United States Marine Corps Aviation

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| **United States Marine Corps Aviation** | |
| [HQMCAviation.svg](https://en.wikipedia.org/wiki/File:HQMCAviation.svg)  United States Marine Corps Aviation emblem | |
| **Active** | 22 May 1912 - Present |
| **Country** | https://upload.wikimedia.org/wikipedia/en/thumb/a/a4/Flag_of_the_United_States.svg/23px-Flag_of_the_United_States.svg.png [United States](https://en.wikipedia.org/wiki/United_States) |
| **Branch** | [United States Marine Corps](https://en.wikipedia.org/wiki/United_States_Marine_Corps) |
| **Type** | [Naval aviation](https://en.wikipedia.org/wiki/Naval_aviation) |
| **Part of** | [Headquarters Marine Corps](https://en.wikipedia.org/wiki/Headquarters_Marine_Corps) |

**United States Marine Corps Aviation** is the aircraft arm of the [United States Marine Corps](https://en.wikipedia.org/wiki/United_States_Marine_Corps). Marine Corps aviation units have a very different mission and operation than their ground counterparts, and thus have their own history, traditions, terms, and procedures.

Aviation units within the Marine Corps are assigned to support the [Marine Air-Ground Task Force](https://en.wikipedia.org/wiki/Marine_Air-Ground_Task_Force), as the [aviation combat element](https://en.wikipedia.org/wiki/Aviation_combat_element), by providing six functions: [assault support](https://en.wikipedia.org/wiki/Assault_Support), [antiair warfare](https://en.wikipedia.org/wiki/Anti-aircraft_warfare" \o "Anti-aircraft warfare), [offensive air support](https://en.wikipedia.org/wiki/Close_air_support), [electronic warfare](https://en.wikipedia.org/wiki/Electronic_warfare), [control of aircraft and missiles](https://en.wikipedia.org/wiki/Command_and_control), and [aerial reconnaissance](https://en.wikipedia.org/wiki/Reconnaissance#Reconnaissance_from_air_and_space_vehicles).[[1]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-1) The Corps operates both [rotary-wing](https://en.wikipedia.org/wiki/Rotorcraft) and [fixed-wing aircraft](https://en.wikipedia.org/wiki/Fixed-wing_aircraft) mainly to provide transport and [close air support](https://en.wikipedia.org/wiki/Close_air_support) to its ground forces. However, other aircraft types are also used in a variety of support and special-purpose roles.

All Marine Corps aviation falls under the influence of the [Deputy Commandant for Aviation](https://en.wikipedia.org/wiki/Deputy_Commandant_for_Aviation), whose job is to advise the [Commandant of the Marine Corps](https://en.wikipedia.org/wiki/Commandant_of_the_Marine_Corps) in all matters relating to aviation, especially acquisition of new assets, conversions of current aircraft, maintenance, operation, and command.[[2]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-2)



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History[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=1)]

[](https://en.wikipedia.org/wiki/File:AACunningham_1stMarineAviator.jpg)

1stLt [Alfred A. Cunningham](https://en.wikipedia.org/wiki/Alfred_Austell_Cunningham), first Marine Corps [aviator](https://en.wikipedia.org/wiki/Aviator)

[](https://en.wikipedia.org/wiki/File:Curtiss_C-3_USMC_CulebraPR_1913_NAN8-87.jpg)

The first USMC plane: a Curtiss C-3

Marine Corps aviation officially began on 22 May 1912, when First Lieutenant [Alfred Austell Cunningham](https://en.wikipedia.org/wiki/Alfred_Austell_Cunningham) reported to Naval Aviation Camp in [Annapolis, Maryland](https://en.wikipedia.org/wiki/Annapolis,_Maryland), "for duty in connection with aviation."[[3]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Condon-3) On 20 August of that year, he became the first Marine aviator, as he took off in a [Burgess Model H](https://en.wikipedia.org/wiki/Burgess_Model_H) given to him by the [Burgess Company](https://en.wikipedia.org/wiki/Burgess_Company) in [Marblehead Harbor](https://en.wikipedia.org/wiki/Marblehead_Harbor) in [Marblehead, Massachusetts](https://en.wikipedia.org/wiki/Marblehead,_Massachusetts).[[4]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-GloucesterTimes-4)

As the number of Marine Corps pilots grew, so did the desire to separate from [Naval Aviation](https://en.wikipedia.org/wiki/United_States_Naval_Aviator),[[5]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Corum_p23-5) a dream realized on 6 January 1914, when First Lieutenant Bernard L. Smith was directed to [Culebra, Puerto Rico](https://en.wikipedia.org/wiki/Culebra,_Puerto_Rico), to establish the Marine Section of the Navy Flying School.

In 1915, the [Commandant of the Marine Corps](https://en.wikipedia.org/wiki/Commandant_of_the_Marine_Corps) authorized the creation of a Marine Corps aviation company consisting of 10 officers and 40 enlisted men.[[6]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Sherrod_p4-5-6) The first official Marine flying unit arrived with the 17 February 1917, commissioning of the Marine [Aviation Company](https://en.wikipedia.org/wiki/Advanced_Base_Force#History#Organization#Aviation_Company) for duty with the Advanced Base Force at the [Philadelphia Navy Yard](https://en.wikipedia.org/wiki/Philadelphia_Naval_Shipyard).[[7]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-DeChant_p4-5-7)

**World War I**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=2)]

[](https://en.wikipedia.org/wiki/File:USMC_Roundel_1912.svg)

[Roundel](https://en.wikipedia.org/wiki/Roundel) used by the Marine Corps during World War I

The first major expansion of the Marine Corps' air component came with America's entrance into World War I in 1917. Wartime expansion saw the Aviation Company split into the *First Aeronautic Company* which deployed to the [Azores](https://en.wikipedia.org/wiki/Azores) to hunt [U-boats](https://en.wikipedia.org/wiki/U-boat) in January 1918[[8]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-8) and the *First Marine Air Squadron* which deployed to France as the newly renamed [1st Marine Aviation Force](https://en.wikipedia.org/w/index.php?title=1st_Marine_Aviation_Force&action=edit&redlink=1) in July 1918[[7]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-DeChant_p4-5-7) and provided bomber and fighter support to the Navy's *Day Wing,*[*Northern Bombing Group*](https://en.wikipedia.org/wiki/Northern_Bombing_Group).[[6]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Sherrod_p4-5-6) By the end of the war, several Marine Aviators had recorded air-to-air kills, collectively they had dropped over fourteen tons of bombs.[[5]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Corum_p23-5) and their number totals included 282 officers and 2,180 enlisted men operating from 8 squadrons,[[9]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Miramar-9) with Second Lieutenant [Ralph Talbot](https://en.wikipedia.org/wiki/Ralph_Talbot) being the first-ever Marine Corps aviator to earn the [Medal of Honor](https://en.wikipedia.org/wiki/Medal_of_Honor), for action against the *[Luftstreitkräfte](https://en.wikipedia.org/wiki/Luftstreitkr%C3%A4fte" \o "Luftstreitkräfte)* air arm of [Imperial Germany](https://en.wikipedia.org/wiki/German_Empire) on October 8, 1918. In 1919 the 1st Division/Squadron 1 was formed from these units, and still exists today as [VMA-231](https://en.wikipedia.org/wiki/VMA-231)

