

The Tenets of Airpower

Introduction

The US Air Force provides the Nation a unique capability to project national influence anywhere in the world on very short notice. Airpower is fundamentally different from either land or sea power, and its employment is guided by certain characteristics that are different from surface forces. Air Force forces, through their inherent speed, range, and flexibility, can respond to national requirements by delivering precise military power to create effects where and when needed. Due to their unique nature, Air Force forces require some specialization of the principles of war that apply to all military forces. The tenets of airpower complement the nine principles of war by providing specific considerations for employing Air Force forces. The tenets are the guiding truths of airpower employment. To intelligently advocate and articulate airpower, Airmen must comprehend the proper application of these seven tenets. The tenets not only reflect the lessons of operations over the history of powered flight, they also represent the current understanding of the nature of airpower.

Objective

The objective of this lesson is for you to know the tenets of airpower as they relate to Air Force operations. At the end of this lesson, you should be able to describe the guiding truths embodied in each of the seven tenets. In addition, you'll be able to identify each tenet as it relates to the application of airpower.

Overview

To help you understand the tenets of airpower, this lesson will first briefly examine the advantages of Air Force forces over surface forces. Then, it will present an in-depth description of each of the seven tenets. Since the tenets reflect the lessons of operations over the history of powered flight, the lesson will also provide historical examples of the application of each tenet.

Airpower Characteristics

Airpower operates in three dimensions, thus enjoying a qualitatively superior form of freedom of maneuver to that of surface forces. This freedom of operation in the air, space, and cyberspace domains allows exploitation of speed, range, maneuverability, and elevation to a greater degree than that afforded by surface forces. Unimpeded by natural barriers encountered on land and water masses, Air Force forces can rapidly conduct operations over great distances, move in any direction, and enjoy multi-dimensional maneuvering.

The Seven Tenets

Since the early days of powered flight, Airmen have theorized about airpower and its employment in warfare. Though living in different times, existing in different places, and facing different circumstances, Airmen have recognized certain truths about airpower that appears to be generally timeless and overarching. These truths have been validated by the decades of experience since World War I. We refer to these truths as tenets. These are the tenets of airpower. Thoroughly comprehending each tenet enhances an Airman's overall understanding of the employment of airpower. We will now study centralized control and decentralized execution.

Centralized Control and Decentralized Execution

The tenet centralized control and decentralized execution has been referred to as the fundamental organizing principle for airpower. In order to effectively integrate the theater-wide capabilities of Air Force forces, they should be centrally controlled by an Airman to achieve advantageous synergistic effects, establish effective priorities, capitalize on unique strategic and operational flexibilities, ensure unity of purpose, minimize the potential for conflicting objectives, and prevent Air Force forces from being parceled out and thereby underutilized. In addition, the execution of airpower missions should be decentralized to achieve effective spans of control and to foster initiative, responsiveness, and tactical flexibility.

Applying the Tenet

Centralized control allows establishment of theater priorities, ensures unity of purpose, and harmonizes objectives; decentralized execution enhances responsiveness and provides flexibility in executing the mission. Delegation of execution authority to responsible and capable lower-level commanders is essential and ensures effective span of control. Airmen must remember that centralized control and decentralized execution must be employed together. Employing one without the other may result in fragmented effort and possibly mission failure. Modern communications technology provides a temptation to increase the centralized execution of airpower. Although several recent operations have employed greater degrees of centralized control, such command arrangements will not stand up in a fully stressed, dynamic combat environment, and should not become the norm for all air operations. A high level of centralized execution results in a rigid campaign that is ultimately unresponsive to local conditions and lacks tactical flexibility. Next you'll look at several historical examples of the application of this tenet.

Example: North Africa

The notion of centralized control and decentralized execution first appeared in US airpower doctrine as the direct result of bitter experiences in World War II. Following the landings in northwest Africa

in late 1942, Allied airpower was parceled out in support of specific ground units. The individual ground commanders set the priorities for air assets under their command. This fragmentation of effort hampered the Airmen from ever achieving air superiority, which of course, adversely affected their ability to provide effective support to ground units due to the individual commanders' unwillingness to release control of their air assets for the overall campaign. This passage from Field Manual 100-20 clearly states the lessons that were learned. Unlike the rest of the manual, this section was typeset in capital letters, apparently to impress its importance onto the reader.

Example: Battle of Britain

During World War II, the Battle of Britain provides an outstanding example of the proper use of centralized control and decentralized execution. The Royal Air Force's, or RAF's, command and control structure gave commanders at every level sufficient information and authority to make and implement decisions. The structure was simple, secure, and based on the principle of unity of command. At every level, from group through sector to wing and squadron, each British commander knew which part of the German Luftwaffe's attack was his responsibility to counter. As the Luftwaffe approached, information from radar and the Royal Observer Corps allowed Fighter Command to develop, at the appropriate level, a broad plan of action. Higher commanders delegated authority downward, giving subordinate commanders the flexibility to use their own initiative in attacking formations. Although the RAF command structure was a simple organization, it was effective enough to defeat the Luftwaffe.

