

## INTRODUCTION

### Task Force Normandy Virtual Staff Ride

This packet of materials is designed to help participants prepare for the Task Force Normandy virtual staff ride (VSR). This introduction will provide background information on the purpose and the components of a staff ride and some suggestions on how best to use the read ahead material in preparation for the staff ride.

The United States Army's publication for conducting staff rides is *The Staff Ride: Fundamentals, Experiences, Techniques* (available through the Army University Press website at: <https://www.armyupress.army.mil/Books/CSI-Press-Publications/Staff-Ride-Handbooks/#staff-rides>). This book defines the staff ride as a three-phased activity: a preliminary study of a historical event, a field phase at the ground or virtual location of that event, and an integration session.

The purpose of the preliminary study phase is to provide the participants an understanding of the historical event prior to the field phase. This study can include reading materials, classroom sessions, movies, and any other material that can be presented before seeing the virtual terrain. For this staff ride, the preliminary study phase is primarily the read ahead material referenced in this package. The preliminary study phase is critical to the success of the field study phase and therefore equally critical to the success of the staff ride as a whole.

The field study phase most readily distinguishes the staff ride from other forms of historical study. It adds the one critical element of study that cannot be replicated in the classroom, in map study, or in readings—a view of the actual or virtual terrain. Because the field study builds upon the preliminary study, each phase compliments the other to produce a coherent, integrated learning experience. The visual images and spatial relationships seen during the field study may reinforce or challenge analytical conclusions reached during the preliminary study or generate new insights that build upon the added dimension of seeing the actual or virtual terrain.

The integration phase provides an opportunity for participants to reflect upon the staff ride experience. Several positive effects stem from the integration phase. First, it provides the participants the opportunity to analyze the preliminary and field study in order to develop a richer overall view of the campaign. Second, it provides a mechanism through which participants may organize and articulate their impressions of both the event and the insights derived from its study that are applicable to them today. The integration phase for the Task Force Normandy VSR will be conducted within the field phase after each stand and at the conclusion of the field study.

Participants should start their preliminary study by reading "Task Force Normandy: The Deep Operation that Started Operation Desert Storm" from the read ahead packet to get an overall understanding of the size and scope of the campaign. Participants should then review the other four readings within the read ahead packet to provide additional information and a general understanding of the Task Force Normandy

mission. Participants should be familiar with these events since they directly contribute to the conduct of the rest of the operation.

General guidance:

1. Participants should know what decisions were made, a general understanding as to why that decision was made (or an educated guess – be prepared to defend your answer), and the impact of those decisions.

2. Participants should take notes during the preliminary study phase for use during the field study. The facilitators will lead the discussions with open ended questions to provide participants with the maximum opportunity to share their knowledge. Do not read from a book verbatim; it shows a general lack of preparation.

The stands for the field phase are:

Stand	General Description
Background	Provides information on why Iraq invaded Kuwait, what the 101st Airborne Division was doing at the time of the invasion, and how quickly the division deployed to Saudi Arabia.
Mission Planning	Why the mission was originally developed, how the Apaches and Pave Lows became options to execute the mission, and the initial TF Normandy mission.
Pre-Mission Prep	Methods for selecting the team, training for the mission, challenges with joint operations, OPSEC, and interoperability, concerns with desert flying, moving to the ISB, the final mission update brief, and a virtual view of one of the target sites.
Movement / Actions on the Objective	Task organization of both teams, mission overview, movement to and actions on the objective.
Post-Mission	Battle damage assessment and mission impact on Operation Desert Storm.

Participants will describe what happened, what the result was, and analyze the impact on the operation. As much as possible these descriptions will be open discussions. The free flow exchange of ideas and questions are the hallmarks of a good staff ride and is strongly encouraged.

For those interested in conducting a deeper study of the campaign, the following book is particularly useful:

Taylor, Thomas H. *Lightning in the Storm: The 101st Air Assault Division in the Gulf War*. Hippocrene Books, Inc., New York, 1994.

# DEEP MANEUVER

Historical Case Studies of Maneuver  
in Large-Scale Combat Operations

Edited by Jack D. Kem



LARGE-SCALE COMBAT  
OPERATIONS SERIES  
Army University Press

## Chapter 8

### Task Force Normandy: The Deep Operation that Started Operation Desert Storm

Colonel Paul E. Berg and Kenneth E. Tilley

*Operations in the deep area involve efforts to prevent uncommitted or out of contact enemy maneuver forces from being committed in a coherent manner or preventing enemy enabling capabilities, such as fires and air defense, from creating effects in the close area.<sup>1</sup>*

—Field Manual (FM) 3-0, *Operations*

“One of the smallest yet most successful and important Joint-Army-Air Force operations in the initial strikes in Operation Desert Storm was Task Force Normandy.”<sup>2</sup> During the opening hours in the Iraqi desert on 17 January 1991, Task Force Normandy consisted of eight Army AH-64 Apache helicopters working with four Air Force MH-53J Pave Low helicopters were on a mission to destroy two Iraqi early warning (EW) radar sites with the purpose to blind Iraqi air defense and open a 20-mile wide air corridor in the opening minutes of the air campaign.<sup>3</sup> The task force operation was named Normandy after the site of the 101st Airborne Division’s famous airborne insertion on D-Day during World War II.<sup>4</sup> This operation created an unobstructed pathway for a plethora of fast moving Navy and Air Force bombers to fly deep into Iraq and destroy key targets to start Operation Desert Storm. Operation Desert Shield/Desert Shield were the largest combat operations in US military history since the Vietnam War.<sup>5</sup>

Iraqi leader Saddam Hussein ordered his Army to invade and occupy their neighbor border country of Kuwait in early August 1990 with approximately 300,000 troops, because he accused Kuwait of “siphoning crude oil from common border oil fields and accused them of keeping oil prices low to assist Western oil-buying nations” in addition claimed “Kuwait was an artificial state carved out of Iraqi coast by Western colonies.”<sup>6</sup> General Norman Schwarzkopf was Commander-in-Chief of United States Central Command (CENTCOM) and led the United Nations and US first phase response to Iraq’s invasion of Kuwait by establishing a deterrent defensive force to prevent the Iraqi Army from continuing into Saudi Arabia. This defensive posture also established valuable time for the UN and US militaries to build up more forces to mount a major offensive to forcefully remove Saddam’s forces if he did not withdraw his forces from Kuwait. The name given to the initial defensive operation was Operation Desert

Shield.<sup>7</sup> Hussein defied United Nations Security Council demands to withdraw from Kuwait by mid-January 1991.

### **Mission Analysis**

As UN and US forces were establishing Operation Desert Shield, the Iraqi Army's immediate threat into Saudi Arabia declined. This opportunity allowed an initial planning cell from the US Air Force's 20th Special Operations Squadron (20 SOS) to start planning an air campaign, with an essential task of penetrating Iraq's air defenses and allow freedom of maneuver for UN and US aircraft to conduct deep operations into Iraq to reduce risk management to crews.<sup>8</sup> The 20 SOS was commanded by Lieutenant Colonel (USAF) Rich Comer from 1st Special Operations Wing (SOW) at Hurlbert Field, Florida, and consisted of multiple MH-53J Pave Lows helicopters in Saudi Arabia to provide area coverage—their primary mission for search and rescue operations.<sup>9</sup>

The Iraqi defense system consisted of French and Soviet air defense equipment. The Iraqis had built an integrated air defense system that included medium- and long-range surface-to-air missiles (SAMs) and short-range anti-aircraft artillery pieces. The multi-layered defense system established overlapping coverage against high fixed-wing aircraft and low rotary wing aircraft. The Iraqis were only able to establish this defense system through powerful EW radars that provided essential enemy air threat critical information regarding size, direction of attack, and speed axis of any enemy force.<sup>10</sup> The Iraqi security operations centers (SOC) would receive the early warning information and determine what air defense asset to use to maximize effects. If a task force could destroy several EW sites, that effort could cripple SOC's capability to integrate air defense system against enemy air. The tactical challenge was that the SOC's were usually deep inside Iraq and well defended, and to minimize casualties during any future air campaign, a military operation must take out the eyes and ears of the Iraqi air defense system.<sup>11</sup>

The new arrival of global positioning system (GPS) technology played a pivotal role in the mission analysis. GPS technology started in 1980s with a global network of GPS satellites launched into space orbit.<sup>12</sup> The new network of GPS technology allowed accuracy up to 100 meters in Southwest Asia 24 hours a day with the aircraft that were GPS-enabled. This technological navigational advantage gave certain aircraft (mainly special operations aircraft like the MH-53J Pave Lows) an unparalleled precision of navigation during day, night, and instrument weather conditions.<sup>13</sup>

Colonel Jessie Johnson, Commander of US Special Operations Command Central (SOCCENT), initially had Colonel (USAF) George Gray, Commander of the 1st Special Operations Wing (SOW), and his staff planners target on two Iraqi EW radar sites that were positioned in the proposed air attack corridor, but total simultaneous destruction of these sites was critical to mission success. These EW sites had to be destroyed at the same time to prevent any warning or alert to the larger Iraqi air defense systems. Due to the overlapping of EW coverage, destroying only one EW

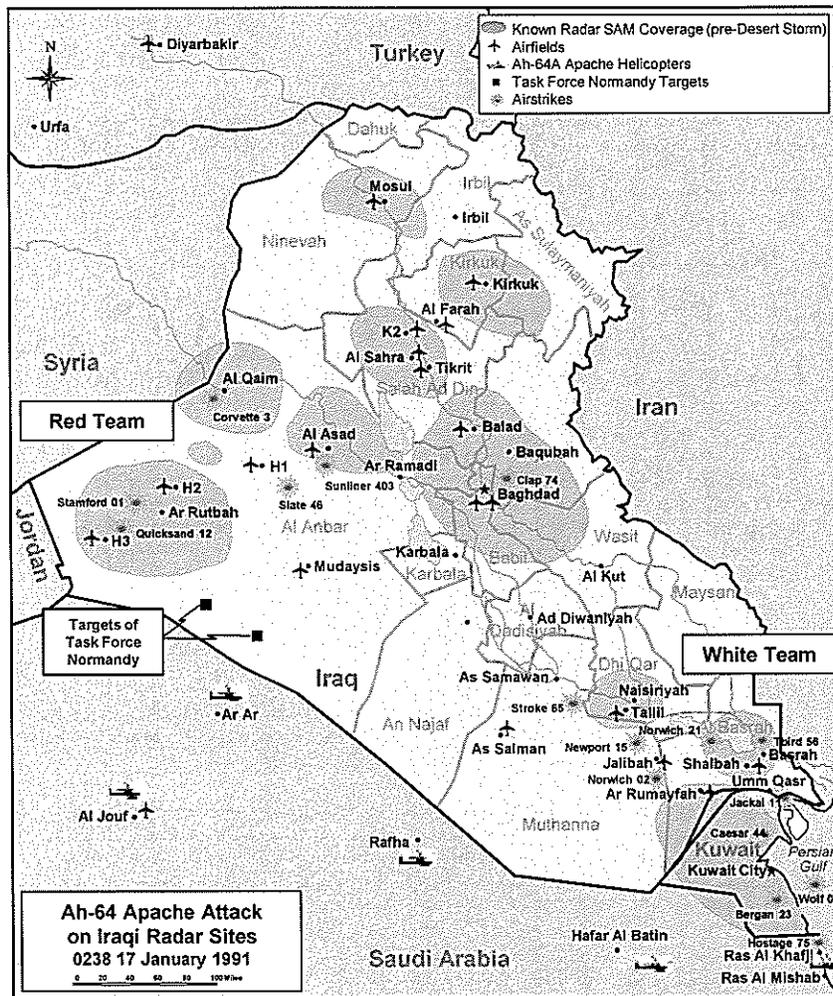


Figure 8.1. 17 January 1991 AH-64 Apache Attack on Radar Sites inside the Iraqi border. This opening Deep Attack kicked off Operation Desert Storm. Map created by Army University Press.

site would still leave enough capability to threaten future attacking air forces.<sup>14</sup> During this timeframe of planning, intelligence assets had identified that the Iraqis tactically moved the three radar sites 20, 27, and 40 miles, respectively, further back into Iraq and hardened the sites.<sup>15</sup>

During initial mission planning using only the MH-53Js because of their enabled GPS navigation, the helicopters could attack the two EW sites with their 50-caliber machine guns. Colonel Johnson briefed this initial plan to General Schwarzkopf, who only approved the concept for further planning. However, Lieutenant Colonel Comer was not convinced of success of this initial plan, because he believed “that the 50-caliber machine guns would not be powerful enough to satisfactorily destroy the sites.”<sup>16</sup> In addition, the 3d Battalion, 160th Special Operation Aviation Regiment (SOAR) contacted Colonel George Gray and recommended Army MH-60s armed with 2.75-inch rockets and 7.62-mm mini-guns would be better for the mission accomplishment than then the Pave Lows. Colonel Gray and Lieutenant Colonel Comer “rejected that proposal believing that, in reality, the Army special operations aviators were just looking for a way to block the Pave Low guys from being in the mission.”<sup>17</sup>

The initial planners recommended three course of actions (COA) to achieve the objective: COA #1 was to insert special operation forces on the ground; COA #2 was to have Air Force Pave Low helicopters attack and destroy the EW sites only using their .50-caliber machine guns; and COA #3 used cruise missiles.<sup>18</sup> Each of the COAs involved a certain high risk and mission failure that something might survive or be missed. The planners all agreed that the use of helicopters was the best option “because their pilots could loiter on station, assess damage, and reengage targets until they were sure nothing was left.”<sup>19</sup> The helicopter was the best answer to destroy the objective, assess damage, re-engage, and provide a rescue option for any downed aircraft scenarios; however, which ones, what type, and how many was the next step.