**Interwar period**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=3)]

[](https://en.wikipedia.org/wiki/File:Vought_VE-7_VO-1M_SantoDomingo_1922.jpg)

A [Vought VE-7](https://en.wikipedia.org/wiki/Vought_VE-7)F from [VO-1M](https://en.wikipedia.org/wiki/VMA-231) in [Santo Domingo](https://en.wikipedia.org/wiki/Santo_Domingo), Dominican Republic circa 1922

The end of World War I saw Congress authorize 1,020 men for Marine Corps aviation and the establishment of permanent air stations at [Quantico](https://en.wikipedia.org/wiki/Marine_Corps_Air_Facility_Quantico), [Parris Island](https://en.wikipedia.org/wiki/Marine_Corps_Recruit_Depot_Parris_Island) and [San Diego](https://en.wikipedia.org/wiki/Naval_Air_Station_North_Island).[[10]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Shettle_p9-10) The United States also embraced its role of global power and the Marine Corps became the preferred force for military intervention; where the Marines went, so went Marine Corps aviation. During the [Banana Wars](https://en.wikipedia.org/wiki/Banana_Wars), while fighting bandits and insurgents in places like [Haiti](https://en.wikipedia.org/wiki/United_States_occupation_of_Haiti), the [Dominican Republic](https://en.wikipedia.org/wiki/American_occupation_of_the_Dominican_Republic_(1916%E2%80%9324)) and [Nicaragua](https://en.wikipedia.org/wiki/United_States_occupation_of_Nicaragua), Marine Corps aviators began to experiment with air-ground tactics and making the support of their fellow Marines on the ground their primary mission. It was in Haiti that Marines began to develop the tactic of [dive bombing](https://en.wikipedia.org/wiki/Dive_bomber) and in Nicaragua where they began to perfect it. While other nations and services had tried variations of this technique, Marine Corps pilots were the first to embrace it and make it part of their tactical doctrine.[[11]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Corum_p23-40-11) And besides dive-bombing, Marine Corps aviation in Nicaragua developed the skill of air resupply of outposts dropping bundles from [Fokker F.VII](https://en.wikipedia.org/wiki/Fokker_F.VII) tri-motors.[[12]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-12) Even prior to the events in the Caribbean, pioneering Marine Corps aviators such as Alfred Cunningham had noted in 1920 that, "*...the only excuse for aviation in any service is its usefulness in assisting the troops on the ground to successfully carry out their missions.*[[13]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Ginther-13)"

It was not until 3 May 1925 that the Marine Corps officially appeared in the Navy's Aeronautical Organization when Rear Admiral [William A. Moffett](https://en.wikipedia.org/wiki/William_A._Moffett), then Chief of the Navy's [Bureau of Aeronautics](https://en.wikipedia.org/wiki/Bureau_of_Aeronautics), issued a directive officially authorizing three fighting squadrons.[[14]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Barrow-14) Also taking place during the 1920s was that Marine Corps squadrons began qualifying on board [aircraft carriers](https://en.wikipedia.org/wiki/Aircraft_carrier). However, in terms of mission and training, the assignment of two Marine scouting squadrons as component units of the Pacific Fleet carriers would be one of the greatest advancements for Marine Corps aviation. Prior to this, Marine Corps squadrons were loosely controlled with regard to doctrine and training. This assignment enabled nearly 60% of active duty aviators at the time to be exposed to a disciplined training syllabus under a clearly defined mission.[[15]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Condon_p1-2-15)

[](https://en.wikipedia.org/wiki/File:Marines-Smack%27EmDown.jpg)

WWII Recruiting poster illustrated by Maj. W. Victor Guinness, USMC

The turning point for the long-term survival of Marine Air[[16]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Saint-16) came with the structural change of the establishment of the [Fleet Marine Force](https://en.wikipedia.org/wiki/Fleet_Marine_Force) in 1933.[[17]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Swanson-17) This shifted Marine doctrine to focus less on expeditionary duty and more on supporting [amphibious warfare](https://en.wikipedia.org/wiki/Amphibious_warfare) by seizing advance naval bases in the event of war.[[18]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Astor_p14-18)[[19]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Tierney-19) This also saw the establishment of *Aircraft One* and *Aircraft Two* to replace the old *Aircraft Squadron, East Coast* and *Aircraft Squadron, West Coast* that had supported operations in the [Caribbean](https://en.wikipedia.org/wiki/Caribbean) and China as part of their expeditionary duties.[[20]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p387-8-20) This organization would remain until June 1940 when [Congress](https://en.wikipedia.org/wiki/United_States_Congress) authorized the Marine Corps 1,167 aircraft as part of its *10,000 plane program* for the Navy.[[20]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p387-8-20) Just prior, in 1939, the [Navy's General Board](https://en.wikipedia.org/wiki/General_Board_of_the_United_States_Navy) published a new mission for Marine Aviation, which stated: "*Marine Aviation is to be equipped, organized and trained primarily for the support of the Fleet Marine Force in landing operations and in support of troop activities in the field; and secondarily as replacement for carrier based naval aircraft.*[[21]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Sherrod_p37-8-21)" On 7 December 1941, the day of the [attack on Pearl Harbor](https://en.wikipedia.org/wiki/Attack_on_Pearl_Harbor), Marine Corps air units consisted of 13 flying squadrons and 230 aircraft.[[19]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Tierney-19)[[20]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p387-8-20)

**World War II**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=4" \o "Edit section: World War II)]

[](https://en.wikipedia.org/wiki/File:F4U-1_Lt_Rinaberger_VMA-214_at_Espiritu_Santo_1943.jpg)

[VMF-214](https://en.wikipedia.org/wiki/VMF-214) [F4U Corsair](https://en.wikipedia.org/wiki/F4U_Corsair) in WWII

World War II would see the Marine Corps' air arm expand rapidly and extensively.[[20]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p387-8-20) They would reach their peak number of units with 5 [air wings](https://en.wikipedia.org/wiki/Wing_(military_aviation_unit)), 31 [aircraft groups](https://en.wikipedia.org/wiki/Group_(air_force)) and 145 flying [squadrons](https://en.wikipedia.org/wiki/Squadron_(aviation)).[[19]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Tierney-19) During the war, and for the next fifty years, the [Guadalcanal Campaign](https://en.wikipedia.org/wiki/Guadalcanal_Campaign) would become a defining point for Marine Aviation. The great takeaways were the debilitating effects of not having [air superiority](https://en.wikipedia.org/wiki/Air_supremacy), the vulnerability of targets such as transport shipping and the vital importance of quickly acquiring expeditionary airfields during amphibious operations.[[22]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-22) Because of the way the [Pacific War](https://en.wikipedia.org/wiki/Pacific_War) unfolded, Marine Aviation was not able to achieve its 1939 mission of supporting the Fleet Marine Force at first. For the first two years of the war, the air arm spent most of its time protecting the fleet and land-based installations from attacks by enemy ships and aircraft.

