

United States Naval Aviation 1910–1995

Roy A. Grossnick

with contributions from

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Foreword

The fourth edition of *United States Naval Aviation 1910–1995* is a testimony to Naval Aviation's achievements as it prepares to enter the 21st century and its first one hundred years of service. The Naval Historical Center's Aviation History Office has expanded on previous editions to make this chronology the quintessential reference work on Naval Aviation history.

This work is designed to provide naval personnel, historians and aviation enthusiasts with a general background on Naval Aviation history. It highlights the significant events and developments that shaped Naval Aviation from 1910 to 1995, rather than providing a detailed treatise of particular subjects or actions. It covers all aspects of Naval Aviation, including operational activities, technical developments and administrative changes.

To help make this book a more useful reference tool, Mr. Roy Grossnick and his expert staff have more

than doubled the number of appendices, which include the most commonly requested subjects or data on Naval Aviation. The aim is to make this the first-source document that people use when they are looking for basic information on Naval Aviation. The book provides the opportunity to gain an insight and learn about the origins, achievements and traditions of Naval Aviation as it relates to the rich naval heritage of the United States.

Naval Aviation has undergone immense change since 1910. It now plays a defining role in the nation's defense structure and is on call to respond to military crises around the world. The past developments, as chronicled in this book, serve as a prologue to future developments in Naval Aviation.

William S. Dudley
Director of Naval History

Preface

The history of this book goes back to 1956 when the Deputy Chief of Naval Operations (Air) and Chief, Bureau of Aeronautics supported the preparation of a chronology for Naval Aviation. Their intent was to record events of special interest and lasting significance pertaining to the growth of U.S. naval air as an element of sea power, its employment and accomplishments in war and peace.

The writing project was undertaken by two history offices, the Naval Aviation History Office assigned to Deputy Chief of Naval Operations (Air) and the Historian's Office in the Bureau of Aeronautics. Under the initial directive, the two offices were permitted considerable leeway in defining the elements to be included in the chronology. Adherence to professional standards was paramount. Accuracy and comprehensive coverage of events and developments were key words for the project; its scope included the air elements of the Navy, Marine Corps, and the Coast Guard in time of war.

At the outset of the project, the historians in the two offices realized that "one of the drawbacks of chronologies as a form of exposition stems from the fact that they record, or chronicle, events with no attempt at explanation." Their chronology departed from that form, particularly for extended periods such as war campaigns and for developments in various technical areas. Some types of information, important to the history of Naval Aviation, became repetitious when included in a chronology. When such information was amenable to statistical or tabular treatment, it was incorporated in appendixes. Thus, the chronology project evolved into two parts: an actual chronology and various appendixes providing invaluable facts and figures on subjects not suitable for the chronology but pertinent to the history of Naval Aviation.

The authors of the initial publication, *United States Naval Aviation 1910–1960*, did an admirable job in adhering to their professional objectives. Mr. Adrian O. Van Wyen, historian DCNO (Air), and Mr. Lee M. Pearson, historian, Bureau of Aeronautic/Bureau of Weapons, set the standards for future aviation historians to chronicle the history of Naval Aviation.

The first update, *United States Naval Aviation 1910–1970*, followed the basic scope and concept put forth in the earlier edition. Authors for this update were: Mr. Clarke Van Vleet, historian, DCNO (Air); Mr. Adrian O. Van Wyen, historian (Ret), DCNO (Air); and Mr. Lee M. Pearson, historian, Naval Air Systems Command. The second update, *United States Naval Aviation 1910–1980*, represented a more substantial upgrade to the publication. It retained the basic format but included more detailed appendixes. The primary authors were Dr. William J. Armstrong, historian, Naval Air Systems Command, and Mr. Clarke Van Vleet, historian, DCNO (Air Warfare).

Many transformations in Naval Aviation have taken place since the first publication in the early 1960s. The world structure has undergone major realignments and old adversaries are now allies, or at least friends. People and machines are still the key ingredients for Naval Aviation. However, technology has come to play a very dominant role in how Naval Aviation projects its power in support of national defense objectives and our nation's heritage. The third update, *United States Naval Aviation 1910–1995*, attempts to bring into focus the myriad aspects of Naval Aviation and how they play a role in defense as well as the humanitarian side of their mission.