The best aircraft for navigation would be the Pave Lows, but the most accurate helicopter to destroy the EW sites was determined to be the AH-64 Apache helicopter. The AH-64 Apache helicopter was a new attack platform that was the replacement for the US Army’s Vietnam era AH-1 Cobra helicopter. Lieutenant Colonel Comer further discussed the mission and also highly recommended the mission include Army AH-64s with Hellfire missiles, Hydra-70 rockets, and 30-mm machine guns to do the job. The AH-64 Apache could carry a mix of weapons that could assure destruction of both hard and soft targets. The Apaches did not have GPS navigation capability like the Pave Lows, and flying nap-of-the-earth (NOE) in the

desert and night was high-risk. The key for mission success was destroying two Iraqi EW sites simultaneously attacking both sites at the same determined time. This scenario required two aircraft teams to maintain arrival at night at the objective on time, which the Apaches were unable to do alone with its navigational capabilities. The Apaches needed assistance in precision navigation to get to the objective on time where they would have the ability to do what they did best by destroying the objective.<sup>20</sup>

As the plan was maturing to a Pave Low and Apache mix, CENTCOM intelligence reported three Iraqi EW sites had consolidated into two sites and moved 10 miles closer to the border.<sup>21</sup> The result was a hybrid option using Pave Lows with Apaches; the Pave Lows' onboard GPS assured precise navigation, while their terrain-following radar could provide the safety for the Apaches to maintain precise speed along the route. The planners took their modified plan of Pave Low and Apache mix to Colonel Johnson at SOCCENT. Colonel Johnson updated General Schwarzkopf, who then approved the use of Apaches from the 101st Airborne Division and cleared them collectively to start training.<sup>22</sup>

On 25 September 1990, Colonel Johnson called in Lieutenant Colonel Richard A. Cody, Commander of the 1st Battalion, 101st Aviation Brigade, to discuss the mission capability and assurance of success and who were also co-located at King Fahd Airport.<sup>23</sup> After the meeting, Lieutenant Colonel Comer met with Lieutenant Colonel Cody, and they began planning the mission in detail not knowing when the D-Day (day of the operation) or H-hour (designated hour of the attack) was expected to be. The Task Force was officially called Task Force Normandy.<sup>24</sup>

The mission concept was that the Pave Low helicopters were going to lead and navigate using their GPS technology and terrain-following radar and the Apaches would follow to the release point then move on to the objectives. The Pave Lows would also be available to search and rescue any Apache crewmen should any aircraft get shot down.<sup>25</sup>

The identified immediate challenges of this package of Joint aircraft were the Apaches' fuel load constraint. With a full weapons load (Hellfires, rockets, and 30-mm), the Apaches could barely fly the mission with internal fuel and would have no margin for error if needed to avoid unexpected threats or bad weather. A crewmember flight engineer Tech Sergeant (USAF) Jeff Morrison recommended one option that "a Pave Low could ground transfer fuel from its tanks to the affected Apache and also could assure the necessary equipment was aboard each Pave Low."<sup>26</sup> An additional option was to establish a forward arming and refueling point

(FARP) inside Iraq; this was quickly abandoned because of its complexities and fears from Desert One (a failed 1980 Joint aviation mission in Iran that resulted in two destroyed aircraft and killed eight crewmen). The approved recommendation was to use an external fuel tank that replaced one 2.75" rocket pod.<sup>27</sup>

Another challenge was how to identify the release point; some of the best solutions came from enlisted crewmembers. One of the Pave Low gunners recommended that "they lead the Apaches to a pre-designated position (release point) and then mark it with chemical night lights."<sup>28</sup> The Apache pilots could identify the chemical sticks position and update their Doppler systems for the final run into their targets.

There would be two flights of aircraft to destroy the EW sites. Each flight (Red Team and White Team) would consist of two MH-53s that would lead and navigate four Apaches each to the site and also provide combat recovery support. Lieutenant Colonel Cody selected his aircrews in December to conduct the mission into two teams of four Apaches.<sup>29</sup> Lieutenant Colonel Cody had 24 Apache crews and picked only eight but commented any of the 24 could have completed the mission; crews averaged 26-years-old and include three warrant officers out of flight school. Lieutenant Colonel Comer would lead the Red Team to the western radar site and Lieutenant Colonel Cody would lead the White Team to the other radar site.<sup>30</sup>

Through the next three months in the fall of 1990, they would train in the Saudi Arabian desert for the mission. The Apaches received permission to only six Hellfire live-fire ranges in the Saudi desert. The crews on the mission were not briefed on specific targets or locations until two days before execution; also there would be one trained spare AH-64 and one UH-60 with four mechanics trained available on standby if needed.<sup>31</sup>

The White Team consisted of 20th Pave Low crews of Captain Michael Kingsley and Major Robert Leonik and Apache crews of Lieutenant Colonel Dick Cody, Chief Warrant Officer 2 William Stewmom, Lieutenant Tom Drew, Chief Warrant Officer 2 Tim Zarnowski, Chief Warrant Officer 3 Ronald Rodriguez, Chief Warrant Officer 2 David Miller, Chief Warrant Officer 3 David Jones, and Chief Warrant Officer 2 Thomas O'Neill.<sup>32</sup>

The Red Team consisted of 20th Pave Low crews of Captain Corby Martin and Major Ben Pulsifer, and the Apache crews consisted of Captain Newman Shufflebarger, Chief Warrant Officer 3 Tom Roderick, Warrant Officer 1 Tim Vincent, Chief Warrant Officer 2 Shawn Hoban, Chief Warrant Officer 4 Lewis Hall, and Warrant Officer 1 Jerry Orsburn.

The spare Apache consisted of Lieutenant Tim Devito and Chief Warrant Officer 2 Mark Ivey.<sup>33</sup>

The maintenance crew aircraft selected in a UH-60 Blackhawk helicopter were Chief Warrant Officer 3 Terry Seanor and Captain David Parker, along with intelligence officer Lieutenant Russ Stinger, mechanics Staff Sergeant Robert Sparks and Staff Sergeant John Frady.<sup>34</sup> Their mission would be to conduct downed aircraft recovery duties if an aircraft crashed or was shot down.

### **Challenges of Joint Operations**

Joint operations always come with longstanding challenges in bringing multi-service agencies together to work as a team. The Apache and Pave Low crews had never worked with each other before this mission, and each aircraft had different service troop, training, and procedures (TTPs). In addition, between inter-service aircrews there was a natural and mutual mistrust within the aviation community. Additional differences in equipment were that the Apaches operated at night using infrared and needed no ambient light while Pave Lows used night vision goggles (NVG), which required some ambient light; each aircraft had to find ways to accommodate the equipment differences.<sup>35</sup>

Operational security (OPSEC) of the future Task Force Normandy mission was of critical concern to assure covert training specifics and avoid any suspicion. The Army and Air Force crews were not informed of the details or the exact target until hours before the mission. Both Lieutenant Colonel Cody and Lieutenant Colonel Comer conducted all training almost 700 miles away from the actual objective; the crews never practiced the actual route; the movements to the actual operational base was classified; the Air Force and army crews planned to fly separately to the staging base at King Khalid Military City.<sup>36</sup>

As each aircraft type were conducting successful training flights in the fall independently, the pressure from Joint Special Operations Command (JSOC) and CENTCOM on the decision of the Apache to complete the mission over other aircraft had to overcome doubt by the staff, because this was the first time the AH-64 Apache were in combat and had not been fully tested. One of the final training scenarios from higher to confirm the choice of the Apache was tasked to fly a 1,000-mile specified route at night, arrive at a gunnery range undetected and blow up some targets at a precise time down to the exact second. Lieutenant Colonel Cody and his selected crews performed, unaware CENTCOM staff was present. The 1-101st battalion operations officer (S3) was in the range tower with the

CENTCOM staff and with 15 seconds to go, no one in the tower could see or hear the Apaches in the darkness as they were passing the tower; a CENTCOM staff officer asked the S3 where the Apaches were; within three seconds to go the S3 said, "I guess they are not going to make it?" and instantly the area around the tower lit up as all four Apaches fired at the exact designated time.<sup>37</sup> That demonstration clinched the decision: if the Apaches could sneak that close to the people who knew they were coming and were looking for them, then they had the stealth for the real mission. All doubts were erased that the Apache could do the mission.

After three months of training, Colonel Johnson personally briefed General Schwarzkopf in late October "that Task Force Normandy was ready to execute its mission to destroy two Iraqi EW sites . . . and Colonel Johnson assured him that the mission would be 100 percent successful;" then Schwarzkopf replied, "Okay, Colonel, then you get to start the war."<sup>38</sup> The date of the mission was still undetermined and would be decided by President George H.W. Bush.

The week before Christmas 1990, the Chairman of the Joint Chiefs of Staff, General Colin Powell, and the Secretary of Defense (SECDEF), Honorable Dick Cheney, flew to Riyadh to review the CENTCOM war plans personally. As General Schwarzkopf was briefing the Task Force Normandy mission to the SECDEF, he brought in Colonel Johnson and Colonel Gray and pointedly asked if they could guarantee 100-percent success; both answered yes.<sup>39</sup>

Task Force Normandy held a final rehearsal on 10 January 1991 and it went as planned and flawless which involved actual timing and distances to identify any errors. Lieutenant Colonel Comer said "We were eager for the mission to fly . . . not since Desert One in Iran had special operations helicopters been given a better chance for a good mission."<sup>40</sup> On 14 January, the Apaches and Pave Lows departed separately to Al Jouf, which was a Joint airfield about 130 miles south of the Iraqi border.

During the final exercise, Lieutenant Colonel Comer spoke with Joint Special Operations Command's (JSOC) air component commander and noticed that Lieutenant Colonel Doug Brown, the commander of the 1st Battalion of the 160th Special Operations Aviation Regiment (SOAR) did his best to insure that the aviation unit of choice for the upcoming mission was his unit and not the 20th SOS. Lieutenant Colonel Comer identified the differences in capabilities between the aircraft types to JSOC and almost lost the mission due to preference to Brown's unit, but in the end, Comer kept the mission.<sup>41</sup>

On the afternoon of 16 January 1991, all last-minute diplomatic UN and Allies' efforts to avert any future combat failed as the United Nation's January deadline to Saddam Hussein came and went. President Bush secretly declared D-Day, the start of the air war against Iraq, as 17 January 1991, and the entire world held its breath in anticipation of the war.<sup>42</sup> To set the conditions for the war and open an air corridor for bombers and fighters, General Schwarzkopf approved the Task Force Normandy mission to destroy two early-warning radar stations on early morning of 17 January 1991. CENTCOM notified all of its forces that the war would start the next morning at 0300.<sup>43</sup>

At 2130, Lieutenant Colonel Comer and Cody held a final mission update brief for all the Apache and Pave Low crews. The crews were highly professional and had been well trained and knew the significance of their mission to the future large-scale combat operations that were going to happen next. At 2330, crews began pre-flight checklists and at midnight they started engines.<sup>44</sup>

### **Mission Execution**

Because their flight times required different departures, the "White Team" Apaches left first from Al Jouf Airfield at 0100; the first "White" Pave Low lifted at 0113. The "White Team" Pave Lows linked with their Apaches to fly the eastern target now designated "California." The Red team led seven minutes later and crews joined their four Apaches en route for the western target designated "Nevada."<sup>45</sup> Lieutenant Colonel Comer flew as a copilot in Red Team in a Pave Low and maintained communications with Colonel Gray and Colonel Johnson at SOCCENT command center. Lieutenant Colonel Dick Cody was a copilot with White Team in an Apache. There were also two MH-60's for combat rescue support (55th SOS), one UH-60 with Apache mechanics, and one spare Apache if needed up in orbit north of Arar.<sup>46</sup>

The Red and White Teams avoided any ground lighting to preserve operational security. The Red Team encountered an unexpected observation post that was extremely brightly lit, which required them to divert the route slightly and noticed small arms fire that had no effect. When the White Team neared the border, they drew a missile fired by an Iraqi assumed by the response to the sounds of the helicopters.<sup>47</sup> At 0212, Task Force Normandy crossed into Iraq, varying their flight paths to avoid known or suspected enemy observation posts or Bedouin locations. The western target was 13 miles farther; the eastern target, 23 miles.<sup>48</sup>

Both teams flew in radio silence and crossed the border at 120 knots at an altitude of 75 feet and from 40 kilometers out, crews could make out lights near the objective.<sup>49</sup> The Iraqis had left the lights on at the objective. The flight slowed to 80 knots and descended to 50 feet as they approached the release point. Two minutes later, the Pave Lows slowed to a hover and dropped green chemical stick to the ground to mark release point and then turned south. As the Pave Lows departed south and went into a holding pattern—ready to provide combat search and rescue (CSAR) or extra firing power if needed—the Apaches slowly passed over the chemical lights and updated their Doppler navigational systems for the final 10-mile run to their individual targets. Task Force Normandy arrived into firing position exactly 90 seconds early.<sup>50</sup> Lieutenant Colonel Cody commented that, “the waiting after they were already in Iraq made him old before his time.”<sup>51</sup>

The Apaches achieved complete surprise on the Iraqi EW sites. The Apache crews also saw enemy troops around the structures. Suddenly, the lights began to go off and one of the pilots commented, “I think they know we are here” as the Apache crews turned on their ranging lasers.<sup>52</sup> The radars were turned up looking for fixed winged aircraft, not expecting slow moving helicopters. At exactly 0237:50, White Team Apache pilot 2nd Lieutenant Tom Drew keyed his radio and broadcast, “Party in 10” and Red Team broadcast “Joy.”<sup>53</sup> Precisely 10 seconds later, all crews began firing their Hellfire missiles. Twenty seconds later, the deadly weapons began to detonate against the structures. The generators were first, then the command bunkers, and finally, the radar dishes themselves. By hitting power sources first, the pilots would silence the radar site before it could alert the Iraqi central control headquarters in Baghdad.<sup>54</sup> The enemy soldiers died in the melee. The intelligence-gathering aircraft high above monitored the sites and noted that all radar signals immediately ceased. Each of the Apaches had a primary target, along with another Apache’s primary as a secondary target. Cody arranged primary and secondary targets to assure every piece of the EW site had redundant hits.<sup>55</sup> The intent was to assure that nothing could be easily repaired. After all Hellfires were expended, the Apaches moved to 4 kilometers and started firing Multipurpose Sub-Munitions (MPSM) rockets and at 2 kilometers from the sites, they opened up with their 30-mm chain guns and riddled what remained of the compounds with every bullet they had.<sup>56</sup> In addition some of the rockets fired were flechettes to tear up wires and cables connecting parts of the site; nothing would be repairable, the whole attack, from first to last shot took only a few minutes. Within four minutes, the radar sites and their bunkers were completely destroyed with full mission accomplish-

ment, then Task Force Normandy turned for home. Cody transmitted "California A-A-A" to Comer, who then relayed the message to CENTCOM that the White Team target had been 100-percent destroyed and with no casualties.<sup>57</sup> Comer reported "Nebraska A-A-A" to CENTCOM to signal the Red Team had 100-percent destruction of their site and no casualties.<sup>58</sup> Task Force Normandy created a 40-kilometer corridor for Allied aircraft to begin Desert Storm's air operations. The sites were completely destroyed and would not reactivate during the war.<sup>59</sup>

