

## LESSON 3

# The Role of Airpower from the Korean War to the Vietnam War



### Quick Write

After reading the vignette, write down five important facts about the first jet ace in history.



### Learn About

- how the United States used airpower in the Korean War
- how aircraft were used in the Cuban Missile Crisis
- the role of airpower in the Vietnam War
- how air-to-air and surface-to-air missile technology changed aerial combat

**Y**OU'VE ALREADY READ ABOUT the aces of World Wars I and II—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.

Colonel 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.



Lieutenant Colonel James Jabara, the world's first jet ace, prepares to exit an F-86 after a flight.

*Courtesy US Air Force*

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. Jabara 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.

## Vocabulary



- colony
- 38th parallel
- latitude
- limited war
- strike fighter
- nuclear war
- arms race
- international waters
- guerrilla warfare
- POW
- solitary confinement
- neutral
- heat-seeking missiles
- infrared light

## How the United States Used Airpower 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. (The Soviet Union was boycotting the UN Security Council and was not present to veto the action.) Here was a chance for the United Nations to prevent a third worldwide conflict. American General 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 major military action of the Cold War.

### The Course of the War

Fighting between Soviet-supported Communist forces and UN forces moved back and forth across the 38th parallel during the first year of the Korean War. Airpower 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.



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





Korea as it was divided after the Korean War

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. General 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. By one estimate, they shot down nine MiG-15s for every one US fighter destroyed. Airpower proved once again it was a crucial part of modern war. The UN forces under General 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.

### Significant Aircraft of the Korean War

The most widely used US Air Force fighters in Korea were the F-51, F-80 Shooting Star, F-84 Thunderjet, and F-86 Sabrejet. At the same time, the Navy and Marine Corps flew missions from aircraft carriers. They piloted F-4U Corsairs, F9F Panthers, and AD/A-1 Skyraiders.

The F-51 was formerly the P-51 Mustang of World War II fame. 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 early in the war, when US fighters had to take off from Japan.

In Korea, the F-80 flew as a day fighter, a fighter-bomber, and a photo reconnaissance plane. On 8 November 1950, in the first all-jet dogfight ever, 1st Lieutenant Russell Brown shot down a Soviet-built MiG-15—this despite the MiG's superiority as a fighter.

Originally used to escort B-29 bombers on long-range missions over North Korea, the F-84 Thunderjet performed best in close air support and as a daytime **strike fighter**—*an attack aircraft that can also function as a fighter*. F-84 pilots attacked enemy railroads, dams, bridges, supply depots, and troop concentrations.

While faster than the F-80, the F-84 was inferior to the speedier MiG-15 at high altitudes. If an F-84 pilot could get a MiG to engage at less than 20,000 feet, he stood a better chance of victory. While 18 F-84s were lost to MiGs, nine MiGs fell to fire from F-84s.



**F-86 Sabres with their 51st Fighter Interceptor Wing "Checkertails" are readied for combat during the Korean War at Suwon Air Base, South Korea.**

*Courtesy US Air Force*



**An F9F Panther sits on the deck of the USS Midway while another flies overhead.**

*Courtesy National Archives and Records Administration, Catalog No. 80-G-434964*

## North American F-86 Sabre

The F-86 Sabre was the Air Force's first swept-wing fighter and the best American fighter jet of the time. It first flew in 1947, and in May 1948 set a new world speed record of 670.9 mph.

As a day fighter, the F-86 became the primary opponent of the Soviet-built MiG-15. Although the MiG was a technically superior plane, US pilots received far better training that showed in combat. Improvements in later versions of the Sabre helped close the gap. F-86 pilots shot down 792 MiGs, about eight times more wins than losses.

The F-86 carried six machine guns. It could fly up to 685 mph and had a range of 1,200 miles.

## Grumman F9F Panther

The F9F Panther was first delivered to the US Navy in May 1949 and saw its first combat in July 1950, when F9Fs flew strikes from the aircraft carrier USS *Valley Forge*. The F9F was used mostly for air strikes by Navy and Marine Corps pilots. Even so, F9Fs scored several victories against North Korean and Chinese MiGs. A photo reconnaissance version also saw extensive service.

Among the F9F pilots was Major 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. He was the first American to orbit the earth.

