

The Evolution of Aircraft Class and Squadron Designation Systems

NAVAL AVIATION HAS BECOME the forward element of America's ability to project its influence, at short notice, any place in the world. It is a product of the 20th century and reflects the massive technological developments and changes that have characterized this century. One reason for naval aviation's success has been its ability to change with the times and keep pace with innovations in technology. This, in turn, has made aviation squadrons a flexible tool that can adapt quickly to new missions or requirements.

This chapter will provide the background necessary to help understand the history and evolution of naval aviation squadron designations. The Navy has used over one hundred different squadron designations since the inception of the squadron concept. This figure does not include Marine Corps squadron designations. To further complicate the Navy's squadron designation system, many of the squadron abbreviations, such as VT, have had different mission functions during different time frames. As an example, the VT designation was used as an abbreviation for a Torpedo Squadron from the early 1920s and lasting until 15 November 1946 when the designation VT (Torpedo Squadron) was abolished. Then, on 1 May 1960, the use of the VT designation was reinstated. However, this time the meaning and mission for VT was assigned as training and stood for Training Squadron (VT). This is just one example of the many changes that have occurred in the squadron designation system.

In order to more fully understand squadron designations, it is important to know the factors that played a role in developing the different missions that squadrons have been called upon to perform. Technological changes affecting aircraft capabilities have resulted in corresponding changes in the operational capabilities and techniques used by aviation squadrons. In the early period of naval aviation a system was developed to designate an aircraft's mission. Different aircraft class designations evolved for the various types of missions performed by naval aircraft. This became known as the Aircraft Class Designation System. The Squadron Designation System and the Aircraft Class Designation System are separate systems.

Yet, there is an inherent parallel relationship between the two systems whereby changes in the Aircraft Class Designation System have an effect on the Squadron Designation System. Both systems reflect the technological changes and mission developments in aircraft. Numerous changes have been made to both systems since the inception of naval aviation in 1911.

With the evolution of the squadron concept, a Squadron Designation System was developed to identify the specialized missions of various aviation squadrons using different types of aircraft. Since a specific class of aircraft identifies the type of mission performed by the squadron operating a particular aircraft class, an inherent parallel relationship occurs between the Aircraft Class Designation System and the Squadron Designation System. As an example, an aircraft designed and built primarily with a mission of dropping torpedoes, such as the World War II TBF Avenger, would normally be assigned to a squadron with a similarly designated mission, such as a Torpedo Squadron (VT). The TBF Avenger aircraft would fall under the VT class in the Aircraft Class Designation System.

The evolution of squadron designations may be seen by tracing the development of the Aircraft Class Designation System and the parallel changes in the Squadron Designation System. While tracing the evolution of the two designation systems in this introductory chapter, the primary emphasis will be placed on those designations related to carrier aviation. While reading this chapter various references will be made to the Aircraft Class Designation System, Designation of Aircraft, Model Designation of Naval Aircraft, Aircraft Designation System, and Model Designation of Military Aircraft. All of these references refer to the same system involved in designating aircraft classes. This system is then used to develop the specific designations assigned to each type of aircraft operated by the Navy. The F3F-4, TBF-1, AD-3, PBV-5A, A-4, A-6E, and F/A-18C are all examples of specific types of naval aircraft designations which were developed from the Aircraft Class Designation System.

In order to make it easier to understand the evolution and development of the Aircraft Class Designation

System and the Squadron Designation System, each system will be discussed separately in a chronological format. This will help to make comparisons and connections between the two systems and enable the reader to grasp the significant interplay between the two programs.

The Aircraft Class Designation System was developed first. Squadrons and the Squadron Designation System did not come into existence until the post-World War I period. The evolution of the Aircraft Class Designation System is as follows:

Aircraft Class Designation System

Early Period of Naval Aviation up to 1920

THE UNCERTAINTIES DURING the early period of naval aviation were reflected by the problems encountered in settling on a functional system for designating naval aircraft. Prior to 1920¹ two different Aircraft Class Designation Systems were used. From 1911 up to 1914, naval aircraft were identified by a single letter indicating the general type and manufacturer, followed by a number to indicate the individual plane of that type-manufacturer. Under this system:

- “A” was used for Curtiss hydroaeroplanes
- “B” for Wright hydroaeroplanes
- “C” for Curtiss flying boats
- “D” for Burgess flying boats
- “E” for Curtiss amphibian flying boats

This system had been established in 1911 by Captain Washington I. Chambers, Director of Naval Aviation. The following is a list of the types of aircraft and their designations in existence from 1911–1914:

Aircraft Designation System, 1911–1914

- A-1 Curtiss hydroaeroplane (originally an amphibian, and the Navy’s first airplane)
- A-2 Curtiss landplane (rebuilt as a hydroaeroplane)
- A-3 Curtiss hydroaeroplane
- A-4 Curtiss hydroaeroplane
- B-1 Wright landplane (converted to hydroaeroplane)
- B-2 Wright type hydroaeroplane
- B-3 Wright type hydroaeroplane
- C-1 Curtiss flying boat
- C-2 Curtiss flying boat
- C-3 Curtiss flying boat
- C-4 Curtiss flying boat
- C-5 Curtiss flying boat
- D-1 Burgess Co. and Curtiss flying boat
- D-2 Burgess Co. and Curtiss flying boat

E-1 OWL (over water and land) (a Curtiss hydroaeroplane rebuilt as a short-hulled flying boat for flying over water or land and fitted with wheels for use as an amphibian)

A new Aircraft Class Designation System was established by Captain Mark L. Bristol, the second Director of Naval Aviation. He assumed the Director’s position from Captain Chambers in December 1913. The new system was issued on 27 March 1914 as General Order 88, “Designation of Air Craft.” This system changed the original designation of the aircraft to two letters and a number, of which the first letter denoted class; the second, type within a class; and the number for the order in which aircraft within the class were acquired. The four classes set up on 27 March 1914 are as follows:

Aircraft Designation System, 1914–1920

Aircraft Classes

“A” for heavier-than-air craft. Within the “A” class:

- L stood for land machines
- H stood for hydroaeroplanes
- B stood for flying boats
- X stood for combination land and water machines (amphibians)
- C stood for convertibles (could be equipped as either land or water machines)

“D” for airships or dirigibles

“B” for balloons

“K” for kites

Under this new system the A-1 aircraft (the Navy’s first airplane) was redesignated AH-1, with the “A” identifying the plane as a heavier-than-air craft and the “H” standing for hydroaeroplane. General Order No. 88 also provided a corresponding link between the old aircraft designations and the new system: “The aeroplanes now in the service are hereby designated as follows:

- A-1 became the AH-1
- A-2 became the AH-2
- A-3 became the AH-3
- B-1 became the AH-4
- B-2 became the AH-5
- B-3 became the AH-6
- C-1 became the AB-1
- C-2 became the AB-2
- C-3 became the AB-3
- C-4 became the AB-4
- C-5 became the AB-5
- D-1 became the AB-6
- D-2 became the AB-7
- E-1 became the AX-1”²

¹ Administrative Histories, Office of the Deputy Chief of Naval Operations (Air), Vol. III, Part 1, History of Naval Aviation (1898–1917), p. 120–121.

² United States Naval Aviation 1910–1980, NAVAIR publication 00–80P–1, 1981, p. 432.

Despite the phrase, “now in the service,” the A-1, B-1 and B-2 and probably the D-1 had ceased to exist before the order was issued.

