THE OFFICIAL MONOGRA US NAVY & MARINE CORPS AIRCRAFT COLOR GUIDE

Vol 3 1950 – 1959

John M. Elliott Maj. USMC (Ret.)

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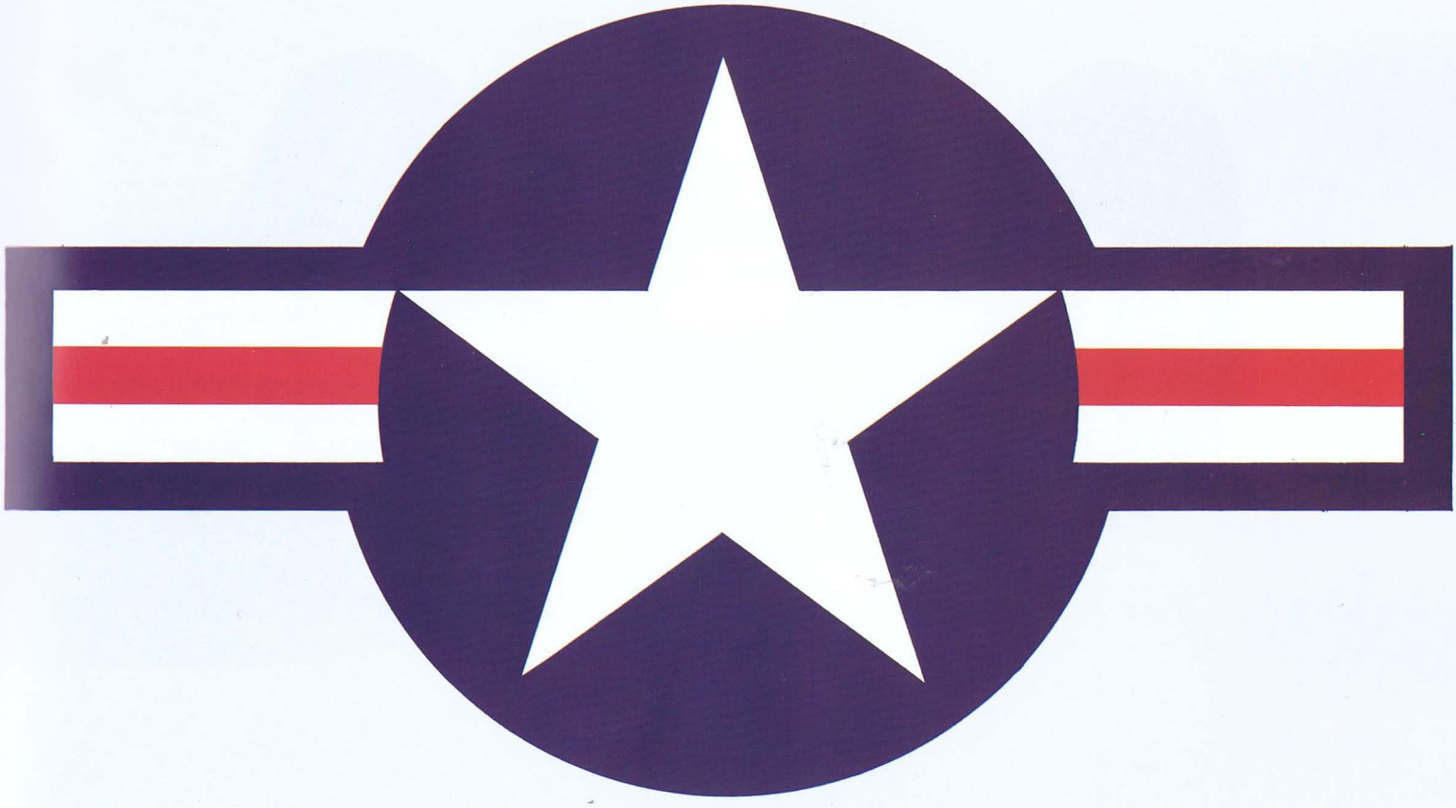

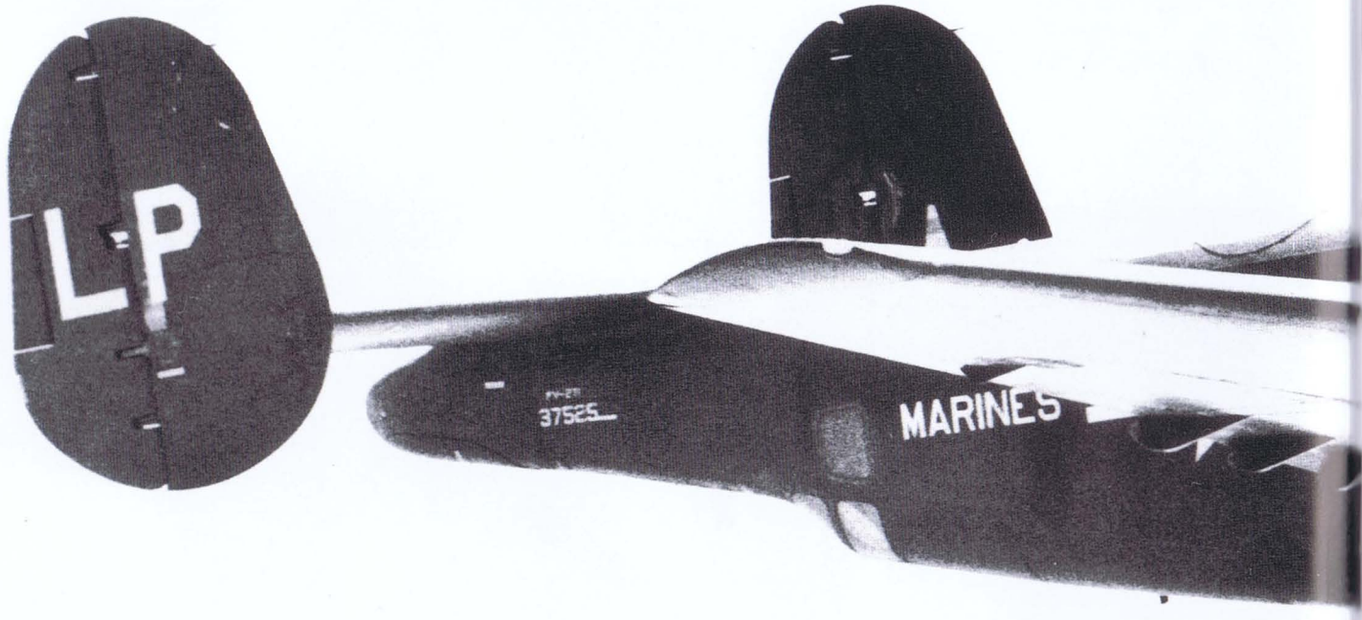

This Lockheed PV-2N of VMF (AW)-20 used for All Weather Training was also an extension of night fighting operations.

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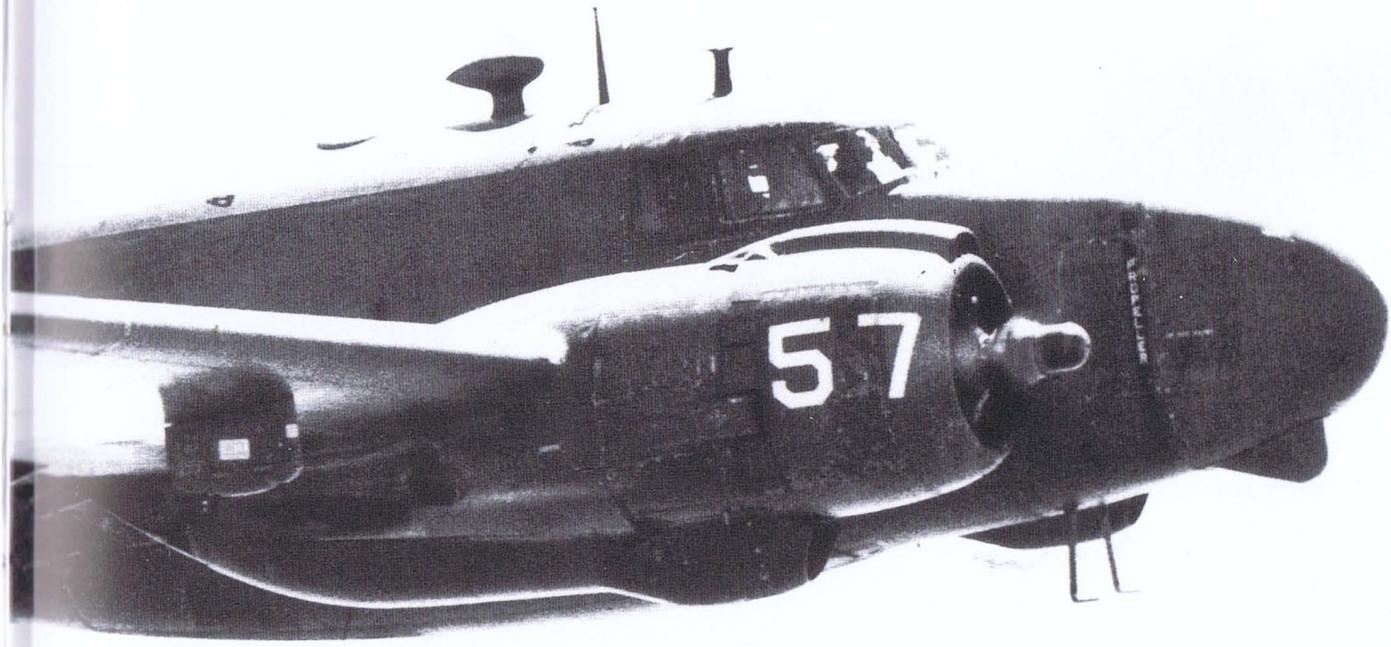

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The visual identification letter Z was retained when the naval reserve moved from NAS Squantum to NAS South Weymouth as seen on this HUP-2.

CONTENTS


WS

These F4U-4s of VMF-323 are shown aboard ship during their Korean deployment. Note how narrow the flight deck was as shown by the centerline.

FOREWORD

It's been said that "There are two kinds of people in this world: those who believe there are two kinds of people, and those who don't." When it comes to aircraft color and markings, there really are only two kinds of people: Those like John Elliott who dig into all the details and get them straight — and the rest of us.

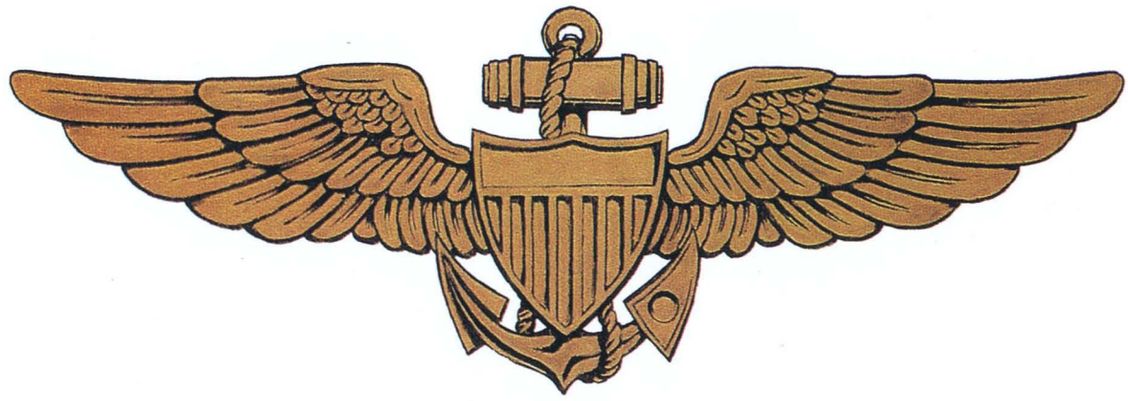
With this third volume in his series on US Navy and Marine Corps Aircraft Color and Markings, those of us having an interest in the subject will relate to the different volumes in different ways. By now, the first years, up through 1939, are a matter of academic interest to all but a very few who still care about the colorful naval aircraft that they flew or maintained during those years. With the tremendous expansion that began in 1940, and continued through World War II, there are a great number of us "who were there" in one way or another and translated our mostly modeling interest to the real thing. Enamored of this new relationship, color and markings interests were maintained mostly by the few — such as Bill Larkins who wrote the foreword for John's first volume. Among those who stayed in, joined the reserves, or either took up or reverted to modeling after the War, the interests in the subject were varied at the time — and continue to be. John's second volume is "the word" for all who reflect on this aspect of that period.

In my own case I have a particular identification with the fifties. For those years tied me to Naval Aviation, starting when recalled to active duty with my Reserve FASRON from my drafting board at Boeing. After a couple of different thrusts, direct involvement came with the engineering of the navy's aircraft — and opportunities to sample the product — as the Navy and Marines went through their major transition to the turbine engine — and supersonic fighter age. Through these years, there was not only a major transition in equipment (with the exception of old favorites like "Bugsmashers" and "Spads"), but the Sea Blue finish which most of us had grown up with in the real world gave way to gray, white, and something called "day-glo" — though its generally weathered look soon reverted to more substantial orange. The patchwork colors — particularly at Reserve Bases — were nowhere better illustrated than the Reserve FJ-2s at Columbus, Ohio, when business took me to what was then a dynamic, forward-looking engineering group at North American Aviation's now long gone Columbus Division. I know there were Sea Blue, Orange and White, and Gray and White Furys seen on the line as TWA's Martin 202A or 404 landed or took off at Port Columbus — I'd like to think there were even one or two natural metal ones, but that's probably my memory playing tricks again.

Anyway, with another heavy, but colorful volume, John lays it all out for those who have an interest in naval aircraft generally, and a particular interest in those of the fifties. Color and markings data just doesn't get any better than this!

Harold Andrews

Harold Andrews
Aeronautical Engineer



INTRODUCTION

The ten years between 1950 and 1960 were busy years in US naval aviation. The post war demobilization came to an end and an explosive expansion once again was the order of the day. By the end of the decade, naval aircraft had changed greatly from predominantly propeller driven tactical aircraft to almost exclusively jets. These changes were the result of advancing technology in the aircraft industry, as well as changes in tactics and missions. This resulted in organizational adjustments and reassignment of units within the fleet. All of which kept unit designations and the Visual Identification System in a state of constant change. Along with the change in weapons systems and tactics, the aircraft paint scheme changed from the familiar Sea Blue to a Light Gray and White scheme for carrier aircraft. In the interest of safety, several high visibility paint schemes were developed for use in the Training Command and areas of high density aircraft traffic. The land camouflage scheme went from the Sea Blue, to Light Gray, to Marine Corps Green, with some odd variations along the way.

For years there has been a conflict between the interests of the historian to save everything and those of the records management community to dispose of all the old records that are no longer being utilized. In the process of arriving at a reasonable solution there have been many deliberate "housecleanings" of the official records. Then, of course, there has always been the loss or destruction of records due to circumstances such as enemy action and lack of interest in the significance of day-to-day records disposition. Unfortunately, coupled with these problems was the decision between January 1, 1953 and July 1, 1957 that Command Histories were not required. While this may have slightly reduced the administrative workload of Fleet units at the time, it has proved to be a disaster for historical research. Even through the use of other records, there are still gaps that cannot be filled with assurance as to the dates events are reputed to have taken place. This is particularly evident in determining the dates involved in a unit's lineage and assignment of Visual Identification System codes. Consequently, you will find blanks in some of the tables in Section 3 that cannot be resolved in the official records. All that can be assured is that the event took place at some date between the previous table and the one in which the blank appears.

In the Marine Corps, a given number is usually never assigned to more than one squadron. Therefore, when, for example, VMF-214 and VMA-214 appear in the records it is the same squadron, but with a different mission. This is not true in the Navy system, where squadrons can, and do, come and go with no regard to their number or lineage. Several Marine Corps helicopter squadrons now use the same squadron number that was originally assigned to fixed wing squadrons in World War II. With the advent of the helicopter, it was decided to make the helicopter group the sixth group of each air wing. This produced MAGs 16, 26, and 36 which had not been previously used. However, as the helicopter community expanded it was necessary to establish more MAGs and the logical procedure was to continue the numbering system with MAGs 46 and 56. As MAG-46 had been used during World War II for a medium bomber group flying PBJs, there are now helicopter squadrons with the same numbers as these World War II squadrons. The Marine Corps considers these helicopter squadrons to be the direct descendants of the World War II PBJ Squadrons. As there never was a MAG-56, no problem exists with these additional squadrons.

One of the more common questions asked, and perhaps the most difficult to answer, is when did a specific change in a paint scheme or marking system take place. Generally, a specific date is given by which time the change must be accomplished. In many cases, the directive will state that it is effective upon receipt. But that still does not answer the question. In most cases, it has been assumed that a change took place based on the date of the implementing directive. However, as is pointed out in Chapter Three, in the case of MIL-I-18464, the Bureau of Aeronautics issued a letter to all commands describing the changes that would be incorporated in the new directive two months after the date of the directive. This apparent discrepancy in dates can only be explained by the internal administrative procedures of the Bureau. The directive was dated at the time it was officially *approved for release.* Then there was the normal delay of getting it through the printing process. In this particular case, the delay must have been excessive to cause the Bureau to issue a letter identifying some of the pending changes. This was not an isolated case of delay in releasing instructions after the date printed on the directive. All of which makes it

impossible to give an exact date for any of these changes to have taken place on a Fleet wide basis.

During the later portion of the Truman administration severe budgetary restraints were imposed on the Navy Department. This resulted in numerous Navy and Marine Corps squadrons, and, of course, their parent group being disestablished. Additional Marine Corps aviation units were to be deactivated at the end of the 1950 fiscal year, which would have practically eliminated Marine Corps aviation as it was already reduced to just three squadrons more than on December 7, 1941. There was one bright aspect to this drastic reduction. All the squadron material was inventoried and crated in preparation for turning in to the Navy Supply System at the end of June. When the North Koreans invaded South Korea, just days before this material was to be turned in, it became available for immediate issue to the squadrons assigned to the 1st Marine Brigade, and greatly expedited their rapid deployment to the Far East.

For many years the term commission and decommission have been erroneously used in connection with Navy aircraft squadrons. Only ships are commissioned when put into service and display a commissioning pennant. The correct term for aviation squadrons is establish and disestablish. These are the terms you will find throughout these volumes. However, in the early days, aircraft squadrons were designated as being commissioned. When a unit is disestablished that terminates the unit's history. A new unit may be established with the same designation, but it has no direct link with the former and cannot claim any of the former units' achievements, even if it chooses to carry on the use of the unit insignia. It may, however, carry on the traditions of the former unit.

For example, research has located seven squadrons through the years that have been identified as VF-1, yet there is no direct lineage connection between any of them. Nor can a specific squadron insignia be used as a means to trace lineage. There are numerous cases where a squadron insignia has been used by more than the originating squadron. When the Navy has had a need for a new squadron, the number frequently has been picked arbitrarily with no regard to whether it had been used before or its relationship to its parent organization. This lack of a policy within US Navy aviation is a constant source of confusion, not only for a researcher, but for the squadrons themselves who often are unaware of a break in the lineage and claim history belonging to a completely different squadron. Throughout the text of this series there has been no attempt to distinguish one squadron from another with the same designation. But, rather, to just identify a squadron as it was known at that time. The tracing of lineage can be a lengthy project in its own right.

The Marine Corps operates a little differently. Its units are activated and deactivated in accordance with the needs of the Corps. When a squadron is deactivated, its colors are returned to Headquarters Marine Corps where they are placed in storage. At a later date this unit may be reactivated. The original squadron colors are presented to the unit and that unit with all its history and tradition is back in service again.

On August 18, 1959, an Act of Congress established the Bureau of Naval Weapons and provided that the Bureau of Aeronautics and the Bureau of Ordnance would be abolished upon transfer of all their functions. While this change can be seen in the title of directives used at the end of this study, such as MIL-C-18263B(Weps) Amendment No. 2, there was no change as far as the operation of the Bureau was concerned.

A recently located group of records, which had been in storage for over thirty years, yielded a wealth of information on the painting and marking of Training Command aircraft. Because these instructions are different from those that apply to fleet activities, they have been presented as a separate portion of Chapters 1 and 3 for ease of reading. In those cases, where directives are applicable to both fleet and Training Command aircraft, the information has been presented with the fleet activities.

ACKNOWLEDGMENTS

About the time you think all avenues have been explored, you find something that just doesn't fit, or a gap int he data. It is at this point a frantic call goes out to friends and associates for assistance.

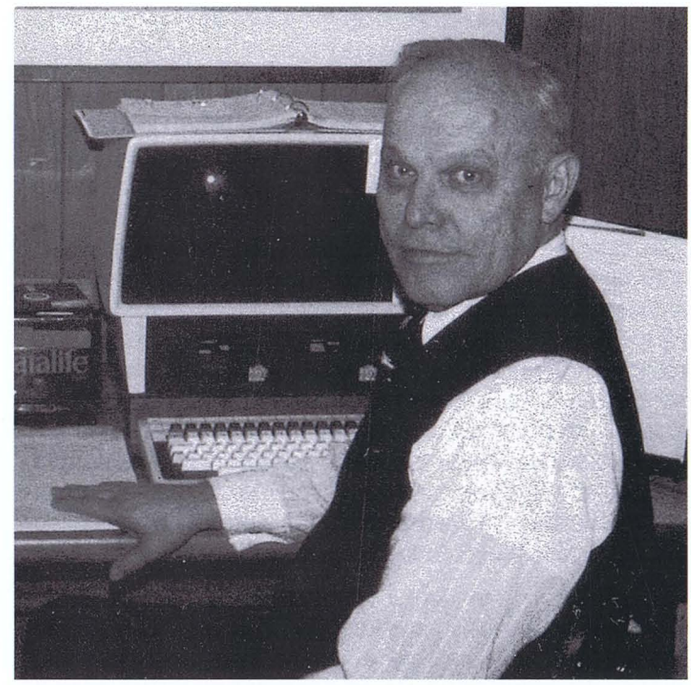
The calls to Captain William E. Scarbrough USN (Ret) have always been productive and frequently led to additional areas to be checked. There is no doubt about it that in a field as larage as US naval aviation no one person can have all the information. David Lucabaugh seems to have an endless resource of the unusual in naval aviation, and is always willing to share his knowledge. When working on records of companies that have been closely associated with naval aviation, such as Douglas Aircraft, who can ever proceed far without the help of Harry Gann. In all the years of our friendship he has been a willing and cheerful contributor of his vast knowledge of Douglas Aircraft records. Dave Hornick in the Combat Survivability Branch, Naval Air Systems Command, has been most helpful in making documentation on aircraft camouflage and markings available from his files. A frantic call for assistance to an old Marine Corps friend, Mule Holmberg, for Korean period material was quickly answered. Additional photographic help was graciously provided by Jeffrey L. Ethell in this and the previous volume.

There have been others who have contributed, not with material help, but their interest and encouragement when the days and nights of drafting and writing seem to become a neverending taskmaster.

Thank you all.

JOHN M. ELLIOTT
MAJOR USMC (RET)

Major Elliott spent his early years in Santa Barbara, California, where his interest in naval aviation was initiated by the frequent stops of Navy and Marine Corps aircraft on cross-country flights as well as visits by the USS Lexington, USS Saratoga, and other capitol ships with their float pieces. Realizing a long time desire, he enlisted in the US Marine Corps in 1942 for four years. Upon completion of boot camp he was assigned to the aviation ordnance field where he was to serve for twenty-four years. During this time he served in



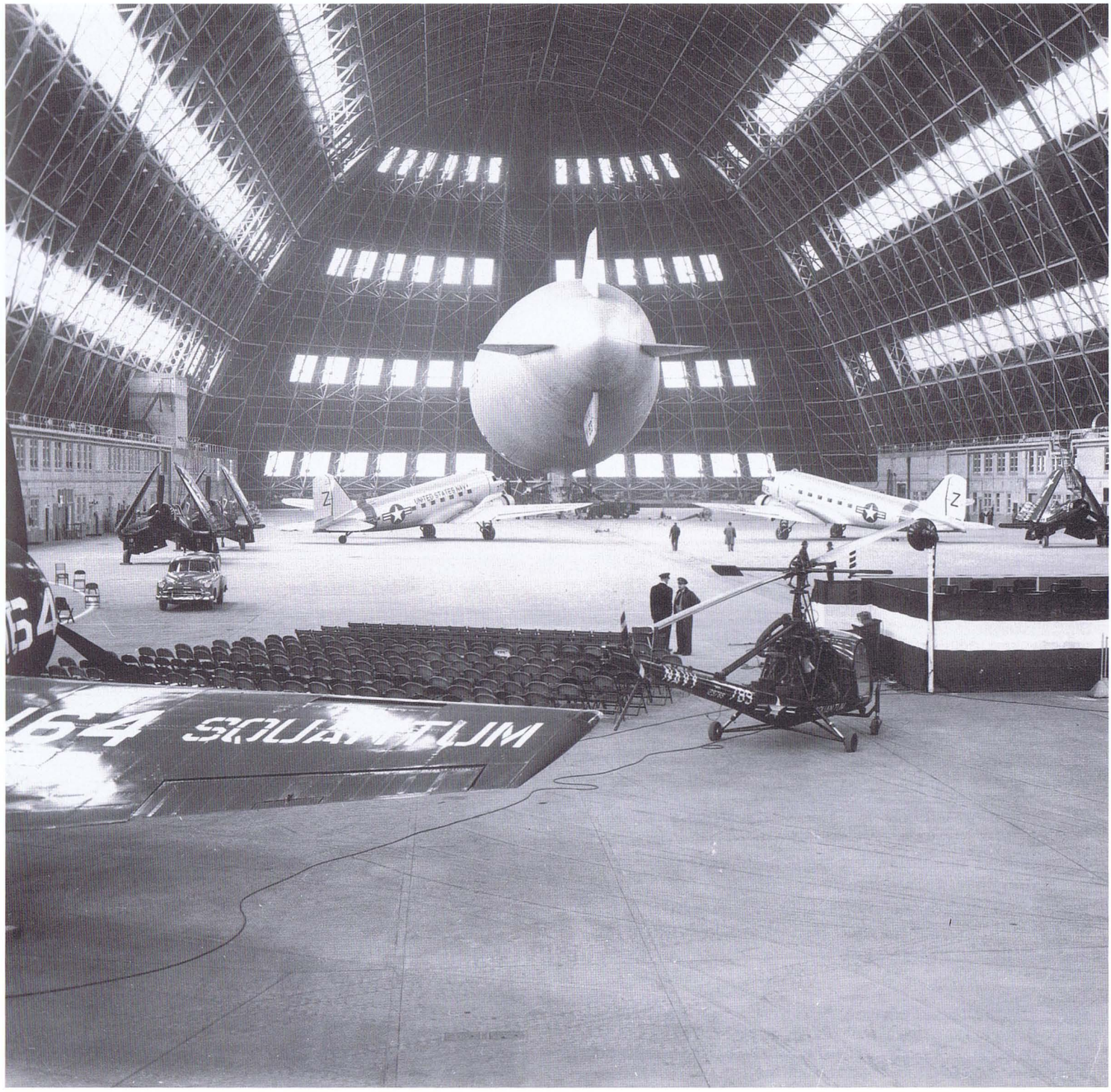
dive bomber and fighter squadrons, O&R facilities and taught in aviation technical schools rising to Master Sargeant. As an officer he served in fighter and attack squadrons and as the Group, Wing and Air Station Ordnance Officer in the US and overseas. During this time he saw naval aviation grow from single Cal. .30s in the rear seat of SBDs to a nuclear delivery capability.

Upon retirement he went to the Smithsonian Institution as Chief, Collections Branch, National Armed Forces Museum Advisory Board. With the demise of the concept for a national military museum he became the Contract Administrator for the Smithsonian. During these years he became well known to those restoring naval aircraft, model builders and other museums for his knowledge on the painting and marking of US naval aircraft.

After eighteen years at the Institution he returned to the field of naval aviation as assistant historian under CNO (Air Warfare).

Having completed forty-eight years of Federal Service he has retired to pursue his aviation interests at a more leisurely pace.

Below: Still carrying the NAS Squantum markings, these FG-IDs, R5D-3s, HTE-2, and K airship made an impressive backdrop for the commissioning ceremony of NAS South Weymouth during April 1953.



