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“The Development of an Unbeatable Combination” US Close Air Support in Normandy

B. Michael Bechthold

In the climactic scene of the highly-acclaimed *Saving Private Ryan*, the beleaguered Ranger and Airborne forces of Captain John Miller (Tom Hanks) are about to be overrun. Against overwhelming odds they have fought to save a crucial stone bridge over the Merderet River. It is a losing battle. With defeat imminent, the Americans retreat across the bridge and prepare to blow it. However, before that can happen, Captain Miller is shot and is unable to detonate the explosives. As a German tank rumbles across the bridge it appears all is lost. Then, in typical Hollywood tradition, the cavalry arrives - two P-51 Mustangs. With uncanny timeliness and pinpoint accuracy they knock out the German tank on their first pass without destroying either the bridge or the American infantry who are mere yards away.

Though this may be a fitting end to a very good movie, it is not representative of the capabilities of tactical air power, especially early in the Normandy campaign. Leaving aside the question of accuracy¹ the system of air support in place at the outset of the invasion was much too cumbersome to allow an intervention of this nature. The Americans went into Normandy with a system of Close Air Support (CAS) that was largely derived from the British experience in North Africa. It was based on the belief that centralized control of air assets was the most effective method of employment. However, following D-Day, the system in place was far too unwieldy to provide effect support. Over the next three months, most of the existing doctrine was effectively discarded. An air support organization emerged that was the complete antithesis to that with which the Americans had started. The

system which evolved proved to be highly effective, flexible and able to adapt quickly to a variety of situations.

The First Test: North Africa

The Americans started the war with a basic grasp of the tenets of CAS. The air and ground forces talked of close cooperation, but in reality they remained far apart in their visions of tactical air support. The first serious American attempt at producing a modern, workable tactical air doctrine came in April 1942 with the publication of War Department Basic Field Manual 31-35, "Aviation in Support of the Ground Forces." This manual provided sound principles to guide future air-ground operations. Unfortunately, FM 31-35 was to prove unsuccessful when given its baptism of fire in North Africa in late 1942.

Operation "Torch," the Allied invasion of North Africa in November 1942, brought the problems of conducting effective air support operations to light. Many of the notions, tactics and equipment the Americans had brought to North Africa were found to be unworkable, outclassed or obsolete. Light bombers, for instance, expected to perform the majority of close support work, were found to be terribly vulnerable to German air and ground defences. An attempt to fill this unexpected gap with the use of fighters met with another difficulty. Most fighter pilots were not trained in ground strafing and their aircraft were not fitted with bomb racks.²

Operations during November and December served to show that a large gap existed between American air doctrine and its practical employment. FM 31-35 seems to have been virtually discarded once actual operations began. Army Ground Force commanders moved quickly to assert their dominance over the Air Forces and received very little opposition. The *ad hoc* system which developed by the end of 1942 proved to be quite ineffective. But, there was hope on the horizon. The British system of CAS that evolved in the Middle East between General B.L. Montgomery, commander of 8th Army, and Air Vice Marshal Sir Arthur Coningham, commander of the Western Desert Air Force, had proven enormously successful. With no other alternatives, the Americans turned to the British for help.

In early 1943, Coningham was promoted to command the Northwest African Tactical Air Forces (NATAF) and he made his presence felt immediately. The NATAF was designed to provide air support to each of the three armies operating in Africa. No longer were his units *to* be used in defensive missions. The air umbrella was discontinued and the control of aircraft was removed from First Army and II Corps. Henceforth, all requests for air support had to be made through Coningham. Fighters and fighter-bombers began flying offensive missions aimed at destroying the Luftwaffe and gaining air superiority. As well, the emphasis on ground targets shifted. Tanks were declared to be unprofitable targets due to the difficulty, and expense, of attempts to destroy them. Instead, enemy troop concentrations and motor transport, targets well within the capabilities of the airmen, became the preferred targets.³ Though the changes took time to make an impact, the NATAF was to become a very effective force under Coningham's direction.⁴

Coningham and his NATAF were to have a significant effect on the development of American tactical air doctrine. Though it was true that American airmen had developed a sound doctrine of their own, they had been unable to convince the Army Ground Forces of the applicability of their ideas. As a result, the Air Force found itself being utilized by Ground Force commanders in a manner that did not take full advantage of the air weapon. This was where the British influence was critical. Coningham and Montgomery were

anointed as the creators of a revolutionary new system of air-ground cooperation. This was not quite accurate. Their ideas were not new, but they had been the first on the Allied side to implement the concepts successfully. The American airmen became disciples of the British doctrine, not because of its originality, but because they could use its success to convince the Ground Forces of the utility of the new doctrine, something they had hitherto been unable to achieve.

North Africa forced the Americans to overhaul their doctrine for air support. The result, published in July 1943, was War Department Field Manual 100-20, "Command and Employment of Air Power."⁵ The main ideas contained in FM 100-20 are explicitly stated in capital letters at the beginning of the manual:

LAND POWER AND AIR POWER ARE CO-EQUAL AND INTERDEPENDENT FORCES; NEITHER IS AN AUXILIARY OF THE OTHER...

THE INHERENT FLEXIBILITY OF AIR POWER IS ITS GREATEST ASSET. THIS FLEXIBILITY MAKES IT POSSIBLE TO EMPLOY THE WHOLE WEIGHT OF THE AVAILABLE AIR POWER AGAINST SELECTED AREAS IN TURN; SUCH CONCENTRATED USE OF THE AIR STRIKING FORCE IS A BATTLE WINNING FACTOR OF THE FIRST IMPORTANCE. CONTROL OF AVAILABLE AIR POWER MUST BE CENTRALIZED AND COMMAND MUST BE EXERCISED THROUGH THE AIR FORCE COMMANDER IF THIS INHERENT FLEXIBILITY AND ABILITY TO DELIVER A KNOCKOUT BLOW ARE TO BE FULLY EXPLOITED. THEREFORE, THE COMMAND OF AIR AND GROUND FORCES IN A THEATER OF OPERATIONS WILL BE VESTED IN THE SUPERIOR COMMANDERS CHARGED WITH THE ACTUAL CONDUCT OF OPERATIONS IN THE THEATER, WHO WILL EXERCISE COMMAND OF AIR FORCES THROUGH THE AIR FORCE COMMAND AND COMMAND OF GROUND FORCES THROUGH THE GROUND FORCE COMMANDER. THE SUPERIOR COMMANDER WILL NOT ATTACH ARMY AIR FORCES TO UNITS OF THE GROUND FORCES UNDER HIS COMMAND EXCEPT WHEN SUCH GROUND FORCES ARE OPERATING INDEPENDENTLY OR ARE ISOLATED BY DISTANCE OR LACK OF COMMUNICATIONS.⁶

The statements contained in FM 100-20 were a deliberate attempt to avoid the pitfalls experienced in North Africa. The co-equal status of the Army and the Air Force, the principle of centralized control and the flexibility of tactical air power are dominant themes in this manual.

