinger, reported that the full-caliber ammunition authorized was adequate. They reported that ammunition for the STLS was not available. A small percentage of Hawk and Chaparral units noted that missile authorizations were low. Ammunition resourcing for Hawk and Chaparral missile systems is tied to the lot certification which limits authorization.

Redeye

Redeye STRAC standards cannot be properly evaluated until the field units receive the STLS and see what results their gunners obtain. This is a valuable training aid which gives realistic live fire training to Redeye gunners.

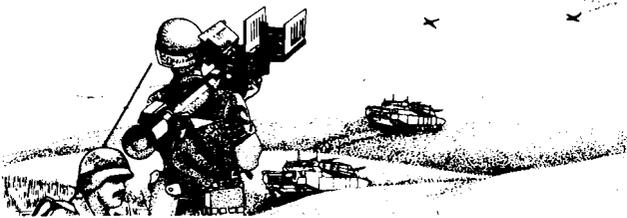
The inability of field units to use the STLS and of STLS to eject the missile adds to the ammunition resourcing problem for Redeye. These items will be available in FY 1988.

The study recommended that the standards remain the same for Redeye and be re-evaluated once all field units are able to train with the STLS.

The present Redeye training strategies contain the appropriate iterations for all TRCs. However, the requirement that TRC C units conduct four moving target simulator (MTS) end-of-course comprehensive tests annually is proving difficult to meet. The availability of MTSs and funds for units to travel to the nearest MTS are the problems.

Stinger

Like Redeye, Stinger's STRAC standards will be re-evaluated after the field receives STLS. Still, about three-fourths of the units reported that the current recommended frequency of use of training devices for the Stinger should remain the same and that the training events were right.



The issue of tracking devices that do not produce an infrared source or provide an information friend or foe response needs to be resolved. The field voiced these as problems.

Vulcan

The Vulcan STRAC standards were met by 78 percent of the field units. Two units suggested that the one standard for aerial and ground phases should be two separate standards. The current engagement standard is that eight out of 12 engagements must be successful. The ADA STRAC Weapons Committee approved the new standards of six out of eight aerial and two out of four ground engagements.

Vulcan units reported that ammunition was available and adequate under STRAC authorizations. However, Armywide, the use of Vulcan A652 TPT rounds was only 72 percent of STRAC authorizations. It has been recommended that the ammunition for Vulcan senior gunner qualification remain the same, but that the ammunition for notional LFX tables for the senior gunners and unqualified gunners be reduced.

Vulcan television trainers (VTVT) were reported unavailable, though 70 percent of the Vulcan units reported that other training devices were available. The report recommends action be taken to resolve the VTVT problem.

Armywide, 91 percent of the Vulcan units were satisfied with the current recommended frequency of use of training devices. Also, 85 percent of the Vulcan units reported that the training devices were effective.

Chaparral

For Chaparral, one of the STRAC standards requires that a squad leader or senior gunner fire a

live Chaparral missile once in his career. This standard is difficult for some units to meet. Once an individual fires a Chaparral missile, it is important that this be annotated either on his DA Form 2 or 2-1.

Sixty-seven percent of the Forces Command units were able to meet the standards. The U.S. Army Europe, Eighth U.S. Army and Army National Guard units were able to meet the standards.

A majority of the Chaparral units are satisfied with the current training devices in the field. There were no comments on any ineffective training devices or simulators.

On ammunition resourcing, 45 percent of the participating Chaparral units reported the full-caliber ammunition authorized is adequate. Another 42 percent reported the authorization is low. There was no recommendation to change ammunition resourcing for Chaparral since ammunition is based on missiles from lot certification.

Hawk

Hawk units seemed relatively satisfied under the STRAC program. All the units participating in the evaluation reported that they were able to meet the standards for Hawk. A full 72 percent of the surveyed units reported there is no need to change the current standard.

Fifty-seven percent of the Hawk units felt that the recommended number of LFX in the training strategies was adequate. The other 43 percent responded that the number was low.

For Hawk training devices, all participating units reported the devices were available, 90 percent considered the devices effective and 71 percent indicated that the frequency of use should remain the same.

Like Chaparral, some Hawk units indicated that the missile allocation was low, but missile systems are tied to lot certification which limits authorizations.

Patriot/Roland

STRAC standards and training strategies for Patriot and Roland crews and units are being published for the first time. They appear in the soon-to-be-fielded DA Pamphlet 350-XX.

As mentioned earlier, the FY 1988 follow-on evaluation will evaluate the STRAC standards, training strategies and ammunition resourcing for Roland and Patriot. □

From Bad to Good

You can have leadership without success, but you can never have success without leadership

by 1st Lt. Colby D. Fisher

A new platoon sergeant may not sleep well the night before he arrives to take over a new platoon. He may very well have nightmares about walking into a unit whose last platoon sergeant was a "god" who had everything running so smoothly that his shoes could never be filled; or worse, he may dream about a new platoon that is a collection of misfits who could never be turned around. When SFC Ronnie Thacker arrived at B Battery, 2nd Battalion, 60th Air Defense Artillery, Federal Republic of Germany, it seemed his worst dream was about to come true.

SFC Thacker came to 1st Platoon in January 1986. First Platoon is a towed-Vulcan platoon with about 20 soldiers. When he became platoon sergeant, it had serious problems. First, 45 percent of his platoon had just tested positive for marijuana. Second, several NCOs and soldiers had financial problems, and creditors were calling nearly every day. Third, one of his squad leaders had a stack of bad counseling statements an inch thick. And

finally, two of his three remaining squad leaders could not perform basic soldier skills.

Today, however, things are different. The platoon has been selected as the best Vulcan platoon in the battalion. SFC Thacker's leadership helped make it happen.

"The first thing I had to do was start them from the beginning again," said the new platoon sergeant. "I had had five successful platoons before this, and I wasn't going to let this one change my record. That meant going back to basics."

For a time, members of the platoon felt like they had gone back to basic training. PFC Bradford Smith recalls, "The only difference between basic training and when SFC Thacker first came to the platoon was that SFC Thacker didn't wear a 'Smokey the Bear' hat."

SFC Thacker knew, however, that the troops would feel this way. "Yes, I knew that they would start crying to the first sergeant and lieutenant, but what we did was necessary to make them feel like soldiers again. That meant all of us putting in extra hours on rooms, uniforms and job performance. This is the United States Army

that we're talking about. I'm not a counselor at summer camp. We all have a job to do, and leadership doesn't always take every individual's feelings into account. We must do what is best for the platoon," he said.