SECTION 1

AIRCRAFT COLORING AND PROTECTIVE COATING

CHAPTER 1 1950-1959

FLEET ACTIVITIES

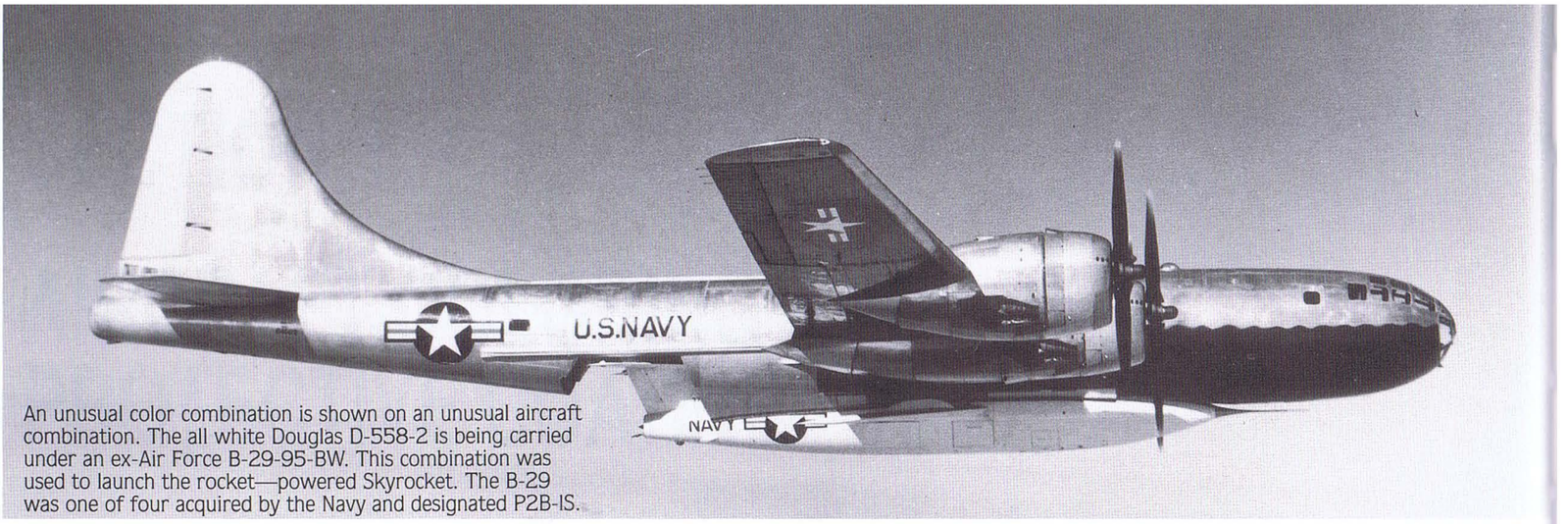
Bureau of Aeronautics letter Aer-AE-312 dated February 5, 1951, after a lengthy discussion of the current and being developed enamel and lacquer finishes for aircraft hull bottoms, directed the use of lacquer in lieu of enamel, and deleted the requirement for antifouling paint on hull bottoms.

As Military Specifications replaced the individual Army, Navy, and Air Force directives, SR-15e, *The Protection of Naval Aircraft and Naval Aircraft Parts Against Corrosion,* which had been in effect since October 10, 1944, was superseded on April 16, 1951, by MIL-F-7179. This new directive was titled *Finishes and Coatings; General Specifications for Protection of Aircraft and Aircraft Parts.* Within this directive were the instructions for painting aircraft interiors. Interior surfaces of cockpits above the level of the bottom of the instrument panel were to be painted semigloss Black, while surfaces below this line were to be nonspecular Interior Green. The interior of personnel spaces, other than cockpits, was to be Interior Green. This requirement could be modified to a special color scheme for the interior personnel spaces on large aircraft. However, whereas baggage compartment, bomb bay, and interior structural spaces were previously painted with tinted Zinc Chromate of no standard color, they were now required to have the Zinc Chromate tinted to match nonspecular Interior Green.

The Bureau of Aeronautics (BuAer) established a program to evaluate the service durability of a number of unpainted carrier-based aircraft under conditions of wide geographical distribution. Approximately one hundred F9F-5s, and the full current production of F7U-3s were involved. It was anticipated that one hundred F2H-3s would be included, and later the FJ-2 was added.

Right: VMF(N)-513 used this flat black with dull red markings for a time in Korea to reduce the aircraft visibility during night operations. This Douglas F3D-2 Skyknight carried a crew of two and was capable of 600 mph at 20,000 ft. (966 km/h at 6.096 m.).


WF



An unusual color combination is shown on an unusual aircraft combination. The all white Douglas D-558-2 is being carried under an ex-Air Force B-29-95-BW. This combination was used to launch the rocket—powered Skyrocket. The B-29 was one of four acquired by the Navy and designated P2B-IS.

Bureau of Aeronautics letter Aer-AE-421, dated April 23, 1952, to the Bureau of Aeronautics Representatives at Bethpage, Dallas and St. Louis, specified how these aircraft were to be identified. A notation in 1 inch (2.54 cm) high black letters was to be stenciled on the left side of the fuselage below the horizontal stabilizer which stated, "THIS IS AN EXPERIMENTAL FINISH. DO NOT APPLY PAINT WITHOUT SPECIFIC AUTHORIZATION. SEE LOGBOOK ENTRY, PAGE ___."

In addition, a special entry was to be made in the logs of the affected aircraft as follows: "The omission of paint from the aluminum exterior surfaces of this aircraft is for the purpose of evaluating the service performance of these unpainted surfaces. It is intended for this aircraft to operate for at least two service tours in the unpainted condition, unless deterioration is encountered to an extent sufficient to justify termination of the service test and application of the standard paint finish. Reports to Bureau of Aeronautics (AE-42) required. See letter on this subject from COMAIRPAC, COMAIRLANT or CNATRA (as applicable) for further details."

This was followed on April 29, 1952, by BuAer letter Aer-AE-421/11/1/52 to Commander Air Force, Pacific Fleet; Commander Air Force, Atlantic Fleet; and Chief, Naval Air Training with instructions for maintenance of these aircraft in the fleet. Paint coatings were not to be applied to the unpainted aluminum exteriors of these aircraft. The magnesium areas, which were to be delivered painted to prevent serious corrosion, were to continue to be painted with aluminized varnish or aluminized lacquer. It was noted that the F7U-3 contained a very large proportion of magnesium skin area.

The unpainted aluminum skin areas would be anodized or chemically surface treated. These areas were not to be excessively treated with "cleaner-brightners" as this repeated use would tend to dissolve the anodic or chemical film. The use of "cleaner-brightners" was forbidden on magnesium surfaces as they would attack magnesium. The unpainted surfaces were not to be coated with preservative compounds, and could not be waxed except with approved cleaner-wax combinations containing very small amounts of fine abrasive cleaner. This material would be available through the Aviation Supply System at a later date.

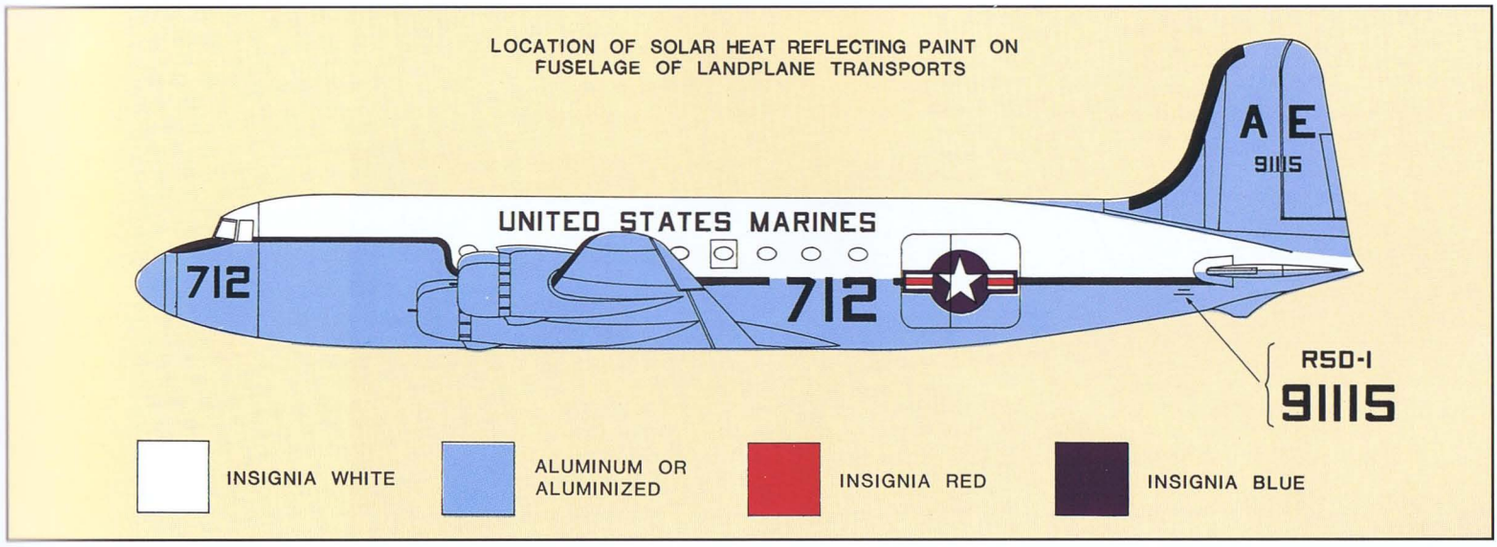
The unpainted exterior surfaces were to be inspected regularly, and the condition reported to the Bureau of Aeronautics. With regard to the appearance of the unpainted aircraft, it was realized that they could not compare in appearance with freshly painted aircraft. The unpainted aircraft would show variations in the shade of adjacent panels, due to the end results obtained with different sheets under the anodic and chemical treatment processes caused by differences in composition, heat treatment, source, etc., of the sheet stock. The rivets would be a different color, and there would be various skin discolorations, minor scratches, slight abrasions, etc. This was to be considered the natural condition of the unpainted aircraft. From the standpoint of appearance, the Bureau of Aeronautics was interested in the CHANGE in the unpainted aircraft as compared with the CHANGE in the painted aircraft due to service in the Fleet.

Spare parts for these aircraft were delivered with a complete paint finish in order to avoid deterioration during shipment and storage. This painted finish had to be removed prior to the part being installed on an aircraft. This was amended on June 25, 1952, when the Bureau advised that all spare parts for the F7U-3 aircraft would be delivered with the prescribed exterior color finish and would not require stripping prior to installation.

In April 1952, the Marine Corps requested that Bureau of Aeronautics establish a project for the camouflage of helicopters. Marine Corps helicopters, in a combat situation, are employed well forward and at low altitude. The glossy Sea Blue could be easily seen from the ground, and the spinning rotor spotted from the air. It was felt that their effectiveness could be greatly increased if they were camouflaged to make detection more difficult. This change in painting was rather slow in coming.

Cleaner-wax compounds, which clean the metal surface while depositing a thin wax film on the surface of unpainted aircraft, were finally available. An appropriate notation was to be made in the logbook of each unpainted aircraft concerning the permissible use of the approved cleaner-wax.

A short-lived directive, SR-202, *Exterior Color Requirements for Naval Aircraft,* was issued August 3, 1953. This did not change the exterior colors for carrier-based



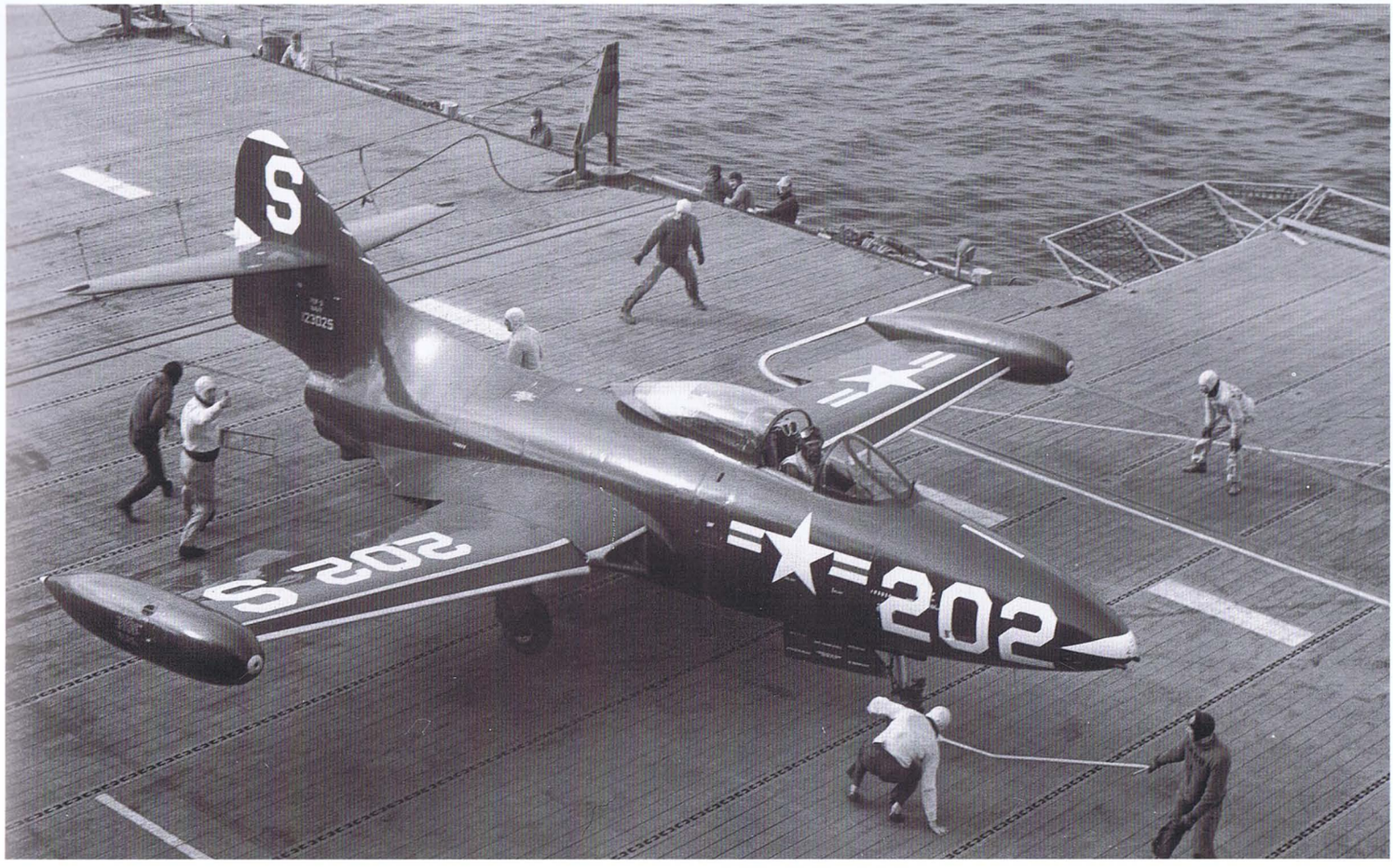
aircraft. Reserve, hospital, search and rescue, and instrument training aircraft were to be painted according to their type in regular service. Distinction for the particular duty performed would be made by means of special lettering and markings, such as the reserve fuselage band and instrument training aircraft stripes.

The solar heat reflection or "White Top" scheme was introduced for all medium and heavy transports. It could also be authorized locally for other transport and utility aircraft which operated predominantly in areas of prevailing high temperatures. The upper surface of the fuselage was painted glossy Insignia White, beginning at the top forward edge of the pilot's enclosure and extending aft, splitting each side of the vertical stabilizer, and fading out in the vicinity of the tail cone. It extended down on each side to the bottom of the row of windows. The horizontal stabilizer and the major portion of the vertical stabilizer were to remain aluminum color.

In order to increase safety by making the aircraft more visible, the high visibility color scheme of glossy International Orange and Insignia White could be applied when approved by Commander Naval Air Training.

Nonspecular paint of the same, or approximately the same, color was to be substituted for glossy paint on all surfaces which could produce glare in the pilot's or co-pilot's eyes, except the antiglare areas which were to be painted

Below: This Panther of VF-52 is shown aboard the USS Valley Forge (CV-45) in January 1950 during the first carrier evaluation of the F9F by a Fleet squadron.



Medium Green. This applied to all aircraft color schemes on Fleet and Training Command aircraft.

Assemblies fabricated of resin impregnated glass fabric, such as radomes, radio antenna housings, noses, fairings, wing tips, and intake ducts, that required rain erosion protective finishes, were to remain the natural black of the protective finish.

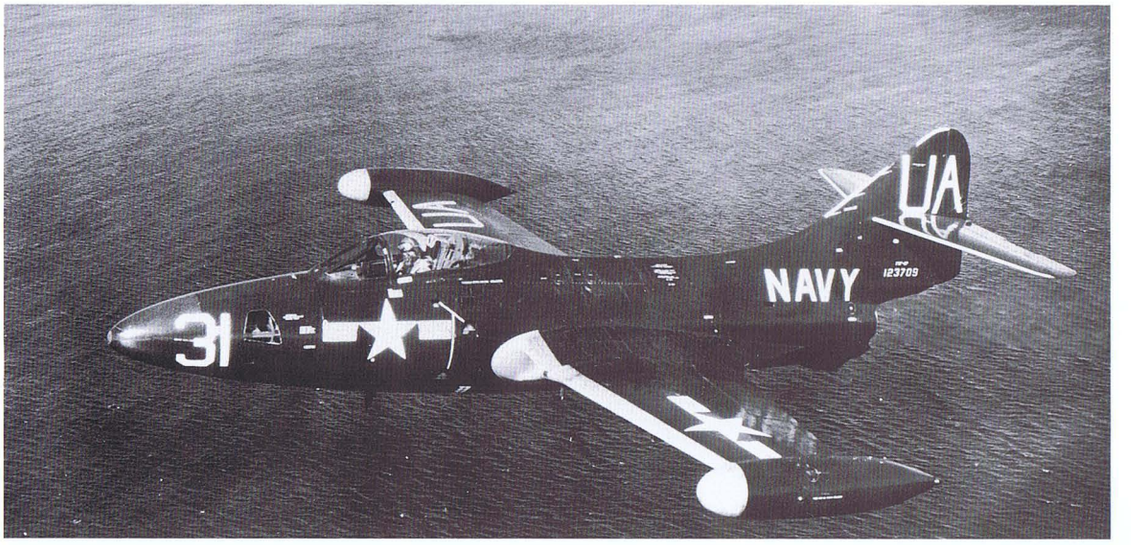
Helicopter main rotor blades changed from the glossy Sea Blue previously used to Light Gull Gray on the upper surfaces and Black on the lower surfaces. Both colors were to be nonspecular. Tip markings were not changed.

The color on the exterior surface of jet aircraft adjacent to the engine intake duct was to be carried around the lip of the duct and back inside the duct approximately 2 1/2 inches (6.35 cm) from the extreme forward edge of the duct.

All nonrigid airships and free balloons were to have the envelope aluminum with the control car glossy Sea Blue.

Bureau of Aeronautics Instruction NAVAER 07.1, dated March 25, 1954, revised the colors to be used in aircraft

Above: A Navy F9F-2 of VF-21 is shown landing aboard the USS Franklin D. Roosevelt. **Left:** AD-3 and AD-4Qs of Composite Night Attack Squadron 35. **Below:** The HR-2 on the engine access doors was an aid for those in the landing zone to identify arriving aircraft.



cockpits. These changes were made to improve the level of illumination in the cockpit. The level of illumination increased with an increase in altitude. A nonspecular Dark Gull Gray finish was to be applied directly over the previous Zinc Chromate green or Interior Green surfaces of all Navy and Marine Corps aircraft cockpit interior spaces, bulkheads, floors, and instrument panels except for the following surfaces which were to be nonspecular Black:

a. Canopy and windshield framing which tend to cause sun glare or light glare in the cockpit. Other framing could be gray.

b. Horizontal appendages, within the cockpit, above the top of the instrument panel and other horizontal surfaces above the pilot, which could cause sun glare or light glare areas.

Above: The high gloss of the Sea Blue paint scheme can be seen by the reflection of the tail code on the horizontal tail surfaces of this VU-1 F9F-2P.

c. All plastic lighting plates.

d. Instrument knobs. Control knobs and handles were to remain painted as individually specified as to their function.

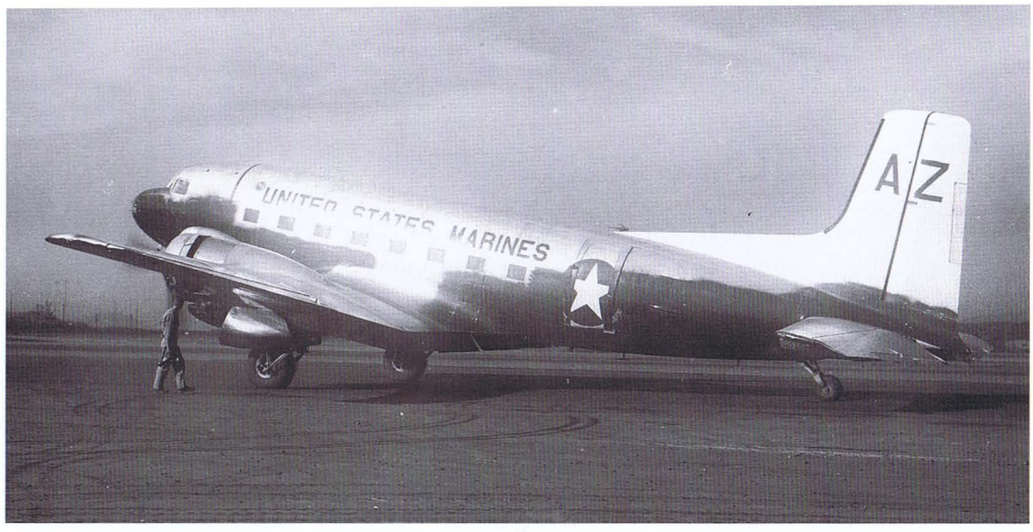
e. "Post-Light" type instrument lighting fixtures.

f. Rims of instrument cover glasses.

g. Instrument placards.

h. Areas containing lettered information. These areas were to be boxed in a black background, the border of which extended at least 1/4 inch (0.64 cm) beyond the letters.

This Sikorsky HRS-I of Marine Transport Helicopter Squadron 161 (HMR-161) based at MCAS El Toro, California, carries the national aircraft insignia on the door so it will still be visible even in the open position.



This work was to be accomplished by overhaul activities on all aircraft and aircraft spares being overhauled. Those aircraft being modernized or modified were to have this work incorporated consistent with the degree of cockpit disassembly.

BuAer INSTRUCTION NAVAER 07.2 dated February 16, 1955 and MIL-C-18263(Aer) dated February 23, 1955, both directed the implementation of new color schemes.

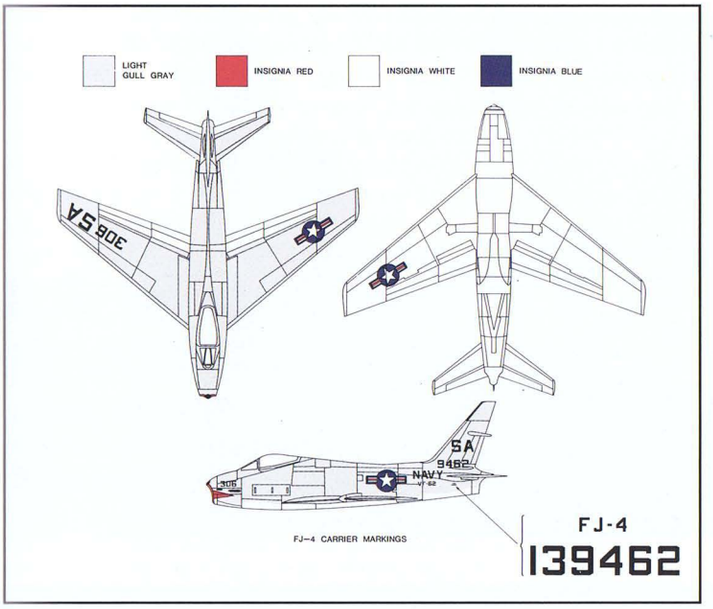
The evaluation program on unpainted fighter aircraft had served its purpose and was canceled by BuAer INSTRUCTION NAVAER 07.2 dated February 16, 1955. Aircraft formerly assigned to this evaluation program, and other unpainted fighters, were to be finished in the new Light Gull Gray and Insignia White carrier color scheme when issued from Overhaul & Repair Departments after July 1, 1955. This requirement was not to interfere with deliveries.

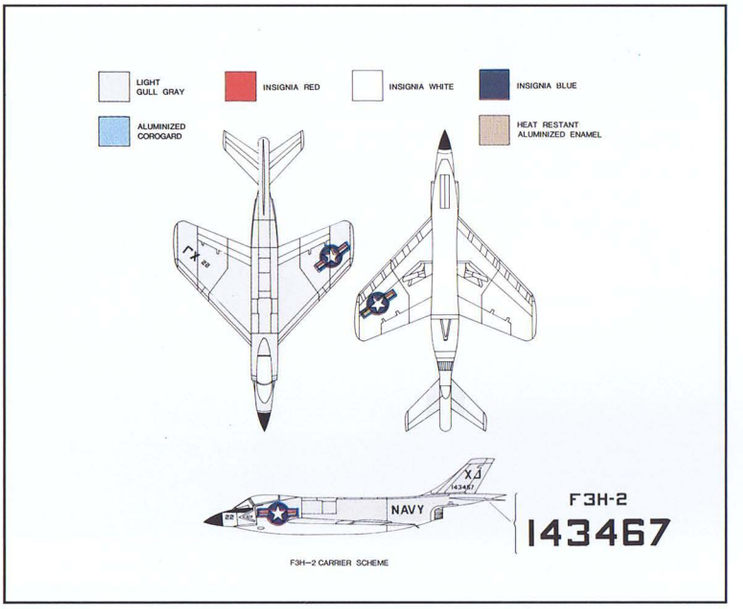
All helicopters were now to be painted nonspecular Light Gull Gray overall except those used in training. The latter were to be Orange Yellow overall. The color of the main rotor blades was not changed.

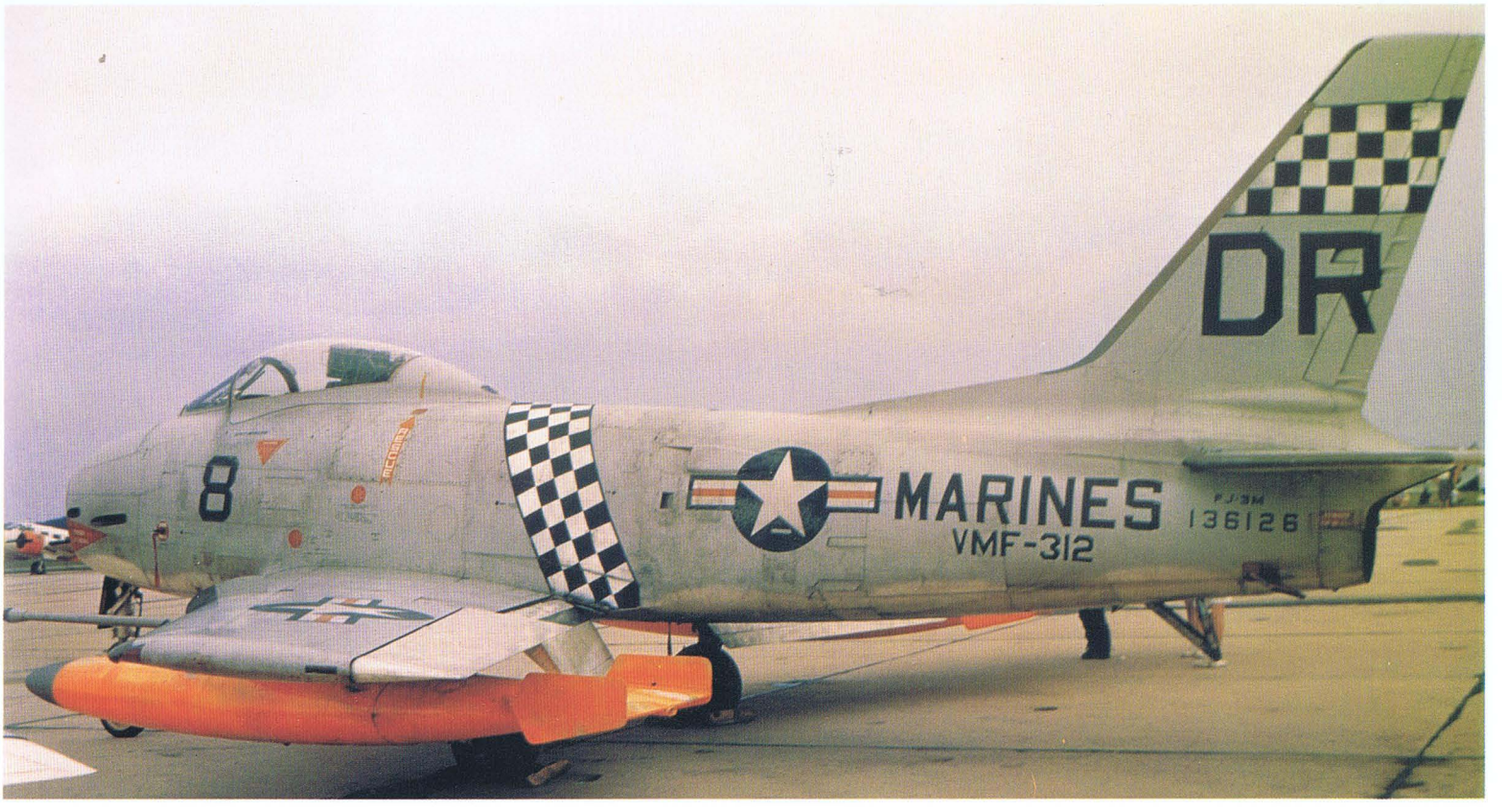
SR-202 was superseded by the new Military Specification MIL-C-18263(Aer), dated February 23, 1955. The title was changed slightly to *Colors, Exterior, Naval Aircraft; Requirements for.* All aircraft designed for carrier operation were to be painted in the new nonspecular Light Gull Gray and glossy Insignia White color scheme. This light color scheme was designed to provide a degree of visual concealment on combat types and reduce the thermal pulse factor in the event of a nuclear weapon being dropped.

