Marine aviation is renowned for its close relationship with the ground combat element (GCE). When in support of a MAGTF scheme of maneuver, Marine aviation has the ability to provide significant firepower and mobility. This helps the MAGTF commander to maneuver within the battlespace to engage and destroy the enemy.

The aviation combat element (ACE) provides combat power and operational capability to the MAGTF. Individual aircraft combined and task organized into an ACE, provides a highly capable, responsive, force multiplier to the MAGTF commander. The ACE’s unique capabilities complements other MAGTF elements. The ACE is not a substitute for any MAGTF element. The ACE contributes to mission accomplishment by providing all or a portion of the six functions of Marine aviation to the MAGTF commander.

The functions of Marine aviation should not be confused with capabilities of USMC aircraft. The six functions of Marine aviation—antiair warfare, offensive air support, electronic warfare, air reconnaissance, control of aircraft and missiles, and assault support—are broad descriptions of missions that may be performed by the ACE. More information on the six functions of Marine aviation can be found in MCWP 3-2, Aviation Operations (under development).

Capabilities are what the aircraft are able to do. A UH-1N can conduct assault support by providing combat assault transport of personnel, or control aircraft and missiles using organic radios or the AN/ASC-26 communications suite installed in the cabin. An AH-1W can conduct offensive air support (OAS) by firing an AGM-114 Hellfire missile at an enemy armored vehicle, and it can provide aerial reconnaissance using the night targeting system. The ACE provides multiple mission capability to the MAGTF through air crew training and skillful use of its aircraft.

Assault support uses aircraft to provide tactical mobility and logistical support for the MAGTF. It may be used to enhance the rapid buildup of MAGTF combat power and to facilitate rapid ground force maneuver. Assault support’s uses are normally tactical, logistical, or administrational in nature. Assault support enhances the MAGTF commander’s ability to concentrate strength against the enemy’s selected weaknesses using speed and surprise. The MAGTF commander uses assault support to focus combat power at the decisive place and time and exploit opportunities created during combat. Assault support allows the MAGTF commander to sustain combat power. By conducting assault support operations, the commander can take full advantage of fleeting opportunities throughout the battlespace.

Speed and focus of effort are essential elements of maneuver, both of which the MAGTF commander can apply using assault support. Assault support provides the MAGTF commander with the capability to move assets over long distances quickly. The MAGTF can rapidly bring together assault support assets from multiple locations in order to mass forces in a single focus of effort. This ability to rapidly concentrate forces is a hallmark of naval expeditionary power projection.

Mobility and flexibility, gained by extensively using assault support aircraft in tactical operations, is an important part of Marine Aviation doctrine. Helicopters enhance the mobility and sustainability of Marine forces during operations well removed from their rear areas for extended periods of time. Improved aircraft design has increased the combat radius and load capacity of assault support aircraft, providing more flexibility and fire support to the MAGTF.
Types of Operations

Assault support involves the use of aircraft to provide tactical mobility and logistical support for the MAGTF, the movement of high-priority cargo and personnel within the immediate area of operations, inflight refueling, and the evacuation of personnel and cargo. Assault support operations require detailed, coordinated, and concurrent planning. Efficient execution of assault support operations requires thorough knowledge of mission, enemy, terrain and weather, troops and support available-time available (METT-T).

Combat Assault Transport

Combat assault transport provides mobility for MAGTF forces. It is used to rapidly deploy forces, bypass obstacles, or redeploy forces to meet the enemy threat. The increase in mobility, speed, range, and freedom of action provides the MAGTF commander a variety of diverse options. Combat assault transport allows the MAGTF commander to effect a rapid force buildup at a specific time and location of his choosing. In the near future, advanced aircraft designs (MV-22) may further expand these advantages to the MAGTF commander.