Things were rough for a while. Hours were long. There were very few nights when either Thacker or his men were able to get home before 1800. When they did leave, though, they were more motivated and prepared for the next day's training.

Thacker's second concern was in cleaning the drugs out of his platoon. "Drugs don't belong in the Army. If a troop in my platoon uses drugs, he knows that I'm doing everything that I can to get him out. It's that simple. No one is forcing him to smoke dope. These young men have got to realize that they are responsible for their actions. They have to want to straighten themselves up. Nobody else can," he said.

Sometimes the soldiers think that SFC Thacker is, perhaps, too strict or too quick to punish. Specialist Graffia said, "Since SFC Thacker has been in the platoon, I think that everyone must have received at least two or three counseling statements.

SFC Ronnie Thacker, platoon sergeant, B Battery, 2/60th ADA, helps Sgt. Talbott. Thacker believes in hard work and good advice to be a successful platoon sergeant. (Photo by 1st Lt. Colby D. Fisher)



I got one for not having a proper haircut. Things like that just didn't happen before. Back then, if the platoon sergeant noticed something wrong, he would just mention it and move on. SFC Thacker writes things down and files them away."

Specialist Graffia then countered that thought by saying, "Whenever SFC Thacker says something positive — and he does — it makes me feel really good because I respect his opinion, and I know that he always means what he says."

The greatest indicator of Thacker's leadership influence came in late September when his platoon participated in the battalion's annual service practice. All six platoons from the battalion traveled to northern Germany for the chance to fire

their guns and compete for the honor of being named the best in the battalion. Thacker was enthusiastic and optimistic about 1st Platoon's chances. "We trained to win. That's what we planned to do," he said. "And that's what we did." Of the 24 squads competing, all of Thacker's made the top 50 percent; three made the top ten.

First Platoon's next achievement came in early October during the battalion's Army training and evaluation program. Thacker's platoon was faced with another challenge. His was the only platoon in the battalion without a platoon leader, but that didn't pose an insurmountable problem to SFC Thacker. By this time, he had trained his squad leaders to operate self-sufficiently. Sub-

sequently, Thacker and four other soldiers in his platoon either received on-the-spot awards from the battalion commander or were later recommended for awards.

One may think that a single person can't make a difference, or that it's OK to do just enough to get by. Thacker proves that this is not true. He proves that if one gives that extra effort, puts in the extra hours, and makes the corrections that others may miss, it pays off.

This successful platoon sergeant remarked, "Success and leadership seem to go together. The only difference is that you can sometimes have leadership without success, but you can never have success without leadership." □

U.S. Roland Now Totally Fielded with 'Total Army'

by E.C. Starnes

"The 5th Battalion, 200th Air Defense Artillery, can now operate fully autonomously anywhere in support of its Rapid Deployment Force (RDF) mission." According to Mr. Safron Canga, Roland project manager for the U.S. Army Missile Command (MICOM), this was the significance of the official opening of a \$3 million repair facility to support the Army's only Roland battalion.

"The Hughes Consolidated Repair Facility is expected to save an estimated \$1 million annually for MICOM by bringing together Roland support functions that have been performed at several other Hughes Aircraft facilities in the past," reported Hughes Aircraft Co. officials.

Located in the Entrada del Sol Industrial Park in Las Cruces, N.M., the 26,000-square-foot building will house equipment and personnel to provide convenient access to the battalion, which was activated at Fort Bliss' McGregor Range. The battalion, activated in 1983, is

the only Army National Guard unit manned at 80 percent full-time strength.

The repair facility, according to Hughes officials, will also be used to perform assets management, configuration management, spares provisioning, inventory control, and shipping and receiving tasks.

The 5th battalion was activated in 1983 and declared operational in December 1985. The battalion has 27 fire units and a full strength of 457 personnel. There are 326 full-time personnel based at McGregor Range. The battalion became "totally fielded" with the certification of its intermediate maintenance platoon.

Mr. Jack Isom, director of the Missile Logistic Center at Redstone Arsenal, Ala., said, "I was one of the doubters when the decision was made to have only one Roland battalion. I could not envision the concept working. However, the efforts of this unit have been such that the unit is totally deployable to support any mission they may be called upon to do."

Isom added that the battalion would soon be placed in an indefinite status, with no plans to end the battalion's role in the Air Defense Artillery structure.

Maj. Gen. Edward Baca, adjutant general for the New Mexico Army National Guard, noted that, "Today we have total fielding. Today we become a total partner in the total Army," He praised the battalion for its work and efforts in becoming the most modern short-range air defense battalion in the Army today. He added that the battalion had performed in such a remarkable manner that the U.S. Air Force has requested its support in preparing to field 27 Roland units to defend Air Force bases.

Maj. Gen. Baca stated that he was proud of the nation's defense and said that the selection of the battalion to field the Army's only Roland system was a tribute to its tradition of sacrifice and service to the nation. He noted that now that the battalion is equipped with U.S. Roland, the most modern equipment in the world, it will again be a full partner in the total Army.

The Roland missile is produced in Europe by Messerschmitt-Boelkow-Blohm of the Federal Republic of Germany and SNI Aerospatiale of France, the system's co-developers. The U.S. Roland is a joint project by Hughes Air-

craft Company and Boeing Company under a license from Euromissile (a partnership by the two European developers).

While the United States fire unit differs somewhat from European units (due to specific U.S. requirements such as air deployability), all missiles and 80 percent of the field fire unit configurations are interchangeable among the U.S., French and German systems.

The U.S. Roland system is comprised of a fire unit, missiles and a support system. The fire unit is made up of the module body and the turret which sits on top of and extends into the module body. The U.S. version is mounted on a 5-ton truck and can be replaced in minutes to fire from a ground position, or it can be fired while on the vehicle.

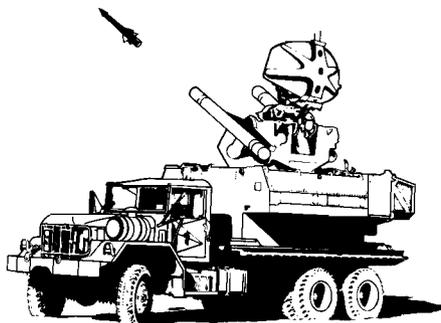
Roland is designed to protect troop, armor and high-value emplacements against air attack in any weather condition, day or night. It can protect any asset with an air defense umbrella in excess of six kilometers and at altitudes in excess of five kilometers.