Above: The First Marine Aircraft Wing Headquarters R4D-8 had this night camouflage in Korea while providing flare missions for VMF(N)-513. **Below:** While the F2H squadron aboard the USS Franklin D. Roosevelt is the number one squadron, the Corsairs had to be launched first to clear as much of the flight deck as possible for the jets.

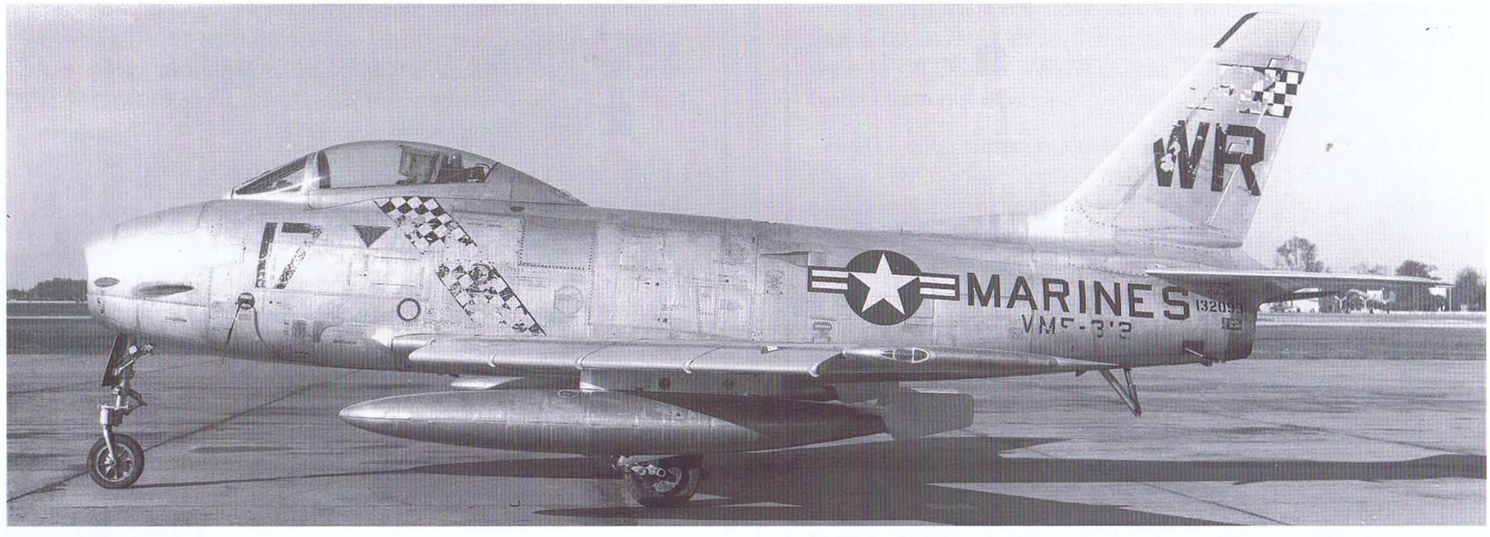
Right: Two F3H-2 Demons of VF-21 show the squadron insignia reversed. It should always face the enemy, in other words forward. Tail stripes are yellow and white, wingtips yellow with a black fuselage stripe. **Below:** Affectionately known as the Checkerboard Squadron, VMF-312's bare metal FJs were easily recognizable.

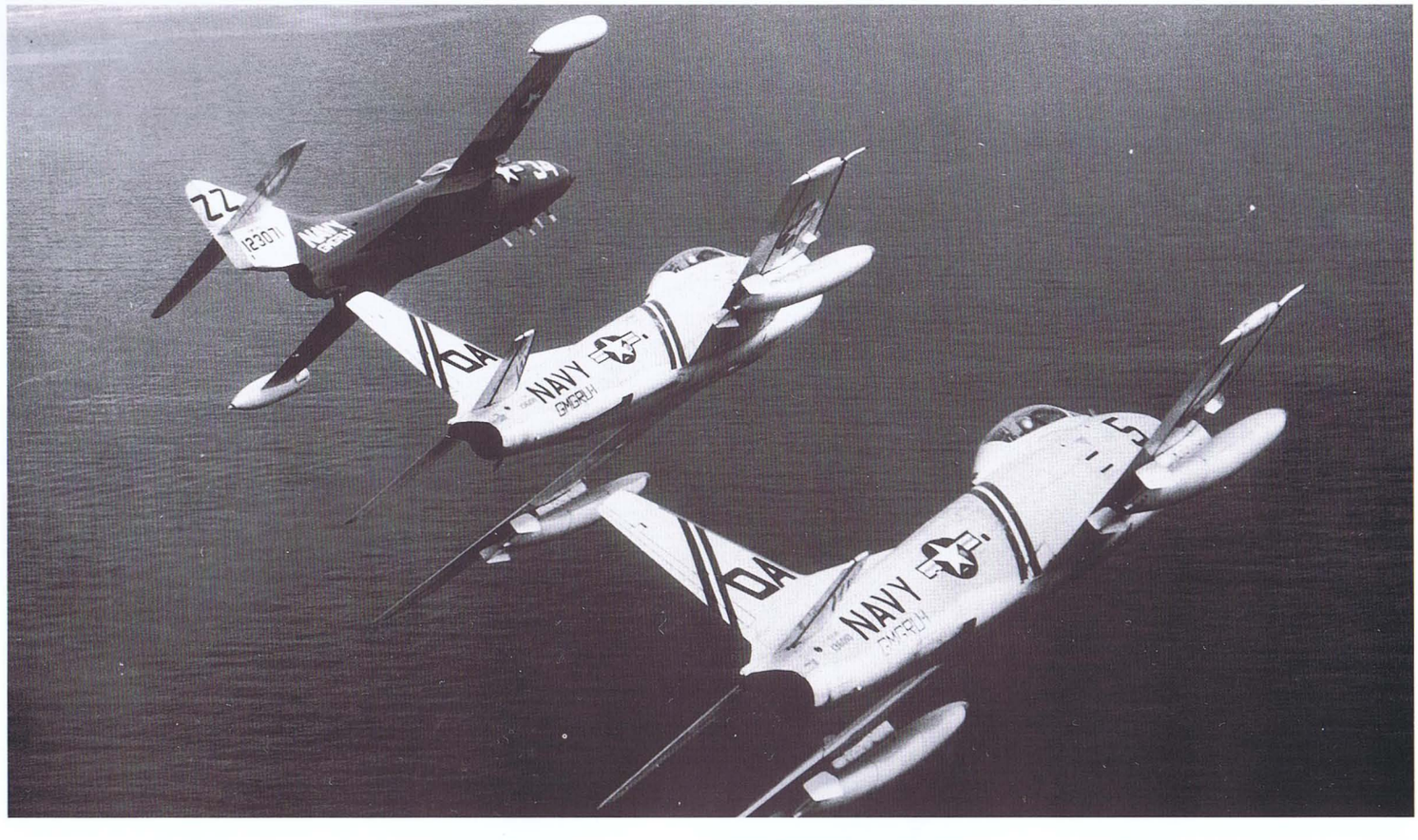






Left: F9F-6P of VC-61 is shown in the new Light Gull Gray and Insignia White scheme. **Below:** As aircraft neared replacement they were not always maintained in pristine condition. **Bottom:** A F9F-2KD is shown in drone paint scheme used to simulate a Regulus I missile being controlled by FJ-3D of Guided Missile Control Group 1.





Horizontal airfoil surfaces, viewed from above, were to be nonspecular Light Gull Gray, while airfoil surfaces viewed from below were painted glossy Insignia White. On the edges of these surfaces, except the leading edge, the two colors were to be blended at the midpoint, or the Light Gull Gray could be carried around the edge extending aft approximately 1 inch (2.54 cm) on the lower surface before blending into the Insignia White. On the leading edge, the color was that of the rain erosion resistant finish. At this time, the approved rain erosion finishes for metal surfaces were aluminized and for glass fiber reinforced plastic assemblies they varied from natural tan to black. The rain erosion finish extended from the first row of rivets or fasteners on the upper surface to the first row of rivets or fasteners on the lower surface. Due to the thinness of the horizontal control surfaces, they were to be glossy Insignia White on both sides. Vertical control surfaces and the vertical fin were Light Gull Gray on both sides. While the specifications continued to call for Light Gull Gray vertical control surfaces, in actual practice many were painted Insignia White. The fuselage viewed from above was Light Gull Gray and viewed from below was glossy Insignia White. The Light Gull Gray extended down to the line of maximum fuselage width from which point it was glossy Insignia White. In the case of aircraft, such as the AD, where the fuselage sides were substantially straight, the Light Gull Gray was to extend down the sides to a point approximately 1 inch (2.54 cm) above the juncture of the side and bottom surfaces being blended there with no definite line of demarcation. Engine nacelles were painted in the same manner as the fuselage. Because of the effect of the thermal pulse from a nuclear weapon, aft facing and belly radomes were painted glossy Insignia White all over. This requirement took precedence over any provision to the contrary, such as the warning note DO NOT PAINT,

Above: This bare metal finish R5D of Fleet Logistic Air wing is being used to ferry HTL-4s from MCAS Quantico, Virginia to Korea. **Below:** Appearance sometimes suffered due to operational commitments as seen on the F7F-3N at Pyongtraek (K-6) Korea in 1952. Tail down position was not unusual in an unloaded aircraft.

Left: The placard on the nose of this VR-l R5D shows that the Commandant of the Marine Corps is aboard. Note also the Fleet Logistic Air wing insignia. **Right Top:** The three different aircraft operated by VMF(N)-513 in Korea can be seen in the flat black scheme with markings in dull red to reduce night visibility. **Right Middle:** F4U-4B of VMF-323 is having the rockets plugged in prior to take off. **Right Bottom:** Another VMF-323 Corsair shows extreme wear to the finish.

which appears on many radomes. Other glass fiber plastic assemblies such as forward facing radomes, radio antenna housings, noses, fairings, wing tips and intake ducts, for which rain erosion protective finishes were required, were painted to match the adjacent surfaces except for the entering or frontal areas. These surfaces were not over-painted for color matching purposes but left the natural black color of the neoprene finish.

Aircraft painted in the carrier scheme were to have no markings on the glossy White undersurface other than small maintenance markings and the national aircraft insignia. The other markings, as well as the design and location of the national aircraft insignia, remained unchanged. The application of wax coatings of any type on the white undersurfaces was strictly prohibited.

Patrol planes, both landplanes and seaplanes, were to be painted overall semigloss Seaplane Gray. Aircraft assigned to antisubmarine warfare (ASW) use were to be painted in the carrier color scheme if designed for carrier operations.

Below: This AD-4 shows the wing fold area including the canvas dust covers painted Sea Blue which was the standard practice on all folding wings.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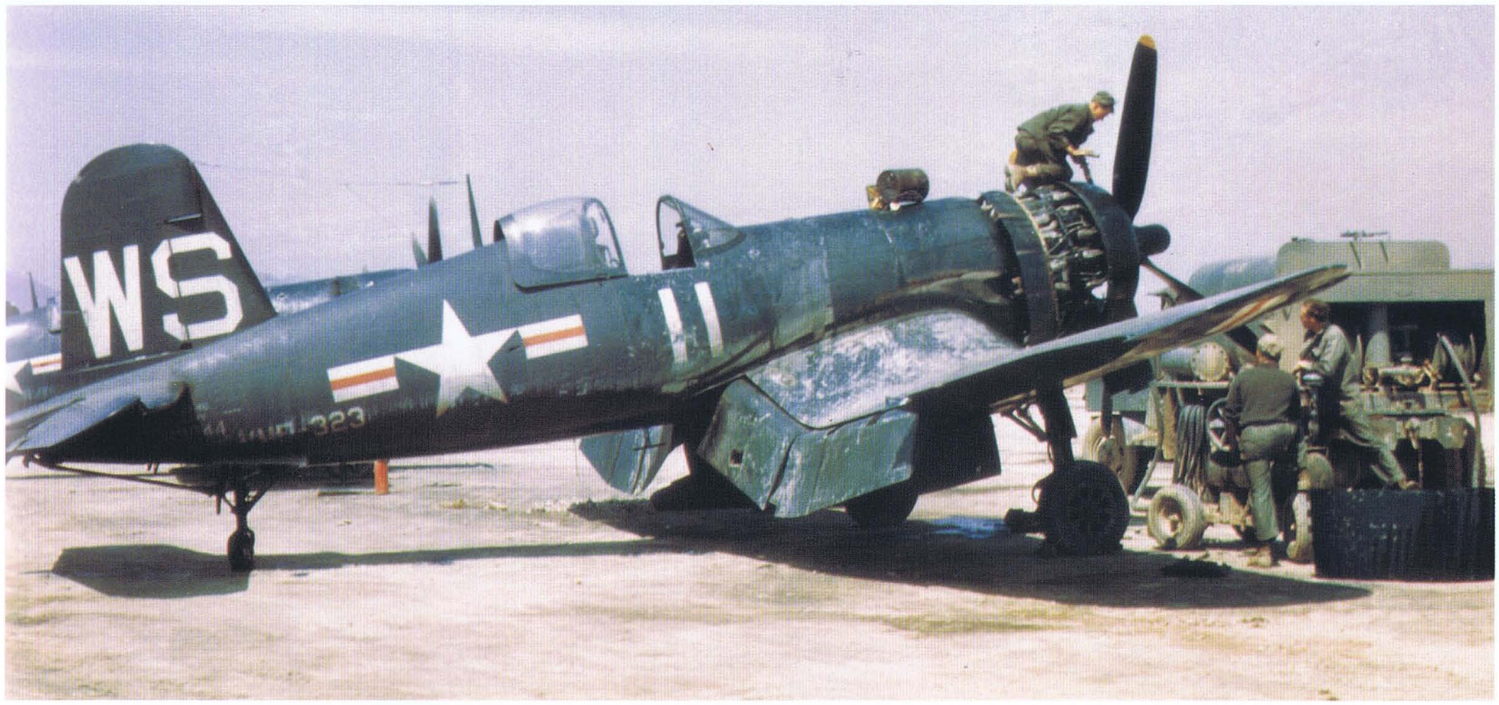
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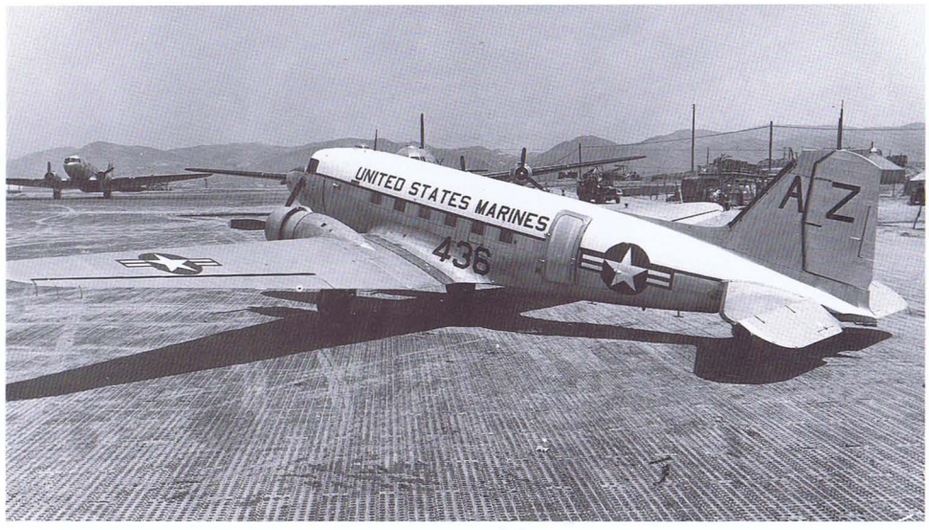


Left: First Marine Aircraft Wing Headquarters R4D-5 in K-I, Korea is shown with the new white top scheme.
Below: AU-I at K-6 shows the primitive operating conditions in the fall of 1952.

If designed for land-based operation, the aircraft came under the patrol aircraft category and were to be finished in the patrol plane color scheme. Helicopters assigned to the ASW mission were exempt from these requirements.

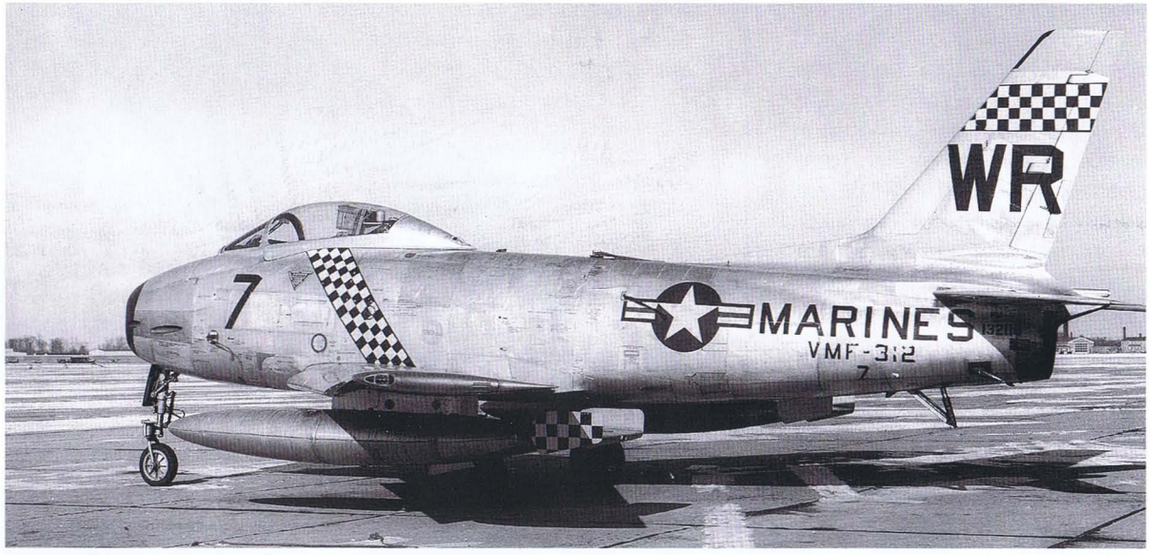
Aircraft not used for training could be painted with the International Orange and Insignia White scheme, but Bureau of Aeronautics approval was required in each case. Utility land-based aircraft operating in areas of heavy air traffic also could be painted in this scheme when authorized by the Commander Air Force, Atlantic Fleet (COMLANTFLEET), Commander Air Force, Pacific Fleet (COMPACFLEET), Chief of Naval Air Training (CNATRA), or Chief of Naval Air Reserve Training (CNART) as applicable; or in the case of aircraft assigned to an Air Station, the Chief of the Bureau of Aeronautics.

Target Towing and Drone Control aircraft were given a new paint scheme reflecting the general change from the Sea Blue of the past ten years. The fuselage, cowling and engine nacelles on multi-engine aircraft were Engine Gray except surfaces extending into the topside of wings. In this case, these surfaces were painted to match the wings. The wings, horizontal stabilizer, elevators and vertical fin were Orange Yellow. The vertical fin fairing was painted to match the fuselage. The Orange Yellow terminated on a line formed by projecting the fin leading edge down to the fuselage. Wing walkways could be either Engine Gray or, in the case where the wing is utilized to enter the aircraft, they could be antiskid black material. The rudder was painted Insignia Red. Insignia Red bands 3 feet (91.44 cm) wide encircled the wing panels. On single-engine aircraft, the bands were located one-third the distance from fuselage to wing tip, with the center line parallel to the thrust line. On multi-engine aircraft, the bands were located midway between the national aircraft insignia and the engine nacelle with the center line of the bands parallel to the thrust line. However, in the event there was insufficient space to locate these bands as specified above they could be located adjacent to the outboard nacelles. The national aircraft insignias could overlap the wing bands, but the bands could not overlap the insignia. The national aircraft insignia could not be altered in size or location to accommodate these markings.

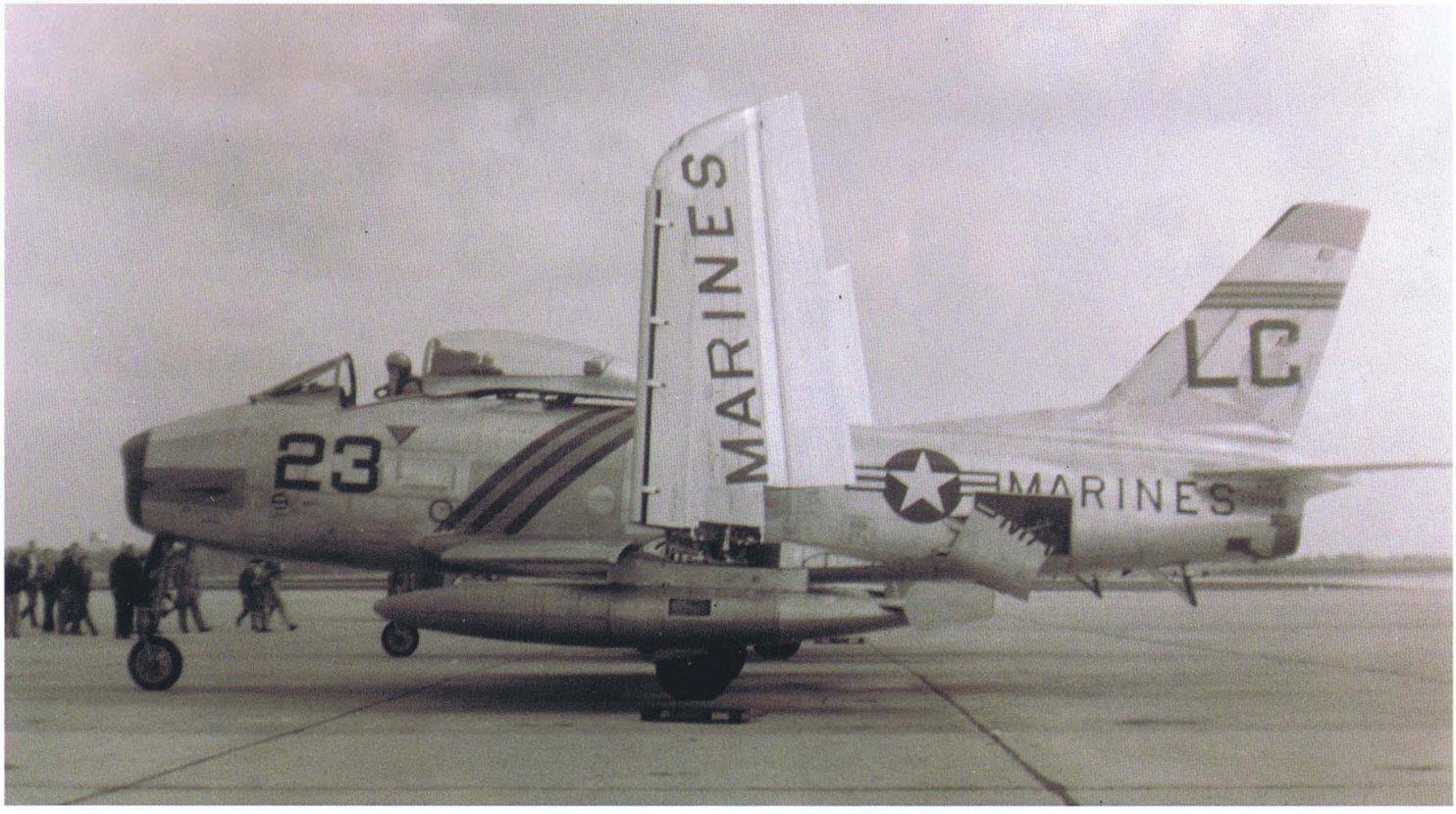
continued on p. 32

Right: Incomplete markings make it impossible to identify the squadron to which this R5D-3 belongs while operating as a component of the Naval Air Transport Service. **Below:** Was there ever a more colorful paint scheme applied to a Corsair in an operational squadron?

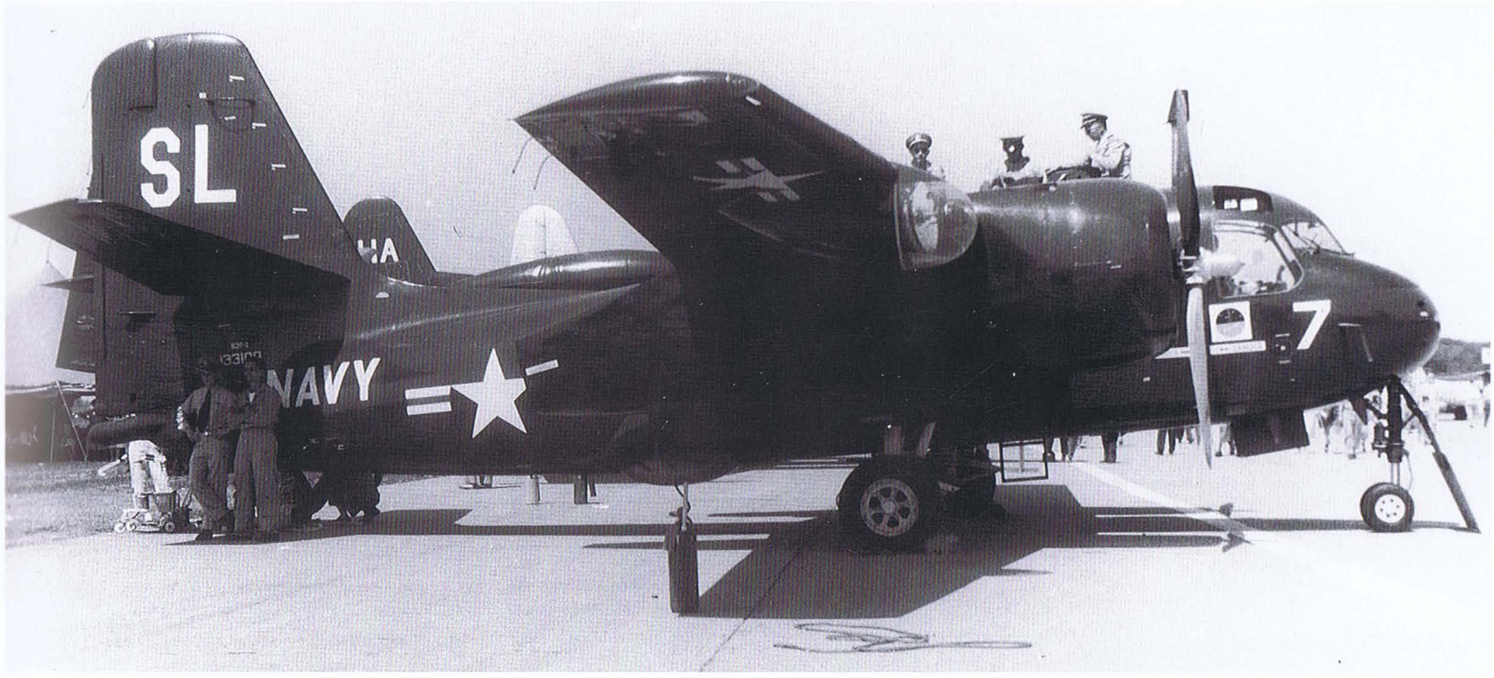
Left: Inner surfaces of speed brakes were painted red as a warning to those working around the aircraft.

