The views expressed in this paper are those of the author and do not necessarily reflect the views of the Department of Defense or any of its agencies. This document may not be released for open publication until it has been cleared by the appropriate military service or government agency.

STRATEGY RESEARCH PROJECT

# NORMANDY BREAKOUT: STRATEGIC DECISIONS AND LEADERSHIP ACTIONS IN OPERATIONS GOODWOOD AND COBRA

BY

LIEUTENANT COLONEL CHRISTOPHER A. ACKER United States Army

# **DISTRIBUTION STATEMENT A:**

Approved for Public Release. Distribution is Unlimited.

**USAWC CLASS OF 2000** 

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050



20000613 113

## USAWC STRATEGY RESEARCH PROJECT

# NORMANDY BREAKOUT: STRATEGIC DECISIONS AND LEADERSHIP ACTIONS IN OPERATIONS GOODWOOD AND COBRA

by

Lieutenant Colonel Christopher A. Acker United States Army

> PROF. Brian Moore Project Advisor

The views expressed in this academic research paper are those of the author and do not necessarily reflect the official policy or position of the U.S. Government, the Department of Defense, or any of its agencies.

U.S. Army War College CARLISLE BARRACKS, PENNSYLVANIA 17013

> DISTRIBUTION STATEMENT A: Approved for public release. Distribution is unlimited.

## **ABSTRACT**

AUTHOR:

LTC Christopher A. Acker

TITLE:

Normandy Breakout: Strategic Decisions and Leadership Actions in Operations

GOODWOOD and COBRA

FORMAT:

Strategy Research Project

DATE:

1 April 2000

PAGES: 30

CLASSIFICATION: Unclassified

Theoretically, the outcome of World War II in Europe hung in the balance as the Allies poured onto the Normandy beachhead. Following the June 6, 1944 invasion, the Allies continue to come ashore, massively building up men and material inside the beachhead. Unable to build on the initial success of the invasion, the Allies developed two plans for a breakout. Inside the beachhead, the Allies remain coiled ready to strike once they cracked the vaunted German defensive crust.

Throughout the months of June and most of July, the Germans successfully contained the Allied juggernaut within the confines of the beachhead. Strategically, this containment portended a longer war in Europe and allowed the Germans more time to focus their forces on the Eastern Front. The Germans believed they could prevent the Allied breakout and even mount a counterattack of their own in the West at Normandy. This study summarizes the strategy used by both the Allies and Germany regarding Allied breakout operations from the Normandy beachhead between 18 – 28 July 1944. The Allied breakout plan from Caen was codenamed GOODWOOD, from St.Lo, COBRA.

This study identifies and analyzes strategic considerations and decisions that influenced the planning and execution of the breakout operations. The study presents lessons learned in the application of strategic assets and competencies exhibited by both German and Allied leaders during Operations GOODWOOD and COBRA. History dictates that those who fail to learn the lessons of the past are the most apt to repeat them in the future. The two breakout operations offer valuable strategic and operational lessons.

iv

# TABLE OF CONTENTS

ABSTRACT	iii
LIST OF ILLUSTRATIONS	,.yii
NORMANDY BREAKOUT: STRATEGIC DECISIONS AND LEADERSHIP ACTIONS IN OF	
ALLIED AND GERMAN STRATEGIC SITUATION JUNE 1944	1
GERMAN ORGANIZATION AND STRATEGY IN THE WEST	3
OPERATION GOODWOOD	6
OPERATION COBRA – THE BOMBARDMENT AND BREAKOUT	10
CONCLUSION	15
ENDNOTES	17
BIBLIOGRAPHY	21

vi

# LIST OF ILLUSTRATIONS

FIGURE 1 - BRITISH SECOND ARMY ATTACK, OPERATION GOODWOOD	٤
FIGURE 2 - OPERATION COBRA BOMBARDMENT PLAN	. 11
FIGURE 3 - FIRST ARMY ATTACK, OPERATION COBRA	. 12

# NORMANDY BREAKOUT: STRATEGIC DECISIONS AND LEADERSHIP ACTIONS IN OPERATIONS GOODWOOD AND COBRA

# **ALLIED AND GERMAN STRATEGIC SITUATION JUNE 1944**

Following the Allied victories of 1943 in North Africa, the successful landing south of Rome, the Russian offensive in the East along the Volga, and the ongoing strategic air campaign in Europe, the Axis Powers were forced to a strategic defense on all fronts by 1944. By early June 1944 the Allied strategy of establishing a second front had been realized: The Allies had a toehold on the continent of Europe at Normandy. The strategic objective of the Allies was occupation of the Axis countries and destruction of their war machines.<sup>2</sup>

The invasion of Normandy was part of the larger Allied strategic plan designed to bring about the total defeat and unconditional surrender of Germany. The overall strategic plan included Operation NEPTUNE, the channel crossing, and Operation OVERLORD, the preliminary step in a grand plan to build an infrastructure on the continent necessary to carry the war to the heart of Germany. The initial American and British objectives of OVERLORD included the capture of Caen, Bayeux, Isigny, and Carentan, along with all airfields in the vicinity and the port of Cherbourg. The Allies sought to drive east on the line of the Loire River in the direction of Paris and north across the Seine River, destroying as many German forces as possible in this area of the west.

During the seven weeks immediately following the invasion, the Allies pushed inward from the beaches to a depth ranging from five to twenty miles. Supplies and personnel crammed the congested beachhead. At the beginning of July 1944, Allied ground forces were deployed inside the beachhead on a front about seventy miles long, east to west. In the eastern sector of the beachhead the British Second Army, commanded by General Dempsey, occupied positions from the mouth of the Orne River westward to the vicinity of Caumont. On the Allied right the U.S. First Army, commanded by General Bradley, extended from Caumont to the West Coast of the Gulf of St. Malo (Cotentin Peninsula).

Field Marshall Bernard Montgomery commanded the 21<sup>st</sup> Army Group, which included both the U.S. First Army and the British Second Army. Using current lexicon, Montgomery was the Joint Forces Land Component Commander (JFLCC) for all Allied ground forces on the continent inside the Normandy beachhead.<sup>6</sup>

The German strategy in the summer of 1944 was to fight a delaying campaign in Italy, hold the Russians at bay in the East, and drive the Allied invasion at Normandy into the English Channel. The German strategy had major shortcomings. After five years of war the German navy was virtually powerless, and its air force reduced to defensive operations. Most German air force operations were restricted to protecting vital industrial areas inside Germany. Thus only Germany's army was left to resist the Allied pressure being applied from all directions.