The Early 1920s

In General Order 541, issued in 1920, two overall types of aircraft were identified and assigned permanent letters which have remained in effect since 1920. Lighter-than-air types were identified by the letter Z and heavier-than-air types were assigned the letter V. Within these two categories, various class letters were assigned to further differentiate the aircraft's operation or construction. Class letters assigned to the Z types were R for rigid, N for nonrigid, and K for kite. By combining the type and class designation, the different airships in the Navy's inventory could be categorized. As an example:

ZR referred to rigid dirigibles (airships)
ZN stood for nonrigid airships
ZK for kite balloons

The class letters assigned to the heavier-than-air vehicles covered a wider range and generally reflected the mission responsibilities of the aircraft classes. Class letters assigned to the V types were:

F for fighting
O for observation
S for scouting
P for patrol
T for torpedo
G for fleet (utility)

By combining the V designation for heavier-than-air vehicles with the class letters, the following aircraft class definitions were assigned in 1920:

VF for fighting plane
VO for observation plane
VS for scouting plane
VP for patrol plane
VT for torpedo and bombing plane
VG for fleet plane (most likely a general utility aircraft)

This class designation system for aircraft has continued to remain a functional system and is still used today. There have been many additions, deletions, and major changes to the system over the years but the concept has remained intact. The current naval aircraft inventory still lists VF, VS, VP, VG, VO, and VT aircraft classes. Three of these, VF, VP, and VO, still have the same definitions they were assigned in 1920. The VS, VG, and VT aircraft class designations now refer to antisubmarine (VS), in-flight refueling (VG), and training aircraft (VT).

The aircraft designation system established in July 1920 by General Order 541 was modified on 29 March 1922 by Bureau of Aeronautics Technical Note 213. It added the identity of the manufacturer to the aircraft

model designation. The aircraft class designations remained the same as those issued by General Order 541 (G.O. 541); however, besides the six aircraft classes listed in G.O. 541 (VF, VO, VS, VP, VT, and VG), an additional two classes were added to the aircraft class list. The two new aircraft classes were VA for Training Aircraft and VM for Marine Expeditionary Plane.³

The mid to late 1920s

Between 1922 and 1933, there were only a few modifications to the Aircraft Class Designation System. The Bureau of Aeronautics was established in July 1921 and, thereafter, made changes to the Aircraft Class Designation System. In response to a Secretary of Navy letter dated 13 February 1923, the Bureau of Aeronautics issued a Technical Note on 10 March 1923 that changed the VA designation for training aircraft to VN, dropped the VG designation, and added the VJ designation for Transport Plane.⁴ This was followed by the addition, in 1925, of the VX designation for experimental aircraft.⁵ The VX designation was dropped from the Aircraft Class Designation list in January 1927.⁶ In July 1928, the VM designation was dropped and the VJ designation was changed from Transportation Plane to General Utility. Two new designations were also instituted, VB for bombing and VH for ambulance.⁷ A new aircraft class was added in July 1930 and designated VR for transport aircraft.⁸ This VR designation has remained in effect for transport aircraft since 1930.

The 1930s

Similar changes took place in the Aircraft Class Designation System during the early 1930s. By July 1933, there were ten aircraft class designations. This list did not vary much from those aircraft classes identified in the previous ten years. The aircraft class designations in July 1933 were as follows:

VB for bombing
VF for fighting
VH for ambulance
VJ for general utility
VN for training
VO for observation

³ Bureau of Aeronautics Technical Note 213, Type, Class and Model Designation of Airplanes, March 29, 1922.

⁴ Bureau of Aeronautics Technical Note No. 235, Type, Class and Model Designation of Airplanes, March 10, 1923.

⁵ Bureau of Aeronautics, Model Designation of Naval Aircraft SH-3, 1 January 1925.

⁶ Bureau of Aeronautics, Model Designation of Naval Airplanes SH-3C, 1 January 1927.

⁷ Bureau of Aeronautics, Model Designation of Naval Airplanes SH-3D, Aer-M-157-CRP, A9-11, July 1928.

⁸ Bureau of Aeronautics, Model Designation of Naval Airplanes, SH-3H, Aer-D-157, A9-11, 1 July 1930.

VP for patrol
 VR for transport
 VS for scouting
 VT for torpedo.⁹

A major change was instituted to the Aircraft Designation System on 2 January 1934.¹⁰ Prior to 1934, aircraft classes had been established according to the primary mission the aircraft was to perform. The fact that many aircraft were capable of performing more than one mission was recognized in the revised system by assigning an additional letter to the previous two-letter aircraft class designation. In the new three-letter aircraft class designation, the first letter identified the type of vehicle, such as V for heavier-than-air (fixed wing) and Z for lighter-than-air. For heavier-than-air, the second letter identified the primary mission of the aircraft, using the same 10 letter designations listed in the above paragraph. The third letter indicated the secondary mission of the aircraft class, such as:

F for fighting
 O for observation
 B for bombing
 T for torpedo
 S for scouting

By assigning these five secondary mission letters to the primary aircraft letter designations, **seven new aircraft class designations were established:**

VBF for bombing-fighting
 VOS for observation-scouting
 VPB for patrol-bombing
 VPT for patrol-torpedo
 VSB for scouting-bombing
 VSO for scout-observation
 VTB for torpedo-bombing

On the eve of World War II, the Model Designation of Airplanes for 1 July 1939 was very similar to what had been identified in 1934. There were eleven primary aircraft class designations and six designations that included a secondary mission letter in its class designation. The 1 July 1939 Model Designation of Airplanes included the following Aircraft Class Designations:

Bombing (VB)
 Fighting (VF)
 Miscellaneous (VM)
 Observation (VO)
 Patrol (VP)
 Scouting (VS)

Torpedo (VT)
 Training (VN)
 Transport (multi-engine) (VR)
 Transport (single-engine) (VG)
 Utility (VJ)
 Observation-Scouting (VOS)
 Patrol-Bombing (VPB)
 Scouting-Bombing (VSB)
 Scouting-Observation (VSO)
 Torpedo-Bombing (VTB)
 Utility-Transport (VJR)

World War II

The designation changes for the aircraft classes and squadron system during World War II and the immediate postwar period are identified in the Model Designation of Naval Aircraft, the Aviation Circular Letters, and in the Navy Department Bulletins.

By mid-1943, many new aircraft class designations had been added to the Model Designation of Naval Aircraft.¹¹ The additions included:

VA for ambulance
 VBT for bombing-torpedo
 VSN for scout-training
 VL for gliders
 VLN for training-gliders
 VLR for transport-gliders
 VH for helicopters
 VHO for observation-helicopters
 VD for drones
 VTD for torpedo-drones and/or target drones
 ZN for nonrigid airships
 ZNN for nonrigid-training and/or utility airships
 ZNP for nonrigid patrol and/or scouting airships

As the war progressed, more changes were made to the Model Designation of Naval Aircraft. In July 1944, a major change was instituted for the Aircraft Class Designation System. Naval aircraft were divided into **three main types identified by a letter:**

V for fixed wing vehicles (airplanes, gliders and drones)
 H for rotary wing vehicles (helicopters)
 Z for lighter-than-air vehicles (airships)

The three main types were then each subdivided into classes. The classes under the heavier-than-air fixed wing type (V) included:

VF fighters
 VF(M) fighters (medium or 2 engine)
 VSB scout bombers
 VTB torpedo bombers
 VO/VS observation scout

⁹ Bureau of Aeronautics, Model Designation of Naval Airplanes SH-3N, Aer-D-157, A9-11, 1 July 1933.

¹⁰ Model Designation of Naval Airplanes, SH-3O, Aer-D-157, A9-11 dated 2 January 1934, p. 1.

¹¹ Model Designation of Naval Aircraft, SH-3AK, Bureau of Aeronautics, July 1943, p. 1-2.