This edition, besides attempting to maintain the professional standards set by the early authors, has attempted to correct any errors in previous editions and make it the primary reference source on Naval Aviation for the Navy Department and researchers. It is not designed as a comprehensive source on Naval Aviation but as a basic guide to educate readers on Naval Aviation history. In order to accomplish this goal, the number of appendixes covering commonly requested data on Naval Aviation has been more than doubled. The chronology provides a narrative flow of information, while the appendixes provide an insight into the multiple functions of Naval Aviation. All aspects of Naval Aviation, including operational activities, administrative and personnel changes and technical developments, have been incorporated.

When drafting a reference work with such an extensive range of data, it is almost impossible to prevent errors. An exhaustive effort was made to check the accuracy of information in this book. When different sets of records or sources provided conflicting data, I selected the most accurate information based on reviewing all the possible sources. As the primary

compiler for this edition, I accept full responsibility for any mistakes or errors of fact or misinterpretations that may have occurred in the book, and I welcome any corrections.

Roy A. Grossnick

Acknowledgments

I began working in the Naval Aviation History Office in 1980 and this book, in its editions as *United States Naval Aviation 1910–1970* and *1910–1980*, has been my primary reference source. It was the first source I used when a quick answer was needed on a particular Naval Aviation subject. Credit for making the book an indispensable reference tool must go to its past authors: Mr. Adrian O. Van Wyen, Mr. Lee M. Pearson, Mr. Clarke Van Vleet and Dr. William J. Armstrong.

Compiling a reference work of this magnitude was beyond the scope of just one person. The staff of the Naval Aviation History Office, both past and present, must be complimented on the work they have done over the years that contributed to updating the book. Special recognition goes to the contributors who are listed on the title page. Without the work done by Dr. William J. Armstrong, historian, Naval Air Systems Command, and Naval Aviation History Office staffers Mr. John M. Elliott, historian, retired; Ms. Judith A. Walters, historian; Ms. Gwendolyn J. Rich, archivist; and Mr. W. Todd Baker, historian, this edition would not have been possible. I extend to them my sincere thanks for all the extra time and diligent work they put into the project.

The *Naval Aviation News* magazine staff contributed their expertise in editing the manuscript. Their knowledge of Naval Aviation terminology and subject matter helped smooth out any writing discrepancies that may have crept into the text. Commander Diana T. Cangelosi's staff includes: Ms. Sandra K. Russell, Ms. Wendy E. Karppi, Journalists Second Class Gerald E. Knaak and E. Blake Towler, Mr. Morgan I. Wilbur, Art Director, and Mr. Charles C. Cooney, former Art Director.

Several people outside the Naval Historical Center also played a role in reviewing, making comments and providing information on special topics. Mr. Hal Andrews' vast knowledge of Naval Aviation, particularly its technical aspects, helped make this book a primary reference source for years to come. Lieutenant Commander Richard R. Burgess, USN (Ret.); Mr. Robert Lawson; Captain James E. Leshner, USNR (Ret.); and Mr. Leroy Doig III contributed to special sections in the appendices. A special thank-you goes to four people who spent considerable time reviewing the entire man-

uscript and making some excellent recommendations: Captain Rosario "Zip" Rausa, USNR (Ret.); Captain Richard C. Knott, USN (Ret.); Dr. William J. Armstrong and Dr. Jeffrey G. Barlow.

I would also like to recognize the professional staff in the Naval Historical Center who provided a wide range of support for the book. Mr. Bernard Cavalcante's Operational Archives Branch was always ready to assist in locating specific records, particularly Mrs. Kathy M. Lloyd, head of the Reference Section. The Ship's History Branch, headed by Mr. John C. Reilly, Jr., was instrumental in reviewing and documenting specific information on aviation ships. Ms. Jean L. Hort and her staff in the Navy Department Library provided the minute details that were easy to overlook. A special thank-you to Ms. Sandra J. Doyle for her strong support and liaison work. Perhaps the most important thanks go to Senior Historian Dr. Edward Marolda and Director Dr. William S. Dudley, who recognized the importance of continuing to update this reference source, supported the project and allocated the resources for publication.

The details surrounding the research and writing of a book are well recognized, but the administrative support necessary is usually forgotten in the flourish of getting the book to the printer. The center's Administrative Branch needs to be recognized for all the work it does in supporting the operations of the Naval Aviation History Branch. Branch head Lieutenant Carol Dula, USN, and her staff consistently responded to our administrative needs. Special recognition goes to Mr. Randy Potter for his technical computer support and to Ms. Donna Smilardo, the center's Budget Analyst, for keeping us out of the red ink.

