Cognitive Lesson Objective:
- Comprehend the key events of the Post Cold War Era and the impact of air and space power on the missions of that era.

Cognitive Samples of Behavior:
- State the US objectives of the Gulf War.
- List the objectives of the air campaign used in the Gulf War.
- Outline the key elements of Colonel Warden’s “INSTANT THUNDER” plan.
- Identify the four phases of the air campaign.
- Describe the significance of air and space power in the Gulf War.
- Give examples of key lessons learned from Operation PROVIDE COMFORT/NORTHERN WATCH, Operation SOUTHERN WATCH, and Operation DENY FLIGHT.
- State significant uses of air power employment in Operation Allied Force.
- Explain the key lessons learned by the US military in Operation ALLIED FORCE.

Affective Lesson Objective:
- Respond to the significance of the key events of the Post Cold War Era and the impact of air and space power on the missions of that era.

Affective Sample of Behavior:
- Voluntarily participate in classroom discussion.
AIR POWER TRIUMPHANT—THE GULF WAR

The U.S. Air Force found itself in a third major war since 1945 when, on August 2, 1990, forces led by Iraqi President Saddam Hussein, seized Kuwait and began a conflict that differed considerably from those in Korea and Vietnam. The ending of the Cold War had eliminated concerns about an expanded war and the client support Iraq might have expected from the Soviet Union. Flexibility of doctrine, technology, leadership, and training allowed the Air Force to adjust to the unique components of the Gulf War—a desert battlefield, a loosely united coalition (including several Arab nations desiring minimal damage to Iraq), and an American people strongly opposed to a prolonged war and resulting heavy casualties. To that end, President Bush had defined the US objectives in the Gulf as: 1) Immediate, complete, and unconditional withdrawal of all Iraqi forces from Kuwait; 2) Restoration of Kuwait's legitimate government; 3) Security and stability of Saudi Arabia and the Persian Gulf; and 4) The protection of American citizens abroad.

A first phase, Operation DESERT SHIELD, the defense of Saudi Arabia and its huge oil reserves, began on August 6, when Saudi Arabia requested American assistance. Two days later F-15C Eagles from the First Tactical Fighter Wing, supported by E-3B Sentry airborne warning and control aircraft, arrived in the Persian Gulf—a first step in the rapid relocation of one-quarter of the Air Force's total combat inventory and nearly all of its precision bombing assets. Military airlift, including the Civil Reserve Air Fleet, rapidly moved 660,000 Coalition personnel to the area, although most supplies and equipment came by sea. Turbojet-powered C-141 and C-5 military transports operating between the United States and the Persian Gulf carried ten times more tons of cargo per day than all of the piston-engine transports designed for commercial traffic carried during the entire Berlin Airlift. That distance insured that U.S. Air Force KC-135 and KC-10 tankers would play a critical role in a war that required more than fifteen hundred aerial refuelings per day. Fortunately, Operation NICKEL GRASS, the aerial resupply of Israel during the October 1973 War, had revealed the need to equip Air Force C-141 cargo aircraft with inflight refueling capabilities, extending airlift's range in time for the Gulf War.

The second phase was Operation DESERT STORM, the liberation of Kuwait and the reduction of Iraqi military capabilities, especially its nuclear, chemical, and biological weapons. The U.N. coalition opposing Hussein depended primarily on air power to hammer enemy forces and achieve its objectives while minimizing casualties. The U.S. Air Force flew nearly 60 percent of all fixed-wing combat sorties in support of DESERT STORM, dropping 82 percent of precision guided weapons.

The air offensive began at 0238 local time, January 17, 1991, with night attacks on Iraqi early warning radar sites, Scud short-range ballistic missile sites, and communication centers, including the internationally-televised attack by two F-117A Nighthawks on the so-called AT&T communications building in downtown Baghdad. Air Force and Navy cruise missiles hit additional targets, including government buildings and power plants. It was the beginning of a thirty-eight day aerial offensive consisting of four phases: a strategic campaign against Iraq, suppression of enemy air defenses over Kuwait vicinity,
air attacks on ground forces in Kuwait, and eventually, close air support for the ground offensive. Over 2,000 combat aircraft in the Coalition inventory struck all of their assigned targets simultaneously. Contrasted sharply with the 12 sorties Eighth Air Force launched on August 17, 1942, in its first strike against German targets in World War II, the Coalition flew 2,759 combat sorties on day one of the Gulf air offensive.

The air war defied easy analysis because of simultaneous strikes against targets in all of Warden’s concentric rings. In past wars identifiable campaigns were mounted against various kinds of targets-ball bearing, aircraft assembly, oil production, transportation, irrigation, power dams, or interdiction, but in the Gulf War such attacks and more were mounted concurrently. Unlike AWPD planners of 1941, Gulf War planners did not have to choose between target categories-they selected targets from among all categories. Coordinating the two or three thousand sorties required per day was the responsibility of Lieutenant General Charles Horner, the Joint Force Air Component Commander (JFACC). He controlled all aircraft in the theater except those of the Navy in sorties over water, those of the Marines supporting their own ground units, and helicopters flying below five hundred feet. The lesson of conflicting responsibilities, priorities, and command and control represented by the “route packages” of Vietnam had been learned well. Despite problems with intelligence and communication between the diverse Coalition air forces, never had there been such a carefully directed air campaign.

Air superiority came quickly, as Saddam Hussein ordered his air force not to compete for command of the skies. His plan was to absorb any air blows and force the Coalition into bloody trench warfare, in the “mother of all battles.” Losses to Coalition attackers on the first night were limited to one Navy F/A-18. Considering the quantity and quality of the forces arrayed against Iraq, Hussein’s withholding of his Air Force was perhaps appropriate. Coalition air forces shot down only 32 of 700 fixed-wing combat aircraft in the Iraqi Air Force (27 by the U.S. Air Force), although they destroyed many more on the ground. There would be no air aces in this war. Rules of engagement that allowed the firing of missiles at enemy aircraft beyond visual range aided Coalition success against the few Iraqi jets rising to do battle. Pressed by U.S. Air Force attacks on their protective shelters, more than one hundred Iraqi aircraft fled to safety in neutral Iran. The struggle for control of the air was primarily against Iraqi ground defenses, which absorbed many Coalition strikes. These included 122 airfields, 600 hardened aircraft shelters, 7,000 antiaircraft guns, and 200 surface-to-air missile batteries.

Never had the world seen such a variety of bombing targets and aircraft. Air Force crews dropped laser-guided bombs down air shafts in hardened buildings and on oil tank valves when Saddam Hussein ordered millions of gallons of oil poured into the Persian Gulf. They “plinked” tanks with laser-guided and electro-optically guided bombs and missiles. They carpet-bombed Iraq’s Republican Guard divisions from high altitude in B-52s. Coalition aircraft, including more than 70 distinct types from ten countries, struck at command, control, and communications centers, bridges, oil refineries, air defense facilities, radar sites, alleged nuclear weapon production facilities, alleged chemical and biological production facilities, electrical production facilities, weapons production facilities, missile launch sites, ports, and others. There were plenty of targets. The initial
INSTANT THUNDER air plan crafted by Col John Warden consisted of Five Strategic Rings. The five ring model consisted of National Leadership, Key Production/Organic Essentials, National Infrastructure, National Population and Fielded Military Forces. This strategic bombing concept of Iraq identified 84 to be hit in less than a week. By the start of the air war on January 17, however, the Coalition target list had increased to 481, compared to the 154 of World War IIs AWPD/I.