By July 1944 the German strategy in the West found had been shaped by the events of June. The Germans were operating without firm political or military agreement on how best to push the Allies into the Channel. Even prior to the invasion, *Oberbefehshaber WEST (OB WEST) Commander, Generalfeldmarschall von Rundstedt* and *Army Group B Commander, Generalfeldmarschall Erwin Rommel* disagreed on how to fight the invasion both knew was coming. Von *Rundstedt* wanted a strong strategic reserve centrally located, ready to respond after determining where the main invasion force was located. He wanted to mass his reserve force and destroy the invasion force before the Allies could reinforce their beachhead. On the other hand, *Rommel* knew the Allies would have air superiority and argued that this would prevent reinforcements from moving anywhere in the battle area. He firmly believed the invasion had to be defeated on the beaches. In addition to commanding Army Group B, Rommel was given responsibility for coastal defenses by Hitler. Yet he remained subordinate to *von Rundstedt* the overall area commander.<sup>8</sup>

The Allied deception plan, Operation FORTITUDE, exquisitely and falsely supported *von Rundstedt's* view. Operation FORTITUDE froze the German Fifteenth Army in place near the Pas de Calais by confusing the Germans about the location of the Allies' main effort. The Germans believed that LTG George Patton would lead the main invasion force. To enhance the FORTITUDE deception Eisenhower forbade publicity of Patton's entrance into battle when Third Army became operational on 1 August 1944. Operation FORTITUDE convinced the Germans to keep the Fifteenth Army in place, thus it remained unavailable to reinforce the fight at Normandy. 11

By mid-July the Americans had placed 770,000 troops inside the Normandy beachhead, while suffering 73,000 casualties to date. The British and Canadians had put 591,000 troops ashore and had suffered 49,000 casualties. <sup>12</sup> The German forces keeping the Allies at bay inside the beachhead consisted of twenty-six divisions, six of which were armored. Thirty-four Allied divisions inside the beachhead opposed this force. <sup>13</sup>

The Germans were ready to move reinforcements to oppose the Allied forces at Normandy, but Allied air superiority confounded all movement. Any attempt to move forces in daylight proved to be suicidal at best. *Von Rundstedt* observed that:

Marching during the daytime in good weather is definitely excluded. It is therefore necessary to make the most of the short summer nights but the troops must be prepared for low-level attacks at anytime. Rail transports can hardly be brought nearer to the front than 150-200 kilometers; even this must be done without any definite schedule. The routes must be changed hourly.<sup>14</sup>

Normandy was turning into a stalemate. The Allies had to break through the German defenses to exploit their advantage in materiel and engage in maneuver warfare. They needed to combine their mobility and air power in one big push, concentrated at a decisive point on the German line to effect a breakthrough. Followed by a rapid, bold advance, a breakout would hopefully bring the Allies to the border of Germany quickly.<sup>15</sup>

President Roosevelt and Prime Minister Churchill were growing uneasy with the strategic situation on the Western Front. Both feared a stalemate reminiscent of World War I trench warfare. They sought a bold, imaginative and unexpected stroke to penetrate the German defenses and permit the Allies to engage in mobile warfare. From a political and diplomatic standpoint, the Allies simply could not afford a stalemate The high expectations accompanying the invasion had to be sustained. The Russian summer offensive was pushing the German forces back toward the border of Germany. Any prolonged stalemate at Normandy could potentially give Hitler a huge bargaining chip should he try to negotiate an end to the war with Russia. Any negotiated end to the war at this point would leave much of Europe open to Red Army occupation, a major concern for Roosevelt and Churchill. <sup>17</sup>

## **GERMAN ORGANIZATION AND STRATEGY IN THE WEST**

The German strategic decisions affecting Normandy played heavily on their failure to hold the Allies inside the beachhead. Their command, strategy, and military posture all played an important part in their decisions to contain the Allies. The German command structure violated both conceptual and technical strategic leader competencies and was the root of their problem.

In the West the German Ground Force Field Command was directed by the Chief of the Armed Forces High Command, Oberkomommado der Wehrmacht (OKW), Generalfeldmarschall Wilhelm Keitel. Within the limits of the German command system, OKW functioned as a theater headquarters. Unlike Eisenhower, German Theater Commanders operated under the close personal supervision of Hitler. These commanders did not control navy or air force contingents in their sector. This setup made Joint and Combined relationships difficult to manage and fostered service parochialism.

OB WEST controlled two army groups with the mission of defending the Channel, Atlantic, and Mediterranean coastlines in the OB WEST areas. The German Fifteenth Army, part of Army Group B, had responsibility for defense of the Belgian coast and northern France to the Seine River. The Seventh Army had responsibility for the area between the Seine and Loire Rivers in northwest France. Army Group G defended the Mediterranean Coast.

The German chain of command in the West ran from Hitler to the *OKW*, which transmitted Hitler's orders to the theater command, *OB WEST*. *Von Rundstedt*, Commander, *OB WEST* sent orders to *Rommel*, the Commander, *Army Group B*, then to the *Seventh and Fifteenth Armies*. These two armies had responsibility for the invasion area.<sup>18</sup>

The German plan for defeating the Allies relied on a decisive act, as opposed to a grand strategy of gradual and cumulative attrition. This was consistent with the German military thought at that time. So the Germans searched for that bold counterstroke that would eliminate the invasion force. *Von Rundstedt* assigned *OB WEST* armor specialist, *General der Panzertruppen Leo Freiherr Geyr von Schweppenburg*, commander of *Panzer Group West*, the task of planning and launching a decisive counterattack against the Allies at Normandy. As luck would have it, a bomb hit Geyr's headquarters on 10 June killing many of his staff and with it any German hope of regaining the initiative in the near term.

By mid-June *Rommel* had convinced Hitler that reinforcements were needed at Normandy. Subsequently, two *SS Panzer Divisions* were dispatched from the Eastern Front. Meanwhile German forces in Normandy were taking serious losses. Allied air superiority hampered all German attempts to move equipment and personnel. The alternatives facing the Germans by late June were clear: counterattack and destroy the Allied beachhead, or abandon plans for offensive action and defend aggressively, initially by keeping the British from capturing Caen. <sup>19</sup>

While the Allied buildup continued unopposed, the Germans were having great difficulty bringing up reinforcements. The Allied air campaign of blowing up bridges, destroying railroad lines, cratering roads, and strafing everything that moved was tremendously disruptive of Germany's ability to sustain the Normandy fight. By July German fuel shortages amounted to over 200,000 gallons daily. Only 400 tons of all classes of supply was making it to the Normandy battle area, falling far short of the daily requirement of 1000 tons of ammunition and 250 tons of rations, plus other types of war materiel. Consequently, the Quartermaster General of the West had to borrow fifteen machine guns from the military governor of France to fill supply requests from the Cherbourg garrison.<sup>20</sup>

On 10 July artillery fire continued on both sides of the line. The difference was that German ammunition consumption supply rate permitted firing a miserly 4,500 rounds, whereas the British alone fired 80,000 rounds on the same day. Because of the supply situation, both *von Rundstedt and Rommel* recommended to Hitler a limited withdrawal from the area of Caen to a position more suitable for resupply. Hitler refused. The Germans had no fortified defensive fallback positions on the Western Front in France; thus Hitler surmised that any withdrawal from the Caen area would lead to the evacuation of France. If they were to fall back, the Germans could not resume a defensive effort anywhere short of the German border. Hitler believed that if the Allies could be contained inside the beachhead and the Germans retained good ground from which to launch decisive action, then they could turn the course of the war in the West.