FM 100-20 also introduced the concept of the prioritization of the missions of the tactical air force. The first phase of operations was to gain air superiority. Without this pre-condition, the operational advantage passed to the enemy. The second priority was interdiction or the prevention of hostile troops and supplies from moving within, or to, the battle area. Once these first two missions had been accomplished, attention could focus on third phase operations - the support of ground forces in the immediate battle area. The manual stated, "in the zone of contact, missions against hostile units are most difficult to control, are most expensive and are, in general, least effective. Targets are small, well-dispersed, and difficult to locate...Only at critical times are contact zone missions profitable."⁷

The arrangement of the three main missions of the tactical air force makes sense but only in a conceptual manner. The attainment of air superiority was an essential prerequisite for other close air support operations. However, the strict ranking of missions seemed to preclude the various operations from taking part along side each other. This, combined with the fact that close support of the army was relegated to third priority, left many army commanders wondering how committed the air force was to its support. This question could not be answered until the Allies turned their attention to continental Europe.

The acceptance of FM 100-20 did not happen immediately. The new manual caused quite a stir when it was published because there was no

consultation or approval sought from General McNair and the Army Ground Forces. This preemptive move, considered by some to be a "Declaration of Independence," tended to support the view that the Air Force had only its best interests in mind and FM 100-20 was merely an attempt to gain freedom of action from the Army. In spite of this opposition, the new doctrine quickly became part of the curriculum at Army ground schools.⁸

FM 100-20 provided the structure for the air support system that the Americans went with into Normandy. However, the limitations of this new doctrine were quickly exposed and within days of the invasion a new system began to evolve which proved very successful, but was quite a departure from FM 100-20.

Normandy and the Battlefield Evolution of Close Air Support

In the early morning of 6 June 1944 the Allies launched the largest amphibious landing in history. By the end of the day, a foothold on the continent had been achieved. However, it would take nearly two months of intense combat to break out of the beachhead and a further six weeks to send the Germans into a headlong retreat towards Germany. During this period, IX Tactical Air Command (IX TAC) in cooperation with the First United States Army (FUSA) evolved an effective system of close air support that greatly facilitated the winning of the war.

A P-47 Thunderbolt takes off from a frontline landing strip after being refuelled and rearmed by mechanics of the 9th Air Force Service Command. The strip is still in process of construction and work goes on despite aircraft landing and taking off.
(USAF Photo PRO HQ 44-1533)





Ninth US Air Force fighter pilots, operating from one of the first airstrips in Normandy, join an early morning chowline for breakfast. The flightline of P-47 Thunderbolts is visible in the background.

Representative on each ship acted as air advisor to the commanding generals of the army, corps and divisions engaged in operations. All air cooperation requests that were sent direct to Uxbridge by Air Support Parties attached to the troops ashore were to be monitored and those that were deemed unnecessary, wasteful or too dangerous, were vetoed. As well, the air representatives could originate air support requests and convey information on weather and the bomblines to the Air Force.¹¹ The Senior Air Representative also had a direct role to play in battle.

Upon arrival in the invasion area, American fighter-bombers were required to check in with the *Ancon* or *Bayfield* prior to executing their attack. This served two functions. First, it allowed the pilot to be briefed on the latest target conditions and to be given a final vector or visual landmark to the target. The second function was to provide the air representative the opportunity to divert aircraft to targets of greater importance. These usually consisted of fleeting targets of opportunity reported by air support parties or by tactical reconnaissance flights.¹²

The air support system created for the invasion was highly centralized. Primary control of the aircraft rested with the air commanders at Hillingdon House. The air representatives located on the headquarters ships exercised some mission control but were generally limited to providing pilots with a final briefing. The air support rendered during the landings would consist primarily of pre-arranged missions. Though the British did not employ their Visual Control Posts during the actual assault, the Americans sent their equivalent Air Support Parties ashore with each of the Regimental Combat Teams. However, the role of these parties was to be extremely limited. The ASPs were prohibited from using their VHF radios to contact aircraft overhead unless they received prior authorization to do so. The restrictions on communications were so severe that the ASPs were not even permitted to signal aircraft that were attacking friendly troops or attacking the wrong target. The rationalization behind these

During the planning for Operation "Neptune," special arrangements were made for the control of aircraft on tactical air missions. Hillingdon House in Uxbridge, England became the focal point for these operations. A key component of this control centre - the Operations Cell - was responsible for the coordination of close air support. It received requests from US Air Support Parties and British Visual Control Posts or from ground commanders directly. These requests were evaluated and either refused or passed on to the appropriate air operations room. The Operations Cell also had the authority to develop air support missions on its own initiative and was responsible for setting and adjusting the bomblines based on information provided by the other two cells. The facilities at Hillingdon House comprised the U.K.-based half of the air support system.⁹

In many respects, the duties of the Combined Control Centre at Uxbridge were duplicated onboard the headquarters ships *USS Ancon* and *USS Bayfield* off the French coast.¹⁰ The principal role of the air representatives on board was to direct offensive air operations in support of the army on the beaches. The Senior Air

orders is not immediately understandable but historian W.A. Jacobs postulates that the Air Force did not want their forward attack control to develop into target control, and thus erode the doctrine which espoused a centralized system of air support.¹³

The first targets hit by the fighter-bombers of Ninth Air Force on the morning of 6 June were two coastal gun batteries, six bridges and a rail embankment. The gun batteries, located behind Omaha beach at Maisy and Gefosse-Fontenay, were capable of disrupting the American landings. The result of the air strikes, by 18 and 15 aircraft respectively, were reported as "good" and "excellent." The bridge-busting attacks in the Cherbourg Peninsula destroyed three of the targets and registered hits on the remaining spans.¹⁴