The radar facilities were destroyed 22 minutes before H-Hour (termed H-22), a timing that was based on the estimated time that the Iraqis' radar network could detect the "strike force" as it moved toward the border. The hole in the Iraqis' defense system reduced their ability to detect, identify, and respond to the Coalition attack.<sup>60</sup>

The Apaches had expended 27 Hellfire missiles, 100 Hydra-70 rockets, and 4,000 rounds of 30-mm cannon fire. They turned south, rejoined with the Pave Lows, and headed home. En route, crews observed what appeared to be the launch of two SA-7 missiles. Utilizing onboard defensive systems and some aggressive maneuvering, the crews managed to escape them. Outbound, Lieutenant Colonel Comer radioed a code-word message to SOCCENT headquarters reporting their complete success: "SOF targets destroyed."<sup>61</sup> Colonel Johnson personally reported the results to General Schwarzkopf's command center. "Thank God!" the general responded.<sup>62</sup>

As the Task Force Normandy helicopters flew out of Iraq, strike aircraft roared toward Baghdad; at the Saudi border. The last danger for the aircraft was the need to stay low to the ground and not rise above 100 feet as the largest air armada since Vietnam raced toward Baghdad. A coalition of US and Allied aircraft began crossing Iraqi airspace which included the F-117 stealth fighter's first mission in combat and joined the attack along with dozens of F-15s and F-111s. British Tornado fighters along with Saudi and Kuwaiti F-15s also joined in the attack on Iraqi targets. The lights were so numerous in the total blackness that Lieutenant Colonel Comer called the formation aluminum overcast. After crossing the border, the Pave Lows disappeared to resume CSAR duties, the Apaches returned to their original base. The Apaches from the 1-101st had rejoined the 101st Airborne Division at Camp Eagle and landed at 1600.<sup>63</sup>

The Pave Low and Apache combination worked as planned and the training had fully paid off. The returning aircraft could see in the clear night air above the multiple formations of US and Allied fixed-winged aircraft heading for the radar gap. The pilots remembered how "you could look off

to the south, and there were blinkers lined up . . . you could see a long way on goggles . . . there were anti-collision lights lined up; it looked like an LA freeway . . . then, all of a sudden, there were no more lights as each aircraft turned off their lights to enter Iraqi airspace.”<sup>64</sup> One F-15E fighter pilot wrote a thank-you letter to the crews of Task Force Normandy that said, “During our [flight intelligence] brief, we noticed our route of flight took us right over an active [radar] site. . . . We were told not to worry about it . . . We saw the explosions and your helicopters in our FLIR [forward-looking infrared radiometer] as we flew over you; there was immense relief.”<sup>65</sup>

### **Operation Desert Storm in Effect**

The shift noncommissioned officer on duty at the 101st Airborne Division main command post at Camp Eagle, King Fahd International Airport, Saudi Arabia, received a phone call just before 0200 on the 17th of January from the XVIII Airborne Corps G-3 staff informing him that the US Navy had launched 100 Tomahawk cruise missiles toward Iraqi targets at 0152 and passed a verbal order from ARCENT that stated “Operation Desert Storm is in effect.”<sup>66</sup> With this order, more than five months of training in the Saudi desert had come to a conclusion. The defense of Saudi Arabia from Iraqi aggression, Operation Desert Shield, had been mission accomplished, and the 101st Airborne Division immediately began implementing its role in the Liberation of Kuwait and the start of Operation Desert Storm.<sup>67</sup>

At 0635 on 16 January, seven B-52 bombers launched from Barksdale Air Force Base, Louisiana, to be a participant in the first wave of aircraft bombers in Operation Desert Storm. These B-52’s and others from the continental US had flown a 35-hour, 14,000-mile combat mission—which would be the longest air combat mission in history.<sup>68</sup> The strategic air campaign was now in full swing as allied aircraft swarmed over Iraq and Kuwait. On 17 January, the Turkish government finally gave its approval to begin combat operations and Colonel Gray was relieved that he now had a personal recovery force for the northern part of the country for the rest of his Pave Lowes.<sup>69</sup>

As Task Force Normandy opened up the Iraqis’ western flank to allow Coalition air to start precision bombing, Saddam Hussein continued to improve his defenses in Kuwait and had 41 Iraqi divisional headquarters postured in defense.<sup>70</sup> Saddam had increased five divisions since November, which were infantry divisions that joined the coastal and forward defenses and added an additional three regular army armored divisions to complete the formation of two regular army corps, which would serve as operational reserve.<sup>71</sup>

Military analysts assessed the defense strategy and assumed Saddam had decided to accept risk in the west due to terrain that a western attack would be too difficult and the route too long for the Coalition to consider an option. Saddam had residual forces of 24 divisions in Iraq, largely recently mobilized infantry units that possessed little military tactical value and further reinforcements were unlikely. In retrospect, Saddam had left the back door open, and from all appearances he had neither the capability nor the inclination to close it.<sup>72</sup>

By the end of operations on 26 February 1991, 24 Iraqi Divisions were destroyed; Iraqi Soldiers surrendered faster than CENTCOM could count them, but military police estimated POWs exceeding 30,000 soldiers; the 24th Infantry Division had outrun its fuel trucks; and President Bush ordered a ceasefire, which went into effect at 0800 on 28 February. By the ceasefire, the UN and US forces nearly destroyed the entire Iraqi ground force—3,847 of their 4,280 tanks (90 percent) destroyed, more than half of the 2,880 armored personnel carriers and nearly 3,100 artillery pieces destroyed; only 5 to 7 of 43 combat divisions remained capable for any offensive operations, and there were about 60,000 Iraqi POWs being held. The US forces had lost 147 killed in action; Operation Desert Storm had been the fastest and most complete victory in American military history.<sup>73</sup>

## **Conclusion**

Task Force Normandy succeeded beyond all expectations and set the conditions for the future fight with both radar sites completely destroyed and two days later an AC-130 gunship went to the radar sites to destroy anything left and found nothing left to shoot at. The casualty results of the first night of the air campaign were the real measures of success; in which planners expected high losses among aircraft deep in the heart of Iraq on the first night, but the losses did not occur.<sup>74</sup>

Task Force Normandy represented several successful lines of effort to the Army from lessons learned from the Vietnam War; the success was a testimonial to the Aviation branch's ability to attract and retain extremely high-quality aviators, train them to perfection, and let them be critical thinkers in highly stressful combat environments.<sup>75</sup> The most important keys to their success were gains of key technology since the end of the Vietnam War; most important was the technological leap in capability that came with the AH-64 Apache helicopter, the laser-guided Hellfire missile, and night vision devices. After this initial combat mission of the Apache, those who doubted the performance of the Apache were silenced by the aircraft's ability to prepare and execute the missions at high levels of read-

iness for long periods under horrible environmental conditions. The most significant technological advantage over peer threats was precision navigation that came with the GPS; only a year or two earlier this mission would have been impossible.<sup>76</sup>

Finally, Task Force Normandy showed the effects of dramatic changes in thinking about the dimensional multi-domain battlefield and how to organize and fight in it. Task Force Normandy proved the doctrinal ideas about deep attack operations in large-scale combat operations and aviation (in 1990s). This deep maneuver mission also proved the importance of moving toward joint integrated operations that was fundamentally in the thinking of future Army doctrine and the current continued concepts of large-scale combat operations.<sup>77</sup> Task Force Normandy prevented the Iraqi Army from employing air defense fires by destroying the EW sites that disrupted enemy command and control (C2) and enabled Allied air forces to mass effects against key Iraqi capabilities to enable the rapid movement into Iraq, which provided an excellent example that defines large-scale combat operations of today.

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## SHAPING THE BATTLEFIELD

*Af precisely 0200 on the morning of January 17, 1991, a group of Iraqi soldiers sfanding watch just beyond the border berm was startled by the scream of turbines and the beat of helicopter rotors passing just a few feet above them. Seconds later, trailing rotor wash buffeted the terrified Iraqis and covered them with stinging particles of flying sand. The thundering sound of the invisible armada faded quickly as the Apaches rushed northward deep into the Iraqi soldiers' homeland. Inside the aluminum and titanium cocoon of White Three, the lead Apache in the six-helicopter formation, both pilots could sense little else but the narrow, red-lit world defined by their instruments. Chief Warrant Officer Dave Jones was totally focused on an inch-square lens at the end of a tube attached to his helmet and positioned just in front of his right eye. Although the Army named this the Pilot's Night Vision Sensor, pilots simply called it "the system." The outboard part of the system, an infrared sensor, was slaved to follow Jones' head movements, and as he looked through the eyepiece he could see a surreal photonegative image of a giant Air Force MH-53J Pave Low helicopter just 50 feet to his left front. Digital altitude and airspeed numbers flashed along the rim of his eyepiece to enable Jones to fly without having to look back inside the cockpit. In the front seat Chief Warrant Officer Tom "Tip" O'Neal strained to catch visual cues through the narrow tubes of the ANVIS-6 night vision goggles. The goggles' twisted fiber-optic bundles amplified the limited light of the moonless night enough to allow O'Neal to continue flying should anything knock out or degrade the system. Just south of the border, O'Neal picked up flashes from Iraqi machine-gun fire and the bright streak of a heat-seeking missile launched by some nervous Iraqi at unseen objects above him.*

*The Pave Low helicopters, their Air Force partners, were along to assist the Apaches in navigating to the release point using their*

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sophisticated inertial and satellite navigation system and terrain-following radar. The Pave Lows-White One and Two-would also be ready to rescue Apache crewmen should anyone get shot down. In addition to the two Pave Lows, **four** Apaches flew in an echelon right formation. In the back seat of White Six was Lieutenant Colonel Dick Cody, 1-101st Aviation, the commander **of** Task Force Normandy.

Jones and O'Neal had been together since their unit had first received Apaches at Fort Hood, Texas, more than two years earlier. Jones was a square-jawed Indiana native with sandy blond hair, a ready smile, and a self-effacing modesty that belied his extraordinary skill and confidence. Sixteen years in the Army, 10 **of** them in the cockpit, and experience as an AH-1 Cobra instructor pilot made him the "old **pro**" in a company comprising mostly younger men. Cody referred to Jones as his "recruiting poster **for** warrant officers."<sup>1</sup> His co-pilot had less than six years in the Army. Dark-haired, with a mustache and wide-set eyes, O'Neal was a true product **of** the eighties. His battalion handle, "Gadget Man," aptly described his knack with computers and his wizardry with Apache electronics.

The six White Team helicopters, flying in total radio silence, crossed the border at 120 knots at an altitude **of** 75 **feet**. Although the Apache's environmental control unit blew a steady stream **of** fresh air into their faces, the crewmen felt some discomfort in their bulky chemical overgarments. From 40 kilometers out, O'Neal could make out a glimmer **of** light near the target. Oblivious to the threat **of** war, the Iraqis had left the lights on. The team slowed to 80 knots and descended to 50 **feet** as they approached the release point. Two minutes later Jones saw the Pave Lows slow to a hover. Through his goggles O'Neal could see intense points **of** light drop to the ground as the MH-53J crews dispensed chemical light sticks to precisely mark the location **of** the release point.

Jones hovered carefully over the **chem** lights to allow O'Neal to update his navigation system. After selecting the prestored coordinates on the keyboard **of** the Doppler navigation control head, O'Neal pressed the "**enter**" button to reinitialize his fire-control computer. The remaining White Team Apaches completed the update and followed Jones as he edged up to his first firing position 5.5 kilometers from the Iraqi radar complex. Twenty kilometers to the west, the Red Team **of** two more Pave Lows and four Apaches completed the same maneuver south **of** a second radar complex.

In clipped, mechanical tones, Jones and O'Neal methodically worked their way through the prefire checklist to set up **for** the first target. Jones

*maintained a steady hover while, in the front seat, O'Neal flipped the night vision goggles up off his face and looked down at the video screen of his primary target-acquisition system. With the right handgrip manual tracker switch, he slewed the laser onto his first target, a square, box-like object on his screen that defined a dug-in electric power generator just a few meters to the left of the main Iraqi command and control van. By hitting power sources first, the pilots would silence the radar site before it could alert the Iraqi central control headquarters in Baghdad. The laser spot was centered on the target approximately 4 miles away. O'Neal punched in the lower left outboard missile and spun it up so that the missile would recognize the coded laser energy reflected from the target once he squeezed the launch trigger.*

*While O'Neal was engrossed in his work, the rest of White Team fanned out on line, settling into position at 0237, exactly 57 seconds early. For the longest minute of the war, four Apaches hung suspended in total darkness 50 feet off the deck. Lieutenant Tom Drew in White Five broke radio silence just long enough to broadcast "Party in five," the code to fire in 10 seconds.*

*At precisely 0238, O'Neal launched the first shot of Desert Storm. Jones faintly heard the muffled swoosh and the familiar sparks thrown aside by the Hellfire's booster motor. In a second the missile disappeared into the darkness. Jones calmly whispered into the intercom, "This one's for you, Saddam," as he kept the target box in his small screen aligned with the pipper indicating O'Neal's line of sight. O'Neal's right thumb was on the manual tracker switch holding the laser spot on the generator and sending digital information to Jones on where the target-acquisition system was focused. Seconds later the missile streaked in from the upper left of O'Neal's video screen. The explosion momentarily "whited out" on O'Neal's screen as 17 pounds of Hellfire explosive vaporized the generator.*

*O'Neal immediately "squirted" the laser on the second target, a nearby command and control van, and took it out with a second missile. On the periphery of his screen he could see the methodical destruction of the site as other team members, moving steadily forward at an even 20 knots, hit antennas, radar dishes, and buildings. Within minutes Jones could see nothing through his infrared sight but burning dots of light.*

*Jones guided the Apache forward in line with the other aircraft and broke off the attack just 1,500 meters from the target. In four minutes White Three had scored seven for seven. O'Neal had hit the westernmost end of the site, while the other White Team Apaches struck the buildings*

*and radar dishes in the middle and eastern end. Completely destroyed, the site would not reactivate during the war. White and Red Teams collectively created a 40-kilometer gap in the line of early warning sites that ran the length of the Iraqi-Saudi Arabian border. Leaving the radar site inflames, the Apaches slipped smoothly into formation with the Pave Lows and turned south, 50 feet above the desert floor.*

### FINAL REINFORCEMENTS

Even as Task Force Normandy opened up the Iraqis' extreme western flank to Coalition air, Saddam continued to improve his defenses in Kuwait. Forty-one Iraqi divisional headquarters were in the theater, an increase of 13 since November.<sup>2</sup> Five of the new units were infantry divisions that joined the coastal and forward defenses. Three additional regular army armored divisions completed the formation of two regular army corps, which would serve as operational reserve for the KTO. The first, the Jihad Corps, consisted of the 10th and the 12th Armored Divisions and was oriented on the defense of the Wadi al-Batin. The second, the 2d Armored Corps, made up of the 17th Armored and 51st Mechanized Divisions, was fixed on the defense of mainland Kuwait from amphibious assault. The creation of these two corps-sized operational reserves freed up the Republican Guard to act in its traditional role of strategic reserve.