This began to change after the [Battle of Tarawa](https://en.wikipedia.org/wiki/Battle_of_Tarawa) as the air support for ground troops flown by Navy pilots left much to be desired. After the battle, General [Holland Smith](https://en.wikipedia.org/wiki/Holland_Smith) recommended, "*Marine aviators, thoroughly schooled in the principles of direct air support,*" should do the job.[[23]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-23) The [New Georgia Campaign](https://en.wikipedia.org/wiki/New_Georgia_Campaign) saw the first real close air support provided to Marine ground forces by Marine Air, the [Bougainville Campaign](https://en.wikipedia.org/wiki/Bougainville_Campaign) and the [campaign to retake the Philippines](https://en.wikipedia.org/wiki/Philippines_Campaign_(1944%E2%80%9345)) saw the establishment of [air liaison parties](https://en.wikipedia.org/wiki/Tactical_Air_Control_Party) to coordinate air support with the Marines fighting on the ground,[[24]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Astor_p348-24) and the [Battle of Okinawa](https://en.wikipedia.org/wiki/Battle_of_Okinawa) brought most of it together with the establishment of aviation command and control in the form of [Landing Force Air Support Control Units](https://en.wikipedia.org/wiki/Direct_Air_Support_Center).[[25]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Sherrod_p374-6-25)

During the course of the war, Marine Aviators were credited with shooting down 2,355 Japanese aircraft while losing 573 of their own aircraft in combat, they had 120 [aces](https://en.wikipedia.org/wiki/Flying_ace) and earned 11 [Medals of Honor](https://en.wikipedia.org/wiki/Medal_of_Honor).[[26]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p392-3-26) Immediately following the war, the strength of the Marine Corps flying arm was drastically cut as part of the post war drawdown of forces. Their active strength fell from 116,628 personnel and 103 squadrons on 31 August 1945 to 14,163 personnel and 21 squadrons on 30 June 1948. They also maintained another 30 squadrons in the [Marine Air Reserve](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Reserve).[[6]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Sherrod_p4-5-6) Also during this time, the [Secretary of Defense](https://en.wikipedia.org/wiki/United_States_Secretary_of_Defense) for then President [Harry S. Truman](https://en.wikipedia.org/wiki/Harry_S._Truman), [Louis A. Johnson](https://en.wikipedia.org/wiki/Louis_A._Johnson), attempted to eliminate Marine Corps aviation by transferring its air assets to other services, and even proposed to progressively eliminate the Marine Corps altogether in a series of budget cutbacks and decommissioning of forces.[[27]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-27)

**Jets and helicopters**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=5" \o "Edit section: Jets and helicopters)]

After World War II, most [propeller](https://en.wikipedia.org/wiki/Fixed-wing_aircraft#Propeller) aircraft were gradually phased out as [jet aircraft](https://en.wikipedia.org/wiki/Jet_aircraft) improved and [helicopters](https://en.wikipedia.org/wiki/Helicopter) were developed for use in amphibious operations.The first Marine jet squadron came in November 1947 when [VMF-122](https://en.wikipedia.org/wiki/VMFA-122) fielded the [FH Phantom](https://en.wikipedia.org/wiki/McDonnell_FH_Phantom),[[28]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Crusaders-28) and four years later [VMF-311](https://en.wikipedia.org/wiki/VMA-311) would be the first Marine jet squadron to be used in combat providing [close air support](https://en.wikipedia.org/wiki/Close_air_support) for the Marines and soldiers on the ground in December 1950 flying the [F9F Panther](https://en.wikipedia.org/wiki/Grumman_F9F_Panther).[[29]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Panther-29) [HMX-1](https://en.wikipedia.org/wiki/HMX-1), the first Marine helicopter squadron, stood up in November 1947.[[30]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-30) Marine helicopters—[VMO-6](https://en.wikipedia.org/wiki/VMO-6) flying the [HO3S1 helicopter](https://en.wikipedia.org/wiki/Sikorsky_H-5)—made their combat debut in August 1950's [Battle of Pusan Perimeter](https://en.wikipedia.org/wiki/Battle_of_Pusan_Perimeter).[[31]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-31) January 1951 saw the activation of [HMR-161](https://en.wikipedia.org/wiki/VMM-161), the world's first helicopter transport squadron.[[32]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Chronolog-32) In February 1957, [VMA-214](https://en.wikipedia.org/wiki/VMA-214) became the first Marine squadron to be certified for "special weapons delivery": dropping [nuclear weapons](https://en.wikipedia.org/wiki/Nuclear_weapon).[[33]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-VMA214His-33) Several others would receive certification,[[34]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation" \l "cite_note-34) though eventually all nuclear weapons were turned over to [Navy](https://en.wikipedia.org/wiki/United_States_Navy) and [Air Force](https://en.wikipedia.org/wiki/United_States_Air_Force) responsibility.

[](https://en.wikipedia.org/wiki/File:F-4B_VMFA-314_1968.jpg)

[F-4 Phantom II](https://en.wikipedia.org/wiki/McDonnell_Douglas_F-4_Phantom_II) from [VMFA-314](https://en.wikipedia.org/wiki/VMFA-314) returning to [Chu Lai](https://en.wikipedia.org/wiki/Chu_Lai) during the Vietnam War

The [Korean](https://en.wikipedia.org/wiki/Korean_War) and [Vietnam Wars](https://en.wikipedia.org/wiki/Vietnam_War) saw the size of Marine Aviation rebound from its post-WWII lows, emerging as the force that exists today, consisting of four air wings, 20 aircraft groups and 78 flying squadrons. By the end of the Vietnam War, the [Marine Air-Ground Task Force](https://en.wikipedia.org/wiki/Marine_Air-Ground_Task_Force) had grown dependent on its multi-mission inventory of fixed- and rotary-wing aircraft, which could operate from land or sea bases to support Marines on the ground.[[16]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Saint-16)

Marine Aviators deployed to the Middle East for [Operations Desert Shield and Desert Storm](https://en.wikipedia.org/wiki/Gulf_War), then to [Operation Enduring Freedom](https://en.wikipedia.org/wiki/Operation_Enduring_Freedom) in Afghanistan and [Operation Iraqi Freedom](https://en.wikipedia.org/wiki/Iraq_War). 2006 saw Marine Aviation at its highest operational level since the Vietnam War, flying more than 120,000 combat hours in to support operations in and near Afghanistan and Iraq. Despite their aging aircraft and high operating tempo, Marine Aviation maintained a 74.5-percent [mission-capable rate](https://en.wikipedia.org/wiki/Availability),[[35]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation" \l "cite_note-zumwaltfacts.info-35)