On 1 July Hitler ordered that: "Present positions are to be held. Any further enemy breakthrough is to be hindered by determined resistance or by local counterattacks." Von Rundstedt responded to the Chief of OKW, Wilhelm Keitel voicing his concerns and expressing his disagreement. Von Rundstedt stated that he lacked the resources to meet the increased demands being placed on him by higher headquarters. Whether he was referring to the military situation or the command climate is not clear. Regardless, Hitler relieved von Rundstedt of command on 2 July. Two days later he relieved General der Panzertruppen Leo Freiherr Geyr von Schweppenburg, Panzer Group West commander for initiating a report criticizing the tactical "patchwork" in the West.<sup>23</sup>

To replace von Rundstedt, Hitler handpicked one of his commanders fighting on the Eastern Front, Generalfeldmarschall Guenther von Kluge. General Heinrich Eberbach replaced von Schweppenburg as commander of Panzer Group West. Meanwhile the Commander, German Seventh Army, Generaloberst Freidrick Dollman died of a heart attack and was replaced by SS Generaloberst

Paul Hausser. By 3 July 1944 only Rommel remained of the high level German commanders in the West at the start of the Allied invasion.

By early July the strategic situation was worsening for Germany. The Allied beachhead was firmly established. The port of Cherbourg was in Allied hands, and a planned German counterattack had failed to materialize. At this time, the German frame of reference changed from offensive to defensive.

German leadership erroneously surmised that the Allied objective was Paris, so they elected to heavily defend in the Caen sector. The terrain beyond Caen, the Caen – Falaise plain, led directly to Paris. Both Germans and Allies realized that the Caen sector offered much better terrain for armor maneuver than terrain on the Allied right, where the U.S. First Army was attacking.<sup>24</sup> Both German and Allied armor had extreme problems operating in the Cotentin sector due to the rugged Bocage countryside which favored the defender.<sup>25</sup> Because of the terrain and the threat to the Paris approach, the Germans elected to place most of their armor in the Caen sector.

By late June 1944 the German Seventh Army controlled of six corps, too many for one army to effectively handle. Consequently, on 28 June the German high command divided the Normandy front into two army sectors: *Panzer Group West* controlled four corps on the right, while Seventh Army retained control of two corps on the left. The boundary between the two German commands was almost identical to the boundary between the American and British forces facing them. <sup>26</sup> Fifty-nine German divisions stretched from Belgium to the Cherbourg Peninsula. More than half of these were coast-defense or training divisions. Of the 27 field divisions, only 10 were armored. <sup>27</sup>

The German Seventh Army and Panzer Group West fielded approximately 35,000 combat soldiers in the lines. The major difference was in heavy armaments: Panzer Group West, opposite the British, had 250 medium and 150 heavy tanks. They controlled the dual-purpose 88-mm guns of the 111<sup>th</sup> Flak Corps and had three times the anti-aircraft weapons that were in the Seventh Army sector.

In the Seventh Army sector the Germans had 50 medium and 26 heavy Panther tanks. <sup>28</sup> In July in anticipation of future Allied offensive action, the Germans replaced their armored units in *Panzer Group West* with infantry units, putting their armor forces in reserve. So nine German armored divisions were immediately available as a reserve force to block any Allied penetration of the German defense.

In order to get more German troops into the fight at Normandy, the *Seventh Army* stripped its forces in Brittany of four divisions and two regiments, with a fifth division to follow later in July. The Netherlands forces contributed one division while *Army Group G* provided six more. These units were ordered to Normandy by the end of June.<sup>29</sup>

The German Fifteenth Army with its seven divisions remained untouched at the Pas de Calais, positioned between the Seine and Schelde Rivers. The Fifteenth Army had four subordinate corps that controlled eleven divisions. This was in addition to the seven divisions already under direct control of Fifteenth Army. This massive mobile force was not committed against the Allied beachhead at Normandy. It awaited the main Allied invasion they anticipated at the Pas de Calais. The German high command thought that a second invasion would occur because the launching sites for their V-1 rockets were in the

area of the Pas de Calais. This was a major threat the Allies could not ignore. Additionally, the Pas de Calais was that part of Europe closest to England. It also offered the shortest route to the Rhine River and the Ruhr Valley. These facts, coupled with the success of the Allied deception plan Operation FORTITUDE, convinced the German high command that the best place to put the Fifteenth Army was at the Pas de Calais. Further, any attempt to move this force to reinforce the action at Normandy would have to deal with Allied air superiority in the area.

Conspicuously absent from the German defense plan at Normandy were the planes of the German *Third Air Fleet*. German ground troops often joked that Allied aircraft were painted silver, while German planes were colorless and invisible. "In the West they say the planes are in the East, in the East they say the planes are in the West, at home they say the planes are at the front." Of the authorized 500 German aircraft in the West, only 300 existed. Of these, only 90 bombers and 70 fighters could get airborne at any time due to shortages of spare parts, fuel, and trained experienced pilots. This force could not challenge the thousands of Allied aircraft in the skies over France in July 1944. <sup>31</sup>

The stage was now set for GOODWOOD and COBRA. *Von Rundstedt* and *Rommel* had both advised the German leadership that if the Allies penetrated the German defensive lines, the lack of defensive positions in depth between Normandy and the German border meant the Germans would have to withdraw from France. Yet the Germans were hopeful. At the start of GOODWOOD, the Germans held the best positions they could hope for in France. The line was short, the terrain naturally strong, and the battlefield imposed many restrictions on the ability of the Allies to maneuver. Only a small section of open ground near Caen was difficult to defend: German armor protected it. With reserves on the way and *Fifteenth Army* uncommitted, the Germans could reasonably hope to hold out for the decisive counterattack and the arrival of the new miracle weapons promised by Hitler.<sup>32</sup>

## **OPERATION GOODWOOD**

On 10 July Field Marshall Montgomery and General Dempsey met with General Bradley to discuss the operational situation. General Bradley proposed a breakout operation to gain maneuver space and capture the badly needed Brittany ports. To support the operation, Bradley wanted a massive air bombardment at the breakthrough point. General Bradley was following the advice of Supreme Headquarters Allied Expeditionary Force (SHAEF) planners, who for weeks concluded that the best way to break the stalemate was by combining a ground assault with a massive air bombardment.<sup>33</sup>

Following the meeting, General Dempsey proposed to Montgomery that the British Second Army attempt a breakthrough of their own on the eastern flank. He surmised that an attack on the eastern flank would draw German armor units currently in reserve away from First Army's attempted breakthrough. Montgomery approved. The British called their operation "GOODWOOD". General Bradley's American breakout operation was called "COBRA". Montgomery approved both plans as the Allied JFLCC on the continent. 34

Montgomery directed General Dempsey to develop plans for what he called a "massive stroke" from Caen toward Falaise. Caen was a D-Day objective for Montgomery, still only partly achieved. Operation GOODWOOD was designed to deliver the blow to capture that portion of Caen still held by the Germans. The remaining objectives of GOODWOOD were to destroy the German defenses by saturation bombing. Following the aerial bombardment, Montgomery's forces would breach the German defense lines with 750 tanks. The objective was to outflank the German forces in Caen on both sides of the Orne River, break out, and strike toward Falaise. 35

Eisenhower was counting on the success of GOODWOOD. The Allies desperately needed the space to maneuver, the airfields, and most of all the destruction of German military forces in the area. Eisenhower was extremely hopeful and optimistic that the resources being expended in support of GOODWOOD would facilitate a breakout in the West. <sup>36</sup> Indeed, Eisenhower was looking at the strategic situation: exploit the initial success of the invasion with a breakout; establish a base for follow-on forces; advance rapidly to the German borders; relieve pressure on the Eastern front; destroy the German Army in the West, and break the will of the German people to continue the war.