The rest of the new divisions—all infantry—deployed west of Kuwait, thickening and adding depth to the defenses in that area. Two went into the line just west of the Wadi al-Batin. The other three deployed along key lines of communication as far west as as-Salman and as far north as an-Nasiriyah and an-Najaf. The Iraqis, however, had failed to close off the western approach to the KTO with an obstacle belt as extensive as the elaborate one inside Kuwait. Analysts examining the defenses believed that Saddam had decided to accept risk in the west, probably assuming that a western attack would be too difficult and the route too long for the Coalition to consider. Saddam had a residual force of 24 divisions in Iraq, largely the dregs of recently mobilized infantry units that possessed little military value. Therefore, further reinforcement of the theater was unlikely. Obviously, Saddam had left the back door to the KTO open, and from all appearances he had neither the capability nor the inclination to close it.

### SEEING THE BATTLEFIELD

Developing a comprehensive intelligence picture of the Gulf had not been easy. The US intelligence community had spied on the Warsaw Pact for decades using signals intelligence (SIGINT), human intelligence (HUMINT), and imagery intelligence (IMINT). The rapid development of the

necessary to select the right concept plan. To achieve that end, Stewart planned intelligence collection, production, and dissemination to mesh with the needs of the corps commanders. Early on, Franks and Stewart met to synchronize the critical decision points in the fight, particularly the read on RGFC actions that would enable Franks to decide whether to continue northeast or turn to the right. The result was an intelligence and electronic warfare synchronization matrix that, with the commanders' decision points as its foundation, would produce useful, predictive tactical intelligence. Those "key reads" would be the ultimate proof of the ability of Army intelligence to support the commander fighting the ground battle.

### THE AIR OPERATION: A CLASH OF CULTURES

Preparing for the ground battle brought to the forefront longstanding cultural differences between the Air Force and the Army, differences that had begun to emerge as early as August. The two Services' operating environments are fundamentally different. Air Force doctrine rests on the principles of centralized control and flexible execution. Air Force planners regard anything more specific than that as the "bag of tricks" necessary to accomplish the mission-what the Army refers to as tactics, techniques, and procedures. The Air Force therefore is able to change its tactics, techniques, and procedures very rapidly without any effect on its doctrine. This general view of doctrine allows the Air Force to accommodate last-minute proclivities in a campaign by capitalizing on the flexibility of its principal operational element-the aircraft. While an Air Force operation might consist of, at most, several hundred distinct combat elements, all of which are relatively easy to schedule, observe, and direct, the Army's operational elements consist of hundreds of thousands of individual soldiers and units, widely scattered and tucked within terrain folds and foliage. The essence of joint operations is full synchronization and integration of combat power. This means that all Services must approach the battlefield from the same perspective, with each complementing the other in achieving the commander's goal. When Army commanders select specific tactics, techniques, and procedures to accomplish a mission, they do so guided by doctrinal principles. Joint doctrine allows for joint control while maintaining appropriate flexibility in execution.

The 31 initiatives dialogue of 1984 led the Army to expect the Air Force to comply with the mutually accepted agreements on battlefield air interdiction. The difference between air interdiction and BAI is critical. Whereas AI reaches deep to strike strategic targets approved by the CINC, BAI attacks targets nominated by corps commanders that are closer to ground tactical units. BAI provides one of the most powerful means for the corps commander to shape the deep battlefield. AirLand Battle doctrine relies on the premise that some discrete portion of ground attack air

power would be directed to kill or at least to hold distant enemy formations in place long enough for ground forces to maneuver against them. The process of deep attack involves much more than just indiscriminate strikes by tactical aircraft at any lucrative object located in front of friendly forces. Instead, the commander carefully focuses his limited air power on the targets most critical to the maneuver. In the offense, the corps commander chooses his axes' of advance and then carefully calculates time and distance to determine which enemy forces arrayed deep against him threaten his advancing columns.

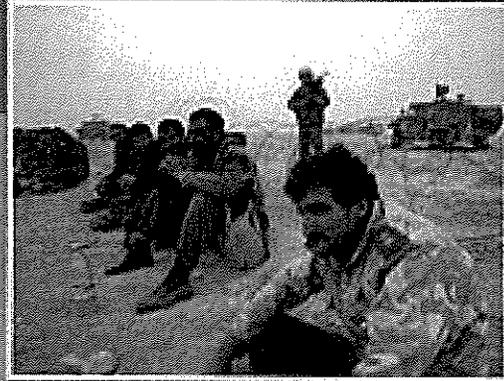
The integration and synchronization of combat power to strike deep, high-value targets creates synergism. For example, the culminating ground operation of Desert Storm required that Iraqi chemical delivery systems, especially artillery, be destroyed. Equally essential, the Republican Guard would be battered, cut off from higher headquarters, and fixed in place until VII Corps could smash through its defenses. Early attacks on forward command and control systems would prevent alerting the RGFC to the direction and size of the main attack. By targeting just those threats, Franks sought to "shape" the battlefield to facilitate the movement of his own forces. Hitting those targets simultaneously as ground forces destroyed frontline divisions might collapse the Iraqi defense of the KTO.

The function of BAI, therefore, is not only to attrit the enemy but, more importantly, to take away his freedom of maneuver, his capability to sustain himself, and his will to resist in order to shape the battlefield for the decisive maneuver. Since BAI was most essential to Generals Luck and Franks for shaping the battlefield for the coming ground operation, its availability was crucial, and they trusted that it would be available. To support their schemes of maneuver, the corps commanders wanted to be able to direct air attacks against the most important targets beyond the reach of their organic attack systems. The issue was not how much of the total air effort was devoted to shaping the battlefield; the Army recognized competing priorities such as air-to-air and air interdiction of deep theater targets. The issue was that corps commanders needed to control the effects and timing of BAI targeted within their zone. Placing BAI under an overall category of interdiction reduced the corps commander's influence on the process.

#### **THE INTERDEPENDENCE OF AIR-GROUND OPERATIONS**

Air planners have long sought to vindicate the view that the ever-increasing accuracy of air-delivered munitions has made it possible to win wars the "clean" way-through strategic targeting. In this view, the application of air power then becomes a campaign-if not a separate war-distinct from ground combat. The Army, on the other hand, does

# THE WHIRLWIND WAR



Frank N. Schubert  
and Theresa L. Kraus  
General Editors

fields claimed by Iraq, Saddam Hussein's government renewed its interest in Būbiyān and Warbah islands. He cleared the way for action by beginning negotiations for a final settlement with Iran, massing troops on the Kuwaiti border, and sounding out the American reaction to a possible military move into Kuwait. Saddam appeared to ignore the restatement of the Carter Doctrine by the administration of President George H. Bush in National Security Directive 26 of October 1989, warning that the United States would defend its vital interests by force if necessary.<sup>64</sup>

Meanwhile, Kuwait struggled to find a counterbalance to the increasing Iraqi threat. It had a military agreement with Egypt that dated from the last phase of the Iran-Iraq war and even made an overture toward Iran, which might again serve as a potential counter to Iraq. But neither those connections nor the Gulf Cooperation Council had the potential strength to ward off a determined Iraqi attack. Kuwait needed protection, like that provided by Great Britain at the turn of the century and by the United States in 1987. Yet, like Saudi Arabia and other Arab states, Kuwait accepted American construction support and air defense missiles but stopped short of inviting an American presence in support of its own defense. That refusal, grounded in strong feelings of national pride, race, and religion, reflected an unrealistic assessment of its situation. As historian Theodore Draper wrote during the year of the tanker war, in which Kuwaiti oil tankers began to fly American flags, "Kuwait was too rich to be left alone and too weak to defend itself."<sup>65</sup>

During the first seven months of 1990, Iraqi troop movements and presidential bombast foreshadowed the impending crisis. But, like Saudi Arabia and Kuwait, the United States did not recognize the imminence of the Iraqi threat until it was too late.<sup>66</sup> On 2 August 1990, when Iraqi tanks rolled through Kuwait to the Saudi border and Saddam Hussein's government declared that Kuwait no longer existed as an independent country, perceptions quickly changed. President Bush quickly decided to uphold the Carter Doctrine and commit the United States to direct military action.

With a large majority of the nations of the world opposed to the invasion of Kuwait, President Bush built a broad-based coalition in support of intervention. The United States, which took the lead in developing and coordinating opposition to Iraq, achieved a diplomatic triumph of great magnitude and far-reaching consequence. Urged forward by the United States, the United Nations General Assembly imposed an embargo on Iraq, and the Security Council voted to condemn the invasion. Almost immediately coalition forces moved toward Southwest Asia. By far the largest contributor to the force, the United States honored commitments to Saudi Arabia first made by President Truman.<sup>67</sup> The result was Operation DESERT SHIELD, which before it was over became the DESERT STORM.

<sup>64</sup> National Security Directive 26, *U.S. Policy Toward the Persian Gulf*, 2 Oct 89; Kono, "Road to the Invasion," pp. 41-43; *New York Times*, 21 Mar 91; Oberdorfer, "Mixed Signals," pp. 21, 36.

<sup>65</sup> Kono, "Road to the Invasion," p. 41; Cordesman, *The Gulf and the West*, p. 108; Quote from Miller and Mylroie, *Saddam Hussein and the Crisis in the Gulf*, p. 215.

<sup>66</sup> Oberdorfer, "Mixed Signals," pp. 22-23, 36-41.

<sup>67</sup> Yergin, *The Prize*, p. 772; Dupuy, *How To Defeat Saddam Hussein*, p. 19; Miller and Mylroie, *Saddam Hussein and the Crisis in the Gulf*, pp. 227-28.

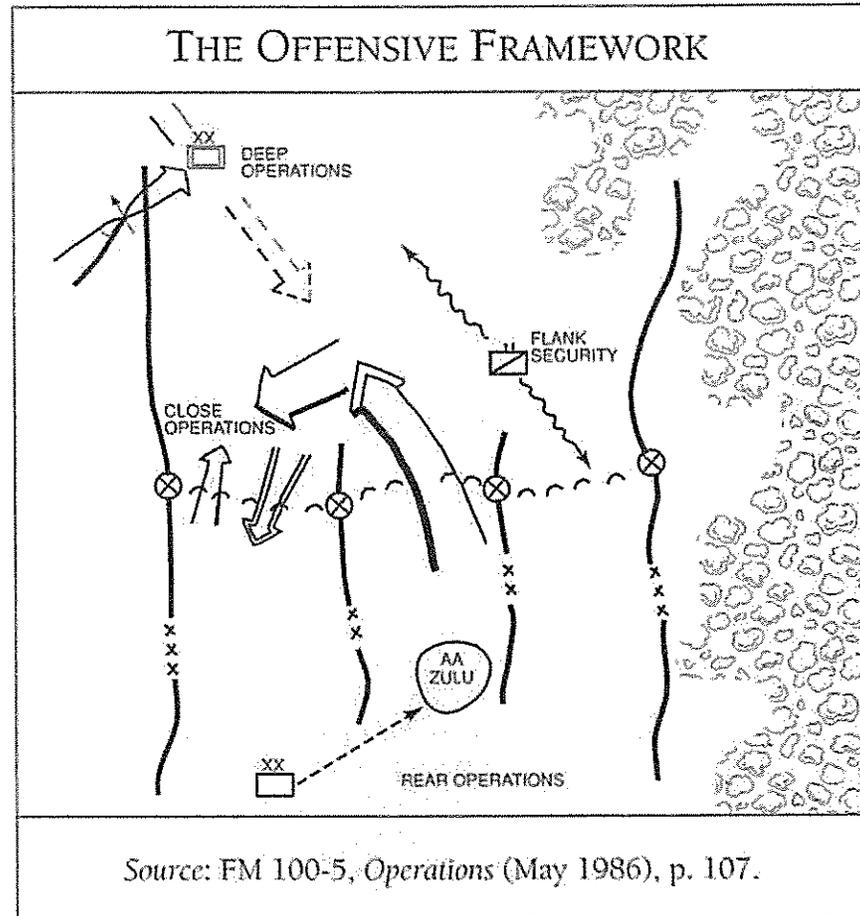


Chart 1

Battle's basis in traditional concepts of maneuver warfare by teaching it and making frequent use of historical examples.<sup>6</sup>

In practical terms, the doctrine required commanders to supervise three types of operations simultaneously. In close operations, large tactical formations such as corps and divisions fought battles through maneuver, close combat, and indirect fire support. Deep operations helped to win the close battle by engaging enemy formations not in contact, chiefly through deception, deep surveillance, and ground and air interdiction of enemy reserves. Objectives of deep operations were to isolate the battlefield and influence when, where, and against whom later battles would be fought. Rear operations proceeded simultaneously with the other two and focused on assembling and moving reserves, redeploying fire support, continuing logistical efforts to sustain the battle, and providing continuity of command and control. Security operations, traffic control, and maintenance of lines of communications were critical to rear operations (Chart 1).

AirLand Battle generated an extended doctrinal and tactical discussion in the service journals after 1976 that helped to clarify and, occa-

<sup>6</sup> Field Manual 100-5 uses historical examples to illuminate the discussion of doctrine. The Command and General Staff College tactics instruction similarly uses examples of high-intensity World War II operations. The same was true of Leavenworth's battle analysis class. Christopher R. Gabel, *The 4th Armored Division in the Encirclement of Nancy* (Fort Leavenworth, Kans.: CGSC, 1986), p. 23.

<sup>17</sup> CMH Fact Sheet, 9 Apr 91, sub: U.S. Army Operation URGENT FURY Statistics.