VPB(HL)	patrol bombers (heavy or 4 engine landplane)
VPB(ML)	patrol bombers (medium or 2 engine landplane)
VPB(HS)	patrol bombers (heavy or 4 engine seaplane)
VPB(MS)	patrol bombers (medium or 2 engine seaplane)
VR(HL)	transport (heavy or 4 engine landplane)
VR(ML)	transport (medium or 2 engine landplane)
VR(HS)	transport (heavy or 4 engine seaplane)
VR(MS)	transport (medium or 2 engine seaplane)
VJ(M)	utility (medium or 2 engine)
VJ	utility
VSN(M)	training
VSN	training
VN	training
VK	drones
VKN	drones (target training)
VL	gliders
VLN	gliders (training)
VLR	gliders (transport)

The helicopter type (H) had the following classes:

HO	helicopters (observation)
HN	helicopters (training)
HR	helicopters (transport)

The lighter-than-air type (Z) had the following classes:

ZN	nonrigid airships
ZNN	nonrigid airships (training)
ZNP	nonrigid airships (patrol and escort)

This July 1944 change to the Model Designation of Naval Aircraft was still in effect at the close of World War II and only a couple of additions had been made. They included:

VKC for assault drones
HJ for utility helicopters

Post World War II and the late 1940s

On 11 March 1946, a major revision was issued to the Class Designation of Naval Aircraft. Aviation Circular Letter Number 43–46 divided naval aircraft into four types and assigned a letter designation. They were:

V for heavier-than-air (fixed wing)
K for pilotless aircraft
H for heavier-than-air (rotary wing)
Z for lighter-than-air

Within the class designation for **V type aircraft**, the primary mission and class designation were as follows:

<i>Primary Mission</i>	<i>Class Designation</i>
Fighter (destroy enemy aircraft in the air)	VF
Attack (destroy enemy surface or ground targets)	VA
Patrol (search for enemy)	VP
Observation (observe and direct ship and shore gun fire)	VO
Transport purposes	VR

Utility purposes	VU
Training purposes	VT
Gliders	VG

Within the class designation for **H type (rotary wing)**, the primary mission and class designation were as follows:

Air-sea rescue	HH
Observation	HO
Training	HT
Transport	HR
Utility	HU

Within the class designation for **K type (pilotless aircraft)**, the primary mission and class designation were as follows:

For attack on aircraft targets	KA
For attack on ship targets	KS
For attack on ground targets	KG
For use as target aircraft	KD
For utility purposes	KU

Within the class designation for **Z type (lighter-than-air)**, the primary mission and class designation were as follows:

Patrol and escort	ZP
Air-sea rescue	ZH
Training	ZT
Utility	ZU

This order provided that “no changes . . . be made in the model designation of aircraft already produced or in production, except that the mission letter of all BT class aircraft shall be changed to A.”¹² Thus, the SB2C and TBF/TBM aircraft remained in use until they were removed from the inventory, while the BT2D and BTM aircraft were redesignated as AD and AM. These aircraft were assigned to the new attack squadrons established in the latter part of 1946.

In 1947 a modification was made to CNO’s Aviation Circular Letter No. 43–46 of 11 March 1946 whereby a fifth class designation was added to the naval aircraft types. The new class designation was the **M type for Guided Missiles** and the primary mission and class designation were as follows:

Air-to-air	AAM
Air-to-surface	ASM
Air-to-underwater	AUM
Surface-to-air	SAM
Surface-to-surface	SSM
Surface-to-underwater	SUM
Underwater-to-air	UAM
Underwater-to-surface	USM
Test Vehicle	TV

¹² Aviation Circular Letter No. 43–46 of 11 March 1946, OP–517–B1–EPA–dml, serial 63P517, paragraph 10.

Since this volume of the *Dictionary of American Naval Aviation Squadrons* is dealing primarily with the attack community, the remaining discussion on the Aircraft Class Designation System will deal only with the V (heavier-than-air fixed wing) type and its sub-classes. In 1949 the V type was composed of the following classes:

VF Fighter	Air defense and escort
VA Attack	Surface and ground attack
VP Patrol	ASW reconnaissance and attack
VO Observation	Gunfire and artillery spotting
VR Transport	Air logistic support
VU Utility	Fleet utility support
VT Training	Basic and fleet training
VG Glider	

The 1950s, 1960s, 1970s and 1980s

During the early 1950s several changes were made to the V (heavier-than-air fixed wing) type. The VG glider class was dropped and the following classes were added:

VS Search	Submarine search and attack (carrier)
VW Warning	Airborne early warning

In 1953 the nine classes of the V type were further divided into sub-classes. The V type classes and sub-classes were as follows:

VA Attack	Surface and ground attack
VA (Int'd)	Interdiction
VA (GS)	Ground Support
VA (AW)	All Weather and ASW
VA (W)	Air Early Warning and ASW
VA (H)	Heavy
VF Fighter	Air defense and escort
VF (Int)	Interceptor
VF (Day)	Day, jet
VF (Day)(Prop)	Day, reciprocating
VF (AW)	All weather, jet
VF (AW)(Prop)	All weather, reciprocating
VF (P)	Photographic, jet
VF (P)(Prop)	Photographic, reciprocating
VF (D)	Drone control
VO Observation	Gunfire and artillery spotting
VP Patrol	ASW reconnaissance, mining and weather
VP (L)	Landplane
VP (S)	Seaplane
VP (MIN)	Mining
VP (WEA)	Weather
VP (Q)	Countermeasure
VR Transport	Air logistic support
VR (H)	Heavy landplane
VR (M)	Medium landplane
VR (S)	Heavy seaplane
VR (C)	Carrier

VS Antisubmarine	Submarine search and attack
VS	Search and attack
VS (S)	Attack
VS (W)	Search
VT Training	Basic, fleet and primary training
VT (Jet)	Jet
VT (ME)	Two-engine, reciprocating
VT (SE)	One-engine, reciprocating
VT (E)	Electronic
VT (Nav)	Navigation
VU Utility	Fleet utility support
VU (Gen)	General
VU (SAR)	Search and rescue
VU (Tow)	Tow
VW Warning	Airborne Early Warning
VW	Air early warning

Between 1953 and 1960 there was only one change in the V class and a few modifications in the sub-classes. The VG class, for in-flight refueling tanker, was added in 1958. In 1960 the type letter for the heavier-than-air fixed wing class was still identified as "V", however, it was omitted from the acronym for the class designation. The class designations for the heavier-than-air fixed wing type and their basic mission were as follows:

A	Attack
F	Fighter
G	In-flight refueling tanker
O	Observation
P	Patrol
R	Transport
S	Antisubmarine (for carrier-based aircraft)
T	Training
U	Utility
W	Airborne Early Warning

In 1962 a major change occurred in the model designation for naval aircraft. The Department of Defense consolidated the aircraft designation systems of the Navy, Army, and Air Force. A new DOD (Department of Defense) Directive was established that designated, redesignated, and named military aircraft. Under the new system the V for heavier-than-air fixed wing types was dropped completely and a single letter was used to identify the basic mission of the vehicle. The basic mission and associated type symbols were as follows:

A Attack	Aircraft designed to search out, attack and destroy enemy land or sea targets using conventional or special weapons. Also used for interdiction and close air support missions.
B Bomber	Aircraft designed for bombing enemy targets.
C Cargo/transport	Aircraft designed for carrying cargo and/or passengers.

