

# CHAPTER 6

F-16 Fighting Falcon



Courtesy of the US Air Force

# The Modern Air Force

## Chapter Outline

### LESSON 1

Air Force Beginnings  
Through the Korean War

### LESSON 2

The Vietnam War and  
Other Military Operations

### LESSON 3

Global Interventions From 1990

*"Nobody dislikes war more than warriors, but we value the causes of peace so highly that we will not duck a war in an effort to get a lasting peace."*

Gen Daniel "Chappie" James, Jr, USAF

# Air Force Beginnings Through the Korean War

*Quick Write*




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Write down five important facts about the first jet ace in history.

You've already read about the aces of World War I—brave men such as Eddie Rickenbacker. The Korean War, which began in 1950, introduced a new kind of ace: the jet ace. The name changed for a simple reason: most fighter aircraft flown in Korea had jet engines. Jet aces, like the earlier aces, had to score five kills to earn the title.

Col James Jabara was the first jet ace in history. He earned that record in the Korean War. The Oklahoma-born pilot's parents were from Lebanon. By the time the Korean War began, he was an experienced fighter pilot. He'd flown a P-51 in Europe during World War II. He went on 108 combat missions. He shot down one enemy aircraft and shared credit for a second kill.

In Korea, Jabara piloted an F-86 Sabrejet. These fighters flew about 670 miles per hour (mph). In his first tour of duty, Jabara scored six kills. During his second tour, he shot down nine more enemy aircraft. All 15 kills were MiG-15s, which were very tough and quick Soviet-built planes. Only one pilot shot down more MiGs than Jabara. He earned many medals in Korea and World War II, including a Distinguished Service Cross and two Silver Stars.

Sadly, Jabara died in a car accident in 1966 as he was preparing for his first tour in Vietnam. He was buried in Arlington National Cemetery along with his daughter, who also died as a result of the crash. The Colonel James Jabara Airport outside Wichita, Kansas, is named for him.



**COL JAMES JABARA**

Courtesy of Bettmann/Corbis

**F-86 SABREJET**

The F-86 Sabrejet (right) was the best American jet fighter in the Korean War.

Courtesy of Bettmann/Corbis

## The Creation of an Independent Air Force in 1947

As you read in Chapter 5, air power was vital to the Allies' victory in World War II. Between 1941 and 1945, the Army Air Forces developed new strategies and tactics. Engineers built more-powerful bombers and fighters. US planes delivered the atomic bombs on Japan that ended the war in 1945. US air power grew up fast, and the atomic bomb made it mature even faster. By 1947, most people were convinced it was time for the Air Forces to gain independence from the Army.

### The National Security Act of 1947

The size of the military shrank after World War II, just as it had after World War I. The Army Air Forces ended the war in 1945 with 2.3 million Airmen and 72,000 aircraft. By 1947 they had only 300,000 Airmen and 10,000 planes. Yet even as the government was reducing the size of all military branches, it was rethinking how to fight wars. The atomic bomb had drastically changed warfare. And Congress wanted to correct the poor coordination between the branches of the military that helped lead to the disaster at Pearl Harbor.



### Learn About...

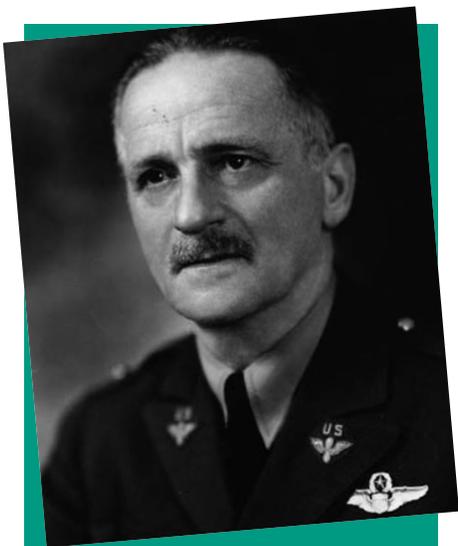
- the creation of an independent Air Force in 1947
- the Cold War and how it began
- the USAF role in the Berlin Airlift
- the role of air power in the Korean War

### Vocabulary

- nuclear deterrence
- arms
- United Nations
- Marshall Plan
- Strategic Triad
- missiles
- satellite
- Mach
- Western Allies
- airlift
- colony
- 38th parallel
- latitude
- limited war

In July 1947 President Harry S. Truman signed into law the National Security Act of 1947. This act set the stage for military development in the years to come. It authorized the founding of the National Military Establishment (today's Department of Defense). The law created the post of secretary of defense, who would answer to the president of the United States. It created the National Security Council and the Central Intelligence Agency. It established three branches within the National Military Establishment: the Department of the Navy, the Department of the Army, and the Department of the Air Force. This last change marked the creation of an independent United States Air Force. The first secretary of the Air Force, Stuart Symington, was appointed in September 1947. But it would take two years for all responsibility to shift from the Army to the Air Force.

## The First Air Force Chief of Staff



GEN CARL SPAATZ

Gen Carl Spaatz was the first chief of staff of the Air Force, serving from 1947 to 1948.

Courtesy of Corbis Images

Gen Carl Spaatz was the first US Air Force chief of staff. He had commanded many World War II operations in the European and Pacific theaters. As chief of staff, Gen Spaatz was in charge of military operations for the Air Force. Secretary Symington was in charge of administrative matters.

Spaatz oversaw three major operating commands created in 1946: the Strategic Air Command (SAC), the Tactical Air Command (TAC), and the Air Defense Command (ADC). SAC was the atomic-weapons command. It was the best-funded command of the three. TAC was in charge of tactical, or smaller, air operations. ADC's role was to defend the country from air strikes.

## The Implications of a Separate Air Force

As the creation of SAC showed, the atomic bomb would shape the mission of the Air Force. Today there are many means of delivering atomic bombs, including submarines. But just after World War II, only airplanes could do this job.

Military and civilian leaders thought the atomic bomb would protect the United States from aggression. They called this protection **nuclear deterrence**, or *prevention of war by convincing an enemy that if he attacks, he will be destroyed by nuclear weapons*. The main duty of the Air Force at that time was to deliver the atomic bomb. SAC was the command within the Air Force that would fulfill the mission. Its bombers would drop the bombs if need be.

The invention and use of the atomic bomb during World War II finally led to the Air Force getting its independence from the Army. The Air Force could now perform a function that no other branch of the military could carry out.

## The Cold War and How It Began

Most Americans expected a long period of peace after World War II. But that didn't happen. The country was about to enter a new kind of war. It wouldn't be another world war. It would be fought in smaller theaters. It would include a huge buildup of **arms**—*weapons*—including atomic weapons.

The United States would wage this war against a powerful country that had been one of its major allies in World War II: the Soviet Union.

### What the Cold War Was

The Cold War, as it came to be called, lasted for more than four decades—roughly from 1948 until 1989. The primary players were the United States and the Soviet Union. (The Soviet Union was the country formed from the old Russian empire after the Communists took over in 1917.) The two countries disagreed on how the world should run in the postwar years.

The Cold War was their political, economic, and military rivalry. But both also had something in common. They wanted to avoid another worldwide war, a “hot” war.

The Cold War got its name from Bernard Baruch, an American delegate to the United Nations.

The **United Nations (UN)** *is a worldwide organization first formed in 1945 by the victorious Allies to maintain international peace.* In a 1947 speech, Baruch said, “Let us not be deceived—today we are in the midst of a cold war.”

The Soviets were putting Communist governments in place in the countries along their borders in Eastern Europe. The Soviet Army had occupied these countries at the end of World War II. The Soviets' greatest fear was another war with Germany. They hoped a Communist Eastern Europe might buffer them from Germany. But they were afraid that America's powerful new atomic bomb would threaten their plan. The Soviets were still trying to develop the bomb.

### CAPSULES

The Communists believed that the state should own all means of production. They permitted no private ownership of land, factories, or businesses. They also supported dictatorship by a single party—the Communist Party—and did not permit free elections or respect human rights such as a free press, freedom of religion, freedom of speech, or freedom of association.

Most Communist governments collapsed as the Cold War ended. At the end of 2006, Cambodia, China, Cuba, Laos, North Korea, and Vietnam were the only surviving Communist governments.

The United States had other priorities. It wanted to preserve freedom in Europe. After all, Americans had fought hard for it in World War II. In addition, Europe was in bad shape after the war. The economies of European countries were suffering. American leaders feared that if Western Europe remained weak, it would fall into the Communist camp. The United States wanted to help Europe get back on its feet. So Congress enacted the **Marshall Plan**, *a strategy for rebuilding the countries of Europe and repelling communism after World War II*. The initiative was named for US Secretary of State George Marshall, who proposed it. The Soviets refused to allow the countries they occupied to participate in the plan.

The United States was confident it could keep the Soviets out of Western Europe because America alone had the atomic bomb. It developed a three-pronged method of delivering nuclear weapons called the Strategic Triad. (A *triad* is a group of three.) The **Strategic Triad** *consisted of land-based intercontinental ballistic missiles (ICBMs), submarine-launched ballistic missiles (SLBMs), and long-range bombers*. In other words, it consisted of land-, sea-, and air-based nuclear weapons.

The purpose of multiple methods for delivering nuclear weapons is to ensure that the United States can retaliate if it is attacked. If one type of weapon becomes vulnerable to an enemy (for example, because of an enemy's technological breakthrough), the other types would still be protected—and the United States would remain safe.

Then in 1949 the Soviets tested their first atomic weapon. Tensions increased between the two nations. Each side worried that the other might use its atomic bombs, with dreadful results. Yet it was this threat of total destruction that each side hoped would prevent the other from ever striking.

In a way, that fear had a preventive effect. But some serious face-offs did take place. Among them were the Berlin Airlift (1948–1949) and the Korean War (1950–1953), which you'll read about later in this lesson.

## The Creation of the North Atlantic Treaty Organization (NATO)

Eleven Western European countries and the United States formed the North Atlantic Treaty Organization (NATO) in 1949. NATO nations promised to defend one another from Communist aggression. They agreed that “an armed attack against one or more of them shall be considered an attack against them all.” NATO headquarters was in Paris.

Some people wondered why the United States joined NATO. After all, America tended to be an isolationist nation. So why did it join a military pact in a time of peace? The reason was simple: the United States was intent on keeping communism from spreading around the globe. NATO seemed a good way to bond countries with a similar goal. As another indication of its support, the United States agreed to keep US troops in Western Europe in case any of its allies needed help.

In 1955 the Soviets responded to NATO's creation. They drew up the Warsaw Pact—named for the capital of Poland—with the Communist allies that they dominated. In this pact, or treaty, the Soviet leaders promised to safeguard any of their friends who came under attack.

## How the USAF Was Organized to Fight the Cold War

SAC was one of the most crucial commands in the Air Force. To deliver the atomic bomb, SAC had hundreds of B-52 bombers and KC-135 tankers. The tankers refueled the bombers in mid-air.

SAC's role eventually expanded to running aerial reconnaissance. It used planes equipped with the Airborne Warning and Control System (AWACS). In addition, spy planes, like the U-2, allowed SAC to spot Soviet **missiles**—*rocket-propelled vehicles that carry a weapon or warhead*.

Finally, as technology further improved, each side launched satellites into space. A **satellite** is an object that orbits another object in space, such as a planet. The satellites could check for missiles on the ground of an enemy nation. The US military built underground bunkers from which to keep track of its satellites. But SAC found that enemy atomic bombs could target its bunkers. So it created flying command centers called "Looking Glass." These planes flew 24/7 for more than 29 years.



**BOEING B-52**

SAC used hundreds of Boeing B-52s to carry out its mission.

Courtesy of Time Life Pictures/DOD Pool/Time Life Pictures/Getty Images



**KC-135R STRATOTANKER**

The KC-135R Stratotanker refuels in midair.

Courtesy of George Hall/Corbis



**USAF AWACS RECONNAISSANCE AIRCRAFT**

Courtesy of George Hall/Corbis



**U-2 SPY PLANE**

Courtesy of Master Sgt Rose Reynol/epa/Corbis



Courtesy of Bettmann/Corbis

### **B-47 BOMBER**

The Air Force bought the B-47 bomber for SAC in 1947.

## **How the Cold War Drove Developments in the USAF**

The US-Soviet rivalry and the atomic bomb drove decisions in aviation development. The B-52 bomber, with its 10,000-mile range, became SAC's main bomber. But it wasn't the first or last.

Before the B-52 was the Boeing B-47. It had jet engines and straight wings. To improve it, the company changed to a sweptback wing designed by the Germans during World War II. A sweptback wing—a wing angled rearward from the point of attachment—is more efficient at higher speeds than a straight wing. The wind can flow more easily over it. The Air Force adopted this improved Boeing B-47 in 1947. But this plane could fly only 3,000 miles without refueling. That prompted Boeing to build its longer-range B-52 in 1952.

Decades later, in 1988, another major bomber joined SAC's arsenal—the B-2 stealth bomber. The missile was another breakthrough in bomb delivery. You'll read more about these in the next lessons.

For a while, achieving faster speeds remained a challenge. In the 1950s the government, universities, and private industry all wanted to build faster fighters. But whenever such planes approached what came to be known as the “sound barrier”—the speed of sound—they shook badly. Sometimes they fell apart. Test pilots sometimes died.

The breakthrough occurred on 14 October 1947. Capt Charles “Chuck” Yeager broke the sound barrier with the Bell X-1. He reached 670 mph at 42,000 feet. Supersonic flight was born.

Yeager’s feat brought a new word into the aviation dictionary—Mach. **Mach** (pronounced “mock”) is *the speed of sound*. That is about 670 miles per hour.

After this breakthrough, aircraft got faster and faster. In 1956 a test pilot flew the experimental Bell X-2 at 2,094 miles per hour. That is three times the speed of sound, or Mach 3. Today’s fighters are built on ideas first applied in these speedy aircraft.

## Flight Paths



**THEN-COL CHARLES YEAGER**

Then-Col Charles Yeager and a model of the X-1, the plane in which he broke the sound barrier for the first time.

Courtesy of Bettmann/Corbis

### Brig Gen Charles Yeager, Test Pilot

Brig Gen Charles “Chuck” Yeager is best known for breaking the sound barrier in 1947. But he already had a long record of service by that time.

In 1941, at age 18, Yeager joined the Army Air Forces. He worked as an aircraft mechanic and pilot. Later, he fought during World War II. After the war he trained to be a test pilot. That’s how he got to fly the X-1. Yeager beat out 125 other pilots to get the job.

Yeager also served in the Vietnam War. He was a wing commander in 1966 and flew more than 120 combat missions. Yeager retired from the US Air Force in 1973.



Courtesy of Maps.com

**FIGURE 1.1**

The Soviets controlled East Germany, while the United States, Britain, and France controlled West Germany.

## The USAF Role in the Berlin Airlift

Before the end of World War II, the Allies were already talking about what to do with Germany when it surrendered. Based on the lessons they learned after World War I (see Chapter 4, Lesson 2), the United States, Britain, and France wanted Germany to prosper. That way it wouldn't drag Europe into yet another world war. But the Soviet Union had a different view. It wanted to dominate Germany so the Germans would never again invade Soviet borders.



Courtesy of Maps.com

**FIGURE 1.2**

Berlin, the capital of Germany, was divided between the Soviets, who would run East Berlin, and the Western Allies, who would manage West Berlin.

The Allies' solution was to divide Germany in two parts. Each side could rule its part as it wished. The Soviets controlled East Germany, where they set up a Communist dictatorship. The **Western Allies**—the *United States, Britain, and France*—controlled West Germany, where they set up a democracy.

Germany's capital, Berlin, posed a problem. It was in East Germany. The four Allies split Berlin into four sectors, too. The Soviets got one sector—East Berlin. The three sectors of West Berlin were controlled by the Western Allies. But by June 1948 the Soviets decided they wanted all of Berlin. After all, it was in the Soviet-run part of Germany. The Soviets decreed that the Western Allies could no longer use roads, railroads, or canals to enter East Germany to deliver goods to Berlin. The first big clash of the Cold War and the first test of the new independent Air Force had begun.



**FIGURE 1.3**

According to a 1945 agreement, the United States, Britain, and France could use three air routes over Soviet-controlled East Germany to enter Berlin.