Finally, I would like to thank my wife, Mary, and daughter, Maki, for being patient during the period of extended working hours necessary to get this book to publication. A special debt of gratitude is extended to Mr. John Grier, design and typesetting specialist of the Government Printing Office, for his layout efforts. For those I have not mentioned by name, let me say that your contributions are appreciated and are not forgotten.

Roy A. Grossnick

Glossary

1st MAW	First Marine Aircraft Wing
6thFLT	Sixth Fleet
7thFLT	Seventh Fleet
A&R	Assembly & Repair
A.P.	Armor Piercing
AAF	Army Air Forces
AAM	Air-to-air Missile
AAS	Army Air Service
ABATU	Advanced Base Aviation Training Unit
ACC	Air Combat Command
ACLS	Automatic Carrier Landing System
ACMR	Air Combat Maneuvering Range
ACNO (Air Warfare)	Assistant Chief of Naval Operations (Air Warfare)
ADM	Admiral
ADVCAP	Advanced Capability
AED	Aeronautical Engineering Duty
AEDO	Aeronautical Engineering Duty Officer
AEW	Airborne Early Warning
AEWWINGPAC	Airborne Early Warning Wing, Pacific
AFB	Air Force Base
AFEM	Armed Forces Expeditionary Medal
AIM	Air Launched Aerial Intercept Guided Missile
AIM	Aircraft Intermediate Maintenance
AIMD	Aircraft Intermediate Maintenance Department
AirDet/AIR DET	Air Detachment
AirLant/AIRLANT	Air Force, Atlantic Fleet or Commander, Air Force, U.S. Atlantic Fleet
AirPac/AIRPAC	Commander, Air Force, U.S. Pacific Fleet or Air Force, U.S. Pacific Fleet
ALARS	Air Launched Acoustical Reconnaissance
ALNAV	All Navy
ALVRJ	Advance Low Volume Ramjet
AMD	Aeronautical Maintenance Duty
AMO	Aviation Medical Officer
AMRAAM	Advanced Medium Range Air-to-air Missile
ANA	Association of Naval Aviation
ANG	Air National Guard
AOCP	Aviation Officer Continuation Pay
AOCS	Aviation Officer Candidate School
ARAPAHO	Name for a portable modular aviation facility for merchant ships
ARG	Amphibious Ready Group
ARM	Antiradiation Missile
ARPA	Advanced Research Projects Agency
ARPS	Automatic Radar Processing System

ASM	Air-to-surface Missile
ASMD	Anti-ship Missile Defense
ASO	Aviation Supply Office
ASROC	Antisubmarine Rocket Missile
ASTOVL	Advanced Short Takeoff/Vertical Landing
ASW	Antisubmarine Warfare
ATARPS	Advanced Tactical Aerial Reconnaissance Pod System
ATG	Air Task Group
ATU	Advanced Training Unit
BRAC	Base Closure and Realignment Commission
BTG	Basic Training Group
BuAer	Bureau of Aeronautics
BuC&R	Bureau of Construction and Repair
BuMed	Bureau of Medicine and Surgery
BuNav	Bureau of Navigation
BuOrd	Bureau of Ordnance
BuPers	Bureau of Naval Personnel
BuShips	Bureau of Ships
BuS&A	Bureau of Supplies and Accounts
BuWeps	Bureau of Naval Weapons
CO/co	Commanding Officer
CAA	Civil Aeronautics Authority
CAEWWS	Carrier Airborne Early Warning Weapons School
CAF	Confederate Air Force
CAINS	Carrier Aircraft Inertial Navigation System
CalTech	California Institute of Technology
CAP	Civil Air Patrol
CAP	Combat Air Patrol
CAPT	Captain
CARDIV	Carrier Division
CASU	Carrier Air Service Unit
CASU(F)	Combat Aircraft Service Units (Forward)
CC	Construction Corps
CCR	Circulation Control Rotor
CDR	Commander
CG	Commanding General
CIC	Combat Information Center
CincPac/CINCPAC	Commander in Chief, Pacific
CincPacFlt/CINCPACFLT	Commander in Chief, U.S. Pacific Fleet
CINCUS	Commander in Chief, U.S. Fleet
CIWS	Close in Weapons System (Phalanx)
CNATRA	Chief of Naval Air Training
CNR/CHNAVRSCH	Chief of Naval Research
CNO	Chief of Naval Operations
COD	Carrier On-board Delivery
COIN	Counter Insurgency
ComAirLant	Commander, Naval Air Force, U.S. Atlantic Fleet
ComAirPac	Commander, Naval Air Force, U.S. Pacific Fleet
ComFAIR/COMFAIR	Commander, Fleet Air
COMHATWING	Commander, Heavy Attack Wing
COMHSLWINGPAC	Commander, Helicopter Antisubmarine Light Wing, U.S. Pacific Fleet
COMINCH	Commander in Chief, U.S. Fleet
COMINCUS	Commander in Chief, U.S. Fleet
COMLATWING	Commander, Light Attack Wing