The U.S. Roland is designed to search for targets even while

it is on the move. Thus, it can protect not only fixed assets, but mobile forces as well. A supporting optical mode is provided in addition to a fully automatic radar mode.

In the optical mode, an infrared tracker aligned with the optical sight follows the missile's track by means of a heat source on its rear end. The optical sight automatically generates the tracking information on the target. In the radar mode, one channel of the track radar follows the target while the second locks onto a microwave source on the missile, measuring any deviation from the correct flight path. It is possible to switch between radar and optical modes during missile flight.

The missile is a 2.4-meter, supersonic round. Each fire unit has 10 missiles, one on each of the two launching arms and eight stored in magazines. The launchers can be reloaded automatically in a matter of seconds. The radars, optical tracking unit and missile are manufactured by Hughes, and the fire unit module and portion of the missile by Boeing. □



ADA Officer Careers

ADA Assignments MILPERCEN

Lt. Col.(P) James L. Frederick

Chief, Air Defense Artillery Branch

Continuing ORB Concern

A tour of the 32nd Air Defense Artillery Command, Federal Republic of Germany, has recently given the Air Defense Artillery Assignments Desk new insight to problems ADA officers encounter when they fill out the paperwork that represents them to a selection board.

Last November, Capt. (now Major) Leslie Pettet, Capt. Robert Woods and I had the opportunity to spend 16 days visiting different units in the Federal Republic of Germany. To all of you who assisted with our visit, I express my sincere thanks for the effort and courtesies extended us. From our point of view the visit was a total success and one that we enjoyed in spite of traveling a little over 3,200 kilometers in a small car packed to the max.

An item that causes us continued concern is the information depicted on the officer record brief (ORB). The smallest file in the Army is the one that affects you the most. That file is the one seen by a selection board and consists of the microfiche, your official military personnel file (OMPF), a hard copy photo and your ORB.

Previous articles have been devoted to the officer evaluation report and job performance — this one focuses on the ORB as an important personnel document which reflects your career as you progress through the ranks. The data reflected on the ORB is maintained in the automated officer master file (OMF) at MILPERCEN.

Officer record briefs are used by personnel managers, commanders and DA selection boards. The ORB is used to give the reader a quick summary of how the officer has been schooled, trained and employed during his career. The ORB could be called your automated resume. The ORB tells what you did, not how you did it. The person most concerned with your achievements and your goals is you. You have principal responsibility for validating the accuracy of the data on your ORB. As

such, it is a very important document that you should monitor throughout your career to ensure that it accurately reflects your status to date.

Each year in your birth month, you will be required to audit your ORB. During the audit you should review the data on the ORB, make corrections as necessary and certify that the data that you reviewed is correct or incorrect, as the case may be. Remember — your signature is your bond! However, you do not have to wait until your birth month to make changes to the ORB; your military personnel office gets a copy four months after your birth month and another copy four months after that. You may review these copies to see if the changes you submitted were made.

Up to this time I have made it sound like the ORB is all your responsibility. Not true. The Army is responsible for initiating and maintaining the data about you on the OMF located at MILPERCEN. Your interface with the automated personnel system is through your local personnel service center (PSC). If you detect a change or an addition that is needed to your ORB, bring it to the attention of your local PSC representative, then follow up to see that your requested change was made.

Based upon the number of good ORBs that we see at MILPERCEN, the automated personnel information system works where it is being applied properly. If you cannot get changes made, get with your local MILPO chief to see if his people are making a mistake or if there is a problem at DA. If we have a problem, give us a call and we will get the problem fixed. □

From the Lieutenant Colonels Desk

Maj. (P) Roger A. Wright

Maj. Stan E. Green

Farewell and Commands

As I am writing this article, I must say that it will be my last. I will be moving on to the Pentagon to work in the Office of the Deputy Chief of Staff for Personnel, after having spent 20 months in this office as the lieutenant colonels assignment

officer. This included seven months of being dual-hatted as both the branch chief and an assignments officer. It has been a very challenging and demanding assignment but, at the same time, professionally rewarding. It has not always been fun, and I, on many occasions, have said that it would be nice to have all officers spend a week at MILPERCEN to experience what we do and how we handle business.

Believe me, because of today's many budget restrictions and constant personnel changes, assignment officers' hands are, more often than not, tied. Every day the options are fewer for officers in the field.

Lest we forget, the needs of the Army do come first. As professionals we can never forget that. If we do, it may be time to find a new profession.

Again, I would like to publicly thank those great officers that I have worked with and that have worked for me while at MILPERCEN: Maj. Dave Batron, Maj. Tim Lund, Maj. John Westwood, Maj. Les Pettet and Capt. Bob Woods. They are all totally outstanding professionals. I must also add that the two branch chiefs, Col. Richard Lowe and Lt. Col.(P) James Frederick, have both been exceptional officers to work for. Lastly, my highest regards to Mr. Jack Fish, Ms. Juanita Walker, Miss Yvette Jameson and Mrs. Rose Davis, our very able civilians. Without them we would sink. To all of you "thanks."

Maj. Stan Green will take my desk and I will let him introduce himself next issue. We agree that support for the field must not stop. Stan is a very capable officer who will do his best to help all of us. Please remember when dealing with Stan, any assignment officer or anyone at MILPERCEN that we do not make policy, we implement. DA, the Pentagon and Congress make the policies and laws that we have to follow.

Promotion forecasts for the upcoming months are listed here and hopefully they will be followed. For some ranks there is good news, for others there is not.

Numbers of OPMD managed officers projected to be promoted each month during FY 1987 are listed below. These numbers are our "best estimate" at this time. If budgetary adjustments cause a further promotion slowdown adjustments will be made in the last quarter FY 1987.

	Captain	Major	Lieutenant Colonel	Colonel
December	279/881	52*/1866	137/1420	64/253 confirmed
January	290/1203	62/63	132/1552	52/309 confirmed
February	356/1555	207/270	128/1689	51/360 confirmed
March	285/1877	298/565	78/1769	40/403 confirmed
April	638	270	74	67
May	860	370	79*	53*
June	479	267	39	58
July	529	179	79	35
August	504	129	80	35
September	642	112	140	35

*exhaust list

Current promotion pin-on points for due course officers are depicted below. The DOPMA "goal" is shown for comparison.