Courtesy of Maps.com

## How the USAF Broke the Berlin Blockade

The Western Allies had to get goods such as coal and food to their sectors in Berlin. Otherwise, more than 2 million West Berliners could freeze in winter and starve. If the Western Allies couldn't get into Berlin by ground transport, what about the air? A previous agreement between the four former Allies in 1945 gave the United States, Britain, and France the right to three 20-mile-wide air corridors that ended in Berlin.

Gen Lucius Clay, US commander in Europe, took action. The Western Allies would prevent the Soviet takeover of West Berlin through a massive **airlift**—*the transportation of personnel or material by air*. Thus the Berlin Airlift began. (It was also called “Operation Vittles.”)

While war usually calls for bombers and fighters, this was to be a bloodless battle conducted by cargo aircraft. Clay ordered Lt Gen Curtis LeMay, then commander of US Air Forces in Europe, to make available as many cargo planes as possible. Clay asked Maj Gen William Tunner, the transport expert from World War II, to command the airlift into West Berlin. The airlift began in June 1948, the same month in which the Soviets set up the blockade.

## The Cargo Plane

Lt Gen LeMay gathered more than 100 C-47 cargo planes for Maj Gen Tunner (see Chapter 3, Lesson 3). The *Gooney Birds*, as they were nicknamed, could each lug two to three tons of goods. But West Berliners needed 4,500 tons of food, coal, oil, and other supplies each day.

So LeMay got an even larger, faster transport plane into service—the C-54. It carried about 10 tons of cargo. By October 1948 200 C-54s were shuttling cargo to the city. Some days, almost one cargo plane a minute landed in Berlin.

By May 1949 the Soviets caved. They realized that the US, Britain, and France would not give up their airlift, no matter the cost. By that time, the Allies had airlifted 1.75 million tons of goods into the blockaded city.



C-54

The C-54 was the primary cargo plane of the Berlin Airlift.

Courtesy of the US Air Force

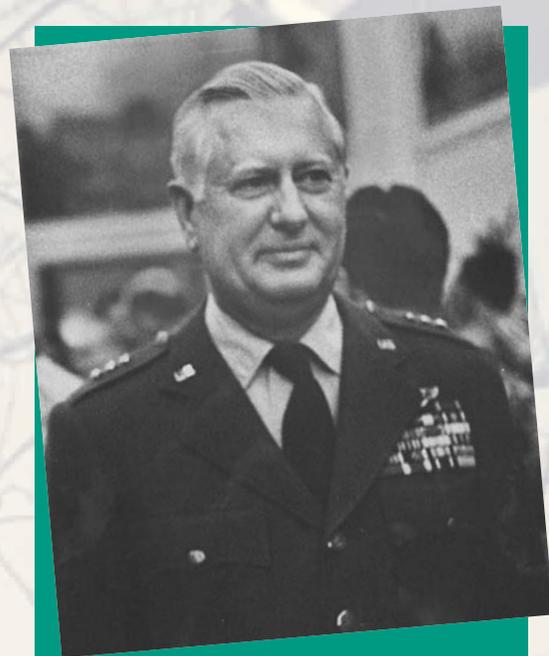
### Lt Gen William Tunner: Cargo Commander

Lt Gen William Tunner (1906–1982) was a West Point graduate. He spent his career with the Army Air Corps and the Air Force.

Tunner's specialty was transport planes. During World War II he was chief of the Air Transport Command Ferrying Division. While in that post, he asked Nancy Love to form the Women's Auxiliary Ferry Squadron. Also during that war, he figured out how to safely transport supplies across the Himalayan Mountains to China. China was one of the Allies at that time.

Because of Tunner's success in China, Gen Lucius Clay tapped him to head the Berlin Airlift. Tunner was a very organized person. He knew that for any transport mission to succeed, it must run in an orderly manner. Tunner demanded schedules for flights, schedules for crews, and weather reports. As a result, the airlift had an excellent safety record. And the amount of cargo ferried to Berlin rocketed between 1948 and 1949.

Tunner recognized the importance of cargo planes to any Air Force operation. He also knew how undervalued they were. With the triumph of the Berlin Airlift, Tunner showed the world how to command transport missions.



**LT GEN WILLIAM TUNNER**

Courtesy of Robert Lackenbach/  
Time Life Pictures/Getty Images

## Lessons the USAF Learned From the Berlin Airlift

The Berlin airlift helped convince American leaders of the need to build a stronger Air Force. The cargo plane came into its own during the airlift. It wasn't as flashy as bombers or fighters, but it saved a city from a Communist takeover. These workhorse transports formed the critical element in the American response to the Soviet blockade of Berlin.

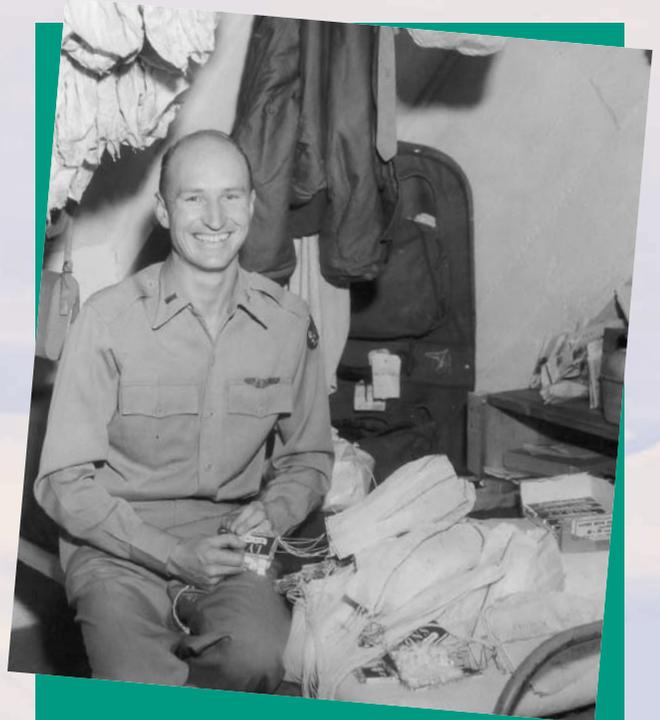
The intensity of the airlift also taught cargo crews a lot about what they could achieve. They had daily chances to perfect air support. One year later, transports, bombers, and fighters would all be called on to fight the next stage of the Cold War: the Korean War.

### Flight Paths

#### 1st Lt Gail Halvorsen: The Candy Bomber

1st Lt Gail Halvorsen was one of the US pilots picked to fly C-54s during the Berlin Airlift. These pilots often had little to do while waiting for their cargo aircraft to be unloaded. One day, trying to pass the time, he talked with some German children who were peering through the airport fence. They asked if he had any candy. He told them that the next time he flew in, he'd wiggle the wings of his plane and then drop small packages of candy to them.

Halvorsen kept his promise. Soon many other pilots wanted to help. Many German children who didn't live near the airport wrote Halvorsen asking for candy to be dropped in their neighborhoods. They called him "Uncle Wiggly Wings." He was also known as the "Candy Bomber."



**1ST LT GAIL HALVORSEN**

1st LT Gail Halvorsen, USAF, became famous for "Operation Little Vittles." He rigged miniature parachutes with American candy bars and gum and then dropped them over Berlin for German children to retrieve.

Courtesy of the US Air Force



Courtesy of Maps.com

**FIGURE 1.4**

The 38th parallel divided Korea into North Korea and South Korea.

## The Role of Air Power in the Korean War

Korea was a Japanese colony from 1910 until 1945, when Japan surrendered to the Allies. A **colony** is a region under the political control of a distant country. After Japan surrendered, the Soviets and Western Allies needed to decide what to do with the Japanese troops stationed in Korea. They agreed that all troops north of Korea's 38th parallel would give up their arms to the Soviets. The United States would handle all Japanese soldiers south of the 38th parallel. The **38th parallel** is a line marking the original boundary between North and South Korea. It refers to the boundary's **latitude**—a line north or south from Earth's equator and parallel to it.

But things didn't go according to plan. The Soviets set up Korean Communist Kim Il-Sung as North Korea's new leader. They wanted to spread communism not only throughout Europe but also through their neighboring countries in Asia. China had become a Communist country in 1949. If North Korea became a Communist country, the Soviets could protect their border along Asia much as they were doing along their border with the countries of Eastern Europe.

On 25 June 1950 North Korean military forces crossed the 38th parallel in a move to take over South Korea. Two days later, the United Nations agreed to go to South Korea's aid. Here was a chance for the United Nations to prevent a third worldwide conflict. American Gen Douglas MacArthur was the first commander of UN troops in this effort.

The United States entered the Korean War for much the same reason it conducted the Berlin Airlift. It wanted to stop the spread of communism. The Soviets and Americans weren't fighting with each other directly. Korea was the scene of the action. But they were fighting. They were engaged in a **limited war**—a war in which opposing sides try to avoid a worldwide war and the possible use of atomic bombs by fighting with each other outside their own lands and sometimes through troops who aren't their own. The Korean War was the first military action of the Cold War.

### Aircraft Used by the USAF During the Korean War

Rather than using long-range strategic bombing as it had in World War II, the US Air Force often conducted tactical air operations in Korea. The fighter plane was the weapon of choice. It dropped bombs to soften enemy positions and disrupt supply routes. It strafed North Korean troops to support UN forces. The Air Force used some B-29 bombers, however, to destroy roads and bridges.



### F-80 SHOOTING STAR

Courtesy of Horace Bristol/Corbis



### THE NAVY'S F-9F PANTHERJET

Courtesy of the US Navy



### HRS-1 SIKORSKY HELICOPTER

Helicopters, like this HRS-1 Sikorsky, flew troops and supplies to the front lines. They also evacuated wounded troops.

Courtesy of Corbis Images

At first US Air Force fighters took off from bases in Japan. Later the Air Force set up bases in South Korea. The most widely used US Air Force fighters were the F-80 Shooting Star, F-51, F-84 Thunderjet, and F-86 Sabrejet. The F-51 was formerly known as the P-51 Mustang of World War II fame. (By the time of the Korean War, fighters carried the designation of “F” for “fighter” rather than the old “P” for “pursuit.”)

The F-51 saw heavy use at the start of the Korean War because it had a longer range than the F-80 jet. This longer range was especially important when US fighters had to take off from Japan. The F-86 that pilots flew later in the war was the best American fighter jet of the time.

The US Navy also provided fighters. The F-9F Pantherjet, AD/A-1 Skyraiders, and the F-4U Corsair took off from aircraft carriers. Among the F-9F pilots was Maj John H. Glenn of the US Marine Corps. He also flew the Air Force F-86 and scored three kills. Glenn became an astronaut in 1959.

The helicopter saw lots of use in Korea. It flew troops and supplies to the front lines. The Air Force used it to evacuate wounded troops, too.

## Ways the United States Used Air Power in the Korean War

Fighting between Soviet-supported Communist forces and UN forces moved back and forth across the 38th parallel throughout the three-year Korean War. Air power played a big part in these frequent swings. In the summer of 1950 the North Koreans drove the UN forces all the way to Pusan, a coastal city in the southeast corner of South Korea. US fighter planes, stationed in Japan and on aircraft carriers, managed to gain time for UN ground forces to dig in. A few months later, in September 1950, the UN landed troops at Inchon, a town on the west coast of South Korea. These new UN forces, along with those still in Pusan, drove the North Koreans almost back to the 38th parallel. UN aircraft supported the ground troops.

Up to this point, the North Koreans hadn't offered much resistance from the air. Their air force was weak: it consisted of about 120 old Russian planes. But on 25 November 1950 things changed. Gen MacArthur led troops across the 38th parallel to the edge of China. The UN wanted to eliminate communism from all of Korea, not just from South Korea.

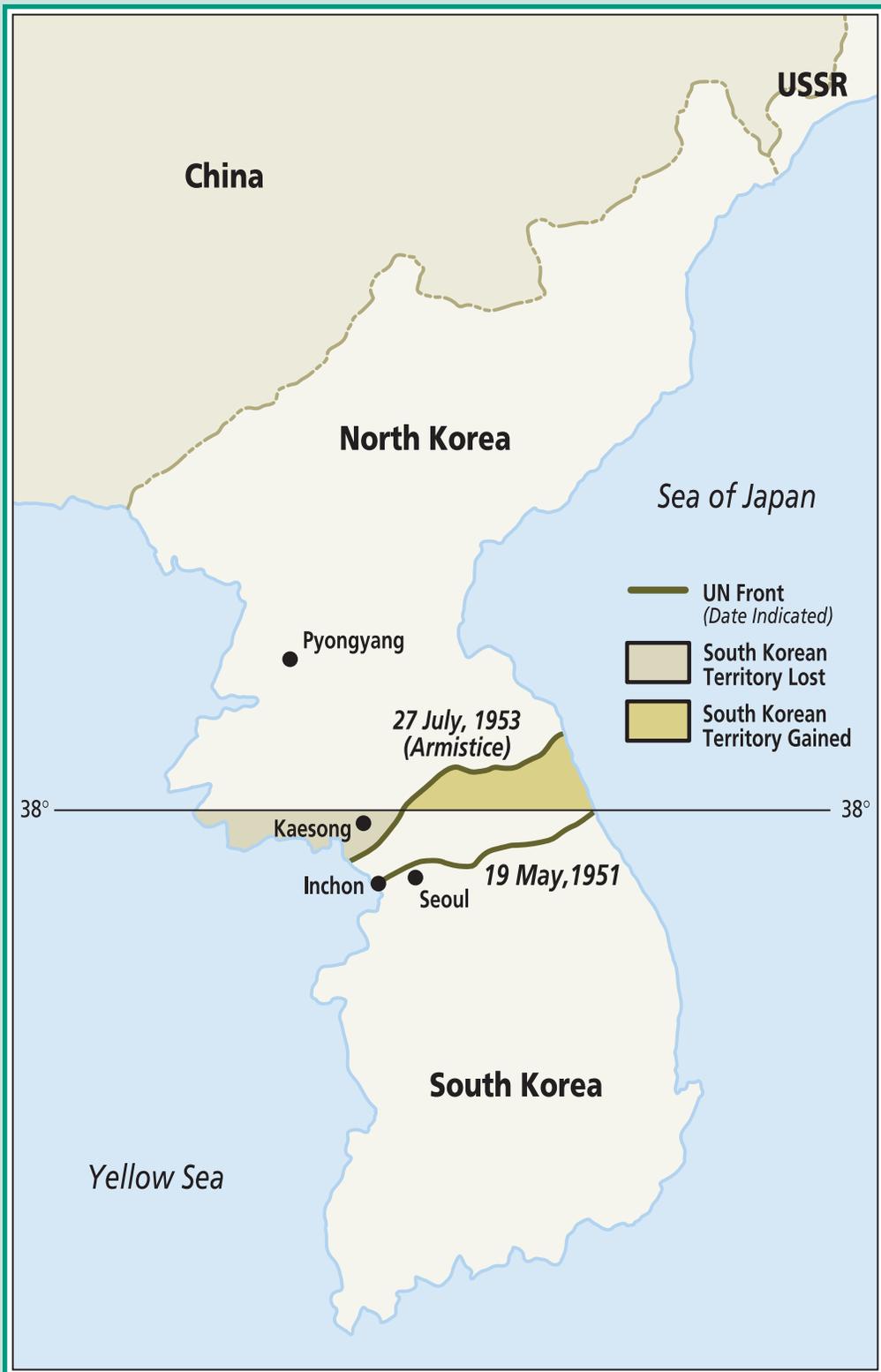
China didn't want the UN pushing along its borders. It entered the war on North Korea's side with 850,000 soldiers and 1,000 Soviet-made MiG-15 fighter jets. The MiG-15 was better than any plane the Americans had initially. In January 1951, with Chinese help, the North Koreans recrossed the 38th parallel and grabbed the South Korean capital, Seoul, a second time.

The United States and the UN wouldn't give up. Tough air battles took place. Although flying inferior fighters, US pilots received better training. They shot down nine MiG-15s for every one US fighter destroyed. Air power proved once again it was a crucial part of modern war. The UN forces under MacArthur took Seoul yet again in March 1951. They drove the North Koreans back across the 38th parallel.

At this point both sides realized they couldn't win. They began negotiating and finally signed a cease-fire agreement on 27 July 1953. The two Koreas remained divided.