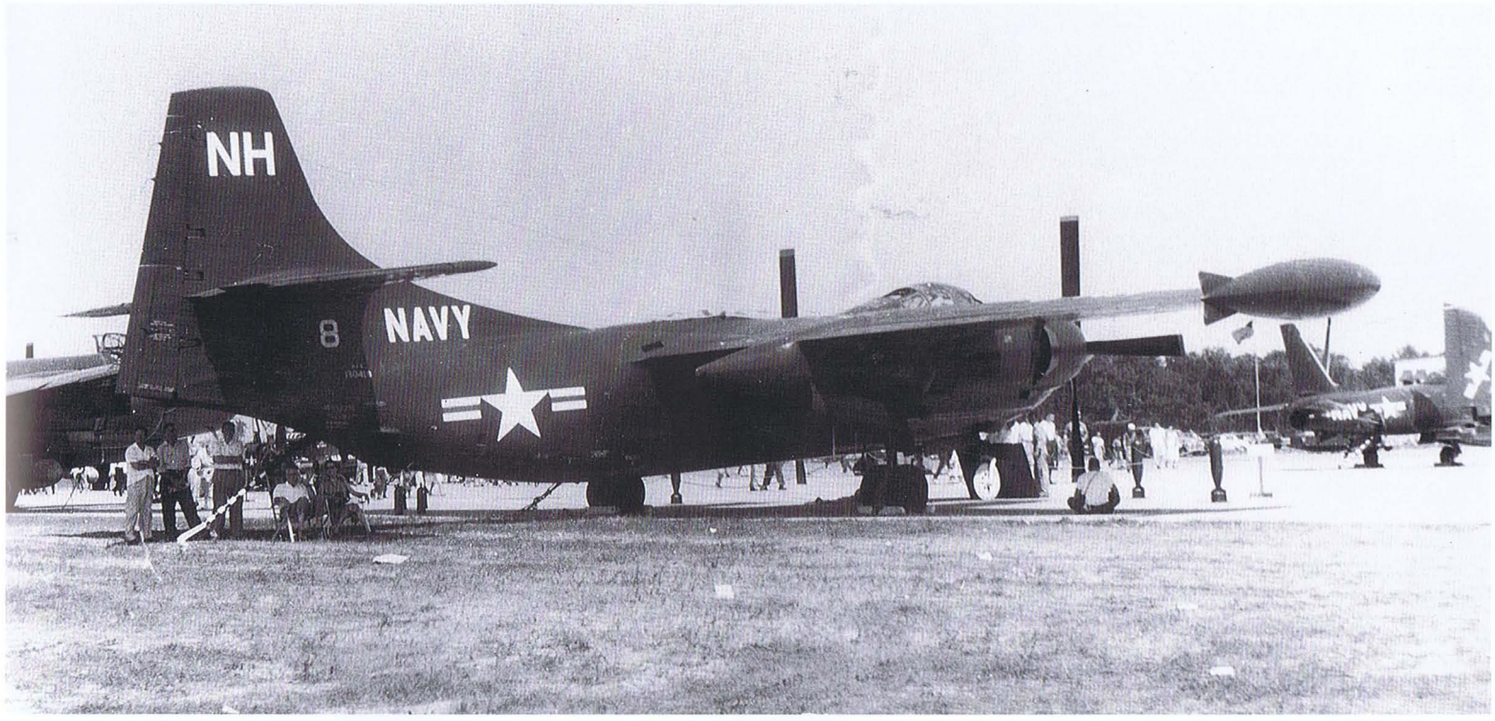


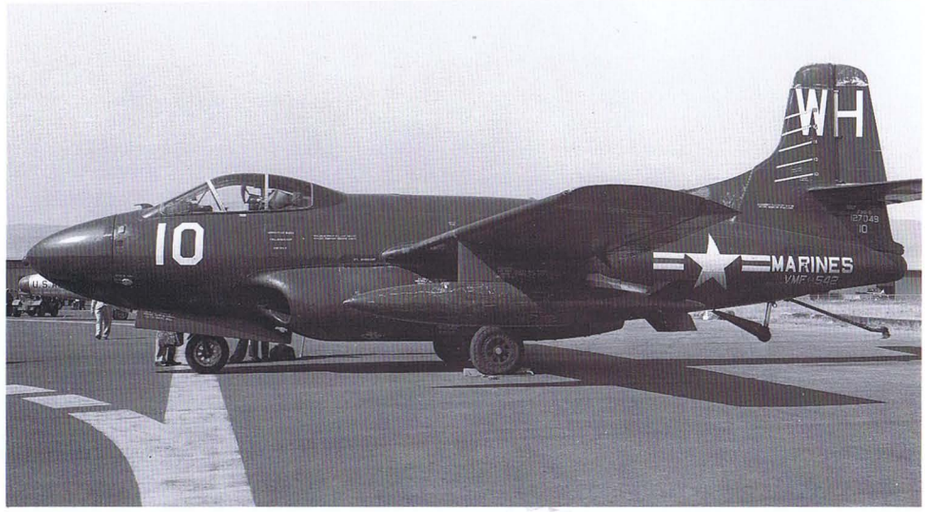
Left: VF-312 was one of five Marine Corps squadrons to operate the FJ-2. The black and white checkerboard desig was repeated on the fins of the drop tanks. The nose was painted Insignia Re in lieu of the warning chevron. **Below:** A visitor to South Weymouth in 1954 was this North American FJ-2 Fury of VMF-122.



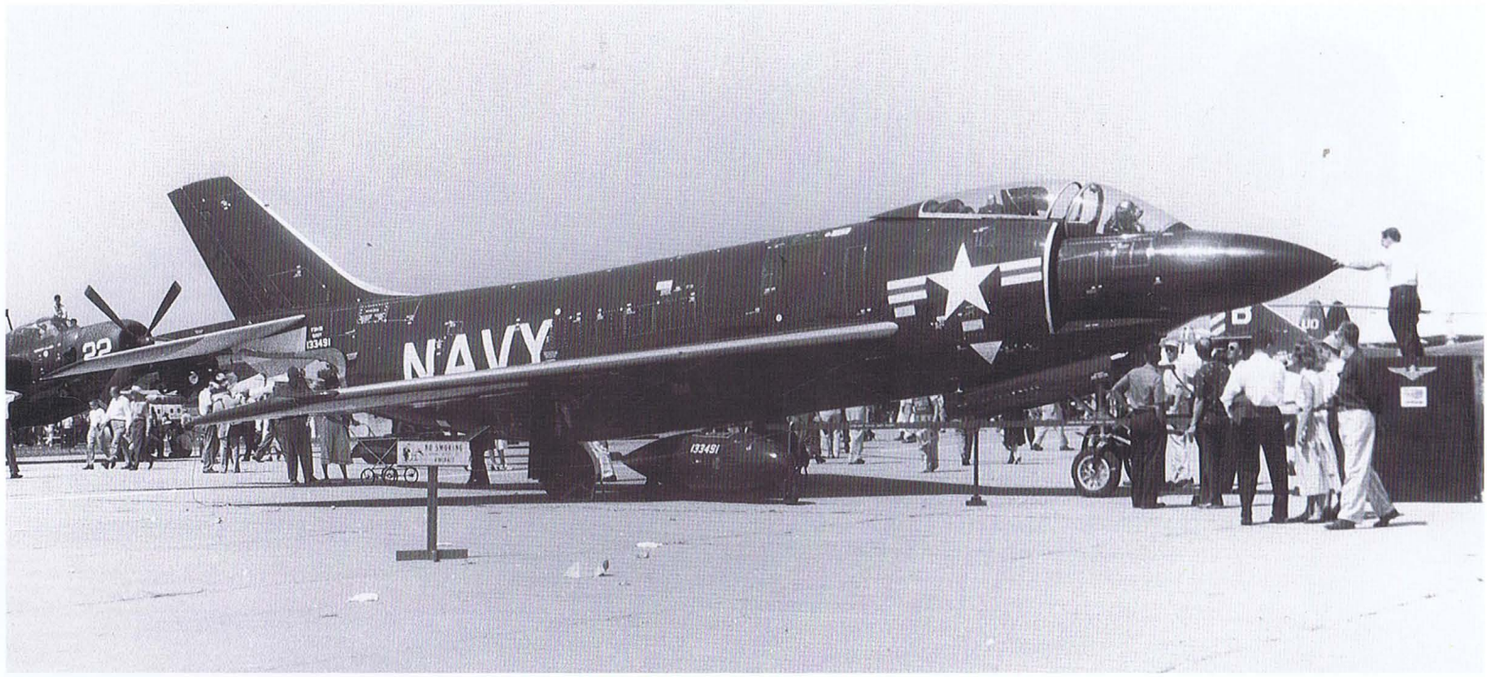
Right: This Kaman HOK-1, Bu. No. 129801, without any squadron markings, was formerly part of the Bradley Air Museum collection. When on active duty it was most likely used as an Air Station rescue aircraft. **Below:** This Grumman S2F-1 Tracker on display at the 1954 Dayton, Ohio Airshow was affectionately known as the STOOF for S-TWO-F. **Bottom:** Only the tail code identifies the AJ-2 Savage as belonging to Heavy Attack Squadron 7 (VAH-7). This aircraft was also part of the 1954 Dayton, Ohio airshow.

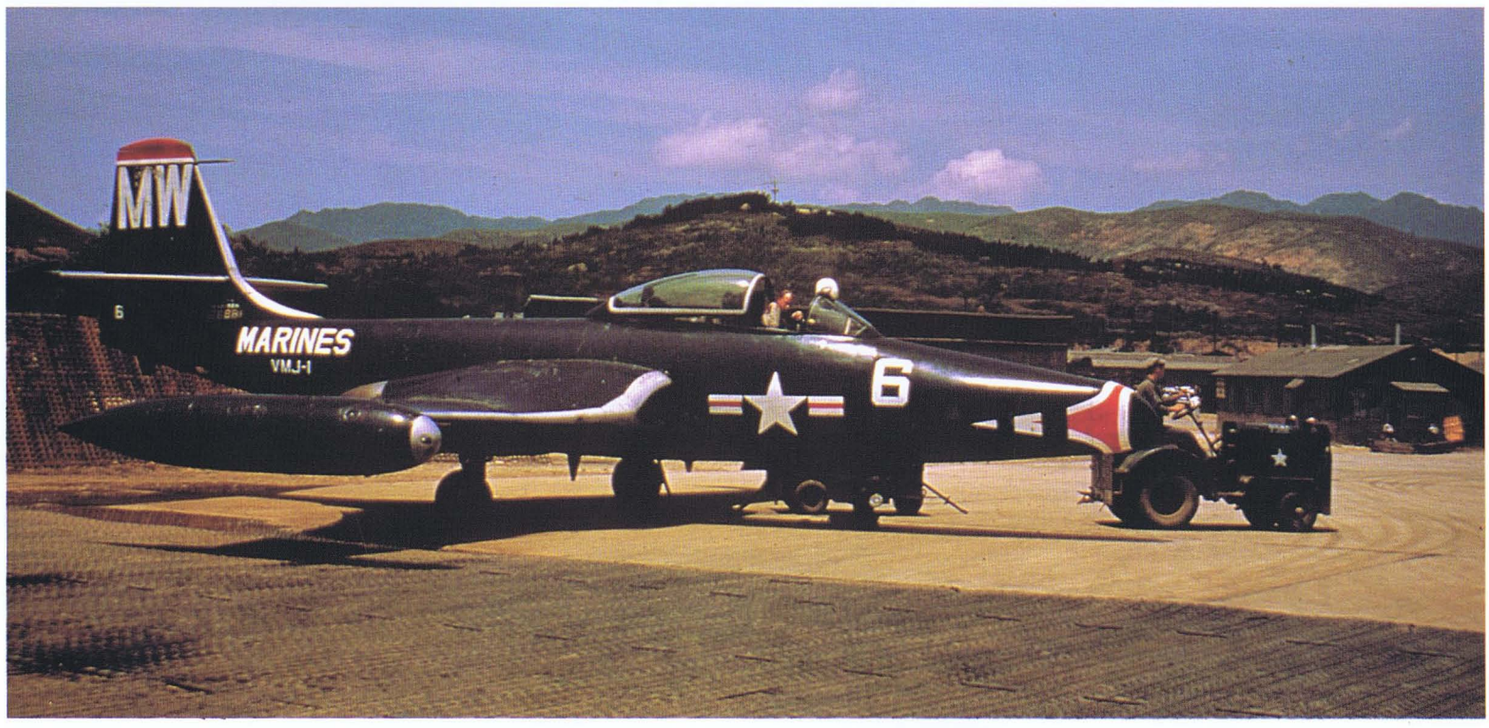


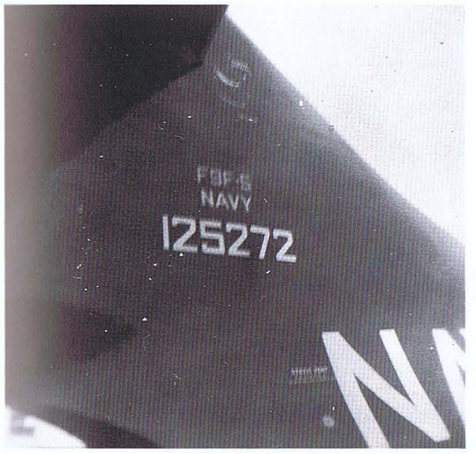




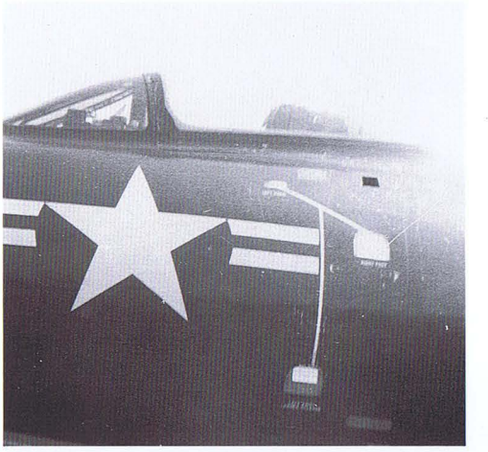
Left: The slanted lines on the vertical of the Douglas Skyknight's fin were an aid for the Landing Signal Officer in setting up the correct approach to the carrier. **Below:** McDonnell F3H-IN Demon lacks unit markings but was on display at the 1954 Dayton, Ohio airshow. **Bottom:** A colorful F2H-2P of Marine Utility Squadron 1 (VMJ-1) which operated at Tague, Korea. This squadron flew photo missions far north, even across the Yalu River.

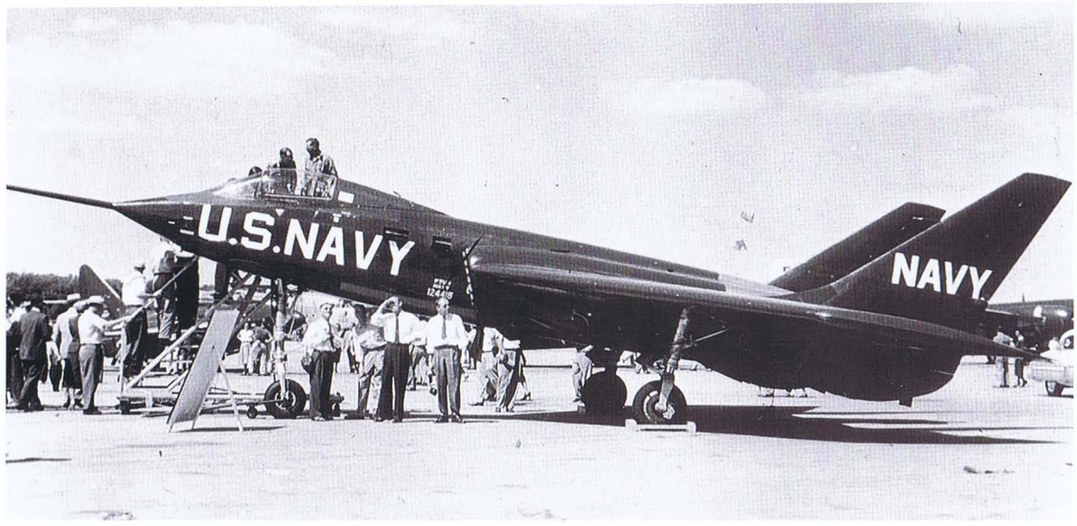




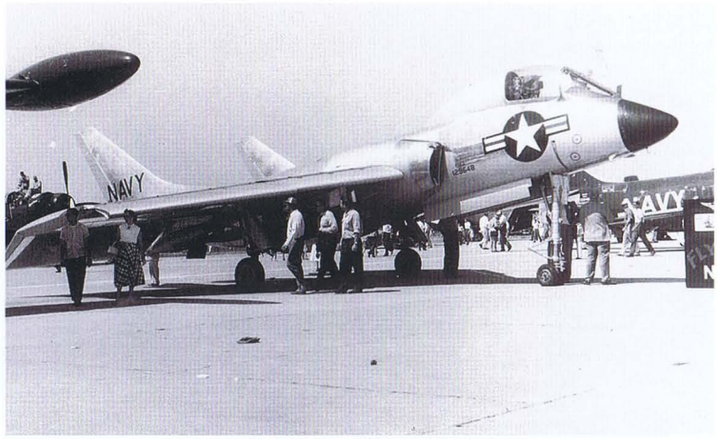


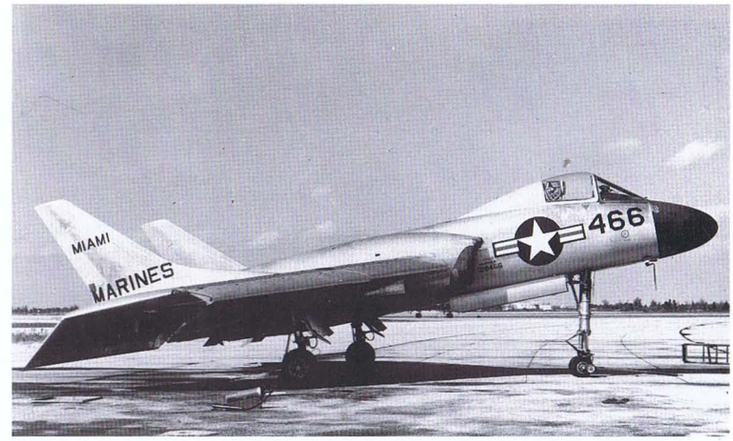
Above: This Panther has removable red engine intake baffles in place to keep foreign objects out when the engine is not running. **Left:** The Model, Branch of Service, and Bureau Number are correctly applied to this Panther. **Right:** White lines painted to guide the pilot's feet to the built in steps for getting in and out of the F9F-5. **Below:** Nonregulation markings on the nose of this F9F-5 were condoned for morale purposes.



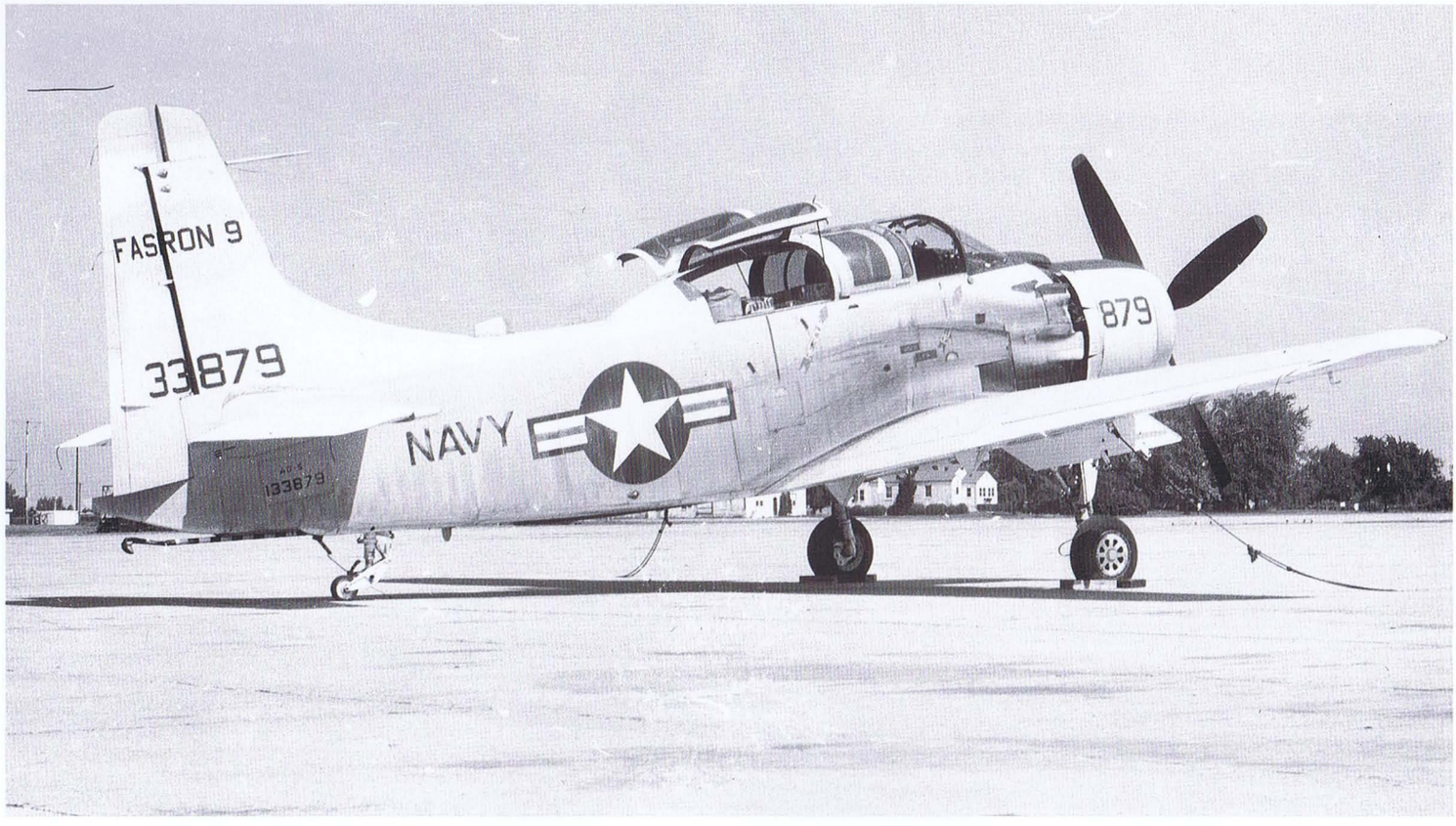


Left: This photo illustrates one of the two F7U-I Cutlass which were flown by the Blue Angels. The remaining twelve aircraft were used by the Advanced Training Command. Compare the changes in nose configuration during the development of the F7U with the aircraft shown on page 186.

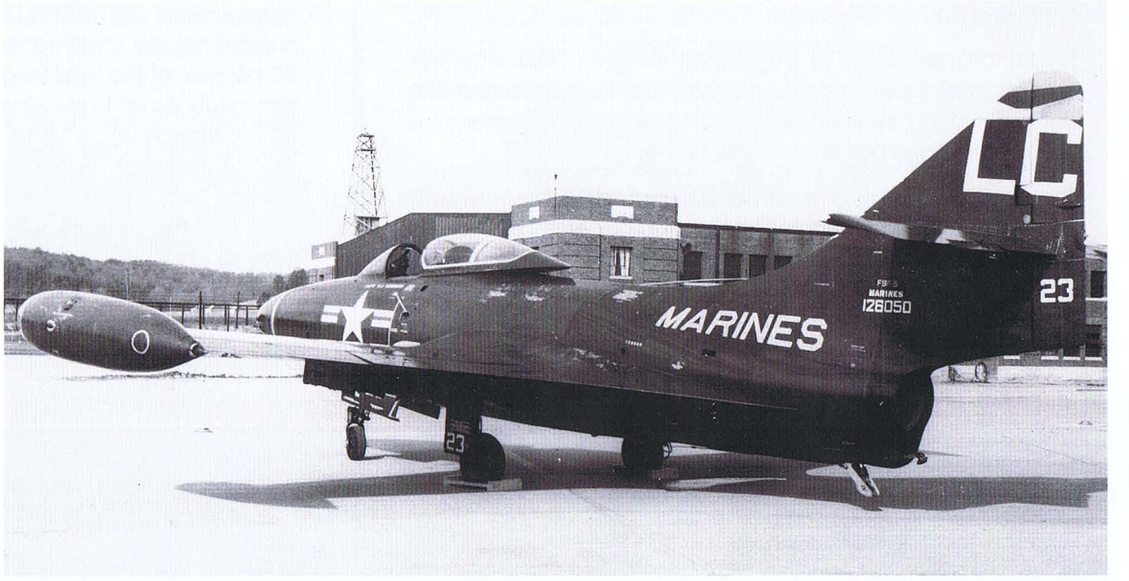




Above: This photo depicts one of the two F7U-3 Cutlass used by the Marine Corps at MCAS Miami in support of a high speed aerial mine laying project. **Above Right:** An operational squadron's F7U-3 shown at the 1954 Dayton airshow. Note the subtle difference between this aircraft's radar cover and that of the Marine Cutlass in spite of the fact both aircraft were F7U-3s. **Below:** This is an AD-5 assigned to Fleet Service Squadron 9 for utility work. Not all FASRONS had aircraft assigned.



Above: The large Branch of Service and Squadron designation shown on this F9F-2 at the Bradley Air Museum were optional after March 31, 1950, but mandatory after June 16,1952. **Right:** Lacking a squadron designation, this Panther can be identified as belonging to VMF-122 by the LC tail code. **Below:** Marine Utility Squadron 3 (VMJ-3) at MCAS Miami repeated its colorful red nose markings on the wing tip tanks and tip of the fin and rudder of this F9F-5P Panther.



Left: A bare metal R6D-I of VR-I in 1953 is shown prior to the solar heat reflecting white top scheme. **Bottom:** The FJ-3 Fury was painted in the overall Sea Blue scheme for a short period prior to the introduction of the Insignia White and Light Gull Gray scheme. This pristine example was a participant in the 1954 Dayton airshow.

continued from p. 24

Target drones were to be overall Insignia Red with the exception of those models normally controlled from within sight of ground stations. Those models had the upper surface of the wings painted Insignia White.

The Arctic color scheme could be applied to Navy aircraft when authorized by Commander Air Force, Atlantic Fleet, or Commander Air Force, Pacific Fleet, and on Marine Corps aircraft when authorized by the Marine Air Wing Commander. The purpose of these markings was to assist in spotting a downed aircraft against a snow background. International Orange was applied on all tail and fuselage surfaces measured from the extreme rear of the aircraft for a distance of 30 percent of the total length of the aircraft. The top and bottom surfaces of both wing tips, extending inboard from the tip a distance equal to 15 percent of the wing span, was of the same color. Fuselage markings, such as Branch of Service, etc., could not be overlapped by this color application, but the reverse was permitted. The national aircraft insignia could not be altered in size or location. The remainder of the aircraft was to be painted in the colors prescribed for its type. On helicopters, the color scheme consisted of International Orange overall, except for areas requiring exten-

Right: ABANDON CHUTE is painted on the bottom of this fluorescent Orange Yellow HRS-2 assigned to the rescue mission at MCAS Cherry Point, North Carolina. **Bottom:** The first two Marine Corps FJ-2 squadrons on the west coast used the same decorative paint scheme. VMF-235 utilized a red background while VMF-451 used blue. The national aircraft insignia on the wings of this Fury was improperly positioned.

sive masking. These areas could retain the basic aircraft color scheme for ease of application. Rotor blades retained their normal painting.

Utility seaplanes, seaplane transports, advanced trainer seaplanes, early warning aircraft not carrier-based, and antisubmarine patrol landplanes and seaplanes, were to be overall Seaplane Gray. Utility landplanes and land-based transports were to remain unpainted aluminum or aluminized lacquer with the transport aircraft having the solar heat reflecting Insignia White on top of the fuselage.

The painting of nonrigid airships was modified so that the control car was now Light Gull Gray with the envelope retaining the aluminum color as before.

Antiglare areas on all aircraft, regardless of color scheme, were now to be painted nonspecular Black.

Wheel wells were now to be glossy Insignia White, as were all types of retractable landing gear.

The name "speed brakes" replaced "dive flaps." However, the requirement still existed to paint their inner surface with glossy Insignia Red. The inner surface of wing flaps was added to this requirement. The exterior of these surfaces was to be the color of adjacent areas.