Following the completion of the pre-arranged support on D-day, the fighter-bombers of the Ninth Air Force were made available to meet any immediate needs of the Ground Forces. The plan called for at least one squadron to patrol each beach throughout the day. They were under the control of the headquarters ships which could direct them to targets impeding the advance of

the troops. If no requests had been received by the end of the patrol, the squadrons had orders to attack pre-arranged targets before heading home.¹⁵ During the afternoon and early evening of 6 June, 13 requests were made. Five were refused for various reasons including weather, impending darkness, the unavailability of aircraft and coverage by other missions. The remaining eight requests were accepted and a total of 11 missions resulted. The majority of the missions were directed against gun batteries near Carentan, Maisy, Isigny and Bayeux. The importance of these targets prompted Major-General Leonard T. Gerow, Commanding General V Corps, to contact the headquarters of Ninth Air Force personally and request, "continuous fighter bomber support to search out and attack enemy artillery firing on the beaches."¹⁶ This entreaty was fully endorsed by General Elwood R. Quesada, Commander of IX TAC. A series of attacks on the coastal batteries resulted in numerous direct hits being reported and the missions were considered to be generally successful. Other request missions carried out included armed reconnaissance of the three main roads leading from Coutances, and attacks on a number of convoys, trains and other targets of opportunity.¹⁷

Ground crew refuel and rearm a P-47 in preparation for another sortie in Normandy.



The request missions flown on the first day of the invasion were quite successful. However, even at this early stage a number of problems were apparent. As the official Air Force History states, "The first day's experience disclosed that the control mechanism centred at Uxbridge, however logically it may have been planned, was too involved in operation for the speedy provision of air support."¹⁸ Though the Overlord plan called for a continuous rotation of alert squadrons, these proved insufficient to meet the needs of the situation. A greater number of squadrons had to be put at the disposal of the air representatives on the headquarters ships. This problem was compounded by a number of communications difficulties. The VHF radios sent ashore with the ASPs (SCR-284s with a maximum range of 25 miles) could not reach the Combined Control Center at Uxbridge. As a result, their requests had to be passed on by the headquarters ships. As well, there were intermittent communications failures on board one of the headquarters ships.¹⁹

These problems resulted in an expeditious reorganization of the air support system shortly after the invasion. To streamline the system of target selection, the Senior Air Representative aboard the headquarters ships *Ancon* was provided with a greater number of alert squadrons to which he could assign targets based on requests from Air Support Parties, tactical reconnaissance reports and other sources. The Senior Air Representative could also direct the squadrons to undertake armed reconnaissance behind the German lines to seek targets of opportunity.²⁰

In the initial period following the invasion, tactical air operations continued in the pattern set on D-day. The number of air support requests increased gradually, but mission acceptance depended on the weather. Air operations were severely limited by weather on 8 June and totally scrubbed the next day. It must be remembered that all Ninth Air Force fighter-bombers were based in England during this period. Good weather was needed on both sides of the Channel for operations to be carried out. Weather became less of a problem once a significant number of fighter-bomber groups were moved to France, however, it always remained a factor.²¹

On 10 June the second step towards a more decentralized air support system was taken. On

that day, Ninth Air Force issued General Order No.158 which authorized IX TAC to assume operational control of all fighter-bombers arriving on the continent. This did not mean much at that point since no groups were yet based in France. There were, however, a number of operational airfields used by aircraft on roulement, a technique which allowed aircraft to take-off in England, carry out a mission and then land at one of the French airstrips to refuel and rearm and then fly another mission. The fighter-bombers would continue to stage out of France until the end of the day when they would return to England for the night. Roulement allowed for a much shorter turnaround time between missions than if they had to return to England following the expenditure of their bombs, fuel and ammunition.²²

The activation of Advanced Headquarters, IX TAC, along with the 70th Fighter Wing at Au Gay, France marked the beginning of the transition period from the assault air support organization to a close partnership between IX TAC and FUSA. The headquarters of FUSA was located only a hedgerow away from that of IX TAC. On 13 June, IX TAC began to exercise operational control through the 70th Fighter Wing but it was five days later that the organization gained its relative independence. Until that time all air support requests continued to go to Uxbridge. This soon changed:

Effective midnight 17-18 June this Headquarters [IX TAC advanced] in conjunction with 1st Army will assume responsibility for designating bomblines. Will also assume responsibility for operating Air Support Net. Submitting those requests that cannot be met by local resources to Ninth AF.²³

This marked a major change in the provision of close air support. First Army would now have to go no further than a couple hundred yards to the control centre where air support was arranged. The Advanced Headquarters of IX TAC assumed control for filtering and acting upon air support requests. Ninth Air Force would only be involved in the process if IX TAC could not meet the requests with the aircraft at its disposal. Generally, this meant the use of medium bombers. For those additional resources, requests would continue to go to Hillingdon House.²⁴

The activation of the combined IXTAC-FUSA headquarters on 17 June marked the start of the decentralization of the assault air support system. By the time of the operation to capture the Cherbourg Peninsula, the joint headquarters was in operation processing air support requests. However, it did not reach full stride until early July. At its heart was the combined operations room which acted as a collection point, filter and action centre for all air support requests. Three types of requests were processed: planned missions, request missions and immediate request missions.

Planned missions were defined as sorties to be flown the next day or on succeeding days. They originated with the ground forces at either the divisional or corps level. Request missions were required on the same day, but the exact timing was not crucial. These requests followed the same channels from the division or corps to the combined operations room. The decision on the request was sent back along the communications network to keep the originating unit informed.²⁵

An immediate request mission was required as "soon as possible" (SAP) and action on the request took priority over other activities. The request was sent directly from the Air Support Party Officer (ASPO) at Division or Corps to the FUSA G-3 Air. This process could be expedited by the diversion of airborne aircraft from less important targets or by keeping aircraft and crews on a high state of readiness at their airfields. General Quesada reported that in most cases, missions requested SAP required 60-80 minutes from the time of the request until the arrival of aircraft over the target.²⁶ Air support request records for the first week in July reveal that the response times were much longer. On average it took 88 minutes from the time a request was submitted until the ground unit received notification on the status of the request. Aircraft did not actually reach the target until an average of nearly four hours after the request was made. This, however, was a huge improvement compared to the period immediately following D-Day when SAP missions were not a realistic option. As the month of July progressed, the number of SAP missions recorded in the daily operational summaries declined significantly while the response times improved. The decline in SAP missions was not due to a reduced need for air support but rather was caused by a shift

in policy. As the campaign progressed the improved communications facilities combined with more experienced personnel to allow low priority planned missions and armed reconnaissance flights to be diverted and briefed in the air to meet SAP target requests. Following Operation "Cobra," SAP missions disappeared completely from the mission records as they were replaced by armoured column cover and armed reconnaissance flights.