The F9F was armed with four cannon. It could carry eight five-inch rockets or 3,000 lbs. of bombs.

## Douglas AD/A-1 Skyraider

The AD Skyraider, later renamed the A-1, could carry more bombs than a B-17. It excelled in attack and close air support. First flown in 1945, the A-1 became famous in the Korean War, attacking industrial targets; taking out bridges, railroads, and roads; and supporting ground troops. Like the B-17, the propeller-powered Skyraider could get its pilot back to base despite heavy damage from enemy fire.



The Skyraider also played an important role in the Southeast Asia war. Its ability to carry an immense amount of weapons and stay over the battlefield for extended periods made it a powerful weapon. This aircraft provided close air support to ground forces, attacked enemy supply lines, and protected helicopters rescuing airmen downed in enemy territory.

In a remarkable action, on 1 May 1951, eight A-1s from the USS *Princeton* attacked the Hwachon Dam with torpedoes. The destruction of the dam 50 miles northeast of Seoul, the South Korean capital, caused river water levels to rise, blocking a Communist troop advance.

The Skyraider's top speed was 343 mph and its range was 1,300 miles. It carried four cannon and 8,000 lbs. of bombs or rockets.

### Mikoyan Gurevich MiG-15

The Soviets developed the MiG-15 following World War II, and the plane entered service in 1949. With a top speed of 670 mph, it was much faster than the American F-80 or F-84. Able to climb quickly and fly as high as 51,000 feet, it could escape from the early F-86 Sabres that were quickly sent over from the United States to take it on. The MiG-15 was so effective that the United States could fly B-29 bombing missions only at night.

The durable MiG-15 had a range of only 500 miles. In North Korea, however, it was able to operate close to its bases near the Yalu River in the north, safe across the Chinese border. American and other United Nations planes, on the other hand, had to fly all the way north to the area to engage MiGs. Thus the MiGs were frequently fully fueled, while the American planes had often only 20 minutes of fuel available for combat.

The MiG-15 carried three cannon and 2,000 lbs. of bombs. The Soviets produced 3,000 of the MiG-15 fighter version, with additional planes produced in other Communist countries.



**A-1 Skyraider in flight with its dive brakes deployed**

*Courtesy Naval History and Heritage Command, Catalog No. NH 94701*



**A restored MiG-15 takes off from Nellis AFB, Nevada, during a 2009 air show.**

*Eugene Berman/Shutterstock*



## 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.

A second lesson was simply a reminder of one learned in World War II—the importance of air superiority. UN airpower 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.

### *The Right Stuff*

#### **Captain Manuel Fernandez: Jet Ace**

Captain 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.



**Captain Manuel "Pete" Fernandez**

*Courtesy US Air Force*

## The Right Stuff

### Lieutenant Colonel George A. Davis Jr.: Medal of Honor Winner

Lieutenant Colonel 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.



**Lieutenant Colonel George A. Davis Jr.**

*Courtesy US Air Force*

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

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.



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



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 Lesson 1 of this chapter. 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. Major 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.



**US reconnaissance photo of a Soviet missile site at Mariel, Cuba**

*Everett Historical/Shutterstock*



**U-2 Dragon Lady similar to the one used to take reconnaissance photos during the Cuban Missile Crisis**

*Eugene Berman/Shutterstock*



President John F. Kennedy ordered a naval blockade of Cuba on 24 October. Soviet ships could no longer enter Cuban ports. At the same time, the Strategic Air Command 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 in which each party 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 Airpower in the Vietnam War**

