

The **ROUNDDEL**

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ROYAL CANADIAN AIR FORCE



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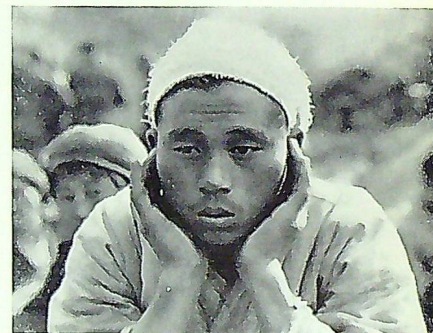
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This Month's Cover



A Korean ration-carrier tries to shut out the sound of war during a few minutes' rest.

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Introduction by the C.A.S.

During the past few months we have all read and heard much criticism, both intelligent and ill-informed, of the part played by air power in the Korean campaign.

I have therefore asked that this issue of "The Roundel" be devoted primarily to assisting its readers to form a clearer picture of what tactical air power implies and what it has actually accomplished in the present conflict. To that end, permission has been obtained to reprint in its entirety an article that recently appeared in "Air Force," the official journal of the U.S. Air Force Association.

It is, I think, the clearest and most factual statement on the air concept in Korea that has yet appeared.

A handwritten signature in cursive script, which reads "W. A. Curtis".

(W. A. Curtis)
Air Marshal
Chief of the Air Staff

The Air-Ground Operation in Korea

Prologue

"For good or ill," said Winston Churchill, "air mastery today is the supreme expression of military power."

Air mastery is broad in meaning. It stands for many things. It includes the airman's support of the doughboy in combat and, at home, the public's support of the airman.

With the war in Korea, both have been brought to question.

The airman must stand on the facts of the case. The public must be given those facts.

To that end this issue is dedicated.

The Editors, "Air Force."

As this is written, war in the Far East is still very much with us. Events of this moment or the next, in this country or the next, might change with startling suddenness our whole outlook on the Korean war. In attempting to evaluate with some comprehensiveness a war that is still going on, The Editors are well aware of the risk involved.

And yet the gamble is not quite as great as it appears to be. For one thing, this is in no way an effort to cover the war *as such*. That must be left to the historians. Nor is it a complete report on airpower in Korea. Important elements of that airpower, such as combat cargo, troop carrier, air evacuation and air-sea rescue are not mentioned. This is, pure and simple, an evaluation of tactical airpower and the air-ground team, in doctrine and in Korea up to January 1, 1951.

For this we have chosen not to wait for the historians because we believe that material is now

available to permit a realistic appraisal of the Army-Air Force effort. This material, as it appears on the following pages, has been gathered the past several months from a wide variety of sources in this country and in the Far East, including members of civilian and military evaluation groups returning from on-the-spot observations in Korea. The information presented reflects countless interviews with senior Army, Navy, Marine and Air Force commanders, junior officers, infantrymen and airmen. The statements of facts as presented are based on objective studies and investigations. The general observations are ours.

And there is another reason why we have jumped the gun on the historians. We believe the public deserves the information *now* before the issues grow cold, before the erroneous first impressions on the air-ground team become misinterpreted for the facts themselves.

"OUT OF MILLIONS OF WORDS . . . CONFUSION, DOUBT AND CONCERN"

"Jet-propelled fighters have proved absolutely worthless in Korea." (Newspaper item, July 10, 1950)

"In Korea the F-80 jets proved they could provide ground support and also defend themselves." (A Congressman, December 7, 1950)

"I think if we didn't have Navy air power out there we would be off the peninsula right now." (A. U. S. Congressman, quoted Sept. 8, 1950)

"Had it not been for the Far Eastern Air Force, there would not be an American in Korea today." (The late Lt. Gen. Walton F. Walker, July 13, 1950)

"The Air Force sent jet planes to fight in Korea . . . it became apparent that the Korean fighting called for a different type of plane . . . we are replacing the jets." (A radio commentator, July 7, 1950)

"Rockets and machine gun fire from F-80s have blown up more tanks, trucks and other equipment than all other types of air attack combined." (General George C. Stratemeyer, news item, July 16, 1950)

The average American, reading the papers and listening to the radio these past months, has good cause to wonder. Out of the millions of words that have come his way on the Korean War, he has been left with confusion, doubt and concern over the role and usefulness of airpower. As a citizen and taxpayer, he has a right to know all the facts of the case. We ask that the quotes on these pages and thousands of others like them be weighed against the airpower facts presented in this issue. This is the least that the average American deserves. May his free press not let him down.

"The consensus among military-minded correspondents is that aviation hardly counted prior to the establishment of continuous front lines by American ground troops." (War correspondent, September 25, 1950)

"There has never been anything like this in my experience. Without air support we simply would have been pushed into the water." (Maj. Gen. Hobart Gay, Aug. 11, 1950)

"Where is victory through airpower?" (Commentator, July 27, 1950)

"U.S. jets turned out to be too fast to be useful against the slow propeller driven Yaks of World War II design." (News Magazine, July 14, 1950)

"The record in Korea shows USAF in the remarkable position of having absolute air superiority, but unable to give its own troops adequate support." (Newspaper item, July 13, 1950)

"In Korea the props have been better close support planes than the jets." (Aviation magazine writer, Feb. 1951)

"The fundamental lesson of Korea is the need for balanced forces . . ." (Newsletter, Oct. 15, 1950)

"Korea taught the same old, old lesson of war: the military factor of ultimate importance which finally subdues the enemy is the man on the ground." (Newsletter, October 15, 1950)

"Air saved the day here as it has so many times before." (Maj. Gen. W. B. Kean, news item, Sept. 11, 1950)

"Our Air Force has been attempting to bomb roads, bridges, tanks and everything else the enemy has behind their lines but still down the line come the heathen in their trucks and tanks and the wonder of it all is how do they do it." (Radio commentator, July 27, 1950)

"We want no more of these jet jockeys. They don't have enough fuel to stay in our areas long enough to find out where we are having trouble. And they don't have enough fire power to do any real good. Give us those Marines..." (Newspaper columnist quoting ground troop feelings, Aug. 19, 1950)

"My company commanders are so enthusiastic about the ability, courage and daring of your pilots that they requested that you be informed of the superb performance of the flights that supported our attack." (Battalion CO Lt. Col. H. K. Johnson in letter to Air Force General Earle Partridge, December 20, 1950)

"Jet fighters proved too fast for ground strafing." (News item, July 10, 1950)

"The campaign has demonstrated that full control of the air is no path to quick, cheap victory and also has showed the Air Force is far behind the Marine Corps in ground-air teamwork." (News item, Oct. 3, 1950)

"The Korean war is teaching American fighter pilots the new concept of aerial warfare — that the fastest is not always the bestest... high speed jet fighters... are proving ineffective against slow-moving but highly maneuverable Russian Yaks flown by North Koreans." (Foreign correspondent, July 5, 1950)

"In Korea, the props have been better close support planes than the jets." (Magazine writer, February 1951)

"The jets have also demonstrated that they are more rugged and even harder-hitting than the piston-engine fighters of World War II and as versatile." (Magazine writer, January 1951)

"A lot of GIs in Korea are wishing for a big 'umbrella' like the one 'issued' the Marines when they go out in a storm." (Columnist, Nov. 26, 1950)

"The standard fighter planes, all of them jets, were not designed for troop-support jobs... there was a lack of communications equipment." (News magazine, Nov. 3, 1950)

"The Korean war clearly shows the Air Force was unable to fill the Army's need for air support." (News item, Oct. 31, 1950)

"The Marines, with close air support, moved 27 miles in four days with light casualties. The Army, which had just the usual air coverage, bogged down after suffering heavy casualties." (War Correspondent, Aug. 15, 1950)

"The truth was exactly the opposite. Army units, fighting side by side with the Marines, had lighter casualties and actually had to wait for the Marines to catch up." (Columnist, commenting on same action, Sept. 30, 1950)

"The F-80s would be indispensable if jets showed up on the other side, but they are not fitted for the job over Korea." (Washington correspondent, July 6, 1950)

"Heavy thinking by Air Force planners during the past four years is being shown up in the Korean war as bad guessing." (News columnist, July 10, 1950)

"What was needed, of course, was a couple of old-fashioned Marine Divisions with their integrated Air Force." (Newspaperman, July 1950)

"As a member of a division which fought through encirclement... it is my very definite opinion that had it not been for the closest cooperation and all out help given us by your close air support we would not have gotten through that block..." (Brig. Gen. Sladen S. Bradley, Asst. CO, 2nd Inf. Div. in letter to Gen. Stratemeyer quoted Jan. 9, 1951)

"These estimates, coming from pilots traveling over 400 miles an hour, are completely valueless, because they are almost always false." (Newspaper item, Jan. 6, 1951)

"For the second consecutive day, ground force evaluation credits Air Force planes with double the number of enemy casualties reported by pilots." (G.H.Q. Communique 782, Jan. 2, 1951)

"None of the Air Force or Army officers here know how to go about setting up a system for close support of ground troops . . . there were no trained officers who knew how to direct airplanes

that were supposed to provide close support." (News magazine, Nov. 3, 1950)

"Failure to plan for close support of ground forces has been a chronic complaint against Air Force leaders. It took too long . . . for the Air Force . . . to find the right enemy targets." (A Military Analyst, July 31, 1950)

"The contribution of the Far East Air Force in the Korean conflict has been magnificent. They have performed their mission beyond all expectations." (General Douglas MacArthur, news item, July 25, 1950)

GLOSSARY OF TERMS

(These are definitions of the chief Air-Ground terms used in this Special Issue)

air alert mission — An air cooperative mission which starts with airborne aircraft awaiting the designation of a target.

air-ground control radio station — An aeronautical telecommunication station through which communications pertaining to the operation and control of aircraft are handled.

air-ground operations system — A system operated by the ground forces to provide the ground commander with the means for receiving and processing the requests of subordinate ground commanders for air missions and for the rapid and continuous exchange of battle information and intelligence.

area bombing — Bombing a target which is in effect a general area rather than a small or pinpoint target.

area of responsibility — A defined area in which responsibility is specifically assigned for development and maintenance of installations, control of personnel, or conduct of defense or attack.

attack, diversionary — An action wherein a force actually attacks, or threatens to attack, a target other than the main target for the purpose of drawing enemy defenses away from the main effort.

attack, holding — An attack designed to hold the enemy in position, to deceive him as to where the main attack is being made, to prevent him from reinforcing the elements opposing the main attack, and to cause him to commit his reserves prematurely and at an indecisive location.

attack, main — Principal attack; attack into which the commander throws the full weight of the offensive power at his disposal; attack directed against the chief objective of the campaign or battle; main effort.

bomb release line — Imaginary line around a defended area or objective over which an aircraft should release its bomb or bombs in order to obtain a hit or hits on an area or objective.

bombing, carpet — To distribute progressively, as a creeping barrage, a massive bomb load upon an area defined by designated boundaries, in such a manner as to inflict damage to all portions thereof.

bombing, pattern — The systematic covering of a target area with aerial bombs uniformly distributed according to a plan. Pattern bombing differs from area bombing, which is bombing of a general area according to no special plan, and from precision bombing, which is directed at a specific target.

bombing, saturation — A maximum bombing effort against a limited area which it is desired to obliterate.

center, joint operation — A central joint agency at senior ground forces and air forces levels organized for the purpose of exchanging air and ground battle information, and for the organization of the combat effort of the air forces in tactical air support of ground forces operations.

center, tactical air direction — A subordinate air operations installation (land or ship-based) from which aircraft and airwarning operations within an assigned area are directed. The tactical air direction center is the operational component of a tactical air control group operating at corps or amphibious attack force level.

close tactical air support — Air action against hostile surface targets which are so close to friendly forces as to require detailed integration of each air mission with the fire and movement of these forces.

column cover — An air mission consisting of fighter aircraft on air alert over or in the vicinity of the head of a column, in constant radio contact with the column, with mission of aerial reconnaissance to the front and flanks and attacks on call of enemy targets which threaten the column.

combat air patrol — An aircraft patrol provided over an objective area, over the force protected, over the critical areas

of a combat zone, or over an air defense area, for the purpose of intercepting and destroying hostile aircraft before they reach their target.

combat air support operations — Aerial application of force in direct support of land, naval, and air operations.

control, operational — Control exercised over the combat or service operation of subordinate or other organizations. Operational control comprises those functions of command involving the composition of subordinate forces, the assignment of tasks, the designation of objectives and the authoritative direction necessary to accomplish the mission.

director, tactical air — The officer-in-charge of all operations of the tactical air direction center. He is responsible to the tactical air controller for the direction of all aircraft and air warning facilities assigned to his area of responsibility. When operating independently of a tactical air control center, the tactical air director assumes the functions of the tactical air controller.

fighter controller — In air operations (tactical) the officer of the staff of a tactical air controller charged with the coordination and evaluation of air warning reports and the operational control of aircraft assigned to him.

fighter cover — The maintenance of a number of fighter airplanes over a specified area or force for the purpose of repelling hostile air activities.

fighter director — In air operations (tactical) the officer (in Army and Air Force on the staff of a tactical air director) responsible for the direction of such aircraft and airwarning facilities as may be allotted to him for the defense of his area.

fire direction center — The element of a command post consisting of gunnery and communication personnel and equipment by means of which the commander exercises fire direction and/or fire control. The fire direction center translates target intelligence, and requests for fire into the appropriate fire commands.

fire, interdiction — Fire placed on an area or point to inhibit the enemy in the use of the area or point.

flight — The basic tactical unit in the Air Force, consisting of four or more aircraft in two or more elements.

front — 1. The lateral space occupied by an element measured from the extremity of one flank to the extremity of the other flank. 2. The direction of the enemy. 3. The line of contact of two opposing forces. 4. When a combat situation does not exist or is not assumed, the direction toward which the command is faced.

general tactical air support — That phase of tactical air operations against enemy air activities, ground elements, installations and lines of communications in the immediate or projected battle area, which assists the supported ground force as a whole to gain its objectives and does not require integration with the fire and movement of the supported forces.

ground alert — That status in which aircraft on the ground are fully serviced, armed, and with combat crews in readiness to take off within a specified short period of time (usually 15 minutes) after receipt of a mission order.

line, bomb — A line established by appropriate troop com-

manders as a precautionary measure to guard against accidental air attacks on friendly ground forces.

line, forward bomb — A bomb line which delineates the rear limits of a zone of general air action beyond which missions may be ordered by the tactical (or strategic) air commander, but beyond which air units assigned to close support of troops will not operate unless specifically directed.

line, bomb safety — A line, normally designated by ground forces, beyond which air attacks may be executed without clearances from the ground forces. This line is a precautionary measure to guard against accidental air attacks on friendly ground forces.

line, front — A line formed by the most advanced units in any given tactical situation. Also called **LINE OF BATTLE**.

marshalling yard — A network of railroad tracks which may include a classification yard and appropriate receiving and dispatching tracks, an engine, terminal and repair facilities.

observer, air tactical — An officer trained as an air observer whose primary function is to observe from aircraft in flight and report on the movement and disposition of friendly and enemy forces.

observer, forward — An observer who operates with front-line troops and is trained to adjust gunfire.

operation, air tactical — An air operation involving the employment of air power in coordination with ground or naval forces: a. to gain and maintain air superiority in localized sectors to the degree that ground or naval forces can operate freely without effective opposition from the enemy's air power; b. to prevent movement of enemy forces into and within the objective area and to seek out and destroy these forces and their supporting installations and c. to join with ground or naval forces in operations within the objective area, in order to assist directly in attainment of their immediate objective.

operational control — Comprises those functions of command, involving the composition of subordinate forces, the assignment of tasks, the designation of objectives and the authoritative direction necessary to accomplish the mission.

tactical air command — 1. a general term applied to an air organization designed to conduct offensive and defensive air operations in conjunction with land or sea forces; 2. a designation of one of the subordinate commands of the Air Force.

tactical air-control center — The principal air operations installation (land or ship-based) from which all aircraft and airwarning functions of tactical air operations are controlled.

tactical air control party — A subordinate operational component of the land-based tactical air control group designed for the control of aircraft from forward observation posts. The tactical air control party operates at division, regimental, or battalion level.

tactical air control squadron — A flexible administrative and tactical component of a tactical air control group which provides the control mechanism for a tactical air control center, or a tactical air direction center, or tactical air control parties.

tactical air controller — The officer in charge of all operations of the tactical control center. He is responsible to the tactical air commander for the control of all aircraft and airwarning facilities within his area of responsibility.

tactical air coordinator (airborne) — An air officer who coordinates, from an airplane, the action of combat aircraft engaged in close support of ground or sea forces.

target information center — An intelligence center set up for assembly, evaluation, interpretation, dissemination, and

coordination of target information for supporting weapons.

unified command — That command organization in which a unified force composed of significant elements of two or more Services operates under an officer specifically assigned to the command thereof by the Joint Chiefs of Staff, in Washington.

Part I: What Is Tactical Airpower?

Our basic air-ground operational doctrine was hammered out jointly by Army and Air Force on the anvil of a major war. These are the fundamentals of the doctrine essential to a true understanding of tactical airpower and its role in the battle for Korea. This is the starting point for a new evaluation.

SOME WEEKS AGO in the House of Representatives a Congressman engaged in debate on the Korean War gave the definition which probably comes close to the average man's understanding of the subject. "Tactical airpower," the Congressman said, "is nothing more than close support for ground troops." Unfortunately it is not so simple.

The situation plainly calls for a few basic definitions and a re-statement of certain basic facts. To begin with, the term "tactical airpower," while commonly used, actually is a misnomer. Airpower, as General Vandenberg has put it, is "indivisible." It cannot be cut up into segments. So let us use the term tactical airpower, or Tac Air, as abbreviations solely.

In any definition of a "type" of airpower, the only possible determining factor is the objective against which airpower is directed. In any consideration of "tactical airpower," therefore, the key to understanding is its objective or targets — in this case, military forces, both troops and equipment. Strategic airpower, on the other hand, is directed against the sources of national strength itself (industries, sources of raw materials, etc.). Even so, the functions of these two "types" of airpower often overlap.