Operation GOODWOOD commenced on 18 July 1944 from the bridgehead east of the Orne, north of Caen (see fig 1<sup>37</sup>). At daylight 1,700 planes of the Royal Air Force Bomber Command and the U.S. Eighth Air Force, plus 400 bombers from the U.S. Ninth Air Force, dropped more that 800 tons of bombs to open the path for attacking British armored forces. <sup>38</sup> At H-Hour 0745, the British VIII Corps attacked to break out of the Caen bridgehead. The British Army after-action report on Operation GOODWOOD states that the British Second Army objective was to force the Germans to commit their strategic mobile reserves, thereby preventing their use against the real breakout (COBRA) of the American forces on the right flank. <sup>39</sup>

The 11th Armored Division, Guards Armored Division, and the 7th Armored Division mounted the initial surge of the British VIII Corps. Restricting the initial assault was a British minefield with gaps for only one armored regiment at a time to pass. The British bridgehead on the Orne River, where the attack originated, was a small-congested area that allowed only limited maneuver. British VIII Corps mounted the main effort, supported by the British I and Canadian II Corps on the flanks.

Initially almost all enemy encountered were dazed by the bombardment. British forces encountered no opposition. The Cuverville and Demourville areas were quickly overrun. As the effects of the aerial bombardment wore off, German opposition began to increase. All day 18 July the British continued to press the attack. The lead British unit, the 11<sup>th</sup> Armored Division, made good initial progress: By midday it had reached the areas of Tilly la Campagne. German resistance continued to increase throughout the day. By nightfall the British Second Army had lost 270 tanks and suffered 1,517 casualties.<sup>40</sup>

Operation GOODWOOD continued for two more days, ending on 20 July. The Germans rushed reserves into position from west of the Orne River and from the Caumont sector. Slowly the British advance lost impetus and stopped. On the afternoon of 20 July, a severe thunderstorm broke over the

battlefield turning the dusty, dry fields into a sea of mud. Montgomery considered his tank and personnel losses, along with the bad weather, as justification to call a halt to GOODWOOD.

The Allies had pushed their lines as far south as Tilly la Campagne, east to Troarn, and had cleared Caen of the Germans. But there was no breakout.<sup>41</sup> The losses in the British Second Army were staggering. The British price for gaining thirty-four square miles of the Caen-Falaise plain, taking 2000 German POWs, and capturing the remainder of Caen, was 4,000 casualties, approximately 500 tanks,

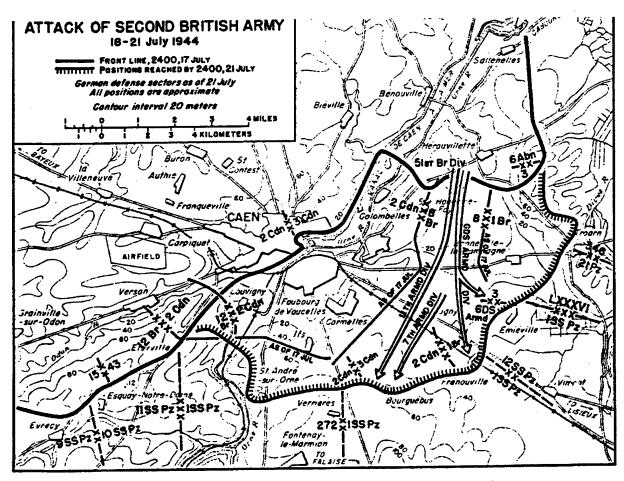


FIGURE 1 - BRITISH SECOND ARMY ATTACK, OPERATION GOODWOOD

more that 33% of the entire British armored force landed at Normandy. 42 Despite these enormous losses, Field Marshall Montgomery's gains were disappointing and well short of what senior leaders had expected.

Much later, Montgomery explained: "GOODWOOD as a preliminary operation was designed like all actions on the Allied eastern flank, to tie down the Germans and prevent them from interfering with Bradley's moves." GOODWOOD suggests wider implications than in fact it had. 43 Whether the primary intention of GOODWOOD was to help the Americans breakout or to achieve a British-Canadian victory for Montgomery was left unsaid. Nonetheless, the plan was to capture Caen, then to breakout and advance

to Falaise. On 13 July General Dempsey stated that the objective of GOODWOOD was Falaise. Indeed he was being conservative, for he had in mind Argentan as the final objective, fifteen miles beyond Falaise.

However, the British did score an important victory on 17 July. British fighters managed to catch *Rommel's* car on the open road as he was returning from the battle headquarters of the 1<sup>st</sup> *SS Panzer Corps* to La Roahe-Guyon. His driver was killed in the attack as British 20mm shells tore into the car. *Rommel* hit his head against the windshield of the car, fracturing his skull. He was sent home to recuperate and never returned to combat. Later, *Rommel* was forced to commit suicide in the aftermath of the abortive 20 July 1944 bomb plot against Hitler.

Hitler surprised everyone by not selecting a new commander for Army Group B. He elected instead to assign von Kluge as commander of both OB West and Army Group B. Von Kluge was convinced that all that was needed in the West to defeat the Allies was centralized power in strong hands. What von Kluge was fast becoming aware of was that the Allies were on the continent to stay. He was to become yet another victim of the German Officer Corps struggle against Hitler. He too would suffer from the High Command's misguided interference with his decisions.

On 21 July General Eisenhower informed Montgomery of his optimism over the ultimate results of Operation GOODWOOD. He noted, however, that unfortunately the British had failed to make any substantial gains or to break out. So Eisenhower was now pinning his immediate hopes on General Bradley's COBRA attack.

Upon receipt of Eisenhower's memo, Montgomery instructed General Dempsey to continue his efforts "intensively." Montgomery knew that for Bradley to have any hope of success, British forces had to fix the German mobile reserves in place so they could not be maneuvered against the U.S. First Army's breakout attempt. Prime Minister Churchill, General Eisenhower, and the SHAEF staff were extremely disappointed with Montgomery's performance in GOODWOOD. Montgomery knew he was in the hot seat. 47

Why had GOODWOOD failed to achieve a breakout? British reports of the action attribute their inability to break out to several reasons: First, the massive bombardment severely cratered the roads and obstructed the axis of advance. They were not able to follow up the bombardment in a timely manner because the craters served as obstacles to the armor. Second, the Germans had based their defense lines on defense in depth, so the carpet bombing area did not cover the area where the German 88mm flak guns were located. Third, from a tactical standpoint the bombardment failed to take out the German anti-armor units and reserves located further back in the German defenses. Additionally, the Allies were experiencing unexpected difficulty coping with the fighting qualities of the individual German soldier, the nature of the terrain, and the weather.

The individual German soldier could not be underestimated. They fought with as much courage as Hitler could have desired. The SS troops and parachute forces constituted a large part of the Seventh

*Army.* They were the elite; they fought with unshakable tenacity. Only the non-German troops in *OB*WEST faltered. 48

Further, there seems to have been confusion among commanders about the objective of GOODWOOD. According to Montgomery, all he intended was to shake up the Germans and "knock about a bit." He never intended to force a breakout unless the opportunity presented itself. His overriding concern was for British casualties. Britain could no longer replace casualties at this point in the war. The British manpower reserves were almost gone. Further, Montgomery gambled that his armor could penetrate the German defenses with fewer casualties than an infantry assault. He was wrong.