Flexibility and Versatility

Although the concepts of the next tenet, flexibility and versatility, are often used interchangeably, the two are distinct in meaning. At the operational level, flexibility allows air operations to shift from one campaign objective to another, quickly and decisively. On the other hand, versatility of airpower stems from the fact that it can be employed equally well at the strategic, operational, and tactical levels of warfare. The tenet of flexibility and versatility involves airpower's ability to perform a variety of roles as the situation dictates. History is full of examples of the effective application of this tenet.

Example: Multi-role Employment

The tenet of flexibility and versatility was demonstrated during the Vietnam conflict, through the multi-role employment of the B-52 heavy bomber. During Operation LINEBACKER II, the B-52 attacks against Hanoi and Haiphong directly supported the attainment of strategic level objectives. At the operational level of war, B-52s interdicted logistics and supply routes along the Ho Chi Minh

trail. In tactical battles, B-52s provided highly effective battlefield close air support, as close as 1,000 yards for example for the Marines defending Khe Sanh.

Example: Parallel Operations

The most dramatic application of the tenet of flexibility and versatility is the conduct of parallel operations. Air Force Doctrine Document 1, *Air Force Basic Doctrine, Organization, and Command*, states the versatility of airpower, properly executed in parallel attacks, can achieve effects which present the enemy with multiple crises occurring so quickly that there is no way to respond to all of them. Such was the case in the opening hours of Operation DESERT STORM. Targets related to multiple centers of gravity were attacked nearly simultaneously. The swift, massive, and precise application of airpower against strategic, operational, and tactical objectives induced shock which resulted in paralysis of the Iraqi military organization. This paralysis provided the leverage needed to dominate surface as well as air operations. Today, the B-2 has the capability of attacking multiple targets during a single sortie and the flexibility to change those targets during flight.

Priority

In spite of the fact that airpower is flexible and versatile, there are seldom enough resources to satisfy all requirements at once. Therefore, commanders must prioritize objectives in order to maximize the impact of airpower operations. The tenet, Priority, allows for the effective employment of Air Force forces, beginning with the campaign objectives established by the Joint Force Commander, or JFC. The JFC assigns specific objectives to individual component commanders. The Joint Force Air Component Commander, or JFACC, uses the JFC-assigned objectives to develop and prioritize air objectives. The tenet of priority requires that Air Force forces must be applied where they can make the greatest contribution to the most critical JFC requirements.

Example: Yom Kippur War

The tenet of priority was properly utilized by the Israeli Air Force during the Yom Kippur War of 1973. On 6 October, Syrian and Egyptian forces simultaneously attacked Israeli frontiers. Egyptian forces crossed the Suez Canal and moved into the Sinai Peninsula while, to the northeast, Syrian troops overran Israeli-occupied positions in the Golan Heights. After initial Arab successes, the Israeli Defense Forces held their ground and counterattacked by 10 October. The Israelis constantly shifted airpower from the Sinai front to the Golan Heights front. The Israelis successfully accomplished those shifts daily, to accomplish the highest priority objectives.

Synergistic Effects

The proper application of priority for a flexible, versatile, and coordinated force can produce effects that exceed the contributions of separately employed, individual forces. This type of outcome is the subject of the next tenet called “synergistic effects.” Synergistic effects can be created internally within air forces or externally with surface forces. When applied in comprehensive and mutually supportive air operations, the functions of airpower produce effects well beyond the proportion of each function’s individual contribution to the campaign. Airpower operations can also be applied in coordinated joint campaigns with surface forces, with the goal of either enhancing or being enhanced by the effects of surface forces.

Example: Operation ENDURING FREEDOM

An example of synergistic effect was demonstrated during Operation ENDURING FREEDOM. Separate command and control, intelligence, surveillance and reconnaissance, and strike assets were integrated into a theater-wide target kill chain leading to greater effectiveness than could have been achieved if these systems operated independently. The Combined Air Operations Center, or CAOC, in Saudi Arabia directed multiple air assets during a mission to find and destroy Taliban and al Qa’ida leadership facilities and personnel. Using their theater-wide perspective and centralized control of the battle space, CAOC personnel tasked multiple ISR platforms, including JSTARS and Predator to find, fix and track a convoy of enemy targets to a compound. The predator maintained surveillance of the enemy while the CAOC re-tasked an AC-130 gunship operating in another part of the theater to move and engage the compound. By integrating the video feed from the Predator directly into the AC-130 cockpit, off limits targets were identified to minimize collateral damage while authorized targets were attacked by the gunship. Finally, the Predator completed the cycle by providing real time damage assessment back to the CAOC.

Example: WWII—Control of the Air

An early example of synergistic effect was demonstrated by the combined use of fighter and bomber aircraft during World War II. American bombers attacked enemy aircraft production facilities as part of the campaign to achieve control of the air. Recognizing the threat posed by the bombers, Germany put its fighter force in the air to counter them. American fighters escorted the bombers to German aircraft-plant targets and destroyed the enemy aircraft that rose to attack the bombers. Freed from enemy fighter harassment, the bombers were more effective against the production sites than if they had flown alone. Additionally, the fighter-versus-fighter aerial engagements diminished Luftwaffe capabilities. German fighters would generally decline engagements unless the high value bombers were present, so in a very real sense, bombers made fighters more effective.