The Air Support Parties, discussed above, were an integral component of the air support system. The principle role of the ASP was to act as the conduit for all ground force air support requests. The ASPO worked closely with both the G-3 Air and the commander of the unit to which he was assigned. As a qualified flying officer, the ASPO brought with him an intimate knowledge of the capabilities and limitations of close support aircraft. In this capacity the ASPO acted as the Air Commander's representative on the division or corps staff. He advised the Ground Force commander on all matters pertaining to air support, in particular, the suitability of targets selected for attack.²⁷ The ASP was equipped with a complete communications system to relay requests to the combined control centre.

In the period following the capture of Cherbourg the Army and Air Force moved towards closer cooperation. By the middle of July it was standard practice for incoming flights to contact the ASPO about five minutes before they reached the target area. This allowed the pilots to be briefed on the latest target intelligence and be informed which coloured smoke would be used. Once the attack had been completed the flight or squadron leader would radio the results of his attack to the ASPO and thus provide the Army with the most up-to-date intelligence.²⁸ The principle advantage of this evolution, or maturation, of the air support system was increased flexibility. No longer was it necessary to provide the pilots with a detailed pre-flight briefing. It was now possible for missions to be arranged very quickly, even while the aircraft were in the air. The pilots could be contacted by the ASPO and briefed on the location and nature of the target. When the aircraft arrived in the general area, the artillery would mark the exact targets to be attacked. This was a significant change from the manner in which operations were conducted during the early days of Overlord.

The full capabilities of the evolving air support system were shown by an incident which occurred on the evening of 17 July. In the push to capture St. Lo, the 116th Infantry Regiment of the 29th Division found itself low on ammunition and facing a strong German counterattack. The first small probing attacks were repulsed with the aid of artillery fire, but a force of enemy tanks could be seen preparing for a renewed assault. At about 2000 hours a request for air support was sent to IX TAC. The call was answered in just over an hour by a squadron of Thunderbolts from the 404th Fighter Bomber Group based at Airfield A-5 in Chippelle, France. The pilots received their final briefing in the air from the ASPO of the 29th Division, Major Horace B. Wetherall, and spent 60 minutes over the target area bombing all potential targets. The air strikes were made immediately in front of the American lines and numerous German soldiers ran into the American lines to avoid being bombed. Though the pilots reported seeing no tanks and claimed bomb hits on only one vehicle and a house, Major-General C.H. Gerhart, Commanding General, 29th Infantry Division, credited the attacks with a major role in repelling the counterattack. It was through the close coordination between the squadron and the ASPO that the pilots were quickly briefed and kept informed of the American positions so they could make their attacks dangerously close to the troops they were protecting.²⁹ The support of the 29th Division by IX TAC was just one of six missions flown in support of XIX Corps on 17 July.³⁰

At 0938 hours on 25 July attacks by eight squadrons of Ninth Air Force fighter-bombers opened Operation "Cobra," a major offensive designed to crack through the main line of German resistance. The fighter-bomber target was the slender band immediately opposite the

American troops poised to attack. This area, south of the St. Lo-Périers highway, was 250 yards wide and 7,000 yards long. The fighter-bombers were followed by heavy and medium bomber attacks. They saturated the target area, extending 1500 yards beyond the fighter-bomber target area. Unfortunately there were short bombings which caused over 600 friendly casualties and a great deal of disorganization among the waiting troops.³¹

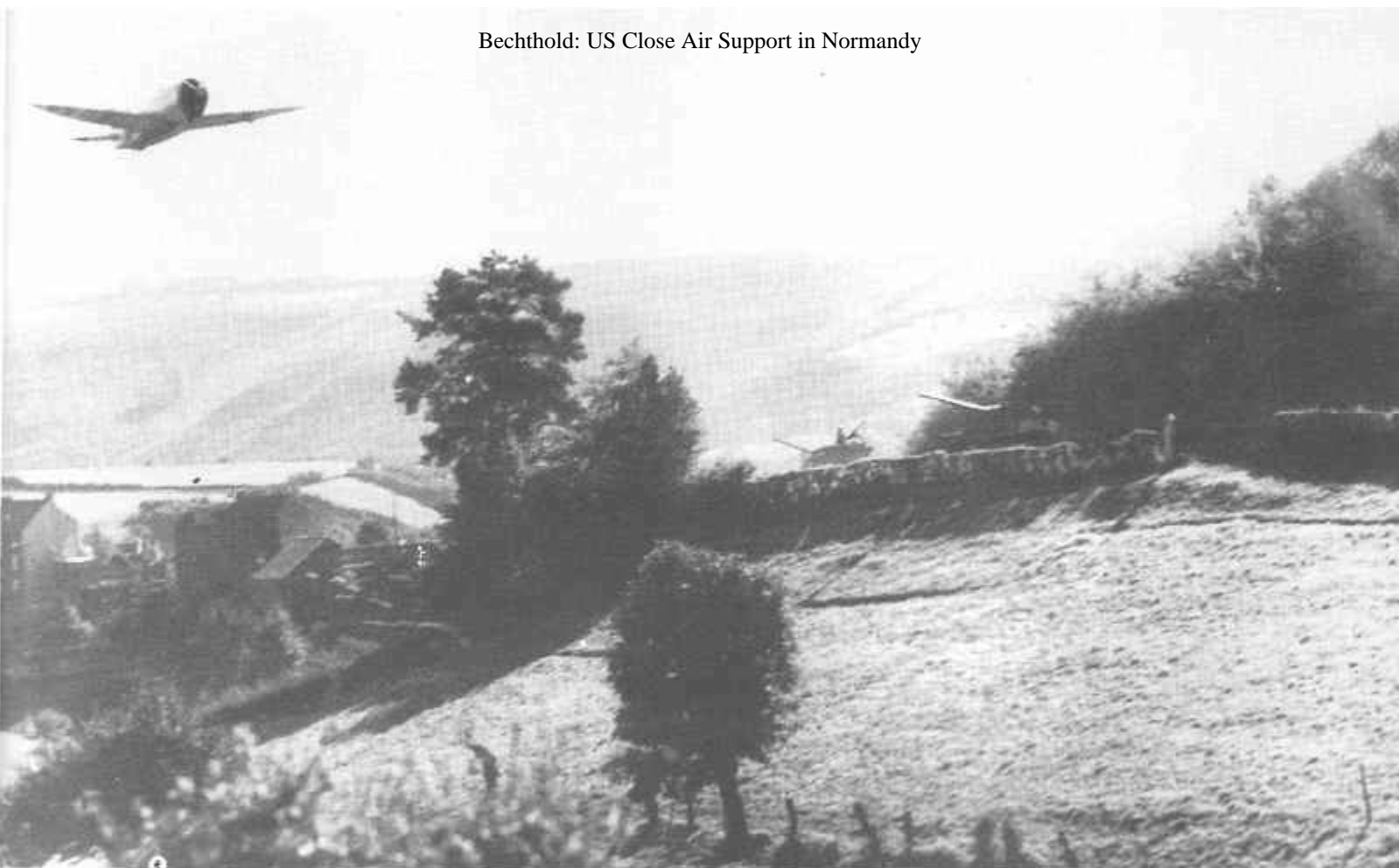
Despite the confusion, the ground attack began only slightly late, at 1100 hours. At the same time, a second wing of fighter-bombers commenced its attacks. It concentrated the attack on the same strip of land. IX TAC judged the results of its missions to be "excellent and beyond our expectations."³²