GRADE	DOPMA GOAL	FY 1987 PROJECTION
Captain	3.6 yrs minimum	4 yrs
Major	10 yrs ± 12 mos	11 yrs
Lieutenant Colonel	16 yrs ± 12 mos	17 yrs 6 mos
Colonel	22 yrs ± 12 mos	22 yrs 6 mos

Current plans call for us to exhaust existing lists on the following dates:

Major APL FY 1986	released JUN 1986	DEC 1987
Lieutenant Colonel APL FY 1984	released SEP 1984	MAY 1987
Lieutenant Colonel APL FY 1985	released OCT 1985	SEP 1988
Colonel APL FY 1985	released JUN 1985	MAY 1987
Colonel APL FY 1986	released AUG 1986	SEP 1988

The command board has finished its session. Air Defense Artillery ended with 30 commands for FY 1988, a good year.

In closing, keep sending in your preference statements with accurate and up-to-date home and work phone numbers and mailing addresses.

Our phone number is AV 221-0025 or commercial 202-325-0025. □

From the Majors Desk

by Maj. John Westwood

In My Opinion

Recently an officer called here at the Air Defense Artillery Branch quite distraught as to why he had not been selected for school attendance by the most recent Command and General Staff College officer selection board. This was the officer's second consideration by a staff-college selection board.

Of course the assignment officers at MILPERCEN are not privy to why any one officer is or is not selected. We can, however, evaluate the officer's file and give an honest professional opinion or point out some possible discriminators.

In this particular case, I carefully reviewed every officer evaluation report in his file trying to find a discriminator. I found nothing that, in my opinion, would preclude selection. I passed the file around to the other assignment officers to get their opinions and they also could not find a good reason why he was not selected.

After additional investigation, however, we discovered that the officer's official military photograph showed him with a mustache. Not only did he have a mustache, but it was too long — extending past the corner of his lips. His uniform also looked as if he had slept in it. So I asked myself, "Is it really possible that an officer could be denied selection because of a mustache?" Certainly the regulation does not support such an accusation. The regulation clearly states that officers can have mustaches. But, my conclusion was an unequivocal "yes."

After most major selection boards, the Air Defense Artillery board member briefs the assignments branch. Of course actual statistics and names of selected officers are never mentioned, but some general trends are discussed. Invariably we are told that a mustache is a "kiss of death." Not all board members feel this way, but having a mustache is a risk I certainly wouldn't want to take. In my opinion I have worked too hard to achieve promotion and school selection. I can't imagine doing anything that could possibly discriminate against my selection potential.

We as officers may think the system is a bit fickle or even unfair. We might question the morality of the issue, but the bottom line remains — don't

wear a mustache!

The regulation clearly states that mustaches are OK, but the mind set of some board members may be otherwise. And, as we all know, it is the board members who select officers for promotion and schools.

Now please don't run to your supervisor and say, "MILPERCEN says I can't have a mustache." MILPERCEN conforms with the regulation which states that you can have a mustache. Don't say, "Maj. Westwood told me I couldn't have a mustache," because Maj. Westwood did not say that at all. What I said was, that in everyday appearance, a mustache is fine, but in my professional opinion, I think it is dumb to wear a mustache in your official DA photo. □

From the Captains Desk

by Maj. Leslie Pettet

You Should Know . . .

The past several months have been extremely turbulent in the personnel arena. Articles about four-year CONUS tours, 42-month overseas tours, PCS freezes again this summer, longer assignments to Recruiting Command, fiscal year end strength cuts and more keep things churning. It is enough to keep anyone confused from week to week.

During all of this, however, some things change very little: the importance of performance reports, what selection boards look for, the need to stay in touch with your own career, the need to seek advice from your mentor or mentors and the need to know the basic personnel assignment procedures which affect your life.

You should know that assignments are basically made about five to six months prior to the report date. This means you should call your assignment officer about eight months out to begin a dialogue. Your assignment, in your functional area, a nominative or as a 14, should be firmed up by the fifth month out. Do not wait for an assignment officer to call you. Take the lead. Have an idea, rudimentally at least, of what you want to do and not "just something different." Your assignment officer can come up with "something different" all right!

You should know that ROTC, advanced civilian schooling (ACS) and West Point assign-

ments are initiated usually a year out. Later this summer, the slating for ROTC schools for the summer of 1988 will begin. If you are interested in ROTC in a specific area, call in and we'll place your name in the "ROTC wish book."

Some ground rules for ROTC follow:

- You need a grade point average of 2.5 or above.

- 30 percent of the schools require a master's degree, from any university.

The ACS requires about the same grade point average as ROTC. ACS uses a competitive board selection process. The board is usually held in the mid- to late summer. Again, if you are interested in attending ACS in the summer of 1988, call Capt. Moore, AV 221-7820.

You should know that assignment officers do not create jobs. We are given the mission to find the officers to fill those jobs. So, when you call in and your assignment is "firmed up" five months out, you and your assignment officer must work with what is available to be filled. Sometimes these assignments match up with your preferences, sometimes not.

You should know that the next majors promotion board date has not been made. But, since last year's board was moved from March 1987 to November 1986, the next board will probably meet in November of this year. Year group 78 is the primary zone.

The Command and General Staff College selection board should be in October 1987, again looking at year groups 74, 75, 76 and 77. Serious business: get new photographs for these boards.

Speak with your commander about your career aspirations. He can counsel you about the different paths open to take. He may make a recommendation. His guidance will reflect what he knows to be significant based on where he has been in his career. Use him to help you decide your duty preferences. He is an experienced officer you should tap for information and insight.

I cannot emphasize enough that you should keep a current address, phone number and photo on hand in your branch file. I have seen many good off-line assignments lost to good officers because we did not have the phone number or photo on hand.

You should know that we are here to help sort out your questions and assist you in your responsibility to map out your career. For more information, call AV 221-0025/0026. □

From the Lieutenants Desk

by Capt. Robert Woods

Substandard OERs

The ADA Branch chief, MILPERCEN, currently sends letters to all individuals who receive substandard officer efficiency reports (OERs). The letter notifies the individual that the OER is substantially below average. The letter from the MILPERCEN ADA Branch chief also recommends that the officer interview with his or her rater and senior rater to identify weaknesses needing improvement.