It is a rather common fallacy, in labeling "types" of airpower, to think in terms of types of aircraft. This is a sure way of going wrong. The *principal* weapons of tactical airpower, for example, are fighter aircraft, fighter-bombers and light bombers, but *all* types of aircraft can be and have been employed tactically.

In our re-evaluation of the tactical use of airpower, it becomes important, first, to list, in careful coordination with the ground forces, the *kinds* of targets against which Tac Air can be employed to best purposes. This has been done by the Army and Air Force in their joint Field Manual 31-35 (Air-Ground Operations) which is, in effect, the official "bible" on this whole complex subject.

On the following pages we identify the three main categories of targets set forth in the manual, examine them with respect to basic doctrine, and then evaluate them in terms of Korean War experience. Before proceeding, we must consider two more basic factors.

First, the present doctrine on the proper tactical employment of airpower grew out of the common experience of our leading Army and Air Force commanders in World War II. It is based on hard

won experience — not theory. It was hammered out on the anvil of war in the successful air-ground campaigns in Europe from 1943 through 1945, and has been battle tested in every theater in the world. Nor is it an airman's dream child. Field Manual 31-35 and its counterpart, FM 100-20, bear the signatures respectively, of ground generals Marshall and Eisenhower.

Second, it is worth noting that in cataloguing the airplane's major tactical targets, we also identify, simultaneously and automatically, the targets best dealt with by *ground* weapons. This very division of responsibility makes it obvious, therefore, that *both forces have a single end*.

There are *not* two wars as some imagine: one in the air and one on the ground. It is *one war* with *one objective* fought by two different in-

struments in two different elements. Neither force can be subordinate to the other, for they have separate tasks. There are occasions when the Air Force is called upon by the ground for direct "support." And there are other instances when ground units "support" the air forces.

Usually such support missions (ground or air) come in time of crisis, and, however urgent at the moment, cannot be considered the continuing primary function of either force. At any rate, a *supporting force* is not necessarily subordinate to the force being supported. The point to keep clearly in mind is that ground and air forces are two very distinct weapons working in two very dissimilar elements toward one very common purpose — the accomplishment of the theater commander's mission.

Target Priorities . . .

I—THE ENEMY'S AIR FORCE

There are three good reasons for placing the enemy's air force at the top of the list of Tac Air targets:

✓It has an immense capacity to concentrate on and destroy any program undertaken by our own surface forces.

✓No weapon available to our surface forces can be used against it with equal efficiency.

✓Until the enemy's air strength is reduced, our own air forces cannot move on in maximum force to their other assignments.

The United States Strategic Bombing Survey, in its summary analysis of the Pacific War, explains: "Control of the air was essential to the success of every major military operation. Control of the air

enabled surface vessels to sail the seas as far as that control extended, even within range of enemy land-based airplanes. Control of the air permitted amphibious landings at any point where that control could be assured. Control of the air permitted close air support to ground forces, the effectiveness of which was decisive wherever fully employed. Control of the air over lines of communications prevented effective interdiction of them to the enemy and preserved them to ourselves. Control of the air over the Japanese home islands permitted the destruction by long-range bombing of such of her industries and cities as we chose to attack. The first objective of all commanders in the Pacific war, whether ground, sea or air, whether American, Allied, or Japanese, was to assure control of the air."

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Both Army and Air Force have established "air superiority" as a prime mission. And yet, the phrase is not completely satisfactory. It doesn't describe its point-blank assistance to the ground soldier. There is no connotation of the supply, communications and reinforcement lines that would be broken by the enemy if he held the upper hand in the air. There is nothing to indicate that, lacking air superiority, our ground troops could not operate without casualties unacceptable to a democracy; and necessitate the kind of fighting, incidentally, which would show off to poorest advantage one of our most valuable assets — technological superiority.

Better to say that the first objective of our tactical air forces is the "destruction of enemy weapons that fire from air to ground."

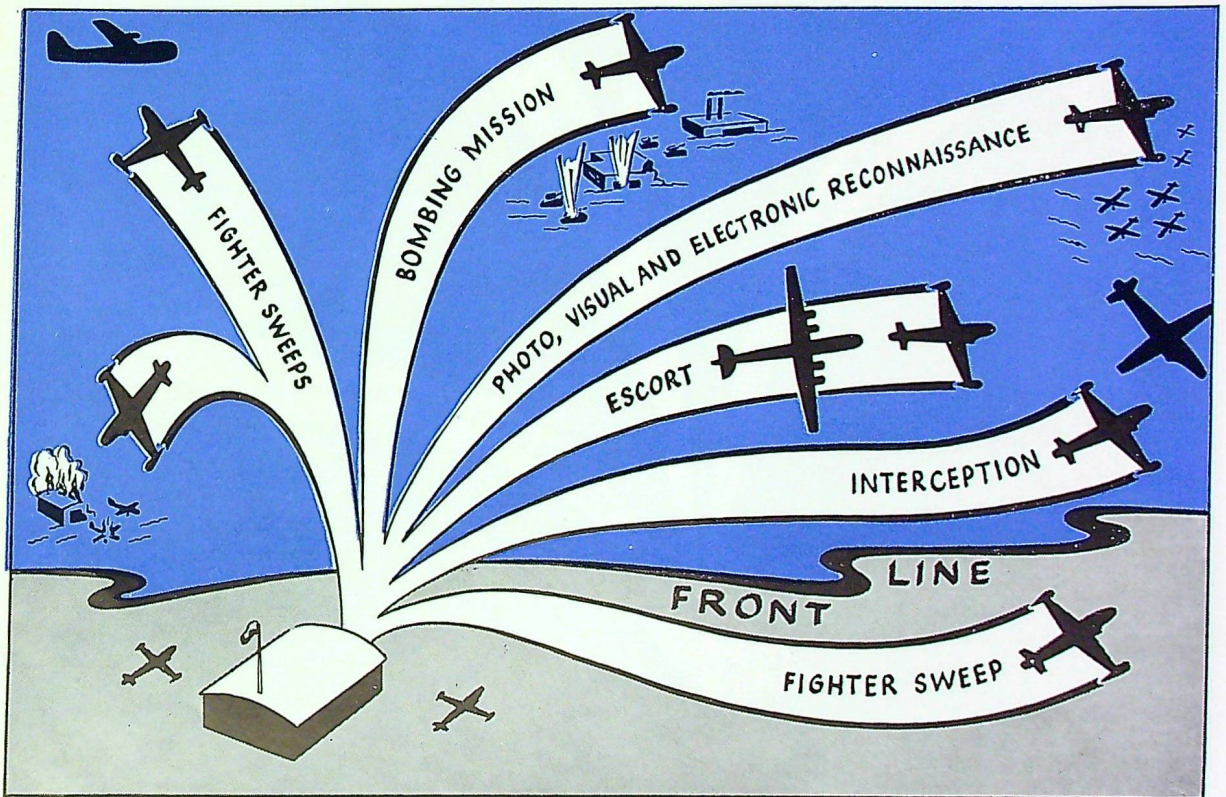
As indicated, these types of missions are used to gain and maintain air superiority:

✓Fighter sweeps, escort missions, and interception help destroy enemy aircraft in the air or on the ground.

✓Bombing missions hit grounded aircraft and the airfields and installations necessary for their support.

✓Photo and visual reconnaissance help provide the necessary information to carry out these missions.

In addition, air superiority receives long-range contributions from strategic air strikes.



Target Priorities . . .

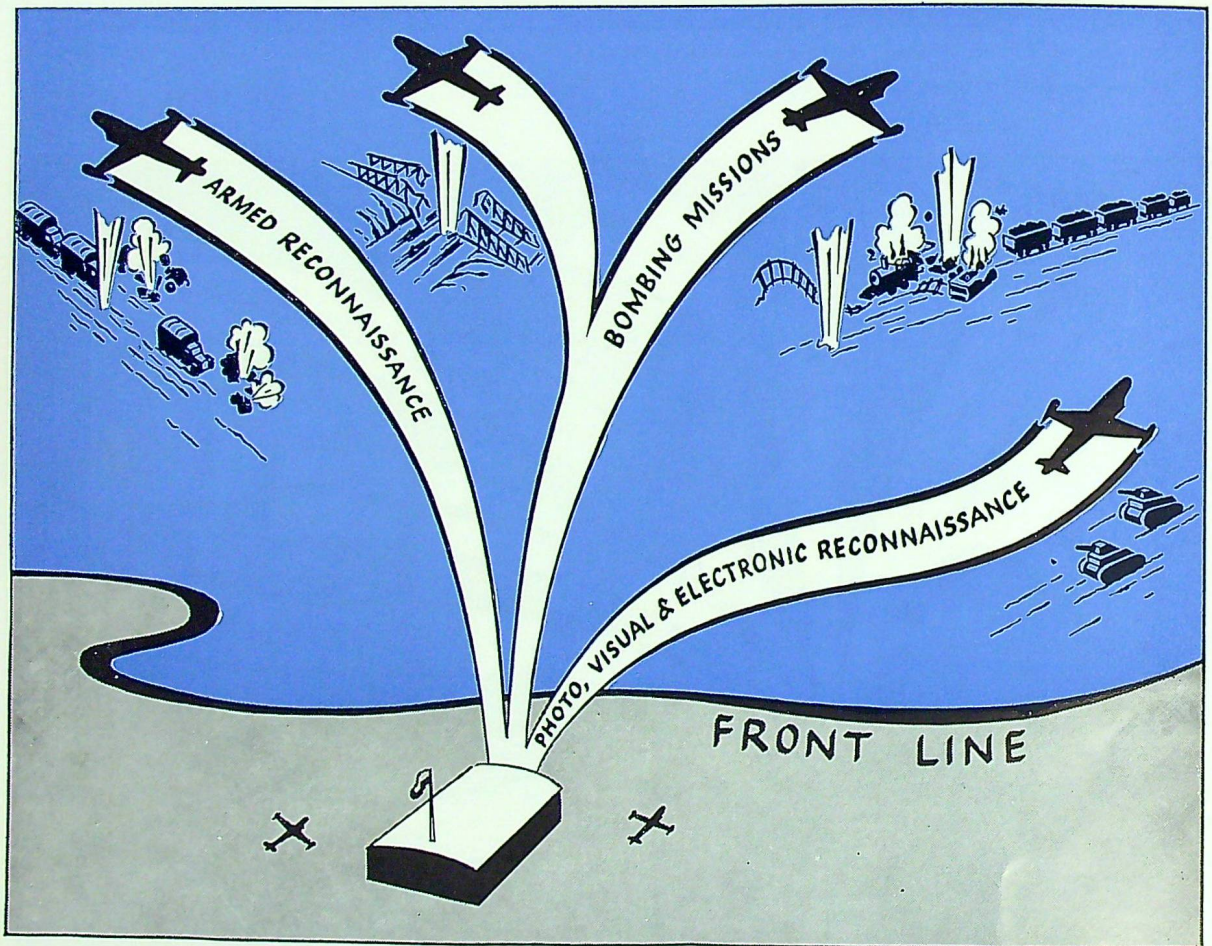
2—ENEMY REINFORCEMENTS AND SUPPLY LINES

There is no more lucrative way of lessening the bulk and mass of ground forces (troops and equipment) an enemy can bring to bear against friendly troops than to destroy those forces in the concentration usually attendant to their transport, and/or to destroy the *means* of their transport.

Moreover, there are few situations more demoralizing to enemy troops already deployed in

battle than to be cut off without hope of reinforcement. Every military force is tied to its supply tail.

Thus the job of busting bridges, bombing marshalling yards and ammunition dumps, attacking convoys — the job of isolating the enemy from the battlefield — is the most productive role of Tac Air. It is a job assigned to the Air Force rather than the Army simply because here again



there are no weapons available to the army that can do the job as well. Most of the targets of *interdiction*, as the Air Force calls it, are well beyond the range of any artillery piece, but within easy reach of aircraft. It hardly seems necessary to reiterate that this in no way implies generally that the airplane is a "good" weapon, and that ground instruments are "inadequate." This is a job the airplane is peculiarly adapted to by virtue of its comparatively great range and flexibility.

As indicated in the chart, the following are the types of missions performed in accomplishing the interdiction programme:

√ **Armed reconnaissance** by fighter-bombers search an enemy area to attack whatever targets it finds. The so-called targets of opportunity — truck convoys, locomotives, etc. — are often highly lucrative.

√ **Bombing missions** strike at bridges, highway

junctions, supply dumps and troop concentrations.

√ **Photo, visual and electronic reconnaissance** provide much of the information vital to these jobs and also evaluate the effects of the attacks.

Out of World War II emerges the example of the interdiction campaign conducted as a prelude to the Normandy invasion and as a continuous part of that operation. The Overlord force commanded by General Eisenhower was necessarily smaller than the forces which the Germans could have brought against him — had the railways, highways and bridges of France been available to the enemy. But the 8th and 9th Air Forces threw a ring of steel around the selected battlefields in Normandy. Just for good measure, they threw another ring around a fake battlefield to avoid tipping off the German High Command.

Target Priorities . . .

3—BATTLEFIELD TARGETS

When enemy troops and weapons are spread out upon the battlefield, taking advantage of cover and camouflage, it is obvious that fewer men can be killed and fewer weapons destroyed by a given number of air missions than can be reached where the troops and weapons are concentrated in cantonments, supply depots, trains or truck convoys.

Thus the *quantitative* rewards for the *close support* mission, as this assignment is called, are normally less than those of interdiction strikes. But the quantitative consideration is not all that counts. When enemy troops and weapons are facing our own men on the battlefield they must be destroyed by one means or another.

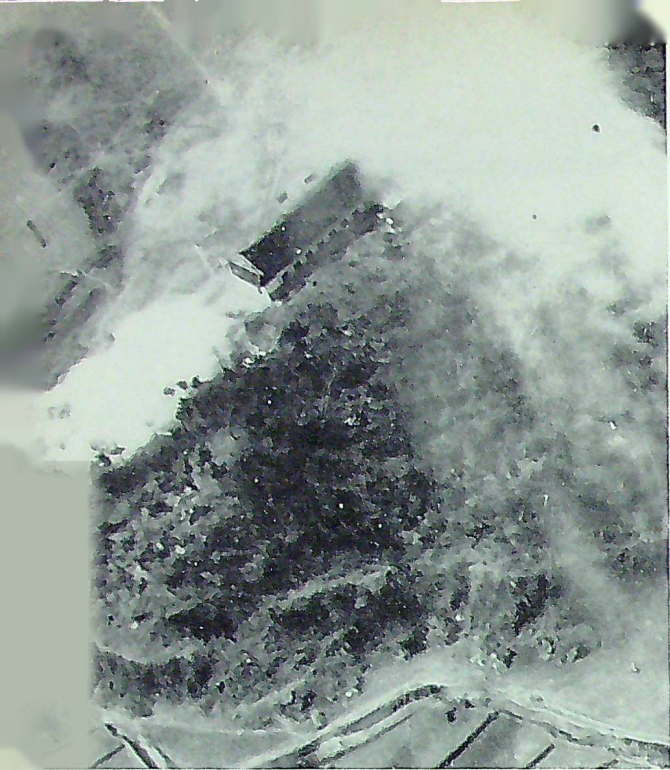
As to the means employed for this task, the Army has explained in its official publication *Officers Call*: "We always use the most economical means to do the job. If mortars can handle a target, we spare the artillery; if only light artillery

is needed, we hold back the medium artillery; and so on. We try not to waste our resources by using a sledge hammer to break eggs."

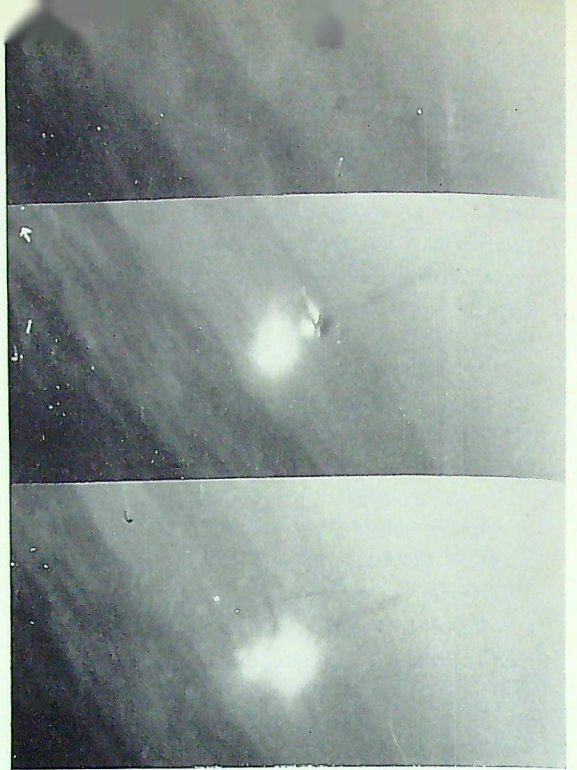
Of all the weapons available for direct battlefield support, the airplane is hardly the most economical; it is, quite frankly, a sledge hammer, and battlefield targets the eggs. Nor is it necessarily the most accurate. Artillery zeroing in on a target until it is leveled usually can achieve a higher degree of accuracy than the fighter-bomber.

While direct battlefield support does not exploit the plane's chief assets — speed and range — to maximum advantage, ground weapons often are not available at the right place at the right time, fixed defenses may be too much for these weapons to handle, and terrain features may prohibit effective results.