The effects of the combined fighter-bomber campaign were much greater than the effects of using the forces separately.

Persistence

Persistence, the next tenet, is a critical element in ensuring the prolonged effect of airpower operations. It is the intent of most modern airpower operations to quickly attain objectives through swift, parallel, and decisive blows to the adversary's operational and strategic centers of gravity. However, on some occasions, factors such as enemy resilience, effective defenses, or environmental concerns prevent US forces from persisting. In many situations, airpower operations provide the most effective and efficient means for attaining national objectives. Therefore, commanders must persist in executing airpower operations, and resist pressure to divert resources elsewhere, unless such diversions are vital to attaining theater goals. Given sufficient time, a resourceful enemy can circumvent even the most devastating strategic effects. The goal is to persist in applying pressure and not allow the enemy that time.

Example: Huels Synthetic Rubber Plant

An example of the failure to persist was the bombing of the synthetic rubber plant at Huels during World War II. After a devastatingly successful raid by allied bombers on 22 June 1943, the plant was never retargeted for a major attack. This lack of persistence allowed German officials to repair the plant and return it to full production in six months. Experts suggest that three to five strong attacks would have completely eliminated the facility, and with it, 30 percent of Germany's synthetic rubber production capability.

Example: Operation DESERT STORM

The tenet of persistence was properly applied in Operation DESERT STORM. On the first night of Operation DESERT STORM, coalition forces conducted extensive coordinated attacks on the Iraqi integrated air defense system, or IADS. US Army attack helicopters and Air Force A-10s neutralized early warning and ground controlled intercept sites while Air Force stealth aircraft and Navy Tomahawk Land Attack Missiles attacked key command and control and communications sites. Other coalition aircraft conducted suppression of enemy air defense, or SEAD, missions from the outset of hostilities resulting in serious degradation of the overall system. Throughout the war, pressure was maintained on the Iraqi IADS through a persistent SEAD program and direct attacks on enemy airfields, rendering the system ineffective.

Concentration

Throughout military history, leaders have sought to concentrate overwhelming power at a decisive time and place. The next tenet, concentration, brings military force together to achieve operational objectives. While the principles of *mass* and *economy of force* address concentrating power at the right time and place, concentration directs efforts to achieve the desired effect.

Example: Battle of Britain

During World War II's Battle of Britain, the German Luftwaffe failed to properly concentrate in purpose and resulted in defeat. During the battle, while attempting to defeat the RAF by bombing airfields, a German bomber got lost and accidentally attacked London. In response, Churchill directed the RAF to retaliate and bomb Berlin. Hitler, incensed about the RAF striking Berlin, ordered the bombing of London. This sudden shift in strategy from attacking RAF airfields to achieve air superiority was a significant factor in Germany's defeat due to their disregarding the tenet of concentration.

Example: Operation DELIBERATE FORCE

An example of properly abiding by the tenet of concentration was seen in Bosnia in 1995. The Bosnian Serb defiance of UN mandates and the shelling of a refugee "safe area" in Sarajevo, which killed 38 civilians, prompted a UN and NATO military response. The resulting campaign, which consisted of NATO airpower, was called Operation DELIBERATE FORCE. Through a *concentrated* application of airpower, friendly forces struck the Bosnian Serb military system. Precision munitions destroyed Bosnian Serb heavy weapons, ammunition depots, and command and control bunkers. Three weeks of continuous air strikes finally drove the Bosnian Serbs to talk peace.

Balance

The last tenet we will study is *balance*. Commanders must balance combat opportunity, necessity, effectiveness, efficiency, and their impact on accomplishing assigned objectives against the associated risk to friendly forces. An air commander is uniquely and best suited to determine both the proper theater-wide balance between offensive and defensive airpower operations and the proper balance of strategic, operational, and tactical applications of airpower. Technically sophisticated airpower assets will be available only in finite numbers; thus, balance is a crucial determinant of success for an air commander

Example: Yom Kippur War

The 1973 Yom Kippur War provides an example of balance. As discussed previously, after the initial Egyptian and Syrian successes, the Israeli Defense Forces held steady and by 10 October

counterattacked without achieving air superiority. This decision proved to be very costly. During the first week, the Israelis lost 60 fighter aircraft to air defenses. The potential consequences of such high aircraft losses highlight the necessity to carefully balance risk versus gain. Although the situation may sometimes force a violation of this tenet, commanders must strive to maintain a proper balance.

Summary

The characteristics of airpower make it fundamentally different from land or sea power. Our doctrine has identified seven tenets of airpower as the fundamental truths for its proper employment. This lesson presented an in-depth description of each tenet and historical examples of their application. It is the duty of all Airmen to incorporate the tenets of airpower into joint operations, thus maximizing effectiveness of not just airpower forces but surface forces as well. Failure to frame the employment of airpower within these tenets during a campaign or battle may result in less than optimum combat capability. As seen in the historical examples provided, properly applying the tenets maximizes airpower's contribution to achieving national objectives.