Courtesy of George Hall/Corbis



Courtesy of Maps.com

**FIGURE 1.5**

Korea as it was divided after the Korean War

## Lessons the USAF Learned From the Korean War

The US Air Force learned a number of important lessons from the Korean War. First, it realized it had been putting too much emphasis on the atomic bomb. The military had diverted too many funds from fighter development to bombers. The Korean experience made US planners understand that there were now two types of war: total war, like World War II, and limited war, like the Korean War. In a limited war, atomic bombs aren't used. The purpose of a limited war is to prevent an all-out war in which atomic bombs might be used.

## Flight Paths

### Capt Manuel Fernandez: Jet Ace

Capt Manuel "Pete" Fernandez (1925–1980) was the third jet ace of the Korean War. He took part in 124 combat missions. He shot down 14 MiG-15s and shared credit for a 15th kill. He was an F-86 Sabrejet pilot.

Fernandez didn't stop flying after the war. In 1956 he raced a new jet called the F-100C Super Sabre from California to Oklahoma. He averaged 666 mph. He set a record with this speed and won a Bendix Trophy. He also joined the Mach Riders of Nellis Air Force Base, Nevada. This group performed stunts as the barnstormers had done in the 1920s and 1930s. He retired in 1963.



**CAPT MANUEL "PETE" FERNANDEZ**

Courtesy of the US Air Force



**NORTH AMERICAN F-100 SUPER SABRE**

Courtesy of Bettmann/Corbis

A second lesson was simply a reminder of one learned in World War II—the importance of air superiority. UN air power took control of air space over Korea early in the war. This helped UN forces drive the North Koreans back across the 38th parallel. The MiG-15s may have been as good as any US planes, but the better-trained American pilots more than made up for that. US pilots controlled the air.

Third, all branches of the military learned the importance of flexibility. They had to be prepared for all-out war as well as limited war. Each war demands different strategies and tactics. Each war needs different kinds of equipment. Therefore, fighters, bombers, helicopters, and training must be maintained for all options in warfare.

As the Cold War continued, those lessons would be put to severe tests.

## Flight Paths



**LT COL GEORGE A. DAVIS JR.**

Courtesy of the US Air Force

### Lt Col George A. Davis Jr.: Medal of Honor Winner

Lt Col George A. Davis Jr. (1920–1952) served in World War II and the Korean War. Because the two wars were so close together, many Airmen fought in both conflicts.

Davis had an extraordinary career. During World War II he flew 266 combat missions. He shot down seven enemy aircraft in the Pacific theater. He earned a Silver Star, a Distinguished Flying Cross, and an Air Medal.

On 10 February 1952, Davis led a group of four F-86 fighters on a mission over North Korea. Two of his planes had to head home because of damage. Davis knew he and the remaining plane must stick with their mission. They had to provide cover for a group of fighters bombing a North Korean railroad. Davis spotted 12 MiG-15s headed their way. He plunged his fighter toward the enemy formation, despite being outnumbered. He managed to shoot down two of the MiGs before his own plane was hit. He died when his plane crashed into nearby mountains. For his brave act of self-sacrifice, Davis was one of only four Airmen who earned the Medal of Honor during the Korean War.

**CHECKPOINTS**

## Lesson 1 Review

Using complete sentences, answer the following questions on a sheet of paper.

1. What is the name of the law that created the independent United States Air Force?
2. Who was the first chief of staff of the USAF?
3. Which command was responsible for delivering the atomic bomb in the post-World War II years?
4. Define “nuclear deterrence.”
5. Which were the two main countries involved in the Cold War?
6. The Cold War involved the threatened use of which weapon?
7. What was the name of the organization formed by the United States and 11 European countries with a promise to defend one another from Communist aggression?
8. Name three bombers used by Strategic Air Command.
9. Since the Western Allies weren’t allowed to use ground-transportation routes to deliver goods to Berlin, how did they get supplies to that German city?
10. Which were the two main cargo aircraft of the Berlin Airlift, and how many tons could each carry?
11. What did the North Koreans do that set off the Korean War?
12. Define “limited war.”
13. Which was the main type of aircraft—fighter or bomber—used during the Korean War?

### Applying Your Learning

14. How important do you think it is for the United States to maintain air superiority today?

# The Vietnam War and Other Military Operations

*Quick Write*



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List the actions that made Capt Lance Sijan a "model" prisoner of war.



**1ST LT LANCE SIJAN**

Courtesy of the the US Air Force

One military historian has called Capt Lance Sijan the "model on how to behave as a POW." A **POW** is a *prisoner of war*. Sijan was a US Air Force pilot in the Vietnam War. He was only two years out of the Air Force Academy when the North Vietnamese shot him down on his 52nd mission. It was 9 November 1967.

Sijan landed with a broken leg, a damaged hand, and a fractured skull. Yet when radioed by a search-and-rescue team, he refused help. He said he didn't want anyone placed in mortal danger on his account. He tried without success to grab a steel cable the rescue aircraft lowered to pull him out of the jungle. Antiaircraft fire forced the rescue aircraft to leave after 33 minutes. Sijan was stranded in enemy territory.

For more than six weeks, Sijan eluded the North Vietnamese in their jungles. He had to drag himself along the ground because of his broken leg. Finally, the North Vietnamese captured him. But Sijan escaped. When caught again, he was tortured. But he never gave his captors more than his name. They moved him to a POW camp in Hanoi, the North Vietnamese capital. Because of the mistreatment, his health gave out. He died 21 January 1968 as a POW.

The United States took a number of steps to honor Sijan. President Gerald Ford awarded him the Medal of Honor in 1976. The Air Force promoted Sijan to the rank of captain. The Air Force Academy named a cadet dormitory Sijan Hall. And the Air Force grants the Lance P. Sijan Award to those members who show similar bravery and professionalism.

## The Role of Air Power in the Cuban Missile Crisis

Learn About...



Many conflicts took place during the Cold War. There was the bloodless Berlin Airlift. There was the bloody Korean War. Then came the Cuban Missile Crisis in 1962. This event was the closest the United States and the Soviet Union got to **nuclear war**—*war involving the atomic bomb or the hydrogen bomb*. The hydrogen bomb, invented in 1953, was even more powerful than the atomic bomb.

Cuba had become a Communist country in 1960. In 1962 the Soviets sent bombers, fighters, and shiploads of equipment and men to build missile sites there. The Soviets wanted to intimidate the United States in its own backyard. Cuba is only 90 miles south of the southernmost point of Florida. Had the United States allowed the Soviet Union to keep these missiles in Cuba, the Soviets could have struck the US mainland with little warning.

### How Aircraft Were Used During the Cuban Missile Crisis

The United States carefully watched developments in Cuba. US Air Force pilots went on aerial reconnaissance in the U-2. These pilots were from Strategic Air Command's (SAC) 4080th Strategic Reconnaissance Wing. They took photographs of Soviet missile bases in Cuba.

You read about the U-2 spy plane in the last lesson. It was a single-engine, high-altitude aircraft. Its purpose was to gather information on enemy activities. It could fly at altitudes above 55,000 feet. Its glider-like wings worked well in the thin upper atmosphere. It was first tested in 1955.

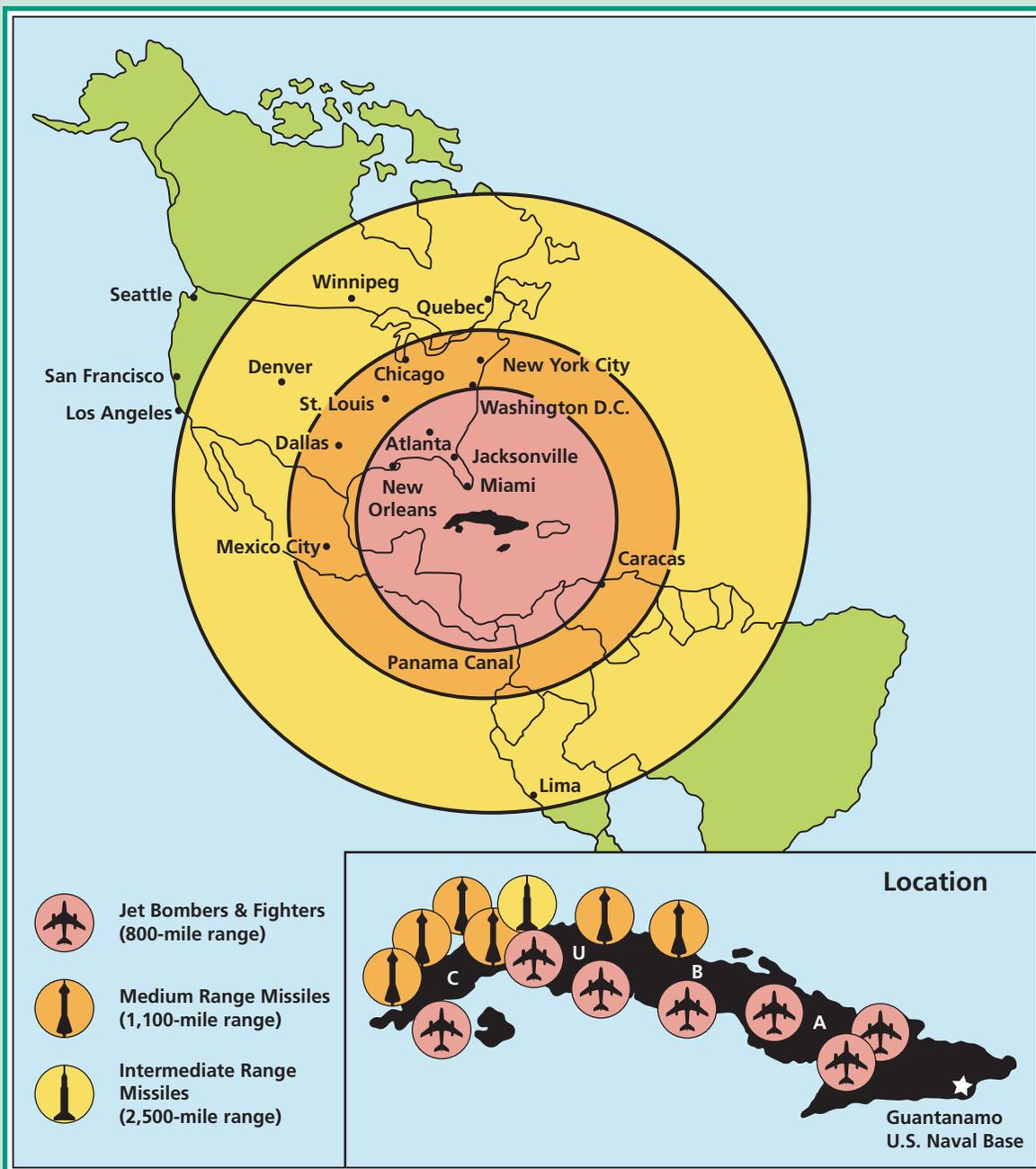
Reconnaissance missions can be dangerous. Maj Rudolf Anderson Jr. had already provided the US government with photos of missile sites. He went on another mission over Cuba on 27 October 1962. The Cubans shot him down with a surface-to-air missile (SAM). Anderson was the only American to die in the Cuban Missile Crisis.

- the role of air power in the Cuban Missile Crisis
- the role of air power in the Vietnam War
- how the USAF gained an increasingly significant role in other US military operations during the Cold War
- key developments in aircraft, missile capability, and nuclear capability during the Cold War

Vocabulary



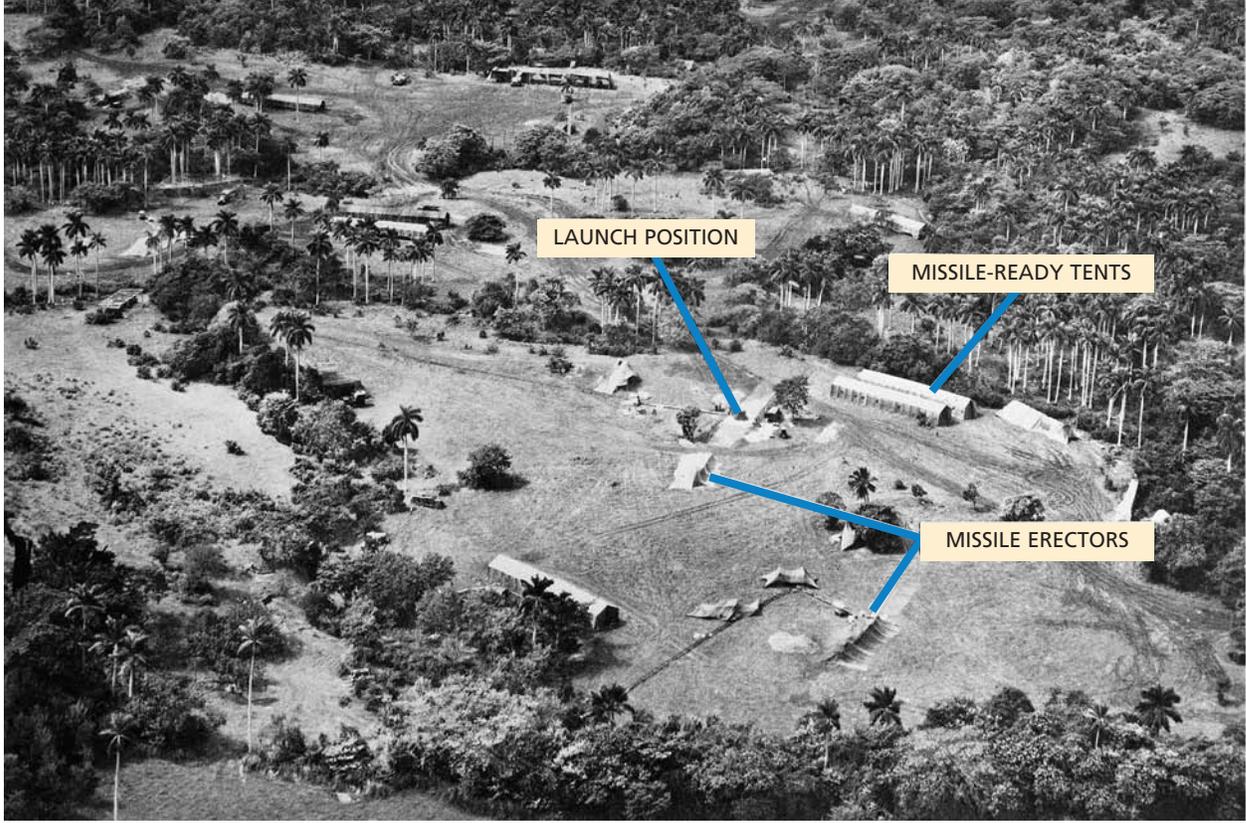
- POW
- nuclear war
- arms race
- international waters
- guerrilla warfare
- solitary confinement
- neutral
- ballistic
- warhead



**FIGURE 2.1**

This map shows the location of Russian aircraft and missiles around Cuba in 1962.

Courtesy of Bettmann/Corbis



### A U-2 TOOK THIS PHOTO OF A MISSILE SITE IN CUBA.

President John F. Kennedy ordered a naval blockade of Cuba on 24 October. A *blockade* is isolating a country, city, or harbor with ships or troops so that no traffic can leave or enter. Soviet ships could no longer enter Cuban ports. At the same time, SAC prepared to deliver nuclear bombs. These two moves let the Soviets know how seriously the United States took the Soviet missiles.

Now a big question arose: would the Soviets try to break through the blockade and risk war?

### The Outcome of the Cuban Missile Crisis

Twenty Soviet ships were sailing toward Cuba when Kennedy set up the blockade. About 500 miles from the United States, the Soviet ships turned away. One reason the Soviets backed down: they had fewer nuclear weapons than the Americans.

A few days later Soviet Premier Nikita Khrushchev ordered the missile sites dismantled. American U-2s flew over Cuba to make sure the Soviets kept their word.

The crisis had passed. But the standoff started an arms race between the Americans and Soviets. An **arms race** is a competition for military supremacy. Each party in an arms race tries to produce larger numbers of weapons and a better military force than the other.

The Soviets wanted to make sure the United States could not force their hand again. They poured money into building their nuclear stockpile. The United States was equally determined to keep its superiority. The arms race accelerated after the Cuban Missile Crisis. It continued until after the Cold War ended in 1989.