The most sensitive targets were in Baghdad, defended by the heaviest concentration of antiaircraft weapons. The world press observed Coalition strikes there and reported collateral damage and civilian casualties with special interest. General Horner limited these most dangerous and most critical attacks to Air Force F-117 stealth fighters flying by night and Navy Tomahawk cruise missiles striking by day and night. The stealthy F-117 Nighthawk fighters proved most valuable to Coalition success, bombing 40 percent of strategic targets in Iraq while flying only 2 percent of combat sorties. Their favorite weapon was the laser-guided bomb, which although amounting to less than 5 percent of all bombs dropped, accounted for most of the key targets. Precision guided munitions and F-117s proved their value as "force multipliers," increasing the impact of the bombing campaign.

Without stealth, a typical strike mission required 32 planes with bombs, 16 fighter escorts, 8 Wild Weasel aircraft to suppress enemy radar, 4 aircraft to electronically jam enemy radar, and 15 tankers to refuel the group. With stealth technology, the same mission can be accomplished with only eight F-117s and two tankers to refuel them. Stealth technology combined with precision-guided munitions put far fewer aircraft at risk and provided the needed edge in the air campaign.

Their strikes were not completely free of political interference, however, as President Bush made Baghdad off limits to bombing for a week after two laser-guided bombs hit the Al Firdos Bunker on February 13, a command structure also used as an air raid shelter by civilians. The attack left hundreds dead.

The Iraqi army mounted Scud surface-to-surface ballistic missiles on small, mobile launchers. Hidden in civilian traffic, and fired at night, the Scud counteroffensive proved nearly unstoppable, although Iraq launched only eighty eight of these weapons during the war. One Scud landed in Dharan, Saudi Arabia, and killed twenty-eight American soldiers, the deadliest single action for the United States during the war. Like the V-1 and V-2 weapons of World War II, Scud missiles caused a major diversion of sorties from the air offensive. The Coalition leadership diverted 22 percent of its sorties from strategic targets to eliminate the politically significant Scud missile attacks on Israel and Saudi Arabia, but the mission proved impossible.

The Gulf War demonstrated the vital importance of the U.S. Air Force's Space Command. Organized on September 1, 1982, it provided a first look at what warfare would be like in the twenty-first century. The Air Force began launching satellites of the Navstar Global Positioning System, made famous simply as GPS, in 1973, but GPS was not fully operational until after DESERT STORM. Nonetheless, signals from the constellation of available satellites provided Coalition forces information about Iraqi Scud Missile
position, altitude, and velocity with unparalleled accuracy during most hours of the day. DSP satellites furnished early warning of launches, while DSCS satellites ensured secure communications between the Gulf, the United States, and facilities all over the world. These satellite systems were controlled through the Consolidated Space Operations Center at Colorado Springs, Colorado, and the Satellite Control Facility at Sunnyvale, California.

When General Norman Schwarzkopf launched the “100-hour” DESERT STORM ground offensive on February 24, 1991, his forces met little resistance. Air power and total command of the air made possible the maneuver warfare of Schwarzkopf’s “Hail Mary”—the employing of American Army and Marine and Arab ground forces in a direct assault on Kuwait while Coalition armored units looped around it to cut off enemy forces retreating into Iraq. Three thousand air sorties that day provided air support, but found few tactical targets—the air campaign had worked. The greatest threat to ground troops that day was friendly fire. On the first day of the Battle of the Somme in World War I, British casualties amounted to 57,000, including 20,000 killed. On the first day of the Gulf War ground attack, Coalition casualties totaled 14, including 3 killed. Over the next several days the Air Force focused its attention on battering the Republican Guard divisions held in reserve in southern Iraq and interdicting the flood of Iraqi units retreating from Kuwait. The most visible of these efforts was the bottleneck created on the highway northwest out of Kuwait City, in what was called the “highway of death.” The strategic bombing campaign continued through the one hundred hours of the ground offensive, including a last effort to destroy Saddam Hussein’s bunker sanctuaries. Early in the morning of February 28 President Bush and the Coalition unilaterally declared a cease fire. Despite flying 37,567 combat sorties, the Air Force lost only 14 aircraft to hostile action (all from ground fire)—testimony to the professionalism, training, technology, leadership, and doctrine of the post-Vietnam U.S. Air Force.

With the end of the Cold War, the Air Force adopted a new doctrine—Global Reach—Global Power. Released in June 1990, it prompted the first major Air Force reorganization since March 1946. Under Chief of Staff General Merrill McPeak, Strategic Air Command and Tactical Air Command were deactivated on June 1, 1992. Many of their assets were incorporated into Air Combat Command, headquartered at Langley Air Force Base in Virginia. The new organization represents the “global power” portion of the new Air Force, controlling ICBMs; command, control, communication, and intelligence functions; reconnaissance; tactical airlift and tankers; fighters; and bombers. Air Mobility Command and its in-flight refueling assets headquartered at Scott Air Force Base in Illinois, replaced Military Airlift Command as the “global reach” portion of the Air Force, controlling strategic airlift and tanker forces.

Global Reach—Global Power and a new doctrinal manual issued in March 1992, AFM 1-1, Basic Aerospace Doctrine of the United States Air Force, represented an Air Force committed to matching aerial forces with changing circumstances, drawing on nearly 100 years of experience. The Gulf War, like previous wars, demonstrated that the technology, leadership, training, strategy, and tactics employed for a specific set of conditions and circumstances in one war will not necessarily guarantee success in the next. An innovator
behind fighter tactics in the Vietnam War, Colonel Robin Olds, concluded from his own experience that “no one knows exactly what air fighting will be like in the future.” The U.S. Air Force proved decisive to victory in World War II and in the Gulf War and to separation from the limited conflicts in Korea and Vietnam. As conflicts in the near future would prove, Col. Olds was right, we never know what the future holds. Events in the Balkans would prove this theory conclusively.

*The focus of the remainder of this text transitions from the very concise description of historical events found in the first part of the book to a more detailed, article based, discussion of some of the major conflicts and U.S. Air Force operations of the last two decades. This approach allows a more nuanced discussion of how the era of global terrorism, wide spread ethnic conflict and political unrest in volatile areas of the world has impacted the U.S. Air Force.*
AIRPOWER MADE IT WORK


Operation ALLIED FORCE started out on March 24, 1999 to be a short, sharp military response to a political event—the refusal of Yugoslavia to accept the Kosovo peace plan forged earlier during talks in Rambouillet, France. When the NATO strikes began, 112 US and 102 allied strike aircraft were committed to the operation. Thirteen of NATO’s 19 nations sent aircraft to take part. NATO’s three newest members—Poland, Hungary, and the Czech Republic—did not join in. Greece, Iceland, and Luxembourg also abstained.

The initial plan envisioned a few days of air operations against a carefully chosen set of about 50 preapproved targets. Target categories included air defense sites, communications relays, and fixed military facilities, such as ammunition dumps. No targets in downtown Belgrade were on the list for the initial strikes. Planners had data on far more than 50 targets, but the consensus in NATO would support only limited action.

The alliance military campaign opened with the use of a formidable array of weapons. The Air Force’s conventional air launched cruise missiles and the Navy’s Tomahawk land attack missiles were launched against Yugoslavian air defense sites and communications. Two B-2 stealth bombers flew from Whiteman AFB, Mo., marking the first use of the B-2 in combat. The B-2s flew more than 30 hours on a round-trip mission and launched the highly accurate Joint Direct Attack Munition against multiple targets. This 30 hour flight highlighted our ability of global reach, global power. US and NATO fighters in theater maintained combat air patrols while others bombed targets.