<sup>18</sup> The broadest survey of the era, although one that hews very much to orthodox judgments about Army performance in these skirmishes, is Daniel P. Bolger, *Americans at War: 1975-1986, An Era of Violent Peace* (Novato, Calif.: Presidio Press, 1988).

<sup>19</sup> For a summary, see MS. Theresa Kraus, DOD Reorganization and the Army Staff [CMH, 1990]. A discussion of earlier attempts at reorganization is Edgar F. Raines, Jr., and David R. Campbell, *The Army and the Joint Chiefs of Staff: Evolution of Army Ideas on the Command, Control, and Coordination of the U.S. Armed Forces, 1942-1985* (Washington, D.C.: CMH, 1986).

<sup>20</sup> *Army Focus* (September 1990), p. 23.

<sup>21</sup> The limited combat in Grenada and Panama did not rigorously test the systems used by Army units in those actions. In Panama, for example, eleven AH-64A aircraft flew a total of 246 combat hours, of which 138 were at night. Other weapon and communications systems were similarly unproven. A General Accounting Office analysis of hardware employment in Grenada (URGENT FURY), Lebanon, Libya (ELBORADO CANYON), and deployments to the Persian Gulf (EAGLEST WIND) showed "significant problems" with joint communications equipment and several categories of precision-guided munitions [United States General Accounting Office, Report to the Chairman, Committee on Government Operations, House of Representatives, *U.S. Weapons: The Low-Intensity Threat Is Not Necessarily a Low-Technology Threat*, USGAO/PEMD-90-13 (March 1990), app. II].

<sup>22</sup> Such discussions began as soon as the possibility of war arose. The best articulated warnings about the dangers of a ground war came from analyst Edward Luttwak in various television interviews as the virtually unopposed air campaign unfolded. Also see, for example, Gary Hart, "The Military's New Myths," *New York Times*, 30 Jan 91; "Intimations of a Long War," *Washington Post*, 25 Jan 91; "MIAI will get stern test from F-72," *Washington Times*, 24 Jan 91.

Despite improvements in personnel, doctrine, and weapons, the Army that went to Saudi Arabia was largely inexperienced. The limited combat actions in Grenada and Panama, which were not real tests of AirLand Battle doctrine, gave very few soldiers experience under fire. The URGENT FURY operation in Grenada involved fewer than 8,000 Army soldiers, with actual Army combat being limited to the 1st and 2d Battalions of the 75th Ranger Regiment and certain units of the 82d Airborne Division. In fact, Army strength on the island during the period of combat probably did not exceed 2,500, and the heaviest combat, occurring during the first hours of the landing on 25 October 1983, was borne by Company A, 1st Battalion, 75th Rangers.<sup>23</sup> The fighting during Operation JUST CAUSE in Panama was similarly limited, although more Army units, totaling about 27,000 soldiers, participated.

In neither case was there serious opposition of the kind the Army had been training for decades to meet. Far and away the most important aspects of Operations URGENT FURY and JUST CAUSE were their utility in testing the effectiveness of U.S. joint forces command-and-control procedures, areas in which both operations, as well as subsequent joint deployments, revealed continuing problems.<sup>24</sup> Joint doctrine, a matter of concern since the Goldwater-Nichols Defense Reorganization Act of 1986 emphasized it, was far from complete.<sup>25</sup> Not until 1990 did the Army, acting for the Joint Chiefs of Staff, complete drafts of Joint Publication 3-0, *Doctrine for Unified and Joint Operations*, and prepare Joint Publication 3-07, *Joint Doctrine for Low-Intensity Conflict*, as a test manual to be issued late in the year. The two most important volumes, *Campaign Planning* and *Contingency Operations*, remained to be written.<sup>26</sup>

Still, the important questions that remained blunted the edge of pervasive official optimism as the Army deployed to the Middle East during the summer of 1990. Chief among them was how well new weapons would perform. The M1 series Abrams and M2 and M3 Bradleys had never faced combat. Neither had the multiple launch rocket system, the Patriot missile, the AH-64A Apache, or modern command, control, and communications mechanisms that were supposed to weld those sophisticated implements into a coherent fighting system.<sup>27</sup> Problems with weapons procurement over the preceding decade had conditioned many to doubt how well the new high-technology weapons would perform. As a result, media pundits and military commentators warned of a long and bloody war of attrition if the Middle East crisis could not be resolved through negotiation.<sup>28</sup>

The volunteer Army was a second source of concern. Overshadowed in the public eye by discussions about the efficacy of modern weapons and within the Army by the immediate concerns of preparing for war, the question of how to guarantee an adequate stream of trained replacements and a sufficient supply of new equipment loomed behind the possibility that the ground battle would be long and costly. The Army of July 1990, regulars and reservists, was the Army

Despite heroic efforts on the part of agencies such as the Army Materiel Command, deploying units faced critical shortages of supplies and equipment. Scarcely one week after the initial deployment order, the XVIII Airborne Corps reported shortages in desert camouflage uniforms and chemical protective overgarments at Fort Bragg.<sup>39</sup> Other installations also reported shortages of uniforms and overgarments.<sup>40</sup>

On 18 August additional chemical protective overgarments were released for issue from U.S. Army, Europe, stocks. U.S. stocks of desert camouflage uniforms were also released as the logistics system increased production. On 19 August Secretary Cheney and General Vuono learned that the Army had enough desert uniforms to support the deploying forces at two sets per soldier. Meanwhile, the Defense Personnel Support Center, which had enough cloth on hand to make 200,000 more, redirected two contractors to produce the uniforms and expedited the procurement of an additional 1 million.<sup>41</sup> While efforts continued to increase production, the vast stores of equipment and supplies in Europe helped ease immediate needs. On 21 August a shipment of chemical suits went from Europe to Fort Bragg. Later a direct supply line between Europe and Saudi Arabia met needs for clothing, tents, radios, and other scarce items of supply.<sup>42</sup>

The largest and most significant shipment of items from European stocks during the first phase of DESERT SHIELD involved tanks. In October Secretary Cheney's office approved a request to replace the Army's older models in Saudi Arabia. Over 600 newer M1A1 tanks with 120-mm. guns and chemical overpressure protection were shipped from pre-positioned stocks in Germany.

Although the shipment of tanks from Germany was by far the largest force modernization activity during DESERT SHIELD, there were others. From the beginning of the deployment, modernization efforts enhanced ARCENT capabilities. These efforts were managed centrally from Army headquarters at the Pentagon. As General Vuono had promised, they proceeded without disrupting readiness. Modernization ranged from the shipment of improved kitchen trailers to off-the-shelf purchases of tactical locating devices and, in other areas, took the form of incremental improvements to current models of equipment. Overall, the changes had a positive effect on troop morale.<sup>43</sup>

Incremental improvements were particularly important in the case of helicopters. Operations in the Saudi desert gave Army aviation units some rare challenges. The pilots had some desert flying experience from training at the National Training Center at Fort Irwin and during Central Command's biennial exercise BRIGHT STAR in Egypt conducted with Egyptian forces, but flying and maintaining aircraft in Saudi Arabia was unique. The fine desert sand eroded the leading edges of rotor blades, clogged fuel lines and particle separators, and pitted windscreens. The Army's aviation community studied each problem, looking for solutions with the least effect on operations and readiness. To protect rotor blades

<sup>39</sup> Msg. CINCFOR to CJCS, 16 Aug 90, sub: Sitrep, 15 Aug 90.

<sup>40</sup> Msg. Cdr. TRANSCEN, to Cdr. FORSCOM, 19 Aug 90, sub: Installation Sitrep Number 7.

<sup>41</sup> Memo, Deputy Chief of Staff for Operations and Plans for Secretary of the Army and the Chief of Staff, 19 Aug 90, sub: Army Operations Update Operation DESERT SHIELD—Information Memorandum Number 12.

<sup>42</sup> Msg. Cdr. XVIII Airborne Corps, to CINCFOR, 22 Aug 90, sub: Sitrep No. 15, 22 Aug 90.

<sup>43</sup> Vuono interview, 3 Aug 92.

from erosion caused by airborne sand, a special paint, and later a special tape, was applied to the blades' leading edge. Improved particle separators were developed and shipped to the area of operations for installation. Windscreen covers were tested and purchased. They were particularly important because pitted windscreens affected the ability of the pilots to fly at night.

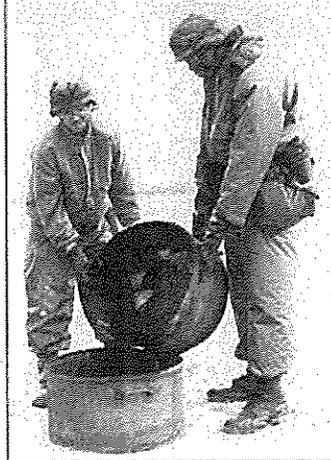
The erosion caused by the blowing sand distorted images in the pilots' night vision goggles and increased the chances of accidents. Resolving problems associated with flying and fighting at night was crucial. The Army's ability to do so would provide it a clear-cut advantage over Iraqi forces.

<sup>44</sup> *Soldiers* 45:11 (November 1990): 13-14.

### Morale

Once in theater, the soldiers had to prepare for their military mission and become accustomed to the Middle East environment and culture. Learning to cope with the stress, discomfort, and boredom, as well as the Saudi culture, became their main challenges. They knew very little about Saudi culture and society. Liquor was banned, Mecca beckoned five times a day, women could not show their faces in public, and religious police patrolled the streets.<sup>45</sup>

Maintaining the morale of soldiers, the bedrock of an Army's efficiency, became one of the commander's most important tasks. In the austere physical, cultural, and social environment of Saudi Arabia the soldier's morale took on an added significance, and commanders found and



*Life in the desert. VII Corps soldiers make the best of their austere field conditions, getting haircuts, disposing of waste, and washing their clothes.*



## Chapter 7

# ***READYING FOR THE STORM***

As 15 January 1991 approached, the last hopes for peace evaporated in an atmosphere of mutual recriminations. On 30 November 1990 President George H. Bush had invited Iraqi Foreign Minister Tariq Aziz to Washington and had offered to send Secretary of State James H. Baker to Baghdad in an effort "to go the extra mile for peace." Iraq accepted but sought again to include Palestine and the Israeli-occupied territories in the discussion. As before, this was unacceptable to the Bush administration, which had categorically rejected any linkage between the Persian Gulf crisis and the Palestinian problem.

Further discussions finally led to a dramatic meeting in Geneva on 9 January between Baker and Aziz. After over six hours of talks, a somber Baker informed reporters that he saw no signs of Iraqi flexibility or intention to comply with the United Nations resolutions. Three days later both houses of Congress passed resolutions authorizing the president to use military action to enforce the United Nations demand for an Iraqi withdrawal from Kuwait. As neutral diplomats worked frantically to reach a last-minute settlement, all eyes turned toward the Gulf in grim expectation of the outbreak of war.

Hostilities were not long in coming. At 2300 local time on 16 January, the crews of nine Apaches and one Black Hawk of the 101st Airborne Division (Air Assault) boarded their helicopters after a final intelligence update. They joined a squadron of Air Force search-and-rescue helicopters and flew into western Iraq, using night vision goggles and infrared radar to navigate and keeping low to avoid detection. About 0200, 17 January, the Apaches locked on to their targets, two early warning intercept stations, and fired HELLFIRE missiles at them. Within minutes, the missiles knocked out every piece of radar equipment in the stations, crumbling buildings and vehicles. As the Apaches turned away from the destruction, the crews heard over one hundred Air Force jets overhead, passing through the gap in the radar bound for Baghdad. One hour later, television networks broke into their scheduled news broadcasts to report the bombing of the Iraqi capital. With well-synchronized destruction of early warning sites by raids and Navy-launched cruise missiles, the coalition air forces caught the Iraqis completely by surprise.<sup>1</sup>

<sup>1</sup>William H. McMichael, "First Shots Fired in Anger," *Soldiers* 46 (April 1991): 21-24; CENTCOM Sitrep, 17 Jan 91; William Matthews, "Thunder and Lightning of Desert Storm," *Army Times*, 28 Jan 91, p. 12.

*Apaches and the air war: One of the Apache helicopters returns from striking a blow against Iraqi radar sites.*



### *Scuds and Patriots*

The Iraqis soon recovered enough to retaliate with Scud missile attacks against Saudi Arabia and Israel. At distances beyond 175 miles the Scud was highly inaccurate and prone to breakup in flight, making its military value negligible. As an instrument of terror against densely populated areas, however, the Scud posed a significant threat, especially if the Iraqis, as rumored, had been able to mount a chemical warhead on the missile.

For months, President Saddam Hussein, hoping to rally Arab support, had warned that he would attack Israel in the event of a conflict. He now moved to carry out his threat. Within twenty-four hours of the allied air attack, the Iraqis launched the first of seven Scuds at Israel, injuring twelve in the Tel Aviv area. By 25 January the Iraqis had fired twenty Scuds at Israel and twenty-four at allied bases and cities in Saudi Arabia. Israelis called for revenge, but their government, at the request of the United States, agreed to forego immediate retaliation.

The Scud attacks brought to center stage the Army's Patriot antimissile system. By the start of DESERT STORM Army Central Command had deployed about sixty Patriot systems to defend American military facilities, Saudi population centers, and industrial sites. Each battery consisted of a radar set, a computer-directed engagement control station, a power plant, antennae, and up to eight launchers, each with four ready-to-fire missiles in canisters. Originally designed as an anti-aircraft device, the system had been modified by Raytheon, practically on the eve of the war, to shoot down missiles. Its antimissile capability had never been tested in combat and only rarely on the range.

Nevertheless, the system seemed to perform well in its first combat trial. The apparent success of the Patriot sent a wave of relief through the

*Patriot launcher near King Abdul Aziz Air Base. This launcher engaged the first Iraqi Scud fired during the war.*



<sup>2</sup> MS, Doughty, War in the Persian Gulf, p. 8; "Weekly Briefing," *Army Times*, 4 Feb 91, p. 40; Matthews, "Thunder and Lightning of Desert Storm," p. 12; J. Paul Scicchitano, "Patriot: New Kind of War Hero," *Army Times*, 4 Feb 91, p. 34; Holley interview; Anthony H. Cordesman, "Rushing to Judgment on the Gulf War," *Armed Forces Journal International* (June 1991): 72; Heike Hasenauer, "Theater Missile Defense: Improved Patriot," *Soldiers* 46 (June 1991): 25; Interv. Maj Robert B. Honee and S Sgt LoDonna S. Kirkland with Maj Stephen B. Finch, Air Defense Element, XVIII Airborne Corps, 2 Feb 91, XVIII Airborne Main Command Post, Rafha, Saudi Arabia; Steve Vogel and Julie Bard, "First Combat Patriot Hit Scores Big," *Army Times*, 28 Jan 91, p. 28A; William H. McMichael, "Patriot Passes the Combat Test," *Soldiers* 46 (April 1991): 18; Donna Miles, "Desert Storm Rises," *Soldiers* 46 (March 1991): 6-11.

