EYES IN THE NIGHT

Radar, air warning squadrons, and night fighters formed an almost impenetrable air defense net.

By Sgt Bill Murray

A SLEEK Jap bomber slipped through the Pacific night, headed for an advanced Marine base. As the target neared, the bombardier grinned toothily in the darkness. Suddenly machine gun bullets ripped through the plane. For a second it hung in the air and then spiraled downwards in flames. It exploded as it hit the water.

High above, a Marine night fighter headed for home, his job finished. Although the Jap couldn't see him, the Leatherneck pilot had been trailing the bomber for the past five minutes, not seeing the enemy plane but knowing exactly it was every second.

The Jap had been shadowed from the very moment he entered the defense area. A member of a Marine air warning squadron had been trailing the bomber from hundreds of miles away. What's more, he had guided the night fighter to a point where he could polish off the Jap.

This Jap bomber met the same fate as hundreds of others. Some, like this one, were blasted by seemingly invisible fighter .planes. Others disintegrated in blistering antiaircraft bursts which struck without warning.

Such ghost-like destruction of the enemy was the work of the Marine air warning squadron, whose units stormed beachheads along with the FMF and were definitely credited with aiding many Hirohito men in their fanatical search for long-dead ancestors.

Designed to operate in enemy territory after a beachhead was established, Marine air warning squadrons furnished long-range warning of approaching hostile planes and from the ground controlled fighter planes sent up to repel the enemy. The first Marine air warning squadron went into action February 1944, at Eniwetok. From then on, they moved, step by step, in the westward march to Tokyo.

All Marine air warning squadrons were organized and trained at the Marine Corps Air Station, Cherry Point, N. C., by the 1st Marine Air Warning Group (AWG-1).

The air warning squadron's chief weapon is radar—and there's no real secret about it. It is merely the location of material objects in space by reflected radio waves. Adaptations have been used for years to detect icebergs and to determine ocean depths.

Sweeping the skies with radio waves, the air warning squadron (AWS) learns the presence of all planes, friendly or enemy. If a hostile plane enters the defense area, AWS contacts fighter squadrons or the antiaircraft guns of a Marine defense battalion to deal with the foe.

Probably the greatest use of radar by the Marine Corps is in the control of fighter pilots from the ground, a relatively new aspect of flying. It means that the pilot is under complete control from the time he slides into the cockpit until he climbs out of it. A ground controller gives the flyer altitude, speed and heading for himself and the same data about the enemy plane, plus any evasive tactics. Then the controller directs the pilot to a rendezvous with the hostile plane. When the flyer has disposed of his opponent, the controller guides him back to his base.

Admittedly when fighter control was first tried, flyers were hesitant to trust the judgment of the controller on the ground. Heretofore the aviator had been relatively free to make interceptions of hostile planes in an independent manner. But expert direction by controllers and the subsequent sharp rise in enemy losses soon convinced our pilots of the value of the innovation.

Day fighters were directed until visual contact was made with the hostile flight. Then the

flight was left in the hands of, the squadron leader. The controller's skill was shown in the approach he planned for his fighters. He usually brought them in through the blinding sun or from some unexpected quarter, giving them every possible advantage.

Night fighters, because of poor visibility, were controlled up until the last possible minute. Although the night fighter could not see the hostile plane until he closed for the kill, the controller was able to follow the paths of the night fighter and enemy plane at all times. Little by little, he would draw the night fighter closer to the Jap, always keeping the fighter hidden from the enemy until time for the attack.

So expert were Marine controllers at remote direction that our fighter planes were right on the enemy's tail before the Jap knew it. Then it was too late for the Shambo!

"Most of those guys didn't know what hit them," said one of the controllers back from the Pacific. "Our planes came in from out of nowhere with such a rush that the Jap didn't have a chance. Only one Jap that I know of was able to even get a shot at a night fighter and even then, it was hopeless for the Jap from the start."

When Pearl Harbor was attacked, the Marine Corps had little control equipment and fewer operators. But when Jap planes swarmed down on Wake Island on 10 December 1941, there was a marine and equipment waiting for them.

Some may have wondered why Col W. L. J. Bayler was the only marine to leave Wake. He was "ordered off" because he was one of the few men in the Corps who understood radar. Col Bayler got his first chance to strike back at the Battle of Midway when ground-controlled planes helped deal the Jap navy a staggering blow. Later at Guadalcanal, his control of communications helped start the Japs reeling backwards and won him the Legion of Merit.

To Col Edward C. Dyer probably more than to any other man, the Marine Corps owes the adoption of radar as a weapon which has made its victories possible. Col Dyer, known to most AWS members as the "grand-daddy of Marine radar," was one of the first to suggest a separate air warning and fighter control unit instead of small outfits assigned to aircraft groups.