Air Delivery

Air delivery operations transport equipment and supplies to forward operating bases (FOBs) or remote areas. Airdrops (parachute or free fall) deliver equipment and supplies. Airdrops are done primarily by fixed-wing transport aircraft. Airdrops are conducted when surface or helicopter transport cannot fulfill resupply requirements due to range, closed lines of communications (LOC), lack of adequate airfields, prohibitive ground tactical situation, high tonnage, or the need to reduce response time. The supported commander selects the drop zone (DZ) using the following criteria:

- The drop zone should be free of obstacles.
- Aircraft approach routes are not over enemy-controlled territory.
- The terrain should be flat.
- The DZ should be a rectangular area with prevailing wind along the zone’s long axis.
- The terrain should have prominent features.

The best DZ is close to an area with ample cover and concealment. This allows materiel recovery, segregation, inventory, and preparation for distribution without exposing personnel to enemy observation or fire.

Aerial Refueling

Currently, Marine KC-130 aircraft serve as airborne tankers for rotary- and fixed-wing aircraft with the probe and drogue system. Aerial refueling allows Marine aircraft to conduct flight-ferrying operations, extend time on station, and extend mission range.

Air Evacuation

Air evacuation is the transportation of personnel and equipment from FOBs or remote areas. This includes flights from areas of operations to secure rear areas, MEDEVAC, and extraction of forces. Helicopters and fixed-wing transport aircraft perform air evacuations.

Tactical Recovery of Aircraft and Personnel

TRAP missions facilitate the recovery of personnel and equipment while avoiding additional loss. The TRAP mission is an implied task associated with all MAGTF operations. Specially trained and briefed aircrews, with a task organized force from the GCE are assigned to perform TRAP missions. TRAP missions are conducted when the tactical situation prevents the utilization of traditional search and rescue techniques and only when survivors and their locations are confirmed. TRAP missions stress—

- Detailed planning.
- Assigned and briefed aircrews.
- Confirmation of survivors and their locations.

By using the TRAP concept, the Marine Corps fulfills the Joint Chiefs of Staff (JCS) requirement
for each Service to be able to perform combat search and rescue (CSAR). Using TRAP techniques, Marine forces are able to perform self-supporting SAR operations and some external SAR support. SAR is a secondary task, and its execution should not detract from primary warfighting functions. Marine forces currently lack the organic capability to effectively conduct searches when the survivor’s location is unknown, particularly in a medium or high threat environment.

**Air Logistical Support**

Fixed-wing aircraft perform air logistical support by providing assault support of Marine ground forces in much the same manner as helicopters. Air logistical support delivers troops, equipment, and supplies to areas beyond helicopter range and lift capability or when surface transportation is slow or unavailable. The Marine Corps’ limited quantities of transport aircraft restricts their use in amphibious assaults, operations ashore, or contingency plans. If large-scale, long-range air operations exceed MAGTF capabilities, additional support should be requested from the joint force commander (JFC).

**Battlefield Illumination**

Fixed-wing or rotary-wing aircraft can be used to provide light (battlefield illumination) in the battlespace. Battlefield illumination can be visible or invisible (infrared spectrum) to the naked eye and can last for a few minutes or several hours.

**The Levels of War**

The seven types of assault support offer the commander a wide range of options with which he can use to develop operation plans. Assault support employment strategy depends on the MAGTF’s mission and the enemy’s capabilities. The MAGTF commander considers assault support employment methods during the planning phase and throughout the operation’s execution. Assault support operations vary in intensity throughout the operation and may be employed in pursuit of tactical, operational, or strategic objectives.

MCDP 1, *Warfighting*, states that “in war, tactics focuses on the application of combat power to defeat an enemy force in combat at a particular time and place.” This explains assault support’s most common use in the levels of war. During assault support operations at the tactical level, aviation may be employed with ground or naval forces to—

1. Provide mobility to the MAGTF.
2. Exploit opportunities presented by the enemy or created by friendly forces.
3. Rapidly concentrate combat power at the most advantageous time and place.
4. Help maintain the tempo of operations and the momentum of the attack.