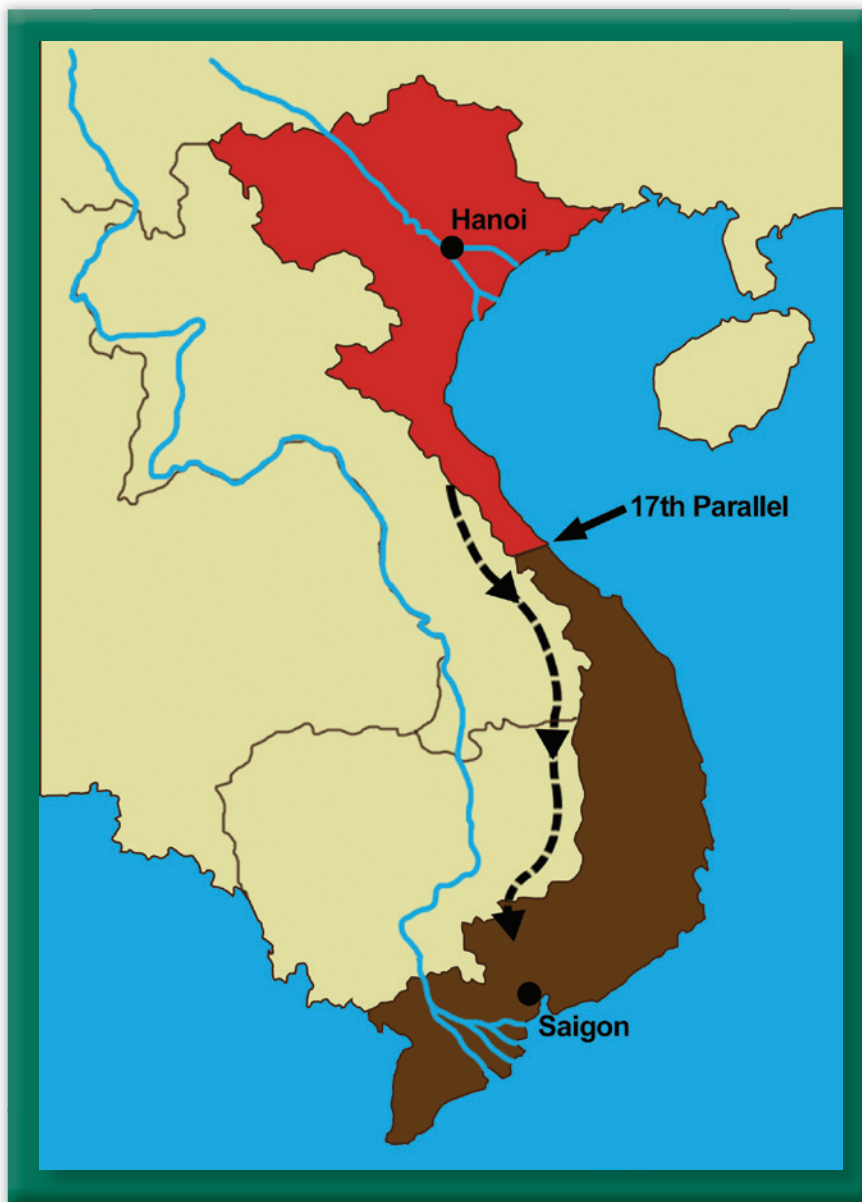
America's gradual entry into the Vietnam War marked another phase of the Cold War. After World War II, France tried to regain control of its colonies in Indochina—Vietnam, Laos, and Cambodia. Japan had occupied these colonies during the war. France was fighting Vietnamese forces led by Communist Ho Chi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

But 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 500,000 troops in Vietnam. Military forces from other countries, notably Australia and South Korea, joined them.



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

## The US Air Force Trains 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 airpower. 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.



US Air Force A-1H Skyraiders make a pass over South Vietnamese tanks and ground troops during a training exercise in November 1963.

*Courtesy US Air Force*

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, so could the other.

## Ways the US Used Airpower 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 neighboring Laos and Cambodia.



**F-4C Phantoms refuel from a KC-135 tanker before making a strike against targets in North Vietnam.**

*Courtesy US Air Force*

## The Right Stuff

### Airman 1st Class William Pitsenbarger: A First-Class Hero

Airman 1st Class 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. Each year the Air Force Sergeant's Association gives the Pitsenbarger Award to an Air Force enlisted member for heroic acts that save a life or prevent serious injury.



**Airman 1st Class William Pitsenbarger**

*Courtesy US Air Force*



## The Right Stuff

### Captain Lance Sijan

One military historian has called Captain 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.



**Then—1st Lieutenant Lance Sijan boarding an F-4 Phantom for a combat mission.**

*Courtesy US Air Force*

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 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, airpower 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.

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.