## The Role of Air Power in the Vietnam War

America's gradual entry into the Vietnam War marked another phase of the Cold War. After World War II, France tried to regain control of its colonies in Indochina—Vietnam, Laos, and Cambodia. Japan had occupied these colonies during the war. France was fighting Vietnamese forces led by Communist Ho Chi Minh. In July 1950 the United States supplied money to the French effort.

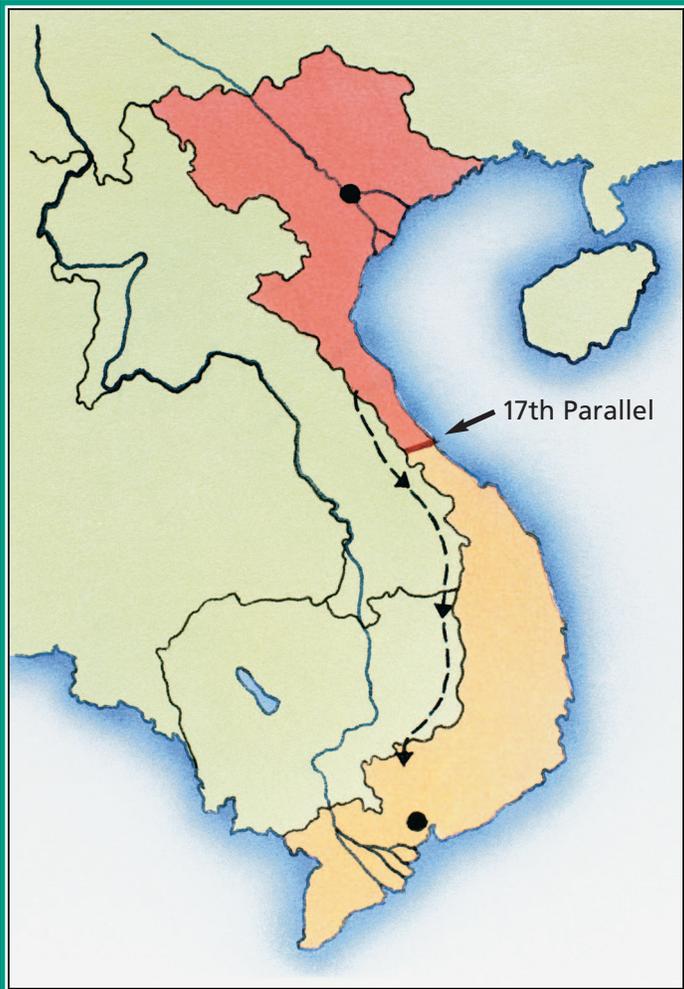


FIGURE 2.2

The 17th parallel divided Communist North Vietnam from Western-backed South Vietnam.

Courtesy of DK Images

In 1954 France withdrew from Vietnam after a serious military defeat. The Geneva Accords of 1954, an international agreement, split Vietnam in half along the 17th parallel. Soon the country fell into a civil war as the north tried to occupy the south. To the north were the Communists. Their allies were the Soviets and the Chinese. To the south were Vietnamese who opposed communism. The United States soon began providing military training and supplies to South Vietnam.

Not until 1961, however, did US forces see combat in Vietnam. About 11,000 troops, including Airmen, saw action in the early 1960s. They served mostly as advisers to South Vietnamese forces.

In 1964 things really heated up. North Vietnamese patrol boats attacked the USS *Maddox*. The American destroyer was off the North Vietnamese coast in international waters. **International waters** are areas of the seas where ships from any nation have the right to travel. The North Vietnamese thought the destroyer was involved in secret US raids along their coast.

Congress quickly passed the Tonkin Gulf Resolution. It allowed President Lyndon Johnson to order the military to strike back at North Vietnam. This was not a declaration of war. But it led to a huge land- and air-based campaign that lasted until 1973. At the war's peak, the United States had more than a half-million troops in Vietnam.

Courtesy of Hulton Archive/Getty Images



**THE US AIR FORCE TRAINED MEMBERS OF THE SOUTH VIETNAMESE AIR FORCE.**

## Ways the USAF Trained the Vietnamese Air Force

Communist ground troops were the main threat to South Vietnam. For much of the war, these troops, called Viet Cong, conducted **guerrilla warfare**. That's *a type of fighting in which small bands of fighters hit more-powerful forces by surprise*. The Communists didn't have much air power. Even so, the US Air Force trained members of South Vietnam's Vietnamese Air Force (VNAF). Given their experience in World War II and the Korean War, the US Air Force knew how to effectively bomb supply routes and hit enemy troops.

The focus of the US Air Force was threefold. It gave the VNAF practice in tactical air operations. VNAF pilots flew as passengers with American pilots to study needed skills. And the US Air Force developed ways to fight guerrillas from the air. Eventually, it introduced reconnaissance and airlift operations.

The Geneva Accords prohibited the use of fighter jets in Vietnam. So at first the US Air Force trained the VNAF pilots to fly propeller aircraft. These slower-moving aircraft were actually well suited for reconnaissance missions. The VNAF could buzz low over the jungles to spot guerrilla movements. But the North Vietnamese kept crossing the 17th parallel into South Vietnam. This was a violation of the Geneva Accords. So the Air Force taught the VNAF how to fly jets. If one side could break the rules, the United States reasoned, then so could the other.

## Ways the US Used Air Power in the Vietnam War

The US Air Force conducted tactical air missions throughout the Vietnam War. The theater was small. The targets were even smaller. In the end, however, it was strategic bombing that forced the North Vietnamese to negotiate an agreement to end the war.

### Operation Rolling Thunder

President Johnson ordered the Air Force not to strike sites linked with the Soviets or Chinese. Johnson didn't want any Russian or Chinese advisers killed. He did not want to draw those two powerful countries into a full-scale war. (This had happened with Chinese troops during the Korean War.) The US conducted limited tactical air strikes on railroads, oil depots, and warehouses. Their purpose was to wear down the North Vietnamese without provoking the Soviets and Chinese.

These tactical strikes, called Operation Rolling Thunder, took place from 1965 to 1968. They weren't as successful as the United States hoped. Because they were limited, the strikes gave the north too much opportunity to rebuild and repair. Several hundred US personnel were shot down and became POWs. These men were held for many years and most were severely mistreated. Meanwhile, regular North Vietnamese Army troops entered South Vietnam through Laos and Cambodia.

### The Tet Offensive

In January 1968 the North Vietnamese and Viet Cong surprised US and South Vietnamese forces with the Tet Offensive. The offensive got that name because it occurred over the Tet holiday, which is when the Vietnamese celebrate the lunar new year. Communist troops and guerrillas attacked 36 major cities in South Vietnam. The US Air Force airlifted troops to the front lines, attacked enemy soldiers, and bombed supply routes.

When the enemy surrounded 6,000 US Marines at their base in an area called Khe Sanh, air power helped save the day. For two months, US cargo planes airlifted supplies. US aircraft also dropped 110,000 tons of bombs around Khe Sanh and blew up 3,000 enemy supply trucks. The Tet Offensive ended when US and South Vietnamese forces expelled the North Vietnamese from the south's major cities. Many North Vietnamese troops retreated north across the 17th parallel.

### Operations Linebacker I and II

When President Richard Nixon took office in 1969, US tactics in Vietnam changed. Nixon wanted to get American troops out of Vietnam. He wanted to turn the effort over to South Vietnamese forces. He began dramatically cutting the number of US ground forces. But in 1972, the North Vietnamese tried another invasion similar to the Tet Offensive. Nixon told his military leaders to do whatever was needed to drive the North Vietnamese out of the south for good. The very short, but devastating strategic-bombing phase of the war began.

Courtesy of George Hall/Corbis



### **THE UH-1 HUEY**

The UH-1 Huey was the most popular helicopter used in the Vietnam War.

In 1972 Air Force B-52s and Navy aircraft pounded North Vietnamese supply routes. The United States called this action Operation Linebacker. During this phase, US aircraft bombed many targets that were off limits during Operation Rolling Thunder. For a while, the North Vietnamese seemed willing to discuss a treaty. But they changed their minds.

In reply, Nixon ordered Operation Linebacker II in mid-December. B-52s flew over North Vietnam with 15,000 tons of bombs. The B-52s relentlessly bombed targets that had been off limits for years. Fifteen bombers were lost during the operation. In January 1973 the North Vietnamese signed a peace treaty with the United States. The final US troops withdrew. Unfortunately, in 1975, the Communist North Vietnamese violated the treaty. They invaded the south, and took over South Vietnam anyway. This time the US did not help. Congress prohibited President Gerald R. Ford from spending money to do so.

### **Significant Aircraft Used by the USAF During the Vietnam War**

A quiet star of the war was the helicopter. Vietnam saw a new use for these aircraft. Units of helicopters transporting ground forces were referred to as “air cavalry.” This was a reminder of the fighting units on horseback from previous centuries.

The helicopter is a delicate aircraft compared with fighters and bombers. The military lost 5,000 of them in the war. But it was a very effective aircraft in the jungles of Vietnam. It could drop troops at the front lines so they wouldn’t have to make long marches through thick undergrowth. It could hover while delivering supplies. Because it didn’t need a runway, it could pick up the wounded in the field.



### A B-52 BOMBS NORTH VIETNAM

Courtesy of the US Air Force

Other aircraft also saw action in Vietnam. In the early years of the war US and VNAF pilots flew B-26 bombers. Another combat plane was the T-28, an aircraft originally built to train pilots. The “T” in T-28 stands for “trainer.”

But in 1964 and 1965 Communist ground forces began to attack US bases. The US Air Force brought over B-52 bombers and F-105 Thunderchief fighter jets. It sent F-4 Phantoms into aerial combat with Soviet-built North Vietnamese MiGs.

Three other important aircraft were high-tech. These were the EC-121, the EB-66, and the F-100F Wild Weasel. The EC-121 was a radar-equipped cargo plane. The EC-121 searched for enemy MiGs over the skies of Vietnam. EC-121 crews could tell US and VNAF fighters where to find MiGs.

The EB-66 jammed enemy radar by sending out electronic pulses. Radar on the F-100F fighter could spot the location of enemy radar and send a missile right at it.



### F-105F THUNDERCHIEF

The F-105F Thunderchief fighter jet dropped bombs during Operation Rolling Thunder.

Courtesy of Ralph Morse/Time Life Pictures/Getty Images



### F-4 PHANTOM FIGHTER JET

The F-4 Phantom fighter jet went into combat against Soviet-built MiGs.

Courtesy of George Hall/Corbis



### F-100F WILD WEASEL

The F-100F Wild Weasel targeted enemy radar with missiles.

Courtesy of Bettmann/Corbis

## A1C William Robinson: From POW to Second Lieutenant

A1C William Robinson was a member of a search-and-rescue team during the Vietnam War. He flew in an HH-43 helicopter.

On 20 September 1965 Robinson's group set out to rescue a downed pilot in North Vietnam. They flew 80 miles to the site with an armed escort. Enemy fire hit both US aircraft. Rules from headquarters forbade the escort to return fire. So it headed back to base. Enemy forces shot down Robinson's helicopter. It crashed into the jungle. The crew was taken prisoner.

Robinson spent eight years as a POW. The captors didn't treat the prisoners' wounds. They tortured the prisoners instead. They denied the POWs adequate food. They exposed them to all kinds of weather. All POWs spent time in solitary confinement. During **solitary confinement**, *a prisoner is held in a cell alone and not allowed to talk to anyone.*

Robinson described this as “weeks, months, and years of boredom punctuated by moments, hours, and days of stark terror.” But he survived. During his incarceration, he received “informal” Officer Candidate School training. When he returned to the United States, he was offered and accepted a direct presidential appointment to the rank of second lieutenant. He received many awards, including the Air Force Cross.



**A1C WILLIAM ROBINSON**

The North Vietnamese parade A1C William Robinson on his way to the “Hanoi Hilton” POW camp.

Taken from the National Prisoner of War Museum

### A1C William Pitsenbarger: A First-Class Hero

A1C William Pitsenbarger (1944–1966) was a crewman aboard an HH-43 helicopter that went on search-and-rescue missions. He was a pararescueman. His job was to care for the wounded and get them out of the jungle.

Pitsenbarger performed this role bravely on 11 April 1966 near Cam My, Republic of Vietnam. On that day, his job was to care for Soldiers who were under fire in South Vietnam. He treated the wounded in the middle of the action on the jungle floor. He placed the casualties in hoists to lift them 100 feet in the air to the chopper. When the enemy launched a major assault, he joined the firefight. Wounded three times, he continued fighting and helping others. He died in action that day.

The Air Force awarded Pitsenbarger the Air Force Cross. But Soldiers who were at the firefight that day asked that he receive a higher honor: the Medal of Honor. The secretary of the Air Force presented the medal to Pitsenbarger's father in 2000.



**A1C WILLIAM PITSENBARGER**

Courtesy of the US Air Force

### Lessons the USAF Learned From the Vietnam War

During the first few years of the war, the United States did not use air power consistently. From time to time it halted the bombing raids. During these pauses, the United States tried to get the Communists to stop fighting. Instead, the North Vietnamese used the time to repair their supply routes and communication lines.

This experience taught the US Air Force that it must thoroughly defeat an enemy. It must not spare locations where Soviet and Chinese advisers might be stationed. During Operations Linebacker I and II, B-52 bombers pounded supply routes and Communist positions until the North Vietnamese were compelled to talk.

## The Top-Secret Mission of CMSgt Richard Etchberger

CMSgt Richard Etchberger (1933–1968) started out as a radar operator. He learned fast. During the Vietnam War, his superiors asked if he'd like to join a top-secret mission called Project Heavy Green.

The project was a joint mission of the US Air Force and the Central Intelligence Agency (CIA). The military needed a radar site close to the border of North Vietnam to better direct bombing runs. The site was in Laos, a country that was **neutral**, *not taking sides*. Because Laos was neutral, no US military member could be stationed there. So anyone wanting to take part in the mission had to resign from the military and secretly join the CIA. Etchberger did just this.

From 1967 to 1968, Etchberger and 18 other Americans worked at the secret radar station in Laos. They directed 25 percent of all bombing missions over North Vietnam. But then the North Vietnamese forces learned of their site. They launched an air attack on 12 January 1968. That didn't succeed. So they launched a ground attack from 10 March to 11 March 1968.

Etchberger and his fellow workers fought as best they could. But many were injured or killed. Etchberger escaped enemy fire. He continued to fight until a helicopter came to pick up the survivors. He loaded his fallen friends one by one until it was his turn. He was fatally shot only after he boarded the copter.

After his death the Air Force awarded Etchberger the Air Force Cross. In a secret Pentagon ceremony in 1969, it was accepted by his wife Katherine.



CMSGT RICHARD ETCHBERGER

CMSgt Richard Etchberger in jungle fatigues

Courtesy of the Air Force Heritage Research Institute



THE RADAR SITE IN LAOS BEFORE THE ATTACK

Courtesy of Ron Haden

## A1C John Levitow Earns a Medal of Honor

A1C John Levitow (1945–2000) was a gunship loadmaster in Vietnam. His duties included working with flares. On 24 February 1969 he displayed extraordinary courage on a night mission near Long Binh, South Vietnam.

The AC-47 gunship he was on came under heavy fire. (The crew later found out their ship had 3,500 punctures from enemy fire.) A mortar shell exploded on the ship's right wing. The explosion sent shrapnel through the body of the plane. It wounded many crewmen.

Forty pieces of shrapnel hit Levitow. Even so, he saved the life of one of his comrades who was about to fall through an open cargo door. When Levitow saw a loose flare headed toward the ammunition supply, he threw himself on top of it. He threw the flare out the cargo door barely a second before it exploded.

Levitow spent two months recuperating. Then he went on 20 more missions. For his brave act in 1969, he received the Medal of Honor in 1970. No other Airman of his rank or lower had ever received that award—the nation's highest military medal.



**SGT JOHN LEVITOW**

Sgt John Levitow receives the Medal of Honor from President Richard Nixon in 1970.

Courtesy of the Air Force Heritage Research Institute

## Maj Robert Undorf and the Rescue of the *Mayaguez*

Maj Robert Undorf was another Airman who served with honor during the Vietnam War.

Undorf was an on-scene commander in 1975 for the rescue of the US merchant ship *S.S. Mayaguez* and its crew. Cambodian Communists grabbed the ship in May 1975. It was 60 miles off the Cambodian coast.