Following the initial fighter-bomber attacks, units of IX TAC were allocated to support VII Corps for the remainder of the day. A number of immediate request missions were flown against ammunition and petrol dumps, troop concentrations, and gun positions. Two church steeples being used as observation posts by the Germans were destroyed. A number of armed reconnaissance and interdiction missions were also carried out to engage and destroy a variety of targets ranging from motor transport, tanks, and horse-drawn vehicles to a number of bridge and railway targets. At the end of the day, P-47s from the 366th and 368th Fighter Groups deployed a series of delayed action bombs on the crossroads around Coutances. The bombs were fused to detonate after one to twelve hours in the hope of disrupting German convoys using the cover of darkness.³³

"Cobra" was the turning point in the Normandy campaign. The massive bombardment paved the way for the breakout by the US armoured divisions and forced the Germans to re-evaluate their position in France. This was recognized within days by FUSA. On 28 July, Bradley wrote to Eisenhower to express his optimism:

Major-General Elwood "Pete" Quesada (right) sits in a jeep with Air Chief Marshal Sir Trafford Leigh-Mallory during a visit to a 9th Air Force station in Normandy.





A P-47 flies low over the tank column it is supporting.

USAF Photo AC55245

To say that the personnel of the First Army Headquarters is riding high tonight is putting it mildly. Things on our front really look good...

This operation could not have been the success it has been without such close cooperation of the Air. In the first place, the bombardment which we gave them last Tuesday [July 25] was apparently highly successful even though we did suffer many casualties ourselves. The cooperation of Quesada's IX TAC Air Command has been outstanding. He has kept formations over the advancing columns continuously.³⁴

Bradley alludes to the introduction of a new tactic in the provision of close air support which changed the pattern of operations - Armoured Column Cover (ACC).

The planners of Operation "Cobra" were concerned that they could not provide close air support to the mobile tank columns once they had broken through. To that point in the campaign, the most effective air support was during periods of static warfare. The relatively slow speed with which air support requests were processed could make them out of date by the

time the aircraft reached the target area. The request system had to adapt to a rapidly changing environment.

By most accounts it was General Quesada who came up with the idea for ACC.³⁵ He had to persuade Bradley to assign him a Sherman tank so he could conduct tests to determine the feasibility of the concept. It took a while for IX TAC to get its tank. The first tank was mistakenly delivered to the 9th Armoured Division by an ordnance officer who believed that the destination "IX TAC" on his orders was a typo. On the second try at delivery, the tanks were refused at IX TAC headquarters by an Air Force officer who was unaware of Quesada's plan. It took a third attempt before the situation was straightened out.³⁶ The concept of ACC was tested starting on 19 July when a team from IX TAC arrived with their modified tank at 2nd Armoured Division's Combat Command A to begin trials. Within a week the new technique had been proven and was ready for operational deployment.³⁷

The concept of armoured column cover was simple. An army crew manned a Sherman tank which contained a VHF radio (type SCR 522) run by a division air support party officer. This tank operated at the front of an advancing armoured column. In support of the column, and in direct contact with it, was a flight of four fighter-bombers. The air-ground team worked very closely together. The tank commander benefitted from the air cover in two ways. First, he could use the aircraft as an immediate source of information. The pilots could be asked to scout ahead of the column and locate areas of enemy resistance. The pilots would also communicate anything they saw that could be a possible hazard to the ground forces. The second, and more revolutionary innovation of ACC was the delegation of target control to the commander of the armoured combat command. Any targets that blocked the path of the armoured column could be assigned to the orbiting aircraft. These targets would then be immediately attacked. If the target was larger than the flight could handle or if the aircraft expended their bombs, ammunition or fuel, additional aircraft could quickly be summoned. Successive flights of aircraft would provide cover during daylight hours for the column. Each flight would remain on station for 30 to 90 minutes. It would then be replaced by another flight. Besides answering the requests of the armoured column, the ACC flight was free to seek out and destroy targets of opportunity.³⁸

Armoured column cover was used for the first time on 26 July, the day after the launch of "Cobra." On that day 75 ACC missions were dispatched comprised of over 300 aircraft. Only three did not complete their missions. The next day an even greater effort of over 100 missions was mounted.³⁹