**Lockheed C-130 Hercules aircraft resupplied the besieged Marine garrison at Khe Sanh, South Vietnam, in 1968.**

*Courtesy US Air Force*



**B-52D Stratofortress releasing bombs over targets in Vietnam, 1967**

*Everett Historical/Shutterstock*



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.

## The Right Stuff

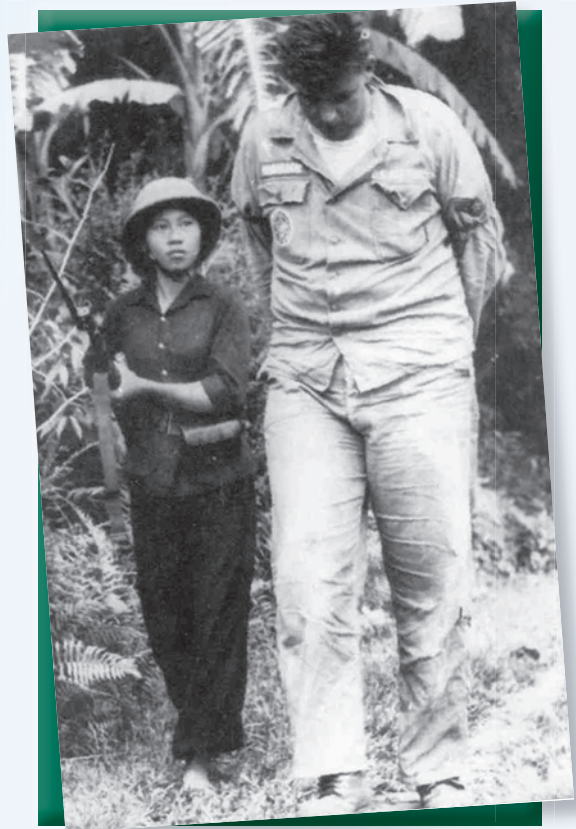
### Airman 1st Class William Robinson: From POW to 2nd Lieutenant

Airman 1st Class 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. **Solitary confinement** is when 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 2nd lieutenant. He received many awards, including the Air Force Cross, and retired with the rank of captain.



**A North Vietnamese soldier guards Airman 1st Class William Robinson after his capture in September 1965.**

*Courtesy US Air Force*

## Significant Aircraft Used in the Vietnam War

In the early years of the war, US and (South) Vietnamese Air Force (VNAF) pilots flew World War II-era B-26 bombers. Another combat plane was the T-28, an aircraft originally built to train pilots. (The *T* stands for *trainer*.)

But in 1964 and 1965 Communist ground forces began to attack US bases. So the US Air Force brought over B-52 bombers and F-105 Thunderchief fighter jets. Air Force, Navy, and Marine F-4 Phantoms went into aerial combat with Soviet-built North Vietnamese MiGs. Meanwhile, *Wild Weasel* radar on the F-100F fighter could spot the location of enemy anti-aircraft radar and send a missile right at it.

### North American T-28B Trojan/ T-28D Nomad

The T-28 was originally designed as a trainer and first flew in 1949. North American built 1,948 of the aircraft, ending production in 1957. In 1962, however, 200 T-28Bs were converted to T-28D Nomad tactical fighter-bombers. The Air Force and the VNAF used them for close air support of ground troops.

The T-28 could carry two machine guns along with 1,800 lbs. of bombs. It had a top speed of 346 mph and a range of 1,060 miles.



T-28B Trojan at the National Museum of the Air Force

Courtesy US Air Force

### Mikoyan-Gurevich MiG-17

The Soviets developed the MiG-17 to replace the MiG-15 of the Korean War. Although it looks very similar to a MiG-15, it had a longer fuselage and more sharply swept wings. It first appeared in 1952, but few MiG-17s were built before the Korean War ended. More than 20 countries flew MiG-17s, including North Vietnam, whose air force flew them against US aircraft during the Vietnam War.



Restored MiG-17 at a 2015 air show in San Antonio, Texas

GizmoPhoto/Shutterstock



The MiG-17 was much slower than US F-105s and F-4s—its maximum speed was only 711 mph. But it had an advantage in maneuvering. So US pilots had to make sure to use their speed advantage when shooting MiGs down. From July 1965 to February 1968, F-105s and F-4s shot down 61 MiG-17s. Most US aircraft, by contrast, were lost to ground fire.