No one knew exactly what it would take to shake Serbian dictator Slobodan Milosevic. Two statements made at the start of the campaign bracketed the range of ways it might unfold. Pentagon spokesman Kenneth Bacon said on March 23, “We have plans for a swift and severe air campaign. This will be painful to the Serbs. We hope, relatively quickly, that the Serbs will realize they’ve made a mistake.” Bacon’s comment echoed NATO’s collective hope that a show of resolve would get Milosevic to accept Rambouillet.

Tough Talk

The Supreme Allied Commander Europe, Army Gen. Wesley K. Clark, on March 25 spelled out the other option at the other end of the spectrum. He said, “We are going to systematically and progressively attack, disrupt, degrade, devastate, and ultimately destroy these forces and their facilities and support—unless President Milosevic complies with the demands of the international community.” Clark’s statement described what NATO airpower could do, given time. But the air campaign had started from the premise that NATO wanted to try limited action to achieve its goals.
How would Milosevic react? A White House “senior official” had already mulled over the possibilities: “As we contemplated the use of force over the past 14 months, we constructed four different models. One was that the whiff of gunpowder, just the threat of force, would make Milosevic back down. Another was that he needed to take some hit to justify acquiescence. Another was that he was a playground bully who would fight but back off after a punch in the nose. And the fourth was that he would react like Saddam Hussein. On any given day, people would pick one or the other. We thought that the Saddam Hussein option was always the least likely, but we knew it was out there, and now we’re looking at it.”

Milosevic ignored the initial NATO airstrikes, just as he had flouted NATO–backed diplomacy. CIA Director George J. Tenet had forecast for weeks that Yugoslav forces could respond to NATO military action by accelerating the ethnic cleansing. Now Milosevic gambled that his forces would push ethnic Albanians and the Kosovo Liberation Army out of Kosovo before NATO could react.

By the time Milosevic backed away from Rambouillet, his forces had battlefield dominance in Kosovo. The Yugoslav 3rd army was assigned to Kosovo operations, along with reinforcements from 1st and 2nd armies. About 40,000 troops and 300 tanks crossed into Kosovo, spreading out in burned out villages and buildings abandoned by the refugees. Paramilitary security forces from the Interior Ministry were engaged in multiple areas across Kosovo.

By early April, the KLA was bloodied, and organized resistance in most of central Kosovo was diminishing. An American official said the government forces had carried out devastating attacks, and the prospects for the KLA were dim.

**The Tactical Blunder**

But Milosevic’s gamble was also his major miscalculation. His push through Kosovo created a mass of refugees that ignited world opinion. Estimates of the number of displaced persons jumped from 240,000 in March to 600,000 by early April. Clark called it “a grim combination of terror and ethnic cleansing on a vast scale.” Central Kosovo was largely emptied of its ethnic Albanian population.

Milosevic’s tactical gamble hit NATO in a vulnerable spot. The allies were committed to limited airstrikes, with no firm plans beyond a few days or weeks. Since fixed targets were the focus of the plan, NATO flew just a few packages each night. There was nothing that military force could do quickly against the fully developed offensive. As US Air Force Chief of Staff Gen. Michael E. Ryan commented, there was no way that airstrikes alone could halt the door-to-door killings that had been under way. On April 3, a Pentagon official said of Milosevic’s campaign, “He’s basically done.”

The plight of the Kosovo refugees stiffened NATO’s resolve. Now, the alliance would have to win.
To deprive Milosevic of his gains in Kosovo, the alliance would have to use its air forces to meet goals that had just gotten much more difficult. The politics of the situation meant that NATO missed the chance to let its airmen do it “by the book” and halt or disrupt Milosevic's forces as they massed on the border and moved into Kosovo in March. As Secretary of State Madeleine K. Albright explained on March 28, the new goal was to force Milosevic to back off by “making sure that he pays a very heavy price.”

The first thing NATO needed was more airpower. An additional five B-1 heavy bombers, five EA-6B electronic warfare aircraft, and 10 tankers were already en route, along with more allied aircraft. The aircraft carrier USS Theodore Roosevelt, veteran of Bosnia operations four years earlier, was due to arrive with its battle group around April 4.

NATO also needed enough aircraft to sustain 24-hour operations over the dispersed Yugoslav forces in Kosovo. Allied planners proposed an augmented package of forces. This was known as the “Papa Bear” option, and it would more than double the number of strike aircraft in the theater.

Secretary of Defense William S. Cohen captured the new mood of resolve after a meeting at Supreme Headquarters Allied Powers Europe on April 7 when he declared, “Whatever General Clark feels he needs in order to carry out this campaign successfully, he will receive.”

Now the joint and allied air forces faced a most difficult task. NATO air had to take on the military both directly, at the tactical level, and indirectly, by hitting strategic targets in Yugoslavia as well as in Kosovo. Airmen would have to expand the roster of strategic targets and seek out and destroy both fixed military targets and mobile military forces, including tanks, armored personnel carriers, and artillery pieces. Much of this would take place in close-battle conditions. Yugoslav forces were mixed in with civilians and refugees. Military vehicles and forces hid in and around buildings.

**Two Target Sets**

In early April, NATO expanded and clarified the air campaign plan, revising it to including simultaneous attacks on the two types of targets. Here was the heart of the air campaign as it would be carried out over the next two-and-a-half months.

Target set 1 included fixed targets of unique strategic value. It included national command and control; military reserves; infrastructure such as bridges, Petroleums, Oils, and Lubricants (POL) production, and communications; and the military–industrial base of weapons and ammunition factories and distribution systems. Serbia’s electric power grid was soon added to the list.

Target set 2, a high priority for Clark, comprised the Serbian fielded forces—military forces, tactical assembly areas, command-and-control nodes, bridges in southern Serbia and Kosovo, supply areas, POL storage and pumping stations, choke points, and ammunition storage. Initial guidance focused on forces south of the 44th parallel, but soon, military targets north of the line also made the list.
NATO was now pursuing a multipronged strategy with its air campaign. The goal was not just to demonstrate NATO resolve and hope to coerce Milosevic. It was to directly reduce and eliminate the ability of Yugoslav forces to carry on their campaign of destruction in Kosovo.

American military experience and doctrine say that it is most efficient to hit enemy forces when they mass and maneuver at the beginning of operations. In early April, NATO did not have enough forces in theater to clamp down on units of the regular Yugoslav army (VJ) or the paramilitary special police (MUP). NATO air forces had been postured for combat air patrol and flexible strike packages against a limited set of targets, not for 24-hour operations over dispersed forces. In early April, it was possible to close one engagement zone over some of the ground forces for only a few hours a day. Under these conditions the Yugoslav forces could hide in buildings and move at night.

Poor weather also limited airstrikes. Brig. Gen. Leroy Barnidge Jr., commander of the 509th Bomb Wing, Whiteman AFB, MO., told how one night, one of the wing’s B-2s enroute to the target was recalled because of weather. That night “the weather was so bad, the whole war was canceled,” he remarked. Weather was favorable only about one-third of the time—with most good weather days coming late in the campaign.

Preservation of NATO’s cohesion rested on several factors that defied military logic but made political sense. First, NATO casualties had to be held to an extremely low level. The allies came to the Balkan War with sharply differing views on the Balkan political dispute, and commanders feared that losing aircraft could undermine NATO’s will to continue the campaign.