**Future**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=6" \o "Edit section: Future)]

[](https://en.wikipedia.org/wiki/File:Bell_USMC_AH-1_Viper_(cropped).jpg)

An AH-1 Viper attack helicopter

Since the Corps as a whole began to grow in 2007, Marine Aviation expanded with it, and continues to grow.[[36]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-2010_Air_Plan-36) Several new squadrons have been activated, with [HMLA-567](https://en.wikipedia.org/w/index.php?title=HMLA-567&action=edit&redlink=1), [VMFAT-501](https://en.wikipedia.org/wiki/VMFAT-501), and [VMU-4](https://en.wikipedia.org/wiki/VMU-4) pending.[[36]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-2010_Air_Plan-36) Some support units will gain personnel and equipment.[[37]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-37) The Corps intends to procure 420[[38]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-38) [F-35B/Cs](https://en.wikipedia.org/wiki/F-35B) (353 F-35Bs and 67 F-35Cs) to replace all [F/A-18 Hornets](https://en.wikipedia.org/wiki/McDonnell_Douglas_F/A-18_Hornet), [AV-8B Harrier IIs](https://en.wikipedia.org/wiki/McDonnell_Douglas_AV-8B_Harrier_II) and [EA-6B Prowlers](https://en.wikipedia.org/wiki/Northrop_Grumman_EA-6B_Prowler)[[39]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-39) in the [fighter](https://en.wikipedia.org/wiki/Fighter_aircraft), [attack](https://en.wikipedia.org/wiki/Ground-attack_aircraft), and [electronic warfare](https://en.wikipedia.org/wiki/Electronic_warfare)[[40]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-40) roles. The [MV-22B Osprey](https://en.wikipedia.org/wiki/Bell-Boeing_V-22_Osprey) is replacing the [CH-46 Sea Knight](https://en.wikipedia.org/wiki/Boeing_Vertol_CH-46_Sea_Knight) and the remaining [CH-53D Sea Stallion](https://en.wikipedia.org/wiki/Sikorsky_CH-53_Sea_Stallion) (most of which were replaced by [CH-53E Super Stallions](https://en.wikipedia.org/wiki/Sikorsky_CH-53E_Super_Stallion)). The Corps has transitioned all East Coast CH-46 squadrons to the MV-22, which has made its first combat deployments and [Marine Expeditionary Unit](https://en.wikipedia.org/wiki/Marine_Expeditionary_Unit) deployments. Remaining CH-53Es will eventually be replaced by the [CH-53K model](https://en.wikipedia.org/wiki/Sikorsky_CH-53K).[[41]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-41) The [KC-130J Super Hercules](https://en.wikipedia.org/wiki/Lockheed_Martin_KC-130) will replace all other C-130 models. As part of the [H-1 upgrade program](https://en.wikipedia.org/wiki/H-1_upgrade_program),[[42]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-42) [UH-1N Twin Hueys](https://en.wikipedia.org/wiki/Bell_UH-1N_Twin_Huey) will be replaced or converted to [UH-1Y Venoms](https://en.wikipedia.org/wiki/Bell_UH-1Y_Venom),[[43]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-43) while [AH-1W SuperCobras](https://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra) will upgrade to [AH-1Z Vipers](https://en.wikipedia.org/wiki/Bell_AH-1Z_Viper). The [VH-3D Sea Kings](https://en.wikipedia.org/wiki/Sikorsky_SH-3_Sea_King) and the [VH-60N Blackhawks](https://en.wikipedia.org/wiki/Sikorsky_SH-60_Seahawk) of [HMX-1](https://en.wikipedia.org/wiki/HMX-1) were to be replaced by the [VH-71 Kestrel](https://en.wikipedia.org/wiki/Lockheed_Martin_VH-71_Kestrel)[[44]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-United_States_Marine_Corps-44) in the [VXX program](https://en.wikipedia.org/wiki/VXX), but the future of the program is in doubt with budget cuts by [Secretary of Defense](https://en.wikipedia.org/wiki/United_States_Secretary_of_Defense) [Robert Gates](https://en.wikipedia.org/wiki/Robert_Gates).[[45]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-45)[[46]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-46) [Unmanned aerial vehicle](https://en.wikipedia.org/wiki/Unmanned_aerial_vehicle) programs will be upgraded in tiers, with the [RQ-7 Shadow](https://en.wikipedia.org/wiki/AAI_RQ-7_Shadow) currently replacing the [RQ-2 Pioneer](https://en.wikipedia.org/wiki/AAI_RQ-2_Pioneer) and the [RQ-11 Raven](https://en.wikipedia.org/wiki/AeroVironment_RQ-11_Raven) replacement planned.[[47]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-47)[[48]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-48) They have also been in the lead in looking at unmanned helicopters to resupply troops at remote forward operating bases in places such as Afghanistan.[[49]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-49)

Directors of Naval Aviation[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=7" \o "Edit section: Directors of Naval Aviation)]

*Main article:*[*Deputy Commandant for Aviation*](https://en.wikipedia.org/wiki/Deputy_Commandant_for_Aviation)

Organization[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=8" \o "Edit section: Organization)]

**Squadrons**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=9" \o "Edit section: Squadrons)]

*Main articles:*[*List of active United States Marine Corps aircraft squadrons*](https://en.wikipedia.org/wiki/List_of_active_United_States_Marine_Corps_aircraft_squadrons)*,*[*List of inactive United States Marine Corps aircraft squadrons*](https://en.wikipedia.org/wiki/List_of_inactive_United_States_Marine_Corps_aircraft_squadrons)*, and*[*List of United States Marine Corps aviation support units*](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_aviation_support_units)

[](https://en.wikipedia.org/wiki/File:VMFA-232_patch.svg)

Squadron insignia for the [VMFA-232 Red Devils](https://en.wikipedia.org/wiki/VMFA-232), the oldest fighter squadron in the Marine Corps

The basic tactical and administrative unit of [United States Marine Corps](https://en.wikipedia.org/wiki/United_States_Marine_Corps) aviation is the [squadron](https://en.wikipedia.org/wiki/Squadron_(aviation)), which is the size/organization equivalent of a [battalion](https://en.wikipedia.org/wiki/Battalion). Marine aircraft squadrons (airplane, helicopter, and tilt-rotor), commanded by a lieutenant colonel as the commanding officer, with either a lieutenant colonel or major as executive officer, employ a dual organizational schemata, consisting of a squadron headquarters, containing the executive [staff](https://en.wikipedia.org/wiki/Staff_(military)) sections of S-1 through S-4, as found in a [Marine battalion headuarters](https://en.wikipedia.org/wiki/Headquarters_and_Service_Company#Battalion_Headquarters) (although usually stylized as "departments" vice "sections"), and an aircraft maintenance department (AMD), led by a major, sub-divided into various typical functional divisions as employed in [Navy aircraft squadrons](https://en.wikipedia.org/wiki/List_of_United_States_Navy_aircraft_squadrons#Squadron_organization). The squadron headquarters also includes a Department of Safety and Standardization (DSS), also headed by a major, who manages the aviation safety, ground safety, and Naval Aviation Training and Operating Procedures Standardization (NATOPS) programs of the squadron.