The MiG-17 had a range of 500 miles, although this could be extended with external fuel tanks to 1,160 miles. It carried three cannon, along with 16 under-wing rockets or 1,800 lbs. of bombs.

### Republic F-105 Thunderchief

The F-105 joined the Air Force in 1958. Originally designed to carry nuclear weapons, it operated in Vietnam as a strike fighter and later against enemy anti-aircraft sites. During one four-year span, F-105s flew 75 percent of all strikes against North Vietnamese targets. It played a key role in *Operation Rolling Thunder*.



**F-105G Thunderchiefs refuel before a bombing mission in Vietnam, January 1966.**

*Courtesy US Air Force*

Flying as fast as 1,386 mph with a range of 1,500 miles, the F-105 could hold its own against North Vietnam's Soviet-built MiG-17s and 21s. The standard production version, the F-105D, was armed with a cannon and could carry up to 12,000 lbs. of bombs—as much as an entire formation of World War II bombers. When fully loaded, however, the F-105 was far less maneuverable. MiG pilots learned this quickly and would engage the US fighters in hit-and-run attacks. These often forced the F-105s to drop their bomb load before reaching their targets so they could defend themselves.

About 600 F-105Ds were built. The F-105F version was a two-seater, and Republic built 143 of this model. About 55 of these were later converted to F-105Gs, which served as *Wild Weasel* aircraft. As the war went on, the F-105D was eventually phased out in favor of the McDonnell F-4 Phantom.

## North American F-100 Super Sabre

When F-100 units deployed to Southeast Asia, they included a mix of one- and two-seat F-100s. Both types participated in traditional bombing missions in support of ground forces. As tactics developed, the two-seat F-100F became an important aircraft for two new missions—surface-to-air missile (SAM) suppression, known as *Iron Hand*, and high-speed forward air control (FAC), known as *Misty FAC*. As you read in the previous lesson, the F-100 also played a significant role in the *Wild Weasel* program.

## McDonnell F-4 Phantom II

First developed for the US Navy, the F-4 Phantom began its Air Force career in late 1963. By the end of production in 1979, more than 5,000 F-4s had been built—more than 2,600 for the Air Force and 1,200 for the Navy and Marine Corps. The rest were sold to friendly foreign countries.

The Air Force sent its first F-4s to Vietnam in 1963. The F-4 fought in aerial combat against North Vietnamese MiGs as well as flying ground attack missions. It could carry twice as many bombs as two B-17 bombers. It typically carried eight air-to-air missiles and eight 750 lb. bombs. It had a maximum speed of 1,400 mph and a range of 1,750 miles. The lack of an internal gun was a problem for early F-4 pilots, because many of their air-to-air missiles misfired. The F-4E, which arrived in 1968, fixed this problem.



An Air Force F-100 Super Sabre fires a salvo of rockets at a jungle target, May 1967.

*Courtesy US Air Force*



F-4 Phantom II performing at Nellis AFB, Nevada, in 2009

*Eugene Berman/Shutterstock*



**An A-6 Intruder attack aircraft is launched from the USS *Ranger* during flight operations conducted off the coast of North Vietnam in the Gulf of Tonkin, 14 December 1967.**

*Courtesy National Archives and Records Administration, Catalog No. K-42963*



**A-7 Corsair II**

*VanderWolf Images/Shutterstock*

## Grumman A-6 Intruder

The A-6, the world's first all-weather attack aircraft, joined the Navy in 1963. It served through the Vietnam War right up to *Operation Desert Storm* in Kuwait and Iraq, retiring in 1997. The A-6 could launch low-level attacks at long range in poor weather or darkness. One demonstration of its power was a nighttime attack on a North Vietnamese power plant. Two A-6s dropped 26 bombs, creating such damage that the enemy high command believed B-52s had carried out the attack.

The A-6 carried a crew of two and 18,000 lbs. of bombs or missiles. Its top speed was 644 mph, and its range 1,110 miles. The Navy and Marine Corps received 687 A-6s. Besides Vietnam, the plane saw action in Lebanon, Libya, and Iraq.