**We’re Here to Help**

Moreover, each NATO government could approve or veto targets. In the US, sensitive targets were forwarded for White House approval, and similar processes took place in the capitals of Europe. “Each president of the NATO countries, at least the major players, [are given] an opportunity to at least express their judgment on targets,” explained Cohen in April. Some targets of high military value were never released to be added to the list for airstrikes.

Gen. Richard E. Hawley, then commander of USAF’s Air Combat Command, spoke for many airmen when he said, in late April, “Airpower works best when it is used decisively. Shock, mass are the way to achieve early results. Clearly, because of the constraints in this operation, ... we haven’t seen that at this point.”

However, the tide was about to turn. On April 23, the allies gathered in Washington, D.C., for the long-planned celebration of NATO’s 50th anniversary. They reaffirmed their commitment to stick with the air war. Target approval procedures eased somewhat. The White House announced a major force increase, and now the campaign was on course toward its objectives.
Combat deployments increasingly demanded more aircraft and supplies. In the midst of the surge, the air mobility forces of the US Air Force also began humanitarian relief operations. Albania’s capital city, Tirana, opened up its airfield and quickly became the aerial port for relief supplies and for a heavy Army force of Apache helicopters.

While the air campaign was gearing up in intensity, talk of a ground invasion began. However, it was clear from the beginning that NATO had to keep discussion of ground force options off the table. President Clinton said outright, “I do not intend to put our troops in Kosovo to fight a war.” The Chairman of the Joint Chiefs of Staff, Army Gen. Henry H. Shelton, pointed out the military reality that NATO estimated it would take anywhere from a low of 20,000 up to a couple hundred thousand ground troops to carry out a NATO military action in Kosovo—numbers well beyond what NATO was willing to contemplate. The options for using ground forces never materialized.

The experience of Bosnia and ambivalence about political elements of the Kosovo crisis made it highly improbable that NATO would agree as an alliance to fight Milosevic’s army and special police with ground forces. Also, the Russians made it plain from the start that they would stand against a ground force invasion. On April 9, Russian President Boris Yeltsin appeared on Russian television to warn against NATO bringing in ground troops.

Clark did, however, move quickly to deploy Army attack helicopters to Tirana. Twenty-four Apache helicopters plus 18 multiple launch rocket systems went into the busy airfield along with nearly 5,000 soldiers. Pentagon spokesman Bacon described the deployment as “an expansion of the air operation.” With their formidable firepower, it was thought the Apaches could help in identifying and attacking Yugoslav military forces in Kosovo. A force of 12 USAF C-17s flew more than 300 sorties to deploy the Apache force.

In the end, the Apaches were never used in combat. Two training accidents in late April and early May tragically claimed the lives of two crewmen and destroyed two helicopters. However, the problems with employing the Apaches had been evident from the outset. To reach the key areas of fighting, the Apaches would have had to fly 100 miles and more at low altitude over terrain studded with Yugoslav military forces. Small-arms fire, anti-aircraft artillery, and shoulder-fired missiles from these troops would pose a constant threat to the helicopters.

The Lion’s Share of Airpower

To carry out a sustained air campaign, NATO tapped primarily the resources of the US Air Force. For the Air Force, the commitment to the Kosovo campaign quickly went from a contingency operation to a Major Theater War. The Air Force had downsized 40 percent since 1989. That meant that Kosovo strained the smaller force and tested its new concept for expeditionary operations. In late April, President Clinton called up reserve component forces to keep the air war going.
DESERT STORM had marked a leap forward in capabilities in 1991, but the Kosovo operation demonstrated that aerospace power had evolved into something far stronger. Many aspects of the Kosovo campaign resembled other operations in the 1990s. But unique rules of engagement and the spectacular debut of new systems marked points of special interest in the campaign. All along, the overriding challenge was to summon expeditionary airpower and unleash the aircrews to carry out the missions they had been trained to do.

Operations began with constant combat air patrols over Kosovo and Bosnia. Suppression of Enemy Air Defenses assets were also on call. Then, strike packages, most with dedicated SEAD assets, would be assigned to specific missions. Operation ALLIED FORCE included combinations of NATO and U.S. aircraft and some U.S.—only packages. NATO seized and held air dominance from the start of the operation. However, the operational environment for NATO Airmen flying over Yugoslavia held many challenges.

Yugoslavia’s air defenses could present a considerable challenge, as NATO airmen well knew. Just before the air war began, USAF head Ryan cautioned: “There’s no assurance that we won’t lose aircraft in trying to take on those air defenses.” The air defense system in Yugoslavia, especially around Belgrade, was dense, and mobile Surface-to-Air-Missiles added more complexity.

Targets in the integrated air defense system were included in the first night’s strikes. However, even as NATO gained freedom to operate, the Yugoslav air defense strategy presented some unorthodox challenges. Reports suggested that spotters used cell phones and a chain of observers to monitor allied aircraft as they took off. Many times, the air defense system simply did not “come up” to challenge NATO strikes. “Their SAM operators were, in the end, afraid to bring the SAMs up and engage our fighters because of the lethality of our SEAD aircraft,” Gen. John P. Jumper, commander, U.S. Air Forces in Europe, remarked.

**More Dangerous Than 1991?**

That was a mixed blessing. The Yugoslavs could not prevent NATO from attacking key targets, but they could—and did—make it tough to completely decimate the air defense system. Yugoslav air defenses were not efficient, but they were not dead, either. As a consequence, pilots often got warnings that SAMs were active while on their missions. An initial assessment from pilot reports and other sources tallied almost 700 missile shots: 266 from SA-6s, 174 from SA-3s, 106 from man-portable systems, and another 126 from unidentified systems. One informal estimate concluded a pilot was more than twice as likely to be shot at by SAMs over Kosovo than in DESERT STORM.

Overall, NATO did not destroy as many SAM batteries as air planners would have liked. Preliminary data from the Joint Staff estimated that two out of a total of three SA-2 batteries were hit and 10 of 13 SA-3s were destroyed. However, early estimates cited kills of only three of about 22 SA-6s. “We learned from this war that it is a different ball game when
SAMs don’t come up to fight,” acknowledged Jumper. The concept of operations for lethal SEAD depended on targeting individual batteries as they begin to track and illuminate friendly aircraft.

Offensive counterair actions scored many successes. The Yugoslav air force included frontline MiG-29s as well as older MiG-21s and other aircraft. American pilots shot down five aircraft in air-to-air engagements and a Dutch F-16 got a MiG-29 on the first night. Many more aircraft were destroyed on the ground. In one remarkable example, a Tomahawk targeted and destroyed a MiG-29 fighter on the ramp.

NATO also did well against Yugoslav airfields. “One of the myths that was dispelled in this conflict was that you can’t close an airfield,” commented Jumper. “As a matter of fact, we closed almost all the airfields,” he said.

Despite this overall success story, the loss of the F-117, known by the call sign Vega 21, became one of the major media events of the war. On March 27, the stealth fighter went down over Serbia. Sources cited evidence suggesting the airplane was hit by a Yugoslav SA-3 missile active in the area at the time. Other reports hinted that the Serbs may also have tracked the fighter optically using an intricate network of ground observers. A daring rescue retrieved the pilot from Serb territory. Public interest spiked with dramatic television pictures of the wreckage clearly showing the aircraft’s Holloman AFB, N.M., markings.

USAF officials stuck to a policy of revealing no details about the crash or the rescue. The loss of the F-117 did not shake the commitment to employing stealth as 24 F-117s in the theater continued to perform tough missions. SEAD was used routinely for all strike packages, as had been the custom in the Balkans since the shootdown of Capt. Scott F. O’Grady four years earlier.