<sup>3</sup> Department of the Army, Classification of SWA Army Weapons Systems Performance, 8 Mar 91; MS, Doughty, War in the Persian Gulf, p. 8; Draft MS, Swain, Operational Narrative, p. 86; Cordesman, "Rushing to Judgment on the Gulf War," p. 72; Finch interview.

coalition and the international community, troubled by the prospect of chemical attacks by missiles targeted at defenseless cities. In response to an Israeli request, the United States, on 19 January, sent two batteries and their American crews to Israel to guard against further Scud attacks.<sup>2</sup>

Later evaluations showed that the Patriot, while it seemed to perform beyond expectations, was not infallible. As of early March 1991 the Army estimated that the Iraqis had fired eighty-six Scuds, eleven of which were aimed at Israel prior to the deployment of Patriots. Of the remaining seventy-five, forty-seven were considered threatening and Patriots engaged forty-five of them. Other studies gave different success rates, one estimating that Patriots destroyed 89 percent of the missiles aimed at Saudi Arabia and 44 percent of the Scuds targeted on Israel.

Occasionally, the Patriot did fail, largely because it was not designed to intercept the modified Scud, with its smaller warhead. Often, the Scud disintegrated in flight, and the Patriot went after the largest fragment, rather than the warhead. The missile which killed twenty-eight Pennsylvania reservists in their Dhahran barracks on 25 February seemed to have fallen into that category. Still, considering the relatively untested status of the Patriot system before the Persian Gulf operation, it performed well.<sup>3</sup>

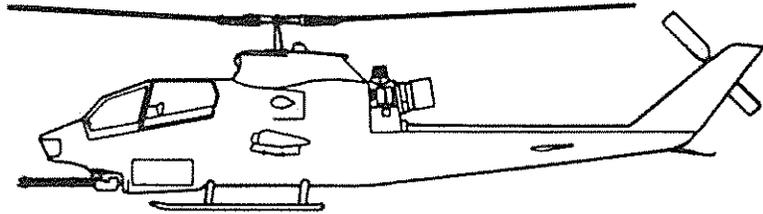
Whatever the success rate, the Patriot took a major psychological weapon from the Iraqis in a war that, by any measure, was going badly for them. Thanks largely to the surprise achieved on the first night, U.S. and allied air forces quickly established dominance of the skies, destroying Iraqi planes on the ground and driving the rest into hiding or internment in Iran. Flying 2,000 sorties a day, coalition jets hit airstrips, command centers, air defense facilities, and nuclear and chemical plants. After the first week of DESERT STORM only five Iraqi air bases were still in operation, and allied jets had bombed 75 percent of Iraq's command cen-

### AH-1 Series Cobra Attack Helicopter

The AH-1 Cobra is the Army's older attack helicopter. The version deployed to Southwest Asia was the AH-1F. Most systems of the AH-1F have been upgraded to about the level of the AH-64A Apache. Improvements include a more powerful engine and new or enhanced systems for fire control, thermal imaging, radar jamming, and infrared countermeasures.

#### CHARACTERISTICS

Length: 53.1 feet with rotors  
 Wingspan: 10.8 feet  
 Width: 3.3 feet  
 Height: 13.4 feet  
 Weight: 5 tons  
 Speed: 195 miles per hour  
 Range: 315 miles  
 Crew: 2



AH-1F

#### ARMAMENT (various combinations)

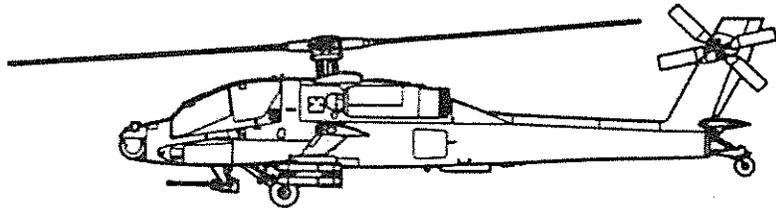
Types: TOW missiles  
 Hydra 70 rockets  
 20-mm. cannon

### AH-64A Apache Attack Helicopter

The AH-64A Apache is the Army's principal attack helicopter. Built to endure front-line environments, it can operate during the day or night and in adverse weather utilizing the integrated helmet and display sight system. The AH-64A is also equipped with some of the latest avionics and electronics, such as the target acquisition designation sight, pilot night vision system, radar jammer, infrared countermeasures, and nap-of-earth navigation. The Apaches employed in Southwest Asia also had the global positioning system.

#### CHARACTERISTICS

Length: 58.3 feet with rotors  
 Wingspan: 16.3 feet  
 Width: 6.5 feet  
 Height: 12.7 feet  
 Weight: 10.5 tons  
 Speed: 227 miles per hour  
 Range: 300 miles  
 Crew: 2



#### ARMAMENT

Types: HELLFIRE missiles  
 Hydra 70 rockets  
 30-mm. chain gun

### XM93 Fox NBC Reconnaissance System

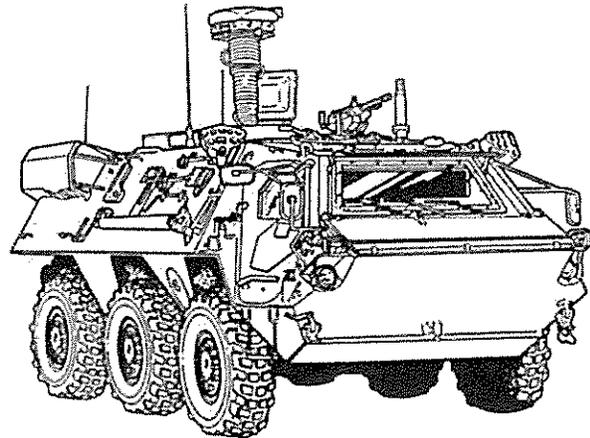
The Fox is the Army's first reconnaissance vehicle whose primary missions are nuclear-biological-chemical detection, warning, identification, and analysis. Contamination hazards to the crew are minimized by the vehicle's built-in chemical overpressure system. In support of Operations DESERT SHIELD-DESERT STORM the German government donated sixty XM93s, of which fifty were employed by the Army.

#### CHARACTERISTICS

Length: 22.3 feet  
 Width: 9.8 feet  
 Height: 8.1 feet  
 Weight: 18.7 tons  
 Speed: 65 miles per hour  
 Range: 500 miles  
 Crew: 4

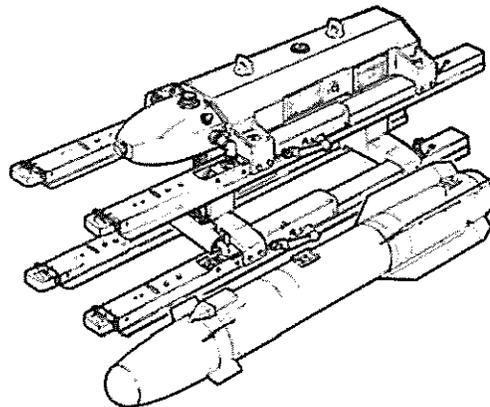
#### ARMAMENT

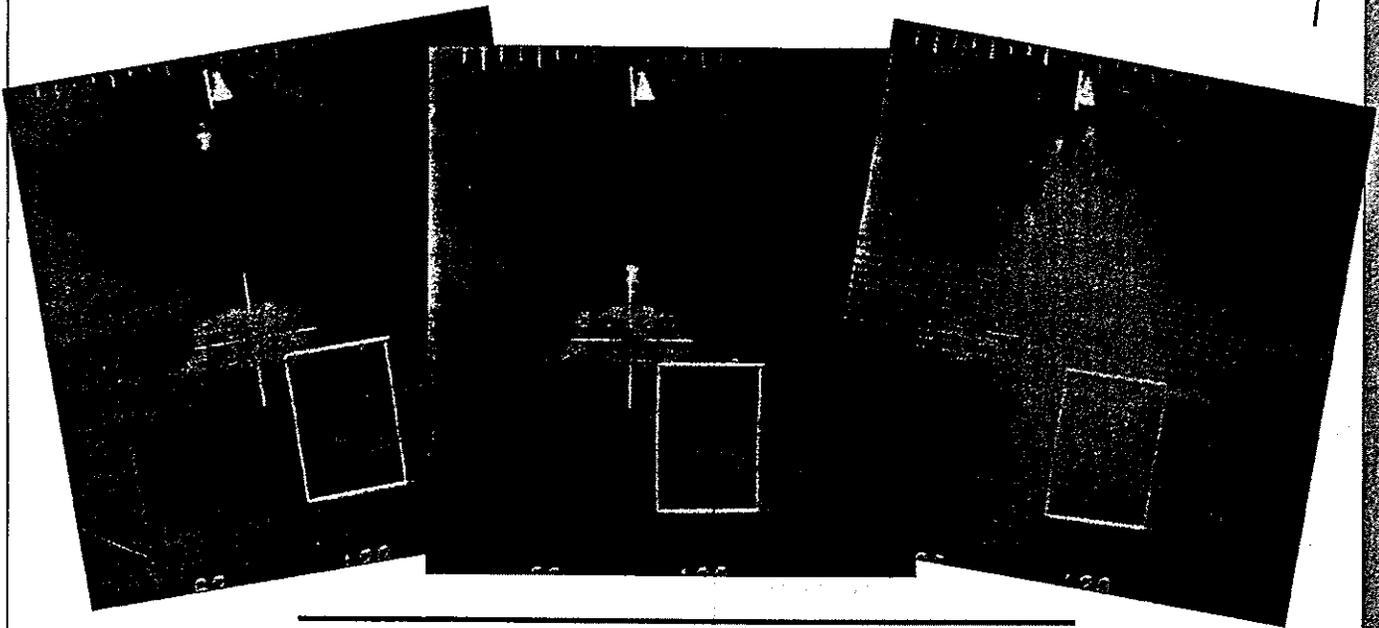
Type: 7.62-mm. machine gun



### HELLFIRE

The helicopter-launched fire and forget (HELLFIRE) missile system is a laser-guided munition capable of catastrophic kills against armored vehicles and hard-ground targets, such as bunkers. HELLFIRE missiles can be fired while the helicopter is hovering or flying up to maximum speed. The laser designator from either the launch aircraft, an accompanying aircraft, or a ground source illuminates the target. A sensor in the nose of the HELLFIRE guides the missile to the laser beam on the target. A HELLFIRE missile weighs 100 pounds and measures 5.3 feet long and 7 inches in diameter.





*During a daring night raid into Iraq, Army helicopters fired the first shots of Operation Desert Storm (above) to knock out key early warning radar sites and clear the way for coalition air strikes.*

# First Shots Fired In Anger

Story and Photos by  
SSgt. William H. McMichael

AT precisely 2:38 a.m. on Jan. 17, laser-guided Hellfire missiles began bursting into two early-warning ground control intercept sites in far western Iraq. Within four minutes, both were completely destroyed.

Moments later, like clockwork, some 100 U.S. Air Force jets screamed across the border nearest those sites, headed undetected for Baghdad and other targets.

The bombers, fighters and Tomahawk cruise missiles snared the headlines on Operation Desert Storm's first day. But the first shots fired in anger were

unleashed by Army AH-64 Apache helicopters.

The simultaneous attacks on the two radar sites by elements of the 101st Airborne Division's 1st Battalion, 101st Aviation Regiment, conducted in tandem with Air Force helicopters, were a crucial part of the perfectly-timed joint air attack. Task Force Normandy successfully pro-



**Above: A fully-armed 1st Bn., 101st Aviation Regt. Apache flies low and fast toward the northern Saudi Arabian border on a reconnaissance mission. • Right: Intensive maintenance like this phased inspection was a key to mission success. All 10 helicopters on the raid completed the 48-hour journey without mechanical difficulties.**



***"There was a lot of pressure on this mission," said CWO 4 Lou Hall. "If something happened and we didn't do 100 percent, then a lot of people were going to get hurt."***

that night, too. Nearly 750 miles away from the points of attack, the division's Apaches on station in eastern Saudi Arabia had to be prepared for a possible counterattack.

The Normandy crews were quick to credit their crew chiefs for the trouble-free performance of the Apaches. "Our maintenance and enlisted guys worked their hearts out," said Co. C's CWO 2 Brian Stewmon. "A lot of little teams, making up one great big team," said WO 1 Tim Vincent of Co. A.

When battalion commander Lt. Col. Dick Cody began planning the lengthy mission, he realized that the Apaches would need to carry extra fuel. Normally, that would be accomplished by adding two auxiliary fuel pods. But that would leave only two wing hardpoints for Hellfire missile launchers and pods of 2.75-inch rockets, and Cody determined that destruction of the target would require one rack of Hellfires and two pods of rockets as well as the 1,100 30mm chain gun rounds the gunship normally packs.

The solution came via 1st Lt. Tim DeVito, a battalion Apache pilot, who suggested that the Apache could fly with one auxiliary fuel pod, despite what would begin as a 1,000-pound offset. Upon takeoff, the pod would gradually transfer fuel to the inboard tank.

The "DeVito option" brought laughs from the other pilots because of the look of the odd configuration, but it was tested and approved. The task force was in business.

Next came the sand table rehearsals, the dry runs and the live-fire exercises, all of which reflected Cody's actual battle plan. The pilots weren't given the exact mission until just before the attack. But the intelligence needed to create the plan was continually passed to the battalion staff, and the training reflected that information.

The odyssey began on Jan. 14, when the task force flew a 720-mile route

from the division's base in eastern Saudi Arabia to the staging airfield in the western part of the country. The next day, Cody told the pilots when and where they'd be going. Also present were the Air Force crews, who would perform search-and-rescue operations in case a helicopter was shot down. Everyone went to bed early.

At noon on the 16th, the crews were awakened for the long mission ahead. The four Apache mechanics brought along on the Black Hawk performed a maintenance operational check and double-checked the armament. After a final intelligence update, everyone ate, and then reported to the aircraft at 11:00 p.m.