## LTV Aerospace A-7 Corsair II

Serving both the Navy and Air Force, the A-7 first flew in 1965. It served from Vietnam through *Operation Just Cause* in Panama and *Operation Desert Storm* in Iraq. This attack aircraft was extremely accurate because of its electronic navigation and weapons-delivery system.

The A-7 had a top speed of 693 mph and a range of 980 miles. It carried a machine gun, Sidewinder missiles, and 10,000 lbs. of bombs. Besides its Navy and Air Force duty, it saw service in several Air National Guard units. About 1,569 A-7s were built, and some served in allied air forces until as late as 2014.



## Mikoyan-Gurevich MiG-21

The MiG-21 was the most dangerous enemy plane in the air during the Vietnam War. It was as fast as the US fighters it faced and more maneuverable than the F-4 Phantom. North Vietnam had more than 200 MiG-21s. They shot down about 50 US aircraft. MiG pilots would attack using the sun or clouds as cover, make a quick pass, and then head for safety. The US Air Force destroyed 68 of the enemy planes in aerial combat.

The MiG-21 could reach a speed of 1,300 mph with a range of 870 miles. It carried two radar-guided or heat-seeking missiles. From 1955 to 1985 the Soviets built more than 10,000 of the fighters. The MiG-21 was a popular export for the Soviets—more than 50 countries, including friends of the United States, flew various versions of the plane.

## Sikorsky HH-3E Jolly Green Giant

The US Air Force developed the Sikorsky HH-3E helicopter, nicknamed the “Jolly Green Giant,” to perform combat search and rescue (CSAR) during the Southeast Asia war. A highly modified version of Sikorsky’s CH-3 transport helicopter, the HH-3E was used to rescue aircrew members in a combat area.

Fifty CH-3Es were converted to HH-3Es with the addition of armor, defensive armament, self-sealing fuel tanks, and a rescue hoist. With a watertight hull, the HH-3E could land on water, and its large rear door and ramp permitted easy loading and unloading.

The first air-refuelable helicopter to be produced, the HH-3E’s retractable fuel probe and external fuel tanks gave it a range limited only by the endurance of the aircrew. In 1967, two aerial-refueled HH-3Es set the long-distance record for helicopters by flying nonstop from New York to Paris, France. This long-range ability allowed HH-3Es to conduct CSAR operations anywhere in Southeast Asia.



**MiG-21**

*ra3rn/Shutterstock*



**The HH-3E Jolly Green Giant was equipped with a powerful external winch that allowed it to extract a downed pilot without landing.**

*Courtesy National Museum of the US Air Force*

The first Air Force HH-3Es arrived in Vietnam in 1967. They operated out of Udorn Air Base, Thailand, and Da Nang Air Base, South Vietnam. During the war, HH-3 crewmen were awarded one Medal of Honor, twenty-four Air Force Crosses, and more than 190 Silver Stars. The USAF retired its last HH-3Es in 1995.

### **Boeing KC-135A Stratotanker**

Refueling in flight made long-distance flying operations possible in Southeast Asia. Heavily-laden aircraft like the F-105 Thunderchief, F-4 Phantom, and B-52 Stratofortress needed to refuel on the way to and from their targets. Getting gas from tankers allowed them to carry maximum bomb loads. Search-and-rescue helicopters increased their range with air refueling as well.

In-flight refueling depended on precise timing and navigation. Bombers, fighters and reconnaissance aircraft were carefully scheduled to meet tankers at given times and places.

When meeting B-52 bombers on long-distance missions, for example, three or four KC-135 Stratotankers would fly together, with the leader responsible for navigation and timing. The others stayed a mile behind and slightly above, and they spread out while refueling bombers to keep a safe distance between them.



**A KC-135 refuels a B-52 over Southeast Asia in 1967.**

*Courtesy US Air Force*



## Waypoints

### Better Pilot Training

While the US could claim air superiority over both North and South Vietnam, at one point the North Vietnamese were shooting down one US fighter for every two MiGs lost. US fighter commanders realized that Air Force, Navy, and Marine Corps fighter pilots needed better training. This led to creation of the Air Force Weapons School and the Navy's "TopGun" Fighter Weapons School of movie fame. The Navy estimates that the better training resulted in 12 MiGs shot down for every US fighter lost in dogfighting.

