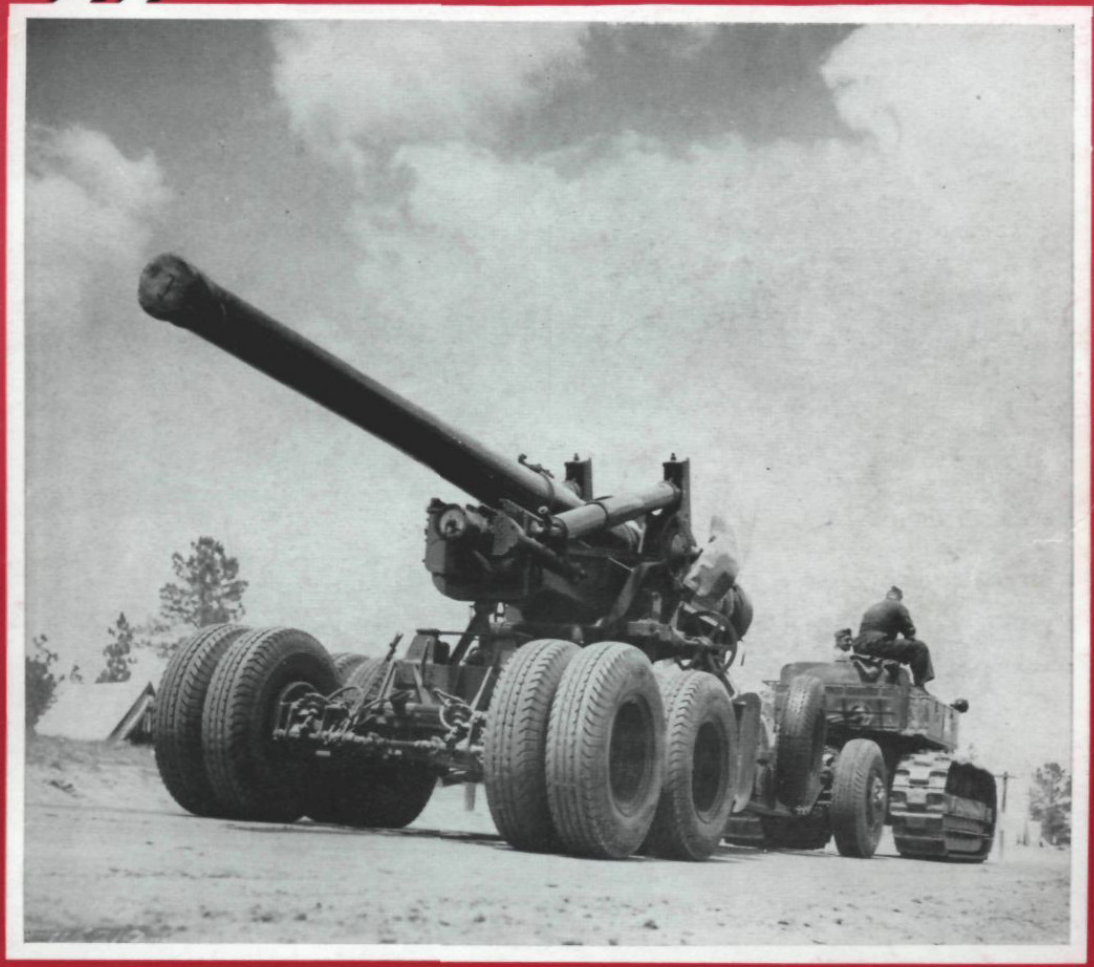
# The FIELD ARTILLERY Journal



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## Panzers Across the Meuse

APRIL, 1941

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BRITISH SERVICE JOURNALS indicate that their artillerymen are completely cynical concerning prospects of obtaining aerial observation (including adequate photography) from the R.A.F. Consequently they are much interested in the "flying OP"—a light plane manned by artillerymen. Major Ford discusses this problem from our viewpoint in *Wings for Santa Barbara*. Interest in this subject is enhanced by the presence at Sill of two light commercial planes, an Ercoupe and a Stinson, which are being tested in comparison with a new observation ship of more conventional military design.