COMMATWING	Commander, Medium Attack Wing
COMNAVAIRESFOR	Commander, Naval Air Reserve Force
COMNAVAIRLANT	Commander, Naval Air Force, U.S. Atlantic Fleet
COMNAVAIRPAC	Commander, Naval Air Force, U.S. Pacific Fleet
COMNAVFOR Somalia	Commander, Naval Forces Somalia
COMNAVSUPFOR	Commander, Naval Support Force
COMOPDEVFOR	Commander, Operational Development Force, U.S. Fleet
COMPATWING	Commander, Patrol Wing
COMSTRKFIGHTWING	Commander, Strike Fighter Wing
CONUS	Continental United States
DASH	Drone Antisubmarine Helicopter
DCNO	Deputy Chief of Naval Operations
DFC	Distinguished Flying Cross
DICASS	Directional Command Active Sonobuoy System
DMZ	Demilitarized Zone
DoD	Department of Defense
ECM	Electronic Countermeasures
ECMO	Electronic Countermeasures Operator/Officer
ECP	Enlisted Commissioning Program
EDO	Engineering Duty Officer
EFM	Enhanced Fighter Maneuverability
ELEX/COMNAVELEX	Naval Electronic Systems Command
ENS	Ensign
EW	Electronic Warfare
FAA	Federal Aviation Administration
FAETU	Fleet Airborne Electronics Training Units
FASOTRAGRULANT	Fleet Aviation Specialized Operational Training Group Atlantic
FAW	Fleet Air Wing
FAWTUPAC	Fleet All Weather Training Unit, Pacific
FBM	Fleet Ballistic Missile
FEWSG	Fleet Electronic Warfare Support Group
FLIR	Forward Looking Infrared Radar
FMS	Foreign Military Sales
FORSCOM	Forces Command
Ft	Feet
FTEG	Flight Test and Engineering Group
FY	Fiscal Year
G.P.	General Purpose
GCA	Ground Controlled Approach
Glomb	Guided Glider Bomb
GMGRU	Guided Missile Group
GMU	Guided Missile Unit
Halon	Fire Suppression Agent
HARM	High Speed Antiradiation Missile
HATWING	Heavy Attack Wing
HIPEG	High Performance External Gun
hp	Horsepower
HTA	Heavier-than-air
HUD/Hud	Heads up Display
Hvar	High Velocity Aircraft Rocket
IBM	International Business Machine Company
IFF	Identification Friend or Foe
IGY	International Geophysical Year
IO	Indian Ocean

IOC	Initial Operational Capability
IR	Imaging Infrared
JATO	Jet Assisted Takeoff
JCS	Joint Chiefs of Staff
JPATS	Joint Primary Aircraft Training System
KIA	Killed in Action
KIAS	Knots indicated air speed
KLM	Kuwait Liberation Medal
KPUC	Korean Presidential Unit Citation
KSM	Korean Service Medal
LAMPS	Light Airborne Multipurpose System
Lant/LANT	Atlantic
lbs	Pounds
LCAC	Air Cushion Landing Craft
LCDR	Lieutenant Commander
LCOL	Lieutenant Colonel
LDO	Limited Duty Officer
LGB	Laser Guided Bomb
LIC	Low Intensity Conflict
Loran/LORAN	Long Range Navigation Equipment
LRAACA	Long-range, Air Antisubmarine Warfare-capable Aircraft
LSO	Landing Signal Officer
LT	Lieutenant
LT (jg)	Lieutenant Junior Grade
LTA	Lighter-than-Air
LTV	Ling Temco Vought Corp.
MAC	Military Airlift Command
MACV	Military Assistance Command, Vietnam
MAD	Magnetic Airborne (or Anomaly) Detection
MAG	Marine Air Group
MAGTF	Marine Air Group Task Force
MATS	Military Air Transport Service
MAU	Master Augmentation Unit
MAW	Marine Air Wing
MAWSPAC	Medium Attack Weapons School, Pacific
MCAAS	Marine Corps Auxiliary Air Station
MCAF	Marine Corps Air Facility
MCAS	Marine Corps Air Station
Med	Mediterranean Sea
MEF	Marine Expeditionary Force
MEU	Marine Expeditionary Unit
MIA	Missing in Action
MiG	Russian aircraft designed by Artem I. Mikoyan and Mikhail I. Gurevich
MIRALC/SLBD	Mid Infrared Advanced Chemical Laser/Sea Lite Beam Director
MIT	Massachusetts Institute of Technology
MLS	Microwave Landing System
MRC	Major Regional Conflicts
MUC	Meritorious Unit Commendation
NAAF	Naval Air Auxiliary Facility
NAAS	Naval Air Auxiliary Station
NAB	Naval Air Base
NACA	National Advisory Committee on Aeronautics
NAD	Naval Aviation Depot
NADC	Naval Air Development Center