The "Red Team" of four Apaches and two Air Force helicopters took off just before 1 a.m. Seven minutes later, the identical "White Team" followed suit. The remaining Apache and the Black Hawk launched but remained inside Saudi Arabian territory.

At roughly 2 a.m., the teams neared the Iraqi border at two different points. That's when Stewmon said he got "a little bit nervous."

"When we were still in Saudi Arabia, we saw a muzzle flash out the left side of the helicopter," he said. "It was just an Iraqi guard post that heard the helicopters. We were past that before I realized they were actually shooting at us, and I thought, 'Hey, this is real.'"

When they crossed the border, said Vincent, "it was kind of an eerie feeling. We knew exactly where we were, and we knew that within a few minutes we'd be bringing destruction on another country."

Combat veteran Hall focused on mission accomplishment. "When you go into action, you go as you're trained," he said. They had practiced both as teams and as task forces to the point of knowing which additional targets to hit if one team member went down.

The pilots flew at high speed in complete darkness, using night vision

vided a "radar-black corridor" to initiate the air campaign.

"There was a lot of pressure on this mission," said Company A's CWO 4 Lou Hall, the only combat veteran in the group. "There were a lot of aircraft that were coming over right after us. If something happened and we didn't do 100 percent, then a lot of people were going to get hurt."

When the men of the nine-Apache, one-Black Hawk task force landed back in eastern Saudi Arabia following their 48-hour, 1,500-mile journey, they had a lot to smile about. All aircraft were launched and returned without mechanical difficulty; the targets were 100 percent destroyed at the exact pre-planned moment; and there were no U.S. casualties.

The battalion had other concerns

## DESERT STORM!

***"You'd think if they know we're coming, they'd turn down the lights," whispered one co-pilot over the intercom. "They have no idea we're here," the pilot replied.***

goggles and their Forward Looking Infrared Radar systems. One team arrived at its target a bit earlier than scheduled and hovered in place. "Made me old before my time," Cody said.

Well outside the maximum range of the Apache's weapons systems, the teams shot laser beams to their previously-designated targets, locked on, and continued moving in, low and slow.

"You'd think if they know we're coming, they'd turn down the lights or something," whispered one co-pilot to his pilot over their intercom.

"They don't know we're here," was the response. "They have no idea." The lights were eventually turned off. It didn't matter. The task force could see everything.

The respective fire commands were sounded — the first time external radio silence had been broken since take-off. "Party in 10," was one team's fire alert. "Joy" was the other's. They were back-timed so that the first Hellfires would strike at precisely 2:38.

"This one's for you, Saddam," said CWO 3 Dave Jones.

The destruction, captured on the Apaches' video tape systems, was awesome. The Hellfires tuned into the reflection of the invisible laser beams, angled straight down and exploded in a white burst on the tiny black and green screens in the Apaches. The 2.75-inch rockets hit and scattered thousands of razor-sharp flechettes. Buildings and vehicles crumbled under the impact of high-explosive 30mm bullets.

The site was disabled within 30 seconds. Within four minutes, said Cody, "we took down every piece of radar

equipment they had. We took out their barracks, too."

For WO 1 Jody Bridgforth, Co. C, this first sample of combat was detached, "exactly like a video game. You just shoot." On the tiny screens in the Apache



**Apache pilots like Co. C's WO 1 Jody Bridgforth (left) and CWO 3 Jim Miller (right) consider crew chief Spec. Eric Nelson an integral part of their team.**

and at such a distance, he said, "you don't really see the guys getting torn up."

Turning for home and taking some small arms fire, the task force teams began watching their tails. There were three enemy airfields within quick striking

distance. Nothing came except radar blips — from Saudi Arabia.

"We started coming out, and the jets started coming in," said Stewmon. "It spooked us for a second. It got kind of exciting." The fixed-wing air campaign was underway. Minutes later, Americans watching the evening news learned that "the liberation of Kuwait" had begun.

At the border, one team was the target of a surface-to-air missile. It missed. The task force was home free. It had been in Iraqi territory for roughly an hour.

At 6 a.m., after being awake for 18 hours, Task Force Normandy took off for home. Cody had waived the rest requirements for the specially trained crews on a one-time basis. At 4:00 p.m., they landed safely back where they'd started two days before.

Mechanical problems: zero. The mission was an unqualified success. "Expect No Mercy" is the battalion's motto, and in this first combat action of the war, the promise did not go unfulfilled. Hall put everyone's role in perspective.

"Who's got the most important job? Everybody's got the most important job," he said. "We pull the trigger, but you can't do it without the crew chiefs, supply and rearm and refuel people."

"I was real excited," said Spec. Eric Moran, a Co. C crew chief. "Real happy that the crews came back, and happy that the aircraft came back without any

problems."

"I always wanted to be part of something like this," said Vincent. "I always wanted to be on the cutting edge. And what we did was about as close to the cutting edge as you can get." □

The helicopters would open the war.  
They had to take out Iraq's early  
warning net, and they had to get it all.

VERTICAL FILE

*Task Force Normandy*

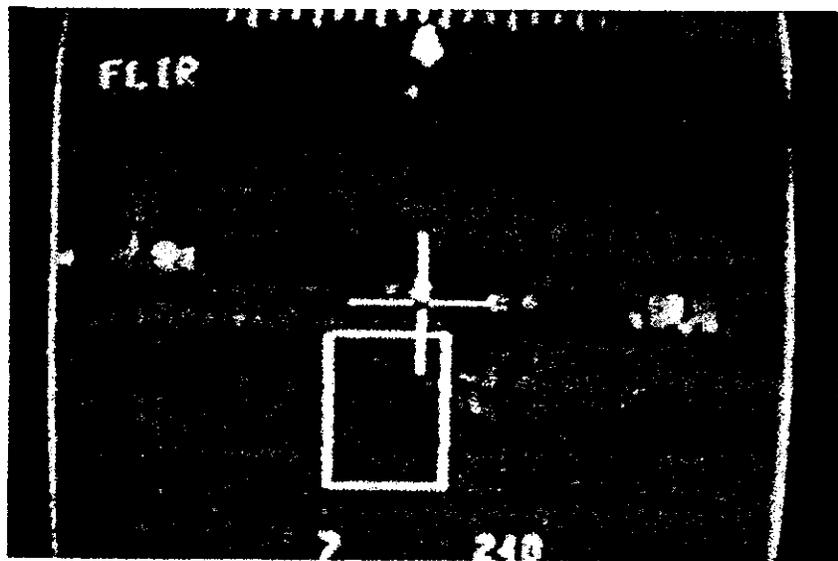
# Apache Attack

By Richard Mackenzie

**A**T TEN seconds before 2:38 a.m., in a moonless sky over Iraq, eight US AH-64 Apache helicopters zeroed in on their targets. On their forward-looking infrared screens appeared the images of two Iraqi radar sites just north of Saudi Arabia, placed there to detect intruding fighters. They were linked to four Iraqi fighter bases and to the Intelligence Operations Center in Baghdad.

The unseen Apaches hovered low, four miles south of the radars. At the controls of Number 976, 1st Lt. Tom Drew broke radio silence. "Party in ten," he said. On cue, ten seconds later, the helicopters unleashed a salvo of laser-guided Hellfire missiles. "This one's for you, Saddam," muttered CWO3 Dave Jones, the pilot of another Apache.

The shots, fired in the predawn hours of January 17, 1991, marked the start of Operation Desert Storm and were among the most critical of the war, blinding Iraq's early warning net at a key moment. US Central Command relied entirely on the Apaches and USAF special operations helicopters to do the job. "If



something had happened and we didn't do 100 percent [destruction]," said one gunner, CWO4 Lou Hall, "a lot of people were going to get hurt."

The Apaches did achieve 100 percent destruction, or close to it. Eyewitnesses report that, when the Hellfires hit the targets, the radar bases evaporated in clouds of smoke and flame. In the four and a half minutes it took to complete the task, the Apaches had, in the words of Gen. H. Norman Schwarzkopf, "plucked out the eyes" of Iraq's Soviet-supplied air defenses.

*According to Gen. H. Norman Schwarzkopf, the January 17 attack by Army AH-64 Apaches "plucked out the eyes" of Iraq's air defenses.*

*Above, one of the Apaches' FLIR screens one second before missile impact. For the mission that opened the war, the AH-64s were modified with 230-gallon external fuel tanks to ensure a return to base as smooth as the one shown at right, after a training mission in the US.*

Nearly 100 allied planes, arriving twenty-two minutes after the raid, roared through the gaping hole in Iraq's network and raced north to strike critical, first-night targets. Air Force F-117s, relying on their stealthiness, already had penetrated Iraqi airspace and were nearing Baghdad by the time the Apaches fired, but destruction of the early warning sites greatly eased the task of nonstealthy allied planes sent into action that night.

### Task Force Normandy

Such was the contribution of Task Force Normandy, handpicked crews of Army Apaches and Air Force MH-53J Pave Low electronic warfare helicopters. The story of how Task Force Normandy planned and executed the raid has been one of the war's closely guarded secrets. On-the-record interviews with Col. Dick Cody, the leader of Task Force Normandy, produce a portrait of a meticulously planned, unusually error-free use of helicopters in defense suppression.

The eight Apaches swooped on their targets like stealth fighters, using tactics and techniques honed in several months of intensive classified training. Contrary to reports that the raid was a last-minute, seat-of-the-pants caper dreamed up by General Schwarzkopf and his top commanders, planning and training

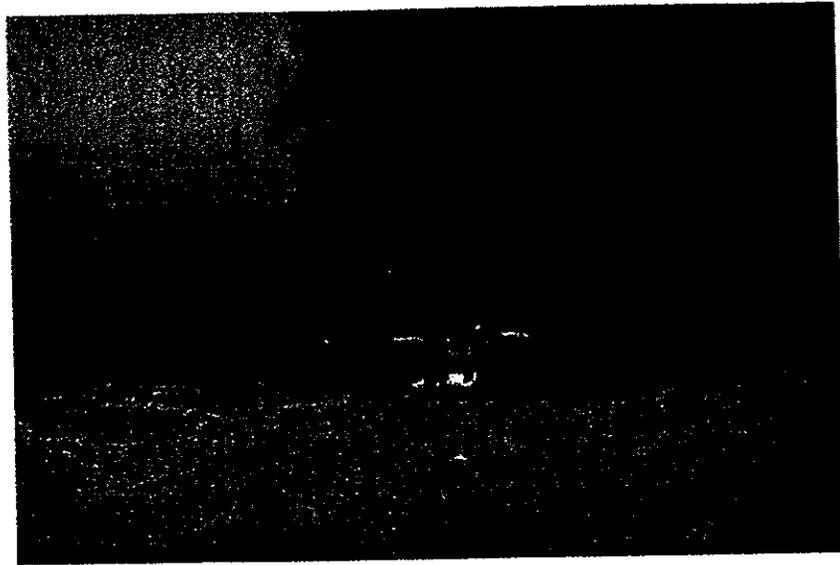
began within weeks of Iraq's August 2, 1990, invasion of Kuwait.

Colonel Cody commanded the 1st Battalion, 101st Aviation Regiment, 101st Airborne Division, based at Fort Campbell, Ky. The battalion landed in Saudi Arabia on August 17, 1990, as the lead element of the division. It took seven C-5Bs and seventeen C-141s to carry its troops and equipment to Dhahran. Three days later, the battalion moved to a new site, loaded out its aircraft, and began its patrols of the Saudi-Iraqi border.

When it came to readiness, Colonel Cody and his men stood out,

earning a reputation for being the best prepared of fourteen Apache units deployed to the Gulf. During its first month in the desert, Colonel Cody's unit turned in a startlingly high mission capable rate of ninety-four percent. When CENTCOM began to look for a high-quality unit, the 1st Battalion was a natural choice.

"At that time," reports Colonel Cody, "they [CENTCOM planners] had been doing some studies on [Iraq's] early warning and ground-control intercept sites that overlapped and covered the entire Kuwaiti and Iraqi border. They



With its 30-mm chain gun and full load of sixteen Hellfire missiles or seventy-six 2.75-inch rockets, the Apache fairly bristles with ordnance. This came in handy against Iraqi tanks (top) as well as during the opening attack. To ensure secrecy, the crews on the initial mission trained, refueled, and rearmed at remote sites (above).

were studying and making analyses of where to create a corridor."

The planners developed three major options for the defense suppression task. One called for using special operations forces (SOFs) to hit the radar sites with missiles. The second envisioned SOFs near the sites using handheld laser designators to direct Apaches to the targets. The third option centered on using Air Force fighter aircraft to destroy the targets.

At least two of the alternatives—the ones involving SOF units—raised grave danger that the operation might be detected and compromised before the allies could fire a shot.

The planners knew that conventional aircraft or cruise missiles would do the job. Yet without a pair of human eyes on the scene to assess the extent of the damage, the

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allies would have no way of knowing whether the targets were truly dead.

Helicopter pilots, however, would be able to see for themselves how much damage had been done to these facilities. They could engage the targets repeatedly until they were sure of complete success. "This place was out in the middle of the desert, and we were working on intelligence that was four days old," says Colonel Cody. "They could have sneaked another van in there or moved things around."

It was a persuasive argument. By September 25, 1990, with CENTCOM planners having adopted, narrowed, and refined the plan, Colonel Cody was summoned to an office at King Fahd International Airport, headquarters for Commander of US Special Operations Command Central Col. Jessie Johnson.

Colonel Johnson outlined a joint force of Army and Air Force helicopters—Apaches and Pave Lows—that would sneak into Iraq to knock out radar and ground-control interception sites. "If we can get it conceptually approved," Colonel Johnson asked, "do you think you can do that?"

"Yeah," said the Apache pilot.

### One Hundred Percent

Colonel Johnson came to the point. "If we get the go-ahead even to train for this," said he, "it will be based on you saying you can take it out 100 percent."

It would not be the last time Colonel Cody would be asked to make that guarantee. "That's not a problem," he said.

Colonel Cody was ordered to start training for the operation. He would work with Col. Rich Comer, commander of USAF's 20th Special Operations Squadron, part of the 1st Special Operations Wing at Hurlburt Field, Fla.

Colonel Cody recalls that the age of the men chosen for the mission averaged twenty-six years. He had twenty-four crews in the battalion. "I picked eight to go," he says, "but any one of the twenty-four could have done the mission."