Tactically, a Marine aircraft squadron is task-organized for a specific mission that may call for from one aircraft to the entire squadron. This tactical organization is temporary and fluid and rarely lasts with the same aircraft/aircrews for more than one mission. This continual reorganization occurs as aircraft and aircrews are rotated onto the flight schedule per aircraft availability, crew rest, and other considerations. A general tactical organizational scheme is: sortie - one aircraft on one mission, under the command of a designated aircraft commander (multi-pilot/crew aircraft only); section - two or three aircraft, under the command of a designated section leader; division - two or three sections under the command of a designated division leader, squadron - two or three divisions, under the command of the squadron commander or his designated representative (e.g., executive officer, operations officer, etc.). Traditionally, the lead aircraft belongs to the commanding officer.

[Fixed wing](https://en.wikipedia.org/wiki/Fixed-wing_aircraft) and [tilt-rotor](https://en.wikipedia.org/wiki/Tilt-rotor) aircraft squadrons are denoted by the letter "V", which comes from the French verb "Voler" (to fly). [Rotary wing](https://en.wikipedia.org/wiki/Rotorcraft) ([helicopter](https://en.wikipedia.org/wiki/Helicopter)) squadrons use "H." Squadrons flying lighter than air vehicles (balloons), which were active from World War I to 1943, were indicated by the letter "Z" in naval squadron designation.[[50]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-50) Marine squadrons are always noted by the second letter "M." Squadron numbering is not linear, as some were numbered in ascending order and others took numbers from the wing or the ship to which they were assigned.[[51]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-51) From 1920 to 1941, Marine flying squadrons were identified by one digit numbers. This changed on 1 July 1941 when all existing squadrons were redesignated to a three-digit system. The first two numbers were meant to identify the squadron's parent group, but with the rapid expansion during the war and frequent transfer of squadrons, this system fell apart.[[52]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Rottman_p396-7-52) Each squadron has a unique two digit [tail code](https://en.wikipedia.org/wiki/Tail_code) painted onto the [vertical stabilizer](https://en.wikipedia.org/wiki/Vertical_stabilizer) that tends to remain the same for the entire life of the squadron (though it will sometimes change temporarily as a squadron is assigned to a ship).

Fleet Marine Force (FMF) squadrons almost always consist of only one model of aircraft with different types of squadrons having differing numbers of aircraft. A standard exception is the organization of a composite medium tilt-rotor (VMM) squadron filling the role of the aviation combat element (ACE) in a Marine Expeditionary Unit (MEU). In addition to the squadron's 12 MV-22s, it is reinforced with several aircraft and aviation support detachments, including: 6 AH-1s, 4, CH-53s, 3 UH-1s, and 6 AV-8s, as well as aviation logistics, wing support, and air control detachments. However, a few other FMF squadrons (i.e., HMLA) and some non-FMF squadrons (e.g., HMX-1 and VMR-1) contain two or more models of aircraft (e.g., HMLA - AH-1 and UH-1; HMX-1 - VH-3, CH-53, UH-60; and VMR-1 - C-9, UC-35, and HH-46). Typical FMF squadron types and number/model of aircraft assigned are:

* Rotary Wing
  + Heavy Helicopter (HMH) - 16 CH-53
  + Light/Attack Helicopter (HMLA) - 18 AH-1 and 9 UH-1
* Tilt-Rotor
  + Medium Tilt-Rotor (VMM) - 12 MV-22
* Fixed Wing
  + Light Attack (VMA) - 16 AV-8
  + Tactical Electronic Warfare Attack (VMAQ) - 5 EA-6
  + Fighter Attack (VMFA) - 12 F/A-18 or 16 F-35
  + All-Weather Fighter Attack (VMFA(AW)) - 12 F/A-18
  + Aerial Refueler/Transport (VMGR) - 12 KC-130

Some squadrons are also permanently sub-divided into one to three standing detachments (e.g., one - VMA, two - VMGR, three - HMLA), which can deploy separately from the squadron as part of either a Marine Air-Ground Task Force (MAGTF) or Unit Deployment Program (UDP). These detachments usually range from as few as two to four airplanes for VMGR (KC-130) detachments, six for VMA (AV-8) detachments, and nine (3 UH-1 and 6 AH-1) for HMLA detachments. The detachments have a designated detachment commander (a major) and assistant commander (major or senior captain), pilots and other aircrew as applicable (KC-130 and UH-1 only), along with a small staff and aircraft maintenance unit.

In an aircraft squadron, many of the officers (most of whom are either pilots or flight officers, exceptions being the flight surgeon, unless dual designated as either a Naval Aviator (Pilot) or Naval Flight Officer (NFO), and warrant officers) are assigned to one of the staff departments (S-1 through S-4, and DSS) in the squadron headquarters as either a primary or collateral duty (with their primary duty, or table of organization billet, being "Pilot" or "NFO"). Some officers are assigned to the AMD as either the squadron aircraft maintenance officer (the department head), the assistant aircraft maintenance officer, or as aircraft maintenance division officers. The warrant officers (officer-level technical specialists) serve as the assistant administration/personnel, aviation maintenance control, avionics, and aviation ordnance division officers in leading their respective divisions in either the S-1 (Administration and Personnel) Department or the AMD.

The pilots and flight officers fly missions as they are assigned by the Flight Schedules Officer in the S-3 (Operations, Plans, and Training) Department, and devote most of their time and effort to assisting the commanding officer in leading the squadron by performing their respective managerial functions as either staff officers or maintenance officers. Even on deployment, or in combat, the officer normally expends more time on his or her "ground" job (either primary or collateral) than in the cockpit.

The majority of the squadron's enlisted Marines (including NCOs and Staff NCOs), other than a few aircrewmen in some squadrons (primarily HMH, HMM, HMLA, VMM, and VMGR), are aircraft maintenance technicians and supervisors. There are also a small number of enlisted clerks and specialists who perform various support (e.g., administration, intelligence, operations, and logistics) duties in the several staff departments. The enlisted Marines, NCOs, and Staff NCOs, are most often devoted full-time to performing their duties in either the AMD or applicable staff department. From time-to-time, enlisted Marines may be assigned to perform [mess duty](https://en.wikipedia.org/wiki/KP_duty), or fatigue details (working parties) supervised by NCOs, and (along with NCOs, Staff NCOs, and officers) stand watch, perform interior guard duty, participate in local-area security patrols, or airfield/base-defense operations. Additionally, as Marines, the squadron is required to maintain the tactical, technical, small-arms weapons proficiency, and physical fitness capability, along with the requisite discipline, morale, espirit de corps, and fighting spirit to enable the squadron to form into provisional rifle platoons, to either reinforce the attack or augument the defense, as the overall tactical situation necessitates.