The Cambodian Communists took the *Mayaguez* to Koh Tang Island off the Cambodian coast. President Gerald R. Ford dispatched a force of roughly 200 Marines to retake the vessel and rescue the crew. The Marines expected light resistance on Koh Tang. But they soon found themselves in a tough firefight with up to 200 Cambodian troops. Three of their eight helicopters crashed and two others were disabled.

Meanwhile, a Marine boarding party seized the *Mayaguez* but found no crew members aboard. US aircraft carried out a bombing strike on the Cambodian mainland. After that, the Cambodians released the *Mayaguez's* crew.

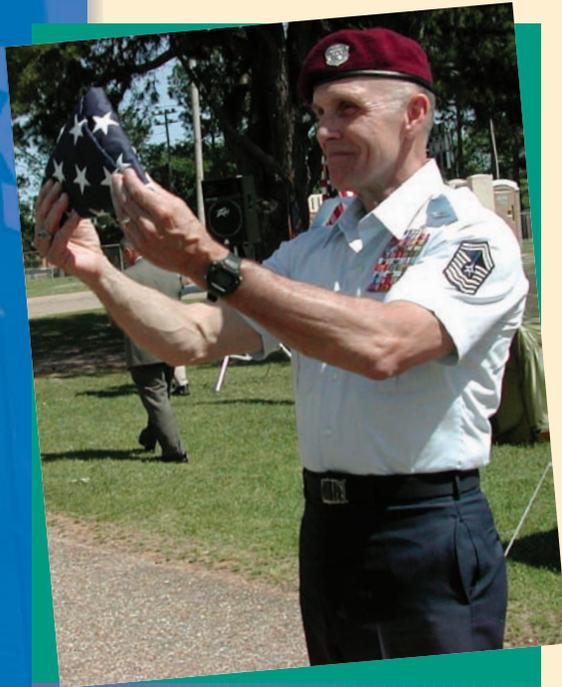
Getting the Marines off Koh Tang was another matter. While they fiercely defended their position, Maj Undorf flew above the battle in an OV-10 forward-air-control aircraft. He directed supporting fire from USAF aircraft and helicopters on the scene. He then directed the rescue of the Marines from the island while continuing to bring in supporting fire. This was tricky, because at the end only three helicopters were available to pick up the Marines. More than once, Undorf himself made several strafing passes against Cambodian troops.

For his intelligent and brave execution of duties Undorf earned the Silver Star and the Mackay Trophy. The Air Force gives the trophy for the most outstanding flight by an Airman each year.



**US MARINES STORM THE *MAYAGUEZ***

Courtesy of Time Life Pictures/US Navy/Time Life Pictures/Getty Images



**CMSGT WAYNE FISK**

Courtesy of the US Air Force

## TSgt Wayne Fisk and the Last Firefight in Southeast Asia

TSgt Wayne Fisk earned two Silver Stars in the Vietnam War. He was a pararescueman.

Fisk earned his first Silver Star for taking part in a raid to try to rescue POWs in 1970 from the Son Tay POW camp in North Vietnam, in enemy territory. He earned his second Silver Star helping US Marines fight Cambodian Communist forces. Fisk was a member of the assault force that recovered the *Mayaguez*, its crew, and the entrapped Marines. During this operation, he traded fire with an enemy sniper while trying to recover a Marine's body. This made Fisk the last US serviceman to engage the enemy in Southeast Asia.

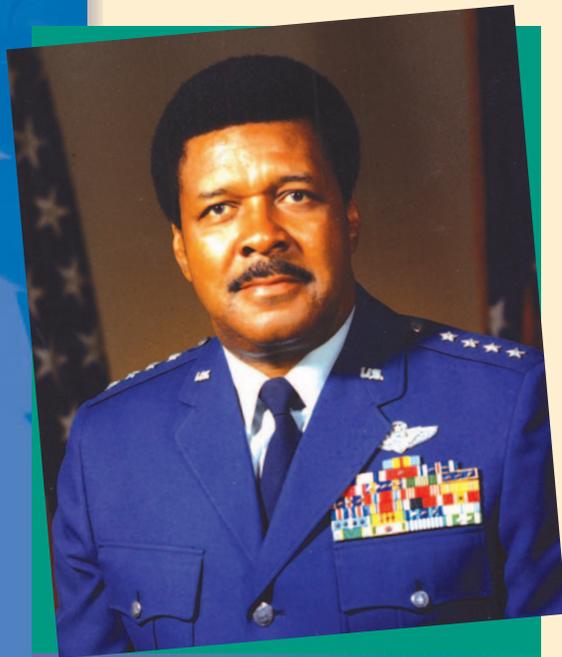
## Gen Daniel James Jr.: The Military's First African-American Four-Star General

Gen Daniel "Chappie" James Jr. (1920–1978) was the first African-American to attain four-star general rank. He received a bachelor of science degree in 1942 from Tuskegee Institute and completed the Civilian Pilot Training Program.

During World War II James trained pilots, including the famous Tuskegee Airmen. He flew 101 combat missions in Korea. He went on 78 missions in Vietnam. He led one operation in Vietnam in which US Airmen shot down seven MiGs. This was a record during the Vietnam War.

James received his fourth star in 1975. At that time, he was commander in chief of the North American Air Defense Command and the Aerospace Defense Command. He directed all strategic aerospace defense forces in the United States and Canada.

He retired in 1978 as a special assistant to the Air Force chief of staff.



**GEN DANIEL "CHAPPIE" JAMES JR.**

Gen Daniel "Chappie" James Jr. set a record as a pilot in the Vietnam War.

Courtesy of the US Air Force

## How the USAF Gained an Increasingly Significant Role in Other US Military Operations During the Cold War

The mission of the US Air Force expanded during the Cold War. Although its main role was still to deliver the atomic bomb, it took on new missions. These included a lead role in the Berlin Airlift, rescuing US citizens in harm's way, and securing Europe by helping rearm Germany.

The US public's desire to avoid heavy casualties led to more reliance on air power to support US goals. In addition, the Air Force's ability to attack more precisely and with less risk of losing aircraft made air power an attractive option.

### US and NATO Military Operations

The United States and NATO nations had two big fears during the Cold War: a Soviet ground attack and Soviet nuclear weapons.

The US and NATO took steps to increase security. They accepted West Germany into NATO in 1955. West Germany bordered Soviet-controlled East Germany. As a member of NATO, West Germany was a geographic barrier to Communist expansion. The US and NATO also rearmed West Germany to a limited extent. Remembering World War II, most people were still wary of Germany.

Starting in 1957 the United States began placing nuclear bombs all over Western Europe. It was the Air Force's job to deliver these weapons if needed. The purpose was to keep Soviet ground forces at bay. Soviet ground forces were far more numerous than NATO forces.

### Other Significant Military Operations During the Cold War

Besides coordinating operations with NATO, the United States conducted missions of its own during the Cold War. Four of these involved saving civilian lives or establishing democracies.

#### Operation Eagle Claw

On 4 November 1979 Islamic "students" raided the US embassy in Iran. They took more than 90 US diplomats hostage. In return for the hostages' release, the Iranians demanded the US government return the Shah of Iran. He was in the United States for surgery. The unpopular Iranian leader had fled his country earlier that year.

Negotiations to gain the hostages' release failed. So President Jimmy Carter ordered a military rescue. Operation Eagle Claw began—and ended—on 24 April 1980. Eight Navy helicopters took off from the aircraft carrier USS *Nimitz* in the Persian Gulf. They headed for a patch of Iranian desert from which they planned to launch the rescue. Three of the helicopters had mechanical problems. The mission was canceled. As the remaining aircraft were leaving Iran, one of the helicopters and a USAF cargo plane collided. Five Airmen and three Marines died.



**FIGURE 2.3**

Iran and the Middle East

Courtesy of Maps.com

Months later on 20 January 1981—the day President Ronald Reagan assumed office—the US and Iran reached an agreement to free the last 52 hostages. (Iran had released some earlier.)

The US military learned from the experience. It needed to better coordinate joint ventures between different branches of the military. In 1987 Congress passed a law that set up the US Special Operations Command. Its purpose was to conduct special operations, which often involve more than one branch of the military.



**FIGURE 2.4**

Grenada and the Caribbean Sea

Courtesy of Maps.com

### Operation Urgent Fury

On 13 October 1983 Communists in the government of Grenada overthrew the prime minister and took over the island in the Caribbean. Many suspected Cuba and the Soviet Union were behind the plot.

The Communist takeover put at risk some 600 American students attending a medical college in Grenada. It also endangered hundreds of other Americans living on the island. President Ronald Reagan sent US troops into Grenada on 25 October to rid it of communism and to bring home the American citizens. The mission was dubbed Operation Urgent Fury.



**AMERICAN STUDENTS BOARD  
A C-141B STARLIFTER ON  
THEIR WAY OUT OF GRENADA.**

Courtesy of Corbis Images

Many US Air Force aircraft took part in the mission. One was the AC-130, a gunship that gave cover to troops securing an airfield in Grenada. The AC-130 took on enemy foot soldiers and attacked anti-aircraft systems. Another aircraft was the EC-130, which can broadcast to enemy radio and TV receivers. In Grenada, the EC-130 crews relayed radio messages to local people so they'd know what was happening. The C-141 Starlifter ferried home the students, plus nearly 11,000 other Americans.

The US and troops from several Caribbean nations ousted the would-be Communist government. By 15 December they restored security. The US troops could go home.



**FIGURE 2.5**

Libya and the Mediterranean Sea

Courtesy of Maps.com

### Operation El Dorado Canyon

Libya, a country in North Africa, was a center of anti-US terrorism in the 1980s. In one Libyan bombing of a club in Germany, for instance, two US servicemen died. On 14 April 1986 Operation El Dorado Canyon targeted five military sites in Libya. President Reagan authorized the mission. The operation was a joint venture of the US Air Force and Navy.



**F-111 AARDVARK**

Courtesy of the US Air Force



**F-117 NIGHTHAWK**

Courtesy of Aero Graphics, Inc./Corbis

Britain let the Air Force use one of its bases as a launching pad for the operation. US aircraft flew seven hours to reach Libya. The flight took longer than usual because France wouldn't let the Air Force fly over French airspace. This added more than 1,000 miles each way to the trip. One plane involved was the F-111 Aardvark, whose wings sweep back in flight to enable the craft to reach faster speeds. KC-10 and KC-135 refueling tankers accompanied these fighters on the 6,400-mile round-trip flight. The flight was the longest for any combat mission in Air Force history up to this time.

Other aircraft played a role as well. The EF-111 jammed Libyan radar. Navy aircraft such as the A-7, A-6, and F-14 joined the Air Force aircraft from carriers in the Mediterranean Sea.

The mission succeeded, although the Libyans shot down one US aircraft. Libya eased off from backing terrorism for several years. But it continued to pose a terrorist threat.

### Operation Just Cause

Panamanian military leader (and dictator) Manuel Noriega held power in his Central American country in the 1980s. At the time, the United States protected the Panama Canal

in accord with a long-standing treaty with Panama. The canal is a 50-mile route through which ships travel between the Atlantic Ocean to the Pacific Ocean. Members of Noriega's Panama Defense Forces (PDF), however, regularly seized, beat, and harassed US military personnel. In 1989 the PDF even detained nine school buses filled with American children from nearby US bases. Noriega was also involved with smuggling illegal drugs.

In response to these threats, the United States undertook Operation Just Cause. President George H. W. Bush said the purpose was to "safeguard the lives of Americans, to defend democracy in Panama, to combat drug trafficking, and to protect the integrity of the Panama Canal treaty."

Just Cause was a joint operation of the Air Force, Army, Navy, and Marines. The Air Force's new F-117 Nighthawk stealth fighter saw its first combat duty. Furthermore, the Air Force delivered 9,500 paratroopers in the largest airdrop since D-Day in 1944. The mission ran from December 1989 until February 1990. US forces arrested Noriega on 3 January 1990. He was convicted in a US court of drug trafficking and money laundering. A Panamanian court convicted him of murder. In February 2007, he was still in a US prison in Miami, with one report saying he might be released in September.

## Key Developments in Aircraft, Missile Capability, and Nuclear Capability During the Cold War

Between 1945 and 1989, both the United States and the Soviet Union spent billions on defense. Because of this huge investment, the United States made several advances in aircraft, missiles, and nuclear power during those years.

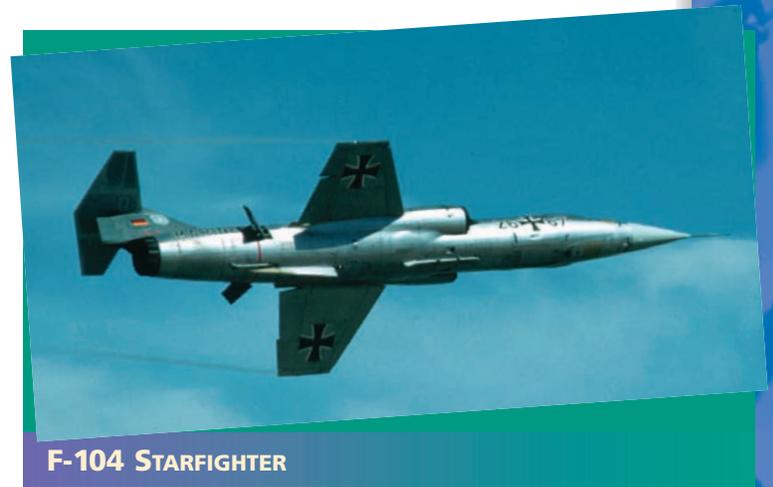
### Aircraft Developments

The Douglas X-3 Stiletto was introduced in 1952. It was different from the X-1 and X-2, which you read about in Chapter 6, Lesson 1. While the X-1 and X-2 were rocket-driven, the X-3 was jet-driven. And while the X-1 and X-2 had to be launched like a glider in mid-air, the X-3 took off from the ground.

Engineers built the X-3 to be the first jet aircraft to break Mach 3. But in 20 tries, it failed to do so. So the designers went back to the drawing board. They came up with three new aircraft: the F-104 Starfighter, the experimental X-15, and the reconnaissance aircraft SR-71 Blackbird.

The F-104 flew 1,404 mph in 1958 and reached an altitude of 103,395 feet in 1959.

The X-15 tested two kinds of limits: speed and altitude. Like the first jets in the X-series, the rocket-propelled X-15 had to be carried into the air for release. But it soon broke records. The X-15 flew at speeds that exceeded 4,000 miles an hour. It soared more than 50 miles into the sky. Pilots tested the X-15s from 1959 until 1968.



Courtesy of George Hall/Corbis



Courtesy of Dean Conger/Corbis



### SR-71 BLACKBIRD

Courtesy of George Hall/Corbis



### BELL X-5

Courtesy of Loomis Dean/Time Life Pictures/Getty Images



### B-1 LANCER

Courtesy of George Hall/Corbis

The SR-71 was the fastest (2,193 mph) and could reach the highest altitudes (85,068 feet) of all reconnaissance planes.

The Bell X-5 first flew in 1951. It had a jet engine. Its main experimental function was its wing design. The X-5 had wings that could sweep back up to 60 degrees during flight. The sweptback-wing design meant faster flight. The F-111 that dropped bombs over Libya during Operation El Dorado Canyon in 1986 had the same swing-back wing design.

As the B-52 fleet aged, the Air Force modernized its bomber fleet. It upgraded the B-52s to accept air-launched cruise missiles. And in 1984 it accepted the first B-1 Lancer long-range bomber. The B-1 could carry twice the payload of a B-52. The Air Force thought the B-1's range, speed, and ability to attack at low altitude would allow it penetrate Soviet defenses. Its design called for a maximum speed of Mach 2.1 (1,400 mph) and a range of 6,100 miles without refueling.

