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Unmanned Aerial Vehicle Operations

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FOREWORD

Marine Corps Warfighting Publication (MCWP) 3-42.1, *Unmanned Aerial Vehicle Operations*, addresses the fundamentals of planning and execution of unmanned aerial vehicle (UAV) operations in support of the Marine air-ground task force (MAGTF).

A UAV is a powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload. Ballistic or semiballistic vehicles, cruise missiles, and artillery projectiles are not considered UAVs.

This publication provides guidance to commanders, their staffs, and UAV squadron personnel. It addresses planning requirements, command and support relationships, request procedures, and UAV capabilities.

MCWP 3-42.1 supersedes Fleet Marine Force Manual (FMFM) 3-22-1, *UAV Company Operations,* dated 4 November 1993.

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS

EDWARD HANLON, JR.
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To Our Readers

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Unless otherwise stated, whenever the masculine gender is used, both men and women are included.

Unmanned Aerial Vehicle Operations

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Chapter 1
Fundamentals

Marine Unmanned Aerial Vehicle Squadron

The Marine unmanned aerial vehicle squadron (VMU) provides personnel to support, maintain, and operate unmanned aerial vehicle (UAV) systems. Its mission is to operate and maintain a UAV system to provide unmanned aerial reconnaissance support to the Marine Expeditionary Force (MEF) or other supported units. The VMU performs the following tasks:

- Conduct aerial reconnaissance, surveillance, and target acquisition (RSTA) operations.
- Perform airborne surveillance of designated target areas, Marine air-ground task force (MAGTF) areas of interest/influence, and other areas as directed.
- Perform airborne surveillance for search and rescue and for tactical recovery of aircraft and personnel.
- Perform reconnaissance of helicopter approach and retirement lanes in support of vertical assaults.
- Provide real-time target information to the direct air support center (DASC) and fire support coordination center (FSCC) to adjust fire missions and close air support.
- Provide information to assist adjusting indirect fire weapons and support deep air support and air interdiction.
- Collect battle damage assessment (BDA)/bomb hit assessment.
- Support rear area security.

- Provide a remote-receive station capability and liaison to designated units.
- Conduct individual and unit training to prepare for tactical employment and combat operations.

The VMU is comprised of the following:

- Administrative department.
- Intelligence department.
- Logistics and supply department.
- Safety department with Naval Air Training and Operating Procedures Standardization (NATOPS), aviation safety, and ground safety sections.
- Operations department. The operations department maintains ground training, aviation training, the UAV pilot's NATOPS flight records, and current and future operations section.
- Aviation maintenance department. The aviation maintenance department maintains the UAV and its ground equipment as prescribed by appropriate aviation maintenance publications and technical manuals associated with the UAV system.
- Communications platoon. A communications platoon may be attached or assigned to the VMU to support UAV operations in garrison or in the field. For effective communication within the command, control, communications, computers, intelligence, surveillance, and reconnaissance architecture, radiomen, wiremen, and computer technicians (with their equipment) must be used during each mission.
- Motor transportation section. The motor transportation section may be attached. It operates and maintains the rolling stock to transport squadron personnel and the UAV system.