The scale of air effort put forth by IX TAC in the period following "Cobra" was enormous. From 26 July to 31 July, the Command executed 9,185 sorties. To put this effort in perspective, the average number of sorties per day during the month of July was 489. Following "Cobra" an average of 1,312 sorties were flown each day. A significant proportion of those sorties were committed to ACC.⁴⁰

From the start, ACC was very well received by both the air and the ground. Lieutenant-Colonel James L. Zimmerman was an Air

Support Party Officer attached to Combat Command A of the 2nd Armoured Division from 22 July to 6 August 1944. During his time with the division he was very impressed with the results obtained through the use of ACC. He compared the role of the ASPO to that of the artillery forward observer. The commander of Combat Command A, Brigadier-General Maurice Rose, was very skeptical of the role of close support aircraft after being bombed repeatedly by friendly aircraft in Italy. However, Zimmerman reported that in his experience the accuracy of the supporting fighter-bombers had been excellent. He attributed the success to the ability of the ASPO to direct the aircraft right onto the target.⁴¹ The G-3 Air of FUSA was equally lavish in his praise of ACC. He credited the new system with the destruction of over 2,000 motor vehicles, 200 tanks and 80 artillery pieces in the first week following its implementation. As well, ACC was responsible for disrupting the movement of German reserves, destroying the retreating columns and ensuring the continued success of the breakthrough.⁴² The FUSA Report on Operations stated that ACC produced results, "far beyond all expectations..."

The results obtained by the employment of the tank-air team in mobile, fast moving situations are recognized as being an outstanding achievement in air-ground cooperation and represent the development of an unbeatable combination.⁴³

The Ninth Air Force was no less ebullient in its praise of ACC:

...the outstanding development in connection with the rendering of direct support by the Ninth Air Force has been the establishment of full cooperation between Fighter Bombers and armoured columns.⁴⁴

Close cooperation between the air and ground became the norm rather than the exception. On 27 July, Combat Command B of 2nd Armoured Division was racing south in an attempt to encircle the retreating German forces. The spearhead was being led by the 82nd Reconnaissance Battalion. In general, light resistance was being met. However, at the town of Quibou a German roadblock was encountered. In a model of combined operations, a detachment from the reconnaissance unit kept pressure on the front of the position while another detachment attempted to outflank it. They



*Scenes of destruction in the Roncey Pocket. **Top:** A German half-track (likely overturned by aerial bombs) and a knocked-out Panzer Mark IV tank bear silent witness to a row of German graves. **Above left:** A French farm cart and an American dispatch rider pass by smashed German transport just outside of Roncey. **Above right:** Wrecked German armour and transport in the square at Roncey.*

received artillery support from the self-propelled guns of the 78th Armoured Field Battalion and air support from a squadron of IX TAC P-47s tasked to fly ACC for Combat Command B. German resistance crumbled in the face of this concerted attack.⁴⁵

Numerous accounts attest to the effectiveness of ACC. In one case a single Sherman tank found itself surrounded by 13 German tanks. Its call for help was quickly answered by a flight of four Thunderbolts. The air attacks were able to distract the German armour long enough to allow the Sherman to beat a hasty retreat.⁴⁶ In another incident, tanks of Combat Command A, 2nd Armoured Division were blocked by a German force located nearby. The divisional ASPO contacted IX TAC flight located overhead to request an attack. The aircraft made repeated passes over the target, so close that it made the ASPO very nervous. However, he reported that, "not a single bullet hit our tanks, and the resistance was knocked out."⁴⁷

Tactical air operations in the period following the breakout were not limited to ACC missions. There were still a wide variety of missions taking place including planned, request and armed reconnaissance missions. The request missions most often originated with infantry divisions that were not accorded the privilege of ACC. This was partly due to the fact that aircraft were busy with other tasks, but the primary reason infantry divisions did not get ACC was the belief that their air support needs could be met through other channels. There is no doubt that the infantry commander would have loved to have the flexibility imparted by ACC, but in most situations infantry actions were of a more static nature than armoured operations. As a result time was not as critical a factor and most air support needs could be met through the established planned and request channels.

An example of the symbiotic nature of the air and the ground forces occurred on the afternoon of 29 July. The lightning advance of

2nd Armoured Division's Combat Command B had allowed it to outflank the German forces in the Roncey area by the night of 28 July. This placed the unit directly in the path of the retreating German forces. With pressure from the north applied by the 3rd and 4th Armoured Divisions, the Germans found themselves in danger of being cut-off. During the night they tried to break free but were unable to get by the cordon set up by Combat Command B. The next day a flight from the 405th Fighter Bomber Group on an armed reconnaissance mission found a huge concentration of German traffic, in places bumper-to-bumper, lined up around Roncey trying to escape the pocket. One pilot estimated there were an estimated 500 vehicles trapped. Between 1510 and 2140 hours aircraft from IX TAC took turns attacking the mass. It was described as a "fighter-bomber's paradise." To add to the chaos, American artillery, tanks and tank destroyers fired at the trapped enemy. When it was all over, any chance at a German breakout had evaporated. A ground investigation later found over 100 tanks and 250 other vehicles in various stages of destruction and scores more abandoned intact. The reduction of the enemy forces in the Roncey pocket was accomplished by a combination of air attack, direct anti-tank fire and indirect artillery fire. Cooperation between the air and the ground could achieve results that neither could accomplish on their own.⁴⁸

In August, close air support continued to be the primary focus of operations by IX TAC. It is notable that IX TAC played a major role in stemming the German counterattack at Mortain in the second week of August, and then contributed a large number of sorties to the destruction of German forces trapped in the Falaise-Argentan pocket. These operations were a crucial component of the Allied success in Normandy, and they showed the growing ease with which the Ground and Air Forces worked together. There were no major advances in the system of cooperation in August, only a growing competence within the existing system.

Conclusion

Prior to the start of operations in Normandy, a doctrine for air support evolved from American prewar ideas of tactical air power, and

the experience of the North African campaigns. The result was FM 100-20. Normandy showed how difficult, if not impossible, was the task of translating doctrine into practice. The general framework was useful, but experience rather than doctrine became the engine which drove improvements in the system of tactical air support used by First US Army and IX TAC.