In order to preserve the covert nature of the Normandy training and not raise suspicions, Colonel Cody kept command of the rest of his battalion. "I never relinquished

my division mission with the 101st or the covering forces."

Not even the chosen crew members knew why, or for what mission, they were training. They knew they were practicing for a helicopter-borne, special operations raid, but they did not know that it would start the war. They did not know it would be in Iraq. They did not know the precise targets or the timing.

Colonel Cody goes on, "I selected crews. I did not select individuals. I took guys who had been flying together as combat crews the whole time. I did not select my most experienced individuals and pool

Baghdad was not alerted to get [its] MiG-29s and ground-control intercept systems up."

The crews trained 700 miles away from the attack area. "All our training was done in a sandbox, so to speak, where we were located," says Colonel Cody. "We never practiced the route because of the sensitivity of the mission.

"All their systems were up during this time. All their intelligence-gathering networks were up—and everything else. So this was all done under the umbrella of joint training, just going out and practicing things."



—Staff photo by Gary Aceto

*Working in concert with the Apaches, Air Force MH-53J Pave Lows, with Global Positioning System receivers and terrain-following radar, got the attack package to within nine miles of the target undetected and with pinpoint accuracy.*

them all together. I actually had some twenty-two-year-olds and twenty-three-year-olds in the front seats out there."

Joining forces with the Pave Lows was not a problem, says Colonel Cody. Flying night after night, the units practiced infiltrating denied airspace and attacking simulated radar sites simultaneously. They did six live-fire exercises, evaluating the Apaches' weapon systems, which include not only the Hellfires but also 2.75-inch rockets and a 30-mm chain gun.

Timing was everything. "It would do no good to hit one radar site and, two minutes later, to hit another one," says Colonel Cody. "We had to do it in such a way that we took down critical elements of those radar sites simultaneously so that

They learned some valuable lessons. "We practiced such things as what type of formation flights we wanted to fly," says the commander. "How low we wanted to fly. How fast we wanted to fly. All of this was done with no [voice communications]. What light signals [would emanate] from the Pave Lows. What techniques to indicate we're turning, we're not going to turn."

### No Detailed Maps

One big problem was the dearth of maps. The ones that were available did not have much fine detail and were useless for pinpointing location. Enter the Pave Lows, equipped with the state-of-the-art Global Positioning System (GPS) for precise navigation. Flying as escorts to a predetermined point, the

Pave Lows could fix the position within eight grid points—about ten meters. The Apache systems could fix only within 100 meters.

"That was the main reason we had the Pave Lows with us, so they could use the GPS to mark our actual spot at the release point prior to reaching the target area," said Colonel Cody. "They [the SOF helicopters] would drop chem lights on the desert floor to mark the position. We then plugged that into our fire-control computers on each of the Apaches. We were updating over that point. That eliminated any built-up error in the Apaches' Doppler system and fire-control system.

"It gave our target acquisition designation system extreme accuracy so we could lock onto the targets at twelve to fifteen kilometers away. That was very important as we moved forward because we knew that, from about twenty and fifteen clicks, . . . they would pick us up." The attackers, he added, wanted to make sure they had their acquisition systems "already locked on to the targets as we got inside and they started picking us up."

In practice sessions, the Pave Lows would position the Apaches and break off to return to the pre-arranged site. Meanwhile, said Colonel Cody, "we would go on in and practice our attack tactics, how we would sequentially dismember and destroy these sites by sectoring our fire, how we would lay for each other if we had to, how we would fight if one guy got shot down, all the permutations and combinations of 'what if?'"

"We practiced those battle drills in the engagement area and then we practiced coming out, linking up with the Pave Lows at the predetermined point and crossing a simulated border and then moving on to our other mission." These maneuvers were carried out not just at low level but at nap-of-the-Earth altitude.

From the first, the Pave Low's high technology helped dramatically. "We do it well in the Army," Colonel Cody says, "but the Pave Lows have a [precision with] which they are able to hit their checkpoints right on the money. Their terrain-following radar helped us quite a bit [in] anticipating when we had to come up and when we had to go down and still maintain our air-



*Apache crews had high praise for both their night vision goggles and their FLIR, which, coupled with information provided by the Pave Lows, allowed the Apaches to operate with telling effect in the inky blackness of the desert night.*

speed. The desert-flying experience they had with their systems, telling us how they were doing it and then our trying to duplicate that with our system, was the biggest thing in training."

In late October, Colonel Johnson took a training videotape to Riyadh to show General Schwarzkopf how the Apaches performed in live-fire exercises. The CINC was impressed.

### The Final Go-Ahead

By the week before Christmas, war was a distinct possibility. Gen. Colin Powell, the Chairman of the Joint Chiefs of Staff, and Dick Cheney, the Secretary of Defense, flew to Riyadh to review the war plans personally. They met in the underground war room from which General Schwarzkopf would run Desert Storm. When General Schwarzkopf came to the Apache-Pave Low mission, he called on Colonel Johnson and Col. George Gray, commander of the 1st SOW. Aides were ordered to leave the room.

Neither colonel had doubts, though both knew they were "on the blame line" if the plan miscarried. Colonel Johnson cited the Apache's ability to fly low at night, its low infrared signature, and its reduced radar signature. He also mentioned the accuracy of its standoff weapons.

This time, General Schwarzkopf

himself popped the question. "Can you guarantee 100 percent success?"

"Yes sir," answered Colonels Johnson and Gray.

That was enough for Schwarzkopf. If Saddam Hussein didn't back down and leave Kuwait, the helicopters would start the war.

On January 14, 1991, Colonel Johnson ordered Task Force Normandy to deploy to Al Jof, a desolate outpost close to the Iraqi border. "I think this thing's going down," he remarked to Colonel Cody. "We don't have an accurate H-Hour, but I need to have you in position no later than dark on the fourteenth."

On internal fuel, the Apache can fly fully combat-loaded (eight Hellfires, thirty-eight rockets, and 1,200 chain-gun rounds) for only a little more than two hours. To get around this limitation, the units adopted a suggestion first put forward by Lt. Tim De Vito, another Apache pilot. He recommended that the crews attach 1,700-pound, 230-gallon external fuel tanks to the Apaches' left inboard weapons storage area. The planners did not want to set up a refueling point like the Desert One base used in the abortive 1980 hostage rescue in Iran. To make room for fuel, each aircraft reduced its number of rockets to nineteen.

"It initially appeared that I would

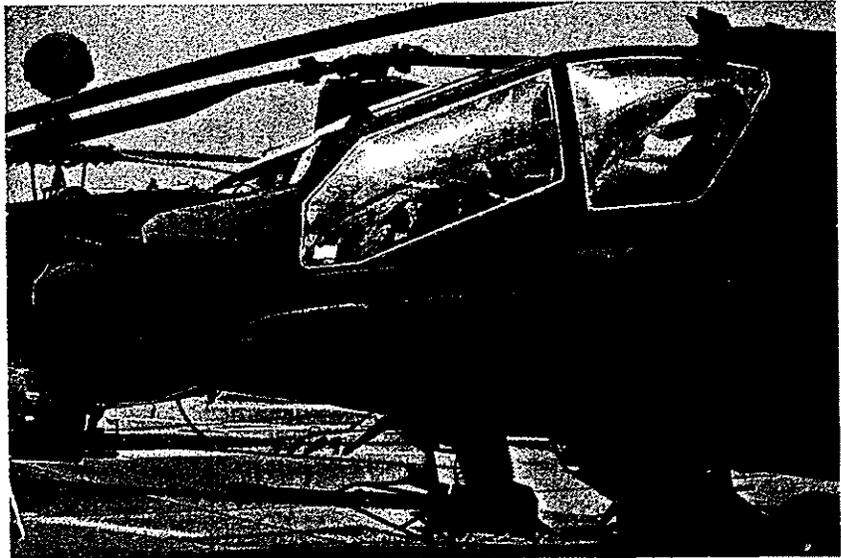
have to use a Desert One type of refueling point," says Colonel Cody. "But because of the complexity of the mission, because of the problems that could have been incurred by putting refueling systems that close to the border or actually inside the border, tipping the hand of what we were doing, we came up with the wing tank concept. It had never been done before. It raised the gross weight of the aircraft some 1,500 pounds past its combat weight. But it gave us a strike capability in excess of 400 miles."

Getting to Al Jouf itself was a problem. "We even had to do that stealthily, without creating a signature," says Colonel Cody. "We rolled into King Khalid Military City—no radio calls or anything—refueled there and took right off. There were already a large number of other helicopters operating out of KKMC so we would have looked just like any training exercise."

#### Arriving Undetected

Heading west, flying over flat terrain, they dropped low. "We got down where nobody would be able to pick us up along the border, even if they were looking for us," Colonel Cody recounts. "I think we got into Al Jouf pretty much undetected."

That night, he briefed his crews for the first time on the mission, giving them maps and photos. "Lo



—Staff photo by Guy Aceto

*The Apache can take it as well as dish it out. In addition to its heavy load of armament, the helicopter has armored seats and Kevlar protection. During the initial mission, Apaches took some small arms fire but suffered no damage.*

and behold," said one crew member, "it looks like everything we've been practicing."

As he sat in his helicopter talking with his gunner, Colonel Cody saw a dusty rental car speeding over the tarmac. The sedan pulled to a stop. Col. Ben Orrell, Colonel Gray's deputy, yelled from the driver's seat of the car, "I need to talk to you."

Colonel Cody climbed down and ran to the vehicle.

"We have just received H-Hour from the CINC," said Colonel Or-

rell. "It's 17, 0300. Your mission is a go."

At 1:00 a.m. on January 17 (local time), Colonel Cody's White Team of four Apaches and two Pave Lows, each weighing more than 18,900 pounds, pulled out of Al Jouf into a jet-black sky, all lights off, and headed north. Six minutes later, the Red Team followed.

As the White Team approached the border shortly before 2:00 a.m., Colonel Cody saw a flash below. Evidently hearing the sounds of the helicopters but unable to see them, an Iraqi on the front line had fired off a missile. It missed.

As they pushed north, flying at 120 mph about fifty feet above ground, the pilots created their own "stealthiness" with a combination of high speed, low altitude, total blackout on navigation lights, and total radio silence.

"Neither the Pave Lows nor we had ever flown in that area," recalled Colonel Cody. "We were seeing stuff for the first time. Most of our training was done on the east coast of Saudi Arabia where it's very, very flat and you have sand dunes. This was some 700 miles northwest, and it was entirely different. You had mesas and a little bit more terrain, which made it more dangerous.

"The Pave Lows had terrain-following radar, which helped them out quite a bit. We didn't have that, but



—Photo by Paul Kennedy

*The Apache's primary sensor, the target acquisition and designation sight and pilot's night vision sensor, allowed the crews on that first mission to complete all phases of their attack with stunning accuracy, destroying the radar site totally.*

our FLIR, coupled with our night-vision goggles, was just working great. So you had two different systems backing each other up. We were backing them up, and they were primary. The lead Apache in each one of those teams had a primary mission of navigation. We didn't leave anything to chance."

At the GPS points nine miles south of the radar bases, Pave Lows dropped chemical lights on the desert. As the Apaches used that position to update their navigational and targeting systems, the Pave Lows

"I'm showing 12.2 [kilometers]." "I'll keep moving." "I've got one of the big 'uns all the way on the right."

Moving the FLIR lens, CWO3 Jones closed in on the first building they must hit. "There's the generator right there."

"OK."

"Aha!"

"Party in ten!" said Lieutenant Drew from the lead AH-64.

The FLIR screen flashed "LAUNCH." A clock counted down the missile's flight time. An Iraqi

tenant Drew, when they started to attack. The chaos intensified, says Colonel Cody, "when he [the wingman] puts out two or three rockets and everything lights up. You're sitting there looking at your FLIR and then your naked eye picks up these flashes. You had to be very, very careful not to mistake that [for] ground fire coming at you.

"We took those things down in three and a half to four and a half minutes, four aircraft flying in pretty close proximity to each other."

They got close to the targets, too. "Some of us got closer than 800 meters when we finished. We used 2,000 meters as a breakpoint, but, depending on what our targets looked like, as we were breaking and as we were being engaged, some of us moved in a little closer and then broke."

After shutting down the sites, they moved to other phases of the attack. "If all we did was hit [the generator], they could go to secondary power," explained Colonel Cody. "We had a follow-on mission statement of putting [the base] down for a couple of days so the Air Force wouldn't have to go in and retarget it. Then our follow-on was to totally destroy it. . . . We did all of the above."

As the Apaches broke and headed back, they had to stay low. Air Force fighters were coming in over their heads. They took some small-arms fire but no damage. "Then we had to link up all these attacking forces at night at a new rendezvous point," said Colonel Cody, "and then charge back across the Saudi border—coming the wrong way! We were a little nervous."

Apache team leaders passed the good news to the Pave Lows' crews, who passed it to Central Command headquarters. The code words—"California AAA" and "Nebraska AAA"—meant the primary targets had been destroyed, the entire bases had been destroyed, and there had been no US casualties.

In the CENTCOM war room, General Schwarzkopf heard the news, took a breath, clenched his jaw and muttered, "Thank God." ■



Coalition forces banked so heavily on the Apache to open the Gulf War that Army commanders were asked to guarantee 100 percent success. They guaranteed it, the crews delivered it, and the way was opened for the successes that followed.

peeled off and went back to the rendezvous point.

The Apaches then flew for almost five more miles, fixing the targets in their sights.

### Looking Skyward

Without doubt, they got the drop on the Iraqis, who were looking skyward for fast movers, not for helicopters. It is believed they noticed something resembling "ground clutter" on their screens about two minutes before they were hit but were still trying to figure it out when the Hellfires arrived.

"OK, I've got the target area," CWO2 Thomas "Tip" O'Neal told his pilot, CWO3 Jones, when their Apache was still seven miles from the radar sites.

"Slowing back," said Jones, asking the range.

technician, seeing flashes in the distance as he emerged from a building, ran back inside. A dozen figures ran out other doors.

Then chaos engulfed the radar station. "Just incessant fire," recalls Colonel Cody. "Missile after missile, rocket after rocket, 30-mm after 30-mm coming from four aircraft that they [couldn't] even see. From the first shot, they were just running for cover. When we closed in to 4,000 meters, we engaged their ZPUs [Soviet anti-aircraft machine guns] and anti-aircraft artillery and put them out."

Colonel Cody's Apache was not far from that of his wingman, Lieu-

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