E Special Electronic	Aircraft possessing ECM capability or installation having electronic devices to permit employment as an early warning radar station.
F Fighter	Aircraft designed to intercept and destroy other aircraft and/or missiles.
H Helicopter	A rotary wing aircraft designed with the capability of flight in any plane; e.g., horizontal, vertical, or diagonal.
K Tanker	Aircraft designed for in-flight refueling of other aircraft.
O Observation	Aircraft designed to observe (through visual/other means) and report tactical information concerning composition and disposition of enemy forces, troops, and supplies in an active combat area.
P Patrol	Long-range, all-weather, multi-engine aircraft operating from land and/or water bases, designed for independent accomplishment of the following functions: antisubmarine warfare, maritime reconnaissance, and mining.
S Antisubmarine	Aircraft designed to search out, detect, identify, attack and destroy enemy submarines.
T Trainer	Aircraft designed for training personnel in the operation of aircraft and/or related equipment, and having provisions for instructor personnel.
U Utility	Aircraft used for miscellaneous missions, such as carrying cargo and/or passengers, towing targets, etc. These aircraft will include those having a small payload.
V VTOL and STOL	Aircraft designed for vertical take-off or landing with no take-off or landing roll, or aircraft capable of take-off and landing in a minimum prescribed distance.
X Research	Aircraft designed for testing configurations of a radical nature. These aircraft are not normally intended for use as tactical aircraft.
Z Airship	A self-propelled lighter-than-air aircraft.

The only type symbol not in use by the Navy from the above listing was the B for bomber aircraft. The O for observation aircraft was in the naval inventory but was used primarily by the Marine Corps.

Between 1962 and 1990 there were only two modifications to the listing of basic mission and aircraft type symbols in DOD's *Model Designation of Military Aircraft, Rockets and Guided Missiles*. These changes involved the addition of the letter "R" for Reconnaissance and the deletion of the Z type for Airships. The basic mission for the R type was an aircraft designed to perform reconnaissance missions.

Even though a consolidated DOD directive was issued on aircraft designations for the Navy, Air Force, and Army in 1962, the Navy continued to publish a listing of naval aircraft classes and sub-classes that differed slightly from the DOD directive. However, the Navy did follow the new procedures for designating its aircraft, as an example, the AD-5 Skyraider aircraft designation was changed to A-1E. The December 1962 issue of the *Allowances and Location of Naval Aircraft* lists the following classes and sub-classes for fixed wing aircraft (note the continued use of "V" as part of the class designation and the failure to change the VG class designation for air refueler to K, as listed by the DOD instruction):

VF Fighter	
VF FB	Fighter-bomber
VF P	Photo Reconnaissance
VA Attack	
VA L	Light Attack
VA LP	Light Attack (Prop)
VA M	Medium Attack
VA H	Heavy Attack
VA P	Photo Reconnaissance (long range)
VA Q	ECM Reconnaissance (long range)
VA QM	Tactical ECM
VA QMP	Tactical ECM (Prop)
VS ASW (Carrier based)	
VP ASW Patrol	
VP L	ASW Patrol (shore based)
VP S	ASW Patrol (sea based)
VW Airborne early warning	
VW M	AEW Medium (carrier based)
VW H	AEW Heavy (shore based)
VR Transport	
VR H	Heavy transport
VR M	Medium transport
VR C	Carrier transport
VG Air refueler, heavy	
VT Trainer	
VT AJ	Advanced jet trainer
VT BJ	Basic jet trainer

VT SJ	Special jet trainer
VT AP	Advanced prop trainer
VT BP	Basic prop trainer
VT PP	Primary prop trainer
VT SP	Special Prop trainer
VK Drone	
VK D	Drone control

The only change to this listing occurred in 1965 with the addition of the VO class for observation. Between 1965 and 1988 there was no change to the aircraft class listing in the *Allowances and Location of Naval Aircraft*. However, there were numerous changes in the listing for the sub-classes. The final publication of the *Allowances and Location of Naval Aircraft* was March 1988.

On 2 May 1975, the Navy selected a derivative of the YF-17 as the winner of the Navy's VFAX competition for a new multimission fighter attack aircraft. The VFAX aircraft was designed to replace two aircraft in the Navy's inventory, the F-4 Phantom II and the A-7 Corsair II. This program was reinstituting an old Navy policy, whereby, multimission requirements for attack and fighter, be incorporated into a single aircraft. Fighter and light attack missions had previously been assigned to various types of aircraft, particularly in the period prior to World War II and also in the 1950s. The Navy was now reverting to an old policy and designing a plane with a dual capacity as a fighter and an attack aircraft to meet new multimission requirements.

The VFAX aircraft was initially assigned the F-18A designation. A new model designation F/A (strike fighter) was established and assigned to the aircraft in the late 1970s. The Navy accepted its first F/A-18 *Hornet* on 16 January 1979. The F/A designation was identified as a sub-class and listed under the VF class in the Navy's *Allowances and Location of Naval Aircraft*. Under the DOD model designation the F/A-18 designation is listed under both the A and F symbol designations as A-18 and F-18.

The 1990s

The following is a list of the Naval Aircraft Class and Sub-classes used in the 1990s:

VF Fighter	
VF FA	Striker Fighter
VF FB	Fighter
VF P	Fighter
VA Attack	
VA L	Attack
VA M	Attack
VA H	Attack
VA P	Attack
VA Q	Attack
VA QM	Attack

VS Antisubmarine

VP Patrol
 VP L Patrol

VW Warning
 VP M Warning
 VP H Warning

VR Transport
 VR H Transport
 VR M Transport
 VR C Transport
 VR LJ Transport

VG In-flight Refueling

VO Observation
 VO L Observation

VU Utility
 VU L Utility
 VU S Utility

VT Training
 VT AJ Training Jet
 VT SJ Training Jet
 VT PP Training Prop
 VT SP Training Prop
 VT SG Training Jet

H Rotary Wing
 H F Rotary Wing
 H A Rotary Wing
 H G Rotary Wing
 H S Rotary Wing
 H H Rotary Wing
 H M Rotary Wing
 H L Rotary Wing
 H T Rotary Wing
 H R Rotary Wing

VK Drones
 VK D Drones
 VK K Drones Jet

This ends the chronological section on the evolution of the Aircraft Designation System.

Squadron Designation System

THE SQUADRON DESIGNATION SYSTEM did not develop until after World War I. During the prewar and World War I period naval aviation and naval aircraft (excluding Marine Corps aircraft) were primarily aligned with shore-based commands. The majority of the operations were conducted by water-based aircraft assigned to naval air stations. Their primary mission was patrol. By the close of World War I the value of naval aviation as a military weapon had been demon-

strated on land and at sea. In the postwar period, to more fully utilize aviation's potential, it was necessary to extend its capabilities to operate with the fleet.

On 3 February 1919, Captain G. W. Steel, Jr., assumed command of Fleet Air Detachment, Atlantic Fleet. This marked the beginning of an aviation command within the fleet organization.¹³ From this beginning, the concept of aviation squadrons evolved into a permanent part of the fleet. In July 1920, the Secretary of the Navy issued two General Orders that played an important role in solidifying a position for naval aviation in the fleet and a role in its future operations. General Order Number 533 (series 1913) of 12 July 1920 "provided for the organization of naval forces afloat into the Atlantic, Pacific and Asiatic Fleets and for the formation of type forces with each fleet, designated as Battleship, Cruiser Destroyer, Submarine, Mine, Air, and Train."¹⁴ Aviation was now a distinct part of the fleet organization. General Order Number 541, issued 17 July 1920 and mentioned earlier in the discussion on the evolution of the Aircraft Class Designations, established the standard nomenclature for the designation of aircraft types and classes (the Aircraft Class Designation System), as well as other naval vessels. The following is a discussion on the evolution of the Squadron Designation System.