Even before the blitz of London, Col Dyer was championing the air warning and fighter control system. A tour of England to study RAF air defense system strengthened his and caused him to redouble his efforts. These finally resulted in the dispatch to England of a few Marine communications officers to study the RAF system.

By winter of 1941-42, Col Dyer had managed to get radar personnel assigned to Marine aircraft groups. Shortly thereafter, he succeeded in having ground control of fighter planes included in the T/0 for Marine night fighter squadrons. These changes were based on adoption of the RAF system with modifications for the Marines use in island-to-island warfare.

At that time, unfortunately, equipment and trained personnel were limited. Equipment production was slow and training facilities were almost non-existent. Even limited personnel and equipment proved their worth, however, for on 10 March 1942, three months after the Japs attacked Wake, a Japanese flying boat was shot down near Midway Island by Maj. J. L. Neefus and three other Marine fighter pilots. The kill was made about 40 miles from Midway where BrigGen W. J. Wallace (then a lieutenant colonel) directed the Marine fighters by remote control, thus probably becoming the first Marine shore-based controller to make a successful interception.

But it was the success of a small band of enlisted men on Guadalcanal that spurred the organization of independent Marine air warning squadrons by showing the effectiveness of their equipment in combat.

WHEN the Marines opened the Guadalcanal offensive, there were few trained radar operators. Under the urging of Col Dyer, a school for enlisted personnel had been established at Quantico. Its first class had graduated just as the Guadalcanal drive was being planned. Ten men from this class were assigned to provide early air warning during the early Solomon's campaign.

These ten men arrived at Guadalcanal on 28 August, 1942, while the Marines were still lighting to retain newly-captured Henderson Held. Possession of the airfield became vital when a naval setback at Savo Island stripped the FMF of regular supply lines and all materiel had to come through by air.

Directing the unit was SSgt D. H. MacDonnell of Lawrence, Mass., who won the Silver Star and a lieutenancy for his leadership. His crew was made up of PFC W. S. Taylor, and eight privates, H. D. Nichols, Robert W. Schultz, Julius W. Jones. W. M. Yurillo, C. L. Dill, G. F. Dolan, H. M. Wooley and Franklin T. Rainier.

They set up their equipment on a thin stretch of land between the bomber and fighter airstrips—the hottest point on the island. Bombs and shells burst around them continually because the Japs sought constantly to knock out the field. One night a heavy naval barrage obliterated everything else on the field. At times, the battle-line surged backwards toward them and they had to grab rifles and take places on the firing lines.

For 24 hours a day, MacDonnell and his men swept the skvlanes, hunting Jap planes. They were supposed to duck into foxholes when bombing raids were on. But many times, a second or third raid would be detected even while the first was passing overhead. Then they stuck to their posts, trailing the new raid while bombs fell nearby, jarring their equipment and shaking them from head to toe.

Washing Machine Charlie, the Jap pilot who bombed Guadalcanal almost every night, was more familiar to MacDonnell’s men than to any other Marines on the island. He always

approached from the same direction and his track was a familiar one to them. The boys could tell it was Charlie coming the minute his track appeared on their equipment. Even now, they all remember his favorite azimuth.

But bombing wasn't their only worry. One Lung Louie was worse than Washing Machine Charlie. Every evening around chow time, he would let loose with a gun he had hidden back in a cave. He would lob shells over, trying desperately to hit the fighter strip. Since they were located between Louie and the fighter strip, the shells would plough up the ground around them whenever he figured too short. Miraculously, they escaped Louie's shells as well as Charlie's bombs.

MacDonnell's men stayed on Guadalcanal probably longer than any other outfit because operators and technicians were scarce. They remained from 28 August 1942, until 19 April 1943, except for a few days at Espiritu Santo in the New Hebrides around New Year's Day. It was during this short rest that MacDonnell was given the Silver Star. He and his men were given citations commending them for remaining at their exposed and hazardous post and forwarding information which helped defeat the Jap's Counterattacks.

It was LtCol E. C. Best, who set up the fighter control unit in the Solomons. LtCol Best was a communications engineer who had gone to England early in 1941 as a liaison officer to study the RAF air defense system.

He rigged up a fighter control system on Guadalcanal upon the request of Maj Gen Roy S. Geiger, who was in charge of Marine aviation on the island. There was no equipment available so LtCol Best flew to New Zealand where he collected some assorted British equipment and sent it to Guadalcanal.

Although the equipment arrived in three shipments, all landing on three separate beaches, it took the colonel only 21 clays to get the outfit assembled, satisfactory foundations built, a radio station in operation and communication lines established. He repeated this work on Munda and Rendova.