A QUICKENING INTEREST is manifest in military circles over the recent definite news that the German Panzer units not only exploited the breakthrough on the Meuse, but also *created* it. And, as Soldan and others have said, "the influence of air power is simply overwhelming." We must not allow this to send us off on a tangent. Note how the organic infantry-engineer-artillery teams of the armored divisions forced the river crossing. Note also how the organic artillery of these divisions supported the continuation of the attack. It is true that huge masses of heavy artillery played no part in this operation as they did in the World War. But they were used elsewhere; for example, on the Aisne and at Colmar on the Rhine. We should also bear in mind the fact that at Sedan the Germans had complete air superiority. How would the absence of this have affected von Kleist's plans and actions? What would the effect have been if the stuka action, instead of demoralizing the defenders as it did on the Meuse, merely stiffened their spirit as it did the British in the retreat to Dunkerque and in London? No one denies the great influence of armored units and air force. But in the properly balanced force, *all* arms have an important role. Which is momentarily dominant will depend on the theater of operations, the relative composition and strength of the opposing forces, and upon many other elements.

ATTACKS ON, or defense of, a river line will occur often in modern war in all theaters except, perhaps, desert country. We should study such operations, and practice them *with troops* in our maneuvers.

IN AN EARLY issue we will present another account of Panzer action, which goes into considerable detail and gives a better idea of how important is the support of the organic artillery of an armored division.

## The United States Field Artillery Association

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# Wings For Santa Barbara

By Major William W. Ford, Field Artillery.

It is perhaps unfortunate that most of our field artillery officers have learned their gunnery at Fort Sill!

Before the author of that statement is shot as a heretic, he wishes to explain.

He doesn't mean the School, he means the terrain.

He means that the terrain at Fort Sill, though admirably adapted to the *teaching* of gunnery, unfortunately creates in almost everybody's mind false conceptions as to the relative frequency of employment of the methods taught. In vain may the School caution its young graduate not to expect such favorable terrain at his next maneuver, or in the next war! In vain may it admonish him that observed fire or good maps will be the exception, not the rule! Not until he gets out and tries to maneuver over those vast reaches of land where there is no observation and where there are no maps does he realize just what he's up against. And then he finds that while he has a remedy in theory he has none in fact. There he is, brimful of learning, but as helpless as a statue of Napoleon.

### Historical

During the Third Army maneuvers in the early part of 1940 this writer was a battery commander in the light artillery of a "streamlined" division. During successive division, corps, and army exercises he participated in a number of field problems. *Not once*, during this period of four months, did he find a decent OP! *Not once* did he have a map or map substitute from which fire could have been computed! *Not once* was an actual air observer available to adjust the fire of his battalion!

*Major Ford is particularly well qualified to write this article, as flying has been his hobby for seven years. During this time he has owned two planes and has accumulated over 500 hours of pilot time.*

It goes without saying that this battery was rarely capable of delivering the fire support expected of it. To be sure, forward observers with "walkie-talkies" were always on the job. Occasionally they performed a helpful service; more often *not*. The simple fact is that along the coastal plain of South Carolina, Georgia and Louisiana terrestrial observation is an exceedingly difficult business, even at short distances.

The experience of this battery was not unique. Ask anyone who was there!

### The Problem

What, then, are we going to do about it?

One suggestion is to forget it, on the ground that we shall probably not fight in such abominable (artillery) country, anyway. This suggestion comes from those who still can't forget the Fort Sill terrain.

But where *will* we fight? If we should have to defend this broad land from an invader, just where would the fracas be likely to begin? In Oklahoma? Kansas? Indiana?