NADEP	Naval Aviation Depot
NAEC	Naval Air Engineering Center
NAESU	Naval Aviation Electronic Service Unit
NAF	Naval Air Facility
NAF	Naval Aircraft Factory
NAFC	Naval Air Ferry Command
NAILS	Naval Aviation Integrated Logistic Support Task Force
NALCOLANTUNIT	Naval Air Logistics Control Office, Atlantic Unit
NAMC	Naval Air Material Center
NAMO	Naval Aviation Maintenance Office
NAMTC	Naval Air Missile Test Center
NAO	Naval Aviation Observer
NAP	Naval Aviation Pilot/Naval Air Pilot
NAR	Naval Air Reserve
NARF	Naval Air Rework Facility
NARTU	Naval Air Reserve Training Unit
NARU	Naval Air Reserve Units
NAS	Naval Aeronautic Station
NAS	Naval Air Station
NASA	National Aeronautics and Space Administration
NASM	National Air Space Museum
NATC	Naval Air Test Center
NATMSACT	Naval Air Training Maintenance Support Activity
NATO	North Atlantic Treaty Organization
Natops/NATOPS	Naval Air Training and Operating Procedures Standardization Program
NATB	Naval Air Training Base
NATC	Naval Air Training Center
NATS	Naval Air Transport Service
NATEC	Naval Airship Training and Experimental Command
NATT	Naval Air Technical Training
NATTC	Naval Air Technical Training Center
NAVAIR	Naval Air Systems Command
NAVAIRSYSCOM	Naval Air Systems Command
NAVCAD	Naval Aviation Cadet
NavE	Navy Battle "E" Ribbon
NAVICP	Naval Inventory Control Point
NAVMAT/NMC	Naval Material Command
NavPro/NAVPRO	Naval Plant Representative Office
NAVRES/NR	Naval Reserve
Navstar	Navigation Satellite
NAWC	Naval Air Warfare Center
NAWC (WD)	Naval Air Warfare Center (Weapons Division)
NAWC (AD)	Naval Air Warfare Center (Aircraft Division)
NDSM	National Defense Service Medal
NEM	Navy Expeditionary Medal
NERV	Nuclear Emulsion Recovery Vehicle
NFO	Naval Flight Officer
NFRC	Naval Reserve Flying Corps
nm	Nautical Mile
NNV	National Naval Volunteers
NOB	Naval Operating Base
NORAD	North American Air Defense Command
NorLant	Northern Atlantic Ocean
NorPac	Northern Pacific Ocean