Refueling fighter and reconnaissance planes near combat zones was complicated. Several meeting areas over Thailand, Laos, South Vietnam and the Gulf of Tonkin, called "anchors," were set up so fighters could select the nearest airborne gas station on the way to and from their targets. Sometimes 50 or more aircraft met and circled over a wide area as fuel changed hands. Tankers often overflew hostile territory to meet and fuel planes that otherwise would not have made it home. Many pilots owed the success of their missions—and some owed their lives—to being refueled by tankers.

The Air Force based KC-135 tankers in Japan, the Philippines, Thailand and Guam. During the Southeast Asia War, tankers flew nearly 200,000 sorties, completing more than 800,000 refuelings. From 1964 through 1973, they pumped almost 1.4 billion gallons of fuel to other aircraft, enough to fill more than 2,120 Olympic-sized swimming pools.

Though tankers were not used for combat, missions could be dangerous. Twenty-five Air Force personnel died in tanker crashes, on takeoff or landing, in Southeast Asia.

### Lessons the Air Force Learned From the Vietnam War

During the first few years of the war, the United States did not use airpower 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 Right Stuff

### The Top-Secret Mission of Chief Master Sergeant Richard Etchberger

Chief Master Sergeant 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 go to work for a civilian contractor. 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, his wife Catherine accepted it. On 21 September 2010, President Barak Obama presented Etchberger the Medal of Honor. Etchberger's three sons accepted the award.



**Chief Master Sergeant Richard Etchberger in 1968**

*Courtesy US Air Force*

## The Right Stuff

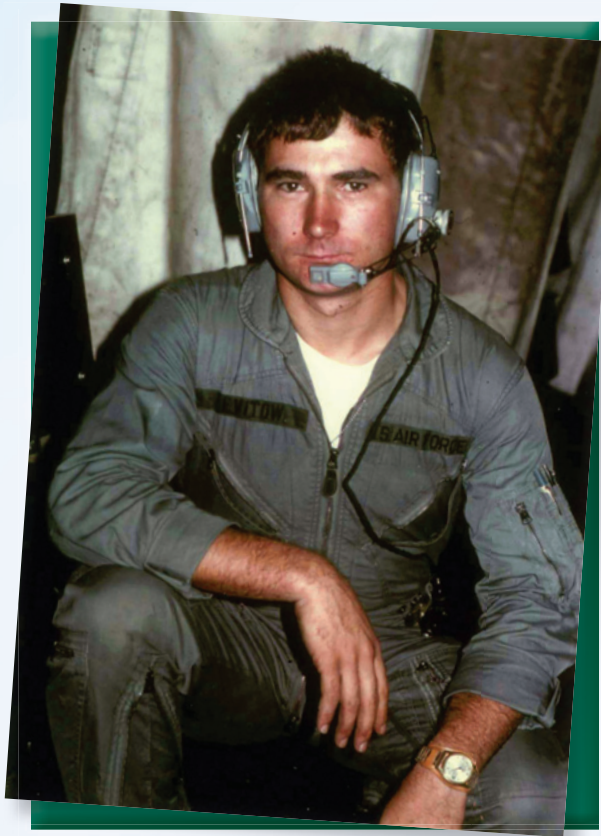
### Airman 1st Class John Levitow Earns a Medal of Honor

Airman 1st Class 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.



**Then—Airman 1st Class John Levitow**

*Courtesy US Air Force*



## The Right Stuff

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

Major 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 *SS 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.



**An Air Force pararescueman guides Marines to a rescue helicopter on Koh Tang.**

*Courtesy US Air Force*

Getting the Marines off Koh Tang was another matter. While they fiercely defended their position, Major 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.



## The Right Stuff

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

General 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.



General Daniel “Chappie” James Jr.

*Courtesy US Air Force*

### How Air-to-Air and Surface-to-Air Missile Technology Changed Aerial Combat

In the late 1950s, both the United States and the Soviet Union developed new anti-aircraft missiles. Air-to-air missiles are launched from one plane against another. Surface-to-air missiles (SAMs) are launched from ground sites.

These were early versions of what are now called “smart” weapons.” You can aim a bullet or shell, but you can’t guide it to the target after you fire it. On the other hand, air-to-air missiles and SAMs can be guided to the target by radar or infrared homing. Missiles using infrared homing are called **heat-seeking missiles**—missiles that track a target by seeking the infrared light it emits. **Infrared light** is heat radiation not generally visible to the naked eye.