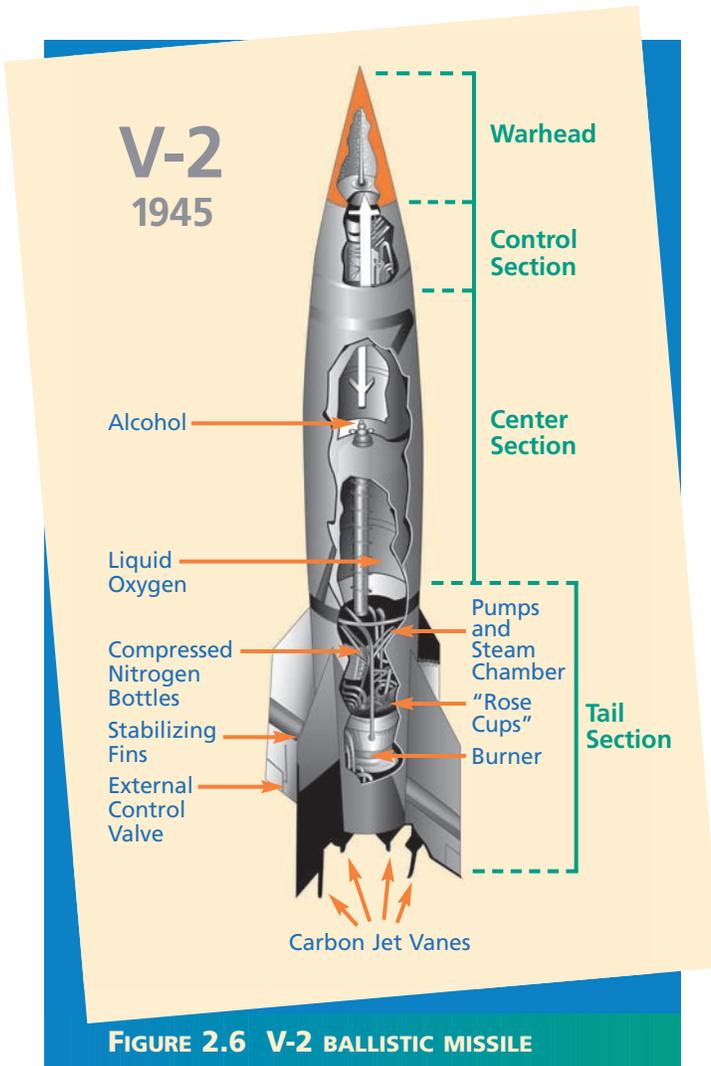


FIGURE 2.6 V-2 BALLISTIC MISSILE

The Germans dropped thousands of V-2 ballistic missiles on England during World War II.

Other Cold War era inventions were smart bombs and cruise missiles. *Smart bombs* are dropped from an aircraft and guided to their targets by laser or other precision-delivery devices. They have fins to stabilize them in flight. *Cruise missiles* are both guided and propelled. The first cruise missile was the German V-1 from World War II.

In the 1950s US researchers invented a jet-propelled missile. The Northrop SM62 Snark could fly for 6,300 miles at Mach 0.94. This was nearly the speed of sound. The rocket-propelled GAM 63 Rascal was smaller and more controllable than the Snark. SAC bomber crews could guide the Rascal by radar from up to 100 miles away. This distance better protected bombers from anti-aircraft fire.

## Missile and Nuclear Developments

At the end of World War II, the Germans invented and used the V-2 ballistic missile. A **ballistic missile** is one that free-falls after a self-powered flight. During the final months of the war Germany fired thousands of these rocket-driven missiles. The missiles flew 100 miles into the sky before plunging to Earth at speeds as high as 3,600 mph. They carried 2,000-pound warheads. A **warhead** is the explosive tip of a missile.

Based on captured V-2 technology, the US developed its own ballistic missiles after the war. Their purpose was to deliver nuclear weapons on the Soviet Union and its allies. *Ballistic missiles* were rocket or jet propelled. They weren't guided by radar. Once they finished their forward, upward motion, they plummeted to Earth much like a bomb dropped from a plane. The Soviets likewise developed a series of increasingly effective missiles aimed at the US and other NATO countries.



**NORTHROP SM62 SNARK**

Courtesy of the US Air Force



**GAM 63 RASCAL**

Courtesy of the US Air Force

Both the Snark and the Rascal carried nuclear warheads, although the Snark was originally fitted with conventional explosives. The Northrop SM62 Snark led to more-advanced cruise missile designs.

The US used cruise missiles in 1991 during the first Persian Gulf War. They can fly low and turn sharp corners. They are so accurate they can be directed to fly through a specified window of a building.

In an effort to cool Cold War tensions, the United States and the Soviet Union entered into a series of arms-control agreements. These accords limited and reduced the numbers of specific types of nuclear weapons—especially ballistic missiles.

### How the Cold War Ended

In the decades of the Cold War, the United States and the Soviet Union never fought face to face. Neither side used nuclear weapons. They avoided total war.

But each side spent billions of dollars building up arms. This meant billions of dollars weren't going toward the everyday needs of civilians: better schools, better roads, and better power plants. This failure to pay attention to its people's needs severely weakened the Soviet Union.

The country's economy suffered. People had to wait in line to buy basic foods, such as bread. The people in the Communist countries of Europe also began to demand more respect for human rights. They wanted freedom of speech, freedom of religion, and the freedom to travel to other countries.

The Cold War came to a critical point in 1989. Soviet leader Mikhail Gorbachev had come to power in 1985. He tried to reform the Communist system by freeing the economy and improving human rights. But the effort came too late for Soviet communism. The Soviets' Eastern European allies saw their Communist governments fall one by one. In most cases, democracies took their place. East Germany and West Germany reunited into one democratic country. The Soviet Union broke apart into 15 independent countries, including Russia. Gorbachev was unable to stop the disintegration of the Soviet Union.

After four decades of tension, the contest of wills was over. The United States and its democratic allies in NATO had won.

Some people thought the Cold War's end would bring a long period of peace. But instead, the ending of the Cold War ushered in a whole new era of regional conflicts. This would challenge the US and NATO in a much different way than the Cold War did.

**CHECKPOINTS**

## Lesson 2 Review

Using complete sentences, answer the following questions on a sheet of paper.

1. What was an aircraft used during the Cuban Missile Crisis and how was it used?
2. What did President John F. Kennedy set up around Cuba when the Soviets were building missile sites on the island nation?
3. Which country was better equipped with nuclear weapons during the Cuban Missile Crisis—the United States or the Soviet Union?
4. What did Congress pass that gave President Lyndon Johnson the right strike at North Vietnam?
5. Which aircraft was the new quiet “star” of the Vietnam War?
6. What lessons did the USAF learn from the Vietnam War?
7. What important lesson did the US military learn from Operation Eagle Claw?
8. What was special about the X-5 aircraft?

### Applying Your Learning

9. Why do you think the US and NATO won the Cold War?

## Global Interventions From 1990

### Quick Write



Why did TSgt Timothy Wilkinson receive the Air Force Cross?

### Learn About...



- the significance of stealth aircraft
- the role of air power in the Gulf War (Operation Desert Storm)
- the role of air power in Operation Enduring Freedom
- the role of air power in Operation Iraqi Freedom
- the role of air power in various other US military operations

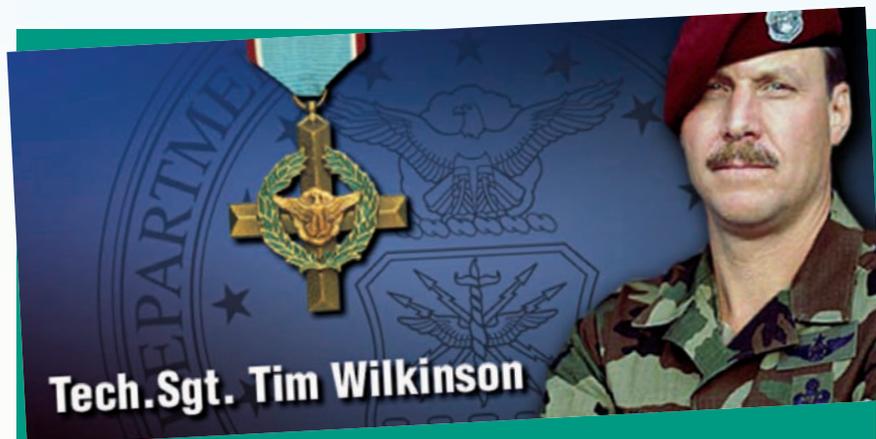
In 1993 followers of African warlord Mohammed Farah Aidid shot down two UH-60 Blackhawk helicopters in Mogadishu, Somalia. Nineteen US military personnel and one Malaysian soldier were killed, along with hundreds of Somalis. The US and other troops were in Somalia to support a United Nations peacekeeping mission.

TSgt Timothy Wilkinson was a member of the combat search-and-rescue team sent to the crash site. When his unit arrived, it got caught in a 15-hour firefight with Aidid's followers. It was the longest firefight since the Vietnam War.

Wilkinson's duty was to treat the wounded. Again and again, he darted into the firefight to retrieve wounded crewmen as well as the bodies of Soldiers who had died.

During one dash, a bullet took a piece of skin off Wilkinson's face. "I learned then that life is a matter of millimeters and nanoseconds. If my head was turned a different way, I might be dead," Wilkinson said later. "Fortunately, all the bullets missed me, and my scars healed up nice."

Just as the rescue team's ammunition was starting to run out, help arrived. The crew was evacuated safely. Wilkinson was awarded an Air Force Cross for his courage that day. He was the first enlisted person to get this award since 1975.



TSgt TIMOTHY WILKINSON

Courtesy of the US Air Force

## The Significance of Stealth Aircraft

### Vocabulary



In 1988 the B-2 Spirit stealth bomber entered the arsenal of the US Air Force. Stealth aircraft are unique for one important reason: they can evade radar. This means they can fly nearly undetected.

Stealth ability allows aircraft to run reconnaissance without being caught. A stealth aircraft can bomb an enemy with little chance of being spotted, especially at night. Imagine if the Germans had been able to escape radar as they approached the British Isles in 1941. The Battle of Britain, and perhaps World War II, might have ended differently.

An aircraft such as the B-2 is invisible because it's made of special materials. Its paint can absorb and deflect electronic pulses from radar. Its shape cloaks the aircraft as well. Every part of the plane is designed to hide it from radar. Many details about the materials are **classified**—*they are secret*.

Among the other stealth aircraft the US Air Force flies are the F-117 Nighthawk and the F-22 Raptor fighters. The first home of the F-22, which will replace the F-117, was at Langley AFB, Va. The F-35 stealth fighter will be next to join the Air Force fleet.

Later in this lesson, you'll read about the roles stealth aircraft played in various military operations.

- classified
- superpower
- coalition
- sortie
- precision weapons
- weapon of mass destruction
- insurgent
- no-fly zone
- secede
- military coup

### THE F-22 RAPTOR IS THE NEWEST STEALTH AIRCRAFT DEPLOYED IN THE US AIR FORCE FLEET.

Courtesy of the US Air Force





**FIGURE 3.1**

**Kuwait, Iraq, and Saudi Arabia**

Taken from *Crusade: The Untold Story of the Persian Gulf War* by Rick Atkinson. Reprinted by permission of Houghton Mifflin Company.

## The Role of Air Power in the Gulf War (Operation Desert Storm)

The end of the Cold War did not bring the hoped-for peace. Instead, it created new tensions. Some alliances crumbled. The Soviet Union no longer had the might to spread communism. Only the United States remained a **superpower**, a powerful, dominant country that has nuclear weapons.

Some saw opportunity in these changes. Saddam Hussein, dictator of Iraq in the Middle East, was one of them. He wanted to grab the oil fields of Kuwait, a tiny country south of Iraq. Hussein assumed no one would interfere with his plan, since the Soviet Union and the United States were no longer engaged in the Cold War. He thought the Soviets and Americans wouldn't take sides in conflicts outside their borders as they had in the past. He was wrong.

On 2 August 1990 Iraqi forces marched into Kuwait. By 4 August, Iraq controlled its neighbor. Iraq had prepared well for the invasion. With 550,000 troops, it had the fourth-largest army in the world. It had 16,000 surface-to-air missiles (SAMs) and 750 aircraft. But Iraq would not get to keep Kuwait.

### Why the United States Got Involved in the Gulf War

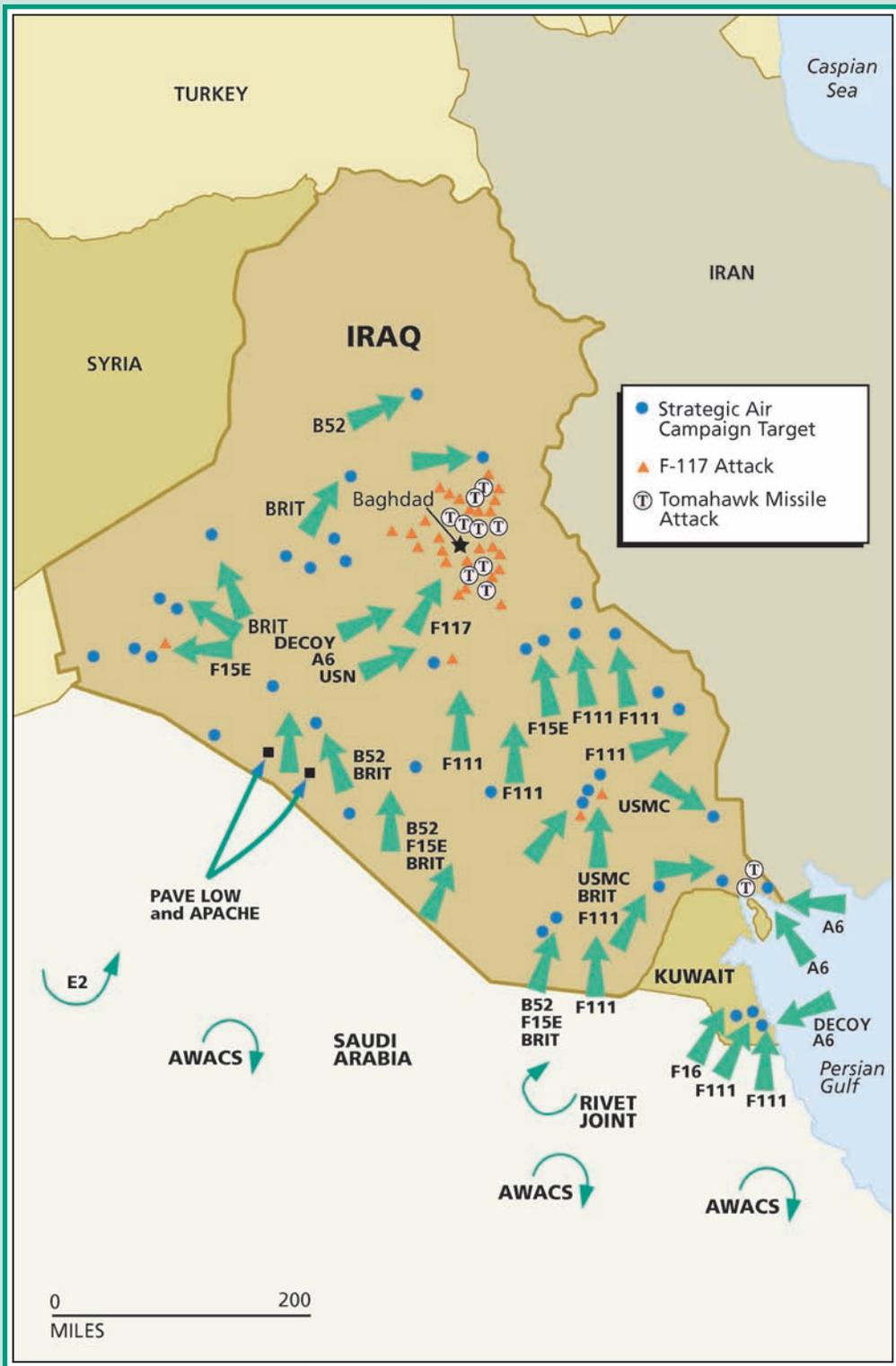
On 6 August 1990 Saudi Arabia—a US ally and a major oil supplier—asked its allies to protect it from neighboring Iraq. Saudi Arabia saw what had happened in Kuwait. It feared Iraq would try to take over Saudi oil fields next.

The United Nations responded with Resolution 660, which ordered Iraq to leave Kuwait. The UN also passed Resolution 678, which permitted a coalition of UN troops to force Iraq out of Kuwait if it didn't withdraw by 15 January 1991. A **coalition** is an alliance among nations. The Allies, for example, were a coalition during World War II.

On 8 August the United States sent forces to Saudi Arabia to deter an Iraqi invasion. The military dubbed the mission Operation Desert Shield. American and other UN troops “shielded” Saudi Arabia from aggression by placing troops and weapons on Saudi soil. The US Air Force arrived with Airmen, fighter planes, stealth fighters, bombers, gunships, tankers, reconnaissance planes, and transports.