The terrain at Normandy was ideal for the defense. It prevented the effective maneuver and employment of armor. This was especially true in the U.S. First Army area, the Cotenten Peninsula, where the terrain was characterized as bocage. The hedgerow was the major feature of the bocage. The hedgerow was a perfect tank obstacle and well suited for the protection of defensive forces. <sup>49</sup> The bocage terrain forced armor to remain on the roads, thereby favoring the defender not the attacker.

The Allies were forewarned about the weather in Normandy from the experiences of June 1944. Severe storms hit the English Channel on 19 June, inflicting great damage. Twenty-two sections of a floating roadway intended to relieve the problems of landing supplies over the Normandy beaches sank within sight of their harbors. Convoys in the Channel were sent back to ports in England. Ships unloading at Normandy took such a beating that many dragged anchor, grounded themselves, and broke up on the beaches. When the storms blew over three days later, 800 Allied ships were stranded on the beaches and could not be re-floated until the high tides of July. <sup>50</sup> The storms damaged Allied shipping more than opposing forces had managed to inflict on D-Day and greatly inhibited the maneuver of armor on the Normandy battlefield.

# OPERATION COBRA - THE BOMBARDMENT AND BREAKOUT

Operation COBRA commenced on 25 July 1944. The U.S. First Army sought to cut off the enemy in the Periers-Lessay area in southern Cotentin. U.S. Third Army would then swing south and east on the western flank into Brittany. Meanwhile, the Second British Army would continue the pressure on the Allied left flank, keeping the Germans pinned down in the Caen sector, while maintaining a viable threat of an advance toward Falaise and Argentan. <sup>51</sup>

The U.S. First Army plan for the breakout was to assault immediately following carpet bombing by U.S. Army Air Forces across the Periers-St. Lo Road between Le Mesnil Vigot and Hebecrevon (fig 2<sup>52</sup>). The VII Corps would lead the ground attack. The 9<sup>th</sup> and 30<sup>th</sup> Infantry Divisions and part of the 4<sup>th</sup> Infantry Division would make the initial penetration of the German defenses and hold the shoulders of the penetration open. The 1<sup>st</sup> Infantry Division (Mech), 3<sup>rd</sup> Armored Division, and the 2<sup>nd</sup> Armored Division would stream through the gap created by the lead divisions. The 1<sup>st</sup> Infantry Division (Mech) on the right would wheel towards Coutances in an attempt to cut off all German troops in the area of Lessay and Periers. The 2d Armored Division on the left was to pass through Canisy, followed by the 3d Armored

Division, which was directed toward Notre Dame le Cenilly – Fervanches and would be prepared for further exploitation. <sup>53</sup>

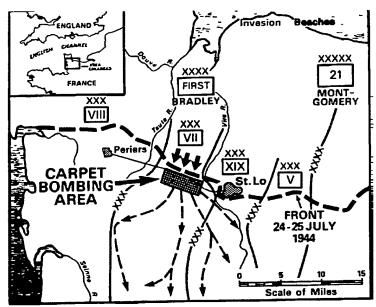


FIGURE 2 - OPERATION COBRA BOMBARDMENT PLAN

A massive pre-attack aerial bombardment of a constricted area approximately one mile by five miles, south of the Periers-St. Lo Road would start the attack. The bombing phase would last one hour, followed immediately by an infantry and armor attack (see fig 3<sup>54</sup>). To avoid cratering the roads (lesson learned from GOODWOOD), only light bombs would be used. <sup>55</sup> At 0940 on 25 July, 350 fighter-bombers hit a 250-yard strip of land along the Periers-St. Lo Road, west of St. Lo. Shortly thereafter, 1,887 heavy and medium bombers and 559 fighter bombers of the Eighth and Ninth Air Forces dropped 4,000 tons of high explosives on the breakthrough area, 2,500 by 6000 yards. Besides destroying the enemy forces at the point of the breakthrough, wiping out communications, and rendering much German equipment useless, the aerial bombardment had an unintended impact on the Allies. Something had gone tragically wrong. <sup>56</sup>

One of the major issues among Allied commanders was the size of the safety zone for the soldiers in the foxholes during the bombardment phase of COBRA. The Eighth Air Force planners recommended 3000 yards between troop locations and the target impact area. General Bradley wanted the infantry close so that they could get off quickly behind the air attack, hitting Germans before they could regroup and bring up reinforcements. Bradley proposed an 800-yard safety zone. Both sides finally agreed to a 1,250-yard safety zone. Bradley felt he had an agreement with the Army Air Force that the approach axis the bombers would use be parallel to the target. This would keep the bombers approach to the target on either an east or west route, so they could use the Periers-St. Lo Road as a guide to keep them on the south side of the road. <sup>57</sup> Flying laterally or a perpendicular approach over the heads of American ground troops, although rendering the aircrews less vulnerable to anti-aircraft fire, it was more dangerous for the troops on the ground because of the possibility of early bomb release. The air

community felt the parallel approach would not work because 1,500 heavy bombers could not fly through a mile-wide corridor in one hour.<sup>58</sup>

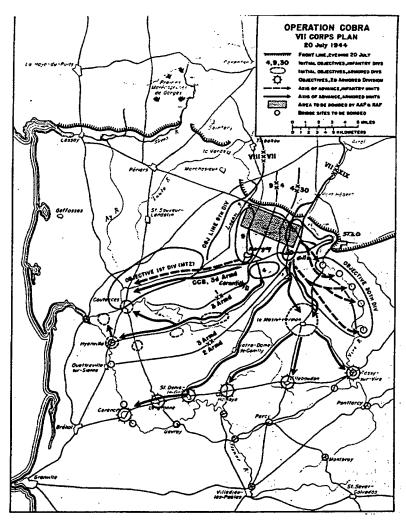


FIGURE 3 - FIRST ARMY ATTACK, OPERATION COBRA

Bad weather postponed the start of COBRA until 24 July. Even then, forecasters predicted only a marginal chance of good weather. On 24 July the Eighth Air Force again requested postponement due to marginal weather. Eisenhower's Air Commander, Air Chief Marshall Leigh Mallory, disapproved the request. He ordered COBRA air bombardment to begin at 1000 hours based on a forecast for improved conditions. <sup>59</sup> At 1100 hours the target area was still under heavy cloud cover and the aerial operation was postponed until 1200 hours. At 1120 hours, with clouds still over the target area, Liegh Mallory ordered a further postponement. His message to subordinate air units did not reach Eighth Air Force until after some heavy bomb groups had launched.

The Second Bomb Division of Eighth Air Force found the primary target covered by clouds and did not release its bomb loads. Even so, a bombardier accidentally flipped a toggle switch that released the plane's bomb load, which landed on an Allied airstrip. Several bombers could not visually identify the

aiming points due to cloud cover and aborted. However, an estimated 317 bombers did drop 10,124 high explosive bombs and 1822 fragmentation bombs without visually identifying their aiming points. These bombs fell short, landing on U.S. troop positions.<sup>60</sup>

This gross error in the bombing was catastrophic to the American infantry units of the 30<sup>th</sup> Division, which suffered 25 soldiers killed and 131 wounded. At this time, General Bradley learned that the bombers had approached the target on a perpendicular approach, as opposed to the parallel one. Bradley immediately contacted Leigh Mallory to inquire why the approach path had been changed. Mallory reported that, given the limited time allotted for the bombers to deliver their bomb loads, only a perpendicular approach would work. The physical constraints of time and space could not be altered (see fig 3). Seeing no alternative other than delaying or canceling COBRA, Bradley reluctantly accepted the perpendicular approach option. COBRA was rescheduled for 0900 on 25 July.