The operational level of war is the link between strategic and tactical levels. The goal of a force’s actions at the operational level of war is to gain strategic results from tactical efforts. The MAGTF may be the first force to be committed to a theater of operations. The MAGTF commander’s actions at the tactical level will have strategic implications as they will shape future operations in that theater. The commander must decide when, where, and how to engage the enemy at a particular place and time in order to achieve a strategic result. Assault support operations allow the commander to maintain an advantage in speed and surprise over the enemy. In this way the commander can drive the fight in the desired direction. The commander can shape events using assault support to create favorable conditions for future combat operations. This could mean air logistical support to sustain tactical operations over an extended period of time or combat assault transport to attack the enemy’s vulnerable flank or rear area. All tactical actions must seek to gain strategic results.

The strategic level of war is where national strategy—the art and science of using political, economic, military, and informational power—is focused to attain national policy objectives. Assault support operations fit within the framework of strong military capabilities that can enable the nation to meet its objectives. However, operations based on assault support capabilities such as NEOs are directly linked to the national policy of
safeguarding the lives of American and allied citizens. Therefore, assault support operations can have direct strategic implications.

**Command Relationships**

The relationship between the MAGTF commander and the ACE commander typifies Marine Corps command relationships. The MAGTF commander provides the ACE commander with the mission and the commander’s intent. The ACE commander determines the most effective method of employment of ACE assets to accomplish the mission and meet the commander’s aim.

A helicopterborne assault is one of the most common assault support operations. Refer to MCWP 3-11.4, *Tactical Fundamentals of Helicopterborne Operations* (under development) for more specific information on helicopterborne assaults. A look at the helicopterborne force will reveal the importance of command relationships.

Helicopterborne assaults require task-organizing both ground and aviation assets to accomplish the MAGTF scheme of maneuver. The MAGTF commander decides to execute the operation. The ACE, GCE, and combat service support element (CSSE) commanders plan the mission together. The ACE commander is responsible for providing mobility and fire support for the assault. The GCE commander is responsible for planning the ground tactical mission to include maneuver and fire support planning. The CSSE commander plans how to support both the ground and aviation plans. The commanders accomplish this by directing subordinate units to form the helicopterborne force (see fig. 2-1).

The MAGTF commander decides command relationships. The most important relationship in the helicopterborne force is the one between the Helicopterborne Unit Commander (HUC) and the Air Mission Commander (AMC). The MAGTF commander decides what needs to be done and designates personnel to accomplish it. The MAGTF commander is the common superior and will make the final decision if any contentious issues arise.

Unity of command is the most important and fundamental consideration during these operations. In a combined arms effort, unity of command promotes coordinated action toward a common goal required for mission accomplishment.

The AMC is responsible for accomplishing the air mission. He determines what assets are required, such as the number of transport, escort, and support aircraft. He determines the route of flight for the mission. It is important that he considers primary and alternate routes. Changing routes can affect the fire support plan. The authority to change the route may be delegated to the AMC by the MAGTF commander.

The HUC is responsible for accomplishing the ground tactical plan and choosing the required assets. The buildup of combat power in the objective area is critical early on and must be considered carefully.

Landing zone (LZ) selection is critical in the early phases. The HUC and AMC must agree on primary and alternate LZs. They must be large enough to land the helicopterborne force in tactical integrity, be clear of obstacles, and most importantly, be covered by fire support assets. The authority to change LZs may be delegated to the HUC by the MAGTF commander. Also identified in the early planning phases is who is supporting whom. By delegating authority and identifying supported/supporting relationships during mission planning conflict resolution most likely will be resolved before executing the mission.

**Capabilities**

Assault support is an integral part of the total MAGTF effort because of its many capabilities. The MAGTF performs assault support missions during day, night, and adverse weather
Assault Support

conditions. Reliance on assault support increases when movement of personnel and equipment must be done quickly over long distances or over prohibitive terrain. Assault support's principal advantage is its capability to quickly move MAGTF forces and equipment throughout the battlespace. Assault support offers the MAGTF commander a wide range of capabilities from improving friendly morale to bringing devastating combat power to bear from any direction to decisive points on the battlefield. Other capabilities of assault support aircraft are varied. The following areas are not all inclusive.

**Observation**

Aircrews performing assault support missions can observe large areas and report enemy activity and movement in areas hidden from ground observation.