The coastal plain of the Atlantic and Gulf states, from New York all the way down and around to east Texas, is much the same as the country of the Third Army Maneuvers. It is low, flat, sandy, and for the most part densely wooded. It is a very depressing country from the standpoint of one having a fondness for good OP's. If *this* is where we shall meet our invader we had better do something to enable our artillery to see.

Again, if the strategy of defense should require an overseas offensive effort on our part, on what kind of terrain should we expect to find our enemy?

This question is not rhetorical. We might of course expect to find the enemy in any sort of country whatsoever. But of this we may be sure: whatever (ground) observation there is, the enemy will have it. We would have an uphill fight on our hands. We would be blind once more.

Now all this is in no way new. It is a problem which has engaged the serious attention of our best minds at the Field Artillery School and throughout the arm. The obvious need for air observation has spurred the development of an excellent procedure for firing with this aid. The trouble is that we do not have an adequate number of planes or observers for this purpose; nor are they on order; nor are the types of planes we contemplate best suited to the job. More of this later.

Much effort has likewise been spent on improving our methods of firing without the actual air observer, using air photographs instead. This development has now reached the stage where its enthusiasts believe that effective fire can be delivered using wide-angle photos and map data corrected. If their enthusiasm proves justified, a highly important addition has been made to our field artillery technique.

But surely no one will expect this or any similar method to possess the merits of observed fire. There are at least three reasons why such an expectation would prove false:

1. Even the splendid wide-angle photo presents a tough problem in the matter of vertical control. This problem can perhaps be solved fairly well if we are able to determine a number of angles of site to points in enemy territory. *But much of the time, in that type of terrain where we are most likely to fight, we cannot do this*. Ground observation will be nil.

2. Even if we could fire accurately at any point on the photograph, *someone must select the targets*. Now some targets, some important targets, are determinable from geography alone. But in most cases it takes geography *and the enemy* to make targets. Who can doubt that many targets of a critical nature will develop at the decisive stage of battle, targets that were not there the day before and hence do not show on the photograph, targets which only a pair of eyes can discover in time to be of any use?

3. Observed fire ranks first in the matter of ammunition economy, transfers of fire next, map fires last. Ammunition is of the essence!

If, then, there is as yet no satisfactory substitute for observation, and if this observation is frequently unobtainable from the ground, the *what* of our decision is automatic: we must give wings to our eyes!

*Requirement:* the *where, when, how* and *why*.

## A SOLUTION

*a. Where:* a trained *field artillery* observer, a light airplane of the "flivver" type, and a pilot, *in each battalion of light and medium field artillery*.

*b. When:* at all times. The above arrangement should be organic.

*c. How:* training the observers is a cinch; there are thousands of commercial light planes in this country, available upon requisition; if there is any shortage of military pilots, we can draw upon the tens of thousands of civil pilots holding CAA certificates of competency—they can fly these little planes quite well enough. The British hope to use artillery officers to pilot their artillery planes.

*d. Why:* because we do not have an adequate number of observers or planes now available for artillery missions, nor may we reasonably expect to get them, except through some such program as the above.

## DISCUSSION

*a*. The battalion is becoming more and more the fire unit. It should have constantly at its disposal all the means necessary to perform its tasks. Adequate means include air observation. Furthermore, this air observation must be available to the battalion from the moment the first gun is fired. One or more airplanes "on call" at a division airdrome miles away is too few airplanes, the planes are too far away, and the observers who will man them are too unacquainted with the battalion personnel for close teamwork.

The plane for our field artillery battalion should go with that battalion at all times. The "flivver" plane, with its light wing loading and its 75 HP engine, cruises at about 80 MPH and lands at about 45 MPH. It does not require a prepared landing field, but can land in almost any cow pasture or similar place.* Hundreds of landings and take-offs have been made on highways. Even plowed fields are practicable provided the furrows are not deep.

Aloft, this little ship is merely an elevated OP for its field artillery observer. Communication is by two-way radio having a range of five or six miles. Excellent sets of this type are already in service on civil aircraft as aids to navigation. They can be adapted to military use simply by changing their frequency to the desired military channels.