Had the cancelled bombing mission alerted the Germans to the upcoming attack? Fearing the Germans would occupy the positions vacated by his infantry, General J. Lawton Collins, Commanding General U.S. VII Corps, ordered three infantry divisions to attack to regain the ground vacated for the bombardment. This action served to mislead the Germans, who were certain they had previously repulsed a major American ground attack that had followed a heavy and serious air strike. <sup>61</sup>

The weather was good on 25 July. At 0940, 350 fighter-bombers hit a 250 yards wide strip of land along the Periers-St. Lo Road, west of St Lo. The mission was immediately followed by 1,887 heavy and medium bombers and 559 fighter-bombers dropping more than 4,000 tons of explosives on the target. Again human error caused some bombs to fall short of the target area. Two lead bombardiers released bomb loads without positive identification of their aiming points or the target area. The lead pilot of the third formation prematurely ordered bombs away, and all planes in his unit prematurely released their bomb loads. Fragmentation bombs and high explosives again dropped within American lines.

The 30<sup>th</sup> Infantry Division again took the blunt of this massive fratricide. The losses were staggering: 61 killed, 374 wounded, and 164 other cases of shell shock. (These casualties exceeded those of any other single day in combat in the history of the 30<sup>th</sup> Infantry Division). In all, 111 men from the U.S. VII Corps were killed. Lieutenant General Leslie J. McNair, Commanding General of the Army Ground Forces and *pro tem* commander of the First U.S. Army Group, ostensibly replacing Patton was killed. Wounded totaled 490. <sup>64</sup> This created a problem: McNair was the linchpin to the continued success of the Allied deception plan, Operation FORTITUDE. The news of his death could compromise FORTITUDE. Therefore, he was buried secretly with only Generals Bradley, Hodges, Patton, Quesada, Royce, and McNair's aide in attendance. Lieutenant General John L. DeWitt was rushed from the States to be the new commander of U.S. First Army Group.

Later General Bradley condemned the perpendicular approach the bombers had used, calling it the primary cause of the allied casualties. He claimed that senior airmen had promised a parallel bomb run south of the Periers-St. Lo Road. To Bradley, this constituted a shocking breach of faith. History has shown that General Bradley's claims against the Air Forces were not entirely valid. Senior air

commanders had informed General Bradley that a parallel approach was impossible given the time allotted, the number of bombers, and the size of the target area. The claim that a parallel approach would ensure no ground casualties was also misleading. Deflection errors could have caused bombs to fall on American positions regardless of the approach to the target. More important, smoke and dust caused by bombs obscured parts of the Periers-St. Lo Road, making identification of aiming points difficult at best at 15,000 feet. <sup>66</sup>

In retrospect General Bradley and his commanders bear some of the responsibility for the Allied friendly fire casualties of the 25 July bombing. They failed to properly disperse their troops in trenches, foxholes, and shelters as safeguards against fratricide risk associated with aerial bombardment. This failure in coordination between U.S. First Army and the U.S. Eighth Air Force should not surprise anyone who appreciates the complexities associated with joint and combined operations in 1944. By this time in the war, U.S. Army Air Forces operated with virtual autonomy, although they were still nominally part of the Army.

The years preceding the war had witnessed severe interservice fighting concerning the roles and missions of air power. It left senior officers on both sides deeply suspicious of each other. General Bradley's opinion of airmen was typical of that of many ground commanders at that time: "Airmen were overpaid, over promoted, over decorated, and incorrigible publicity-seekers who invariably claimed for themselves a far greater importance in the nation's military establishment than their battlefield record warrants." Despite these initial problems COBRA continued.

By the end of the first day, July 25, Bradley's forces had advanced over a thousand yards. This was a significant achievement compared to the gains of the previous weeks. VII Corps had suffered estimated 1000 casualties and was short of the initial objectives. The VII Corps infantry found no signs of organized defense in the bombarded target area. This left General Collins with a hard decision: Should he commit his armor early and attempt to break through the German defenses? If he committed his armor before the German defensives were ruptured, his force could become entangled in defensive belts and fall prey to armored counterattacks, or worse, the 88mm flak guns. Another option was to hold off until the infantry divisions had secured their objectives, then commit the armor? General Collins did not know the full impact of the pre-attack bombardment on the Germans. Had the German lines been smashed to the point where a breakthrough was possible? Had the Germans been warned by the bombing mistake of 24 July and vacated their positions only to return to them after the bombing? Had the German lines been reinforced with 88mm flak guns and other anti-armor weapons? Would a new American device called the Rhino help American armor bust through hedgerows without exposing their vulnerable underbelly to German anti-armor weapons?<sup>68</sup> Would the simultaneous supporting British attack at Caen prevent the Germans from transferring forces to their left flank to stop the American attack?

The risk associated with an early commitment of American armor through the constricted gap developed by the infantry lay in the distinct possibility of cluttering the roads, congesting traffic, and utterly paralyzing all movement. General Collins was not aware of the extent of the damage the bombing had

done to the German defenses south of the Periers-St. Lo Road. Nonetheless, General Collins decided to commit his armor. By the end of the second day, July 26, the 1<sup>st</sup> Infantry Division, Combat Command B, and 3d Armored Division were attacking through the gap toward Marigny. At the same time 2d Armored Division on the left flank attacked to take St. Gilles. On 27 July on the right flank of the breakthrough, 9<sup>th</sup> Division was pushing south and west, while the 4<sup>th</sup> Division in the center raced for Carantilly. During the night of the 26<sup>th</sup> and all day on the 27<sup>th</sup>, Allied armor thrusts were ranging south to roll back the scant German opposition. <sup>69</sup> The COBRA operation was completed in its basic details on 27 July with First Army's capture of Coutances.

COBRA set the stage for the Allied attack of the Falaise Pocket, the breakout of the British at Caen, the liberation of Paris, and the advance to the German border. Hitler would make numerous attempts to stop the Allied juggernaut before it reached the borders of Germany, but to no avail. Once the breakout occurred, German strategy for the Western Front collapsed. From this point on, Hitler was faced with the dilemma of transferring forces from the Eastern Front in an attempt to halt the attack in the West, while yielding in the East. Additionally, the breakthrough facilitated the activation of the U.S. 12<sup>th</sup> Army Group and Third Army.

#### CONCLUSION

The growing number of American divisions at Normandy expanded Bradley's First Army and prompted him to recommend that 12<sup>th</sup> Army Group and Third Army become operational as soon as COBRA was completed. Eisenhower approved the recommendation immediately. At noon on 1 August 1944, the 12<sup>th</sup> Army Group, under General Bradley's command, became operational. General Hodges assumed command of First U.S. Army, while General Patton activated and commanded U.S. Third Army. On 1 September 1944 General Eisenhower assumed control of the land battle from Montgomery, acting as both the CinC and JFLCC.