After Guadalcanal, air warning and fighter control were connected with individual aircraft groups with small attached units carrying out these duties. The first group of officer controllers arrived overseas with VMF (N)-531, the first night fighter squadron, which fought over Guadalcanal, Munda, Vella LaVella, Bougainville and Green Island.

Marine controllers moved ahead with the FMF as they jumped from island to island but it soon became apparent that the inclusion of air warning and fighter control in each aircraft organization was too rigid since it was impractical to move bulky equipment with parent aircraft units. Marine leaders saw that an independent air warning and fighter control organization such as Col Dyer urged was needed.

In February, 1943, therefore, it was decided to send a delegation of Marine officers and enlisted personnel to England to study the RAF air defense system. Returning from England, some of these men went overseas with VMF (N)-531 while others helped Col Dyer to outline a training program for Marine air warning squadrons.

Col Bayler, who had returned from the Pacific after extensive experience on Wake, Midway and Guadalcanal, was appointed commanding officer of the 1st Marine Air Warning Group (AWG-1) which was commissioned 1 July 1943. LtCol Best became commanding officer on 19 January 1944, when Col Bayler left Cherry Point on temporary detached duty. AWG-2, commanded by LtCol Robert 0. Bisson was commissioned at Miramar, California, on 8 January 1944. Its job was to issue equipment to squadrons organized at Cherry Point.

AWG-1 organized two kinds of squadrons, the regular which supplied air warning and fighter control for an established base and the assault unit which went in with the first waves in an attack to provide air warning for the ground forces. Plans were made to incorporate the assault features within the regular squadron.

The regular squadron had 285 officers and men with nine of the 20 officers acting as fighter controllers. Six of the enlisted personnel were corpsmen. The unit was as self sufficient as one of its size can be, carrying equipment, maintenance men, operators, technicians, electricians, radio operators, motor mechanics, bulldozer operators, and cooks.

The assault squadron had 185 men, 14 of them officers. Two ground observer teams were included to leap-frog ahead with beachhead drives.

AWG-1 received trained personnel from Army, Navy and Marine Corps Schools. Student controllers were chosen from AWS (commissioned directly from civilian life) and AV (officer training graduates) officers whose scholastic averages were high in subjects relating to map reading.

Student controllers were schooled in the Navy fighter director course at St. Simon, Georgia, and the Army controllers' course at Orlando, Florida, where they studied navigation, aerology, radio-telephone procedure, communications, fighter control and allied subjects. An indoctrination course at Cherry Point gave them the Marine Corps' slant on what they learned from the Army and Navy.

Besides schooling, these student controllers gained experience in bringing home lost planes by radio control. Several pilots, lost in the fog off the North Carolina coast, were saved from bailing out or emergency landings by following directions given by student controllers at Cherry Point.

Enlisted men handled the operation and maintenance of equipment and communications, leaving tactical control to officer controllers. A few recruits with no special training but with high mental aptitude scores were used for recording tasks but most of the enlisted men received technical training at Corpus Christi, Texas, the Marine Corps signal school at Camp Lejeune, or the Army school at Camp Murphy, Florida.

Air warning squadrons were not employed under any one particular parent group. Whenever a landing was planned, air warning squadrons were attached to a task force. An assault air warning squadron landed with the landing force, carrying light equipment to provide air warning; and limited fighter control on the beachhead. The assault squadrons guarded our ground units from surprise attacks by enemy planes, giving plenty of time to get into foxholes or put antiaircraft guns into action.

This temporary warning service continued until the beachhead was firmly established. Then the regular squadron landed with its heavy equipment and took over the task of locating air activity and coordinating; defense units.

Commanding the air defense system was the fighter commander, normally the senior fighter unit commander, who had complete authority over the air warning squadron, the night and fighter squadrons, and the anti-aircraft battalion.

Responsible to the fighter commander was the air defense controller who ordered the interception of hostile planes, saw to it that fighter turned safely, instituted searches for lost pilots, controlled all operations, all air activity and exercised direct control over the antiaircraft searchlights.

Heart of the air warning system was the control center where raid information from out radar posts was collected. When hostile or friendly air action was reported, it was displayed on a huge operations board or master map of the area.

The air defense controller kept a constant check on the operations map. Seeing a hostile track appear on the map, he declared an alert and had liaison officers from fighter squad contact their units. The fighters were sent to intercept the hostile flight. In the meantime liaison officers with the defense battalions passed the word to their units to stand by with antiaircraft fire in case the enemy planes eluded fighters. END

Editor's note: This article by no means professes to tell the complete story of air .warning or the use of radar in the Pacific. It merely tells of the organization of the Marine system and its operation up until the Marianas campaign. This story was written early in 1944 but has just been released by the Navy censor.

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