Supplement to Stealth

In early July, Lt. Gen. Marvin R. Esmond, USAF’s deputy chief of staff for air and space operations, described it this way, “The question I get frequently is, was ECM Electronic Countermeasures required for stealth assets? The answer is no, it is not required—depending on the risks you want to put the aircrews at. If you have the capability, then the prudent person would say, why not suppress the threat with Electronic Countermeasures as well as taking advantage of our stealth capability, which all totaled up to survivability for the platform. That is simply what we did.”

Concern over collateral damage had a profound impact on how NATO ran the air war. A key part of the air campaign strategy was to target Milosevic’s power base, shock the Serb leadership, and disrupt the functioning of the state—but it all had to be done without targeting the populace.
The rules of engagement for Operation DELIBERATE FORCE in Bosnia in 1995 indicated that collateral damage would always be a dominant factor in the execution of a NATO air campaign. Back then, NATO and the UN approved a category of targets prior to the operation. Ryan, who was then the commander of Allied Air Forces Southern Europe, personally approved every designated mean point of impact that was struck.

In the Kosovo operation, target approval and concerns for collateral damage became some of the stickiest challenges for the alliance. The vast displacement of refugees made the pilot's job infinitely harder. “There’s little doubt in my mind that Milosevic had no compunction at all about putting IDPs (Internally Displaced Persons) inside of what we felt to be valid military targets,” said USAF Lt. Gen. Michael C. Short, NATO’s joint force air component commander. “And, in fact, a couple of times we struck those targets and then saw the results on CNN.”

NATO released 23,000 bombs and missiles, and, of those, 20 went astray to cause collateral damage and casualties. By far the most serious geopolitical shock came from the accidental bombing of a Chinese Embassy building May 7. Reports suggested that several JDAMs hit the building, crashing through several floors, and killing three Chinese nationals. The U.S. apologized and said that intelligence sources had been using an outdated map of Belgrade that pinpointed the wrong location.

Even so, the air campaign kept up high standards of accuracy. Defense Secretary Cohen said, “We achieved our goals with the most precise application of airpower in history.”

Pilots operated under very strict rules of engagement. They were “as strict as I’ve seen in my 27 years [in the] military,” commented USAF Maj. Gen. Charles F. Wald, of the Joint Staff’s Strategic Plans and Policy Division and key Pentagon spokesman during the operation. NATO was able to impose and live with the rules of engagement because aircrew training and technical capacities of aerospace power permitted rapid conferences about whether to strike a target or not. Often, getting clearance to attack a target required a pilot to make a radio call back to the Combined Air Operations Center to obtain approval from the one-star general on duty.

The 15,000-Foot Floor

Concern over the air defense threat led Short to place a 15,000-foot “floor” on air operations. Flying at that altitude reduced the effects of anti-aircraft fire and shoulder-fired SAMs. Aircraft could dip below the limit to identify targets. For the most part, precision attacks were carried out with laser-guided weapons that worked well from that altitude.

Changes came from the highest political authorities, too, even after aircraft had taken off. One B-2 strike had to turn back when a target was denied en route. Short recounted how at the last minute, one or two nations could veto a target, causing packages in the air to be recalled via airborne warning and control system aircraft and tankers. This played “havoc with a mission commander’s plan.”
While the short leash was frustrating, it was also a sign of the incredible technological sophistication of the NATO air campaign. Controlling it all was the Combined Air Operation Center (CAOC). According to Jumper, it is a weapon system in its own right. The CAOC connected pilots and controllers airborne over the battlespace to the nerve center of the operation. Since Bosnia, the CAOC at 5th Allied Tactical Air Force in Vicenza, Italy, had grown from a hodgepodge of desks and unique systems to an integrated operation. Its staff swelled from 300 to more than 1,100 personnel.

CAOC planners crafted the air tasking order on a 72-hour cycle to plan allocation of assets. But the strikes were executed on a much shorter cycle. Commanders were able to assign new targets to strike aircraft and change munitions on airplanes in a cycle as short as four to six hours.

Increasingly, the CAOC served as the pulse-point of aerospace integration, linking up many platforms in a short span of time. Multiple intelligence sources downlinked into the CAOC for analysis. Operators integrated target information and relayed it to strike aircraft. Pilots could radio back to the CAOC to report new targets and get approval to strike.

Jumper recounted how, in the CAOC, “We had U-2s that allowed us to dynamically retask to take a picture of a reported SA-6, beam that picture back to Beale AFB [in California] for a coordinate assessment within minutes, and have the results back to the F-15E as it turned to shoot an AGM-130 [precision guided munition].” This real-time tasking was a leap ahead of DESERT STORM operations. Over time, Predator unmanned aerial vehicles were used in a similar way via the CAOC and, with a brand-new laser designator, could direct strike aircraft already flying in the engagement zone onto positively identified targets like tanks and armored personnel carriers.

The B-2 flew 49 sorties, with a mix of two-ship and single-ship operations. All told, the B-2 delivered 650 JDAMs with an excellent, all-weather accuracy rate. The targeting system allowed the B-2 crew to select 16 individual designated mean points of impact, one for each JDAM carried.

**Measures of Effectiveness**

The B-2 crews proved first of all that they could operate effectively on missions that took more than 30 hours to complete. A folding chaise lounge behind the pilots’ seats and stashes of hot food on board helped the two-man crew manage fatigue. At the same time, the bomber proved itself combat-worthy. Using just six of the nine aircraft at Whiteman, the 509th made every takeoff time and participated in 34 of the 53 air tasking orders generated for Operation ALLIED FORCE. Every B-2 was launched in “pristine” condition—meaning its radar and infrared signature met low-observable specifications, with no rough patches to degrade survivability. The B-2 stood up to the demands of combat operations, sometimes taking as little as four hours to refuel, rearm, and turn the jet in preparation for another combat sortie. “It is an incredibly durable, incredibly robust airframe. You turn it on, and it just keeps running,” Barnidge reported.
The secret new art of disrupting enemy military capabilities through cyberspace attacks appeared to have been a big part of the campaign. Air Combat Command stood up an information warfare squadron in Fiscal 1996 to handle defensive protection of information and offensive information techniques at forward-deployed locations. According to one report, the unit had its “combat debut” during the Kosovo operation and the Serbs felt the impact. “They’re pulling their hair out at the computer terminals,” said one unnamed official. “We know that.” Jumper said there was “a great deal more to talk about with regard to information warfare that we were able to do for the first time in this campaign and points our way to the future.”

By May, the USAF had deployed another significant increment of forces. With 24-hour operations under way the air campaign was able to keep the pressure on military forces in a much wider area of Kosovo via the “Kosovo engagement zones,” updated terminology for the “kill box” concept pioneered in the Kuwait theater of operations in DESERT STORM. There were enough forces in theater to cover the engagement zones for about 20 hours a day. Strike aircraft tripled so that a total of 323 American and 212 allied strike aircraft worked against the two major goals of hitting Serb military forces and striking targets of unique strategic value. Air forces now attacked from all sides. Marine F/A-18s flew missions from a base in Hungary. Strike packages from Italy could fly around Yugoslavia to ingress from the northeast, surprising air defenses around Belgrade.