**Groups**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=10" \o "Edit section: Groups)]

*Main articles:*[*List of United States Marine Corps aircraft groups*](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_aircraft_groups)*and*[*List of United States Marine Corps aviation support units*](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_aviation_support_units)

The next higher level in Marine Aviation is the [Group](https://en.wikipedia.org/wiki/Group_(air_force)), the aviation equivalent of a regiment. Groups can be classified as:

* Marine Aircraft Group (MAG): consisting of a [MAG Headquarters (MAG HQ)](https://en.wikipedia.org/wiki/Headquarters), from two to ten fixed-wing, rotary-wing, tilt-rotor, or unmanned aerial vehicle squadrons, a [Marine Aviation Logistics Squadron (MALS)](https://en.wikipedia.org/wiki/Aircraft_maintenance), and a [Marine Wing Support Squadron (MWSS)](https://en.wikipedia.org/wiki/Military_logistics). The MAG HQ provides the staff support necessary for the effective command of the subordinate squadrons of the MAG, while the MALS provides intermediate aircraft maintenance, aviation supply, and aviation ordnance support to the aircraft squadrons. The MWSS provides all essential aviation ground support to the MAG. This support includes: airfield operations and communications (less air traffic control services), motor transport, engineer services (including bulk fuel and aircraft refueling), non-aviation supply and equipment maintenance, local security, medical services, and food services.
* Marine Air Control Group (MACG): consisting of a [Marine Air Control Group Headquarters (MACG HQ)](https://en.wikipedia.org/wiki/Headquarters), a [Marine Tactical Air Command Squadron (MTACS)](https://en.wikipedia.org/wiki/Command_and_control), a [Marine Air Control Squadron (MACS)](https://en.wikipedia.org/wiki/Air_traffic_control), a [Marine Air Support Squadron (MASS)](https://en.wikipedia.org/wiki/Direct_Air_Support_Center), a [Marine Wing Communications Squadron (MWCS)](https://en.wikipedia.org/wiki/Military_communications), and a [Low Altitude Air Defense (LAAD) Battalion](https://en.wikipedia.org/wiki/Anti-aircraft_warfare).
* Marine Aviation Training Support Group (MATSG): training element to provide support for aviation students (though it is currently often just an administrative support unit for detachments to non-Marine bases).
* Marine Wing Support Group (MWSG): previously, the ground support element for a Marine Air Wing, usually consisted of four Marine Wing Support Squadrons. The Marine Wing Support Groups were disestablished in 2012, with headquarters personnel and Marine Wing Support Squadrons distributed to the Marine Aircraft Groups.

**Wings**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=11" \o "Edit section: Wings)]

*Main article:*[*List of United States Marine Corps aircraft wings*](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_aircraft_wings)

[](https://en.wikipedia.org/wiki/File:USMC_-_1MAW.png)

Logo of the [1st Marine Aircraft Wing](https://en.wikipedia.org/wiki/1st_Marine_Aircraft_Wing)

The largest level in Marine aviation is the Marine Aircraft [Wing](https://en.wikipedia.org/wiki/Wing_(military_aviation_unit)), the equivalent of a [division](https://en.wikipedia.org/wiki/Division_(military)). Wings are usually grouped with a [Marine division](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_divisions) and a [Marine Logistics Group](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_logistics_groups) to form a [Marine Expeditionary Force](https://en.wikipedia.org/wiki/Marine_Expeditionary_Force). Administratively, Marine aviation is organized into three active duty MAWs and one reserve MAW. MAWs are designed to provide units in support of MAGTF or other operations. Each MAW has a unique organizational structure. The MAW may be reinforced with assets from other MAWs to provide the necessary assets to meet mission requirements. The MAW contains a Marine Aircraft Wing Headquarters (MAW HQ), that directs and coordinates the operations of the MAW, a Marine Wing Headquarters Squadron (MWHS) (*see:*[*MWHS-1*](https://en.wikipedia.org/wiki/Marine_Wing_Headquarters_Squadron_1)*,*[*MWHS-2*](https://en.wikipedia.org/wiki/Marine_Wing_Headquarters_Squadron_2)*and*[*MWHS-3*](https://en.wikipedia.org/wiki/Marine_Wing_Headquarters_Squadron_3)), which provides administrative and supply support for the MAW HQ, three or four Marine Aircraft Groups (MAGs), and a Marine Air Control Group (MACG). The mission of the MAW is to conduct air operations in support of the Marine Forces to include [offensive air support](https://en.wikipedia.org/wiki/Close_air_support), [anti-aircraft warfare](https://en.wikipedia.org/wiki/Anti-aircraft_warfare), [assault support](https://en.wikipedia.org/wiki/Assault_Support), [aerial reconnaissance](https://en.wikipedia.org/wiki/Reconnaissance#Reconnaissance_from_air_and_space_vehicles), [electronic warfare](https://en.wikipedia.org/wiki/Electronic_warfare), and the control of aircraft and missiles. As a collateral function, the MAW may participate as an integral component of [naval aviation](https://en.wikipedia.org/wiki/Naval_aviation) in the execution of such other Navy functions as the Fleet Commander may direct.

**Corps**[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=12" \o "Edit section: Corps)]

All Marine Corps aviation falls under the cognizance of the [Deputy Commandant for Aviation](https://en.wikipedia.org/wiki/Deputy_Commandant_for_Aviation) (DCA) at [Headquarters Marine Corps](https://en.wikipedia.org/wiki/Headquarters_Marine_Corps), with the cooperation of the [United States Navy](https://en.wikipedia.org/wiki/United_States_Navy). There, plans for all aspects of aviation are created and managed, including acquisition of new aircraft, training, maintenance, manpower, etc. HQMCA creates Transitional Task Forces to assist units in transitioning between aircraft and aircraft versions.

The Deputy Commandant of Aviation also commands Marine Corps Detachments at [Naval Air Weapons Station China Lake](https://en.wikipedia.org/wiki/Naval_Air_Weapons_Station_China_Lake) and [Naval Air Station Patuxent River](https://en.wikipedia.org/wiki/Naval_Air_Station_Patuxent_River). The NAS China Lake Marines are responsible to DCA for the test and evaluation of all weapons and weapon systems and for electronic warfare development. While those at NAS Pax River work with [Naval Air Systems Command](https://en.wikipedia.org/wiki/Naval_Air_Systems_Command) and are responsible for developing, acquiring and supporting naval aeronautical and related technology systems for the operating forces.[[53]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-53)[[54]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-54)

Marine air stations[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=13" \o "Edit section: Marine air stations)]

*Main article:*[*List of United States Marine Corps installations*](https://en.wikipedia.org/wiki/List_of_United_States_Marine_Corps_installations)

Due to the range and space needed to operate aircraft, each MAW spreads its groups and squadrons amongst several Marine Corps Air Stations (MCAS), as well as offering detachments/liaisons (and occasionally full units) to airports, [Air Force Bases](https://en.wikipedia.org/wiki/Air_Force_Base) and [Naval Air Stations](https://en.wikipedia.org/wiki/Naval_air_station). Each MCAS maintains its own base functions as well as air traffic control and facilities (often with a [Headquarters and Headquarters Squadron](https://en.wikipedia.org/wiki/Headquarters_and_Headquarters_Squadron) of its own).