At the same time, US military planners prepared for a second operation in case Iraq didn't meet the deadline to leave Kuwait. The United States called this action Operation Desert Storm. Many UN members, including Britain and France, contributed to it.

Iraq did not exit Kuwait as ordered. The stage was set for battle between Iraqi and UN forces.



**FIGURE 3.2**

Initial US air strikes on Iraq

Taken from *Crusade: The Untold Story of the Persian Gulf War* by Rick Atkinson. Reprinted by permission of Houghton Mifflin Company.

## How the United States Used Air Power in the Gulf War

The US Air Force worked out a plan to fight Operation Desert Storm. Both military strategists and President George H. W. Bush wanted to avoid another Vietnam. They settled on three tactics:

1. *Keep the air battle going.* Do not pause. In Vietnam, such pauses gave the North Vietnamese time to rebuild and repair.
2. *Conduct parallel air strikes.* In other words, bomb many targets simultaneously. Don't focus on one target at a time.
3. *Coordinate air-strike efforts of the US Air Force, US Navy, and other coalition air forces* using one overall commander and one unified plan called an Air Tasking Order.

### The Targets

The United States and United Nations decided that their air strikes would aim for four kinds of targets. They based their decisions on the theories of a 19th-century European named Carl von Clausewitz. He said that the best targets were at the “center of the enemy’s gravity.” This meant that US forces ought to begin by taking out the important targets, such as lines of communication. This would prevent Hussein from giving orders to his troops. The targets were Iraqi:

1. communication sites
2. air defenses
3. supply lines and enemy troops
4. threats to UN ground troops.

### The Execution

On 17 January 1991 US air strikes on Iraq began. The US Air Force’s first targets were communications links, such as TV stations and telephone-relay stations in Baghdad, Iraq’s capital. Also, the Air Force made parallel air strikes. It targeted large numbers of these sites, rather than just one at a time.

Second, US aircraft went after Iraq’s air-defense systems, such as SAMs. The third target was supply lines and warehouses. With air superiority secured, UN ground troops were ready to move into Iraq.

On 29 January 1991 Iraq launched an attack against UN forces in Saudi Arabia. This attack failed. Then on 22 February 1991 a 100-hour battle began to drive the Iraqis out of Kuwait for good. US air power took the skies over Kuwait. UN ground forces followed. Kuwait was at last free of Iraqi rule.

## Lessons the USAF Learned From the Gulf War

The US Air Force had two goals in Operation Desert Shield and Operation Desert Storm: to protect Saudi Arabia and to free Kuwait.

To achieve these aims, the US military drew up clear tactics and targets. The Air Force based many of these tactics and targets on lessons learned in other wars like Vietnam. One important lesson: don't give the enemy a chance to repair and rearm.

Grabbing air superiority early on gave the US and UN forces an edge as well. Once these forces had struck Iraqi air bases and destroyed communication lines, Iraqi pilots couldn't receive directions from commanders or get into the air.

Finally, US technology gave the UN effort the upper hand in the air. The F-117 stealth fighter, for instance, flew 1,271 sorties during Operation Desert Storm. A **sortie** is a flight or an attack by a single combat aircraft. The F-117 was the only aircraft to bomb central Baghdad. In addition, the KC-135 and KC-10 tankers made the long-distance war possible. They refueled more than 14,500 aircraft in mid-air.

### F-117 NIGHTHAWK



Courtesy of the US Air Force

## The Role of Air Power in Operation Enduring Freedom

On 11 September 2001, 19 Islamic extremists hijacked four American commercial airliners. The hijackers flew two of these planes into the twin towers of the World Trade Center in New York City. They crashed a third aircraft into the Pentagon just outside Washington, D.C. Passengers on a fourth airliner fought the terrorists, who crashed the plane into a field in Pennsylvania. More than 3,000 people died in the attacks.

Less than a month later, the US military unleashed Operation Enduring Freedom (OEF). The goal was to destroy the terrorists' organization and their bases in Afghanistan, a country in southwest Asia. The terrorists were from a group called Al-Qaeda. The Taliban regime, which ruled Afghanistan at that time, let Al-Qaeda forces train in its country. Therefore, OEF targeted members of the Taliban as well as of Al-Qaeda.

### US Aircraft in Afghanistan

OEF began on 7 October 2001, when US Air Force bombers struck terrorist training camps and bases. At the same time, US Navy fighters made strikes from aircraft carriers, and US and British submarines launched missiles at targets in Afghanistan.

Within 18 months, coalition air forces flew more than 85,000 sorties. They conducted more than 48,000 airlifts of troops and cargo. They dropped more than 9,650 tons of bombs.

The main US Air Force combat aircraft involved were the B-1, B-2, B-52, F-15E, F-16, A-10, and AC-130. OEF began with eight B-1s. In the first six months of operations, these aircraft accounted for 40 percent of the guided and unguided explosives dropped in Afghanistan.

The B-2 stealth bomber made the longest flight in its history early in OEF, when it flew from Whiteman Air Force Base, Missouri, to Afghanistan.

While the war removed the Taliban regime and led to a new government in Afghanistan, attacks by pro-Taliban fighters and Al-Qaeda terrorists continue. The United States, however, now joined by its NATO allies, has made great strides against the terrorists.



### MQ-1 PREDATOR

The MQ-1 Predator delivers the Hellfire missile.

Courtesy of the US Air Force



### F-16 FIGHTING FALCON

An F-16 Fighting Falcon flies over the Pentagon as part of Operation Noble Eagle.

Courtesy of the US Air Force

ONE began shortly after 11 September 2001. Within 16 months, US aircraft flew more than 27,000 sorties over American cities. They were on the lookout for suspicious aircraft, and they continue this job today. Fighters such as the F-15 Eagle or the F-16 Fighting Falcon shoot flares if they find an airplane flying in space where it is not supposed to be. For example, planes may not fly over the White House unless they have permission. If an airplane enters that airspace, Air Force fighters have the right to shoot it down if it does not respond to warnings and depart.

## Precision Weapons

Among the weapons the Air Force used in Afghanistan are precision weapons. **Precision weapons** are guided missiles and bombs. They are so accurate that they can be placed within feet of their target.

The Hellfire missile is one of the precision weapons used in Afghanistan. The MQ-1 Predator delivers the Hellfire. The Predator is an unmanned aircraft that a pilot controls remotely. (Think of the remote-control device you use to change channels on your TV. It allows you to channel-surf from across the room, or “remotely.”) After the pilot has fired the missile, sensor operators then guide the missiles to their targets.

Precision weapons are the wave of the future because they can keep US forces far from combat. This helps keep casualties down.

## Operation Noble Eagle and NORAD

In addition to fighting terrorists overseas, Airmen have duties back home. Members of the Air National Guard, Air Force Reserve, and active Air Force serve in Operation Noble Eagle (ONE). Its goal is to safeguard American soil.

The North American Aerospace Defense Command (NORAD) runs ONE. As its name implies, NORAD has a big job: to defend the skies over the United States and Canada.

## TSgt John Chapman: An Exceptional Brand of Courage

TSgt John Chapman was a combat controller during Operation Anaconda in Afghanistan. Air Force combat-control teams support special operations in the field.

It was in the early hours of 4 March 2002, in what became a 17-hour ordeal on top of Tukur Ghar mountain in southeastern Afghanistan. Operation Anaconda—a coalition effort to destroy Taliban and Al-Qaeda units—was just starting.

Sergeant Chapman was attached to a Navy sea-air-land (SEAL) team. The team's MH-47 helicopter was hit by Al-Qaeda enemy machine gun fire. A rocket-propelled grenade then hit the helicopter, causing a SEAL team member to fall from the aircraft into enemy-held territory.

The helicopter made an emergency landing more than four miles from the fallen SEAL. Chapman called in an AC-130 gunship to protect the stranded team.

Chapman called in another helicopter to evacuate his stranded team. Then he volunteered to rescue his missing team member from the enemy stronghold. He engaged and killed two of the enemy before advancing and engaging a second enemy position—a dug-in machine gun nest.

From close range with little cover, Chapman exchanged fire with the enemy. Finally he died after receiving multiple wounds. Because of his actions, his team was able to move to cover and break enemy contact.

The Navy SEAL leader credited Chapman with saving the lives of the entire team. In gratitude, the Navy named a cargo ship after him. For his bravery and courage, the Air Force awarded him the Air Force Cross. He became the service's highest-decorated combat controller.



**MEMORIAL TO TSGT JOHN CHAPMAN**

A memorial at the Air Force Enlisted Heritage Hall at Maxwell AFB, Gunter Annex, in Montgomery, Alabama

Courtesy of the US Air Force



## SrA Jason Cunningham: A Display of Uncommon Valor

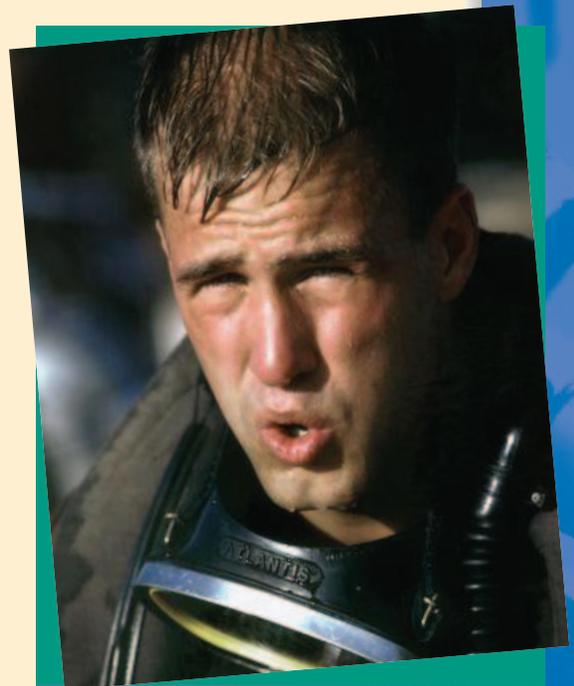
SrA Jason Cunningham was in the Navy before he decided to switch to the Air Force. He wanted to be a pararescueman. The pararescuemen's motto is "That others may live."

Airman Cunningham was the primary Air Force Combat Search and Rescue medic assigned to a Quick Reaction Force. His team was sent to recover American servicemen in the battle in which TSgt John Chapman was killed. Shortly before landing, his MH-47E helicopter took rocket-propelled grenade and small-arms fire. This severely disabled the aircraft and caused it to crash land. The assault force formed a hasty defense. Three members were killed immediately; five others were critically wounded.

Despite enemy fire, and at great risk to his own life, Cunningham stayed in the burning fuselage of the aircraft to treat the wounded. As he moved his patients to a more secure location, mortar rounds began to hit within 50 feet of his position. Disregarding this extreme danger, he continued the movement and exposed himself to enemy fire on seven separate occasions.

After a time the second casualty collection point was also endangered. Cunningham braved an intense attack while moving the critically wounded to a third collection point. He was mortally wounded and quickly deteriorating, but he continued to direct his patients' movement and transferred care to another medic.

Cunningham had given medical treatment to the wounded while under fire for seven hours. He was killed saving the lives of 10 service members. The Air Force awarded him the Air Force Cross after his death.



**SrA JASON CUNNINGHAM**

SrA Jason Cunningham gave his life on a rescue mission in Afghanistan.

Courtesy of the US Air Force

## Top US Military Decorations



### MEDAL OF HONOR

Courtesy of the US Air Force



### AIR FORCE CROSS

Courtesy of the US Air Force



### SILVER STAR

Courtesy of the US Air Force



### BRONZE STAR

Courtesy of A.Y. Owen/Time Life Pictures/Getty Images

### Medal of Honor

The Medal of Honor is the nation's highest US military decoration for valor or bravery in combat, awarded to members of the armed forces. It is given for conspicuous gallantry and courage at the risk of life, above and beyond the call of duty. The Medal of Honor is sometimes called the "Congressional Medal of Honor" because the president awards it on behalf of the Congress. It is awarded rarely, and then only to the bravest of the brave. The recipients' valor must be well documented.

### Air Force Cross

The Air Force Cross is second only to the Medal of Honor as an award for valor. The other military services have a similar award. It is awarded to members of the Air Force for extraordinary heroism while engaged in military operations involving conflict with an opposing foreign force or while serving with friendly forces against an opposing enemy force.

### Silver Star

The Silver Star Medal is the nation's third highest award designed solely for valor in combat. It is awarded to members of the military for distinguished gallantry in action against an enemy of the United States or while serving with friendly forces against an opposing enemy force.

### Bronze Star

The Bronze Star Medal is awarded to any person in the military who distinguishes himself or herself by heroic or meritorious achievement or service. The service must not involve participation in aerial flight. It must occur while he or she is engaged in an action against an enemy of the United States.



### B-2 SPIRIT BOMBER

Courtesy of the US Air Force

## The Role of Air Power in Operation Iraqi Freedom

Another front in the war on terror is Operation Iraqi Freedom (OIF). The US military and its coalition partners launched OIF on 19 March 2003. It began with an air and ground campaign that quickly became known as “Shock and Awe.” Within 22 days, coalition forces reached Baghdad. The coalition met some resistance. But the coalition forces mostly overwhelmed the Iraqis with air power, tanks, and troops.

The objective of OIF was to remove Iraqi leader Saddam Hussein from power and to rid the country of weapons of mass destruction (WMD). A **weapon of mass destruction** is a chemical, biological, or atomic weapon that can kill large numbers of people in one use.

US forces captured Hussein on 13 December 2003. After a long trial, the new Iraqi government executed him on 30 December 2006. Despite their success in capturing Hussein, however, US and coalition forces found no WMDs in Iraq.

Throughout OIF, insurgents, including members of Al-Qaeda, have poured into the country to fight US and allied forces. An **insurgent** is a rebel or guerrilla fighter.

US air power and ground troops are the main players in this ongoing mission. As of early 2007 British troops were stationed in southern Iraq. US Soldiers, Marines, Airmen, and Sailors were operating in the rest of that country.

### US Aircraft in Iraq

Among the aircraft the US Air Force has used in Iraq are stealth aircraft. Twelve F-117 fighters flew into Baghdad to hit command and control targets on 20 March 2003. This attack weakened Hussein’s ability to communicate with his military. US F-117 pilots flew 100 sorties.

As of June 2006, the B-2 stealth bomber had flown 49 sorties in OIF. It had dropped more than 1.5 million pounds of bombs. First employed in combat during Operation Allied Force (discussed later in this lesson) the B-2 bomber achieved “full operational capability” in December 2003.

## Precision Weapons

Precision weapons have also played a large role in Iraq. About 70 percent of all weapons used in OIF have been of precision type. Two of the newer ones are the GBU-38 and GBU-39. GBU stands for “guided-bomb unit.”

The GBU-38 went into action for the first time in 2004, when it was used to bomb a terrorist meeting in central Iraq. F-16 fighters delivered those GBU-38s. Weighing 500 pounds, they are smaller than some other bombs. But the GBU-38’s size and accuracy allow the military to target a particular building without seriously damaging surrounding buildings. This precision approach puts civilians at less risk. The US military tries to avoid civilian deaths when fighting in crowded areas such as Baghdad.

The US Air Force used the GBU-39 in combat for the first time on 5 October 2006 in support of ground troops in Iraq. At 250 pounds, it is the smallest guided bomb the Air Force has. F-15Es employ this weapon, which can strike within six feet of a target from 60 miles away.

### **SSGT KEVIN HARVEY SECURES A WEAPONS CARRIAGE WITH GBU-39/B SMALL-DIAMETER BOMBS TO AN F-15E STRIKE EAGLE.**



Courtesy of the US Air Force

## CMSgt Kevin Lynn: A Historic Impact on the Future of the Iraqi Army

Meritorious service can involve many types of action. For example, CMSgt Kevin Lynn helped establish the first military police academy in Iraq. He was deployed there from 28 February to 23 July 2004. Chief Lynn and fellow Air Force security forces members renovated a bombed-out former Republican Guard base in Taji, Iraq. They turned it into a new police academy. Lynn served as commandant of the school. Starting from scratch, they developed and taught a course for the academy in just nine days.