“Take Them Out”

“The mission is to pin them down, cut them off, take them out,” said NATO spokesman Maj. Gen. Walter Jertz. “We have pinned them down, we have pretty much largely cut them off, and are about to begin to take them out.” Under the relentless pressure of air attacks, Milosevic’s forces in Kosovo were losing. Evidence of VJ and MUP defections was mounting. Their fuel supplies were limited, and their resupply lines had been cut, and Milosevic knew it would only get worse. More forces were slated to deploy, and two months of good summer weather lay ahead. Wald said, “This is a game with as many innings as we want, and I think [Milosevic] is running out of baseballs.”

Around May 22, the pressure increased again. Better weather and more forces allowed NATO airmen to ramp up the pressure on the Yugoslav army. In about 10 days, bomb damage assessment confirmed that NATO Airmen had doubled the number of tanks destroyed, hit three times the number of armored personnel carriers, and hit four times as many artillery and mortar pieces. “We’re driving him to a decision,” announced Clark at the end of May.

Also in late May the KLA began its first large-scale offensive in more than a year. About 4,000 troops pressed ahead from points along the Albanian border. The KLA’s OPERATION ARROW soon met heavy resistance from Yugoslav artillery and troops. In about two days, the rebels were pinned down along Mount Pastrik. Heavy mortar and artillery fire ensued and the KLA was “creamed” according to a senior U.S. intelligence official.
The small-scale offensive reportedly helped NATO identify more Yugoslav military equipment in the immediate area. “As the VJ and MUP fire their artillery, they’re detected,” said Wald. “Then we’ll go ahead and attack them and destroy them.” Cohen emphasized that NATO was not coordinating operations with the KLA. Indeed, by this time, NATO air attacks on Yugoslav military installations and forces were spread widely across Kosovo and southern Serbia every day and night, well beyond the localized effects of the KLA actions.

By early June, military impact and a series of diplomatic events were coming together as powerful coercion. The diplomatic chain of events had started a few weeks earlier, with the G-8 meeting in Bonn on May 6. There, the major Western economic powers plus Russia agreed on a basic strategy to resolve the conflict. The European Union announced its appointment of President of Finland Martti Ahtisaari as its special envoy for Kosovo on May 17. Under Ahtisaari’s auspices, the U.S., NATO, and Russia agreed to a NATO–drafted plan in late May. On May 27, an international tribunal in The Hague indicted Milosevic as a war criminal—an indictment, as Cohen pointed out, with no statute of limitations. Yugoslavia’s parliament voted to accept the plan on June 3.

The air campaign was also having a devastating effect. Roads, rail lines, and bridges across Yugoslavia had been knocked out, halting the normal flow of the civilian economy. Good weather and long summer days ahead meant that more of Milosevic’s country and his military forces would be exposed to devastation. In late May and early June, the impact on fielded forces spiked.

**Heavy Losses**

Destruction of armored personnel carriers, artillery, and tanks continued to rise “almost exponentially” in the words of Shelton. He said the Yugoslav army forces lost 450 or about 50 percent of their artillery pieces and mortars to air attack. About one-third of their armored vehicles were hit: a total of about 122 tanks and 220 armored personnel carriers. A later NATO assessment released Sept. 16 put the numbers at 389, 93, and 153, respectively. These heavy losses meant they could not effectively continue organized offensive operations.

At the same time, Yugoslav forces in Serbia were also feeling the pressure. First army, in the north, had 35 percent of its facilities destroyed or damaged while 2nd army, near the Kosovo border, had 20 percent of its facilities hit. Third army, assigned to operations in Kosovo, had 60 percent of its fixed facilities damaged or destroyed. The Joint Staff assessed that the air attacks had significantly reduced 3rd army’s ability to sustain operations.

Belgrade was largely without electric power and about 30 percent of the military and civilian radio relay networks were damaged. Across Yugoslavia, rail and road capacity was interdicted: Some 70 percent of road and 50 percent of rail bridges across the Danube were down. Critical industries were also hard hit, with petroleum refining facilities
100 percent destroyed, explosive production capacity 50 percent destroyed or damaged, ammunition production 65 percent destroyed or damaged, and aviation and armored vehicle repair at 70 percent and 40 percent destroyed or damaged, respectively.

Industrial targets and bridges would take a long time to repair. In many cases, electric power and communications could be restored more readily. However, the combined effect had brought the war home to Belgrade and restricted Milosevic's ability to employ his fielded forces effectively. On June 9, after last-minute wrangling with Yugoslav military commanders, Milosevic accepted the NATO conditions. “I think it was the total weight of our effort that finally got to him,” said Short, the allied air commander.

The 78-day air campaign brought about an ending that seemed almost impossible back in March. Milosevic agreed to a cease-fire, the withdrawal of Serb forces from Kosovo, the entry of an international peacekeeping force, the return of refugees, and Kosovar autonomy within Yugoslavia. Kosovo would remain within the sovereignty of Yugoslavia. However, the international peacekeeping force would be armed and empowered.

Military historian John Keegan wrote with some awe, “Now, there is a new date to fix on the calendar: June 3, 1999, when the capitulation of President Milosevic proved that a war can be won by airpower alone.”

While the entire decade of the 1990’s saw the USAF engaged in near constant combat operations, including DESERT STORM, NORTHERN and SOUTHERN WATCH, and finally ALLIED FORCE, the service was still unprepared to deal with the most devastating attack ever seen on the U.S. mainland.
Focus On: Leadership

HORNER’S ANXIOUS MOMENTS


It was only a few months after the smashing US victory in the first Gulf War. Then-Lt. Gen. Charles A. Horner, the “air boss” of Operation Desert Storm under Gen. H. Norman Schwarzkopf, gave an eye-opening insider account of the conflict. To the outsider, the triumph over the forces of Saddam Hussein seemed like a walkover; for Horner and others who were there, it was anything but. Horner recalled the aftermath of the Aug. 2, 1990 Iraqi invasion of Kuwait as “some of the worst nights of my life,” as he and others pondered the ease with which Saddam could have seized Saudi oil fields. Horner and his top aide, then Brig. Gen. Buster C. Glosson, worried mightily about whether the F-117 stealth aircraft would survive. In short, Horner had sweated it out—more than anyone knew.

There was no certainty that Iraq would not continue its attack. There were no military forces other than some light Saudi National Guard units between him and the oil fields at Abqaiq, the oil production at Al-Jubail. And so it was a very tense, serious situation.

The buildup went very rapidly. The idea was we were to deter an Iraqi invasion of Saudi Arabia, and if an invasion did come, we had to be prepared to defend. General Schwarzkopf flew back to the States to push the forces over [and] left me over there to receive them, and we flew up to Riyadh and set up the headquarters.

Those were some of the worst nights in my life, because I had good information as to what the Iraqi threat was, and quite frankly, we could not have issued speeding tickets to the tanks as they would have come rolling down the interstate highway on the east coast. It was an opportunity the Iraqis did not take, but every night, we’d get more forces, and we’d sit down and get a game plan of what we’d do if we came under attack.

The first forces deployed were air defense forces. We brought F-15s. The Saudi Air Force was flying their AWACS and their F-15s, so we just fell in on their operations and had a more robust air defense as we went along.

Next, we brought in air-to-ground aircraft, and the role of these systems [was] we were going to trade space for time, if he attacked, and we would attack the forces, meanwhile falling back as far as the United Arab Emirates. The 82nd Airborne showed up very light, would not have been able to forestall the tanks, but would have given us the means to delay the onslaught. We brought in A-10s, the Marine Corps arrived, and of course, the carriers arrived in the Gulf.
Later, we were able to add more heavy forces, and the point where the issue is no longer really in doubt was when we got the 24th Infantry Division there with their tanks. Then we knew we could defend the Port of Dammam, which is just across from Bahrain, and that would allow us to bring our forces on board.