Aviators and flight officers[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=14" \o "Edit section: Aviators and flight officers)]

[](https://en.wikipedia.org/wiki/File:Naval_Aviator_Badge.jpg)

[Naval Aviator Badge](https://en.wikipedia.org/wiki/United_States_Naval_Aviator#Insignia_and_winging)

All Marine [pilots](https://en.wikipedia.org/wiki/Aviator) and [flight officers](https://en.wikipedia.org/wiki/Naval_Flight_Officer) are trained and qualified as [naval aviators](https://en.wikipedia.org/wiki/United_States_Naval_Aviator) or [naval flight officers](https://en.wikipedia.org/wiki/Naval_flight_officer) by the Navy. Prospective aviators receive their commissions and attend [The Basic School](https://en.wikipedia.org/wiki/The_Basic_School) just as all other Marine officers do, then report to [Marine Aviation Training Support Group 21](https://en.wikipedia.org/wiki/Marine_Aviation_Training_Support_Group_21) to attend Aviation Preflight Indoctrination at [Naval Air Station Pensacola](https://en.wikipedia.org/wiki/Naval_Air_Station_Pensacola), Florida. There they receive instruction in [aerodynamics](https://en.wikipedia.org/wiki/Aerodynamics), [aircraft engines](https://en.wikipedia.org/wiki/Aircraft_engine) and systems, [meteorology](https://en.wikipedia.org/wiki/Meteorology), [navigation](https://en.wikipedia.org/wiki/Navigation), and flight rules and regulations. Following completion, they are assigned to Primary Flight Training at [Marine Aviation Training Support Group 22](https://en.wikipedia.org/wiki/Marine_Aviation_Training_Support_Group_22), [Naval Air Station Corpus Christi](https://en.wikipedia.org/wiki/Naval_Air_Station_Corpus_Christi), Texas, or remain in Pensacola, Florida. Upon successful completion of Primary Flight Training, they select which type of aircraft they would like to fly, in accordance with the needs of the Corps.

After selection, student aviators are assigned to Advanced Flight Training in their particular field (jet, propeller, or rotary wing). Upon completion, students are designated as Naval Aviators and are awarded the [Naval Aviator Insignia](https://en.wikipedia.org/wiki/United_States_Naval_Aviator#Insignia_and_winging). From that point, they are trained at a [Fleet Replacement Squadron](https://en.wikipedia.org/wiki/Fleet_Replacement_Squadron) for the specific aircraft they will be flying. A few uncommon aircraft are taught by the [Navy](https://en.wikipedia.org/wiki/United_States_Navy) or [Air Force](https://en.wikipedia.org/wiki/United_States_Air_Force), or in the case of [HMX-1](https://en.wikipedia.org/wiki/HMX-1), by the company that created the aircraft.[[44]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-United_States_Marine_Corps-44) After completion, aviators are assigned to their first squadron.

Flight officers, after Aviation Preflight Indoctrination, continue their own training path by staying at Pensacola and training further in navigation and [avionics](https://en.wikipedia.org/wiki/Avionics). After Advanced NFO training, they receive their [wings](https://en.wikipedia.org/wiki/Naval_Flight_Officer_insignia) and are assigned to their first duty squadron.

Enlisted aircrew also serve on some aircraft (mostly helicopters). They are trained at NAS Pensacola and are eligible to wear the [Aircrew insignia](https://en.wikipedia.org/wiki/Aircrew_Badge#Navy-Marine_Corps-Coast_Guard).

Marine aviators are eligible to earn medals such as the [Distinguished Flying Cross](https://en.wikipedia.org/wiki/Distinguished_Flying_Cross_(United_States)) for heroism in combat and the [Air Medal](https://en.wikipedia.org/wiki/Air_Medal) for meritorious achievement in flight as well as the [Gray Eagle Award](https://en.wikipedia.org/wiki/Gray_Eagle_Award) for seniority. Pilots in combat have a chance to become [flying aces](https://en.wikipedia.org/wiki/Flying_ace).

Aircraft[[edit](https://en.wikipedia.org/w/index.php?title=United_States_Marine_Corps_Aviation&action=edit&section=15" \o "Edit section: Aircraft)]

[](https://en.wikipedia.org/wiki/File:Aircraft.osprey.678pix.jpg)

[MV-22B](https://en.wikipedia.org/wiki/Bell-Boeing_V-22_Osprey) with Marine [paratroopers](https://en.wikipedia.org/wiki/Paratrooper)

The Marine light attack helicopter squadrons (HMLA) are composite squadrons of [AH-1W SuperCobras](https://en.wikipedia.org/wiki/Bell_AH-1_SuperCobra) and [UH-1N Iroquois](https://en.wikipedia.org/wiki/Bell_UH-1N_Twin_Huey) (also known as the Huey), as the airframes have over 80% commonality. Both are slated to be replaced by the [Bell AH-1Z Viper](https://en.wikipedia.org/wiki/Bell_AH-1Z_Viper) in 2011 and the [Bell UH-1Y Venom](https://en.wikipedia.org/wiki/Bell_UH-1Y_Venom) in 2009, respectively as part of the [H-1 upgrade program](https://en.wikipedia.org/wiki/H-1_upgrade_program).[[55]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-55) These provide light-attack and light transport capabilities.[[56]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-56) Marine medium helicopter (HMM) squadrons fly the [CH-46E Sea Knight](https://en.wikipedia.org/wiki/Boeing_Vertol_CH-46_Sea_Knight) medium-lift transport helicopters; but are converting to the [V-22 Osprey](https://en.wikipedia.org/wiki/Bell-Boeing_V-22_Osprey), a tilt-rotor aircraft with superior range and speed, and are being renamed as "Marine medium tilt-rotor" (VMM) squadrons. Marine heavy helicopter (HMH) squadrons fly the [CH-53E Super Stallion](https://en.wikipedia.org/wiki/Sikorsky_CH-53E_Super_Stallion) helicopter for heavy-lift missions. These will eventually be replaced with the upgraded [CH-53K](https://en.wikipedia.org/wiki/Sikorsky_CH-53K), currently under development.[[57]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-57)