Propeller blades now did not need to have their rear surface painted black if corrosion protection was not required; and if the blades were so situated that there was no excessive

Left: This Piasecki HUP-2 of Helicopter Anti-Submarine Squadron 2 is shown in the overall gray scheme. **Below:** The replacement aircraft for VMF(N)513 were painted Sea Blue but retained the dull red identification markings. These aircraft, such as the Douglas Skyknight shown here, can be identified by the numerous white stripes and service markings used by all other squadrons.

brightness or glare in the pilot's or co-pilot's eyes from them, as in the case of propellers which rotate in a plane aft of the pilot. In all other instances, the blades were to be painted black.

MIL-C-8779(ASG) *Colors, Interior, Aircraft, Requirements For;* dated July 7, 1955, is the earliest found directive devoted solely to the interior colors of Naval aircraft. All interior colors, except when specifically stated otherwise, were to be nonspecular.

Cockpit and flight deck interiors were identified as those areas in which the assigned crew member(s) have regular duties which require their making visual observations, either within the aircraft or through windshields, windows, or ports. These areas were to be finished as follows: Floors, walls, ceilings, seats, seat bases, steps, and instrument panels were to be Dark Gull Gray. Instrument bezels, mounting flanges and adjustment knobs were finished in flat Black. Structural members of control consoles and pedestals as well as overhead mountings for control units and their surrounding areas, foot pedals and control columns, with the exception of the control handle grips, were to be Dark Gull Gray. The control handle grip was to be Black.

The canopy and windshield framing was all to be flat Black. Where a structural member can be considered either a windshield framing or a control mounting, at least 1 inch (2.54 cm) bordering the windshield was required to be Black. Glare shields and horizontal surfaces above the top of the instrument panel must also be Black. Where a glare shield was

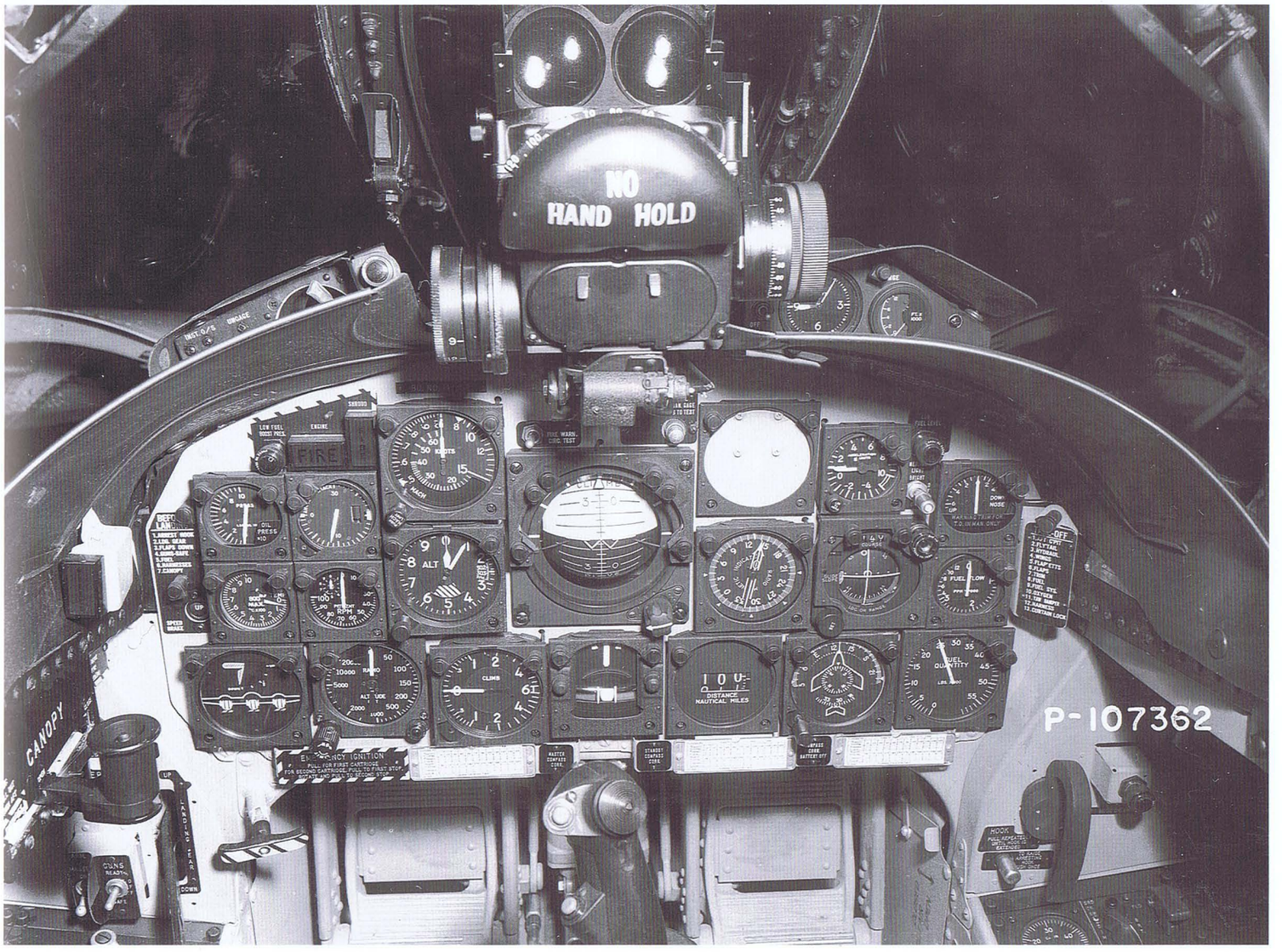
Right: The lack of white markings on the VMF(N)-513 black Skyknight is apparent. **Bottom:** Front cockpit of the F9F-8T shows the Mk 8 gyro-controlled, lead computing sight head. In keeping with regulations, the instrument panel was painted Dark Gull Gray while instruments were flat Black.

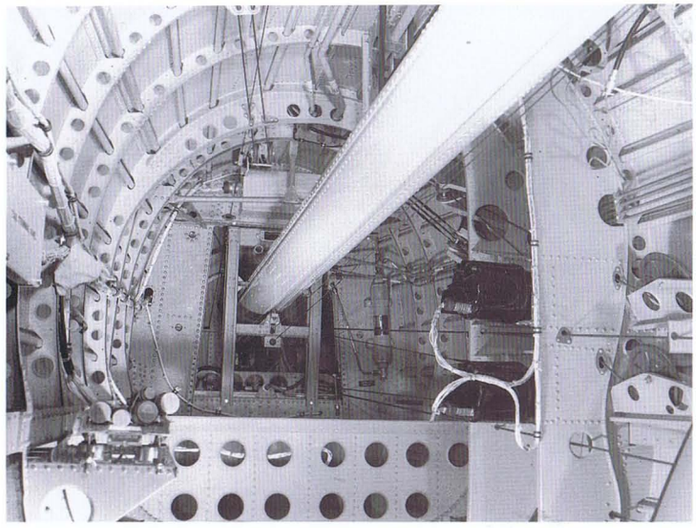
not used, the black was to extend 1/2 inch (1.27 cm) below the top of the instrument panel. Other horizontal surfaces which were at or above the lowest extent of transparency (windshields, canopy, windows) were to be Black.

Control knobs were Light Gull Gray, while all handrails and table legs throughout the entire aircraft were satin aluminum finish.

All detachable seat cushions and padding were to be semigloss International Orange. Other seat cushions and padding were to be a color which produced the most harmonious overall appearance.

Special operational compartments were identified as anti-submarine warfare, radar, sonar spaces, etc., which are not "daylighted," where there is no regular need for making visual observations from the aircraft and where there is a definite advantage in the promotion of visual dark adaptation. In these locations, the immediate working areas in front of the operators, including mounting racks, support





Left: This photograph shows an interior view of the S2F-I fuselage looking aft. **Bottom Left:** Grumman TF-I Trader interior. Note the markings for the overhead emergency escape exit. **Bottom Right:** S2F-I interior looking forward. All colors conform to color regulations as outlined in the text.

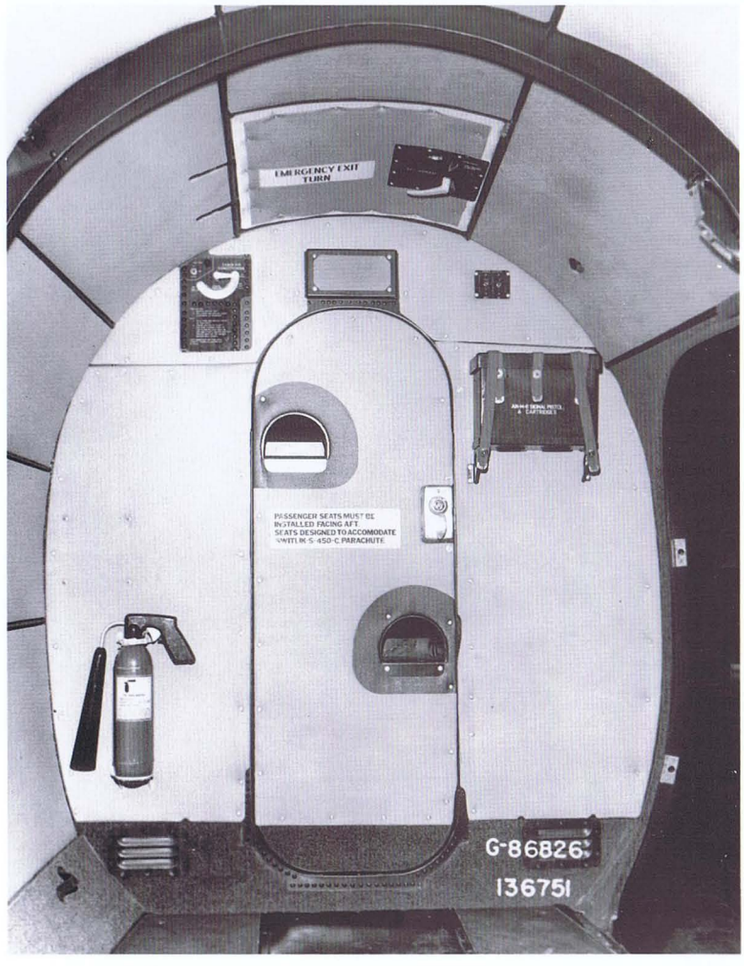
structures, walls, etc. (except working tabletops) were to be Black. Writing surfaces and working tabletops were a Dark Gull Gray. The color of all other surfaces conformed to the requirements specified for cockpit and flight deck areas.

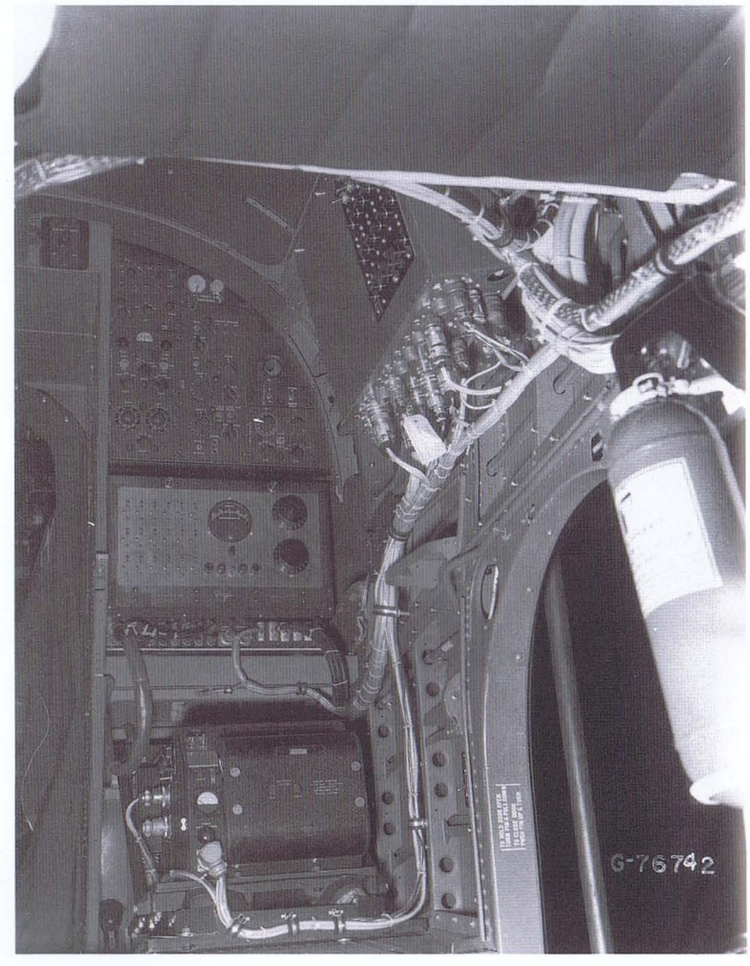
Crew and passenger compartments include all other occupied spaces not specifically defined previously. The walls above a line 3 feet (91.44 cm) from the floor, ceilings (including all exposed structural members, ventilating ducts, etc., within the ceiling and wall area) and the lavatory walls and ceiling were to be Light Gull Gray. The lower portion of the wall up to the 3 foot (91.44 cm) line, floors, steps, tabletops, writing surfaces, seats, and seat bases were to be a Dark Gull Gray.

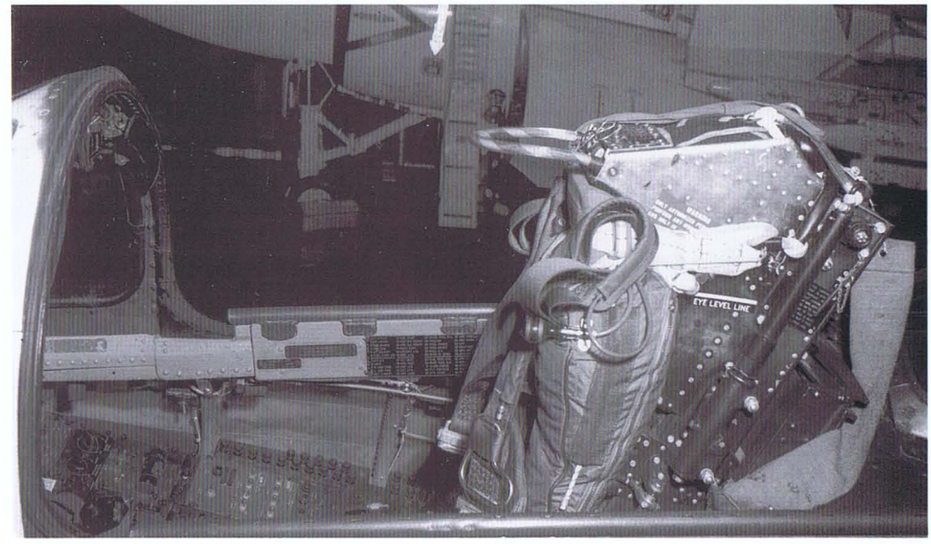
Bunk covers, pillows, mattresses, and lavatory curtains were to be Dark Gull Gray. The bunk structures, handrails and table legs were satin aluminum finish. All detachable seat cushions and padding were semigloss International Orange. Other seat cushions and padding were to be a color which produced the most harmonious overall appearance.

The soundproofing and interior trim material throughout the aircraft were Light Gull Gray or were to match the color of the surroundings as closely as practicable.

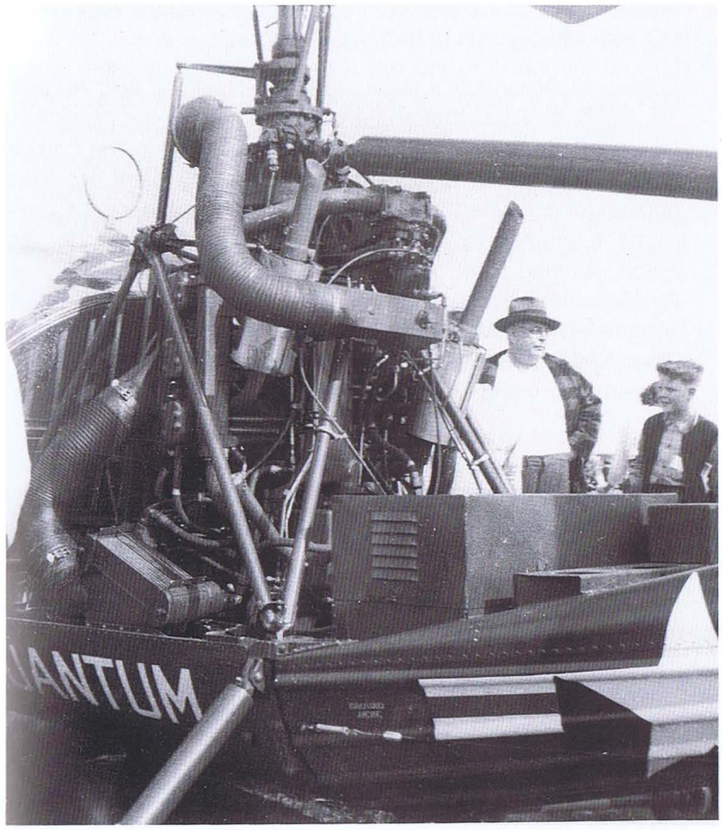
Uninhabited spaces include interior structural spaces, baggage compartments, cargo spaces, etc. Those spaces requiring more than one coat of Zinc Chromate primer were to be Interior Green, except as prescribed in the following condition.

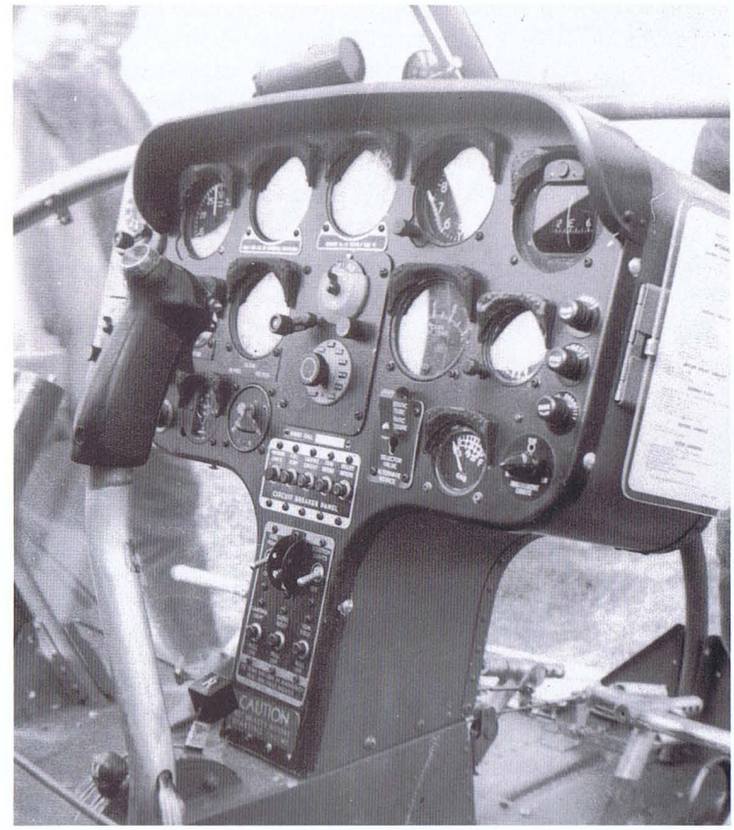


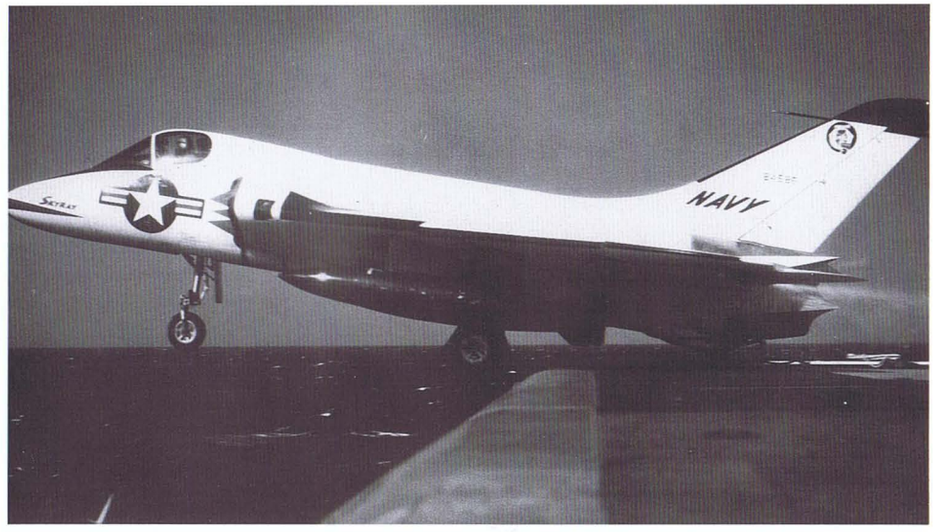




Right: This close-up reveals information applied to the pilot ejection seat in the F9F-8T. **Bottom Left:** The Hiller HTE-2 configuration made locating the required identification markings a problem. **Bottom Right:** Cockpit detail of the HTE-2. **Bottom Left:** Seating arrangement of the Grumman TF-1 Trader looking forward. **Bottom Right:** A Trader configured for cargo with the troop seats stored against the bulkhead.







Left: While undergoing trials on the USS Coral Sea (CVA-43), the XF4D-l carried a Douglas company paint scheme but used a Sea Blue drop tank. **Below:** During the transition period VMF-223 operated Sea Blue as well as Insignia White and Light Gull Gray F9F Panther aircraft.

The interior of bomb bays and other spaces from which bombs or other explosive devices are released must be glossy Insignia White. Passageways and catwalks located in otherwise uninhabited spaces were Dark Gull Gray. The interior of the engine cavity may be glossy Insignia White when temperature reduction of the surrounding airframe structure was determined necessary for a specific model.

Amendment 1 to MIL-C-8779(ASG), dated December 1, 1955, amplified the interior color scheme when it authorized the line of demarcation, between the Dark Gull Gray and Light Gull Gray, to be varied up or down to coincide with any existing natural break in the wall paneling or lining to present a more harmonious and practical separation of the colors. Interior walls of turrets were to be painted Light Gull Gray, but the decking was to be Dark Gull Gray.

Bureau of Aeronautics letter Aer-AE-421/214 dated August 15, 1956, directed that shore-based aircraft in the continental United States and its possessions, painted in the carrier paint scheme, could have the high visibility paint scheme applied locally when approved by the applicable local Command, (Commander Air Force, Pacific Fleet; Commander Air Force, Atlantic Fleet; Chief, Naval Air Training; Chief, Naval Air Reserve Training; Commanding General, Aircraft, Fleet Marine Force, Atlantic; Commanding General, Aircraft, Fleet Marine Force, Pacific; or Commander of Naval Air Bases). If applied, it was to be with temporary removable

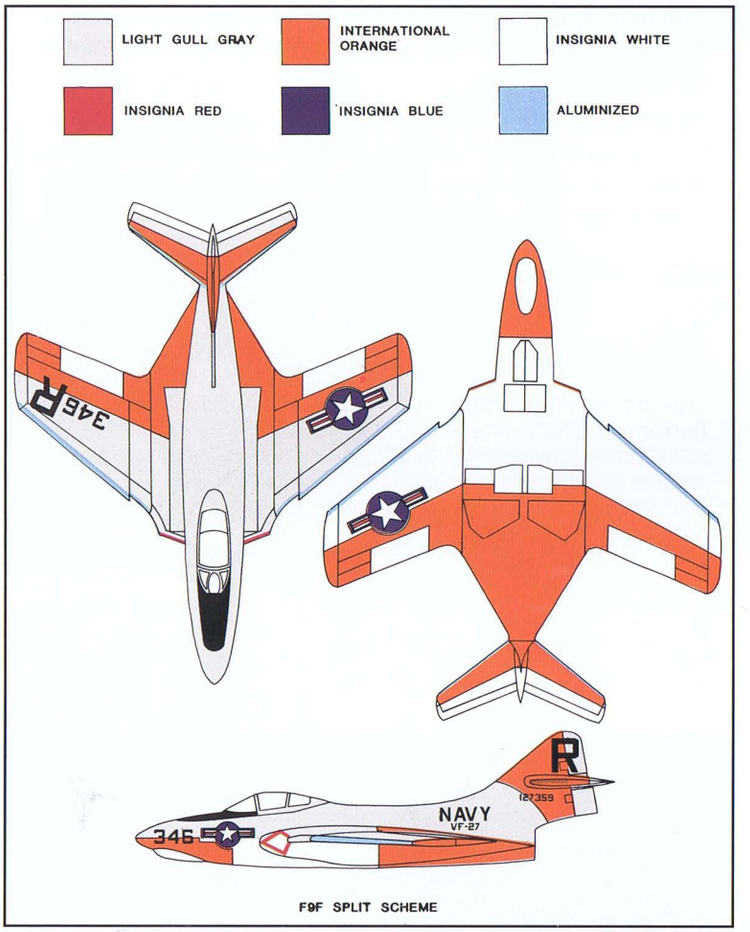
Right: A high visibility F4D-I Skyray assigned to Armament Test at the Naval Air Test Center, Patuxent River, Maryland. **Bottom Left and Right**: Two photographs showing the older landing gear paint scheme (on an F3D-1 Skyknight) and the new all white scheme (on an SP-2E).

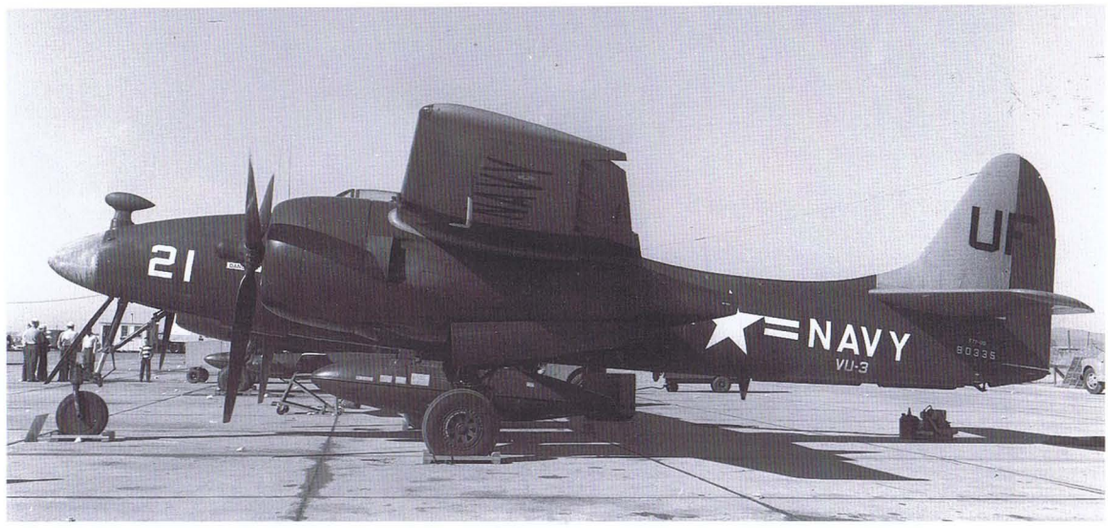
paint over the existing paint in the areas previously identified. This results in a modified "split" color scheme of Light Gull Gray, International Orange on the upper surfaces, Insignia White and International Orange on the lower surfaces. Prior to deployment outside the continental United States or its possessions, except on purely training exercises during such deployment, the International Orange paint had to be removed and the aircraft restored to the carrier color scheme. This information was to be included in the revision to MIL-C-18263(Aer).

MIL-C-18263A(Aer), dated July 16, 1956, but released at some later date, clarified some of the requirements for external paint schemes on aircraft.

The painting of landing gear was completely revised. Before, the instructions had only required the wheel well covers of retractable landing gear and hydroskis to be painted to match adjacent surfaces when the wheels or hydroskis were retracted. This implied that the landing gear and wheel well interior were to be painted with Zinc Chromate primer. In many cases they were also painted to match adjacent surfaces. Now, the inner surfaces of landing gear well covers and hydroskis were to be painted glossy Insignia White. The outer surface of the wheel well covers were to match the prescribed color scheme of the particular aircraft.