Identifying the problem for the officer is the primary purpose of the letter. The reaction from the field has shown that these letters are necessary. The officers who receive the letters routinely express one of two common reactions. The first reaction is a concern with the DA Form 67-8-1 and routine counseling sessions. The second common reaction is that the lieutenant did not know that he or she was deficient in a specific area. Lieutenants need to fully understand the role they play as the recipient of counseling sessions and OERs from their battery commander.

As a junior officer, you should receive several counselings from your chain of command prior to your initial OER. Each officer should fully understand the purpose behind these counseling sessions. Your initial counseling session will introduce you to DA Form 67-8-1. During this counseling session, your boss will outline the commander's expectation of you as a lieutenant. You will also discuss the objectives that you wish to accomplish during this rating period. Your battery commander will review these goals with you. Your final list of objectives will be a combination of your personal desires and the missions that you receive from your battery commander.

At the conclusion of this session, the commander and the lieutenant should both have the same understanding of the lieutenant's responsibilities and objectives. Be sure that all of your questions are answered before you leave your commander's office.

In addition to this initial counseling, you will undoubtedly be counseled on a routine basis prior to the OER being issued. It is imperative that during these sessions you truly understand your strong and weak points. By knowing this, you can

concentrate on improving your weak areas before you receive an OER. Another way to ensure there are no surprises on your OER is to routinely review your DA Form 67-8-1. You should do this to ensure that you have programs that are working toward your stated objectives.

At the conclusion of the rating period, you will receive your OER. If you have any questions, you should request a counseling session with your battery commander. During this session, you should discuss the OER. The discussion should concentrate on what corrective action you should take to prevent another adverse report. Additionally, if you have not previously discussed your senior rater's philosophy, you should do so at this time.

Your primary goal is to establish a solid course of action to ensure that you will not make the same mistake again.

The Air Defense Branch can help you with many of your questions concerning your OER. For example, if we have received the OER, we can tell you your senior rater's rating profile. The assignments officer can also conduct a file review to provide you with some general information on your overall performance throughout your career. Give us a call at AV 221-0025/0026.

Thought for the quarter: "Every job can be a dead-end job, if you're a dead-end guy." □

ADA Warrant Careers

by CWO 3 Jim N. Cupp

Office, Chief of Air Defense Artillery
U.S. Army Air Defense Artillery School

Warrant Officer Evaluation changes

Air Defense Artillery warrant officers who receive evaluation reports after May will see some important changes in the way their senior rater evaluation is determined.

MILPERCEN's Evaluation Systems Office released that senior raters will be asked, for the first time, to evaluate warrant officers by individual grades, rather than by grade groupings, as previously required under AR 623-105.

Before May, warrant officers were grouped together (WO 1 and CWO 2 or CWO 3 and CWO 4) for the purpose of determining the senior rater profile on the officer evaluation report. This new change makes it easier for senior raters to evaluate a warrant officer's potential relative to his or her contemporaries, since experience and time in service can vary widely from WO 1 to CWO 2 and CWO 3 to CWO 4.

According to Maj. Roger Wise, Evaluation systems Office, under the new rules a senior rater will

compare a WO 1's performance with that of other WO 1s. Similarly a senior rating for a CWO 2, CWO 3 or CWO 4 will be based on comparisons with other warrant officers of the same grade that the senior rater has evaluated.

The changes are expected to enjoy wide support. In a survey conducted by the Total Warrant Officer Study (TWOS) in 1985, a majority of commissioned and warrant officers responded that the current practice of grouping warrant officer grades should be dropped in favor of a separate senior rater profile for each grade. (An in-depth look at the recommendations from TWOS begins on Page 40.) A poll of the Army National Guard, the Army Reserve and major commands showed similar support for the change.

Senior rater profiles based on warrant officer evaluations have been automatically restarted this May by personnel managers at Headquarters, Department of the Army. Evaluation reports on warrant officers that are signed and dated by senior raters during or after May will reflect the restarted profile. Each senior rater will receive a letter describing the changes, according to Wise.

Evaluation reports prepared on commissioned officers are not affected by the change. Senior rater profiles on commissioned officers will not be restarted as a result of the new procedures for warrant officers.

ADA Enlisted Careers

Capt. Howard Bromberg

ADA MILPERCEN Enlisted Management Branch

. . . Drill Sergeants, Recruiters, Instructors

We are often asked what types of duty positions are key for promotion. The most important ones are leadership positions within your primary MOS, especially if you can work in a position requiring higher than your present rank. For example, one of the best duty positions for a sergeant first class is to work as a first sergeant for a period long enough to receive an enlisted evaluation report and be awarded a special qualification identifier of "M" which indicates first sergeant.

Three other important types of duty positions are instructor, recruiter and drill sergeant. All three of these positions have tough acceptance requirements. NCOs who serve successfully in these positions and earn good performance ratings while in leadership positions present evidence to the promotion board that they are multi-talented non-commissioned officers.

An NCO interested in serving as an instructor should submit a DA Form 4187 through his local MILPO to the enlisted branch at MILPERCEN requesting instructor duty. If vacancies exist, we will recommend to the gaining installation that the NCO be assigned as an instructor. Instructor selection, qualification and assignment are made at the installation level. Basic requirements are: last assignment in a leadership position with a TOE unit, no record of disciplinary action and an ability to communicate clearly.

Soldiers should consult AR 601-1 for the eligibility criteria for recruiting duty. An applicant for recruiting should be at least a sergeant with a minimum of four years service, no more than 12 years service if a staff sergeant, and no more than 14 years service and two years in grade if a sergeant first class. Soldiers must have either a high

school diploma or at least one year of college with a high school GED. A minimum GT score of 110 may be waived to 100 if the soldier's ST score is at least 100. The applicant cannot be a sole parent, and if the applicant is married to another service member, the spouse must be willing to apply and be qualified for assignment with the U.S. Army Recruiting Command.

Potential applicants must be physically fit, meet the height and weight standards of AR 600-9 and have a minimum physical profile of 122221. Financial solvency is a must, along with a clean record. The soldiers may not have had action under the Uniform Code of Military Justice, or have lost any active-duty time recorded during the current enlistment or the past three years, whichever is longer. Duty requirements for recruiters dictate that an aspirant have possession of, or have the ability to obtain, a valid civilian driver's license.