Early Period of Naval Aviation up to 1920

As mentioned earlier, squadrons and the Squadron Designation System did not exist during the early period of naval aviation.

The Early 1920s

Squadron designations were not immediately identified in the fleet organization after General Order 533 was issued in July 1920. The first known reference to a squadron-like organization in the fleet appears in September 1920 when Airboat Divisions 1 and 2 of Air Force, Atlantic Fleet are identified during their visit to Annapolis.¹⁵ In August 1921, reference was made to Torpedo Plane Squadron 5.¹⁶ This is the first known reference to an aviation squadron with a designation similar to those assigned to the aircraft classes in General Order 541. The "Annual Report of the Chief of the Bureau of Aeronautics for Fiscal Year 1922" emphasized the reorganization of the aviation forces in the fleet. During this reorganization, Air Force, Atlantic Fleet and Air Force, Pacific Fleet were redesignated Air Squadrons, Atlantic Fleet and Air Squadrons, Pacific

Fleet, respectively.¹⁷ The basis for the structure of aviation in the fleet became the aircraft squadron. The first evidence of these changes are found in the fleet organizational structure listed in the Navy Directory dated 1 January 1922. The different types of squadrons listed as being attached to the Atlantic and Pacific fleets are as follows:

Air Squadrons, Atlantic Fleet

Scouting Squadrons 1 and 2 (combined in December 1921 to form one squadron)
Torpedo Plane Squadron 1
Kite Balloon Squadron 1

Air Squadrons, Pacific Fleet

Spotting Squadrons 4, 3, and L-1
Combat Squadrons 4, 3, and L-1 (Spotting Squadron L-1 and Combat Squadron L-1 were not established during FY-22 due to lack of personnel)
Patrol Squadron 1

This is the first instance in which the entire fleet organization of aircraft squadrons is identified and, more or less, corresponds to similar aircraft classes listed in General Order 541. From this point on, there is a natural basis for the parallel association between the Squadron Designation System and the Aircraft Class Designation System.

The Chief of Naval Operations (CNO) issued the "Naval Aviation Organization for Fiscal Year 1923" on 17 June 1922. This document ordered the redesignation of Air Squadrons, Atlantic Fleet and Air Squadrons, Pacific Fleet to Aircraft Squadrons, Scouting Fleet and Aircraft Squadrons, Battle Fleet, respectively. The numbering of aircraft squadrons according to the ship squadron numbers was changed to a system of numbering all air squadrons serially in each class according to the order authorizing them to organize.¹⁸ The use of letter abbreviations to indicate the squadron mission and designation were listed in the "Naval Aeronautic Organization for Fiscal Year 1923." This is the first known record associating the abbreviated Aircraft Class Designations with the abbreviated squadron designations. The squadrons assigned to each fleet under this organization were as follows:

Aircraft Squadrons, Scouting Fleet

Scouting Plane Squadron 1 (VS Squadron 1)
Torpedo and Bombing Plane Squadron 1 (VT Squadron 1)
Kite Balloon Squadron 1 (ZK Squadron 1)

¹³ COMINCH U.S. Fleet letter of 7 February 1919.

¹⁴ United States Naval Aviation 1910-1980, NAVAIR publication 80-80P-1, 1981, p. 48-49.

¹⁵ CNO Daily Aviation News Bulletin, Op-15H-CCT of September 24, 1920.

¹⁶ U.S. Naval Aviation Operations Report for October 8, 1921, p. 7.

¹⁷ Annual Report of the Chief of the Bureau of Aeronautics for the Fiscal Year 1922, Washington Government Printing Office, 1922, p. 5.

¹⁸ Naval Aeronautic Organization for Fiscal Year 1923 issued by CNO ser 26983 of 17 June 1922.

Aircraft Squadrons, Battle Fleet

Torpedo and Bombing Plane Squadron 2 (VT Squadron 2)
 Observation Plane Squadron 1 (VO Squadron 1)
 Observation Plane Squadron 2 (VO Squadron 2)
 Observation Plane Squadron 3 (VO Squadron 3)
 Fighting Plane Squadron 1 (VF Squadron 1)
 Fighting Plane Squadron 2 (VF Squadron 2)
 Fighting Plane Squadron 3 (VF Squadron 3)

The mid to late 1920s

With the introduction of new types of planes in service and the formation of new squadrons, the Navy made modifications to its system of squadron designations. These changes continued to be issued as General Orders by the Secretary of the Navy, while the changes to the Aircraft Class Designation System were issued by the Bureau of Aeronautics as Technical Notes or later as Model Designation of Naval Airplanes. On 1 July 1927, a new system for designating aircraft squadrons was placed in effect.¹⁹ Under General Order 161, the designation system for squadrons used three categories to identify the squadron: **class designations, squadron identification numbers, and assignment letters.**

The first part of the squadron designation for heavier-than-air units used the following **class designations**:

VO for observation
 VF for fighting
 VT for torpedo and bombing
 VS for scouting
 VP for patrol
 VJ for utility
 VN for training
 VX for experimental

The second part of the squadron designation used squadron **identification numbers** within each class of squadrons. The numbers began with one and continued in numerical series for each class of squadrons.

The final part of the squadron designation used **assignment letters** to indicate what organization the squadron operated under. **Assignment letters** were as follows:

B for Battle Fleet
 S for Scouting Fleet
 A for Asiatic Fleet
 F for Fleet Base Force
 C for Control Force
 D for Naval District (to be followed by district number)
 M for United States Marine Corps
 R for United States Naval Reserve
 U for United States Fleet

By combining the **class designation, squadron identification number, and assignment letter**, the squadron designation would be obtained. For example:

VO-1B stood for Observation Squadron 1 in the Battle Fleet
 VF-3S stood for Fighting Squadron 3 in the Scouting Fleet
 VT-5D14 stood for Torpedo and Bombing Squadron 5 assigned to the Fourteenth Naval District

The lighter-than-air squadron designations were as follows:

Nonrigid Airship Squadrons: ZNO, ZNS, ZNP, and ZNN
 Rigid Airship Squadrons: ZRS, ZRP, and ZRN
 Kite Balloon Squadrons: ZKO and ZKN

None of the lighter-than-air squadron designations listed above were ever used by the Navy.

This change to the Squadron Designation System, as directed by General Order 161, may be seen in the listing of aviation squadrons published in the 1 April 1928 Navy Directory²⁰. The new squadron designations were as follows:

Fighting Plane Squadrons (VF-1B, 2B, 3B, 5B and 6B)
 Observation Plane Squadrons (VO-1B, 2B and 4B)
 Torpedo and Bombing Plane Squadrons (VT-1B and VT-2B)
 Utility Squadron (VJ-1B)
 Observation Plane Squadrons (VO-3S and VO-5S)
 Torpedo and Bombing Plane Squadron (VT-9S)
 Utility Squadron (VJ-2S)
 West Indian Aerial Survey (VJ-3S)
 Observation Plane Squadron (VO-11A)
 Torpedo and Bombing Plane Squadron (VT-5A)
 Experimental Squadron (VX-1D5)
 Training Squadrons (VN-6D5, VN-1D8, VN-3D8, VN-5D8, and VN-7D11)
 Utility Squadrons (VJ-4D5 and VJ-5D11)
 Torpedo and Bombing Plane Squadrons (VT-6D14, VT-7D14, and VT-8D15)
 Patrol Squadrons (VP-1D14 and VP-2D15)

A modification was made to General Order 161 on 28 September 1928.²¹ This amendment added B for bombing and VB in the class designation category. The aviation squadrons listed for the January 1929 fleet organization²² include two new squadron designations not identified in the 1928 fleet organization.