Wing leading edge slats were to have their interior surface and inboard ends painted glossy Insignia Red. The wing area covered by the slats when in the fully retracted position was

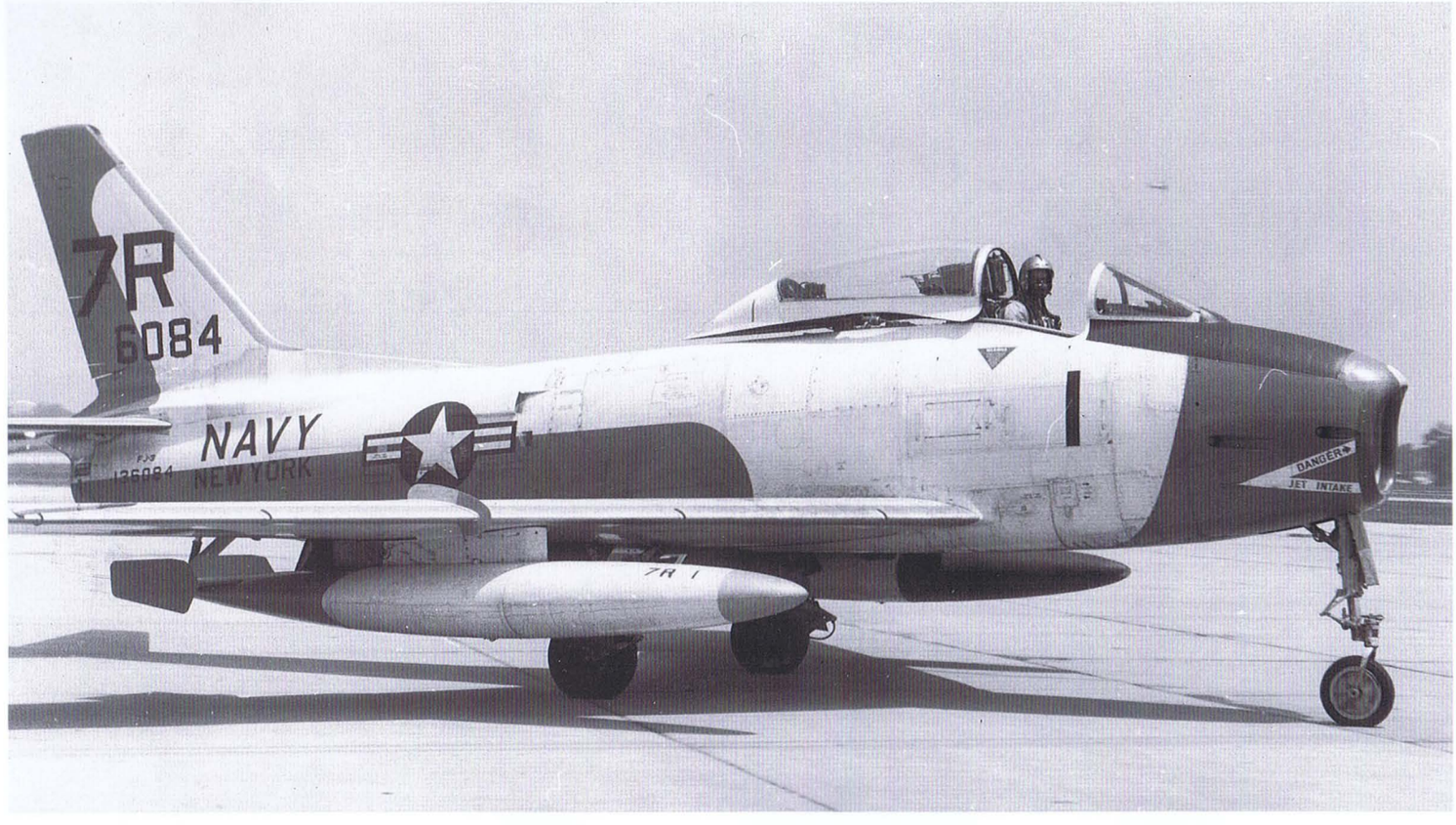




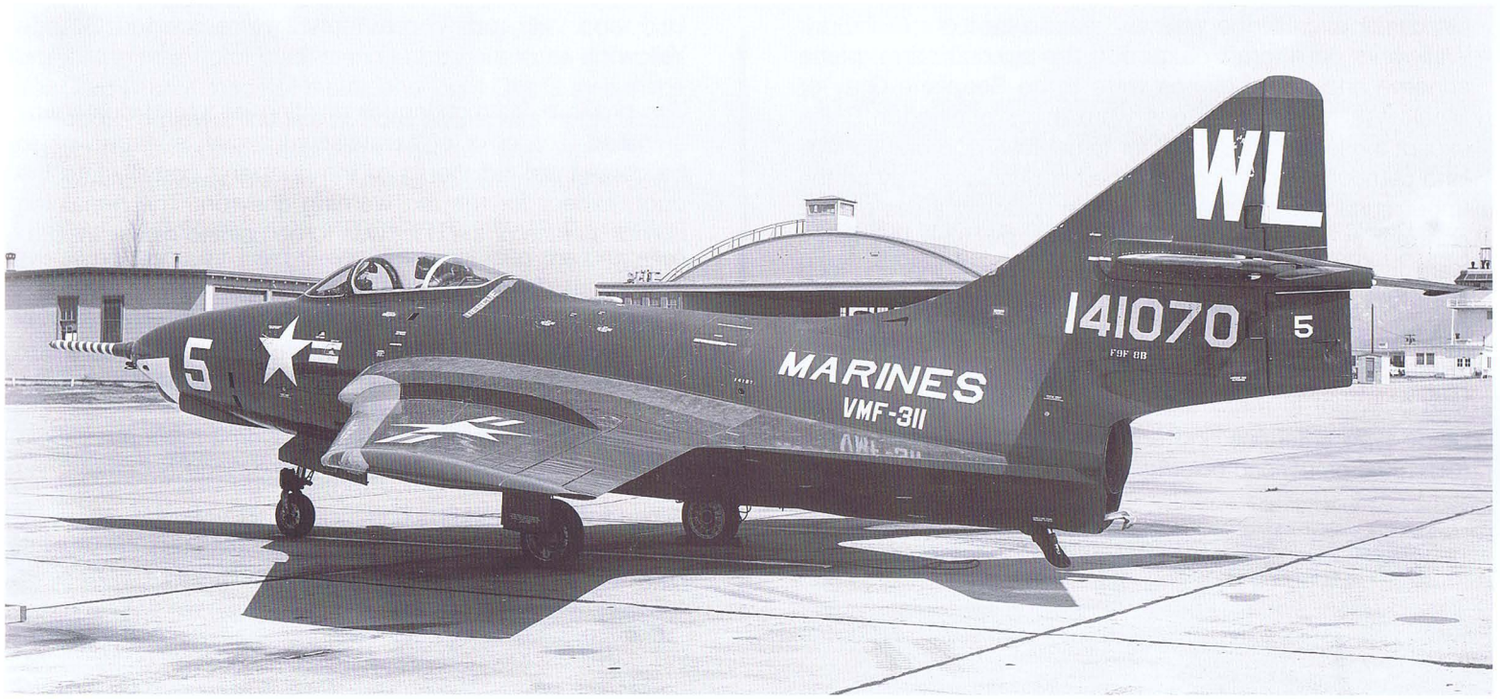
also to be Insignia Red. Exterior surfaces of the slats were to be painted to match the prescribed color scheme for the particular aircraft.

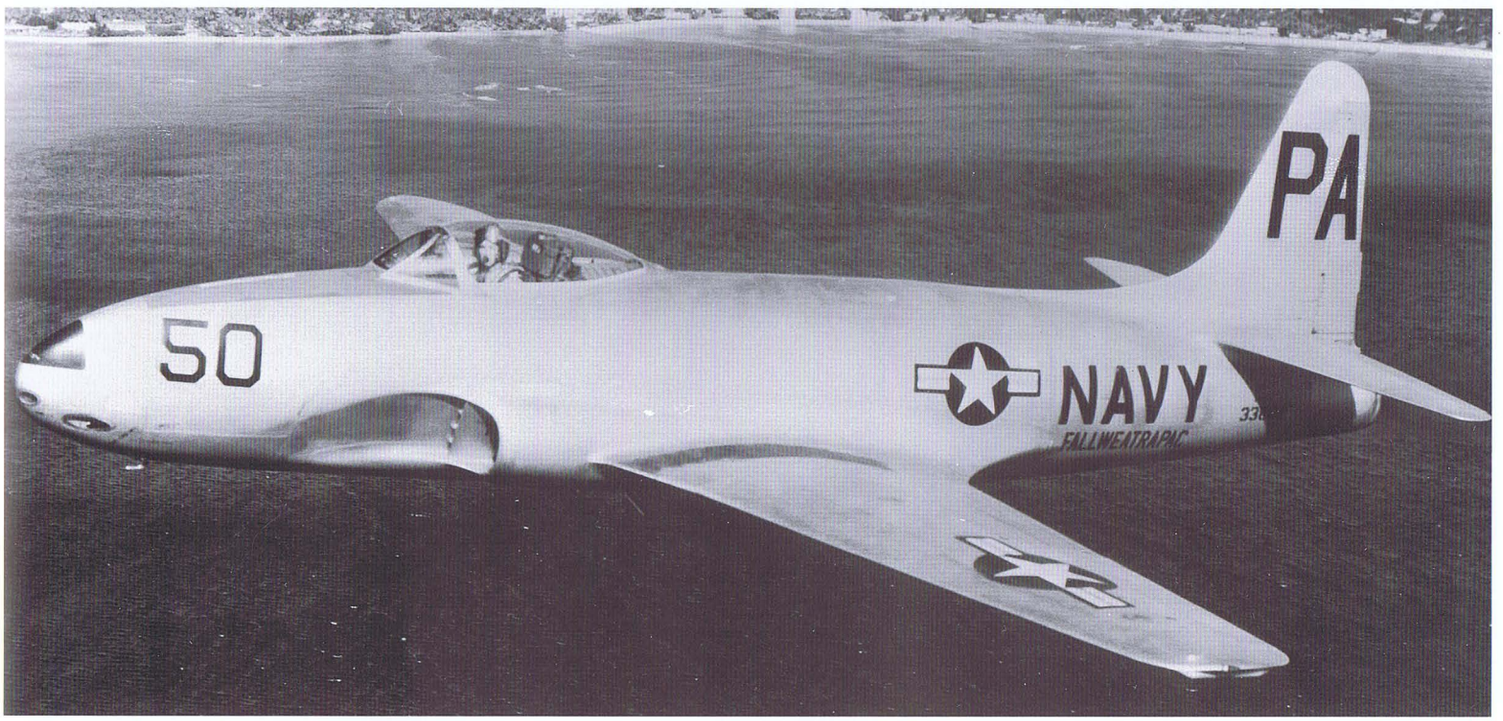
When antiskid material was applied to walkways, it was to be colored Dark Gull Gray on land-based transports. Those transports and trainers finished in the high visibility color scheme used antiskid material finished in nonspecular Black.

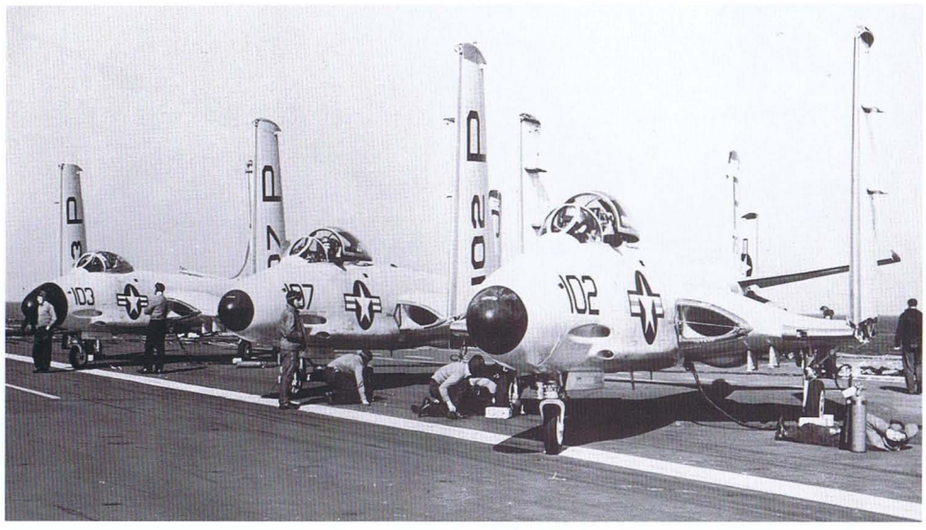
Above: A Grumman F7F-2D is shown in the colorful markings of a drone control aircraft. **Right:** The walkway on this AD-6 is outlined in Black and identified by the word WALKWAY at suitable intervals. **Bottom**: This North American FJ-3 Fury with high visibility paint scheme was assigned to NAS New York. Many reserve aircraft were assigned to a base and not a squadron. These aircraft were flown by both Navy and Marine units on alternate weekends.



Right: The Bell HSL-1 was the first helicopter in the Navy designed specifically for antisubmarine work but was used for only a short time. **Below:** After returning from Korea, VMF-311 was equipped at El Toro with the F9F-8B. Note the rescue arrow at the rear of the canopy. **Bottom:** Fleet All Weather Training Unit Pacific operated this Light Gull Gray Lockheed TV-1.







Left: These F2H-4s of VF-11 aboard the USS Coral Sea (CV-43) had the entire lip of the intake duct painted Insignia Red in lieu of the warning chevron. The fiber glass fairing over the radar was left the natural color of the material. **Bottom:** A Douglas AD-5N of Marine Composite Reconnaissance Squadron 3 (VMCJ-3) in the Insignia White and Light Gull Gray scheme still utilized a Sea Blue drop tank.

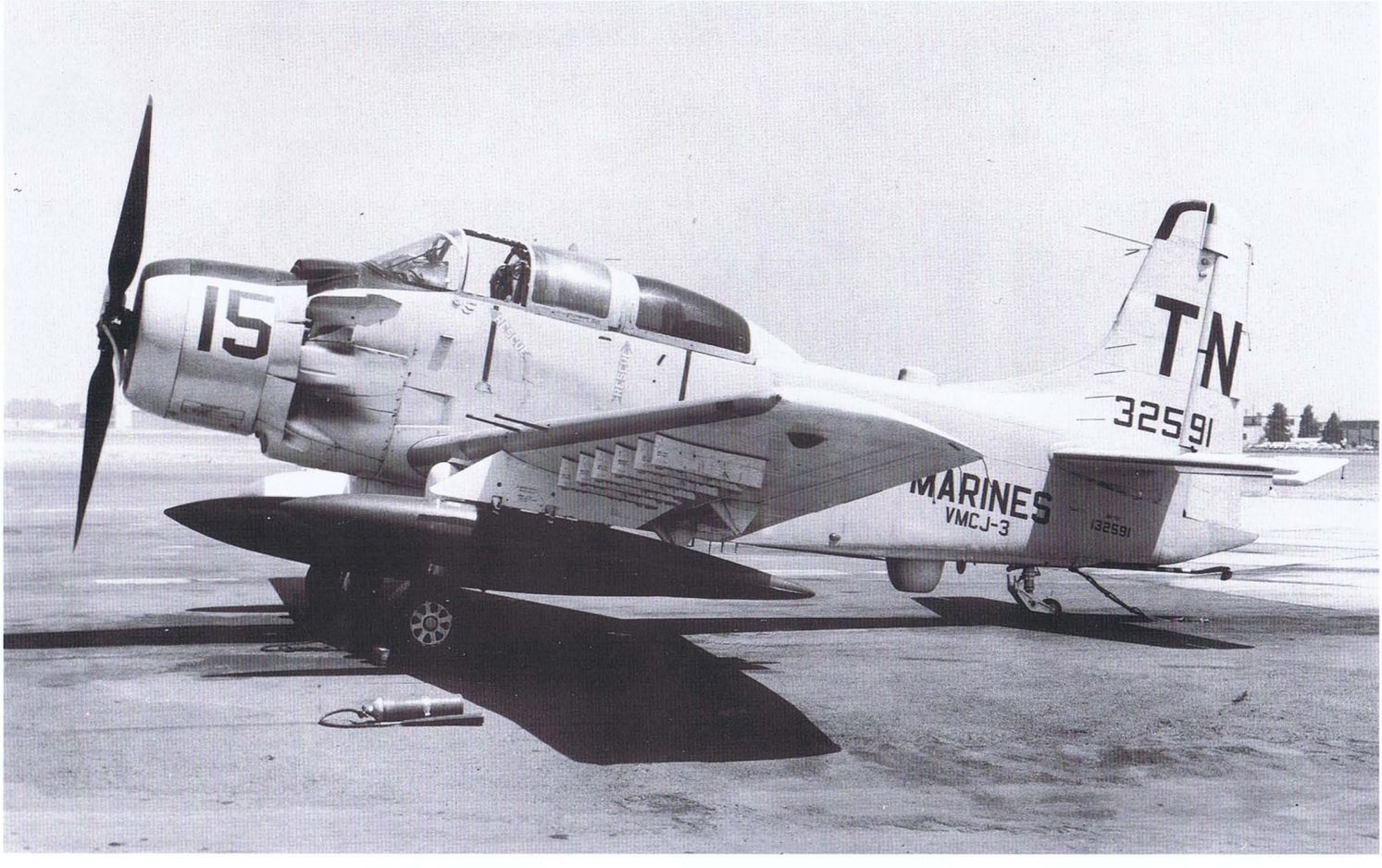
On carrier aircraft, the walkway was to be Light Gull Gray. Walkways on aircraft painted in the special patrol plane scheme and patrol planes were to be Seaplane Gray or Black. Walkways and steps were to be outlined in Black except those aircraft painted for target towing, drone control, land camouflage or aircraft finished in Seaplane Gray on the upper surfaces. In cases where the walkway areas do not contrast in color with adjacent areas, the walkway areas were to be bounded by a nonspecular Black line one inch (1.27 cm) wide and marked with the word WALKWAY at sufficiently frequent intervals to indicate the walkway area. Steps were to be suitably indicated at all points on the aircraft.

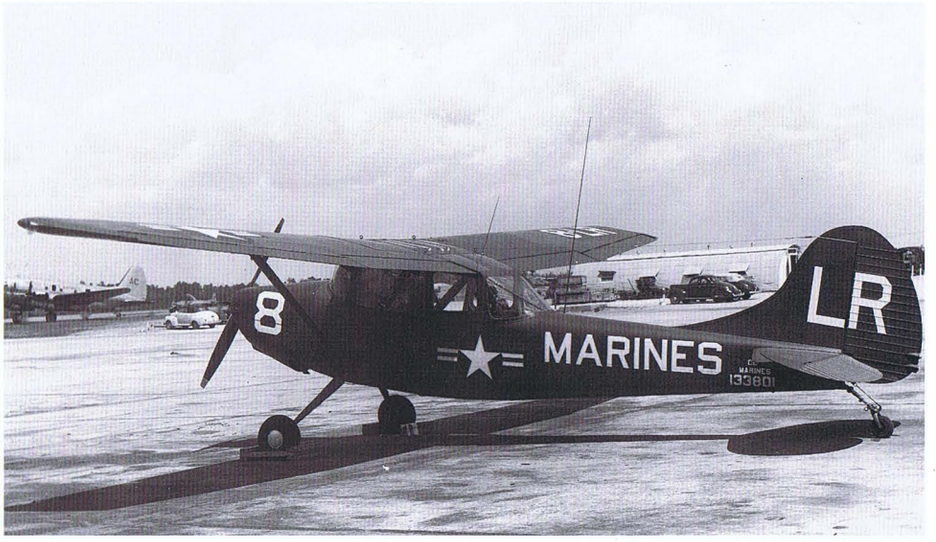
Blade type antennas and antenna masts were painted to match the prescribed color scheme for the particular aircraft. UHF and VHF rod type antennas were painted Orange Yellow.

The previous instructions for painting jet intake ducts was amplified. The color of the adjacent aircraft surface was to be carried around the lip of the duct and partially into the duct, except for the red warning chevron. The remaining interior surface of the duct was to be painted glossy Insignia White.

A polished, unpainted area was to be left on the inboard side of engine nacelles and wing tip tanks to permit observation from the cockpit of the position of the landing gear doors.

After extensive deliberation, Marine Corps helicopters were to be camouflaged in the Land Camouflage scheme. They





Right: A Field-Green Cessna OE-I Bird Dog, of Marine Observation Squadron 1 (VMO-1) is depicted at MCAS Cherry Point. **Bottom:** A Utility Squadron 3 (VU-3) JD-ID is shown in the colorful scheme for a target tow plane or drone-control plane.

were to be nonspecular Field Green overall. The upper surface of the main rotor blades and hubs were to be nonspecular Olive Drab if made of metal, and Light Gull Gray if made of wood. The lower surface in both cases was nonspecular Black. Transmissions and rotor mechanisms were to be glossy Aircraft Gray. Marking of blade tips was not changed.

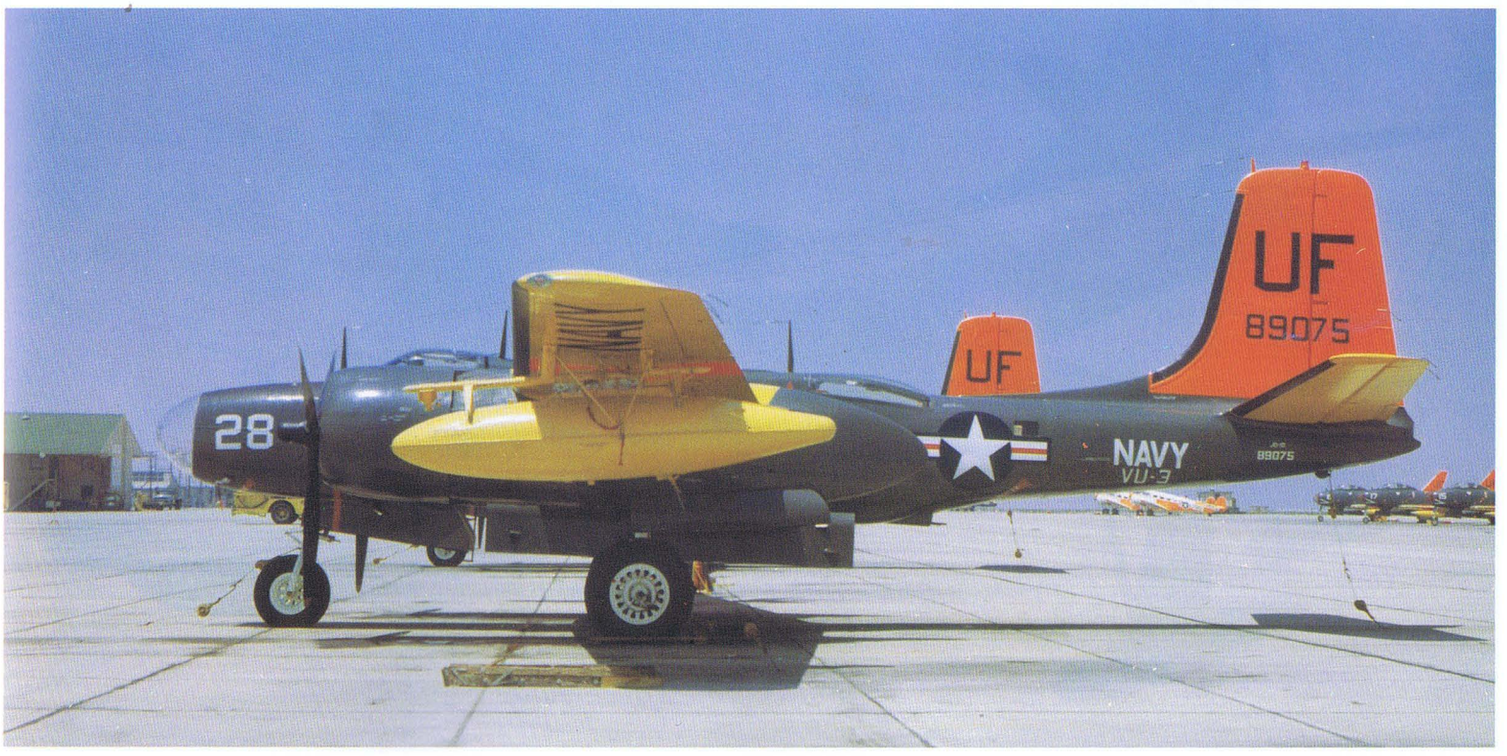
Marine Corps observation planes were also to be painted overall nonspecular Field Green. This included the propeller, spinner, hub or dome, landing gear both fixed and retractable, and both faces of the wheel well covers. Wing walks were Field Green, except when antiskid material was used, in which case they were nonspecular Olive Drab.

Exterior surfaces which were significantly impinged upon by exhaust gas were now considered as engine exhaust areas. On transport and utility aircraft, these areas were to be glossy Aircraft Gray. On trainers and combat types finished in the overall Seaplane Gray color scheme, these exhaust areas were to be glossy Engine Gray. Combat type reciprocating engine aircraft assigned to training use could have the glossy Engine Gray finish applied locally. On all other aircraft, the engine exhaust areas were to conform to the color scheme of the aircraft.

The White solar reflecting finish was to be applied to the fuselage roof and part way down the sides of PBMs and other advanced seaplane models relegated exclusively to training. The solar reflecting finish could be applied locally at the option of the Training Command on those advanced seaplane models used by both the Training Command and Operating Commands.

In addition to the white upper wing surfaces on target drones that were controlled from ground stations within sight of the target, an Insignia White stripe the width of the wing root was now to extend across the top of the fuselage and join the wings. Those target drones controlled out of sight remained overall Insignia Red.

Rockets, Rocket Launchers, and other Accessories, Equipment and Weapons attached to the under surfaces of the airframe were now to be painted Insignia White overall. For some reason, this paint scheme was never applied to



conventional high explosive bombs which continued to be painted Olive Drab with color bands to identify their explosive content.

NAVAER INSTRUCTION 07.2A, *New Exterior Color Schemes and Paint Finishes for Naval and Marine Corps Aircraft,* dated September 21, 1956, directed that utility landplanes not employed in training or towing targets were to be unpainted aluminum or aluminized finish when required for corrosion control. Target towing and drone control aircraft were to continue to be painted in the Orange Yellow, Engine Gray, and Insignia Red paint scheme. Land-based transport aircraft were to be unpainted aluminum or aluminized finish when required for corrosion control, with the addition of the solar heat reflecting Insignia White on top of the fuselage.

In addition to the prohibition of wax coatings of any type on aircraft in the carrier scheme, it was not to be applied on nonspecular or semigloss painted surfaces of combat type aircraft as this would degrade the camouflage effect.

Commander Air Force, Pacific Fleet (COMAIRPAC) Instruction NAVAER 07.2, dated January 25, 1957, established the color schemes for Navy and Marine Corps aircraft within the controlling custody of COMAIRPAC. By July 1, 1957, all Fleet aircraft were to have been painted in the colors specified in 1955. A temporary, readily removable, high

Above: Unlike the multi-colors in a camouflage scheme, the white top and Sea Blue terminated with a hard line as on this Martin P5M-1 of VP-46. **Below:** This VP-40 P5M-2 Seamaster, is painted in the distinctive scheme of solar heat reflecting upper hull on a Sea Blue aircraft.

Right: Carrier Airborne Early Warning Squadron 12 (VAW-12) put detachments on many ASW carriers but continued to use its own visual identification letters as on this Douglas AD-5W. **Bottom:** A well worn Douglas AD-6 of VMA-225. This was one of the last Marine Corps squadrons to fly the Skyraider prior to converting to the A4D.

visibility paint was now available for the application of a high visibility scheme when authorized by COMAIRPAC or CG, AIRFMFPAC. The use of this paint on carrier aircraft of deploying squadrons was not authorized at this time. All painting and markings were to be applied in accordance with the current directives for the particular scheme.

Amendment 1 to MIL-C-18263A(Aer), issued on July 30, 1957, made numerous small changes. HUP-2 and H04S-3 helicopters used in training were added to the list of aircraft painted glossy Orange Yellow. Helicopters finished in the Light Gull Gray scheme could have the International Orange applied locally when approved by the cognizant command. When so applied, temporary removable paint was to be used over the existing color scheme except for areas requiring extensive masking. These areas were to be left "as is." Because of the diverse configuration and sizes in the current and planned helicopters, the Navy did not specify any established pattern for this "split" or modified "split" scheme as had been done with the conventional aircraft.

The painting of early warning aircraft was modified depending on the mode of operation. Land-based warning aircraft which normally operated at 15,000 feet (4572 m) and higher were to be painted glossy Aircraft Gray except the fuselage roof which was to be the solar reflecting scheme. Land-based warning aircraft which normally operated at 15,000 feet (4572 m) and less were to be painted overall nonspecular Seaplane Gray.