Criteria for drill sergeant eligibility may be found in AR 614-200. Sergeants through sergeants first class, with a minimum of four years service, may apply if they meet the qualifications. Good physical attributes are a must. Potential candidates must include documentation with their applications that they meet the height and weight standards, have no speech impediments, exhibit emotional stability and have a current passing score on the Army physical readiness test.

Academically, the soldier must have a high school diploma, or the GED equivalent, and have successfully completed a primary leadership development course as a minimum. In addition, aspiring applicants for drill sergeant duty must have placed consistently in the upper half of their peer group on SQT evaluation. Military bearing, demonstrated leadership ability and the ability to perform in positions of increasing responsibilities are mandatory. Recommendation by a commander who is a lieutenant colonel or higher is required.

Promotion to Master Sergeant

Effective June 1, 1987, to be considered for promotion to master sergeant, all sergeants first class

within the zone of consideration must have successfully completed the advanced non-commissioned officers course (ANCOC). This is not old news, so if you are a sergeant first class who has not completed ANCOC, get with your chain of command and get scheduled.

Also, this year will be the first master sergeant promotion board where the number of sergeants first class selected will be based on the total number of master sergeants required by MOS. What this means for air defenders is that the number of sergeants first class selected for 16Z will be based on the projected shortages of 16Zs for 1988.

Master Sergeant Pinpoint Assignments

All master sergeants or first sergeants who are placed on assignment instructions to an overseas location are assigned under the E-8 pinpoint assignment program.

Once an NCO has been scheduled for an overseas assignment, the career branch requests a specific duty assignment and location from the gaining command.

Following the receipt of the specific assignment, the NCO is notified by letter from the branch stating the duty position and location. The overseas command may, prior to the NCO's arrival, change the pinpoint assignment.

The only way we know if the program is successful or not is by the NCOs returning the response form included with the notification letter. We strongly request that the NCO return the form as soon as he arrives at his new duty station.

Patriot Intermediate Maintenance

Air Defense Artillery is looking for soldiers with MOS 24T, Patriot Operator/System Mechanic, for training in the intermediate maintenance field.

If you have been a 24T for at least 18 months and have an EL score of 110 or higher, you may qualify for training in Patriot intermediate maintenance, giving you the additional skill identifier T5.

If you meet these prerequisites and are interested in a challenging and rewarding career, submit a DA Form 4187 volunteering for training as a

Patriot intermediate maintainer. For more information contact CDR, MILPERCEN, ATTN: DAPC-EPK-A, 2461 Eisenhower Ave., Alexandria, VA 22331-0400 or call MSgt. Foy at AV 221-8053.

ADA NCOs Check Your Education Codes

Competition for promotion, as ADA NCOs know, is fierce. An important factor in promotion is presenting the most accurate and up-to-date information possible in your military personnel file.

Since recent Army policy changes have made NCO education sequential, progressive and mandatory, and have linked some education to promotion, it is imperative that NCOs ensure the education codes in their files are correct.

NCO education codes on the Standard Installation/Division System (SIDPERS) data base and the Enlisted Master File should be checked.

"As the Army considers and implements more links between the Non-commissioned Officer Education System (NCOES) and promotion in the future, it will be even more important that NCOs have the correct education codes in their records," said Sgt. Maj. Perry R. Crook, of MILPERCEN's NCOES Section.

"Some of the codes in use have become meaningless as our Enlisted Personnel Management System has evolved over the years. Also soldiers often have codes that do not accurately reflect the highest professional development training they've completed," he said.

The use of standard codes should correct the lack of good information about NCOES. These codes will ensure that soldiers are considered for promotions and NCOES courses at appropriate times.

These codes were announced in MILPER Message No. 87-36 in November 1986. All invalid NCO education codes should have been changed to the correct codes by March 1, 1987, according to Crook.

"NCOs need to check their records to see that they have the right codes," he stated. "Whenever their level of NCO education changes, they need to make sure that their education codes get changed too." □

Make It Work For You

Want to improve your job knowledge and professional development? Then visit your education center and enroll in an Air Defense Artillery School correspondence course in your career field. For more information, call the program manager at the U.S. Army Air Defense Artillery School, Fort Bliss, TX, AV 978-7111 or commercial 915-568-7111.

The following correspondence courses are offered by the Air Defense Artillery School:

Officers Correspondence Courses Offered

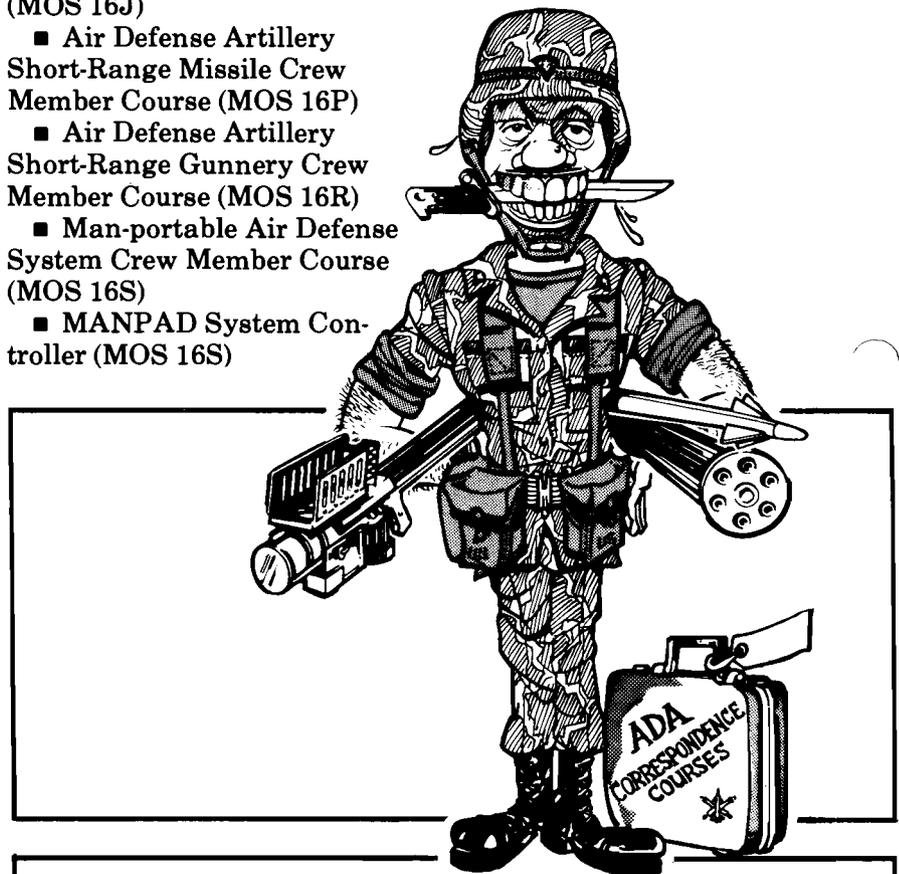
- Air Defense Artillery Field Grade Refresher Course
- Reserve Component ADA Officer Advanced Course
- Air Defense Artillery Officer Advanced (SCAT) Course
- Air Defense Artillery Company Grade Officer Refresher Course