Why was Operation COBRA a success? First, Panzer Lehr Division, key to the German defensive scheme, was caught in the carpet bombing area and virtually destroyed before the VII Corps attack. Allied air paralyzed all efforts by the Germans to move reinforcements of personnel and equipment to the front. The bombardment destroyed much of the communications between German front line units and their headquarters, severing their command and control. The Allies had weighted their attack with mechanized forces striking at a small point on the thin German line. The simultaneous British attack at Caen keep German forces pinned down and unavailable for movement to oppose Bradley's attack. Strategically the Germans were left with several hard questions. Could they have moved units from the area around Caen to St. Lo to prevent the breakout? No! The strategy of the Allied Supreme Command was well coordinated. As soon as the Americans attacked on the German left at the Periers-St. Lo Road, the Canadians attacked on the other end of the line at Caen. This action keep *Panzer Group West* fixed in posítion, fighting Montgomery's 21<sup>st</sup> Army Group. Finally, Operation FORTITUDE, even by late July 1944, kept the German Fifteenth Army frozen in the belief that the main invasion was coming ashore at the Pas

de Calais. Finally, General Bradley did not repeat the mistakes of GOODWOOD. The objective was clearly defined at all command levels.

WORD COUNT: 8,266

## **ENDNOTES**

- <sup>1</sup> Field Marshall The Viscount Montgomery of Alamein, <u>Normandy To The Baltic</u> (Printing and Stationery Service British Army of the Rhine, 1946), 2.
- <sup>2</sup> Martin Blumenson, <u>Breakout and Pursuit</u> (Washington, D.C.: U.S. Government Printing Office, 1961), 7.
- <sup>3</sup> Forest C. Pogue, <u>The Supreme Command</u> (Washington, D.C., U.S. Government Printing Office, 1954), 106.
- <sup>4</sup> Dwight D. Eisenhower, <u>Eisenhower's Own Story on the War</u> (New York.: Arco Publishing Co, 1946), 6
  - <sup>5</sup> Blumenson, 4.
  - <sup>6</sup> lbid., 9,10.
  - <sup>7</sup> Ibid., 17.
  - <sup>8</sup> Ibid., 20-22.
- <sup>9</sup> Ibid., 32. The Germans believed that "Army Group Patton" would invade Europe at the Pas de Calais area. In reality Army Group Patton did not exist, it was a hoax designed to convince the Germans that OVERLORD was part of a larger invasion effort. The deception or hoax was called Operation FORTITUDE. False messages, naval demonstrations off shore at the Pas de Calais area, leaked information were part of Operation FORTITUDE. FORTITUDE was a powerful deterrent to committing the German Fifteenth Army and kept the Germans continuously in a state of alarm.
  - <sup>10</sup> Ibid., 31, 345.
  - <sup>11</sup> Ibid., 345.
- <sup>12</sup> Steven Ambrose, <u>Eisenhower, Soldier, General of the Army, President Elect 1890-1952</u> (New York.: Simon and Schuster, 1983), 322.
  - <sup>13</sup> Ibid., 322.
  - <sup>14</sup> Montgomery, 75.
  - <sup>15</sup> Blumenson, 27.
  - <sup>16</sup> David Mason, <u>Breakout drive to the Seine</u> (New York.: Ballentine Books, Inc., 1968), 21.
  - <sup>17</sup> Carlos D'Este, <u>Decision at Normandy</u> (New York.: E.P. Dutton, Inc., 1983), 304.
  - <sup>18</sup> Blumenson, 17-19, 31.
  - <sup>19</sup> Ibid., 22, 23, 25.
  - <sup>20</sup> Ibid., 33.

- <sup>21</sup> Martin Blumenson, <u>The Battle of the Generals</u> (New York.: William Morrow and Co, Inc., 1993),117.
  - <sup>22</sup> Blumenson, <u>Breakout and Pursuit</u>, 27.
  - <sup>23</sup> Ibid., 28.
  - <sup>24</sup> Ibid., 28, 47.
- <sup>25</sup> Mason., 9. Hedgerows and marshes characterize Bocage. The hedgerow is a tangled mass of brambles and trees up to 15' high. They are firmly based on a solid dirt parapet 3-4' thick and itself up to 12' high. These formidable obstacles divided the Normandy countryside into a patchwork of tiny rectangular fields.
  - <sup>26</sup> Blumenson, <u>Breakout and pursuit</u>. 29, 30.
  - <sup>27</sup> B.H. Lindell Hart, <u>The Other Side Of The Hill</u> (Cassell and Company LTD., 1948), 397-398.
  - <sup>28</sup> Blumenson, <u>Breakout and Pursuit</u>, 30.
- <sup>29</sup> Ibid., 31, 32: German ground units on the western front during the summer of 1944 consisted of a wide variety and strengths. Regular Infantry Divisions had approximately 10,000-12,500 men in six battalions organized into two or three regiments. Panzer Grenadier Divisions were motorized organizations with approximately 14,000 troops, two tank battalions, and armored infantrymen organized into two regiments with two battalions in each. An SS Panzer Division's strength was 17,000 soldiers, organized into two tank battalions in each of the two regiments, with three battalions of armored infantry in each regiment. A Parachute Division had approximately 16,000 men (in reality they were infantrymen). Luftwaffe Field Divisions were manned with approximately 12,500 men, miscellaneous surplus personnel from AAA units, signal units, aircraft maintenance units, recruits and foreigners.
  - <sup>30</sup> Ibid., 31, 32.
  - <sup>31</sup> Ibid., 33,34.
  - <sup>32</sup> Ibid., 50.
  - <sup>33</sup> lbid., 187, 188.
  - <sup>34</sup> Ibid., 188.
  - <sup>35</sup> Blumenson, <u>The Battle of the Generals</u>, 119.
  - <sup>36</sup> Blumenson, <u>Breakout and Pursuit</u>, 195.
  - <sup>37</sup> Blumenson, <u>Breakout and Pursuit</u>, 190.
  - <sup>38</sup> Ibid., 191.
- <sup>39</sup> "Operation GOODWOOD: Military Operational Research Unit," <u>Battle Study Report No. 23.</u> (October 1946): 3.

- <sup>40</sup> Ibid., 7-10.
- <sup>41</sup> Blumenson, Breakout and Pursuit, 193.
- <sup>42</sup> Blumenson, <u>The Battle of the Generals</u>, 122.
- <sup>43</sup> Blumenson, The Battle of the Generals, 124.
- <sup>44</sup> Ibid., 121.
- <sup>45</sup> Paul Carell, <u>Invasion-They're Coming</u> (George G. Harrap & Co., Ltd., London, 1962), 229.
- <sup>46</sup> Ibid., 230.
- <sup>47</sup> Blumenson, <u>Breakout and Pursuit</u>, 195.
- <sup>48</sup> Mason., 9.
- <sup>49</sup> Ibid., 9.
- <sup>50</sup> Ibid., 14.
- <sup>51</sup> Forrest C. Pogue, <u>The Supreme Command</u> (Washington, D.C., U.S. Government Printing Office, 1954), 198.
  - <sup>52</sup> Ibid., 100.
  - <sup>53</sup> Montgomery, 107.
  - <sup>54</sup> Blumenson, <u>Breakout and Pursuit</u>, 216.
- <sup>55</sup> John L. Sullivan, "The Botched Air Support of Operation Cobra," <u>Parameters</u> 18 (March 1988): 100.
  - <sup>56</sup> Blumenson, <u>Breakout and Pursuit</u>, 221, 222.
  - <sup>57</sup> Blumenson, <u>The Battle of the Generals</u>, 132, 135.
  - <sup>58</sup> Sulivan., 101.
  - <sup>59</sup> Ibid., 102, 103.
  - <sup>60</sup> Ibid., 103.
  - 61 Blumenson, The Battle of the Generals, 138, 139.
  - <sup>62</sup> Pogue, 199.
  - <sup>63</sup> Sullivan., 105.