The Americans began the Normandy campaign with a system of air support that was very centralized. All requests for air support had to be routed through headquarters in England. The system was so strict that Air Support Parties were prohibited from speaking directly to aircraft overhead. As operations progressed and the level of experience grew the system was gradually decentralized. In return, the quality of support increased. The pinnacle of decentralization was reached with the introduction of Armoured Column Cover after Operation "Cobra." Air support requests no longer had to be sent back to a combined operations room but could be immediately filled by a flight of aircraft working closely with the armoured unit below. The concept of ACC went against many of the principles contained in FM 100-20. Although the air commander retained overall control, individual ACC missions were used in the "penny-packet" manner condemned in North Africa. As well as primarily operating in the zone of contact where FM 100-20 considered activity to be unprofitable, ACC went against the doctrine and delegated mission and target priorities to the local ground force commander.

Conditions, however, had changed substantially since 1942-1943. Vast improvements in communications, control mechanisms, aircraft and coordination between ground and air units now made ACC a viable mission. It should be noted that ACC, though a type of combat air patrol, was very different from the defensive missions flown in North Africa. ACC was by definition offensive in nature. Rather than waiting for the enemy to come to them, aircraft on ACC missions sought out their targets. In many cases the defensive patrols in North Africa intercepted no enemy aircraft or were otherwise ineffective. The great value of ACC was two-fold - first was its ability to provide timely information to the ground forces. The benefits of having an eye-in-the-sky in close communications cannot be underestimated. Secondly, putting aside

successes such as the Roncey Pocket, ACC was most effective in suppressing, rather than destroying, the enemy. Aircraft such as the Thunderbolt carried great destructive power in the form of bombs, rockets, napalm and machine guns, but rarely were they able to focus this power in the manner that has been credited to them. The effectiveness of ACC accrued from the close partnership of air and ground forces. When an armoured column found its way blocked, its ability to proceed depended on the timely intervention of air power which more often than not would mask rather than destroy an enemy position allowing the ground forces to either bypass, or close and destroy the position.

While the doctrine of close air support was changing, so too was the playing field. In North Africa the Luftwaffe was a significant factor. In Normandy it was not. In North Africa the Allies were chronically short of aircraft, men, supplies and other essentials. In Normandy, by the standards of 1942-43, there was an abundance of almost everything. These two factors alone accounted for much of the change. It was also significant that the Air Force no longer considered it probable that it would be engulfed by the Army. The air force was prepared to endorse a more decentralized air support system (ie. a system over which they exercised less control) in order to improve its efficiency. By no accounts had the perfect air support system been created by the end of the fighting in Normandy. What had evolved, however, was an efficient system that allowed the Air and Ground Forces to form an effective working relationship. Neither side completely abandoned its hopes for dominance or independence, but together they had learned, under less-than-ideal circumstances, how best to work together.

Notes

1. The accuracy of fighter-bombers in the Second World War has often been overstated. The odds of hitting small targets (ie. tanks) on the battlefield using bombs and rockets was quite small. For a more detailed examination of this question based on primary documents, see Terry Copp, ed. *Operational Research in 21 Army Group* (Waterloo: LCMSDS, forthcoming 1999).

2. Daniel R. Mortensen, *A Pattern for Joint Operations: World War II Close Air Support: North Africa* (Washington, DC- US Government Printing Office [USGPO], 1987), p.62.
3. George F. Howe, *Northwest Africa: Seizing the Initiative in the West*. The United States Army in World War II, The Mediterranean Theater of Operations (Washington DC: USGPO, 1957), p.493.
4. David Syrett, "The Tunisian Campaign, 1942-1943." in *Case Studies in the Development of Close Air Support*, edited by B.F. Cooling (Washington DC: USGPO, 1990), p. 184.
5. Robert Frank Futrell. *Ideas, Concepts, Doctrine: A History of Basic Thinking in the United States Air Force 1907-1964* (Alabama, 1980 (1971)), p.85.
6. War Department Field Service Regulations FM 100-20, *Command and Employment of Air Power*. Washington, 21 July 1943. (LCMSDS Roll A1927, frames 1720-1736).
7. FM 100-20.
8. Mortensen, p.79, Futrell, p.69 and James A. Huston. "Tactical Use of Air Power in World War II: The Army Experience," *Military Review*. July 1952, p.34.
9. Robert H. George, "Memorandum: Direct Air Support," Headquarters Ninth Air Force. 29 June 1944. (LCMSDS roll B5725), Robert H. George. *Ninth Air Force, April to November 1944*, Army Air Forces Historical Study No.36. October 1945, pp.56-59. (LCMSDS roll K1005)
10. USS *Ancon* was the headquarters ship for the V US Corps and 1st US Division of the Omaha assault force, and USS *Bayfield*, the headquarters ship for the VII US Corps and 4th US Division of the Utah assault force. George, *Ninth Air Force, April to November*, p.25.
11. "The Effectiveness of Third Phase Tactical Air Operations in the European Theater. 5 May 1944 - 8 May 1945." Prepared by the Army Air Forces Evaluation Board in the European Theater of Operations [AAFETO], August 1945. pp.48-49. (LCMSDS roll A1174) and "Overlord: Direct Air Support." Headquarters 21 Army Group. 23 April 1944. p.3. (LCMSDS roll B5725)
12. Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 June 1944 to 30 June 1944. ca. 15 July 1944. p.2. (LCMSDS roll B5849)
13. "Overlord: Direct Air Support." Headquarters 21 Army Group. 23 April 1944. p.2, and W.A. Jacobs. "The Battle for France, 1944." in *Case Studies in the Development of Close Air Support*, Cooling, éd., p.254.
14. "Ninth Air Force Invasion Activities, April Thru June 1944." Headquarters, Ninth Air Force. 17 February 1945. pp.46, 48-49 & 52. (LCMSDS roll B5593)
15. George, *Ninth Air Force, April to November*, p. 14.
16. Wesley Frank Craven and James Lea Cate, editors. *The Army Air Forces in World War II*. Volume 3: *Europe: Argument to V-E Day, January 1944 to May 1945* (Chicago: The University of Chicago Press, 1951), p. 196.
17. "Ninth Air Force Invasion Activities," p.53, and "A Record of Air Support Request Missions flown at 21 Army Group and Army Request." n.d. (LCMSDS roll B5725)
18. Craven and Cate, III, p. 194.
19. "Ninth Air Force Invasion Activities," p.53 and Jacobs, "The Battle for France, 1944," pp.256-257.
20. "Ninth Air Force Invasion Activities," p.53.
21. "A Record of Air Support Request Missions flown at 21 Army Group and Army Request." n.d. (LCMSDS roll