At the same time, he was also a battle-tested veteran. He and his team continued to train forces during the “April Offensive.” This consisted of 18 days of nonstop mortar and rocket attacks. Overall, Lynn survived 31 mortar and 34 rocket attacks that killed 10 soldiers and injured many others. He continually risked his personal safety to ensure mission success and guarantee his team’s safety. He provided security on numerous convoy missions and patrolled East Gate on Taji Military Training Base.

In all, Lynn and his team graduated more than 500 military policemen and 40 military police instructors. For his work, Lynn received the Bronze Star Medal on Dec. 14, 2004.



**CMSGT KEVIN LYNN**

CMSgt Kevin Lynn and his team transformed a war-torn environment into a successful Military Police academy.

Courtesy of CMSgt Kevin Lynn



**A1C ELIZABETH JACOBSON**

Courtesy of the US Air Force



**GEN RICHARD B. MYERS**

Gen Richard B. Myers was the 15th chairman of the Joint Chiefs of Staff.

Courtesy of the US Air Force

## **A1C Elizabeth Jacobson: An Extraordinary Commitment to Her Country**

A1C Elizabeth Jacobson, 21, was providing convoy security 28 September 2005 near Camp Bucca, Iraq, when a roadside bomb struck the vehicle she was riding in.

The Riviera Beach, Fla., native was assigned to the 17th Security Forces Squadron at Goodfellow Air Force Base, Texas. Airman Jacobson had been in the Air Force for two years and had been in Iraq for more than three months. She was the first female Airman killed in the line of duty in support of Operation Iraqi Freedom.

“She was an outstanding Airman who embraced life and took on all the challenges and responsibilities with extraordinary commitment to her country, her comrades, and her family,” said Col. Scott Bethel, 17th Training Wing commander at Goodfellow.

“Her dedication to the U.S. Air Force and serving her country was evident in all aspects of who this young lady was,” he said.

## **Gen Richard Myers: Chairman of the Joint Chiefs of Staff**

Born in 1942, Gen Richard Myers entered military service as a member of ROTC during his college days. In 2001 he became chairman of the Joint Chiefs of Staff. The Joint Chiefs is the military advisory group to the president of the United States. Besides the chairman, the top-ranking officer from each branch of the military, including the Marine Corps, is in the group.

Myers helped shape the direction of the campaigns in Afghanistan and Iraq. He retired in September 2005. Two months later President George W. Bush awarded him the Presidential Medal of Freedom.

## The Role of Air Power in Various Other US Military Operations

The “Air Force has been at war continuously for over 15 years, since the opening rounds of Operation Desert Storm . . . ,” said Gen T. Michael Moseley, chief of staff of the Air Force, in a letter to US Airmen in March 2006.

In addition to the major military operations you’ve just read about, Airmen have flown other missions since 1991. Some were combat missions. Others were humanitarian. Some were both.

### US Global Interventions, 1990 Through 2006

Name of Operation	Location	Years	Type
Desert Shield	Saudi Arabia	1990	military
Desert Storm	Iraq, Kuwait	1991	military
Provide Comfort	Iraq, Turkey	1991–1996	humanitarian
Southern Watch	Iraq	1992–2003	military
Provide Hope	Former Soviet Union	1992–1993	humanitarian
Provide Relief	Somalia	1992–1993	humanitarian
Provide Promise	Bosnia	1992–1996	humanitarian
Restore Hope/ Restore Hope II	Somalia	1993–1994	humanitarian/ military
Deny Flight	Bosnia	1993–1995	military
Uphold Democracy	Haiti	1994–1995	military
Deliberate Force	Bosnia	1995	military
Northern Watch	Iraq	1997–2003	military
Allied Force	Serbia	1999	military
Shining Hope	Serbia	1999	humanitarian
Noble Eagle	United States	2001–	military
Enduring Freedom	Afghanistan	2001–	military
Iraqi Freedom	Iraq	2003–	military

## Operation Provide Comfort

Following the 1991 Gulf War, the United States launched Operation Provide Comfort. Its purpose was to protect the Kurds, an ethnic minority in northern Iraq, and to provide food for Kurdish refugees fleeing into Turkey. Iraq's Saddam Hussein was fighting a rebellion the Kurds had launched against his government. He was also after Kurdish oil fields. Employing C-130s, the US Air Force delivered thousands of tons of relief supplies, including food, tents, and blankets to Kurdish camps. Operation Provide Comfort ended in 1996 and was replaced by Operation Northern Watch.

## Operation Southern Watch

Starting in August 1992, the United States enforced a no-fly zone in Iraq. A **no-fly zone** is airspace enemy aircraft aren't allowed to enter. This zone was in southern Iraq. Its purpose was to protect the Shiite Muslim population and Kuwait. Its name was Operation Southern Watch.

Iraqi pilots regularly shot at US aircraft. Sometimes they entered no-fly airspace. This operation ended just before OIF kicked off.

## Operation Northern Watch

After US and UN troops subdued Iraqi forces operating against the Kurds, they still couldn't go home. They had to make sure Hussein didn't send his troops and aircraft into hostile action again. So the United Nations set up a second no-fly zone in the northern half of Iraq. This was done in part to protect the Kurds. The name of this mission was Operation Northern Watch.



F-15

A crew chief checks an F-15 as it prepares for flight on 16 March 2003 in Operation Southern Watch.

Courtesy of the US Air Force

Between 1997 and 2003, 1,400 US, British, and Turkish fliers served in the mission with 50 aircraft. The Iraqis shot at them daily, often using SAMs. The UN aircraft would occasionally strike back. The last US aircraft serving in the mission headed home on 17 March 2003. OIF began two days later.

### Operation Provide Hope

When the Soviet Union collapsed in 1991, it split into 15 countries. Food and medical supply shortages followed. Many of the new countries were not stable because for 70 years they had relied on a central Communist government in Moscow. The United States provided supplies through Operation Provide Hope. This humanitarian mission ran from February 1992 to May 1993.

US Airmen flew cargo planes like the C-5 Galaxy, the C-141 Starlifter, and the C-130 Hercules. They delivered 6,000 tons of food and medicines. NATO provided bases in Germany and Turkey. The mission was a success.

### C-5 GALAXY



Courtesy of the US Air Force



**FIGURE 3.4**

Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia

Courtesy of Maps.com

## Operation Provide Promise

Yugoslavia was formed from the southern Slav territories of Serbia, Bosnia and Herzegovina, Croatia, Montenegro, and Slovenia after World War I. The federation began to fracture in 1992. Ethnic strife and civil war had long been a part of this country's history.

The Bosnian Muslims (Bosniaks) and Bosnian Croats wanted to be independent of Yugoslavia. But the Bosnian Serbs and the Serbs in Serbia, under Yugoslav leader Slobodan Milosevic, didn't want them to **secede**, or *break away*. The Bosnian Serbs fought the Bosniaks and Bosnian Croats to keep Bosnia and Herzegovina in Yugoslavia. In 1992 the Serbs cut off food and other supplies to Sarajevo, Bosnia's capital.

In July 1992, the United States and 20 other countries launched a massive airlift, Operation Provide Promise. The United States and other nations flew in 160,000 tons of goods in 13,000 sorties. C-130s, C-141s, C-5s, and C-17s took part in this mission. It was risky business. The Serbs shot at the cargo aircraft. They hit 10 US planes and shot down one Italian aircraft. The airlift lasted until January 1996. The Dayton Accords, signed 14 December 1995 at Wright-Patterson AFB in the Wright brothers' hometown, brought an end to the fighting.

### CAPSULES

The former Yugoslav republics each contain a mixture of ethnic groups. Serbs were the majority in Serbia, but made up significant minorities in Bosnia and Herzegovina, Croatia, and Montenegro. Likewise, large numbers of Croats live in Serbia and Bosnia and Herzegovina. Serbia's province of Kosovo contained a large majority of ethnic Albanians. This ethnic mixture made the breakup of Yugoslavia more difficult, because the Serb minorities in the breakaway republics and Kosovo wanted to live under Serbian rule, not that of other ethnic groups. The dictator of Yugoslavia, Slobodan Milosevic, maintained his power partly by stirring up Serbs' fears of what would happen if Yugoslavia broke up.

A *Serb* is a member of the Serb ethnic group. A *Serbian* is a resident of Serbia.



C-130

C-130s like this one participated in Operation Provide Promise.

Courtesy of the US Air Force

## Operations Deny Flight and Deliberate Force

Combined with the Provide Promise effort, NATO opened Operation Deny Flight over Bosnia. It ran from April 1993 to December 1995. NATO forces created no-fly zones for Serbian aircraft.

US pilots in fighters such as the F-16 shot down Serbian aircraft that violated the no-fly zone. In retaliation, Serbs grabbed UN peacekeepers. So NATO launched a mission called Operation Deliberate Force. NATO forces used precision-guided weapons and aircraft to hit the Serbians hard. UN forces also began protecting the peacekeepers. The Serbians gave in toward the end of 1995.

## Operations Allied Force and Shining Hope

Despite the end of the Bosnian war, Yugoslavia continued to be a center of conflict. In 1999 Milosevic directed Serbian forces to attack ethnic Albanians in Kosovo. Kosovo is a province in southern Serbia.

Milosevic didn't heed NATO's warnings to stop his attacks. So NATO launched an air campaign called Operation Allied Force in March 1999. NATO air forces flew more than 38,000 sorties. The air campaign succeeded in forcing Milosevic to withdraw his forces from Kosovo after 78 days. No ground forces were involved.

The US Air Force marked two "firsts" in this effort. The B-2 stealth bomber engaged in combat for the first time. And the United States used its 2,000-pound GBU-31 precision weapon for the first time. In fact, the B-2 bombers dropped the GBU-31s. B-2s flew 30-hour round-trip missions from their base in Missouri. They caused 33 percent of the damage inflicted on the Serbs in the first eight weeks of Operation Allied Force.

Humanitarian airlifts were key to the success of this campaign. US airlifts, as part of Operation Shining Hope, kept Albanian refugees from starving while NATO crushed the Serbian attack on Kosovo.

Milosevic was indicted as a war criminal in 2000 and tried before a United Nations court. He was charged with crimes against humanity in Kosovo, violating the laws of war in Croatia and Bosnia, and genocide in Bosnia. He died in 2006 just before the end of his trial in the Netherlands.

## Operations Provide Relief and Restore Hope

Somalia, an East African country, had a severe food shortage in 1992. Its people risked starvation. Beginning in August, the United States, along with other friendly countries, airlifted food through Operation Provide Relief. C-141s carried the goods to Kenya, another African nation. Smaller C-130s then flew the food into Somalia.

But there was a snag. Somali warlords often stole the food before it could reach the people. These warlords fired at US cargo planes. The United States shut down Operation Provide Relief in 1993. But it soon launched another mission, Operation Restore Hope.



**FIGURE 3.5**

Somalia and neighboring countries in Africa

Restore Hope had two goals. The first was to distribute food. The second was to go after the warlords and their gangs. Restore Hope ended in May 1993, when the United Nations took over the relief mission.

But in mid-1993 a warlord named Mohammed Farah Aidid directed his supporters to interfere with the aid mission. They ambushed and wiped out a Pakistani convoy. During the US effort to arrest some of his top lieutenants, the firefight in Mogadishu—which you read about at the beginning of this lesson—broke out.

In response, the United States started Operation Restore Hope II. It airlifted combat forces back into Mogadishu, and stationed AC-130s at bases in Kenya. But many Somalis supported Aidid. The United States abandoned the effort to arrest him and sought a political solution instead. US troops left Somalia in March 1994.

### C-141 STARLIFTER



Courtesy of the US Air Force



**FIGURE 3.6**

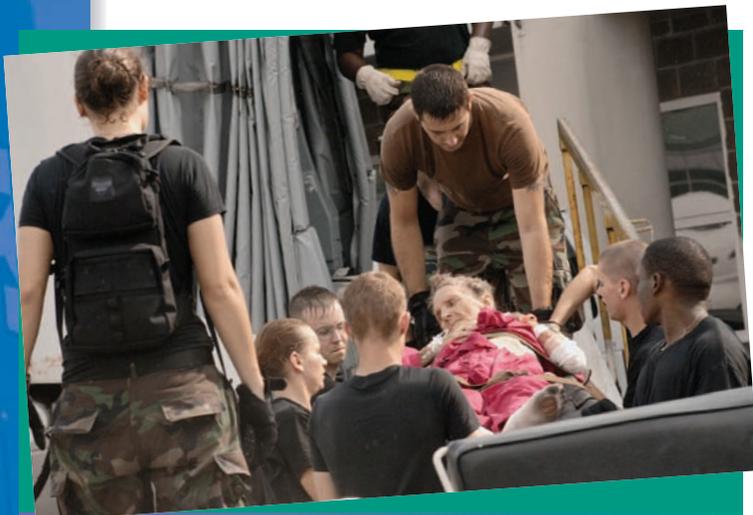
Haiti and the Caribbean Sea

### Operation Uphold Democracy

Haiti is a small country on a Caribbean island. In 1991 a military coup removed its elected president, Jean-Bertrand Aristide, from office. A **military coup** is a sudden takeover of power by the military. The new leaders suppressed the Haitian people's rights. Many Haitians fled to the United States in boats or anything that would float. They tried to enter the country illegally.

Despite diplomatic efforts, by 1994 no solution was in sight. The Haitian economy was weak. More and more Haitians were trying to make the dangerous, 700-mile sea voyage to US shores. The United States drew up a plan to return Aristide to power. It was called Operation Uphold Democracy. In September 60 C-130s packed with US paratroopers headed toward Haiti. When the Haitian military leaders found out that US forces were headed their way, they gave up power. US troops entered Haiti peacefully.

In 1995 the United Nations took over the mission. It put a US commander in charge of UN operations in Haiti.



### AIR FORCE MEDICS AFTER HURRICANE KATRINA

Air Force medics prepare patients for evacuation at the Louis Armstrong International Airport in New Orleans after Hurricane Katrina.

Courtesy of the US Air Force

## Natural Disasters

Sometimes there's no military coup to overcome; no no-fly zones to enforce; no war refugees to feed. Sometimes natural disasters are reason enough for the US Air Force to step in and help.

Here's an example: when Hurricane Katrina struck Louisiana, Mississippi, and Alabama in 2005, the Air Force and the Civil Air Patrol (CAP) joined forces with other branches of the military and civilian agencies to help Americans affected by the storm. This was the first time CAP, the Air Force's official volunteer auxiliary, and the active Air Force collaborated. Together, they conducted search-and-rescue missions. They delivered 30,000 tons of goods.

The Air Force has been involved in many such missions. For example, in 1991 the Air Force aided Bangladesh in southern Asia when it suffered serious flooding. When Hurricane Andrew hit south Florida in 1992, Airmen delivered 20,000 tons of food and supplies. In 1993 it delivered help to earthquake-damaged India.

Aviation has come a long way from that day on a wind-blown sand dune in North Carolina when Wilbur and Orville Wright first launched their frail flyer. Today it's hard to imagine a world without flight. The US Air Force has grown from a tiny unit of the Army to an independent, equal military service. Rotary or fixed-winged aircraft are essential equipment for all branches of the military. On the civilian front, each day millions of ordinary people board commercial aircraft of all sizes and travel across the country and around the world.

But there's another part of the story of flight—the development of rockets and humans' entry into space. The next few lessons will tell that story, starting with the solar system and people's struggle to understand it.

### CAPSULES

*"Air superiority is not the God-given right of Americans. It doesn't just happen. It takes a lot of people working hard to produce the capabilities that provide it for US forces."*

**GEN RONALD R. FOGLEMAN, USAF**

**CHECKPOINTS**

## Lesson 3 Review

Using complete sentences, answer the following questions on a sheet of paper.

1. Name three stealth aircraft used by the US Air Force.
2. What did US forces want to target first in Operation Desert Storm? Why?
3. What is a precision weapon? Name one such weapon used in Operation Enduring Freedom. Name one used in Operation Iraqi Freedom.
4. What is the goal of Operation Noble Eagle? What do participants in ONE do?
5. What is a no-fly zone?
6. What are two of the main cargo aircraft used to airlift food in missions like Operation Provide Hope?
7. What first-time event occurred after Hurricane Katrina struck?

### Applying Your Learning

8. Reviewing the operations discussed in this lesson, do you think airpower alone can win a conflict? Or are ground troops always necessary as well?