<sup>&</sup>lt;sup>64</sup> Blumenson, Breakout and Pursuit, 235, 236.

<sup>65</sup> Russell F. Weigley, <u>Eisenhower's Lieutenants</u> (Bloomington, Indiana University Press, 1981), 170. On July 14 Bradley redesigned his Army Group from the First to the 12<sup>th</sup>, so that the fictitious First U.S. Army Group could remain in England to prolong the deceptions of Operation FORTITUDE. The Germans believed that LTG Patton was in command of the First U.S. Army Group in England. German Intelligence would soon learn that Patton was commanding the U.S. Third Army in France. Therefore, a senior general officer of suitable prestige had to replace Patton in Operation FORTITUDE in order for it to remain believable. General McNair was chosen for the role. His unexpected death created a problem. For FORTITUDE to continue a suitable replacement was needed immediately.

<sup>&</sup>lt;sup>66</sup> Sullivan, 107.

<sup>&</sup>lt;sup>67</sup> Ibid., 108.

<sup>&</sup>lt;sup>68</sup> Blumenson, <u>Breakout and Pursuit</u>, 206. Sergeant Curtis G. Culin, Jr., 102d Cavalry Reconnaissance Squadron is credited with inventing the Rhino. The Rhino was a device made of steel and welded to the front of Sherman tanks. It had tusk like prongs, teeth that pinned down the belly of the tank while it knocked a hole in the hedgerow wall by force. It allowed the crew to continue using the main gun and not expose the belly of the tank to enemy fire.

<sup>&</sup>lt;sup>69</sup> Mason, 50.

## **BIBLIOGRAPHY**

- Ambrose, Steven. <u>Eisenhower, Soldier, General of the Army, President-Elect 1890-1952</u>. New York: Simon and Shuster, 1983.
- Blumenson, Martin. <u>U.S. Army in World War II, European Theater of Operation, Breakout and Pursuit</u>. Washington, DC: U.S. Govt Printing Office, 1961.
- . The Duel For France. Boston, MA.: Houghton Mifflin Co., 1963.
- . The Battle of the Generals. New York,: William Morrow and Co., Inc., 1993.
- Bradley, Omar N. A Soldier's Story. New York,: Henry Holt and Company, 1951.
- Brame, Wayne W. (LTC); Brummitt, Leroy D. (MAJ); Linthwaite, George P. (MAJ); Committee 9, Officers Advanced Course the Armored School, 1948-1949. <u>Super Sixth in Exploitation (6<sup>th</sup> Armored Division, Normandy to Brest)</u>, Operation COBRA. Fort Knox, KY, May 1949.
- Carell, Paul. <u>Invasion They're Coming, The German Account of the Allied Landings and the 80 Days</u>
  <u>Battle for France</u>. Translated. New York,: E.P. Dutton, Inc, 1983.
- Cottrell, Scott B. <u>From COBRA to the Seine, August 1944: A Microcosm of the Operational Art</u>. School of Advanced Military Studies, USACGSC, Ft. Leavenworth, KS, May 1986.
- D'Este, Carlo. Decision In Normandy. New York,: E.P. Dutton, Inc., 1983.
- Eisenhower, Dwight D., General. <u>Eisenhower's Own Story of the War</u>. New York,: Arco Publishing Company, 1946.
- Greenfield, Kent R. Command Decisions. Washington, DC: Harcourt, Brare and Company., Inc., 1959.
- Harrison, Gordon A. Cross-Channel Attack. Washington, DC:

- 1951.
- Hart, Liddell, B.H. <u>The Other Side of the Hill: Germany's Generals, Their Rise and Fall, With their Own Account of Military Events 1939-1945</u>. London, Cassell & Co, 1948.
- Hechler, Kenneth, W, Major, Infantry. <u>MS# A-910, Bombing and Operation Cobra</u>. Dept of the Army, Special Staff, Wash, DC: 12 July 1949.
- Loire, Naval Commander. MS# B-005, Loire Seekommandant (6 Jul 11 Aug 44). Historical Division, HQ, USA Europe, Foreign Military Studies Branch, April 1946.
- Mason, David. Breakout, drive to the Seine. New York, Ballantine, 1968.
- "Military Operations Research Unit Report No. 23, Battle Study, Operation Goodwood." October 1946.
- Montgomery, Field Marshal, the Viscount Montgomery of Alamein. Normandy to the Baltic. Germany, Printing and Stationery Service, British Army of the Rhine, 1946.
- "Northern France, The U.S. Army Campaigns of World War II." CMH Pub 72-30.
- Pillsbury, Glenn T. (COL); Russell, Peter T. (MAJ); Arntz, John P. (MAJ); Committee 3, Officers Advanced Course the Armored School, 1949-1950. <u>Employment of 2d Armored Division in Operation COBRA, 25 July 1 Aug 44</u>. Fort Knox, KY. May 1950.

- Pogue, Forrest C. <u>U.S. Army in World War II, European Theater of Operations, The Supreme Command.</u> Washington, DC: U.S. Gov't Printing Office, 1954.
- Rohmer, Richard, Major General. Patton's Gap. New York, Beaufort Books, Inc., 1981.
- Speidel, Hans. <u>Invasion 1944: Rommel and the Normandy Campaign</u>. Westport, CN, Greenwood Press, 1950.
- Sullivan, John J. "The Botched Air Support of Operation Cobra." Parameters 18 (March 1988): 97-109.
- von Gersdorff, Rudolf Frhr. Generalmajor a. D. <u>MS# B-722</u>, The Campaign in Northern France (25 Jul 1944 14 Sep 1944). Historical Division, HQ, USA Europe, Foreign Military Studies Branch: 1946.
- . MS# B-725, Northern France, Vol IV, Avranches Counterattack (1-11 Aug 44). Historical Division, HQ, USA Europe, Foreign Military Studies Branch: 1946.
- . MS# B-726, Northern France, Vol V (Fifth Panzer Army (25 Jul 25 Aug 44)). Historical Division, HQ, USA Europe, Foreign Military Studies Branch: 1946.
- . MS# A-921, Avranches Counterattack Seventh Army (29 Jul 14 Aug 44). Historical Division, HQ, USA Europe, Foreign Military Studies Branch: 1946.
- . MS# A-894, Normandy, Cobra and Montain. Historical Division, HQ Special Staff, USA, Washington, DC, July 1949.
- Warlimont, Walter. <u>Inside Hitler's Headquarters 1939-45</u>. Translated by R.H. Barry. New York.: Frederick A. Praeger, Pub, 1952.
- Weigley, Russell F. Eisenhower's Lieutenants, Bloomington.: Indiana University Press, 1981.
- Wilmot, Chester. The Struggle For Europe. New York, Harper & Brothers, 1952.
- Wolfert, Michael L. (MAJ). <u>From Acts to Cobra: Evolution of Close Air Support Doctrine in World War</u>
  Two. Air Command and Staff College Student Report. 1988.