²⁰ Navy Director, *Officers of the United States Navy and Marine Corps*, April 1, 1928, published by Bureau of Navigation, U.S. Government Printing Office, Washington 1928, p. 128-133.

²¹ General Order 179 (series 1921) of September 28, 1928 (Amendment to General Order 161).

²² Navy Director, *Officers of the United States Navy and Marine Corps*, January 1, 1929, published by Bureau of Navigation, U.S. Government Printing Office, Washington, 1929.

¹⁹ General Order 161 (series 1921) dated March 5, 1927, System for Designation Aircraft Squadrons.

This listing included the scouting squadrons (VS) and bombing squadrons (VB). The new squadrons listed in January 1929 were:

- Scouting Plane Squadrons (VS-1B, 2B, 3B, and 4B)
- Bombing Plane Squadrons (VB-1B and VB-2B)
- Scouting Plane Squadron (VS-5S)

The January 1929 fleet organization listing also removed some of the old squadrons that had been in the previous fleet organization listings. This was most likely the result of the redesignation of some squadrons and the disestablishment of others. VB-1B and VB-2B were most likely redesignated from VFs (Fighting Squadrons).

The squadron designations listed in the Navy's organization for 1928 and early 1929 correspond to almost all the aircraft class designations listed in the Model Designation of Naval Airplanes for January 1929.²³ Out of the nine aircraft classes listed there is only one aircraft class designation that does not have a corresponding squadron designation. The Navy did not have a squadron with the designation VH until 15 April 1944. VH-1 was the first squadron established as an Air-Sea Rescue Squadron. The use of the same functional designation for aircraft class abbreviations and squadron abbreviations demonstrated the close association between the two designation systems in the late 1920s.

The 1930s

On 15 May 1930, an update to the system for squadron designations was issued as General Order 202. It canceled General Orders 161 and 179 and became effective 1 July 1930. General Order 202 was almost identical to the previous two general orders. The only change was the removal of bombing from the torpedo and bombing class designation and assigning only torpedo as the functional designation for VT.

General Order 202 remained in effect until 13 May 1935 when another revision was made to the Aircraft Squadron Designation System.²⁴ General Order 33, effective 13 May 1935, made only one change to General Order 202. The C for Control Force as an assignment letter was deleted. There were no changes to the class designation or squadron identification numbering categories. Essentially, General Order 33 reaffirmed the Aircraft Squadron Designating System that had been instituted by General Order 161, modified by General Order 179 and consolidated by General Order 202.

After ten years of adhering to the same policy for squadron designations, the Navy canceled General Order 33 on 1 July 1937²⁵ and instituted a new System for Naming Aircraft Squadrons.²⁶ The new system issued 9 March 1937 and effective 1 July 1937, simply stated "Aircraft squadrons shall be named in accordance with their primary missions and differentiated as necessary by numbers and organization adjective." The functional designation of squadrons was assigned in accordance with the primary mission. The squadron designations promulgated by this CNO letter of 9 March 1937 were the same as those issued by General Order 33, plus the addition of transport as a new functional designation. The functional designations for squadrons issued by the 9 March 1937 letter were:

- bombing (VB)
- fighting (VF)
- observation (VO)
- patrol (VP)
- scouting (VS)
- torpedo (VT)
- training (VN)
- utility (VJ)
- experimental (VX)
- transport (VR)

Under this new System for Naming Aircraft Squadrons, the squadron **letter designation** remained the same as the previous system; however, the **suffix lettering (assignment lettering)** was dropped and a major change was instituted for the numbering of aircraft carrier squadrons. The numbering system was revised to provide for:

1. numbering each carrier squadron according to the hull number of its carrier,
2. each battleship and cruiser squadron was to be assigned the same number as its ship division,
3. patrol squadrons were numbered serially without regard to their assignment.

The primary designations listed for the aircraft classes in July 1937²⁷ included all of the same designations listed by the CNO's letter of 9 March 1937 for squadron designations except for experimental (VX). Out of the ten designations for squadrons, nine were assigned to active units in the Navy as of September 1937.²⁸ The Bureau of Aeronautics' "Monthly Report, Status of Naval Aircraft" for July 1937 identified the following squadrons as being in existence (this list does not include Marine Corps or Reserve squadrons):

²⁵ General Order No. 94 of March 8, 1937.

²⁶ CNO letter OP-38-E-EMR VZ1/F40-1(370309) of 9 March 1937, System for Naming Aircraft Squadrons.

²⁷ Bureau of Aeronautics, Model Designation of Naval Airplanes SH-3V, 1 July 1937.

²⁸ Navy Directory, Officers of the United States Navy and Marine Corps, September 1, 1937, issued by Bureau of Navigation, U.S. Government Printing Office, Washington, 1937.

²³ Bureau of Aeronautics, Model Designation of Naval Airplanes SH-3E, Aer-D-157-CRP, January 1929.

²⁴ General Order No. 33 of May 13, 1935.

VB-2	VF-2	VB-3	VF-3	VF-5	VF-6
VF-4	VB-5	VS-5	VT-5	VS-42	VB-6
VS-6	VS-2	VS-3	VS-41	VB-4	VT-2
VT-6	VT-3	VJ-1	VP-16	VP-17	VP-14
VP-3	VP-6	VP-8	VP-9	VP-11	VP-12
VP-5	VP-10	VP-4	VP-7	VP-15	VJ-2
VO-1	VO-2	VO-3	VO-4	VCS-2	VCS-3
VCS-4	VCS-5	VCS-6	VCS-7	VP-2	VP-1
VX-2D1	VX-3D4	VX-4D4	VX-4D5	VX-5D5	VN-8D5
VJ-4D5	VN-1D8	VN-2D8	VN-3D8	VN-4D8	VN-5D8
VJ-5D11					

The only designation not in use for squadrons at this time was the one for transport (VR). However, none of the three-letter Aircraft Class Designations (such as VBF, VOS, VPB, VPT, VSB, VSO or VTB) were used in the squadron designation system at this time. The separate but parallel relationship that exists between the system of naming aircraft squadrons and the designations assigned to aircraft classes is apparent. They serve separate purposes, yet, are so closely related in their requirements that they must be regarded as mutually supporting systems.

It is important to note paragraph 7 of the Chief of Naval Operation's letter of 9 March 1937; it states "Model designations of aircraft, published by the Bureau of Aeronautics, employ the same functional designations and corresponding letters (or combinations thereof to indicate secondary as well as primary functions) as are listed herein. These model designations, however, are distinct from and not to be confused with squadron names and abbreviations covered in the Order." The parallel relationship between the two systems is quite evident from this statement, as well as the confusion that develops when it is necessary to show the interdependence of the two systems (Aircraft Class Designation System and the Aircraft Squadron Designation System).

The 1 July 1937 change to the aircraft carrier squadron numbering proved to be a disaster during the massive World War II expansion of naval aviation. With the large increase in the number of aircraft carriers and air groups (with their assigned carrier squadrons), combined with the movement of air groups from one carrier to another, it became impossible to associate the air group's squadron numbers with the hull number of the carrier it was operating from during the war. The counterpart to this, the proliferation of aircraft class designations, with its many primary and secondary missions, subsequently led to many squadron designation changes during World War II and the postwar period. By reviewing the "U.S. Navy Squadron Designation and Abbreviations" listing in Appendix 4, the reader will be able to identify all the changes that occurred in squadron designations between 1942 and 1948 or at any other time frame in naval aviation.