Thus, the airplane has its place in direct support of action on the battlefield. When the air situation

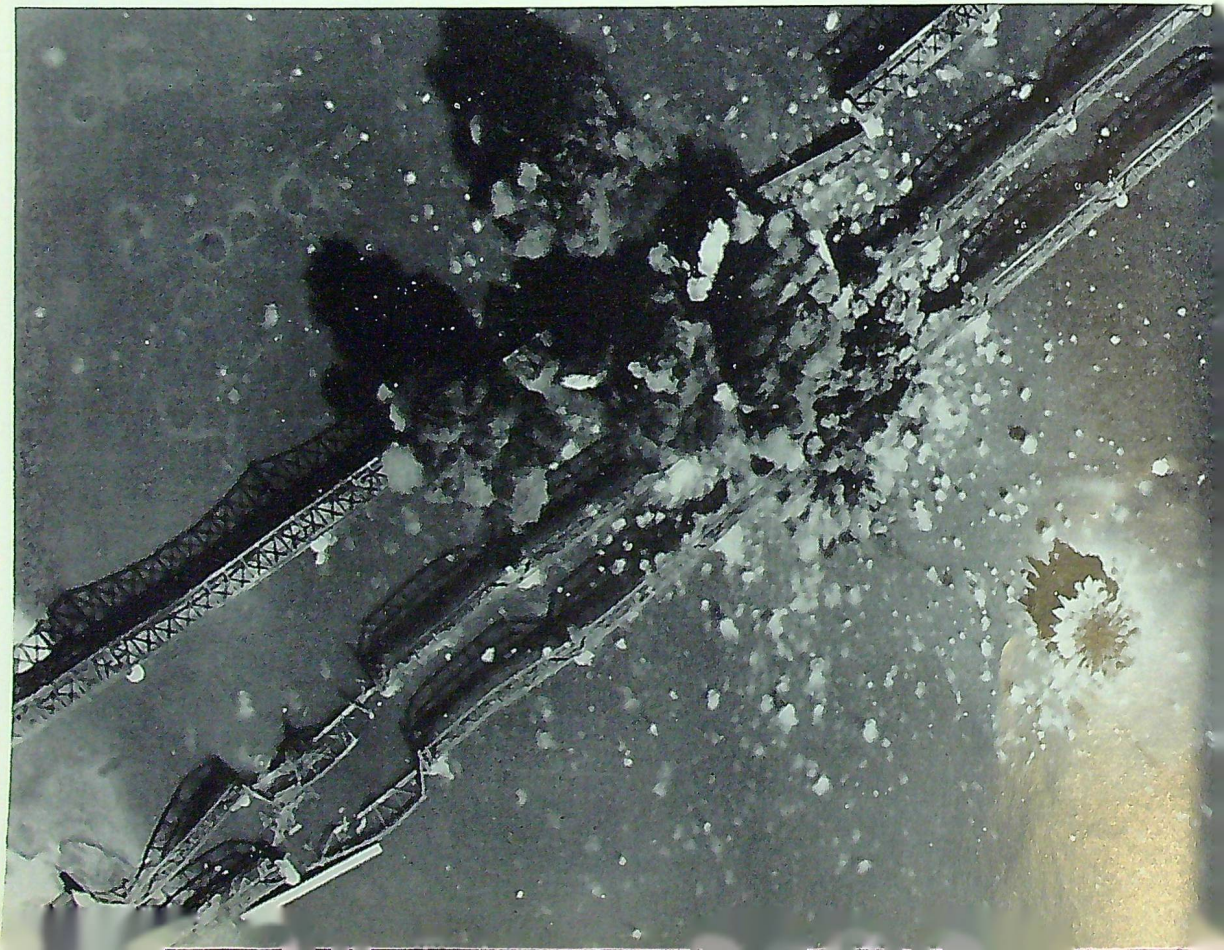


Napalm attack on enemy stronghold helps advancing troops.



F-86 gun camera shots show MIG-15 bursting into flames.

This remarkably clear photo shows a perfect example of successful interdiction. This bridge will carry no more trains.



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permits, the airplane can become a prime protector of the ground troops, as doughboys in Korea will attest.

The *target* of close air support is anything on the battlefield that cannot be hit more effectively or more economically by ground weapons. Targets may include tanks, road blocks, machine gun nests, artillery and the enemy troops themselves.

The *weapons* of close support vary widely according to the target—machine guns for strafing, rockets and napalm for tanks, GP bombs and frags; according to need, these weapons are delivered by many types of aircraft though the fighter-bomber is the standard close support plane.

As indicated in the chart, close support missions operate in many ways to protect our own ground troops and destroy the enemy and his weapons:

✓Air alert strikes from orbiting aircraft can be whistled in by a forward controller in a matter of minutes. This promptness is bought at the cost of non-specialized weapons selection and relatively

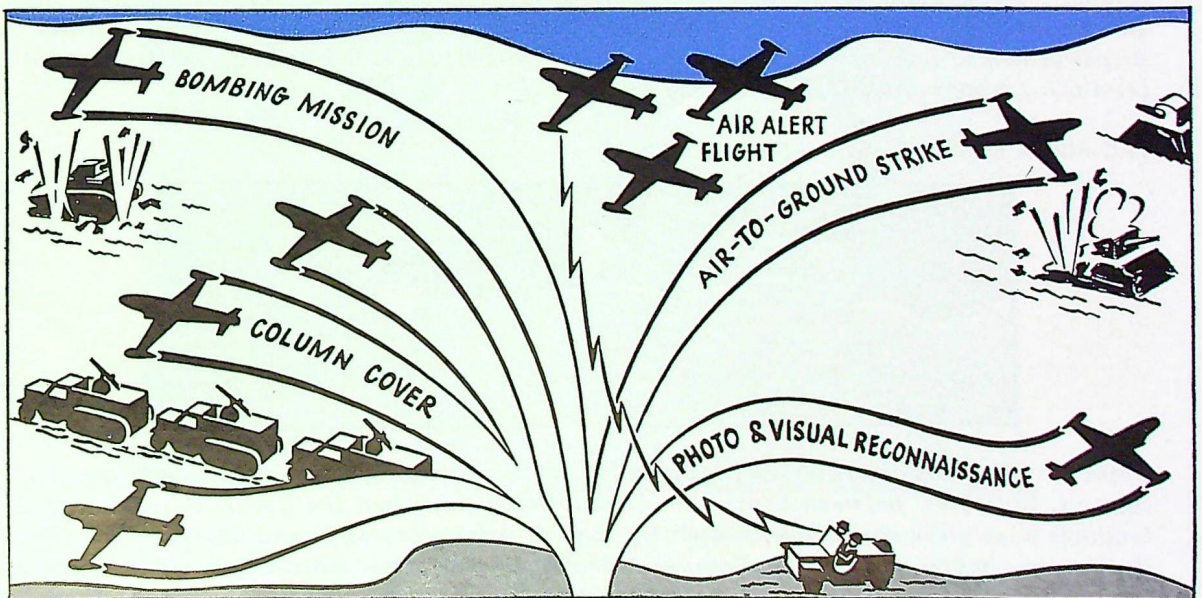
uneconomical use of available resources in aircraft sorties.

✓Column cover is designed for the protection of an armored thrust advancing rapidly.

✓Ground alert strikes are produced by ground-briefed pilots and specially selected weapons.

✓Reconnaissance—Photo and visual—must do its work of locating targets and evaluating strikes.

Perhaps the most dramatic close support operation, conducted in the type of continental war that may again have to be fought in Europe, was the column-cover flank protection given to Patton's Third Army in its "Right Hook" across France after the break-out at St. Lo. This particular episode is worthy of special attention because the restricted terrain of Korea has tended to focus attention on operations in limited areas and with minimum mobility.



The Truth About "Target Priorities"

Airpower critics too often fail to recognize the relative values of close air support and interdiction. Airpower adherents too often wrap Tac Air into a neat package of fixed priorities. Both stand equally guilty before the facts of war.

Air superiority, of course, is a necessary evil which cannot be subjugated to other types of air attack for the sake of both the individual doughboy and the over-all tide of battle.

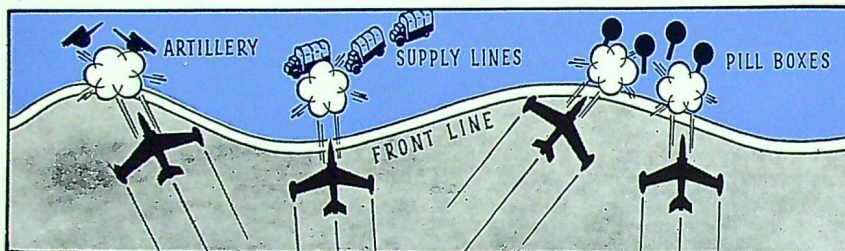
When the air situation permits, as it has in Korea, target priority for aircraft must be determined by the situation on the ground. If it im-

poses no restrictions, the plane's prime targets are those with the greatest destruction potential. This calls for interdiction.

When the ground demands direct air effort on behalf of the doughboy, interdiction must give precedence to close support. The decisions must be made *jointly* by the responsible ground and air commanders. Often all three Tac Air assignments are pursued simultaneously with emphasis shifting from one to the other.

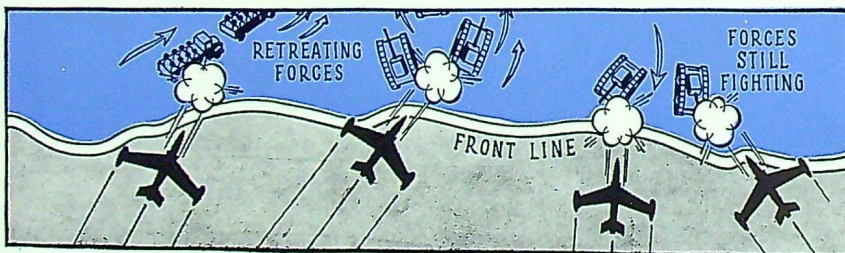
Charted on these pages are four of the major ground situations which condition Tac Air targets.

TAC AIR DURING PREPARATION OF A GROUND OFFENSIVE



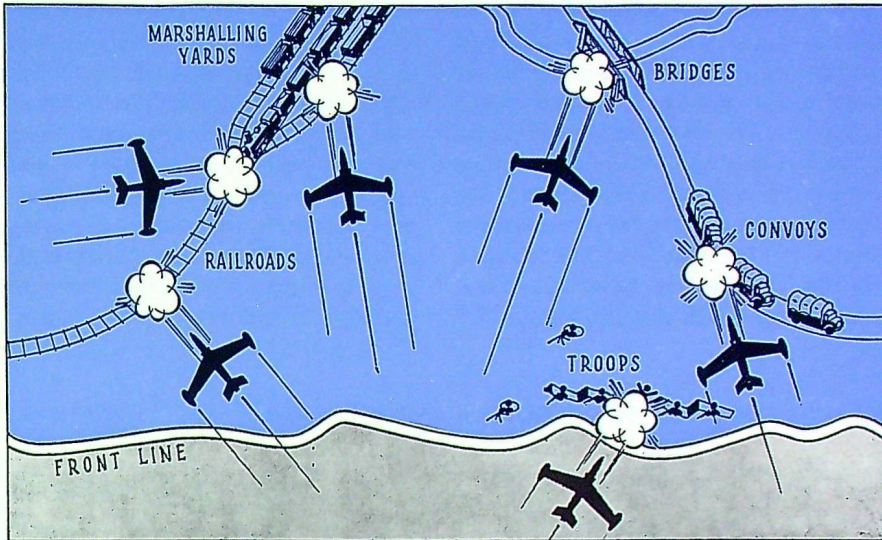
Objective: *soften enemy positions before our ground forces move out. Example: between August 1 and September 15, when B-29s concentrated on interdiction in North Korea; the 5th AF on close support along the Naktong perimeter, and interdiction in South Korea. Airpower helped prevent the enemy from (1) breaking through the Naktong perimeter, and (2) moving troops and supplies into the area.*

TAC AIR IN BREAKOUT AND ADVANCE



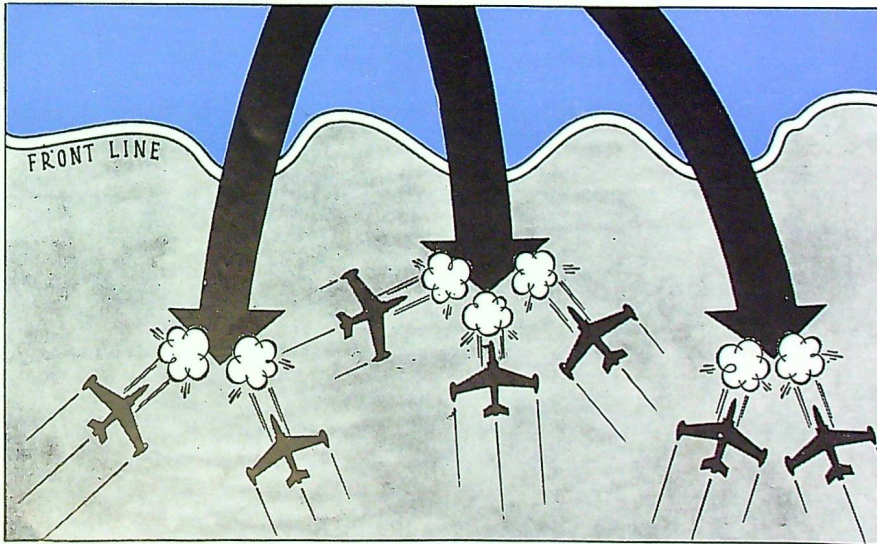
Objective: *break up organized resistance to our advance and pick off the enemy's withdrawing convoys. Example: between September 15 and October 1, when the Tenth Corps' Inchon landings took place concurrently with the Eighth Army's breakout and advance from the Naktong perimeter to the 38th Parallel. Our air power was concentrated, first, on enemy positions facing the Eighth Army, then on disorganized forces.*

TAC AIR IN A STATIC DEFENSE



Objective: assist in preparing for our ground offensive; break the enemy's attempt to launch one. **Example:** between August 15 and September 15, after the ground situation had become "stabilized" at the Nakdong River and an offensive build-up was in progress. Interdiction was stressed to prevent enemy build-up.

TAC AIR IN A WITHDRAWAL



Objective: apply all available airpower to deter enemy movement. **Example:** during the first 51 days of the Korean War, when the ground situation was critical, air emphasis was placed on battlefield targets.

FLEXIBILITY AND CONCENTRATION vs THE "SMALL PACKET" CONCEPT

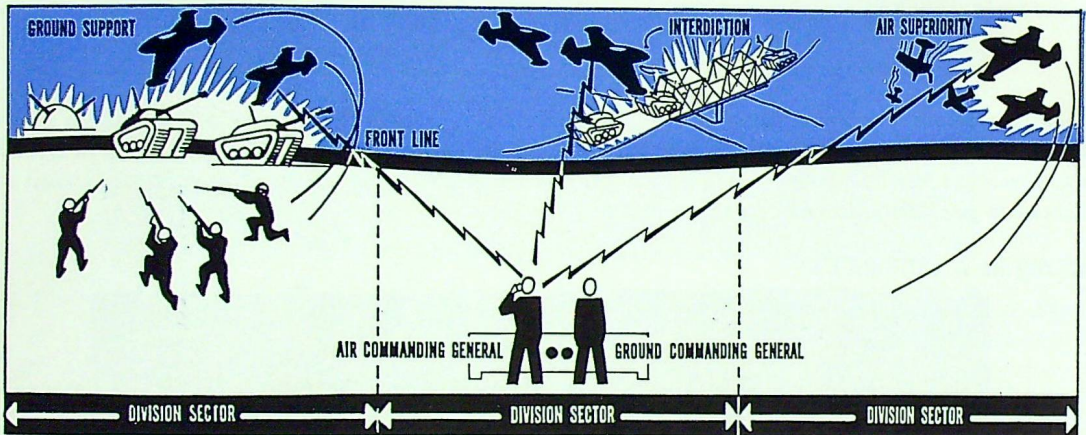
In any military organization — land, sea or air — the greater the range, firepower and flexibility of a weapon, the higher up in the command system is its control retained. The reason for this universal policy lies in the fact that no military force is ever able to achieve superior strength everywhere at the same time; consequently, the top level commander must shift his forces so as to achieve decisive strength at the decisive place at the decisive time, the old story of "fustest with the mostest."

It is self-evident that the more flexible a weapon may be, the more it lends itself to attainment of this ideal of quickly concentrating decisive strength at the decisive place at the decisive time.

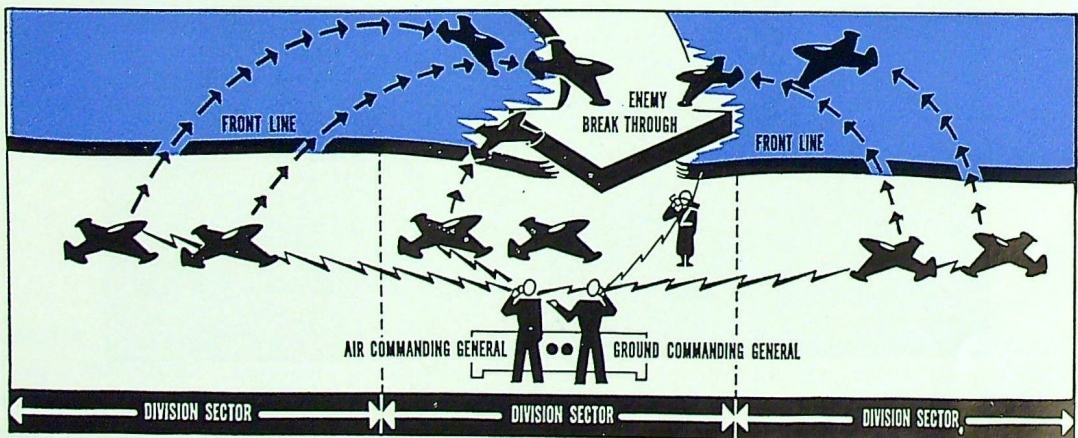
Range, speed and firepower make the military airplane the most flexible of weapons. Hence, control of military airpower must be retained at that level of command which can best exploit this asset.

In a theater of operations, the ground and air commanders are given corresponding positions of

ADVANTAGES OF A COORDINATED AIR-GROUND EFFORT



Varied Deployment Facilitated.



Maximum Concentration Offered at a Given Point in a Minimum Time.

The Roundel

authority directly under the theater commander. So far as command itself is concerned, each controls his own force; but in *planning* they operate in close unity.