As we went on, in October and November, it became obvious that Iraq was not interested in negotiation and that at some point in time, there would be a decision made to eject them, and that’s when the briefing was brought to the president of the strategic air campaign.

The decision on when to attack obviously, given the cutoff date of Jan. 15 that came from the UN resolution, was made based on moonlight and weather. We wanted as dark a night as possible, because of the F-117, the stealth fighter going into Baghdad. And we wanted good weather obviously for air operations. The 16th was picked, 3 o’clock in the morning our time.

We had the first two days of the war mapped out in detail; I mean, we knew each target, each sortie, what time it hit, where it refueled, what country would fly the sortie, what munitions—and all the detail was there. I would not let them prepare a third day. I said we have to learn how to manage chaos, because that’s what war is, it’s chaos. And so the first day of the war, while the nation was watching the bombs fall, the Black Hole guys came out of the Black Hole, and all the staff got to work and started planning for the third day, and using the intelligence inputs that we could generate.

I guess the biggest thing I worried about was loss of friendly aircraft. We had stealth technology, we had a lot of technical data about stealth technology, but I had no way of knowing that we wouldn’t lose the entire fleet the first night. Those boys were going in there naked, all alone. We were betting everything on the data. As it turned out, they flew every night and we did not suffer any battle damage to any of the F-117 aircraft, but that had to be a big lump in my throat right there, as I watched them go over Baghdad the first two nights.

And I think you all saw on television the vast amounts of ground fire. My intelligence people told me that Baghdad was twice as heavily defended as any other target in the Soviet Union or in Eastern Europe. And I can believe it, looking at all the SAM sites and the guns on every building. So that paid off, but we had no way of knowing. We had no way of knowing how well our ECM [electronic countermeasures] would work because those are things you don’t practice in peace.

We wanted to seize control of the air so we could do all of the other things. And that’s a very individualistic thing. And your training comes to bear as much as your equipment and the courage of your pilots, and the robustness of your command and control. And so I worried about that.

There were a lot of questions about losses—what did you anticipate and what did you have—so on and so forth. Buster and I, about two days before the war started, we were sitting in the command center, and he said, what do you think the losses are going to be? And I wrote 39 down on a piece of paper. That meant I thought we’d lose 39 aircraft. As it
was, we lost, I believe the number is about 41. ... I’d like to take credit for being brilliant. Actually, when I wrote 39 down, I thought we were going to lose 39 USAF aircraft. And in fact, I expected our [coalition] losses to be nearly 100 airplanes.
Focus On: Leadership

GENERAL CHARLES A. HORNER

- As JFACC for Operation Desert Shield/Storm he commanded all air operations in the Gulf War.
- Flew 12 F-105 combat missions over North Vietnam during the Vietnam War.

Gen Charles Horner received his Air Force commission in 1958 from the Reserve Officer Training Corps (ROTC) program at the University of Iowa. During the Vietnam War he flew 41 combat missions over North Vietnam in F-105 fighters and an additional 71 combat missions in F-105 Wild Weasel aircraft, hunting down North Vietnamese air defenses. During his distinguished operational career he commanded a tactical training wing, a fighter wing, two air divisions, a numbered Air Force, and served as commander in chief of the North American Aerospace Defense Command and US Space Command. He is best known for his five years as commander of 9th US Air Force and US Central Command Air Forces (1987–92) and particularly his command of air operations during the Gulf War (1991).

During the Gulf War General Horner served as joint force air component commander (JFACC) commanding all coalition air operations. In this capacity he managed the enormously complicated air portion of Operation Desert Storm, employing more than 2,600 aircraft from 11 countries. General Horner’s leadership helped produce one of the most rapid and devastating air campaigns in military history. This campaign not only wiped out the Iraqi air force and air defenses but also destroyed some of the Iraqi infrastructure for building chemical, biological, and nuclear weapons, and large parts of the Iraqi army. The campaign disrupted Iraqi command and control so effectively that at the surrender negotiations, the US representatives had to tell the Iraqi generals where the Iraqi troops were. Most impressively, Horner accomplished all this in just over 40 days at a cost of only 42 coalition aircraft against very powerful and experienced Iraqi forces.

After his retirement in 1994, General Horner has lectured, consulted, and written extensively on defense matters including a book on the Gulf War, Every Man a Tiger, which he coauthored with Tom Clancy.
Col. John Warden was a brilliant war time planner. His innovative thoughts and ideas on the employment of precision weaponry made him the perfect choice to head the Pentagon’s Checkmate Staff in planning the Air Campaign for “Operation DESERT STORM.” Col. Warden used his Five Concentric Rings model to develop a proposed air campaign and presented it to the CENTCOM Commander, Gen Norman Schwarzkopf. Gen Schwarzkopf had some concerns about Col. Warden’s plan in that it was Air Force Centric and didn’t adequately address the ground threat posed by the Iraqi Army. At that time, the Iraqi Army was considered to be the fourth largest Army in the world and was battle hardened after the eight year long Iran – Iraq war that ended in 1988. After expressing these concerns to Col. Warden, Gen Schwarzkopf sent him to brief the Chairman of the Joint Chiefs of Staff, Gen Colin Powell. After listening to Col. Wardens plan, Gen Powell expressed the same concerns regarding the Iraqi ground forces. Col. Warden then revised his plan to address Gen Powell’s & Gen Schwarzkopf’s concerns about the Iraqi ground forces. After another review of the plan, Gen Schwarzkopf sent Col. Warden and his team to Riyadh, Saudi Arabia to brief the Combined Air Operation Center Commander, Lt. Gen Horner.

The CENTAF Staff was eager to hear Col. Warden’s plan and Lt. Gen Horner made an immediate hole in the schedule so his staff could learn of the air campaign plan. Unfortunately the briefing started off on the wrong foot when Col. Warden failed to take into account the experience level and theater familiarity of Lt. Gen Horner’s staff. Col. Warden basically delivered the same briefing he had presented to Gen Powell and Gen Schwarzkopf that focused on Iraqi culture and his theory of air power employment. Lt. Gen Horner became very impatient with Col. Warden and encouraged him to get into the main points of his brief. Although he was shaken by the general’s sharp words, Col. Warden continued with his scientific approach to the presentation which failed to adequately address the tactical level details of the campaign. As Lt. Gen Horner continued to inquire about campaign specifics, Col. Warden continued to espouse his air power theories regarding the employment of precision weapons. Frustrated with direction of the briefing, Lt. Gen Horner fired Col. Warden on the spot, sent him back to the United States, and had his deputy, Lt. Col. Deptula finish the presentation. Fortunately, Lt. Col. Deptula impressed Lt. Gen Horner by successfully articulating the plan from a flyer’s perspective. While Col. Warden returned to the US to serve in a support role for the war planning strategy, the majority of his theories were actively incorporated into the “DESERT STORM” Air Campaign.

Col. Warden’s theories on effects based weapons versus actual battlefield tactics went on to shape 21st Century air warfare concepts. As a result of his expertise, Col. Warden went on to serve as the Special Assistant for Policy Studies and National Security Studies to the Vice President of the United States. Additionally he was selected to serve as the Commandant of the Air Command and Staff College, where his concepts of focusing on the real objectives of war resulted in sweeping changes in Officer Professional Military Education. These changes earned him a reputation as one of the most brilliant minds of
modern warfare and the school received numerous official honors including the “General Muir S. Fairchild Educational Achievement Award.” Col. Warden published over 10 articles and books for the United States Air Force on modern warfare tactics.
Focus On: Leadership

COLONEL JOHN W. WARDEN, III

- Created the “Five Rings” model of enemy systems and “Inside-out” warfare.
- Developed the original draft for the “Instant Thunder” plan for the air campaign in the Gulf War.
- Reinvigorated the Air Command and Staff College and Airpower Theory throughout the Air Force.