Objection will be heard that such a craft will be quite vulnerable to hostile aviation. Well, what aircraft isn't? Only the best of the fighters themselves. Does anyone think, for example, that our present service type observation ship, the O-47, would bear a charmed life in an atmosphere infested with enemy pursuit? Of what use are one or two flexible machine guns, firing to the rear, against the eight fixed forward guns of the modern fighter?

Our little flivver plane will have no armament at all; its protection will consist in:

1. General superiority of the air secured by our pursuit aviation. Let no one say we may not have this. We *may* not win the war, but we should try. We should try, likewise, to gain air superiority. No modern war has been won without it. Of course not even a definite air superiority on our part will render us immune from enemy air attack. But such superiority, or merely an equality, should make it possible for us to employ observation

*Recent tests indicate that the landing gear of these commercial planes breaks down after repeated landings in "cow pastures."—Editor.

aviation without prohibitive losses, especially if other protective measures are adopted.

2. Observing from low altitudes *over own territory*. Low-flying airplanes, particularly if painted camouflage, are hard to see from above. If enemy fighters *cruise* at low altitudes our ground weapons should be able to make it hot for them.

3. Maneuverability. Upon the approach of hostile aircraft our pilot will put the little ship into a series of tight turns, barely off the ground; high-speed enemy fighters, much less maneuverable, will have difficulty in bringing their guns to bear.

Military pilots will at once exclaim that the average commercial light plane lacks that visibility upward and to the rear which is necessary to enable the crew to detect the approach of hostile pursuit. The answer is: (a) a few commercial designs do not have this defect; (b) a fairly simple modification will remedy this defect where it exists; (c) the ground radio station working with the plane can often furnish timely warning of the approach of hostile aircraft.

4. Short flights. Our plane will take off, make an adjustment, and land again in very short time; enemy craft will have to be Johnny-on-the-spot to get it.

*b*. Having the plane, pilot and observer constantly assigned to the battalion they serve has great and obvious advantages. Close teamwork is achieved through this permanent relationship. The plane accompanies the battalion by short hops. It is ready at the moment it is needed. Moreover, *each battalion* has this invaluable aid; no longer does the battalion commander hope in vain for the brief use of a plane said to be on some distant airdrome "on call."

*c*. The training of observers presents no great difficulty, but they must be trained. They cannot be produced from a hat on the field of battle. Field artillery officers, well grounded in gunnery, should be selected for this duty, especially so in view of the fact that for its protection our flying OP will probably remain for the most part over our own territory. It will not always be possible for the observer to *estimate deviations in yards;* often he will have to *conduct the fire,* using axial methods.

*d*. The program herein presented contains little that is new, but much that remains unexploited. It has two essential features which urge its immediate adoption:

1. It provides a more nearly adequate quantity of air observation for field artillery;

2. It does this with the maximum economy of planes and men.

Few artillerymen will dispute the desirability of having one plane per field artillery battalion. To achieve this goal, we must train observers and procure planes and pilots in large numbers. Why not train, as observers, officers whose basic military education has included the technique of artillery fire? Why not use a light commercial airplane costing $1,500 in preference to a service-type observation plane costing twenty to thirty times as much? The little plane will do the job better, it can be maintained by one mechanic instead of requiring a crew of several, and it doesn't require an accomplished military combat pilot to fly it. Since these planes and the pilots to fly them are available in far greater than the required numbers, their use would release a corresponding amount of "military" plane production for pursuit and bomber types, and a corresponding number of "military" pilots to fly these heavier types. Our present observation aviation would then be freed to perform command, reconnaissance and photographic missions, for which purposes alone we do not have sufficient planes of this kind.

Why not use the resources we have?

We need not abandon any other measures now contemplated; the cost and the difficulties are small; in so simple a way we can insure the ability of our artillery to *shoot!*