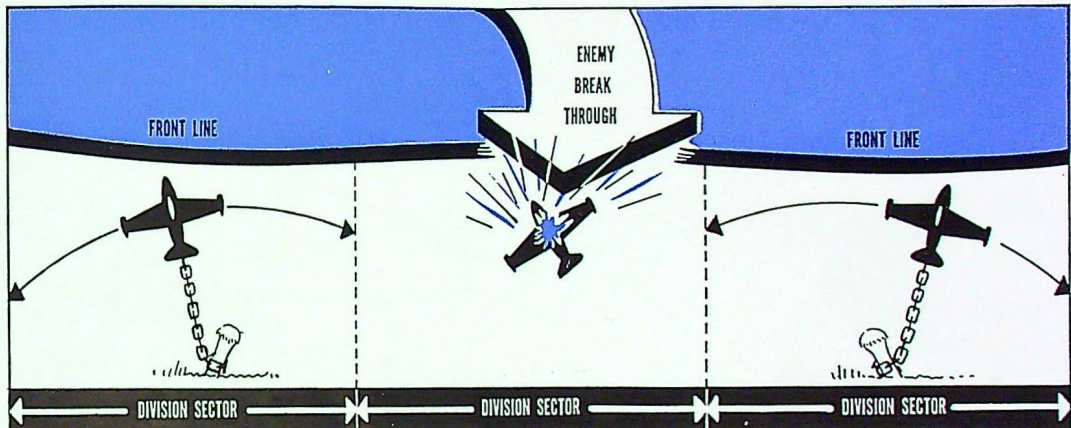
Subordinate to the theater ground force commander are the *army groups* and the *numbered armies*. Their opposites, subordinate to the theater air commander, are the *tactical air commands* and the *numbered air forces*.

Under this organizational set-up, the theater air commander can move at his will the *entire* force of aircraft assigned to the theater. For example, in

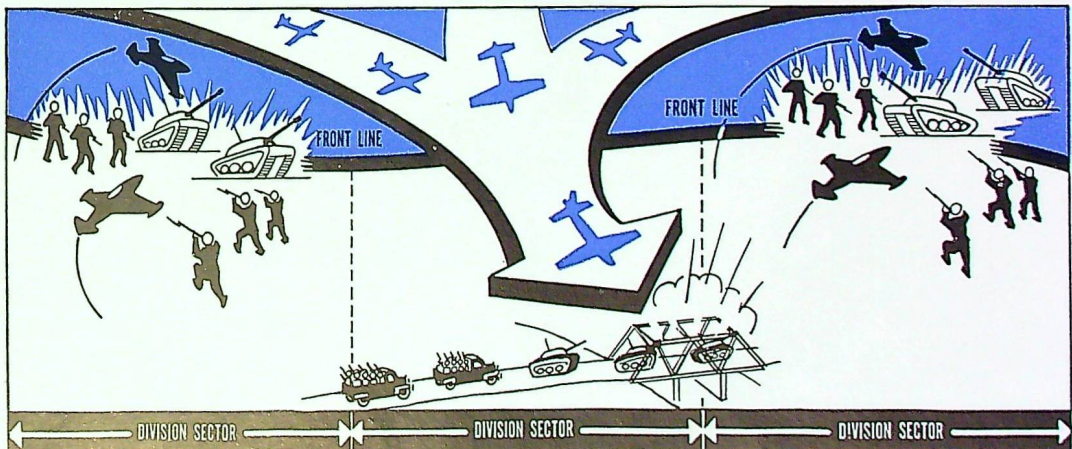
a ground emergency, such as an enemy penetration, he can quickly concentrate airpower to help plug the gap; or, in preparation for an offensive by our own forces, he can concentrate airpower to pave the way for break-through. Or should there be an air emergency — hostile air attack which threatens our local air superiority — the theater air commander can quickly shift to counter-air operations, to the extent necessary to defeat the hostile air effort.

There has been some press agitation in recent months to eliminate the flexible air-ground control pattern described above, and revert to a system

DISADVANTAGES OF THE "INTEGRATED" SYSTEM



No Appreciable Concentration Possible — No Centralized Control.



Emphasizes Close Support at the Expense of Air Superiority and Interdiction.

The Roundel

that would give each ground division commander a fixed number of airplanes of his own, to use when, where and how he saw fit.

Britain's great ground force commander, Field Marshal Montgomery, has said, "Nothing could be more fatal to successful results than to dissipate the air resources into small packets placed under the command of army formation commanders, with each packet working on its own plan."

For the Army and Air Force, the "small packet" concept would turn back the clock to a system which resulted in near disaster in North Africa in 1942 and was then discarded by the War Department as well as the British Services. Its disadvantages are apparent:

√Concentration and flexibility, perhaps the most valuable characteristics of the Tac Air weapon, would be lost. There would be no efficient way of promptly shifting the weight of the air effort from one place on the battleline to another,

as needed, or from one type of mission to the other as desired.

√Economy of the coordinated system would likewise be lost, including economy in the management of the combat resources available to the theater commander.

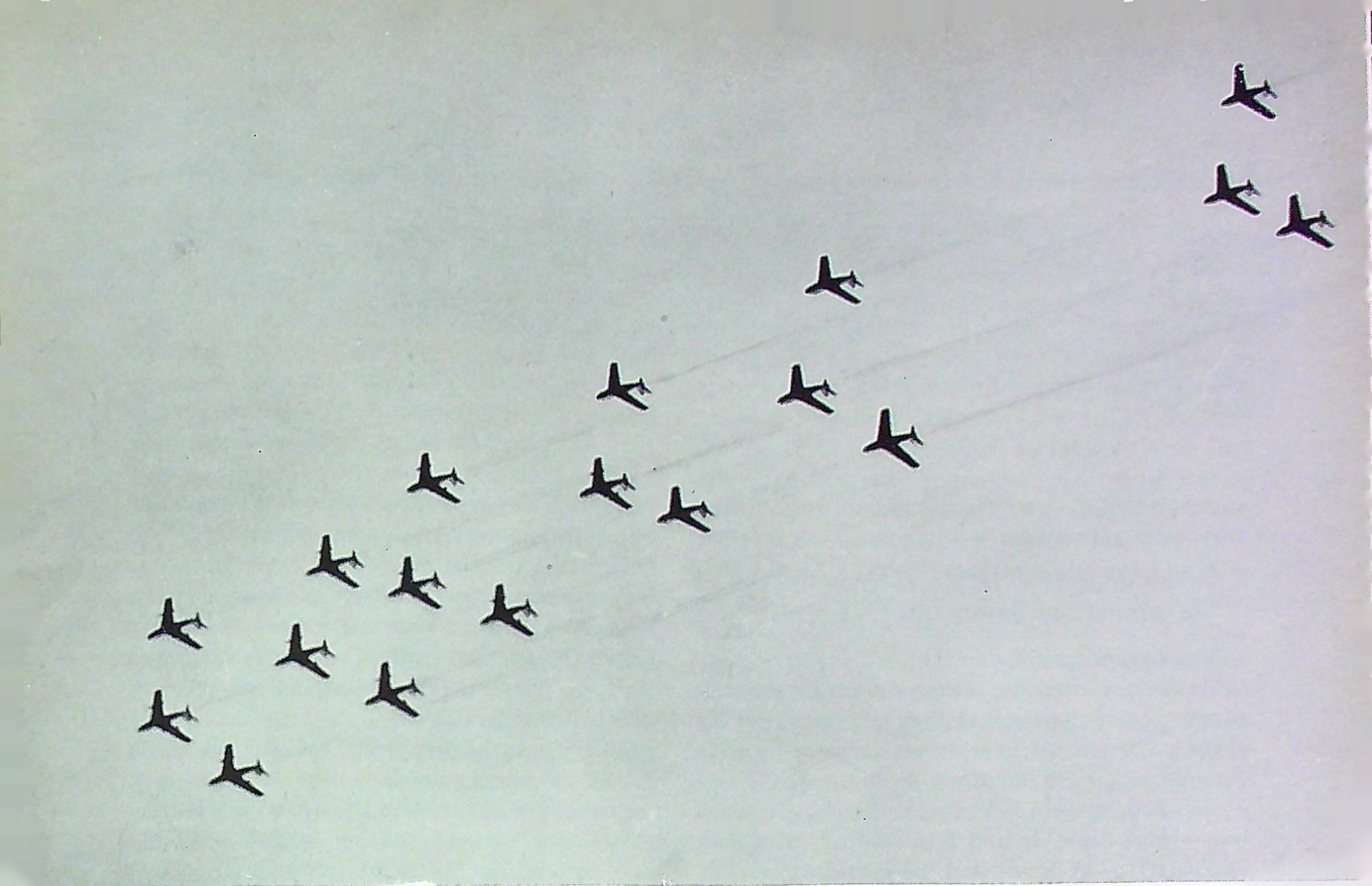
For the Marine Corps ground mission, the "small packet" air support system may be excellent, but we must not overlook these factors:

√The Marines rarely fight over extended battlelines. Normally they operate on a limited front, a lesser requirement for flexibility and the concomitant concentration of air effort. The Army's battleline may extend the length or breadth of a continent.

√Air Force Tac units are responsible for interdiction and air superiority targets *as well as* close support. The Marine air arm concerns itself primarily with the one assignment—close support.

Thunderjet pilots receive last-minute briefing.





F-86's in Korea.



Part II: Has the Air Force Done its Job in Korea?

IN ANY EVALUATION of Tactical Air doctrine in terms of the Korean experience, we must get this one fact straight right at the beginning:

Full American airpower hasn't yet entered the Korean war.

That is to say: Airpower in the full sense, as it was applied in World War II and as it has evolved since, has not been permitted to function against the *source* of the aggression in Korea.

This is a vital consideration, for the airpower concept is premised on airpower's proven ability

The skeptics ask: "If airpower is so decisive, why haven't we won the war in Korea?" And the question is reduced to absurdity by the facts of the case . . . facts which demand more attention.

to reach and destroy the *source* of trouble. And this raises a question:

Is the doughboy in Korea receiving all of the support airpower can give him?

The answer must be — No!

He is not receiving even a measure of that support or of the support that airpower gave his predecessors on the beaches of Normandy and in the hills of the Philippines.

The doughboy in Korea must somehow learn to live — and die — in the face of that grim fact. His relatives at home and his representatives in Congress must learn to respect it.

This is not to question the diplomatic decision which has brought the fact to life. That is outside the field of this analysis. We merely state the issue in the belief that it cannot be avoided, that it is pertinent to our discussion, that the facts should be known and remembered.

In terms of the doughboy on the front line in Korea, his *support* from the air goes far beyond the immediate battle area and beyond the adjacent supply lines to the source of *his* trouble — to the factories and the people who make the guns and the bullets being used against him on the battlefield.

The big punch of airpower is its long range employment against these threats to the doughboy — these sources of the enemy's war-making capacity. And these sources lie in Manchuria and in the homeland of Communism.

The Yalu River line which separates North Korea from Manchuria forms a diplomatic boundary beyond which Allied aircraft, by United Nations decree, cannot trespass. Thus the enemy's guns and bullets in the process of manufacture remain immune from our strategic airpower.

Tactical airpower is likewise "under wraps." For as General Vandenberg has explained:

"Isolating the battlefield from reinforcements is the prime function of tactical air. Airpower was rendered practically inoperative when the United Nations, in an effort to avoid a diplomatic rupture with the Chinese Communists, halted offensive action at the Yalu River."

This means, simply, that the Air Force in Korea has been unable — due to diplomatic restrictions — to interdict the enemy at vulnerable points, especially during periods when the battline was close to the Manchurian boundary; that the Air Force has not been able to conduct full-scale counter-air operations, since our planes have not been allowed to cross the diplomatic boundary line, even in the air; and finally, that the Air Force has not been able to eliminate enemy airfields over the boundary, airfields which have posed a constant threat of hostile air action.

For airpower, Korea is an "off limits" war, and this must be our first consideration in evaluating airpower doctrine against airpower results.

It is a fact which helps reduce to absurdity the question that has arisen so many times these last eight months: "If airpower is so decisive, why haven't we won the war in Korea?"

This question has been asked by honest observers who admittedly don't understand the problem, and it has also been asked by less honest ones who should and do know better.

Beyond the fact that the question is false in its premise — inasmuch as no responsible airman has ever claimed airpower could win a war alone — it ignores these "off limit" factors, and, even more serious, it implies a discouraging lack of perspective regarding airpower's capabilities and limitations.

Weighed against the diplomatic barriers to airpower employment in the Korean War — at least from the standpoint of our doctrine evaluation — is the additional fact that the enemy has failed (up to this writing) to commit his own airpower in strength. General Vandenberg commenting on this point, has said: "Trying to evaluate the lessons of airpower in Korea in the utter absence of enemy air opposition is a waste of time." This blunt truth must also be understood.

The lack of enemy air strength has permitted our Air Force, in unprecedented degree, to divert men and planes usually employed in air defense and counter-air missions to the job of direct support for the man on the battlefield. Thus, while the airplane has proved to be — as figures published elsewhere in this issue will attest — an anti-tank, anti-artillery, anti-truck and anti-personnel weapon of massive strength, with a record quite beyond all previous experience, it is

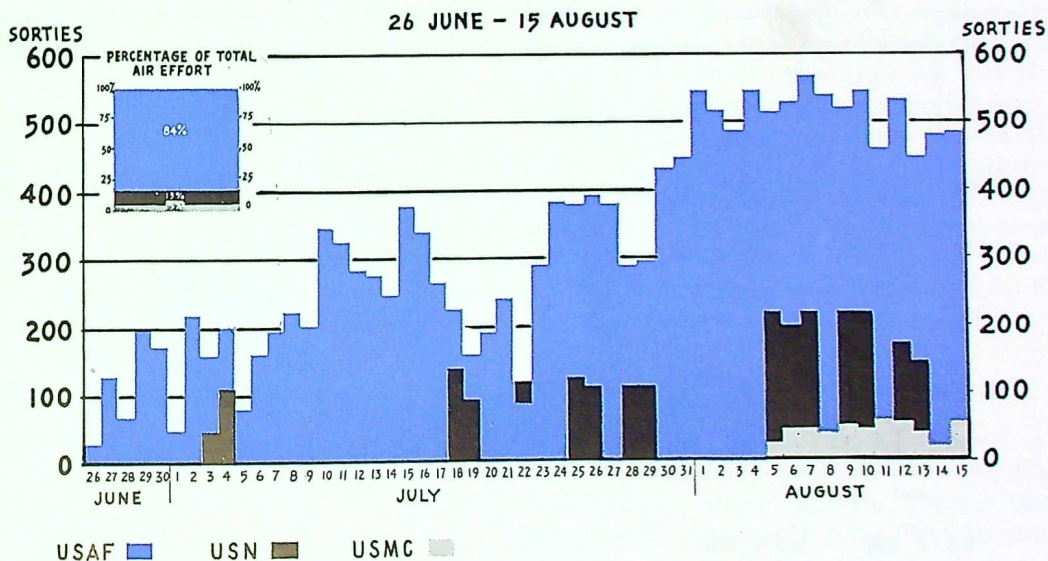
also true that in Korea the Air Force has enjoyed the unusual luxury of having relatively no air opposition. We must weigh results against doctrine in that light.

One more basic consideration deserves our attention. That concerns the *readiness* of our Air Force to meet the challenge of the Korean War, and the challenge of tactical doctrine as well. This obviously is a vital point, for no doctrine can be proved or disproved unless the means at hand are in line with those on which the doctrine was based.

It behooves us to recall, with the advantage of hindsight, that up through the first half of 1950, our military interests in the Far East were not at the top of the priority list of our Defense Establishment, and therefore in substantially the same position within the Air Force itself. By June 24 of 1950, in support of United Nations policy, both Army and Air Force had withdrawn all of their personnel from Korea. The United States had

THE FIRST CRITICAL PERIOD — TOTAL EFFORT

DAILY SORTIE EFFORT PER SERVICE



In that first withdrawal, Air Force planes didn't miss a day in support of the troops.

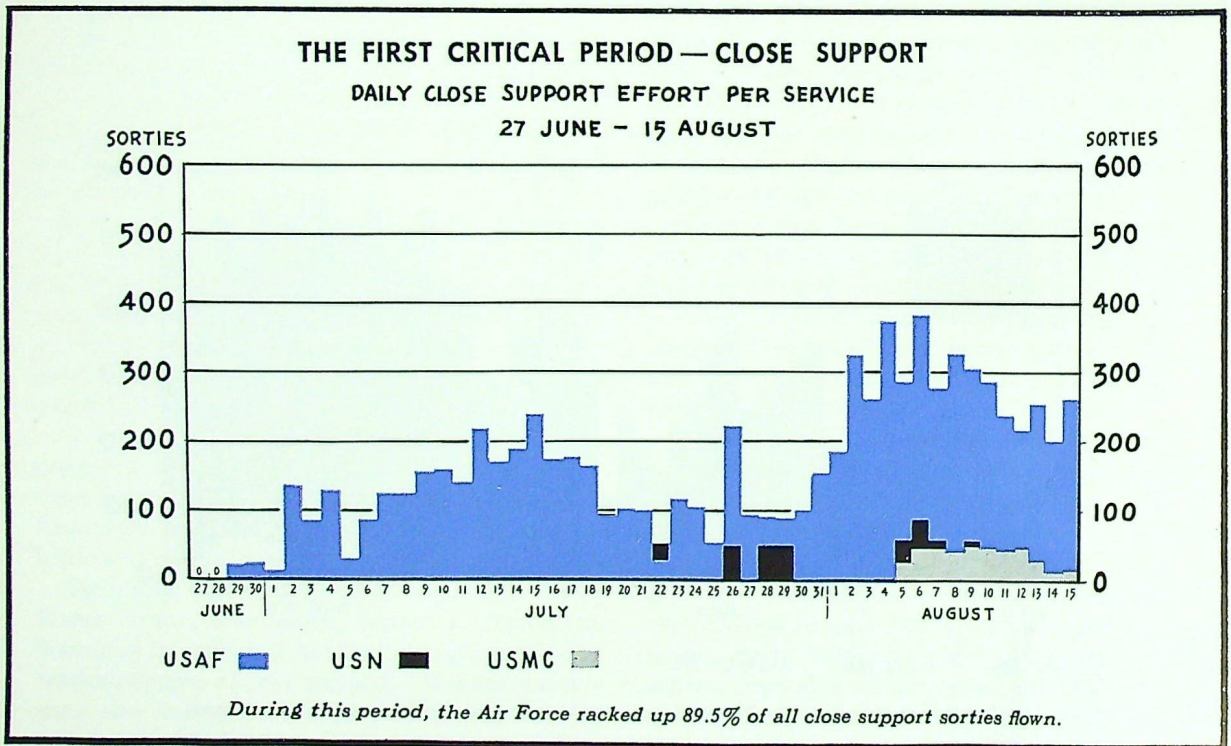
left the defense of the Republic of Korea to its own forces, except for a military advisory group and limited backing in terms of weapons, munitions and money — strength designed only to meet internal uprisings.