John Warden had a full operational career including 266 combat missions in Vietnam as Forward Air Control pilot flying OV-10s and flying and command assignments in F-4 and F-15C units culminating in command of a F-15C Fighter Wing. He is best known, however, as one of the leading airpower theorists of the late twentieth-century and as the guiding light behind the Gulf War air campaign.

Colonel Warden’s extensive writings contain many original, provocative, and influential ideas and he continues to be a prolific author and speaker. One of his simplest and most influential ideas is that he enemy (whether a nation or a drug cartel) can be thought of as a system consisting of five concentric rings: leadership, system essentials, infrastructure, population, and fielded military forces. The most important ring, leadership, is at the center and fielded military forces are on the outside protecting all the others (see figure). Airpower is uniquely capable of attacking any of these rings and is most effective when used against the most important inner rings rather than the less important outer rings. Attacking the inner rings and then working outward is sometimes called “inside-out” warfare. This idea was at the core of the air plane Warden and his subordinates on the Air Staff drafted for the Gulf War. The plan as ultimately executed was enormously successful in paralyzing the Iraqi leadership and infrastructure before moving on to cripple the Iraqi ground forces which were finished off by the ground invasion.
Focus On:

POLICING POSTWAR IRAQ (1992-2001)

The Gulf War drove Saddam Hussein’s forces out of Kuwait and weakened him dramatically and this prompted rebel-lions in March 1991 by ethnic Kurds in northern Iraq and the Shiite religious group in southern Iraq. The rebels, however, were not well equipped and the international community did not support their efforts to break away from Iraq because that would have further destabilized the already unstable Middle East. Without international military support the rebels were too weak to face the Iraqi army and they were soon defeated.

The defeat of the Kurdish forces in the north created a massive refugee problem as more than a million Kurds fled their homes to escape violent reprisals by the Iraqi army. The United States and the United Nations responded to this humanitarian crisis with Operation Provide Comfort in April 1991. In order to stabilize the situation, US and coalition forces launched an airlift to deliver relief supplies and used ground forces to establish a ground security zone in northern Iraq and refugee camps in northern Iraq and southern Turkey to facilitate distribution of supplies. What made these efforts possible was coalition air supremacy.

The ground security zone (where no Iraqi troops were allowed) and the “no-fly” zone (where no Iraqi aircraft were allowed) made it safe for the Kurds to return to their homes and by the end of May almost all of the refugees had returned and by mid-July the coalition ground forces had withdrawn from Iraq. The United States continued to maintain the no-fly zone ever since and in recognition of the end of the transition from a humanitarian mission to one of monitoring Iraqi airspace, Operation Provide Comfort was replaced by Operation Northern Watch at the beginning of 1997.

Shortly after the Gulf War, the Iraqi army put down a rebellion by Shiite Moslems in southern Iraq and the repression there was so severe that the United Nations adopted a resolution to protect them from Iraqi air attack. In August 1992 the United States announced a no-fly zone over southern Iraq. Maintenance of the southern no-fly zone has been the task of Operation Southern Watch ever since. In October 1994, in response to Iraqi troop movements that threatened another invasion of Kuwait, the United States declared the southern no-fly zone a no-fly/no-drive zone. In 1996, in response to renewed Iraqi attacks on the Kurds, the United States expanded the southern no-fly zone and launched extensive attacks (Operation Desert Strike) to destroy Iraqi air defenses in the new patrol areas.

Since the completion of the airlift and humanitarian relief phases of Operation Provide Comfort, US and coalition efforts focused on continuous intelligence gathering, surveillance, and reconnaissance over Iraq. These efforts put a heavy strain on E-3, RC-135, and their surveillance aircraft and units but also produced some dramatic successes. In counterair
operations the most notable victories were the downing of an Iraqi MiG-25 in December of 1992 by a US F-16 assigned to Southern Watch and the downing of an Iraqi MiG-29 n January 1993 by a US F-16 assigned to Provide Comfort.

The most dramatic impact of operations was in strategic attack. When the Iraqi’s continued to block UN inspectors trying to dismantle Iraq’s missile and weapons of mass destruction (WMD) programs, the United States and United Kingdom launched a four-night series of attacks against roughly 100 strategic military targets in Iraq. These attacks in December 1998 (Operation Desert Fox) struck Iraq’s military through destruction of air defense, command and control facilities, and air bases. Oil facilities used by Iraq to evade UN economic sanctions were also attacked. Most importantly, though the Iraqis could keep inspectors out of their missile and WMD sites, they could not defend the sites from air and missile attacks, so Desert Fox shut them down. In addition to F-15, F-16, F-117, A-10, and B-52, the strike missions during Desert Fox witnessed the combat debut of the B-1B.

Though the Iraqis did not shoot down any coalition aircraft during our operations against Iraq after the Gulf War, these missions were not cost-free. Two tragedies (the accidental shoot-down of two US Army helicopters over northern Iraq by USAF fighters and the death of 19 US Airmen in a terrorist attack in Saudi Arabia) reminded us of the difficulties and dangers of operations. Both of these events have led to improvements in US operations to prevent a repetition. The demands of 11 years of operations against Iraq and the end of the Cold War have led to a major reorganization of the US Air Force into Aerospace Expeditionary Forces.

Gen Ronald R. Fogleman, then Air Force Chief of Staff, summed up our postwar operations over Iraq nicely when he said that “What we have effectively done since 1992 is conduct an air occupation of a country.”
Focus On: Leadership

GENERAL MERRILL A. MCPEAK

- Radically reorganized the USAF to meet new post-Cold War challenges.
- USAF Chief of Staff during the Gulf War.
- Leading advocate of the “Composite Wing.”

Merrill McPeak was commissioned in 1957 from the ROTC program at San Diego State College. He was a demonstration pilot in the US Air Force Air Demonstration Squadron (Thunderbirds) for two years before going to Vietnam where he fought as an attack pilot and a forward air controller. He went on to command a wing, a numbered Air Force, and Pacific Air Force before being named Chief of Staff of the US Air Force in late 1990.

Appointed unexpectedly on the eve of the Gulf War, General McPeak immediately guided the Air Force through Operations Desert Shield and Desert Storm, the largest airlift and largest air war in decades.

After the triumph of the Gulf War, General McPeak became perhaps the most controversial Chief of Staff in Air Force history. He pushed the Air Force through the most extensive reorganizations it had ever experienced. The most visible change was that he scrapped the old three-part Air Force structure of Tactical Air Command (TAC), Strategic Air Command (SAC), and Military Airlift Command (MAC). The new Air Force organization fit better with the Goldwater-Nichols Defense Reorganization Act and was the critical first step in reshaping the Air Force to meet the needs of the post–Cold War era. He was also a leading advocate for the Composite Wing concept that combined several different aircraft types in a single air wing.

Not everyone welcomed the changes General McPeak made in the Air Force, but he was not deterred by criticism or opposition from following the path he felt was best for the service. Oddly enough, he received more vociferous criticism for his ill-fated efforts to change Air Force uniforms than for the enormous changes he made in the way we do business.