Enlisted Correspondence Courses Offered

- Air Defense Artillery Senior Sergeant Course (MOS 16Z)
- Common Military Subjects for Skill Levels 1 through 4 (All MOSs)
- Hawk Missile Crew Member Course (MOS 16D)
- Hawk Missile Crew Member Merger Training (MOS 16D)
- Hawk Fire Control Crew Member Merger Course (MOS 16E)
- Intermediate Duster Training (MOS 16F)
- Advanced Duster Training (MOS 16F)
- Senior Duster Training (MOS 16F)

- Chaparral/Vulcan System Orientation (MOS 14B and 16F)
- Operations and Intelligence Assistants (MOS 16H)
- Operations and Intelligence Assistants Merger Training (MOS 16H)
- Defense Acquisition Radar Crew Member (MOS 16J)
- Defense Acquisition Radar Crew Member Merger Training (MOS 16J)
- Air Defense Artillery Short-Range Missile Crew Member Course (MOS 16P)
- Air Defense Artillery Short-Range Gunnery Crew Member Course (MOS 16R)
- Man-portable Air Defense System Crew Member Course (MOS 16S)
- MANPAD System Controller (MOS 16S)

- Hawk Firing Section Mechanic (MOS 24C)
- Hawk Fire Control Mechanic (MOS 24E)
- Hawk Information Coordination Central Mechanic (MOS 24G)
- Chaparral Weapon System Mechanic (MOS 24N)



**See your Training
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Patriot ATM Capability

Air Defense Artillery's near term anti-tactical missile (ATM) programs are on track. The Patriot ATM program consists of Patriot ATM Capability 1 (PAC 1) and Patriot ATM Capability 2 (PAC 2). PAC 1 involves software modifications while PAC 2 will involve both software and hardware modifications. The FY 1988 budget allocates \$25.1 million for the two programs. Air Defense Artillery will spend \$700,000 in FY 1988 to develop and field PAC 1 software. The remainder of the budget will be spent on PAC 2 testing.

Patriot Activations

The 8th Battalion, 43rd Air Defense Artillery (Patriot), began collective training in January and will deploy to Giebelstadt in July. The 6th Battalion, 43rd Air Defense Artillery, destined to become the sixth European Patriot battalion, will activate in April while the 3rd Battalion, 43rd Air Defense Artillery will activate in July, becoming the second CONUS Patriot battalion.

Patriot-Hawk Interoperability

The United States, the Netherlands and the Federal Republic of Germany has reached a trilateral agreement on requirements for Patriot information and coordination central (ICC) software changes to improve Patriot-Hawk interoperability. Scheduled for fielding in July, the software improvements will allow the Patriot ICC to control Patriot and Hawk fire units and act as a master battalion for a mix of Patriot and Hawk battalions.

FORSCOM Shuffles ADA Units

The U.S. Army Forces Command (FORSCOM) has approved a new CONUS Patriot stationing plan. A recent FORSCOM decision moves the 1st Battalion, 65th Air Defense Artillery (HAWK), from Fort Bliss, Texas, to Fort Hood, Texas, in June 1988 and delays the move of the 2nd Battalion, 7th Air Defense Artillery (Patriot), from Fort Bliss to Fort Hood until FY 1993. The 3rd Battalion, 43rd Air Defense Artillery (Patriot), and 1st Battalion, 43rd Air Defense Artillery (Patriot) will remain at Fort Bliss. There has been no final decision on the activation and basing location of a fourth CONUS Patriot battalion scheduled for FY 1993. The activation of the 31st Brigade Head-

quarters and Headquarters Battery and a new Chaparral battalion are still planned for Fort Hood in FY 1988-89.

Hawk Mobility Improvements

The U.S. Army Air Defense Artillery School and the U.S. Army Missile Command are finalizing a mobility product improvement to support the Hawk Forward Concept. The mobility improvements, which include a digital launcher, will allow Hawk crews to transport three missiles on a launcher and use a crane to clip load missiles.

Budget cuts have extended the fielding time for Hawk Product Improvement Phase III (PIP III) from FY 1989 through FY 1999. PIP III's final follow-on evaluation is projected for FY 1989. The first unit should be equipped the same year.

The Air Defense Artillery School is staffing paperwork to create new Hawk maintenance MOSs to support the new Hawk technologies.

Regimental System

The ADA regimental system continues to move rapidly ahead at Fort Bliss, Texas, with the U.S. Army Training Center battalions and The School Brigade battalions beginning their regimental conversions in June. The ADA training battalions will be redesignated as the 1st, 2nd, 3rd and 4th Battalions, 56th Air Defense Artillery Regiment. The School Brigade battalions will receive regimental designations as the 1st, 2nd, 3rd and 4th Battalions, 6th Air Defense Artillery Regiment.

ADA Commanders Conference Rescheduled

The annual ADA Commanders Conference has been rescheduled from May 12-14 to June 9-12 at Fort Bliss, Texas. The last day is an "optional" day which conferees may use to meet with U.S. Army Air Defense Artillery School and Center personnel.

The conference theme is "Air-Land Battle: The Role of Air Defense Artillery Today and Tomorrow." A few of the agenda topics are: "The Air-Land Battle Doctrine Foundation," "The Joint Counterair Doctrine," "Counterair Initiatives," "FAADS Today and Tomorrow in the Air-Land Battle," and "How to Fight the Counterair War in the Forward and Rear Area."

Stinger Scores Against Mi-24 Hinds

Afghan rebels are downing Soviet aircraft at the rate of five per week, according to a United Press International (UPI) report that credits an intelligence coup for the increased effectiveness of rebel anti-aircraft gunners.