Back in Japan, Army and Air Force units tended their occupation duties, their only combat responsibility the defense of Japan. On June 24 the ground member of our air-ground team, the Eighth Army, was a four-division occupation force which had only been relieved of garrison duty in late 1949, and which was widely dispersed throughout the Japanese islands. The air member, the Fifth Air Force, had been given as its primary role the defense of the islands against possible seaborne or airborne attack. The potential threat to the military security of Japan was quite obviously an air threat. Thus, the F-80 groups of the Fifth Air Force were equipped and trained for air defense, with weapons for air-to-air

combat based upon fixed communications and the radar equipment of a normal air defense system.

Although air-ground activity was included among the responsibilities of both the Eighth Army and the Fifth Air Force, this joint endeavor was far down on the mission list and was not expected to be in readiness for “putting out fires” on the Asiatic mainland. With a rigid military economy program in effect, our ground and air units in Japan had little choice but to take first things first.

As a consequence, neither the Army nor the Air Force in the Far East were fully equipped or adequately trained to switch overnight from defense and occupation roles to intensive air-ground operations in a mainland battle. On the crowded Japanese islands, there had been little room for realistic *combat* training. The Eighth Army had had practically no training whatever with air units, and possessed almost none of the



communications equipment or specially trained personnel to fulfill the requirements of an air-ground team under established Army-Air Force doctrine. Air Force personnel had been given general training in the use of their aircraft weapons, but there had been no air-ground exercises worth mentioning. In the spring, Army and Air Force had discussed air-ground exercises for their units in Japan, but the requirements of occupation duties and the limitations of maneuver areas made the training impracticable. As a result of economy cuts, the Army had *only one* Signal Company Air-Ground Operations and the Air Force *only one* Tactical Air Control Group *in the entire world*. Both are vital to successful air-ground operations. Yet, neither of these units was in the Far East. Both were "stateside," being used for training and held in readiness for emergency use in any part of the world. Military appropriations had not permitted any of the services to maintain their units at more than a fraction of their combat strength.

Then came the dawn — June 25, 1950 — and with it in Washington a 180 degree shift in foreign policy. It was an historic move, and it could be met militarily in the Far East only by the waving of a magic wand. Only magic could transform our occupation air and ground forces into combat air and ground forces ready for instantly-effective operations against a victorious enemy fighting on his own time schedule and on his home ground. Suffice to say that our Far Eastern defenders, short on many items, were also short on magic.

"Tactical air support," explains General Vandenberg, "was inadequate during the early days of the fighting in Korea, for the identical reason that there were not enough soldiers, Marines, tanks and guns to stop the Communists. America was not prepared to fight."

In this perspective we examine the air-ground operation in Korea.

AIR SUPERIORITY

All responsible commanders in the theater have agreed with the established doctrine that Tac Air's first priority target should be the enemy's Air

Force. There was no way of knowing whether that force would appear in strength.

Up to this writing, air superiority has been no problem. The weak and ill-equipped North Korean Air Force was destroyed in the air or on the ground by the Fifth Air Force in the first few days of operations. The few Russian-made MIG 15's that have ventured across the Yalu River since, have been kept under easy control. Whenever a United Nations soldier has heard an airplane above him, he has known that it was "friendly."

The rapidity with which the American Air Force rose to meet any possible threat of enemy air attack was marred only by the fact that the fixed nature of air defense facilities in Japan did not permit ready deployment to Korea. Thus, U.S. airmen had to work without Ground Controlled Intercept or radar at the beginning of the campaign.

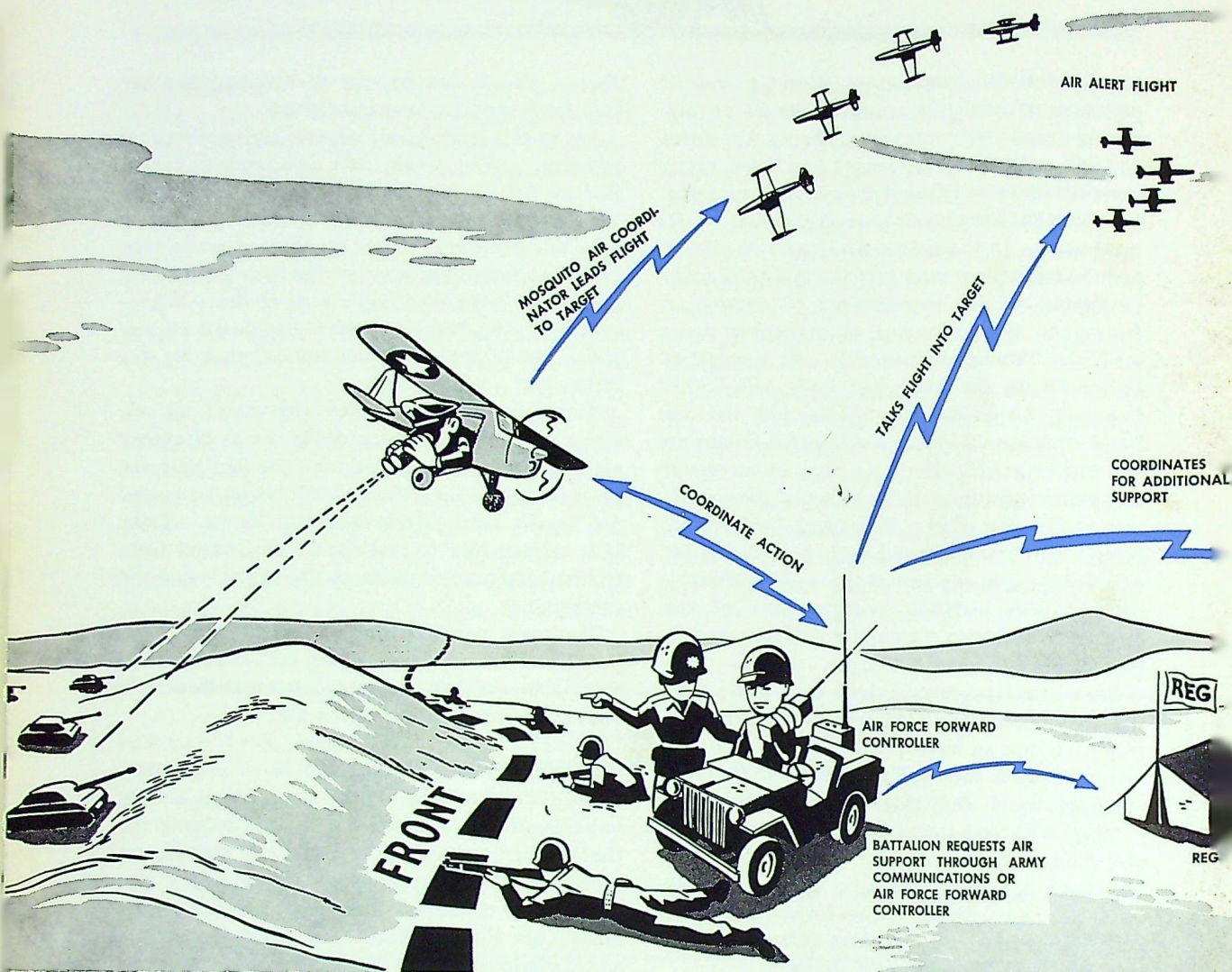
The main point is that no UN ground troops have yet been on the receiving end of substantial air attack — either close support or interdiction — a rare circumstance in modern war.

This fact has its own dangers. For it may lead to the false assumption that in a larger war, friendly air dominance will exist without having to be fought for. A moment's thought will indicate that the first tactical air task in a war with Russia would be the protection of the ground soldier and his lines of communication from attacks of the Soviet Air Force. Stated in other terms, this would obviously mean that close support missions against enemy ground formations could be given far less *proportionate* attention than they have had in Korea — *until* (and if) the Red Air Force was rendered ineffective.

INTERDICTION

Ground personnel have been amazed at the destruction of equipment in the North Korean rear areas by USAF aircraft. Major General Kim Paik II, commanding the First Republic of Korea Corps, made a statement which can be accepted in spirit without taking too seriously his percentage figures: "This is big surprise to me.

HOW THE AIR-GROUND TEAM OPERATES IN KOREA



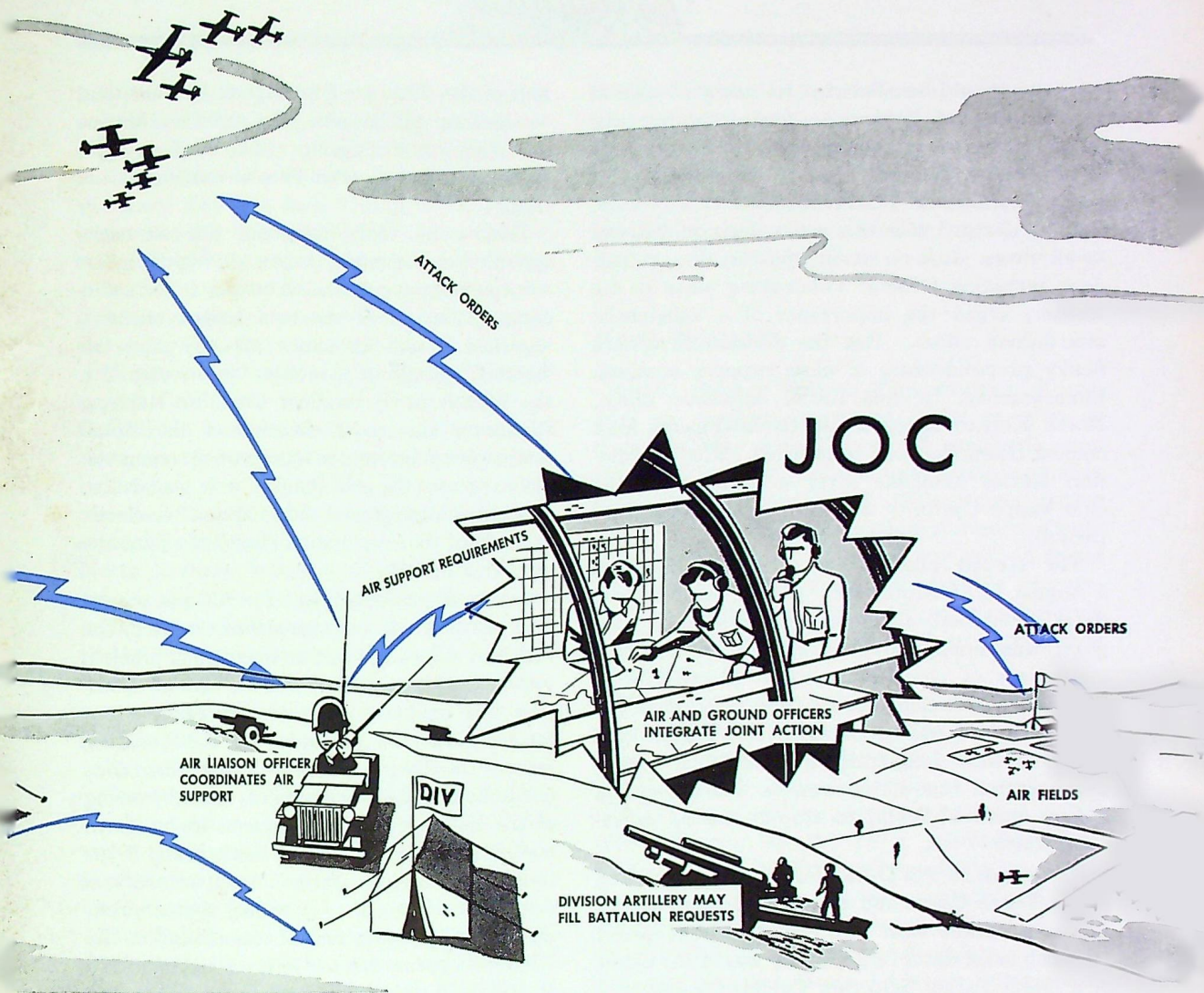
Electronics, key to close support, links doughboy to Air Force planes through joint control network. Jagged colored lines in drawing represent major communication channels of the air-ground system.

We go from Pohang line. Many burned out enemy trucks, enemy guns, enemy tanks. That why I think about 50, or maybe 75 percent of the war is done by American Air Force . . .”

A new technical phrase should be found which will help the doughboy to realize that this is what a real “interdiction” campaign can do *for him*.

If he understands this, there will be a gain, not a loss, of morale when he sees a weapon-laden fighter-bomber winging across the horizon with apparent unconcern at the strongpoint the GI is immediately facing.

In Korea the interdiction program must be considered in four separate and distinct phases.



Emergency air support strikes are controlled at the front, the others at JOC (Joint Operations Center). Operational partnership features air officers with ground units, ground officers with air units.

From 26 June to 3 August, theater policy dictated that substantially the entire effort of the FEAF fighter-bombers be thrown into the close support of General Walker's Eighth Army. Even the B-29's were given the priority mission of close support as late as 18 July, the 24th day of the war. There is no question that the desperate plight of

the UN ground troops, engaged in a retrograde action against heavy numerical superiority, presented repeated emergencies demanding all possible air fire power in the zone of contact.

Yet, however desperate today's battle, tomorrow's battle still had to be fought. It was a question of judgment how many close support

missions should be allocated to today's battle at the expense of having to face tomorrow the enemy weapons and reinforcements now especially vulnerable while concentrated on railroad and highway. General MacArthur, the theater commander charged with this policy decision, listened to all views. It is no secret that the air commanders, including General Vandenberg when in the theater, urged the importance of a substantial interdiction effort. But the decision favored a heavy preponderance of close support missions. Consequently, in this initial defensive phase, North Korean supplies and reinforcements kept coming down the road unchecked. The interdiction sorties available after satisfaction of the close-support priority were simply not enough for the job.

The second phase covered the period from 3 August to 15 September. On the first of these dates a methodically planned interdiction program was finally adopted against the enemy's main lines of communication in North Korea. General MacArthur, being informed that air reconnaissance had reported several enemy convoys and three long trains moving south toward Seoul, stated that he desired "a line cut across Korea, north of Seoul, to stop all enemy movement south."

September 15 was D-day for the Inchon landing of the Tenth Corps and the simultaneous Eighth Army breakout from the Naktong Perimeter. Between these dates target policy was in the hands of a GHQ Target Selection Committee (General Hickey, GHQ Deputy Chief of Staff; General Willoughby, GHQ G-2; and General O. P. Weyland, FEAF Vice Commander for Operations). Seventy-five percent of the B-29 effort, well over

half of the Fifth Air Force fighter-bombers, and sorties from the Seventh Fleet and First Marine Air Wing operated against rolling stock, bridges, truck convoys and other lines of communication targets.

Despite its tardy inception, this six-weeks interdiction campaign, begun during the first week in August, contributed heavily to the swift, complete success of the twin ground offensive launched in mid-September. Shortly after the Tenth Corps assault at Inchon, concurrently with the Eighth Army breakout from the Naktong Perimeter, the major elements of the North Korean army dissolved in space; and the remnants, fleeing toward the 38th Parallel, were pounded to bits by relentless ground and air attack — a classic example of the "exploration phase" of a joint air-ground offensive.

As the Eighth Army and Tenth Corps moved into North Korea and approached the Yalu, the Far East Air Force faced an interdiction problem unprecedented in air warfare. Its area of operation was gradually squeezed out between the forbidden Manchurian border and the advancing front of the UN ground forces. The southern ends of the Yalu bridges were bombed, but the freezing of the Yalu provided a continuous ice-bridge to replace twisted steel. Fighter-bombers and B-29s faced progressive frustration due to the artificial restriction of attack to a trifling southernmost segment of the enemy lines of communication. As UN lines came within one to three nights' march of the Yalu, interruption of reinforcement and backpacked supply became impossible — with consequences which history is now recording. This may be considered phase three of the interdiction effort.

The soundness of the air-ground doctrine with respect to interdiction is spelled out in the figures of enemy materiel and communication facilities destroyed by aircraft. These would have been higher were it not for the artificially-imposed Yalu line.

Phase four was still in progress as this report was being written. The massive Chinese Communist attacks of November and December pushed back the UN forces. As our troops withdrew they shortened their own lines of communication and lengthened the enemy's; and this in turn again opened the way to a limited interdiction campaign — limited because Korean bridges would not again be required for north-south transport until the spring thaws had melted the frozen rivers.

Usually a peninsula such as Korea, with its rugged terrain and scarcity of communications facilities, is ideally suited to interdiction operations, for the enemy has no means of skirting the cut-off line. But in Korea these advantages were considerably nullified not only by the handicap of diplomatic boundary lines but also the fact of the North Koreans' highly developed capability of moving their forces off pre-established routes and relying on native transport. A force of the kind the US is more likely to meet in a major conflict would have this capability to a far less degree; it would, therefore, be far more vulnerable to interdiction.

But let's look at the interdiction record.

The advance of UN forces after the Naktong break-through revealed that bridges and transportation facilities behind the enemy's lines had been so destroyed that it was difficult even for our own forces to move forward.

Over half the total tonnage of enemy equipment destined for his front line forces was destroyed enroute. An estimated 81% of all his trucks were destroyed by air attack.

The most effective Air Force interdiction was against the enemy's means of transport. As of 30 November, 236 locomotives had been destroyed and 268 damaged. A total of 2297 trucks were wrecked and 1602 were damaged. The enemy lost 3151 railroad cars while 4300 others were damaged. In one B-29 raid on Seoul marshalling yards, 65 locomotives were destroyed.