All carrier-based aircraft assigned to the antisubmarine warfare mission were to continue with the carrier scheme of Light Gull Gray and Insignia White. All helicopters, with the exception of those used for training and the Marine Corps helicopters in the land camouflage scheme, were to be glossy Engine Gray in place of the nonspecular Light Gull Gray. All helicopter transmissions and rotor mechanisms were also to be painted glossy Engine Gray instead of Light Gull Gray.

NAVAER INSTRUCTION 07.2A, SUP-1, dated October 2, 1958, specified a new high visibility color scheme. Its purpose was to aid in preventing midair collisions by utilizing a

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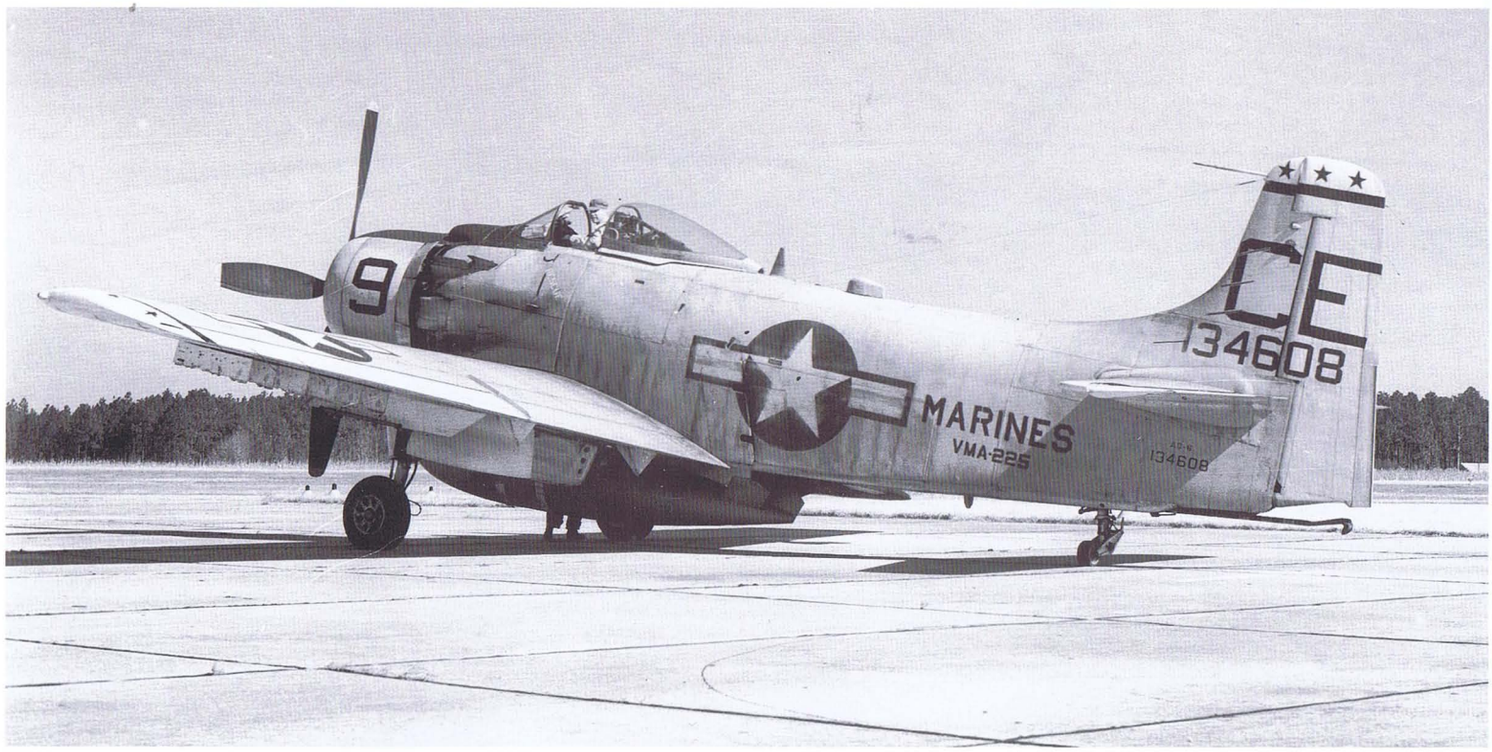
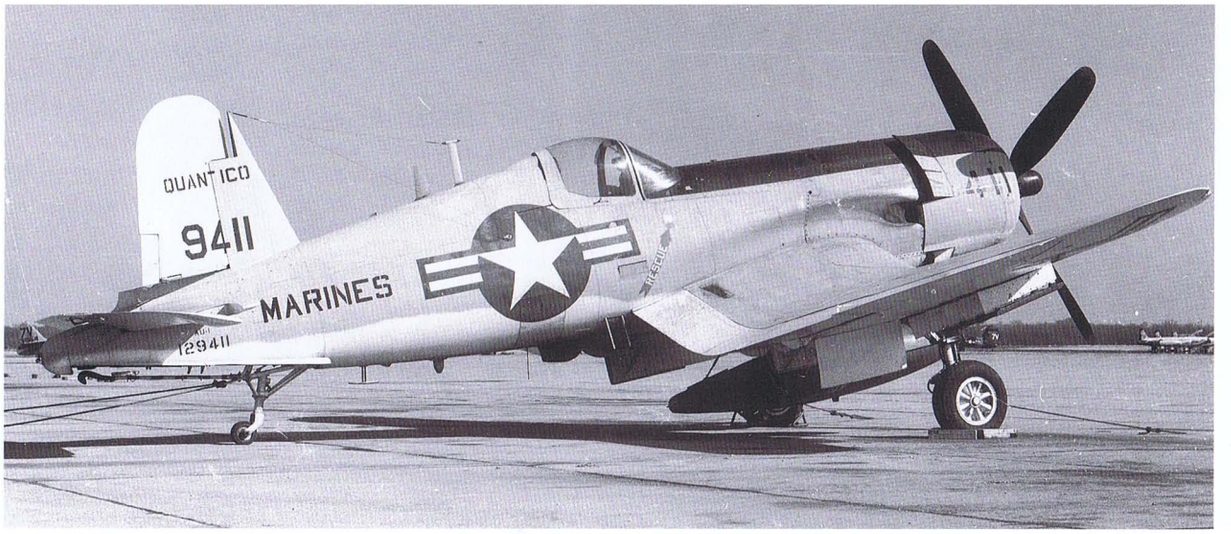
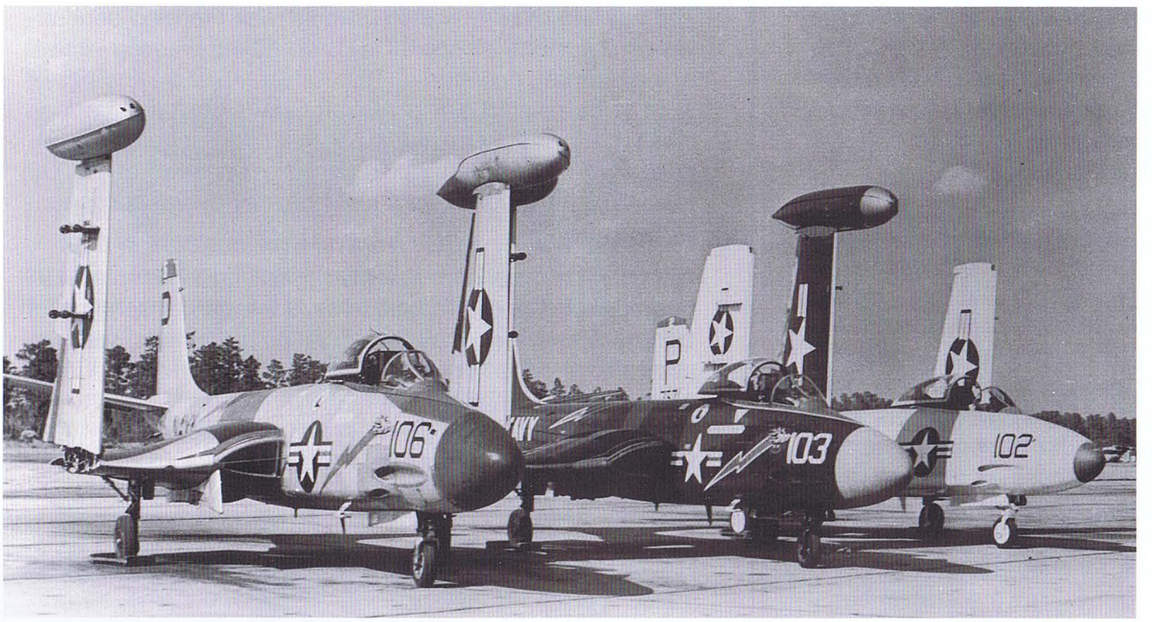
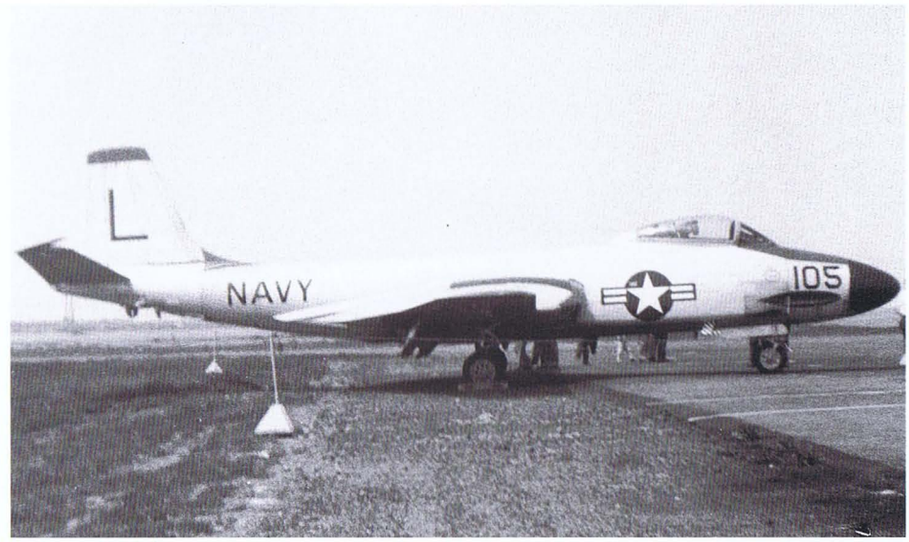




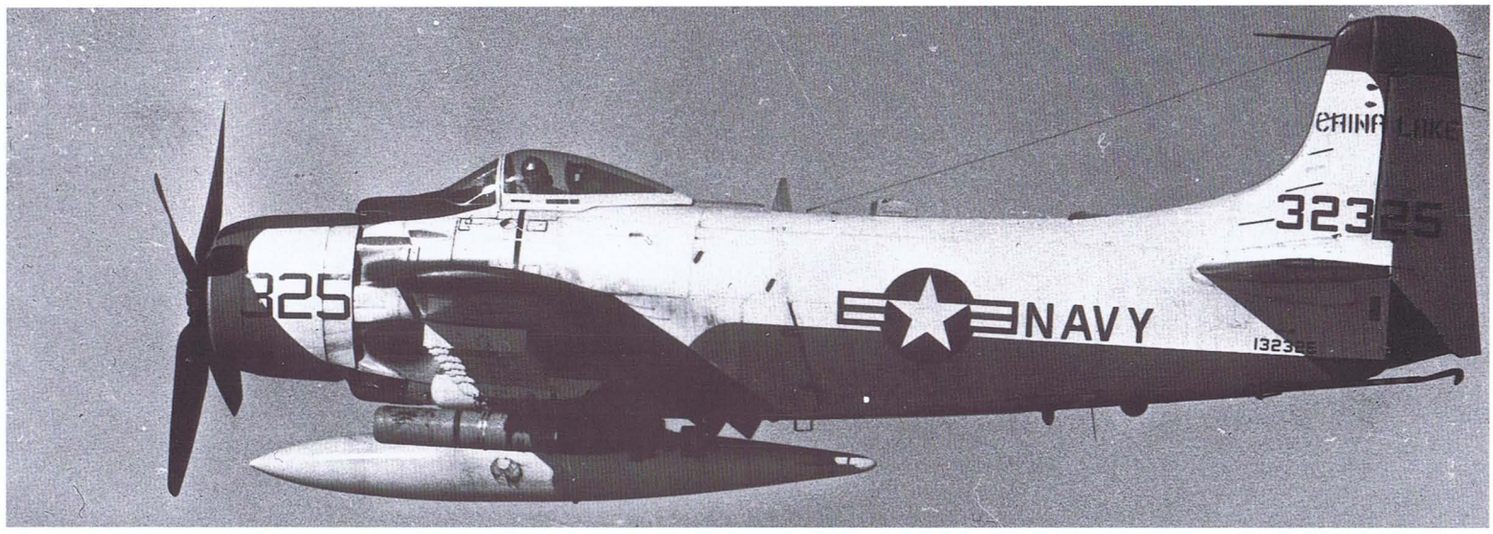
Opposite Top Left and Right: Markings normally not seen under the empennage of the F2H-1. This McDonnell Banshee was photographed during a visit to NAS Squantum, Massachusetts. The same F2H-l shows all required markings. **Opposite Middle:** A Lockheed PV-2T2 used by VMF(AW)-20 as a radar trainer appears to be In the process of transferring to a Navy squadron.

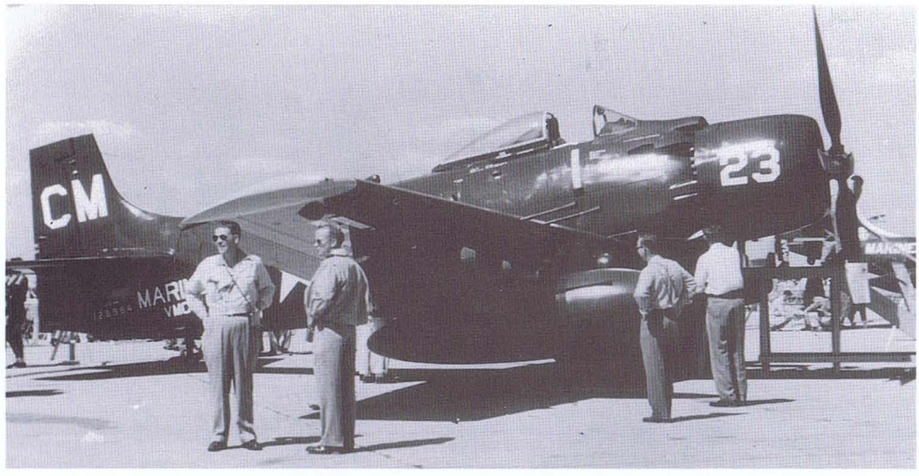


Above: Chance Vought AU-ls (USMC variant of F4U Corsair) were flown by Aircraft Engineering Squadron 12 (AES12) at Quantico to provide ordnance support to the various Marine Corps Schools. **Left:** While converting from the Sea Blue scheme VF11 continued to use its Insignia Red lightning bolt and fin tip. **Below:** The transition of Marine Corps helicopters from Light Gull Gray to Field Green is seen here. In the foreground is a Sikorsky HUS-1 Seahorse, while an HRS-1 is in the background.

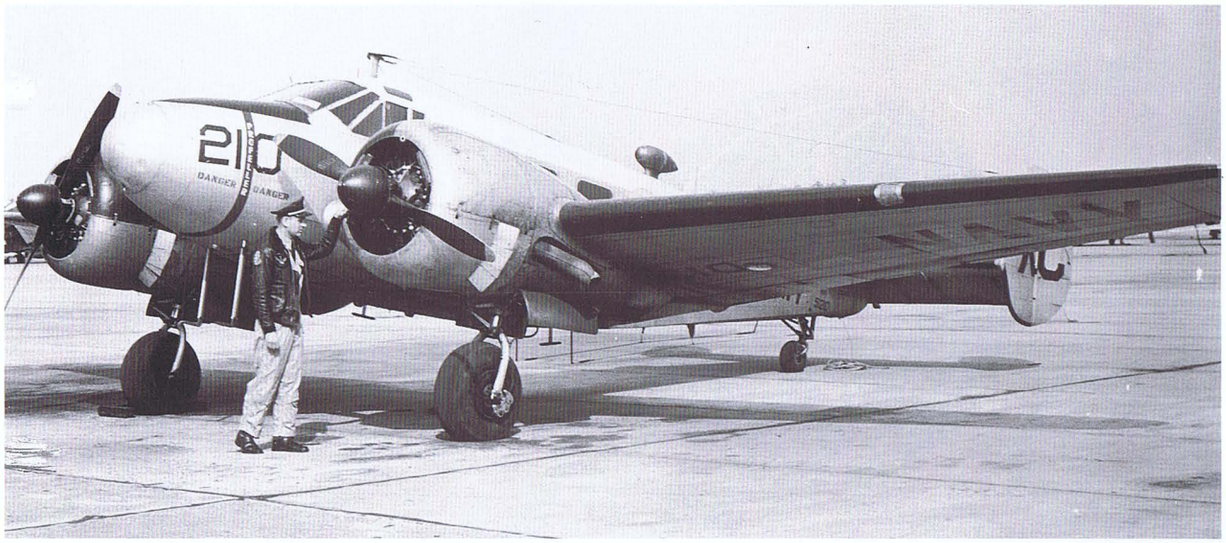


A Sikorsky HUS-1 Seahorse assigned to Helicopter Utility Squadron 1 (HU-1).

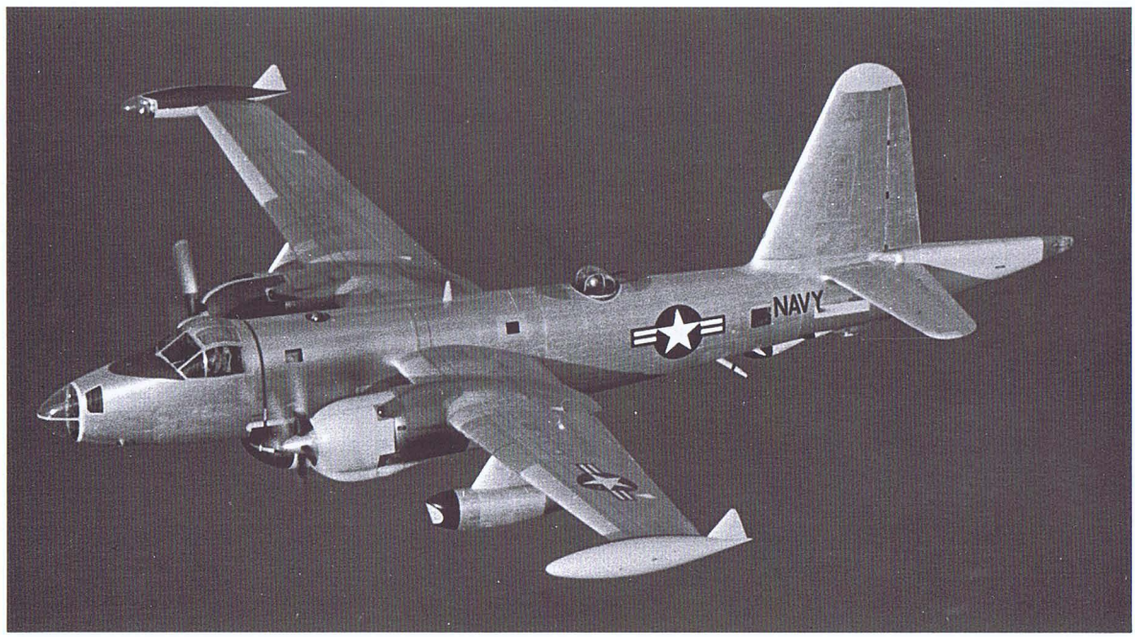


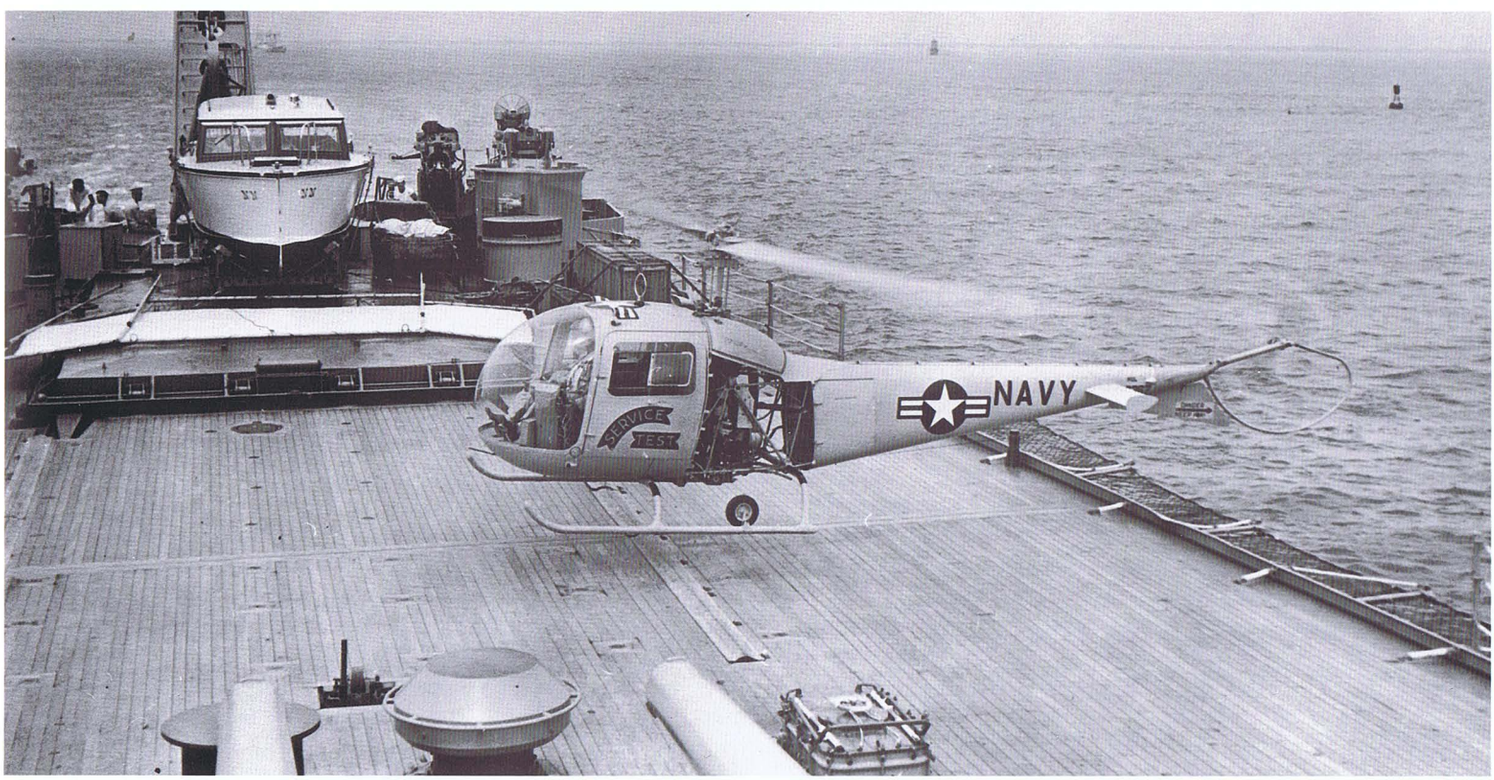


Above: This is a high visibility scheme applied to an AD-4B during evaluation of the Mk 44 aerial torpedo at Naval Air Facility China Lake. **Left:** An AD-4N assigned to Marine Composite Squadron 2 (VMC-2) is shown with a radar pod under the right wing and searchlight under the left. It still carried the normal compliment of four 20 mm cannon and twelve bombrack/rocket launchers under the wings. **Below:** When the author was Ordnance Officer of VMA-331 with its Douglas AD-6s, his Marine Corps AD squadron was the last to deploy to Japan.



Above: This Beech SNB of VX-3 carries the tail code XC and a white top, but no high visibility painting. The "Bug Smasher" served naval aviation long and well. **Right:** This is the first P2V-7 accepted in its natural metal finish. **Below:** A Bell HUL-I landing on the cruiser New Port News shows well its Service Test markings.





Left: The Military Air Transport Service insignia.
Below: A Navy Douglas R6D assigned to the Continental Division of the Military Air Transport service (MATS). Note that it is painted in accordance with the MATS directive and carries the logo both fore and aft on the fuselage, but does not identify which VR squadron it serves.

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high visibility fluorescent finish in place of the International Orange scheme which was discontinued. Two types of fluorescent paint had been developed. One was a solvent removable type for local application on combat type aircraft temporarily assigned on training missions, but which must be capable of deployment with combat forces on short notice. The second paint was not readily removable and was applied by Overhaul and Repair facilities. The application to all combat type aircraft including Marine Corps camouflaged aircraft, refueling aircraft and helicopters was deferred. The Arctic color scheme was obsolescent and was to be replaced by the fluorescent color scheme appropriate to the type aircraft involved. Visibility was greatly increased not only by the fluorescent paint but through larger areas being painted under this revised scheme. All 2- and 4-engine land-based transport aircraft, operating predominantly within the confines of the continental United States, including Alaska, and transports used for research and development, test and related support missions were included in this category and were to receive the fluorescent finish. Transports used for direct Fleet logistic support and early warning aircraft were exempt at this time. The following areas were to be painted fluorescent Red Orange:

a. Upper and lower surfaces of the wings from tip to inboard edge of the aileron cut out, excluding movable control surfaces.

b. The entire tail section, excluding movable control surfaces, and an area extending forward on the fuselage to the zone where the vertical stabilizer fairs into the fuselage.

c. The bottom and halfway up the sides on the front portion of the fuselage, starting from the radome, if any, and extending aft to a line perpendicular to the leading edge of the wing on small transports or aft to a line perpendicular to the most forward portion of the engines on large transports.

All UF aircraft in the Naval Air establishment were to have this fluorescent scheme applied, except those which were ALUSNA configured or permanently deployed overseas. In addition, a solar reflecting Insignia White top was to be applied to all these aircraft as well as all antisubmarine warfare patrol aircraft. At the time this directive was written, these ASW aircraft consisted of the P5M, P2V, and P3Vs.

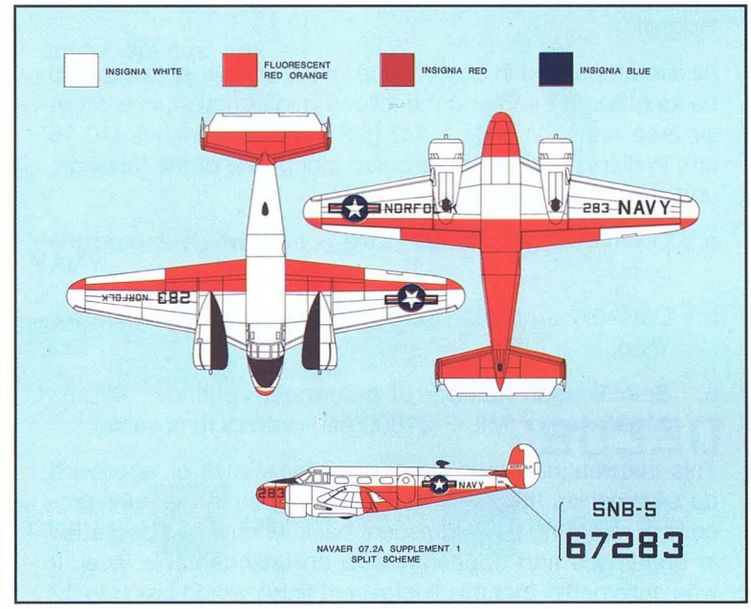
Right: This photo depicts a front view of the Bell HTL-3 undergoing Flight Test at NAS Patuxent River.
Below: The application of high visibility markings on this SNB-5 required extensive masking to insure good visibility of identification markings.