Marine attack squadrons (VMA) fly the [AV-8 Harrier II](https://en.wikipedia.org/wiki/McDonnell_Douglas_AV-8B_Harrier_II); while Marine Fighter-Attack (VMFA) and Marine (All Weather) Fighter-Attack (VMFA(AW)) squadrons, respectively fly both the single-seat (F/A-18C) and dual-seat (F/A-18D) versions of the [F/A-18 Hornet](https://en.wikipedia.org/wiki/McDonnell_Douglas_F/A-18_Hornet) strike-fighter aircraft. The AV-8B is a [VTOL](https://en.wikipedia.org/wiki/VTOL) aircraft that can operate from [amphibious assault ships](https://en.wikipedia.org/wiki/Amphibious_assault_ship), land air bases and short, expeditionary airfields.[[58]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-58) The F/A-18 can only be flown from land or aircraft carriers. Both are slated to be replaced by the [F-35B](https://en.wikipedia.org/wiki/F-35B), the [STOVL](https://en.wikipedia.org/wiki/STOVL) version of the [F-35 Lightning II](https://en.wikipedia.org/wiki/Lockheed_Martin_F-35_Lightning_II).[[59]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-59) The Marine Corps will also purchase 80 of the [F-35C](https://en.wikipedia.org/wiki/F-35C) carrier variants, enough for five squadrons, to serve with Navy [carrier air wings](https://en.wikipedia.org/wiki/Carrier_air_wing).[[60]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-60)[[61]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-61)[[62]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-62)

In addition, the Corps operates its own organic [electronic warfare](https://en.wikipedia.org/wiki/Electronic_warfare) (EW) and [aerial refueling](https://en.wikipedia.org/wiki/Aerial_refueling) assets in the form of the [EA-6B Prowler](https://en.wikipedia.org/wiki/Northrop_Grumman_EA-6B_Prowler) and [KC-130 Hercules](https://en.wikipedia.org/wiki/Lockheed_Martin_KC-130). In Marine transport refuelling (VMGR) squadrons, the Hercules doubles as a ground refueller and tactical-airlift transport aircraft.

With the addition of the ISR / Weapon Mission Kit, the [KC-130J](https://en.wikipedia.org/wiki/Lockheed_Martin_KC-130) will be able to serve as an [overwatch](https://en.wikipedia.org/wiki/Overwatch_(military_tactic)" \o "Overwatch (military tactic)) aircraft and can deliver ground support fire in the form of [30mm cannon fire](https://en.wikipedia.org/wiki/Mk44_Bushmaster_II), [Hellfire](https://en.wikipedia.org/wiki/AGM-114_Hellfire) or [Griffin](https://en.wikipedia.org/wiki/Griffin_(missile)) missiles, and [precision-guided bombs](https://en.wikipedia.org/wiki/Precision-guided_munition).[[35]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-zumwaltfacts.info-35)[[63]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-dvidshub.net-63) This capability, designated as "[Harvest HAWK](https://en.wikipedia.org/wiki/Harvest_HAWK)" (Hercules Airborne Weapons Kit), can be used in scenarios where precision is not a requisite, such as [area denial](https://en.wikipedia.org/wiki/Area_denial_weapons).[[64]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-Harvest_Hawk-64)[[65]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-65)[[66]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-66) It was first used in

Marine [AV-8B Harrier II](https://en.wikipedia.org/wiki/McDonnell_Douglas_AV-8B_Harrier_II) on the deck of [USS *Nassau*](https://en.wikipedia.org/wiki/USS_Nassau_(LHA-4))

Afghanistan in late 2010.[[67]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-HAWK_deploy-67) Serving in Marine Tactical Electronic Warfare (VMAQ) Squadrons, the Prowler is the main tactical electronic warfare aircraft left in the U.S. inventory, though Navy squadrons have begun replacing it with the [EA-18G Growler](https://en.wikipedia.org/wiki/Boeing_EA-18G_Growler). It has been labeled a "national asset" and is frequently borrowed to assist in any American combat action, not just Marine operations.[[68]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-68) Since the retirement of the [EF-111A Raven](https://en.wikipedia.org/wiki/General_Dynamics/Grumman_EF-111A_Raven) in 1998, the Air Force's only EW aircraft, Marine Corps and Navy aircraft have provided electronic warfare support to Air Force units.

The Marines also operate two Marine [unmanned aerial vehicle](https://en.wikipedia.org/wiki/Unmanned_aerial_vehicle) (UAV) squadrons (VMU), with the [RQ-7 Shadow](https://en.wikipedia.org/wiki/AAI_RQ-7_Shadow) UAV for tactical reconnaissance.[[69]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-69) These squadrons also fly the [Boeing](https://en.wikipedia.org/wiki/Boeing" \o "Boeing) [ScanEagle](https://en.wikipedia.org/wiki/Boeing_ScanEagle" \o "Boeing ScanEagle) and have recently retired the [RQ-2 Pioneer](https://en.wikipedia.org/wiki/AAI_RQ-2_Pioneer).[[70]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-70)

Marine Fighter Training Squadron 401 ([VMFT-401](https://en.wikipedia.org/wiki/VMFT-401)), operates [F-5E, F-5F and F-5N Tiger II](https://en.wikipedia.org/wiki/Northrop_F-5) aircraft in support of air combat adversary ([aggressor](https://en.wikipedia.org/wiki/Dissimilar_air_combat_training)) training. Marine Helicopter Squadron One ([HMX-1](https://en.wikipedia.org/wiki/HMX-1)) operates the [VH-3D Sea King](https://en.wikipedia.org/wiki/Sikorsky_SH-3_Sea_King) medium-lift and [VH-60N Nighthawk](https://en.wikipedia.org/wiki/Sikorsky_UH-60_Black_Hawk) light-lift helicopters in the VIP transport role, previously planned to be replaced by the cancelled [VH-71 Kestrel](https://en.wikipedia.org/wiki/Lockheed_Martin_VH-71_Kestrel). Marine Transport Squadron One ([VMR-1](https://en.wikipedia.org/wiki/VMR-1)) utilizes several aircraft to transport VIPs and critical logistics, to include the [C-9B Skytrain II](https://en.wikipedia.org/wiki/McDonnell_Douglas_C-9), [UC-35C/D Citation Ultra/Encore](https://en.wikipedia.org/wiki/Cessna_Citation#Citation_product_lineage_overview), [C-12B/F Huron](https://en.wikipedia.org/wiki/Beechcraft_C-12_Huron), and [C-20G Gulfstream IV](https://en.wikipedia.org/wiki/Gulfstream_IV), as well as the [HH-46E](https://en.wikipedia.org/wiki/CH-46X) in a [search and rescue](https://en.wikipedia.org/wiki/Search_and_rescue) role.[[36]](https://en.wikipedia.org/wiki/United_States_Marine_Corps_Aviation#cite_note-2010_Air_Plan-36) A single Marine Corps C-130 Hercules, "Fat Albert," is used to support the U.S. Navy's flight demonstration team, the "[Blue Angels](https://en.wikipedia.org/wiki/Blue_Angels)".