The Squadron Designation System underwent changes similar to those previously mentioned in the Aircraft Class Designation System. A review of the changes in the Squadron Designation System will show the parallel developments between the two systems. In July 1939, a modification was made to the Squadron Designation System that was set up in July 1937. The modification standardized the numbering of patrol squadrons in reference to wings so that the first digit of a patrol squadron designation number became the same as the wing to which it was assigned. The Squadron Designation System that was set up in 1937, which numbered squadrons according to the hull number of its ship or division, became totally impractical during World War II. In early 1941 the squadron designations in use included the following:

- VF for Fighting Squadrons
- VB for Bombing Squadrons
- VT for Torpedo Squadrons
- VS for Scouting Squadrons
- VJ for Utility Squadrons
- VX for Experimental Squadrons
- VP for Patrol Squadrons
- VN for Training Squadrons
- VO for Observation Squadrons
- VCS for Cruiser Scouting Squadrons

World War II

During the early part of World War II many new squadron designations were established. The following new squadron designations became effective in 1942:

- ZP for Blimp Squadrons
- VGS for Escort Scouting Squadrons
- VGF for Escort Fighting Squadrons
- VR for Transport Squadrons

In late 1942 the Squadron Designation System setup in 1937, and modified in 1939, was discontinued. A new system was issued in January 1943 and became effective 1 March 1943.²⁹ According to this Navy Department Bulletin, all squadrons were numbered serially without regard to which carrier, battleship, cruiser, or shore station the squadron was assigned. The carrier squadrons that had VSB and VTB aircraft classes assigned were designated in this directive as VB and VT, respectively. Carrier-based dive bombing squadrons (VB) were numbered serially from 1 to 99 and torpedo squadrons (VT) from 1 to 65. There were no changes in the designations for these two types of squadrons under this new directive; however, as the war progressed, the VT squadron numbers increased

²⁹ SecNav Confidential ltr (SC) A3-1/VV Serial 0104540 of January 2, 1943, Naval Aircraft Squadrons, Designation and Renumbering of, issued as Navy Department Bulletin C-19 of January 15, 1943, effective 1 March 1943.

from 65 and continued into the three-digit series.

Other squadron designation changes, effective 1 March 1943, included:

- inshore patrol squadrons redesignated VS (scouting squadrons),
- escort fighting squadrons (VGF) became fighting squadrons (VF),
- escort scouting squadrons (VGS) redesignated composite squadrons (VC),
- patrol squadrons operating land-based aircraft became bombing squadrons (VB) with three-digit numbers. This separated them from the bombing squadrons (VB) that were carrier-based and had two-digit numbers.

Squadron designations in existence in March 1943 were as follows:

- VF Fighting Squadrons
- VB Bombing Squadrons (carrier-based)
- VB Bombing Squadrons (Patrol Squadrons flying land-based aircraft)
- VT Torpedo Squadrons
- VC Composite Squadrons
- VP Patrol Squadrons
- VS Scouting Squadrons (included carrier and land-based)
- ZP Blimp Squadrons
- VJ Utility Squadrons
- VR Transport Squadrons
- VD Photographic Squadrons
- VO Observation Squadrons
- VCS Cruiser Scouting Squadrons

Numerous modifications were made to this Squadron Designation System during the remainder of the war. On 1 October 1944, patrol squadrons (VP) and multiengine land-based bombing squadrons (VB) were redesignate patrol bombing squadrons (VPB). Additional new squadron designations in the Squadron Designation System during the latter part of World War II included:

- VBF Bombing Fighting Squadrons
- VFN Night Fighter Squadrons
- VTN Night Torpedo Squadrons
- VOF Observation Fighter Squadrons
- VOC Composite Spotting Squadrons
- VE Evacuation Squadrons
- VH Rescue Squadrons
- VK Special Air Task Force Squadrons
- ZJ Blimp Utility Squadron
- VRE Air Transport Evacuation Squadron
- VRJ Utility Transport Squadron
- VRF Ferry Transport Squadrons
- VRS Service Transport Squadron
- VOS Air Spotting Squadrons

Post World War II and the late 1940s

In 1946, to complement the change in the Aircraft Class Designation System (or Class Designation of Naval Aircraft) instituted by Aviation Circular Letter Number 43–46, the Navy issued a major revision to its method of designating naval aircraft squadrons. On 22 July 1946, a Secretary of Navy letter established a new System of Squadron Designations to be effective 1 September 1946.³⁰ The Secretary of Navy letter was issued as Navy Department Bulletin 46–1543 of 31 July 1946; however, an All Navy Bulletin (ALNAV) 482–46 postponed the effective date of the Secretary of Navy letter. The redesignation of naval aircraft squadrons issued by the Secretary of Navy letter became effective on 15 November 1946 in accordance with Navy Department Bulletin 46–2123.³¹ The carrier squadron designations VB and VT were replaced by the designation VA for attack squadrons. This was the first use of the designation VA for attack squadrons. Squadron designations in existence as a result of the 15 November 1946 change were as follows:

- VF Fighting Squadrons
- VA Attack Squadrons
- VCN Night Composite Squadrons
- VP-HL Heavy Patrol Squadrons (landplane)
- VP-ML Medium Patrol Squadrons (landplane)
- VP-MS Medium Patrol Squadrons (seaplane)
- VP-AM Amphibian Patrol Squadrons
- VPM Meteorological Squadrons
- ZP Blimp Squadrons
- VR Transport Squadrons
- VRU Transport Utility Squadrons
- VRF Transport Ferry and Service Squadrons
- VX Experimental and Development Squadrons
- VO Observation Squadrons
- VU Utility Squadrons
- VPP Photographic Squadrons
- VN Training Squadrons

With the establishment of attack squadrons, many of the old VT and VB squadrons were redesignated VA squadrons. The following is a list of VT and VB squadrons redesignated as attack squadrons on 15 November 1946:³²

- VB-4 redesignated VA-1A
- VB-74 redesignated VA-1B
- VT-41 redesignated VA-1E
- VT-58 redesignated VA-1L

³⁰ SecNav Ltr Serial 203P517, OP-517-B16-EPA:ls of 22 July 1946.

³¹ Navy Department Bulletin 46–2123, Redesignation and Renumbering of Fleet Air Groups and Squadrons, Op-55-C-KB, Serial 3P55C of 31 October 1946.

³² CNO Ltr Naval-Marine Aviation Unit Designations, History of, rest. serial 4184P33, A12-1 of 15 December 1947.

VT-4 redesignated VA-2A
 VT-74 redesignated VA-2B
 VT-42 redesignated VA-2E
 VB-3 redesignated VA-3A
 VB-75 redesignated VA-3B
 VT-3 redesignated VA-4A
 VT-75 redesignated VA-4B
 VB-5 redesignated VA-5A
 VB-17 redesignated VA-5B
 VT-5 redesignated VA-6A
 VT-17 redesignated VA-6B
 VB-18 redesignated VA-7A
 VT-18 redesignated VA-8A
 VB-20 redesignated VA-9A
 VT-20 redesignated VA-10A
 VB-11 redesignated VA-11A
 VT-11 redesignated VA-12A
 VB-81 redesignated VA-13A
 VT-81 redesignated VA-14A
 VB-153 redesignated VA-15A
 VT-153 redesignated VA-16A
 VB-82 redesignated VA-17A
 VT-82 redesignated VA-18A
 VB-19 redesignated VA-19A
 VT-19 redesignated VA-20A
 VB-98 redesignated VA-21A
 VT-98 redesignated VA-22A

The suffix letters attached to the above designations identifies the squadron's assignment to a particular type of carrier air group and its assignment to a Battle Carrier or Attack Carrier. The "A" suffix was for Attack Carrier assignments and the "B" was for Battle Carriers.

On 6 December 1946, VA-19A became the first fleet operational squadron to have an attack-designated aircraft assigned. The development of a single-seat airplane to execute the missions and functions of the VSB and VTB aircraft classes and the consolidation of these missions into attack squadrons, vice VT and VB squadrons, had finally evolved.