## **Air-to-Air Missiles**

The Germans developed the first air-to-air missiles toward the end of World War II. These wire-guided missiles were meant to be fired from a fighter plane, whose pilot would then use a joystick to steer the missile. But like Germany's jet fighters, the missiles appeared too late in the war to affect the outcome. Allied bombers destroyed the factory where they were built.

The United States, Britain, and the Soviet Union all developed more-advanced air-to-air missiles in the 1950s. By the time of the Vietnam War, US planners believed all future air combat would be fought using missiles. As you read earlier, the F-4 originally carried only missiles and no guns.

This soon proved to be a mistake. Many missiles were duds. Also, a plane had no defense after firing all its missiles. So later models of the F-4 saw guns restored, and every US fighter since then has carried them. Meanwhile, missile technology has improved since Vietnam, and missiles have indeed become the most common air-to-air weapon.

Air-to-air missiles have many advantages over conventional aircraft guns. They can be fired miles away from the target. And the pilot doesn't have to maneuver to get in the right position to fire—a modern air-to-air missile can be fired from just about any angle to the target.

This has changed the nature of the dogfight. No longer do opposing planes have to maneuver against each other to get in the best position to fire. Now, when two opposing aircraft meet, the one who electronically spots the enemy first and gets off the first shot is the likely victor. This makes it important both to spot the enemy first and to make sure the enemy doesn't spot you first.

## **Surface-to-Air Missiles**

In the same way as air-to-air missiles, SAMs can be a much more accurate defense against aircraft than conventional anti-aircraft fire. The Soviets showed the deadly accuracy of their radar-guided V-750 Dvina SAM when they shot down Francis Gary Powers's U-2 in 1960. The same missile, known by NATO as an SA-2, shot down Major Anderson over Cuba in 1962. The Soviet Union began exporting the SA-2 in 1960, and it's still used by many nations today.

In 1965 the Soviets began delivering the SA-2 to North Vietnam, where it posed a lethal threat to US aircraft. Some 110 Air Force planes were lost to the missiles. If US aircraft flew low to avoid, them, they exposed themselves to deadly anti-aircraft and small-arms fire.

As a result, Air Force and Navy aircraft were deployed to identify and destroy SA-2 sites. But SA-2 launchers could be packed up and moved in about four hours—before a strike could be organized. This led the United States to develop the *Wild Weasel* technology, which could electronically detect an SA-2 launcher and immediately attack it before the North Vietnamese could move it. These *Wild Weasel* missions were some of the most dangerous of the war.

The United States also deployed special Douglas EB-66 electronic warfare aircraft to jam North Vietnamese air defense radar. These were so successful that the North Vietnamese particularly targeted them. One was lost to MiG fighters and SAMs shot down five others.

Since the Vietnam War, advances in electronic guidance and detection systems have both made missiles more accurate, and defenses more effective. Likewise, stealth technology has made aircraft more difficult to detect. The balance between attacker and defender is constantly adjusting as the technology around aircraft, missiles, computers, and electronics progresses.



**A North Vietnamese SAM crew in front of an SA-2 launcher**

*Courtesy US Air Force*



## ✓ CHECKPOINTS

### Lesson 3 Review

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

1. Why was Korea divided after World War II?
2. What line did North Korean forces cross in a move to take over South Korea?
3. What did the Korean experience make US planners understand?
4. Why did the Soviet Union put missiles in Cuba?
5. Who was the only American to die in the Cuban Missile Crisis?
6. How did President John F. Kennedy react to the discovery of Soviet missiles in Cuba?
7. What did the Tonkin Gulf Resolution lead to?
8. How did the Tet Offensive get its name?
9. Why was North Vietnam able to take over South Vietnam?
10. How are air-to-air missiles guided to their target?
11. Why was arming the F-4 with missiles and no guns a mistake?
12. What could *Wild Weasel* technology do?

### APPLYING YOUR LEARNING

13. Because North Vietnam eventually achieved its objective, many Americans conclude that the United States lost the Vietnam War. Do you agree? Why or why not?

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