There is good argument for the contention that the program of interdiction might have been undertaken earlier than was the case. In such an event the phenomenal figures quoted above would undoubtedly have been even higher. More im-

portant, a great deal of the enemy's firepower — eventually leveled against UN troops — would have been eliminated far behind the lines. But the repeated daily crises of the ground soldier demanded battlefield help. None the less, in interdiction as in air superiority, the air-ground doctrine was proved sound.

CLOSE SUPPORT

During the first 75 days of operations in Korea, close air support of ground forces enjoyed an extraordinarily high degree of emphasis, and consumed two-thirds of the total sortie capability of the Far East Air Forces. This pre-occupation with the close support mission stemmed chiefly from our having to piecemeal our ground forces into battle under very unfavorable circumstances, and without the benefit of prior isolation of the battlefield by a sustained air interdiction campaign.

The heart of the close support operation is its communications system. It is an Army responsibility to provide communication lines from forward areas, through artillery coordination centers (where artillery targets are filtered out for ground-weapon attack) to a Joint Operations Center. It is an Air Force responsibility to provide communications circuits for vectoring fighter-bombers into the target area, and directing their fire onto the specific target. Air Liaison Officers with ground units, Ground Liaison Officers with air units, and Operations and Intelligence personnel of both services in the JOC — all must have a full understanding of mutual responsibilities, ground force needs, Air Force capabilities, and the complex of communications designed to translate Army requests into air strikes. Above all, partnership effort in a common endeavor must be engrained through the habit of cooperation.

As was indicated earlier, the Army's principal responsibility had been the occupation and defense of Japan, and the Air Force's principal responsibility the air defense of Japan. As a result, the lack of equipment and training vital to effective close support operations was critical.

Nonetheless, the Air Force moved into close support operation of Republic of Korea forces on June 26 and has stayed on the job ever since.

On 3 July General Partridge established his first Joint Operations Center, scarcely more than an expanded Tactical Air Control Party. He assumed the Army responsibility for strike request communications and jerry-built a system out of the artillery network, miscellaneous USAF radio sets, and adaptable, if halftrained personnel. By 19 July he had a fully operative JOC functioning in Korea.

Most important of all, from an early date the Walker-Partridge team developed into a working partnership worthy of a noble lineage of similar air-ground command relationships in World War II: Bradley and Vandenberg, Patton and Weyland, Patch and Quesada, Clark and Saville, Montgomery and Conyngham, MacArthur and Kenney, to mention a few. They established a pattern of evening conferences, usually attended by the commanders in person, to allocate air effort for the following day — so much to air-alert missions available for instant call from front-line unit commander, so much to ground-alert for special situations requiring pre-briefing of pilots and specialized weapons, and something for interdiction. Then, throughout the following day, the Joint Operations Center — receiving and processing Army requests — ordered ground-alert missions, while the TACPs in jeeps and the forward controllers in T-6 Mosquitos directed all types of missions onto the pin-point targets characteristic of close support. To quote General J. Lawton Collins, Army Chief of Staff, “Now the system works.”

Army demands for close support were unusually heavy due to other characteristics of the initial operations: ground units did not have anything approaching their normal complement of artillery, and even as late as the turn of the year there was still some shortage; also each division was over-extended. Thus, targets that would normally have been handled by ground weapons were assigned for air strikes, a factor which increased the quantity of strike requests and often put air attack on inappropriate targets. Yet, as reinforcements

poured into the theater, it became possible to provide close support in such quantity that it rarely happened that air strikes were denied through lack of available aircraft.

Does this mean that every time a front-line unit commander requested a strike he got it? Certainly not. Obviously, there will always be times when it is impossible to meet all requests for air support, just as there will be times when artillery commanders cannot meet all requests for artillery fire. But no one was better qualified to answer the question than the late Lt. Gen. Walton Walker, Commanding General of the Eighth Army. And General Walker has answered in these words: “No request for air support that could possibly be furnished has ever been refused.”

Survey teams in Korea have insistently questioned to discover whether, at the JOC where ultimate authority rests on a basis of coordinate command, there arose situations where ground operations said, “We demand a strike,” and Air Operations said, “We won’t do it.” No such instance, or anything like it, has been found. Common problems were met at the JOC with common understanding, consultation and good will on the basis of policies directed by the Supreme Commander and day-to-day allocation of effort by the Walker-Partridge team at the evening conferences.

How long did it take to get an air strike when a ground unit was in trouble? As previously stated, air-alert missions were established each day — fighter-bombers vectored over a segment of the front at twenty-minute or forty-minute intervals for target designation by the TACP or Mosquito at immediate request of the ground commander. This type of mission, expensive as it is in sorties and demanding as it is in numbers of close support groups, produced weapons on the target in ten minutes. Next, aircraft assigned to interdiction missions were normally vectored over the front where they could be diverted to emergency targets if needed; and this type of strike was available, if at all, without time lag. “Column cover” also, when available by direction of the commanders’ conference, was practically instantaneous. “Call missions” requested and directed through the

JOC produced attacks in force, ground-briefed pilots and weapon-loading — designed for the individual target. The price paid for the tailor-made attacks was a time-span of one to four hours between request and strike.

Close support in the main forced the enemy to abandon day operations. A captured North Korean operations order is eloquent:

“Our experience in night combat up to now shows that we can operate only four to five hours in the dark, since we start night attacks between 2300 and 2400 hours. Therefore, if the battle continues after the break of dawn, we are likely to suffer losses. From now on, use daylight hours for full combat preparations and commence the attack soon after sunset. Concentrate your battle actions mostly at night and thereby capture enemy base positions. From midnight on, engage the enemy in close combat by approaching to within 100 to 150 meters of him. Then, even with the break of dawn, the enemy planes will not be able to distinguish friend from foe, which will enable you to prevent great losses. This is the most valuable battle experience we have gained from the Chinju operation.”

In truth it must be reported that the Korean experience has brought to painful relief the fact of Tactical airpower's limited night capability. Perhaps the difficulties of close support at night are insuperable. Certainly no tactical air units of any service or nation are really effective in close support operations at night. But equally, the USAF should give it a good try.

Other deficiencies are evident. Radio equipment of the jeep-borne TACPs proved so fragile that it had to be carried on blankets on the laps of the radio operators to prevent jolt damage; and even then continuity of operation could not be guaranteed without 100% reserve equipment. Probably the four radio channels of current equipment is too few. Difficulties of marking front-line positions, particularly at night, have not been wholly solved, although army personnel have recounted extremely close attacks delivered with safety to the supported units. And finally, for ever and a day, the need appeared and will always appear for training, training, and yet more training

Sorties by Services Korean War

(25 JUNE — 31 DECEMBER, 1950)

Air Force

76%

95,886

ANALYSIS OF USAF SORTIES

Interdiction	28,880
Close Support	27,857
Strategic	994
Combat Cargo	29,463
All Others	8,692
	<u>95,886</u>

Navy

14%

16,854

Marines

10%

12,827

NOTE: Analysis of sorties flown by the Navy and Marines was not available at press time. However, it is estimated by experienced observers that approximately 90% of the sorties flown by the Marines in Korea have been in close support of ground units. The Navy breakdown is reliably estimated as follows: 25% in defense of aircraft carrier force, 25% in close support and 50% in interdiction. For those interested primarily in the comparative effort, this would mean that, of the total close support sorties flown through December 31, 1950, by all the services in the Korean War, 64% were flown by the Air Force, 26% by the Marines, 10% by the Navy.

"If You See a Pilot..."

5431 39th St., N.W.
Washington, D.C.,
October 24, 1950

General Hoyt Vandenberg, USAF
Pentagon Bldg., Washington

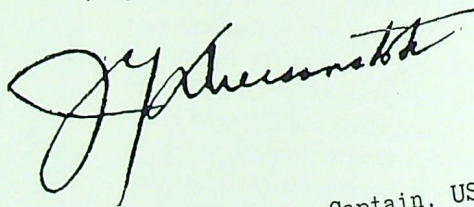
My dear General:

I thought the following would be of some interest to you. It is the extracts of two letters received by two of my sons here from their brother in Korea. This boy graduated from West Point this June and was ordered to Korea with the Twenty-fourth Division.

"I have only one more comment to make before I get off the subject of Korea. If you ever run across any pilot in the Air Force who fought over here, then take him home to dinner, let him sleep in my bed, and give him anything he wants as these boys are doing the greatest job I have ever seen or heard of and I, plus several other divisions, really appreciate it. Within five minutes after you call for an air strike, planes are going overhead."

"From the time you set foot in Pusan you see nothing but mountains, and the man who holds the high hills is the one who wins the war. I think I am turning into a billy goat, and I know I should be getting flight pay, which reminds me, if you ever see any Air Force Pilot who flew over here at any time, please take him home or buy him a drink. These boys are doing a great job and have saved my life already."

Very truly yours,



J. Y. Dreisonstok, Captain, US Navy
(Retired)

in the delicate teamwork of air-ground operations.

The facts of the Korean war have provided nothing thus far to indicate that it is necessary to restyle the basic Army-Air Force doctrine of co-ordinated air-ground effort. The general conclusion is clear and it cannot be better stated than in the words of "Officers' Call," an official Army publication:

"In Korea, air power has supported ground troops in virtually every way possible. Because of our immediate air supremacy, the Air Force assumed a close support role almost from the start. Air support was especially welcomed by those ground units whose normal artillery had not yet arrived . . . Many of our doughboys fighting in Korea have never met a pilot . . . unless one was shot down and landed in their lines . . . But they have gained a real appreciation for what our fliers have done and are doing. Day and night — sometimes actually around the clock — Allied air power has blasted the Communist army. Korea is today dotted with the wreckage of Red trucks, tanks, and guns. Against heavy odds, many Allied ground attacks have succeeded largely because of air support . . . Our top military leaders share the front-line soldiers' enthusiasm about what the airmen have done in Korea . . ."

As the late General Walker said, "No Commander ever had better air support than has been furnished the Eighth Army by the Fifth Air Force . . . if it had not been for the air support that we received from the Fifth Air Force, we would not have been able to stay in Korea."

WHAT ABOUT THE JETS?

Early last summer a groaners' chorus moaned long and loud that the Lockheed F-80 — the USAF's only jet in combat for the first phase of

the war — was an inadequate airplane. In so doing, the groaners questioned the Air Force's jet program in general. The jet's speed, it was said, deprived the pilot of time to locate the target. Accurate delivery of attack was impossible from a jet in flight. Duration of flight was so short due to high fuel consumption and remoteness of bases that the F-80 could not stay in the target area long enough to be as useful as the F-51 or Navy and Marine equivalents. So the groaners had it.

The last criticism, and only the last, had any validity, and soon this was corrected by the installation of enlarged wing tip tanks which gave the F-80 all usable flight duration. It was capable of all the deceleration it needed. It carried (and still carries) large armament loads and it provided a weapon platform of great stability.

The groaners' chorus has been weaker ever since the Air Force's more modern jets — the Republic F-84 and North American F-86 — began operating in the Korean war. Both have met the Russian MIG-15 with success. And it's rather difficult for the anti-jet set to question the range of an Air Force fighter like the F-84E, which also fills an air escort mission with our Strategic Air Command.

Moreover, the jets' high speed has greatly reduced our fighter vulnerability to enemy jet aircraft and to enemy ground fire. In fact, F-80 losses per sortie have been one-third those of the F-51. And, as many a North Korean can testify, the jet's speed also permits surprise approach which has often caught the enemy before he could take cover.

The jet fighter has these additional advantages over propeller driven planes: It can carry greater fire power, it has much better pilot visibility and most important, it is easier to maintain in the field. This last characteristic has made it possible for jet units constantly to maintain a higher rate

For the success of the co-ordinated Air-Ground effort, common problems were met with common understanding, consultation and good will. Air support was given when humanly possible.

In The Korean War Airpower Has Accounted For...

81% of all enemy trucks destroyed

75% of all enemy tanks destroyed

72% of all enemy artillery destroyed

47% of all enemy
troop casualties

These figures represent GHQ's evaluation, independent of the Air Force, of 2,000 POW reports, and are substantiated by field investigation teams using accepted on-the-spot analysis techniques.

Most unusual finding concerns tank destruction from the air, since the rule emerging from World War II had that "the only answer to a tank is another tank."

The personnel casualty figure is also abnormal, since planes were not made as anti-personnel weapons.



of availability than the conventional squadrons.

General Vandenberg sums it up this way: "Jets are superior for every conceivable job demanded of a fighter plane, including flying at tree-top level to silence one machine gun."

But don't the Navy and Marines adhere to propeller-driven aircraft for close support? Yes, they do, and for a very good reason: current types of jet cannot take off from short carrier decks if they are combat loaded for close support. Thus carrier-borne jets are used for air defense missions requiring small ammunition loads; bomb, rocket and napalm loads for interdiction and close support are lifted by propeller-driven attack planes. It is a safe prediction, confirmed by Navy and Marine fliers, that they will convert to jets as soon as R&D people can solve the technical difficulties of operating heavy-laden jets from carriers.

EFFECTIVENESS OF WEAPONS

Napalm — The Korean campaign has re-emphasized that Napalm is an excellent interdiction weapon, as well as a highly favored instrument of close support. Its use was restricted at first because of personnel shortages in Air Force armament sections, as well as shortages of tank casings. Its primary advantage is that it spreads burning destruction over large areas of a 100 x 150 or 200 feet. Napalm will destroy the insulation in the electrical wiring of a tank, burn the rubber off the boogie wheels, set off the ammunition that is in the tank, and it will destroy the steel, making the tank worthless except as scrap iron.

Rockets — The aerial rocket has proved to be a good weapon against materiel but due to limited fragmentation is not especially effective against personnel. Two types of rockets (the 5 inch high velocity and the 6½ inch shaped charge) have been used most extensively. The 5 incher is essentially an anti-tank weapon. In the early days of the fighting, it was thought to be inadequate against the Russian-built T-34 tank. More recent experience has shown, however, that it can kill the 34 if properly fired. The 6½ inch rocket was designed in great haste at the time the "inadequacy" of the 5 inch missile against the tank was

first reported. It was built to concentrate the explosive force forward, blowing a hole in the enemy's armor. It is powered by the same motor as the 5 inch, which, experience to date indicates, is not enough. Observers report that generally the rocket is not as accurate as it should be.

Bombs — General purpose and fragmentation bombs have not lost their effectiveness. More research is needed on the use of proximity fuses on frag bombs to make it most efficient as an anti-personnel weapon.

Machine Guns — One of the earliest of the Tactical Air weapons, it is still one of the most reliable. In Korea it has been effective against vehicles, trains, personnel, and even tanks.

Summing Up

As was said at the beginning of this report, it is next to impossible to draw definite conclusions from a war that is still very much in progress, especially a war that twists and turns in emphasis with the daily headlines, but this much can be said — and must be said if the people are to understand the great issues now before them, and place airpower in proper perspective.

The evaluations of experienced observers, gained through on the spot investigation in Korea and crosschecked one against the other, bear out the conclusion that through January 1, 1951, at least — the cutoff date for statistics in this report — tactical air operations in Korea as engaged in by the Air Force and Army have been generally satisfactory and adequate in quantity and quality.

There is no remaining doubt that, without this air support, our ground forces could not have remained in Korea. With it, they have had an aerial partner in battle that has taken a toll of tanks, trucks, artillery and personnel out of all proportion to what was expected of him, and perhaps out of all proportion to what might be expected of the Air in any future satellite engagement in which it may find itself.

There are obvious deficiencies: for example, requirements for greater tactical air capability at

night; for more extensive air-ground training and greater air-ground understanding on the part of both air and ground personnel; for improving the equipment, standardizing the operating procedures and intensifying and training of Tactical Air Control Parties.

But there is no evidence from on-the-spot evaluations that the deficiencies have significantly affected progress of the war. They relate, rather, to efficiency and economy of operations. Moreover, the major deficiencies which appeared early in the war have for the most part been corrected. And some of the deficiencies which still exist, notably the lack of adequate night capability, have long held priority positions in the Air Force's research and development program. Late reports from Korea indicate substantial improvements in this phase of operation.

These same evaluations support the fact that our air weapons have held up. The jet, in its first combat test by this nation, has proved to be superior in virtually every respect to conventional type aircraft for tactical operations. The Korean war, with its display of massed manpower sufficient in numbers to compensate in great measure for their technological inferiority, suggests the need for new emphasis on the development of anti-personnel weapons. But there is nothing to indicate that the Air Force policy of building high-performance aircraft for multiple purposes is unsound.

Most important to this particular evaluation of the Korean War, the evidence from the front substantiates conclusively that joint Army-Air Force doctrine on air-ground operations, as contained in Field Manual 31-35, is sound in its major principles and equally applicable to satellite war as to the major type of conflict which gave it birth. The doctrine's inherent flexibility appeared equal to a situation in which air superiority, usually and by necessity the first consideration, was relatively uncontested from the beginning of the conflict, and the immediate needs of battle prompted disproportionate emphasis on close support at the expense of interdiction.

There is evidence, however, that the men called upon to carry out the doctrine — both Air Force

and Army — were not always capable of the flexibility which the doctrine demanded. And there is no question that both Air Force and Army personnel are lacking in familiarity with and understanding of this doctrine. Both services show a need for “boning up” on their fundamentals.

There is a vital need for caution, by both leaders and public, in evaluating the lessons of the Korean War. Not only does the tremendous contribution of airpower in Korea illustrate the massive force of the air weapon; it also cautions us *not* to establish these results as the norm for future “brush fire” wars when air opposition may not always be lacking, when other fires burning simultaneously may demand some of the fire-power that it has been possible to concentrate

upon the enemy in Korea. And even more important is the need for caution in projecting the Korean experience to war against a first-rate power. The relative magnitude and sequence of a military undertaking against a major land-sea-air power would differ materially from that of the Korean conflict. Somehow our people must learn to make the distinction between lessons pertinent to a limited military operation against a Communist satellite such as Korea, whose war-making capacity is nourished from external sources immune to attack, and the lessons pertinent to military operations against the hard core of that capacity which is Russia itself. And somehow the people who can make the distinction must make it known to others. To that end this issue of AIR FORCE is dedicated.