The last major overall change to the Squadron Designation System occurred on 1 September 1948. The VF and VA carrier squadrons were assigned two or three digit numbers. The first digit number was the same as the parent air group number. The suffix letters under the old system were dropped, as an example, VA-22A would have dropped the "A" letter at the end of the designation. Patrol squadrons reverted to the simple VP designation, instead of using the four separate designations of VP-HL, VP-ML, VP-MS, and VP-AM. Special designations for transport squadrons, such as VRF and VRU, became VR. Some VC squadrons became VAW to reflect their air warning mission. As a result of the 1 September 1948 change to the Squadron Designation System, the following squadron designations were in existence:

VF	Fighter Squadrons
VA	Attack Squadrons
VC	Composite Squadrons
VP	Patrol Squadrons
ZP	Blimp Squadrons
VU	Utility Squadrons
VR	Transport Squadrons
VX	Experimental and Development Squadrons
VO	Observation Squadrons
HU	Helicopter Squadrons
VAW	Carrier Air Early Warning Squadrons

Numerous modifications have been made to the Squadron Designation System issued in September 1948, however, these changes have been made on a case by case basis. The Navy has not issued a major directive to change the Squadron Designation System since 1948.

The 1950s, 1960s, 1970s and 1980s

Since this volume of the *Dictionary of American Naval Aviation Squadrons* is dealing primarily with VA designations and its derivatives, the remaining discussion will deal only with those designations. Various modifications to the VA squadron designation occurred between 1946 and the present. Modifications to VA squadron designations included the establishment of VA(AW), VAH, and VAL squadron designations. The VAH designation was established in the mid-1950s to identify heavy attack squadrons which also had been VC (Composite) squadrons. Their primary mission was the delivery of nuclear weapons from carriers. The VA(AW) designation was also established in the mid-1950s to identify squadrons that were all-weather capable. The VAL (light attack squadron) designation was established during the Vietnam conflict and only one VAL squadron was established. Its mission was to provide surveillance and offensive operations in support of the river patrol forces based in South Vietnam, as well as air support for SEALs (Sea-Air-Land team) and combined U.S. Army, Navy, and South Vietnamese operations.

Numerous other derivatives of the VA squadron designation were established, including VAP, VAQ, VAW, VAK, and VA(HM); however, the primary mission of these squadrons did not involve an attack role. The most likely reason for the use of the VA in these squadron designations may have been because the initial aircraft used by or assigned to the squadrons was a modified attack aircraft.

The most recent modification to the VA squadron designation is the VFA designation. The evolution of the VFA (fighter attack and later strike fighter) squadron designation involved several traditional factors that have influenced aircraft and squadron designations.

nations in the past, as well as the addition of certain economic and political aspects. The following are some of the factors that played a role in the creation of the VFA designation:

- increased cost factors surrounding the acquisition of F-14 Tomcats
- Congressional emphasis on achieving greater commonality between Navy and Air Force aircraft (particularly with regard to adopting a derivative of the Air Force's Air Combat Fighter, which involved a competitive flyoff between the YF-17 and YF-16 in the early 1970s)
- the Navy's need for aircraft with new performance, electronics, and weaponry technology to counter the progressively more sophisticated Soviet aircraft
- the Navy's need for an aircraft to replace overage and outdated tactical aircraft and maintain approved tactical force levels
- a need to provide a multipurpose aircraft capable of performing fighter, attack, and support roles, thereby, reducing the different types of aircraft required to be supported by the Navy, especially for those assigned to the carriers

On 13 November 1980, the Navy's first fighter attack squadron, using the VFA designation, was established as VFA-125. The squadron was established with the mission of training fighter and attack pilots to fly the F/A-18 Hornet. On 25 March 1983, VFA-designated squadrons were changed from fighter attack to strike fighter squadrons, but the VFA acronym remained the same.

The similarities between the Squadron Designation System and the Naval Aircraft Class System may be seen by making a final comparison between the two systems as they currently exist. The following is a listing of the current squadron designations:

VF	Fighter Squadron
VA	Attack Squadron
VFA	Strike Fighter Squadron
VAW	Carrier Airborne Early Warning Squadron
VS	Sea Control Squadron
HS	Carrier Helicopter Antisubmarine Squadron
HC	Helicopter Combat Support Squadron
HSL	Helicopter Antisubmarine Squadron Light
HM	Helicopter Mine Countermeasures Squadron
VP	Patrol Squadron
VR	Fleet Logistic Squadron
VRC	Fleet Logistic Support Squadron
VC	Fleet Composite Squadron
VQ	Fleet Air Reconnaissance Squadron
VX	Air Test and Evaluation Squadron
VXE	Antarctic Development Squadron
VXN	Oceanographic Development Squadron
VAQ	Tactical Electronic Warfare Squadron
VPU	Patrol Squadron Special Projects Unit

VFC	Fighter Squadron Composite
VT	Training Squadron
HT	Helicopter Training Squadron
HCS	Helicopter Combat Support Special Squadron

The basic mission symbols for military aircraft classes listed in the DOD Model Designation of Military Aerospace Vehicles for 1990 were as follows:

A	Attack
B	Bomber (not used by the Navy)
C	Transport
E	Special Electronic Installation
F	Fighter
O	Observation
P	Patrol
R	Reconnaissance
S	Antisubmarine
T	Trainer
U	Utility
X	Research

In the Navy's last publication of the *Allowances and Location of Naval Aircraft* (March 1988) the aircraft class listing was as follows:

VF	Fighter
VA	Attack
VS	Antisubmarine
VP	Patrol
VW	Early Warning
VR	Transport
VG	In-flight refueling
VO	Observation
VU	Utility
VT	Trainer
VK	Drones
H	Rotary Wing

The interplay between the two systems is evident from the comparisons presented. The "Naval Aeronautic Organization for Fiscal Year 1923" established the precedent for the corresponding relationship between Aircraft Class Designations and the abbreviated designations used for aircraft squadrons and their missions. From this point on, a parallel association can be drawn between the Squadron Designation System and the Aircraft Class Designation System. This concept has remained a viable union for naval aviation since 17 June 1922, even though numerous changes have occurred within the aircraft classes and squadron designations since 1922.

Modifications to these two systems were, and are, constantly being made to keep pace with the advances in aircraft capabilities and changes in mission requirements and tactical approaches utilized by the squadrons. Needless to say, there have always been exceptions to the rule in this association between the two systems. Special aircraft class designations have

existed at various times without having a corresponding squadron designation and vice versa. However, on the whole, aircraft class designations have had corresponding, or been associated with similar, squadron designations since 1922.

The use of common letter designations in the Aircraft Class Designation System and the Squadron Designation System leaves no doubt about the parallel connection between the two systems. It was only logical that when a new type of aircraft with advanced operating capabilities and new weapon systems was introduced there would be a corresponding development for a new type of squadron. The interplay of technology and tactics continue to be the dominating factors in developing aircraft class and squadron designations.

If the trend toward consolidation of missions into single airframes continues, the types of fixed-wing aircraft operating from the deck of a carrier could be reduced to only four different planes or even less. The trend, no doubt, will continue toward the use of a common airframe that may be designed to perform a wide variety of missions by the addition of specific external pods or interchangeable payloads. The AD (A-1) Skyraider is an example of the use of a common airframe that was modified to perform a variety of missions other than the primary one it had been designed to fulfill. The Navy's Squadron Designation System and Aircraft Designation System will undoubtedly continue to undergo other major revisions in the future to keep pace with changing defense requirements.