**Flexibility**

Diverting assault support aircraft from one mission to another allows the MAGTF commander to exploit fleeting battlefield opportunities. The ability to integrate supporting arms enhances the MAGTF’s combined arms effects. Assault support operations allow the commander to attack from any direction, bypass obstacles or enemy strengths and provide responsive reserves or reinforce committed units. The commander can re-supply units in otherwise inaccessible locations.

Employment of aerial refueling or rapid ground refueling (RGR) provides the means to recover aircraft, equipment, and personnel from hostile areas. Access to fuel increases the combat radius or time on station of aviation assets. These options available to the commander have a positive effect on friendly morale and destroy enemy
morale. The MAGTF commander should exploit the psychological effect that aviation has on both friendly and enemy forces.

**Use During Limited Visibility**

Darkness or limited visibility can provide a unique opportunity for employing assault support assets. Planning and executing assault support missions under these conditions require more precision. The ability to exploit degraded enemy visual acquisition and to strike during periods of minimum alert greatly enhances aircraft survival and aids in mission accomplishment.

**Limitations**

Assault support limitations must be considered during planning. Specific assault support limitations follow.

**Limited Visibility**

While darkness or limited visibility can be advantageous, it can also present limitations to assault support. Problems can occur when aircraft encounter difficulties during rendezvous, approaches, and landings. Troop and cargo loading and unloading are also slower and more difficult. Planners should anticipate delays and increase mission time requirements.

Rotary-wing assault support aircraft currently have no radar capability. Night vision systems are available but cannot duplicate daylight conditions. Night or limited visibility operations require close attention to planning specific phases of each mission. Problems can be offset by using smaller formations and larger intervals between formations to reduce landing zone congestion. Route and LZ selection are important for navigation and safe conduct of takeoffs and landings.

Using NVDs allow aircrews to conduct night operations more safely. However, NVD use does not guarantee tactical success. Effective NVD use requires a full understanding of their capabilities and limitations as they apply to each tactical situation.

**Weather**

Weather at the landing zone is more limiting than weather en route or at home base. Temperature extremes and wind velocity can seriously affect helicopter performance. Low ceilings and poor visibility decrease assault support effectiveness, influence escort tactics, and hamper fire support coordination.

**Landing Zone Identification**

LZ identification is one of the most difficult aspects of assault support missions. Improvements to navigation systems with GPS has helped considerably, but still LZs must be identified visually before landing. Proper map study, aerial imagery, aircraft sensors or systems (forward-looking infrared, GPS), and accurate LZ descriptions will decrease erroneous identification of LZs. Planners should use initial terminal guidance teams or LZ marking whenever possible.

**Reduced Radius of Action**

Fuel on board determines radius of action or time on station. Increasing an aircraft’s payload beyond a certain point reduces the amount of fuel an aircraft can carry and reduces its time on station. Refueling at FOBs reduces this limitation but requires additional planning, resources, and coordination.

**Communications**

Coordination of assault support missions with the controlling agencies and fire support assets requires reliable radio communications. Real-time information is crucial and cannot be overemphasized. Thorough communications planning can provide secure, reliable radio transmissions and enhance alternate means of communications such as message drop or face to face liaison.

**Enemy Defenses**

Enemy defenses affect the conduct of assault support missions. Development of sophisticated air
defense systems deters air support. Local air superiority will greatly increase the ability to successfully conduct assault support missions. Suppression of enemy air defense (SEAD) may be required both before and during assault support operations. Enemy surface-to-air weapons, fighters, and small arms fire must be considered when evaluating risk and determining routes.

**Required Escort Support**

The purpose of an escort is to destroy, neutralize or suppress a threat before it is able to influence the assault support mission. Assault support assets do not possess self-defense capabilities to counter a formidable threat. The use of additional assets to ensure the safe arrival of MAGTF forces into the objective area may be required. Most commonly, the assault support mission will incorporate armed escorts to accompany the assault support aircraft en route or clear an objective area prior to arrival of assault support assets.