Flying Saucer?

NICOLAS ROERICH, famous painter and Far Eastern traveller, made the following entry in his diary during August 1927. The book in which the diary appears, “Altai Himalaya,” was published in 1929.

“We were in our camp in the Kukunor district not far from the Humboldt Chain (in Mongolia). In the morning about half-past nine some of our caravaneers noticed a remarkably big black eagle flying above us. Seven of us began to watch this immense bird. At the same moment another of

our caravaneers remarked: ‘There is something far above the bird.’ And he shouted in his astonishment. We all saw, in a direction from north to south, something big and shiny reflecting the sun, like a huge oval moving at great speed. Crossing our camp, this thing changed its direction from south to southwest. And we saw how it disappeared in the intense blue sky. We even had time to take our field glasses and saw quite distinctly an oval form with shiny surface, one side of which was brilliant from the sun.”

ROYAL CANADIAN AIR FORCE

Association



Last month we gave the highlights of the Ontario Group Convention, and this month we have the reports from the remaining Groups. In order to save space, only those resolutions which are considered to be of general interest are being reported. All Groups supported general resolutions on the necessity for urban accommodation, and most Groups advocated support of the Canadian Legion "Preparedness Now" programme. The Saskatchewan and Alberta Groups wish the support of the Civil Defence Organization to be a declared policy of the Association, and these same two Groups call for the establishment and promotion of an active Reserve Air Force whose cadre and purpose would be equivalent to (or at least comparable with) that of the Canadian Army and Navy reserve units.

MARITIME GROUP

This Group has been by far the most successful during the past year and has increased the number of its Wings from 9 last year to 18, an increase of 100%. A very outstanding effort.

The new Executive for the forthcoming year is as follows:

Past President:	H. W. Aslin
President:	C. Y. Swanton
N.S. Vice-President:	A. F. Wigglesworth
P.E.I. Vice-President:	G. M. Mulholland
N.B. Vice-President:	J. B. Estey
Hon. Treasurer:	Miss Hilda Thompson
Secretary:	P. Connell

Resolutions

● That the Group recommend to Dominion Council that they endorse the action of the Minister of National Defence in giving the development of air power in Canada first priority during

the present national emergency, and that the Minister be advised to this effect.

- That Wings in general give stronger support to the Air Cadet movement.
- That the Government of Canada be requested to grant some security to Air Force veterans of the Second World War who are being asked to re-enlist and accept short service commissions by the enactment of legislation which will ensure their reinstatement in the employment they hold at the time of enlistment.
- That the Dominion Council be asked to investigate the advisability of recommending to the Dominion Government that members of the armed services be insured in the same manner as members of the armed services in the United States.

QUEBEC GROUP

The Quebec Group has prospered, and while the number of Wings was increased only by one, the strength of the Wings themselves in most cases has shown a marked increase, sometimes as much as 100%.

The new Executive elected for the forthcoming year is as follows:

President:	Air Vice-Marshal C. M. McEwen, C.B., M.C., D.F.C. (ret'd.).
Vice-President (Montreal):	J. René Gauthier
Vice-President (Eastern Townships):	(to be filled)
Vice-President (Quebec):	W. N. Le Gallais
Hon. Treasurer:	C. H. Link
Hon. Secretary:	Miss A. M. Groundwater
Hon. Auditor:	T. Cecil Davis
Members:	A. G. McNiece P. A. Faguy E. Tutching W. G. Phillip Bruce Bakers

Resolutions

- That the Department of National Defence be urged to accelerate the implementation of plans for the voluntary refresher training of ex-aircrew.
- That such plans be on a much greater scale than at present authorized.
- That the R.C.A.F. Association supports in principle the "Preparedness Now" resolution of the Canadian Legion.

MANITOBA AND NORTHWESTERN ONTARIO GROUP

The Manitoba and Northwestern Ontario Group also enjoyed a fairly successful year, and while no new Wings were formed, membership increased.

The new Executive for 1951 is:

President:	E. O. W. Hall
1st Vice-President:	C. J. Gough
2nd Vice-President:	R. S. Godfrey
Secretary:	J. J. Thornton
Treasurer:	A. H. Turner
Members:	Miss E. B. Halliday M. J. Rothschild C. Buckingham R. Cooper Miss Jean G. Livingston

Resolutions

- That the Dominion Council approach the R.C.A.F. authorities with a view to ensuring that, in dealing with the applications for the "Chipmunk Scheme," members of established R.C.A.F.A. Wings be given first consideration.

SASKATCHEWAN GROUP

The Saskatchewan Group has been less fortunate during the past year than the Groups already mentioned. There has been no expansion and one Wing is inactive. However, it is anticipated that the latter will shortly be reactivated.

The new Executive is as follows:

President:	J. C. Malone (re-elected)
1st Vice-President:	J. Park
2nd Vice-President:	S. Malach
Secretary-Treasurer:	F. M. Spellisay
Members:	C. Bradwell J. Thurgood F. R. Siddall W. Fyles

BRITISH COLUMBIA GROUP

The British Columbia Group has had a generally satisfactory year and has consolidated its position and increased the number of its Wings by two.

The Executive elected for 1951 consists of:

President:	Air Cdre. A. D. Bell-Irving, O.B.E., M.C. (ret'd. res.).
Vice-President:	J. H. Norton
Hon. Secretary-Treasurer:	H. G. Malcolmson
Members:	J. I. M. Beddall E. W. Beardmore S. E. Parker D. C. Birch V. R. Clerihue A. J. Ashton D. Inman I. Quinn

Resolutions

- That the R.C.A.F.A. nationally and locally search out ways and means and actively give effect to organizing, promoting and giving leadership to the marshalling of public support for the R.C.A.F. as the vehicle carrying out the national major defence effort, thus arousing the public appreciation and approval of the air weapon as the main item of the nation's defence programme.
- That an advisory committee be formed, composed of representatives of Army, Navy and Air Force Associations, and of a number of approved civilians, in order to confer from time to time for the purpose of assisting the Department of National Defence and the Government of Canada by their unified opinions and recommendations in regard to the defence forces of the country, the composition of such a committee to be determined by the Executives of the aforementioned Service Associations.
- That the R.C.A.F., after it has obtained the approval of the Air Cadet League, adopt an active programme of recruiting among personnel of the Air Cadet Squadrons.
- That the appropriate authorities form, in areas where there are no reserve squadrons, a reserve group of senior Air Cadets for the purpose of aiding in the expansion of the defence programme of the Government of Canada.
- That the R.C.A.F. Association advise the Canadian Government of its desire to serve in any



Alberta Group Executive. Seated (l. to r.): Air Vice-Marshal G. R. Howsam, C.B., M.C. (ret'd.); Air Vice-Marshal K. M. Guthrie, C.B., C.B.E. (ret'd.); D. E. (Tiny) Ferris; T. C. Segsworth. Standing (l. to r.): W. D. Stillwell; W. R. H. Nash; B. E. Crane; R. D. White, K.C. (legal advisor).

capacity, and that the Association vigorously attempt to ensure that suitable action is taken by the Canadian Government.

ALBERTA GROUP

The Alberta Group has done well, and has increased in strength. One new Wing has been added.

The Executive elected for the forthcoming year is as follows:

- Vice-President (Central): Air Vice-Marshal K. M. Guthrie, C.B., C.B.E. (ret'd.).
- Vice-President (North): W. D. Ferris
- Vice-President (Central): W. D. Stillwell
- Vice-President (South) T. C. Segsworth
- Hon. Treasurer: W. R. Nash
- Legal Advisor: R. D. White
- Hon. Secretary: B. E. Crane

Resolutions

● That the Department of National Defence be requested to implement a scheme of local R.C.A.F. ground training of a nature similar to that carried

out by Reserve Army units, such as R.C.E.M.E. units.

● That the Association make representation to the Department of National Defence urging that steps be immediately taken to carry out National Registration in Canada.

● That it be brought to the attention of the Chief of the Air Staff and the Dominion Executive of the Air Cadet League of Canada that (in effect) the R.C.A.F. might be well advised to pay more attention to providing Air Cadets with fuller particulars regarding the opportunities offered by a Service career, and that the Association express its readiness to assist towards that end.

WING NEWS

All Wing news currently on hand will be published at a later date.

The ROYAL CANADIAN AIR CADETS



“Squadrons of Better Citizens”

(From a Broadcast by John Fisher)

It was one of those Laurentian days in late winter when the snow seemed to be hugging the ground like glue . . . old snow, shrunken a bit, but in this refreshing mountain land still white and snowball-looking . . . the kind of snow that doesn't look cold. From out of Montreal we travelled through the Laurentians, hugging the north shore of the Ottawa River. About two thirds of the way to Ottawa, the conductor shouted: “Montebello! All off for the Seignior Club!” Not many Canadians have ever seen this, our most snooty Club. Thousands pass it every year, but see nothing but the great stone gates which hide the sumptuous setting within.

I was grateful to the Air Cadet League for the privilege of seeing this Laurentian retreat which will only admit members or friends of members. Into this Laurentian mountain-river country last week came delegates from every province of Canada. They came, most of them, at their own expense — seven businessmen came from Newfoundland. Most of them are important citizens back home. They came a long distance because they believe in Canada. They came to talk citizenship — under the name of the Air Cadet League.

Up from Washington came the big brass. They flew to Ottawa in huge military planes and were shipped down the river in military cars. The big Canadian timber rolled down from Ottawa, too.

And into this exclusive and secluded scene wandered seven young men who have not yet made any deep mark upon the shield of success. These young men — a little awkward and bashful — were the guinea pigs of the Conference. They were hailed as examples of how the Air Cadet League of Canada builds for citizenship. Some of



these young men were studying at University, studying on scholarships given them by the Air Cadet League. At this meeting I heard them talking about Hollywood and Texas and a visit to Buckingham Palace and a quick flight over Europe. I came to the conclusion that I wished I could be 14 years old again. They didn't have an Air Cadet League in my time. Did they in yours?

What is it? Why do I tell you about it? Because, last week at the Seignior Club, I had a good lesson in Canadian development. I saw one more indication of how much we have grown spiritually in the last few years.

The Air Cadet League is a voluntary civilian organization. It is associated with the R.C.A.F. in bringing citizenship and aviation training to young Canadians between the ages of 14 and 18 years. The League has a national board of directors who meet annually. I happened to be at their meeting. Then, too, each province has a provincial committee. And then there are the squadrons in the local communities — squadrons of young Canadian boys sponsored and, in many cases, financed by public-spirited citizens. These businessmen in the local communities supply the quarters and other needs. The R.C.A.F. gives the young lads free uniforms and the technical equipment needed in learning to fly or learning the problems of aviation.

Soon, they hope to have 22,000 young Canadians enrolled in the Air Cadet League. Right now they have some 17,000 boys studying the fascinating lore of aviation. The point that appealed to me most about this League was the lack of compulsion. These civilian businessmen in different parts of Canada feel that "boys will be boys" — and boys love machines and action — so why not get them together, teach them the wonders of aviation, of engines, radar, navigation, photography? And while they are learning they will also acquire the qualities of leadership, learn to adjust their own personalities with others. And being associated with the Air Force, they will acquire the discipline so necessary to adolescent vigour. In the Air Cadet League, they stress the value of deportment, of neatness, clean shoes and good manners. The Canadian pattern is being studied

in both Britain and the United States. They tell us we have the finest Air Cadet show in the world. Canadians have visited Scandinavia and other countries, explaining this unique work among boys.

There are nearly 200 of these squadrons in Canada. Once or twice a week they will meet in some donated hall — perhaps the back of a garage, an old warehouse, a classroom. Usually in the little towns and villages there is some ex-Air Force officer who can instruct in navigation, photography, radar, or parade square drill. The Air Force supplies the uniforms and the old engines and equipment for study.

The boys are taken off the street and given a chance to have fun while learning . . . and any Canadian boy, if he works hard enough, can end up shaking hands with His Majesty the King, or stand smiling beside a Hollywood star, or he can go to University for free and probably see a good chunk of Canada by air.

It works this way. Each year 50 young cadets are chosen on merit for special free trips abroad. If a young Canadian works hard, looks after his deportment and is popular, he could be lucky enough to fly far from home. Each year 25 cadets are guests of the United States. Another 25 are guests of Britain. Huge American aircraft, with high-ranking brass aboard, swoop down to Canadian fields and take the boys on a cruise through the States. The other group flies the Atlantic in an R.C.A.F. North Star and 25 Canadian boys get the full treatment from the British Air Cadets and the R.A.F. While all this is going on, the same number of British and American cadets see the sights of Canada as guests of the R.C.A.F. and the Air Cadet League.

And as the top cadets are zipping across the continents, over 4,000 others are in summer camps. There are several of these in Canada — one in the West, one in Ontario, and a third one in the Maritimes. At these camps the boys get the finest of instruction and learn the arts of sportsmanship, friendship, discipline and the modern wonders of the air age. They are taught to prepare for flying. Although many of the boys never get into the air, many become specialists in allied fields.

If a cadet is studious, he has a chance at a

scholarship. Each year up to twenty scholarships are given by the Air Cadet League. Each scholarship is worth \$600. Students can either go to Royal Roads in British Columbia or the Royal Military College at Kingston. I met one bright boy who joined the Air Cadets in Brandon, Manitoba. He earned one of these flights overseas. To-day he is on a scholarship at the University of Toronto, studying aeronautical engineering at the expense of the League.

Then there is still another form of honour to be earned by the younger Canadian boys, and that is the right to enter the International Drill Competition. Last year our Canadian lads, some 40 of them, paraded and went through their intricate paces before a crowd of 35,000 people at Des Moines, Iowa. That matching was almost perfect. It seemed that only a coin toss could decide the winner, but the Canadian team won. This is the third year in a row that Canadian 'teen-agers have won the International Trophy. For the honour of entering this international test, Canada is divided into several regions. Each region has its turn. This year it is up to the Maritimes and Newfoundland. Approximately 40 boys will be picked from the four provinces. They will train together and then meet the United States of America at the world's largest exhibition in Toronto. If you plan to attend the Canadian National Exhibition, be sure to see these youngsters. How will they get to Toronto from the Maritimes? By air, of course. Nothing cheap about the Air Cadet League.

The doings of these top-grade Air Cadets is big

news in the little places of Canada. Often the local councils will vote them extra pocket money if their boy happens to be chosen for a flight to Great Britain or the U.S.A. And any boy who works at his studies can have a chance. Last year a negro boy from Montreal was chosen to visit Great Britain. In the same party, a year earlier, was a full-blooded Indian. The big cities or the big bank-rolls have no more chance than the poor little boy in a small village. That's the refreshing part of this whole project.

It is really a remarkable project. It has been called "one of the great youth movements of our time." It is significant because it is organized by civilians, by public-spirited citizens in every province who know the tremendous wealth that sometimes goes to waste among young boys. It is not military, although the R.C.A.F. is the godfather and in many cases most generous with advice, facilities, and so on. In other words, we are training young men to learn about flight. The reserve is there, if we need it for war. But it is also there for the peace-time needs of Canada. Men trained to quickly appreciate our great openness, and men trained in the arts of living together. In a huge country awaiting development, in a country whose national symbol should be the airplane instead of a maple tree, in a country of two tongues and many variations in her ways, we need young people who know how to tackle the distance and the divisions.

In the Air Cadet League we have "SQUADRONS OF BETTER CITIZENS."



Aircraft in the News

(Silhouettes and photographs by courtesy of the "Joint Services Recognition Journal": U.K.)

Gloster (British)

METEOR F Mk. 8

(2 R.R. Derwent 5)

Span 37' 2" Length 44' 7"

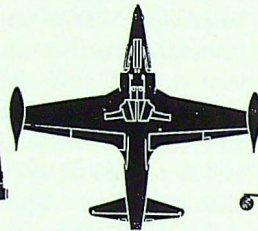


Lockheed (U.S.)

F-80 SHOOTING STAR

(1 General Electric J.33)

Span 40' 6" Length 36' 0"

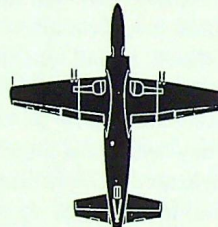


Vickers (British)

ATTACKER F Mk. 1

(1 R.R. Nene)

Span 36' 11" Length 37' 6"

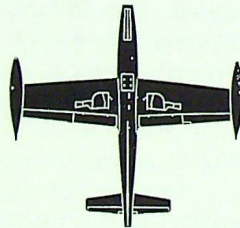


Republic (U.S.)

F-84 THUNDERJET

(1 Allison J.35)

Span 37' 6" Length 36' 6"

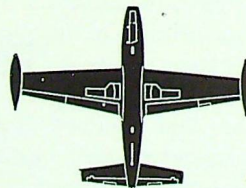


North American (U.S.)

FJ-1 FURY

(1 Allison J.35)

Span 33' 8" Length 38' 1"



From the Sublime to the "Gor Blimey"

By Flt. Sgt. T. A. Keenan, No. 11 Technical Service Unit

IT WAS IN THE EARLY PART of 1950 that I became aware of that strange feeling known as "pre-postingitis". I had only shortly returned from a course on jet engines at General Electric in Boston, and I had a general idea that my time at No. 10 Repair Depot was drawing short.

None the less, the calendar flicked over through April, May, and June . . . until, one bright morning in July, I remarked to my wife across the breakfast table: "I guess the Air Force has decided to be different again and forget about me." That very morning, of course, the blow came.