Citing Pentagon sources, UPI reported that a study of two captured Soviet Mi-24s have led to the modification of Stinger missiles employed by Afghan rebels. Pakistan gave the United States at least one of two Mi-24s flown to Pakistan by Afghan army defectors in July 1985.

According to UPI, Pentagon sources rated the possession of the Mi-24 as a major intelligence coup that is altering the war in Afghanistan and could be useful in an East-West conflict as well as in Afghanistan.

SFDD Conference

The U.S. Army Air Defense Artillery School, Fort Bliss, Texas, hosted the U.S. Army Training and Doctrine Command (TRADOC) Staff and Faculty Development Division (SFDD) Conference in February. The five-day conference drew representatives from the Center for Army Leadership, Training Technology Agency, TRAMEA and SFDDs of 17 service schools.

Among conference conclusions and actions expected to have a far-reaching affect on training are:

- The Training Technology Agency will consolidate the best of TRADOC instructor training courses (ITC) into a common core curriculum for all TRADOC service schools. The objective is to ensure ITC certification throughout TRADOC.

- Conferees, recognizing the need for generic test item development training, recommended consolidating test functions training and/or courses.

- SFDDs throughout TRADOC are developing small group instructor training for officer advanced course, officer basic course and advanced non-commissioned officer course team leaders. While some schools see this course as an ITC adjunct, the Air Defense Artillery School will develop a separate course for team leaders. The course is a top priority for all TRADOC SFDDs.

- SFDDs will work with the Center for Army Leadership to agree upon and improve training regulations that govern course development, electronic information delivery system instruction, exportable training products and middle manager training.

- TRADOC representatives presented a briefing on how to conduct an after action review. Getting after action review into ITC is a top TRADOC priority. The Air Defense Artillery School integrated after-action review training into ITC in March.

Supply Discipline Program

The Deputy Chief of Staff for Logistics recently directed that a command supply discipline program be established to consolidate supply requirements for commanders Armywide. The program's purpose is to improve the Army's stewardship of its resources at all wholesale and retail levels.

Studies have found that most discrepancies in the Army's supply performance are caused by failure to follow regulations properly. Army officials believe that the solution lies in focusing the attention of commanders and supervisors on their supply responsibilities.

The command supply discipline program is designed to help commanders by consolidating regulatory requirements in two ways. First, the various supply requirements for commanders and supervisors are combined into a single source document. Second, commanders are permitted to consolidate the supply inspection requirements of a higher headquarters when evaluating subordinate commands. The intent of the command supply discipline program is to make Army supply operations more efficient by merging existing requirements rather than by generating new ones.

As part of the command supply discipline program, a pocket-size handbook for unit-level commanders has been developed for commanders to use in managing their supply responsibilities.

The handbook outlines commander's regulatory responsibilities in two ways — what must be done on a periodic basis such as monthly or quarterly, and what must be done in unit functional areas such as the supply room, arms room or motor pool. It offers guidance on such subjects as change of command inventories, relief from responsibility actions and unit supply personnel and training.

The handbook is now being distributed to the unit level. For more information, write: Commander, USALEA, ATTN: DALO-LER, New Cumberland Army Depot, New Cumberland, PA 17070-5007, or call: AV 977-6634.

Air Defense Artillery's Writers Guide

Subjects: We are interested in all subjects relating to the diverse field of air defense artillery (ADA), including —

- Army doctrine and policies
- Tactics and strategy
- Leadership
- Lessons learned
- Weapons and equipment
- Foreign forces

Historical articles should have contemporary value. If you have an idea for an article, contact us and explain your theme, scope and organization. It will save both of us time and will help in our planning.

Style: *Air Defense Artillery* prefers concise and direct wording in the active voice. Every article should have a beginning that catches the reader's attention, a body containing the crux of the article and an ending which concludes or summarizes. Keep the article as simple as possible. Write with your audience in mind. We edit all articles, but appreciate a polished submission. We do not normally have writers review their articles after they have been edited, but we do make it a practice to consult with authors on any significant changes made.

Acceptance: We make no commitment on acceptance until we have thoroughly studied each manuscript. Manuscripts should be original, previously unpublished works. Authors submitting articles are responsible for informing the staff of *Air Defense Artillery* of simultaneous submission and/or acceptance by other publications.

Format: We prefer articles from 1,000 to 2,500 words in length. We will publish shorter

or longer articles depending on subject and quality. Send clean, double-spaced manuscripts typed on one side of the sheet. Your name, address and phone number (Autovon preferred) should be typed on the first page. Cite your references and enclose all quoted material in quotation marks. If possible, credit should be given within the article, as footnotes are burdensome and use valuable space.

Graphics: Artwork in the form of photographs, maps, sketches or line drawings can enhance the effectiveness of your article. If you have an idea for artwork or know where we can get it, let us know.

Clearance: All service members and Department of Defense civilians must clear articles through their local security office prior to submission. A signed statement of clearance must accompany the article.

Biography: Enclose a brief biographical sketch, including important positions and assignments, experience or education which establishes your knowledge of the subject, and your current position and title. Photos of authors are no longer used in *Air Defense Artillery*.

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If you are interested in a particular subject, chances are that others will be too. Pick a subject, thoroughly research it and think all your ideas through. Write with enthusiasm, but be natural. □

Sgt. York Soldiers Win Superior Unit Award

The 4th Battalion, 1st Air Defense Artillery, formerly assigned to the 11th Air Defense Artillery Brigade, Fort Bliss, Texas, has been awarded the Army Superior Unit Award for its performance during the Sergeant York Gun test. The battalion "distinguished itself by outstanding meritorious performance in the activation, training and testing of the Army's first Sergeant York division air defense gun battery" during the period of Oct. 2, 1984, to July 19, 1985.

According to officials at the Military Awards Branch, U.S. Army Military Personnel Center, the award was the first Army Superior Unit Award

presented to an air defense unit, and among the first awarded to any Army unit.

The 4/1st ADA was inactivated by Department of the Army Order No. 28, on August 1, 1986, as the result of the reorganization of units under the U.S. Army regimental system. The former Chaparral/Vulcan battalion is scheduled to be activated again in June 1987 as a Germany-based Hawk battalion.

Soldiers who were assigned to the 4/1st ADA, during the period Oct. 2, 1984, to July 19, 1985, are authorized to wear the award as a permanent part of their uniform. Those soldiers should cite Department of the Army General Order No. 9, April 1, 1987, as the authority for the award.