NOTS	Naval Ordnance Test Station
NRAB	Naval Reserve Aviation Bases
NRFC	Naval Reserve Flying Corps
NRL	Naval Research Lab/Naval Research Laboratory
NROTC	Naval Reserve Officer Training Corps
NS	Naval Station
NSF	National Science Foundation
NTPS	Naval Test Pilot School
NUC	Navy Unit Commendation
NVG	Night Vision Goggle
NVN	North Vietnam
NWC	Naval Weapons Center
O&R	Overhaul and Repair
OASU	Oceanographic Air Survey
OCS	Officer Candidate School
ODM	Operational Development Model
ONR	Office of Naval Research
OPNAV	Naval Operations
Ops	Operations
ORI	Operational Readiness Inspection
OSD	Office of Secretary of Defense
P/A	Pilotless Aircraft
Pac/PAC	Pacific
PASU	Patrol Aircraft Service Unit
PatSU/Patsu	Patrol Aircraft Service Unit
PatWing/PATWING	Patrol Wing
PLAT	Pilot Landing Aid Television
PMTC	Pacific Missile Test Center
Pol	Petroleum, Oil, Lubricants
POW	Prisoner of War
PPI	Plan Position Indicator
PUC	Presidential Unit Citation
Radar	Radio Detection and Ranging Equipment
RADM	Rear Admiral
RAF	Royal Air Force
RAM	Rolling Airframe Missile
RAST	Recovery Assist, Securing and Traversing System
RCA	Radio Corporation of America
RDT&E	Research, Development, Training and Evaluation
Ret	Retired
REWSON	Reconnaissance, Electronic Warfare and Special Operations
RFC	Canadian Royal Flying Corps
RimPac	Pacific Rim Exercise (Joint)
RIO	Radar Intercept Officer
RN	Royal Navy
RNAS	Royal Naval Air Station
ROK	Republic of Korea
RPV	Remotely Piloted Vehicle
RPV Star	Ship-deployable, Tactical Airborne Remotely Piloted Vehicle
RVN	Republic of Vietnam
RVNGC	Republic of Vietnam Meritorious Unit Citation (Gallantry Cross)
SAM	Surface-to-air Missile
SAR	Search and Rescue
SASM	Southwest Asia Service Medal

SCS	Sea Control Ship Concept
Seals	Sea-air-land Team
SEAPAC	Sea Activated Parachute Automatic Crew Release
SecDef/SECDEF	Secretary of Defense
SECNAV/SecNav	Secretary of the Navy
SEVENTHFLT	Seventh Fleet
SIXTHFLT	Sixth Fleet
SLAM	Standoff Land Attack Missile
SLCM	Sea/Surface Launched Cruise Missile
SLEP	Service Life Extension Program
Sol Rad	Solar Radiation
SoLant/SOLANT	Southern Atlantic Ocean
SOOS	Stacked Oscars on Scout System
SoPac/SOPAC	South Pacific
SPASUR	Navy Space Surveillance System
Sq	Square
SSM	Surface-to-surface Missile
STM	Supersonic Tactical Missile
STRATCOM	Strategic Command
SVN	South Vietnam
SWIP	System Weapons Integration Program
SWOD	Special Weapons Ordnance Device
TACAMO	Take Charge and Move out
Tacan/TACAN	Tactical Air Navigation System
TACELWING	Tactical Electronic Warfare Wing
TACGRU	Tactical Group
T&E	Test and Evaluation
TARPS	Tactical Aerial Reconnaissance Pod System
TERCOM	Terrain Contour Matching
TF	Task Force
TG	Task Group
TINS	Thermal Imaging Navigation Set
TRAM	Target Recognition Attack Multisensor
TraWing/TRAWING	Training Air Wing
TRIM	Trail Road Interdiction Mission
TWA	Trans World Airlines
UAV	Unmanned Aerial Vehicle
UDT	Underwater Demolition Team
U.K.	United Kingdom
U.S.	United States
UN	United Nations
UNSM	United Nations Service Medal
USA	U.S. Army
USACOM	U.S. Atlantic Command
USAF	U.S. Air Force
USCG	U.S. Coast Guard
USMC	U.S. Marine Corps
USN	U.S. Navy
USNR	U.S. Navy Reserve
USNRF	U.S. Navy Reserve Force
USNS	United States Naval Ship
USSR	Union of Soviet Socialist Republics
VADM	Vice Admiral
VAST	Versatile Avionics Shop Test

VCNO	Vice Chief of Naval Operations
VFAX	Advanced Experimental Fighter Aircraft
VLAD	Vertical Line Array DIFAR
VOD	Vertical on board Delivery
Vstol	Vertical/short Take-off and Landing
Vtol	Vertical Take-off and Landing
Vtol/stol	Vertical Take-off and Landing; Short Take-off and Landing
Vtxts	Navy Undergraduate Jet Flight Training System
VWS	Ventilated Wet Suit
WestPac/WESTPAC	Western Pacific Ocean
WNY	Washington Navy Yard
WTS	War Training Service
WW-I	World War I
WW-II	World War II

Note: Acronyms or abbreviations for squadron designations, air groups or air wings, aviation ship designations and aviation ratings may be found in appendices 16, 15, 3, and 14, respectively. Other appendices in the book also provide a limited number of more specialized acronym meanings.