- B5725) and Robert H. George. "Memorandum: Weather and Air Operations: 6 June to 23 July 1944." Headquarters Ninth Air Force. 24 July 1944. (USAFHRC roll B5745)
22. George, *Ninth Air Force, April to November*, p.97, and Craven and Cate, III, p.204.
 23. TWX [Teletypewriter Exchange] Adv 9 TAC, 17 June 1944 contained in George, "Direct Air Support."
 24. Deputy Chief of Staff, Operations Journal. Headquarters Ninth Air Force. 16 June 1944.
 25. "Standard Operating Procedures for Air Support Parties." pp.46-47.
 26. Col. E.L. Johnson, "Air Support Report." 6 August 1944, contained in *Air-Ground Joint Operations*. Headquarters First U.S. Army G-3 Air Section and Headquarters IX Tactical Air Command, n.d. p.4, (LCMSDS roll B5724); "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944," ca.15 August 1944. (LCMSDS roll B5849), pp. 13-14, and "Standard Operating Procedures for Air Support Parties." IXTAC Memorandum No.20-2. Headquarters IX Tactical Air Command. 3 August 1944, contained in *Air -Ground Joint Operations*. HQ FUSA G-3 Air Section and HQ IXTAC, n.d. pp.46-47.
 27. "Standard Operating Procedure for Air Support Parties," p. 44.
 28. Colonel Edwin L. Johnson. "Information regarding Air-Ground Joint Operations." HQ FUSA, G-3 Air Section. 16 July 1944 contained in *Air-Ground Joint Operations*. HQ FUSA, G-3 Air Section and HQ IXTAC, n.d. pp.32-33; Johnson, "Air Support Report," p. 1.
 29. *St. ho, 7 July -19 July 1944*. American Forces in Action Series (Washington DC: USGPO, 1984 (1946)), p. 110; Martin Blumenson, *Breakout and Pursuit*. (Washington DC: USGPO, 1970(1961). p.167; Craven and Cate, III, pp.206-207; FUSA and IXTAC Air Support Requests for 17 July 1944; and Major General C.H. Gerhart. "Close Support of an Infantry Unit," Headquarters 29th Infantry Division. 18 July 1944 contained in AAF Evaluation Board. "Report on Tactical Air Cooperation, Organization, Methods and Procedures with Special Emphasis on Phase III Operations." 31 July 1945. p.71 (LCMSDS roll A1174)
- It should be pointed out that in Craven and Cate this incident is incorrectly stated to have occurred on 15 June rather than 17 July.
30. IX TAC flew a total of 45 missions on 17 July. Four were 1st phase, 27 were 2nd phase and 13 were 3rd phase missions. An additional 20 missions (primarily 3rd phase) were cancelled as a result of poor weather or because they were improper requests. [First Army and IX TAC Air Operations Summary for 17 July 1944.]
 31. "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944." pp.2-3., and Blumenson, pp.235-236.
 32. "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944." p.3.
 33. "First Army and IX TAC Air Operations Summary for 25 July 1944." (LCMSDS roll B5860)
 34. Bradley to Eisenhower, 28 July 1944 on Cobra. Bradley Papers, USAMHI, Correspondence with Famous Persons, Eisenhower File. Quoted in Russell F. Weigley, *Eisenhower's Lieutenants: The Campaign of France and Germany 1944-1945* (Bloomington: Indiana University Press, 1981), pp.161-162.
 35. Craven and Cate, III, pp.238-239, Weigley, p. 165, and Brereton, *The Brereton Diaries*, p.311. General Bradley claims in his autobiography that he came up with the ACC concept during a conversation with Quesada. Omar N. Bradley, *A Soldier's Story* (New York: Henry Holt and Co., 1951), p.337.
 36. Bradley, *A Soldier's Story*, p.338, Craven and Cate, III, pp.238-239, Weigley, p. 165, and Lewis H. Brereton. *The Brereton Diaries: The War in the Air in the Pacific, Middle East and Europe, 3 October 1941 -8 May 1945*. New York: Da Capo Press, 1976 (1946). p.311.
 37. Michael D. Doubler, *Closing with the Enemy: How GIs Fought the War in Europe, 1944-1945* (Lawrence, Kansas: University of Kansas, 1994), p.69.
 38. Johnson, "Air Support Report," pp. 10-11; "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944," p.5; Major Brody. "Air Support of Ground Force Operations." Immediate Report No.30. (Combat Observations). Headquarters Twelfth Army Group. 25 August 1944. (LCMSDS roll B5059)
 39. "First Army and IX TAC Air Operations Summary for 26 July 1944," and "First Army and IX TAC Air Operations Summary for 27 July 1944," (LCMSDS roll B5860)
 40. "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944," pp.5 & 10.

The average figure for July is a little misleading due to the fact that there were many days when air operations were limited or cancelled due to the weather. As a result the number of sorties flown per operational day would be somewhat higher. However, against that it must be considered that during the intense operations in late July there were no down days to allow pilots to be rested and aircraft serviced. Reconnaissance flights are not included in these figures.
 41. Lieutenant James L. Zimmerman. "Air Support of Armoured Columns." Immediate Report No.46. (Combat Observations) Headquarters Twelfth Army Group. 3 September 1944. (LCMSDS roll A5059)
 42. Johnson, "Air Support Report," p. 1.
 43. *First United States Army Report on Operations, 20 October 1943 to 1 August 1944*. p. 121 (Wilfrid Laurier University microfilm D769.26 1st U5)
 44. "Report on Activities of Ninth Air Force for Period 6 June - 20 August 1944." Report to Major-General Kuter. 27 September 1944. p.6. (LCMSDS roll B5636)
 45. Blumenson, *Breakout and Pursuit*, pp.272-273.
 46. "Unit History, IX Fighter Command and IX Tactical Air Command Covering Period 1 July 1944 to 31 July 1944," p.5.
 47. Zimmerman, "Air Support of Armoured Columns."
 48. Craven and Cate, III, p.242; Blumenson, *Breakout and Pursuit*, pp.277-279.
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