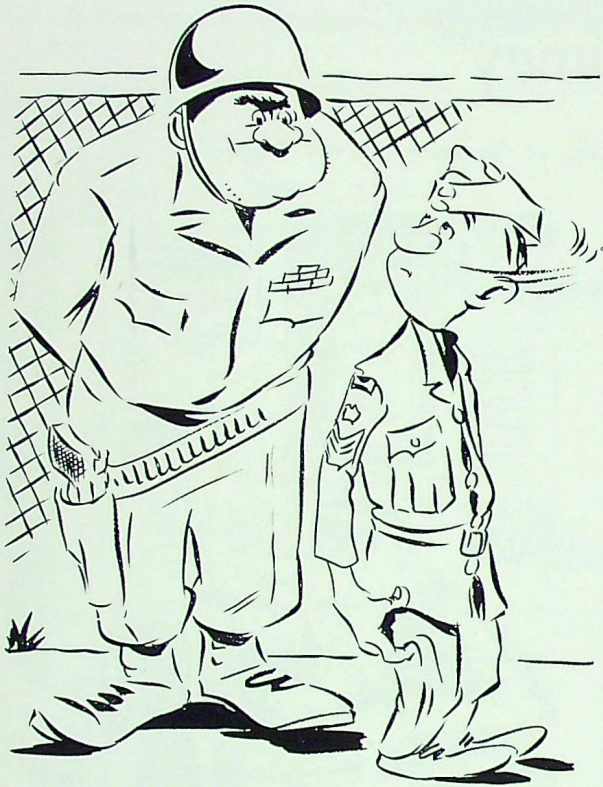
A friend (!) of mine, an Irishman named McMullen, whispered gently into the telephone. Said he: "Report to the Orderly Room right away. You're on transfer." Said I: "Well, my posting to Montreal finally came through." There was a slight pause while the black Irisher savoured to the full the agony he was about to inflict. Then: "No, Flt. Sgt. Keenan," he said gently, "not Montreal. Fairey Aviation . . . in Halifax."

The world reeled about me. Halifax, . . . OH NO! And Fairey Aviation — who in blazes were they? I barely had time to grope for the grapevine's nearest tendril before the 'phone rang again, and again I heard that sweet Irish whisper. "Flt. Sgt. Keenan report to the Orderly Room. You're going to the U.S. Naval Air Base at Norfolk, Virginia, for a course on Avengers. Aircraft leaving immediately." This was too much. What in the name of heaven was an Avenger? And what was I, a self-respecting airman, doing getting tangled with the Navy? I thought: "Shatterproof shall hear of this!" But alas, he was in Ottawa and I on the windswept plains of Calgary. I left that night.

So, by way of Winnipeg, Toronto, Buffalo, and Philadelphia, I finally staggered into Norfolk four days later. Having duly reported to the base, I was issued a "liberty card" so that I could go



"ashore." The process of going ashore, I gathered, consisted of stepping out through the main gate. The first time I went ashore, I forgot about the card. I was quickly reminded of it, however, when a voice like a mad bull's roared: "Where the hell you think you're going, bud?" The owner of the voice was smartly dressed in white helmet and gloves, he carried a large night-stick, and he wore



Fairey Aviation, I was given sympathetic looks but no information. "You'd better see the C.O. first," was all I could get out of anyone.

I therefore went in to see the C.O., Sqn. Ldr. Waite, whom I had met on several other Stations in the Service. He said: "You know, Keenan, you're going to be dealing with both the Canadian Navy and our English friends at Fairey's." This was the last straw. I, who am by extraction Irish, by birth and education a Scot, and by choice a Canadian, was being sent to work with the English. It was too much. Instead of nice new jets to play around with, they gave me folding-wing things. Instead of Air Force, I got Navy. Instead of Montreal, I got Dartmouth. And now — but need I say more?

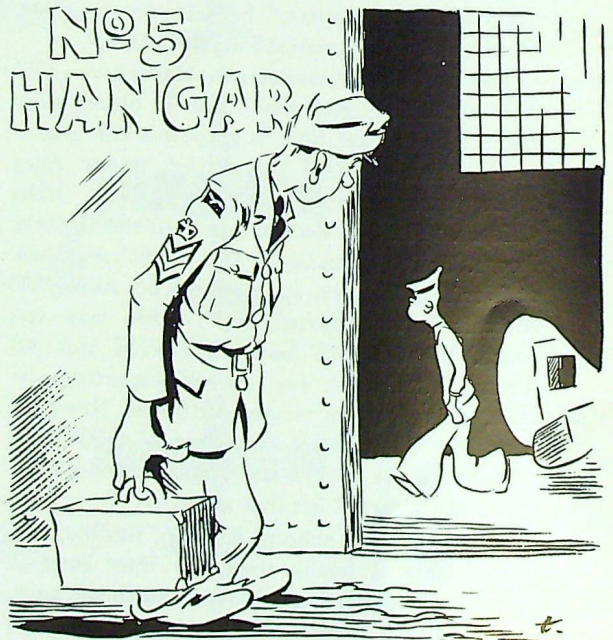
A couple of days later I crept into the plant of the Fairey Aviation Co. of Canada Ltd. at Dartmouth and again came face to face with these folding-wing things — only, in addition to Avengers, I was now confronted with Sea Furies, Seafires, and Fairey Fireflies.

During the months that have elapsed since that day, I have gradually resigned myself to the fact the Brass must know what it has done, and I

the biggest damn automatic pistol I'd ever seen. He was a marine. However, I got out alive.

Little more need be said at this time about the U.S.N. Air Station, Norfolk, except that the first morning on duty I took a look at what appeared to be a lot of broken-down aircraft, only to find that the blasted wings folded — some of them in *two* places. My nice sane world had certainly gone screwy. I must also mention the hospitality. It was tremendous. But where did our American friends get the idea that it takes six of them to drink one Canadian under the table? Having done my best to live up to their belief for two weeks, I rolled wearily aboard the train for home.

Now I knew what was in store for me at Halifax (or, to be more exact, Dartmouth), but the worst was still to come. Having finally packed our belongings and made our farewells, the Keenans hit the trail. Arriving at Montreal, I reported to my unit, No. 11 T.S.U.; and, on enquiring about



have settled down to the task of converting the English. This is not proving to be as easy as one might think. Strangely enough, most Englishmen (including my own father-in-law) insist on remaining English, poor souls.

Indeed, as I sit over the cup of tea that is thoughtfully supplied by the Company at four o'clock every afternoon, I sometimes wonder who

is converting whom? An aircraft is an aircraft and a boat is a boat. That, I fear, is the only thing of which I am any longer certain. For here in Dartmouth it is the Navy that flies the aircraft and the Air Force (as represented by No. 102 Marine Squadron) that sails the boats. Or do I mean pilots the boats and sails the aircraft?

May Allah give me strength!



Military Exercises

SO SENSIBLE were the Romans of the imperfection of valour without skill and practice, that, in their language, the name of an army (*exercitus*) was borrowed from the word which signified exercise. Military exercises were the important and unremitted object of their discipline. The recruits and young soldiers were constantly trained both in the morning and in the evening, nor was age or knowledge allowed to excuse the veterans from the daily repetition of what they had completely learned. Large sheds were erected in the winter-quarters of the troops, that their useful labours might not receive any interruption from the most tempestuous weather; and it was carefully observed, that the arms destined to this imitation of war should be of double the weight which was required in real action. It is not the purpose of this work to enter into any minute description of the Roman exercises. We shall only remark, that they comprehended whatever could add strength to the body, activity to the limbs, or grace to the motions. The soldiers were diligently

instructed to march, to run, to leap, to swim, to carry heavy burdens, to handle every species of arms that was used either for offense or for defense, either in distant engagement or in a closer onset; to form a variety of evolutions; and to move to the sound of flutes, in the Pyrrhic or martial dance. In the midst of peace, the Roman troops familiarized themselves with the practice of war; and it is prettily remarked by an ancient historian who had fought against them, that the effusion of blood was the only circumstance which distinguished a field of battle from a field of exercise. It was the policy of the ablest generals, and even of the emperors themselves, to encourage these military studies by their presence and example; and we are informed that Hadrian, as well as Trajan, frequently condescended to instruct the inexperienced soldiers, to reward the diligent, and sometimes to dispute with them the prize of superior strength or dexterity.

(Edward Gibbon: "The Decline and Fall of the Roman Empire.")

March Transfers

Officers

S/L J. R. Beggs (G.L.) — A.F.H.Q. to Cdn. Joint Staff, Washington.

W/C J. L. Berven, A.F.C. (G.L.) — R.C.A.F. Stn. Toronto to Cdn. Joint Staff, London.

S/L L. V. Carver (C.E.) — R.C.A.F. Stn. Summerside to A.F.H.Q.

S/L S. F. Cowan (G.L.) — Air Transport Command H.Q., Rockcliffe, to No. 412 Sqn., Rockcliffe.

*S/L H. E. C. Deane-Freeman (G.L.) — No. 10 Repair Depot, Calgary, to R.C.A.F. Admin. Wing H.Q., Montreal.

S/L L. A. Draper, D.F.C. (G.L.) — R.C.A.F. Stn. Edmonton to North-West Air Command H.Q., Edmonton.

S/L W. M. French, D.F.C. (G.L.) — R.C.A.F. Stn. Toronto to Instrument Flying School, Centralia.

W/C R. J. Gray, M.B.E. (G.L.) — A.F.H.Q. to R.C.A.F. Stn. Whitehorse.

W/C G. F. Jacobsen, D.F.C. (G.L.) — A.F.H.Q. to Special Duties List, Paris, France.

S/L E. L. Kenny (G.L.) — Institute of Aviation Medicine, Toronto, to A.F.H.Q.

S/L D. G. Laidler (G.L.) — Suffield Experimental Stn. to A.F.H.Q.

S/L W. W. Laughland (Med.) — R.C.A.F. Stn. London to R.C.A.F. Stn. St. Johns.

S/L W. J. Lewis, D.F.C. (G.L.) — No. 901 Air Traffic Handling Unit, Rockcliffe, to R.C.A.F. Stn. Goose Bay.

S/L J. B. Little (Acc.) — R.C.A.F. Stn. Rockcliffe to R.C.A.F. Stn. St. Johns.

W/C J. K. F. MacDonald, D.F.C. (G.L.) — Air Transport Command H.Q., Rockcliffe, to No. 426 Sqn., Tacoma, Wash.

S/L A. R. MacKenzie, D.F.C. (G.L.) — Air Defence Group H.Q., St. Hubert, to No. 441 Sqn., St. Hubert.

S/L R. V. Manning, D.F.C. (G.L.) — No. 435 Sqn., Edmonton, to Air Defence Group H.Q., St. Hubert.

S/L P. G. McLaren (Sup.) — R.C.A.F. Stn. Trenton to A.F.H.Q.

S/L G. R. Moar (A.E.) — North-West Air Command H.Q., Edmonton to Air Materiel Command H.Q., Ottawa.

S/L A. Morrison (Sup.) — A.F.H.Q. to Air Transport Command H.Q., Rockcliffe.

* This officer was shown on the return for February and the amendment changing the effective date of move was received too late to alter the February submission.

S/L R. M. Porter (G.L.) — A.H.F.Q. to Cdn. Joint Staff, Washington.

W/C J. M. Sutherland (G.L.) — A.F.H.Q. to Cdn. Joint Staff, Washington.

S/L L. G. R. Virr (G.L.) — North-West Air Command H.Q., Edmonton, to Suffield Experimental Station.

W/C W. G. Webber (G.L.) — R.C.A.F. Stn. Aylmer to R.C.A.F. Stn. St. Johns.

S/L R. C. Wilson (G.L.) — No. 401(R) Sqn. Support, St. Hubert, to Res. Operational Wing H.Q. Support, Montreal.

S/L L. A. Yellowlees, B.E.M. (A.E.) — Personnel Selection Unit, Aylmer, to Personnel Selection Unit, St. Johns.

Warrant Officers

W.O.1 S. C. Awock (M.M.E. Tech.) — No. 2 Construction and Maintenance Unit, Calgary, to R.C.A.F. Stn. Goose Bay.

W.O.1 C. F. Barlow (M.W. Tech.) — R.C.A.F. Stn. Summerside to R.C.A.F. Stn. St. Johns.

W.O.2 H. E. Booth (Sup. Tech.) — R.C.A.F. Stn. Summerside to Training Command H.Q., Trenton.

W.O.1 R. A. Charlton (Sup. Tech.) — No. 426 Sqn., Tacoma, to R.C.A.F. Stn. Edmonton.

W.O.2 G. S. Coburn (M. Com. Tech.) — Institute of Aviation Medicine, Toronto, to No. 1 Radar & Comm. School, Clinton.

W.O.2 R. Fowler (M. A. Tech.) — Cdn. Joint Air Trng. Centre, Rivers, to Air Armament School, Trenton.

W.O.2 S. J. Frith (Clk. Adm.) — North-West Air Command H.Q., Edmonton, to School of Service Management, Trenton.

W.O.2 W. T. Greenhough (M. M. E. Tech.) — Training Command H.Q., Trenton, to R.C.A.F. Stn. Centralia.

W.O.2 N. E. Harvey (M. A. Tech.) — Air Transport Command H.Q., Rockcliffe, to A.F.H.Q. Practice Flight, Rockcliffe.

W.O.1 S. Heap (M. A. Tech.) — R.C.A.F. Stn. Trenton to R.C.A.F. Stn. Clinton.

W.O.1 MacKinnon (M. A. Tech.) — No. 1 Radar & Comm. School, Clinton, to R.C.A.F. Stn. Trenton.

W.O.2 G. R. Worshik (M. A. Tech.) — Winter Exp. Est., Edmonton, to Air Armament School, Trenton.

KEY TO TRADE DESIGNATIONS

Acc.	— Accounts
Adm.	— Administrative
A.E.	— Aeronautical Engineering
C.E.	— Construction Engineering
Clk. Adm.	— Clerk Administrative
G.L.	— General List
M. A. Tech.	— Master Armament Technician
M. Com. Tech.	— Master Communications Technician
Med.	— Medical
M. M. E. Tech.	— Master Mobile Equipment Technician
M. W. Tech.	— Master Wireless Technician
Sup.	— Supply
Sup. Tech.	— Supply Technician

The Rockcliffe Pipe Band

Eighteen months ago we published an article on "The Pipers of Rockcliffe." Our photograph shows the band as it is to-day. Many changes have taken place among its members since then, and only four (marked with an asterisk) of the old originals remain.



Front row (l. to r.): Sgt. E. J. Eccles, *W.O.1 T. R. Yaeger, *Cpl. M. Young. Centre row (l. to r.): LAC A. Dzwolak, LAC J. E. Gauthier, AC2 H. Wilson (401 Sqdn.), *LAC L. A. Bowerman. Rear row (l. to r.): LAC W. J. Davison, *LAC D. Frickelton, LAC F. J. Hughes, AC2 G. Brazeau (401 Sqdn.), LAC R. J. Fleming, LAC R. D. Semple.

Amphibious Shelter

A RECENT ADDITION to R.C.A.F. safety equipment is the 20-man Universal Life Raft, Mk. I.

Deflated, it is packed in a small valise, but one minute's inflation with CO₂ transforms it into a structure four and a half feet high and with a base diameter of twelve feet.

In its primary rôle as a life raft, it provides adequate double chamber flotation with an automatically erected canopy which affords immediate protection from cold, spray, rain, or sun. Accessories include patching equipment of new design, plastic water bags, a boarding ladder, and an inflatable mattress; and it even has a built-in rain-catcher. One of its more important sea characteristics is the fact that the inflated canopy makes the raft semi-self-righting, so that it requires small effort to turn it upright should it inflate inverted.



The versatility of this raft is demonstrated by its added utility as a land shelter. Its inflated canopy (when sealed) and its pneumatic seats furnish excellent insulation from cold and are impermeable by wind. Furthermore, it can be covered with snow in a matter of minutes, thus serving as a quickly constructed igloo.

In tropical conditions, on the other hand, the canopy structure serves as a convenient support for mosquito netting tailored to the dinghy shape, and removal of the two canopy segments ensures and adequate circulation of air while the remaining canopy gives protection from the sun.

Letters to the Editor . . .

CAESAR EXONERATED

(In our February issue there appeared a letter from Flt. Sgt. M. W. Evoy, of A.M.C.H.Q., quoting Ripley on the subject of the establishment of Jan. 1st as New Year's Day. Since we had always understood that Julius Caesar was responsible for this particular bit of fiddling with the calendar, we cast courteous doubt on Ripley's statement. Flt. Sgt. Evoy now sends us the following letter, which he received in reply to a letter of enquiry sent by him to "Ripley's Believe It or Not, Inc." in New York.— Editor)

Dear Sir:

Prior to 153 B.C. the Roman year began on the Ides of March (March 15), coincidental with the inauguration of the new consuls, the Chief Executives of the Roman Republic whose term of office was one year.

In 153 B.C. the newly elected Consul was Quintus Fulvius Nobilior. The Republic was then involved in a war with Spain. Being unable to delay war operations until March, Nobilior decided to begin his term of office on Jan. 1st, instead of March 15th.

From that time on the Roman year began on Jan. 1st, and Julius Caesar merely confirmed the existing situation by basing his calendar on Jan. 1st, more than a century after Nobilior. (See William Smith, "Dictionary of Greek and Roman Biography", vol. 2, page 1206, col. 2.)

N. Pearlroth
Research Department
Ripley's Believe It or Not, Incorporated



CRICKET

Dear Sir:

May I ask through the medium of your excellent Journal if there is any R.C.A.F. Station in possession of unused cricket gear? A shower of ex-R.A.F. bods, who call themselves the "Adastrians" and are members of No. 305 (City of Montreal) Wing, R.C.A.F.A. would be most grateful for cricket equipment of any description to help them win at least one match in the local league this season.

F. P. Legg (R.C.A.F.A.),
2024 Grey Ave., N.D.G.,
Montreal 28, P.Q.



R.C.A.F. BADGE FOR CARS

Dear Sir:

Could you please tell me how I could obtain two metal Royal Canadian Air Force crests suitable for bolting on to the fenders of a car.

I have seen several cars with them, but have not had the opportunity of finding out whence they were obtained.

L. S. Adams (R.C.A.F.A.)
P.O. Smithville, Ontario

The Next Issue

Despite Sgt. Shatterproof's oft-voiced opinion that no good ever came of an editor's taking leave, we feel that our Readers may even welcome a rest from "The Roundel" during the midsummer heat. The July and August issues will therefore be combined in a single issue that will appear during the first week of August.

Extra Copies of June Issue

Extra copies of this issue are available to R.C.A.F. Units (Regular and Reserve) and Air Cadet Squadrons on application to "The Roundel" by Unit C.O's.