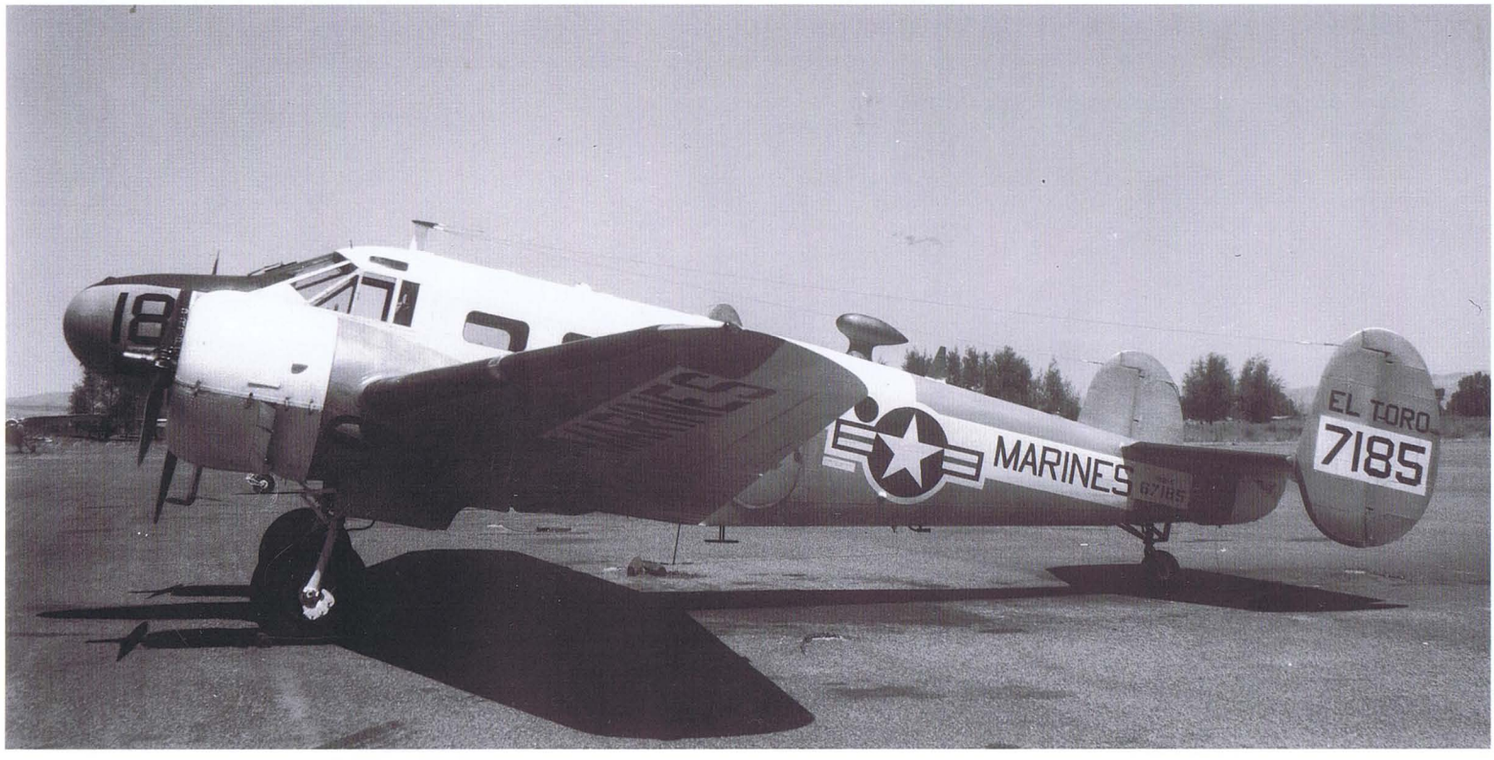
The Fluorescent Red Orange areas on trainers, proficiency and utility aircraft were to exclude the movable control surfaces except on those aircraft where the vertical stabilizer did not provide sufficient area on the fixed portion for high visibility painting.

Helicopters were to remain "as is" and all LTA aircraft were exempt.

Removable white paint was to be sprayed over the entire aircraft painted surface using sufficient coats to hide the underlying coats. This was to be followed by several coats of removable Fluorescent Red Orange in the appropriate areas. A thin coat of removable clear overcoat was to be applied to the Fluorescent Red Orange areas, but not to the removable white areas. This basic procedure applied to both metal and fabric covered areas.

The customary insignia, markings, solar reflecting finish, antiglare, walkways, rain erosion resistant finish, deicer boots, etc., were not to be overpainted with the fluorescent finish. A margin not to exceed 2 inches (5.08 cm) was to be





left between the fluorescent finish and the national aircraft insignia.

All aircraft painted in accordance with this instruction were to be identified by applying the following information, in a circular area approximately 2 1/2 (6.35 cm) to 4 inches (10.16 cm) in diameter, on the starboard (right) side of the fuselage, under the horizontal stabilizer.

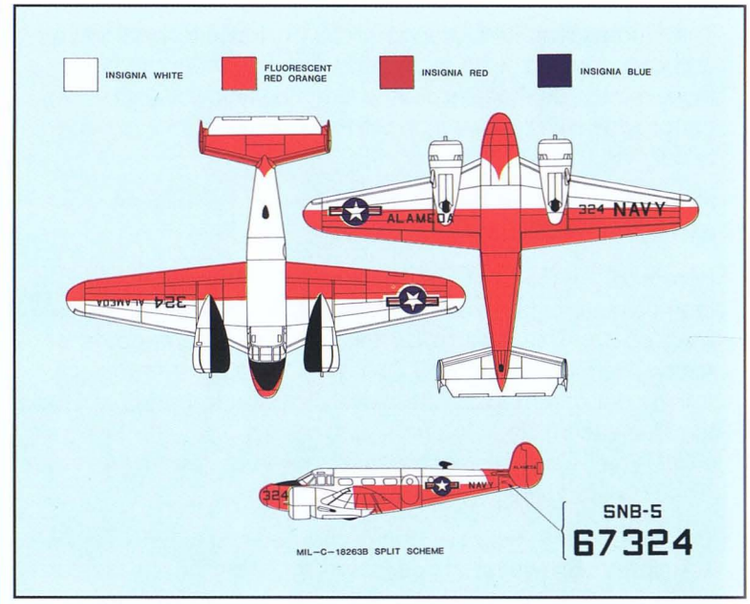
a. Overhaul activity or operating activity which applied the paint.

b. Date of completion of paint application (Month, Day, Year).

c. Specification number of outermost coatings: (MIL-P-21536(Aer) or (MIL-P-21600(Aer) (solvent removable).

This information could be applied by stencil or approved decalcomanias. It was of great importance in the later process of removing the fluorescent paint when it had degraded in brightness and appearance to an unacceptable level. It was anticipated that this fluorescent finish would last 8 to 12 months.

MIL-C-18263B(Aer) dated February 12, 1959, modified the high visibility color schemes as follows. The fluorescent paint



on the tail section was to provide at least a 9 foot (274.32 cm) length of fluorescent paint. The term "small transports" was changed to "2-engine transports." Fluorescent paint on

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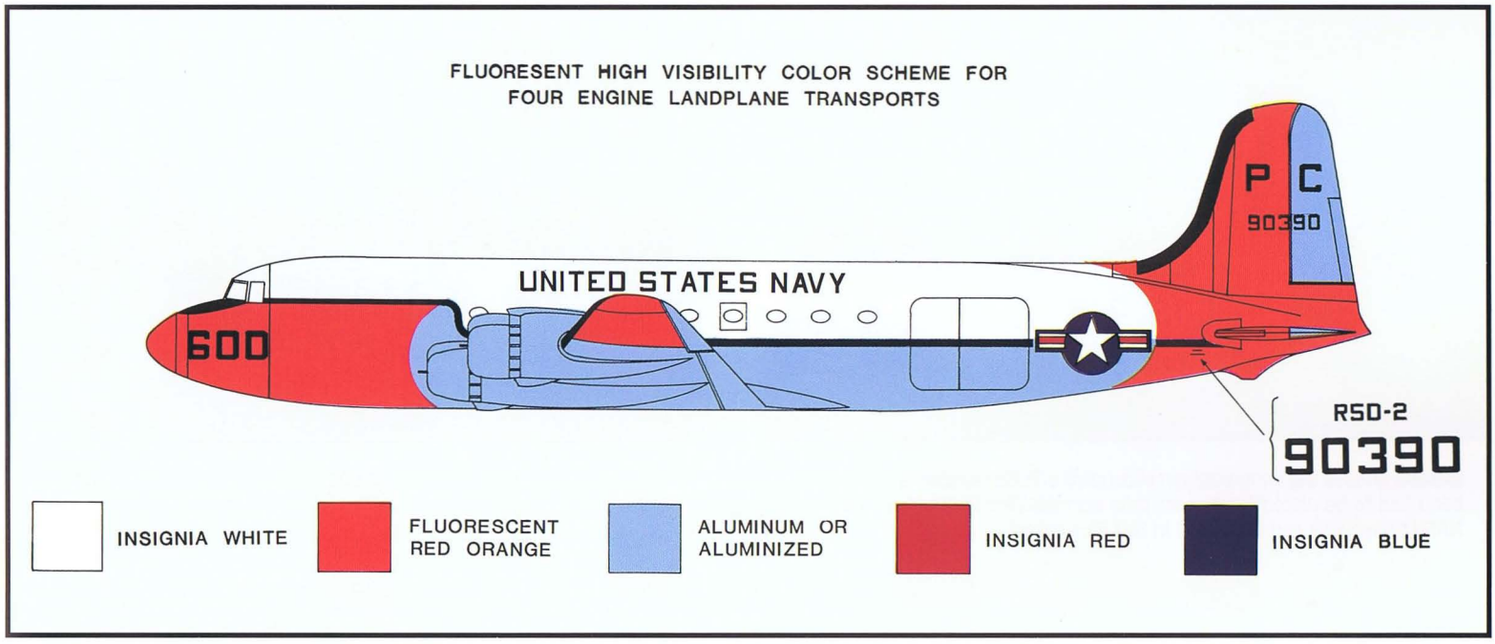
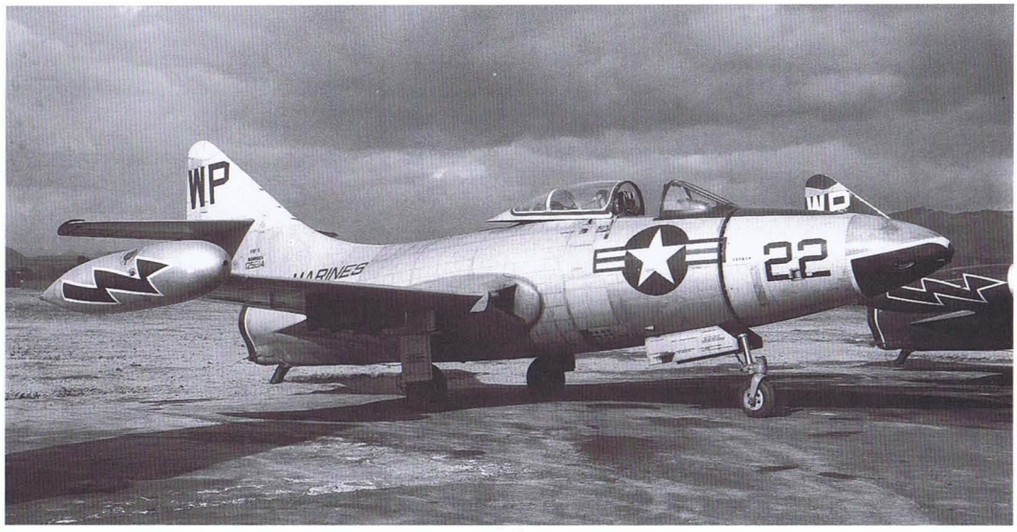
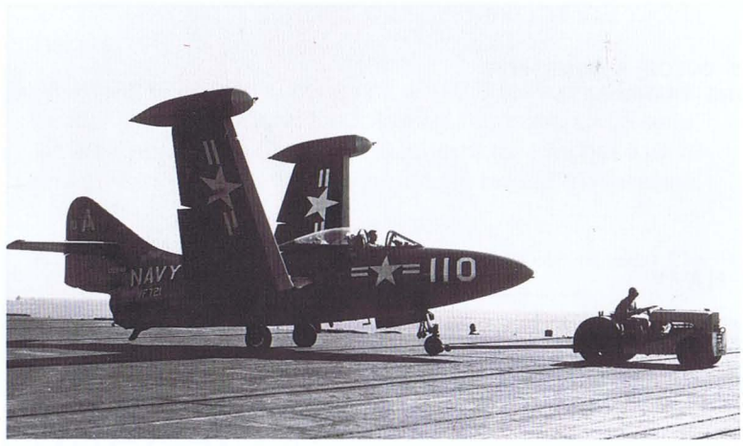
Left Opposite: VMF-115 identified its F4Ds with a distinctive stripe on the tail and drop tanks. **Right:** Reserve Douglas R5D-3 assigned to NAS Squantum did not carry a fuselage band nor high visibility markings. **Opposite Bottom:** A high visibility scheme is shown on a Training Squadron 23 F9F-8T. Note the danger warning and arrow pointing to the hot tailpipe. **Bottom:** Polished skin and high visibility scheme make the Headquarters Marine Corps R5D-4R a strikingly colorful aircraft.

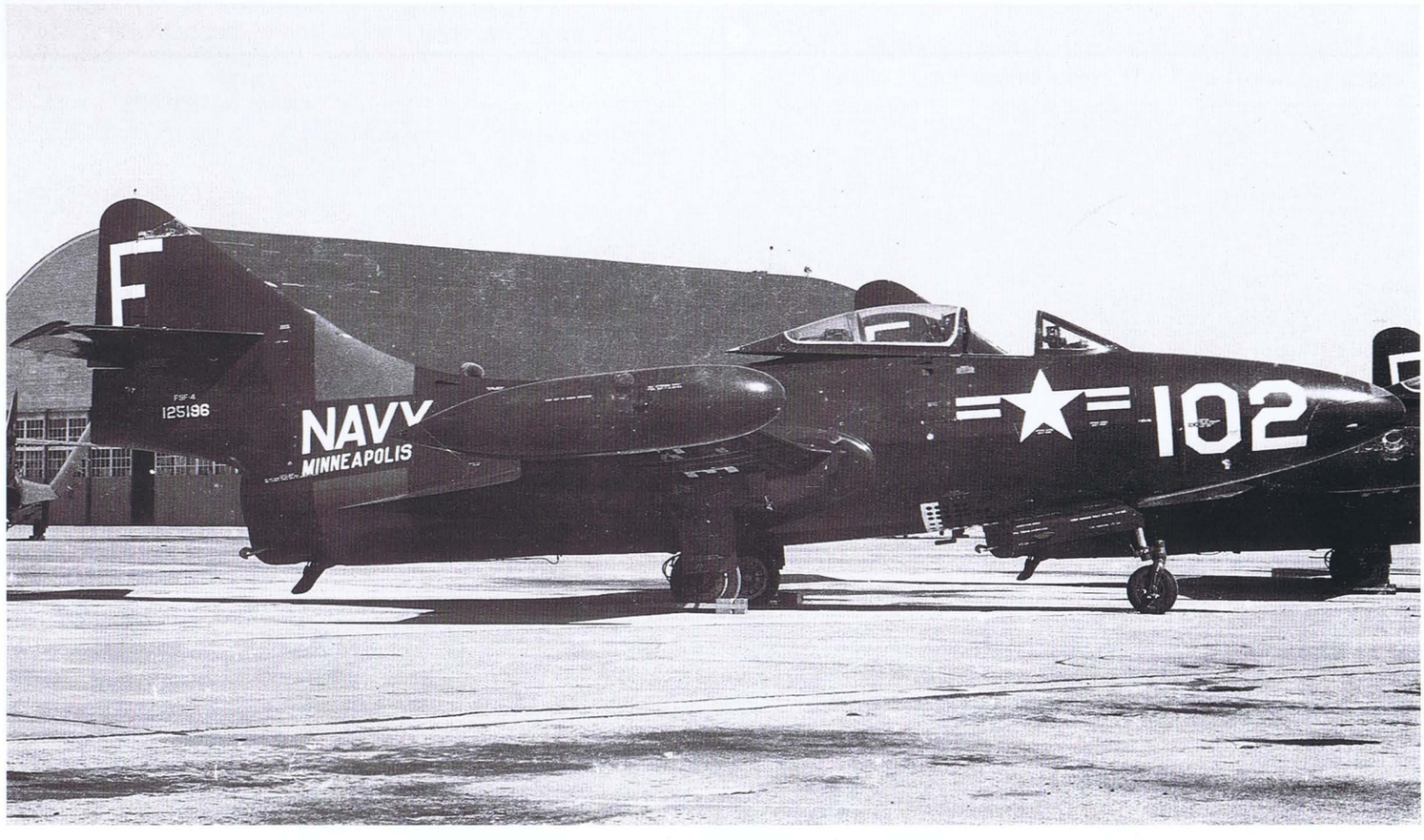




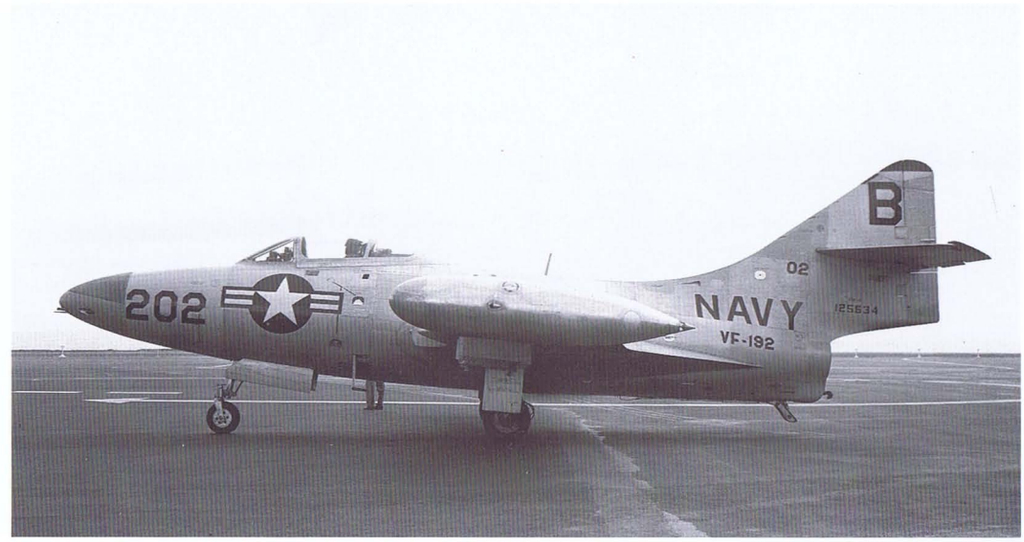
Left: VMF-223 continued its Insignia Red lightning bolt when it changed from the Sea Blue scheme. **Lower Left:** The rain erosion finish is clearly visible on the leading edge of the wings and tip tanks of this reserve F9F-5 in Korea. **Lower Right:** VMF-224 applied Insignia Red to the fuselage, fin tip and wing tanks of their bare metal F9F-5s strictly for decorative purposes.

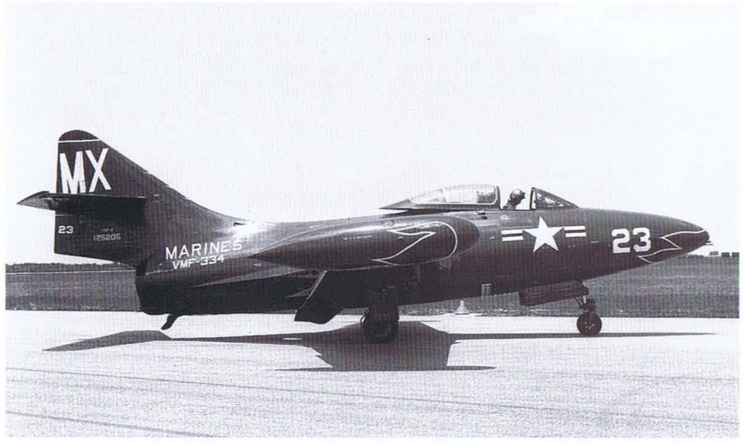


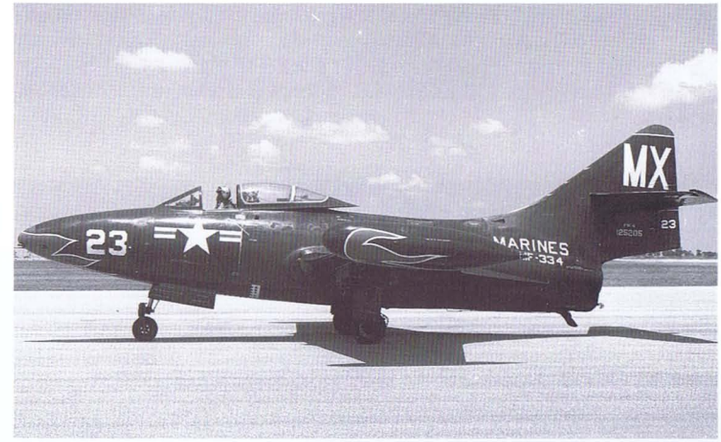
Below: Due to the wing configuration of the F9F the reserve fuselage band had to be placed further aft than normal. This Panther served with NAS Minneapolis and is painted in Sea Blue overall.



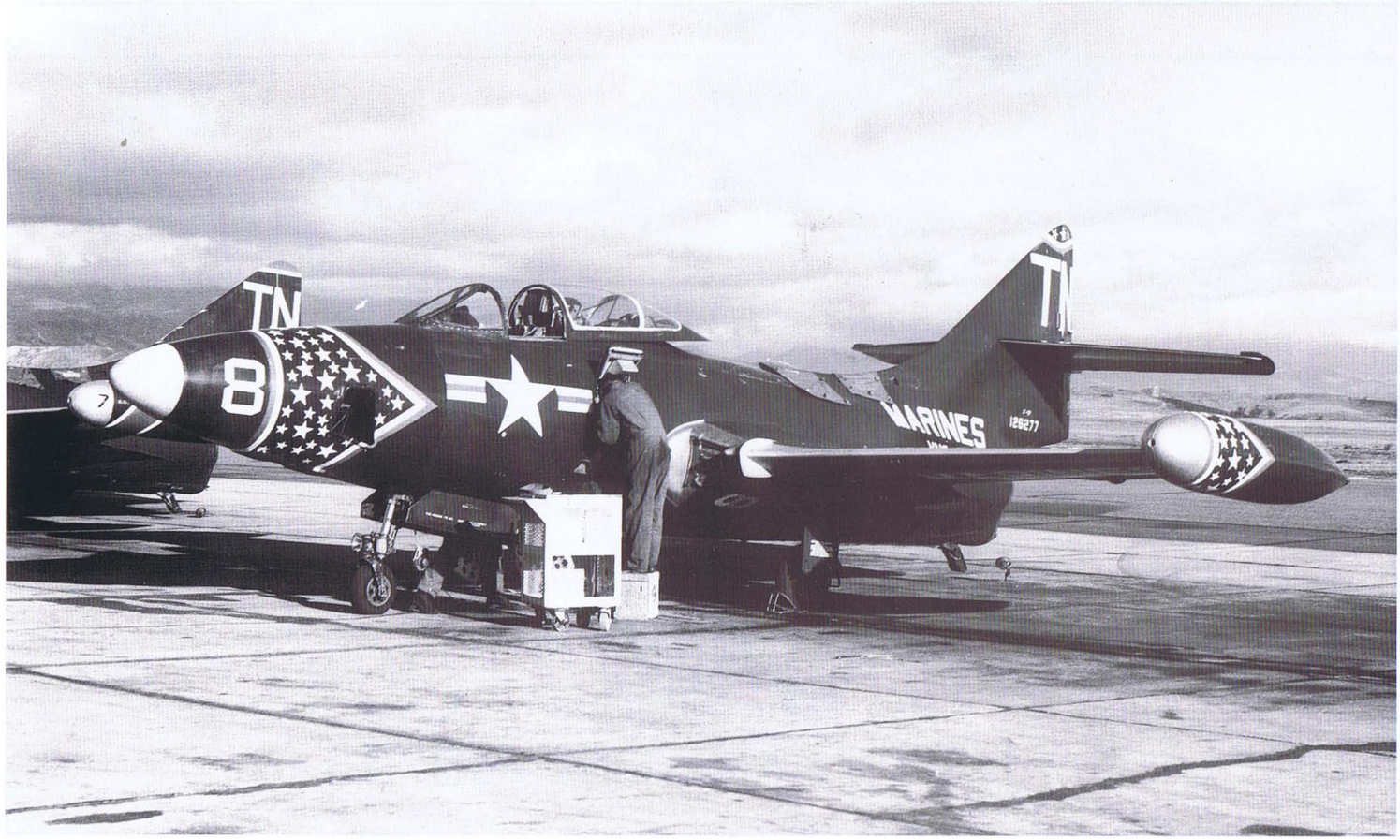
Right: In addition to the normal identification, notice that VF-192 has added the last two digits of the aircraft number to the tail section, which was removed for access to the engine, to insure that the correct tail assembly was replaced. **Below Left and Right:** Insignia Red flames on the fuselage nose and wing tip tanks as well as the fin tip were outlined with Insignia White so they would stand out against the Sea Blue finish. Left and right views of this VMF-334 F9F-4 show that naval aircraft markings were similar on both sides.



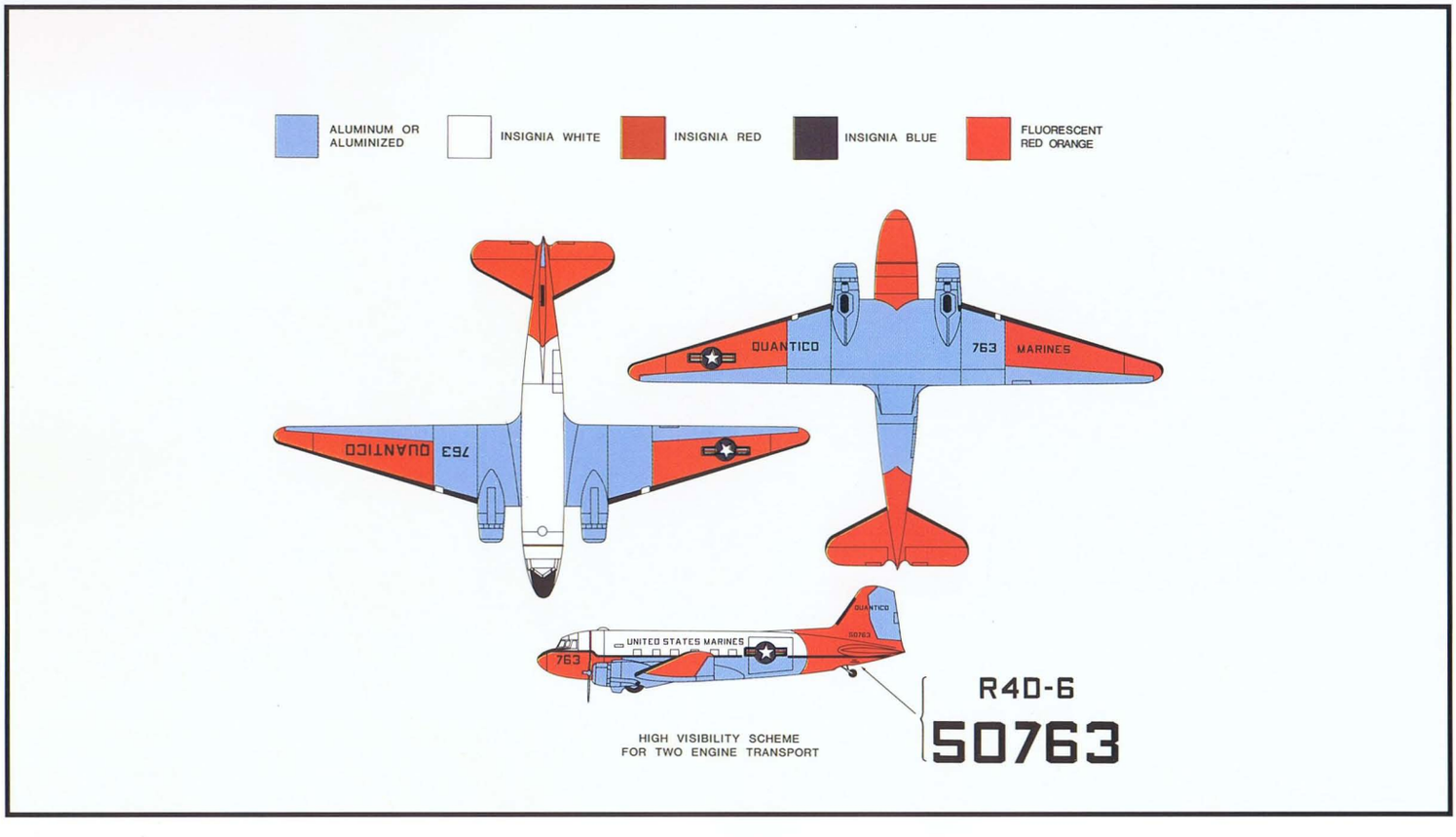


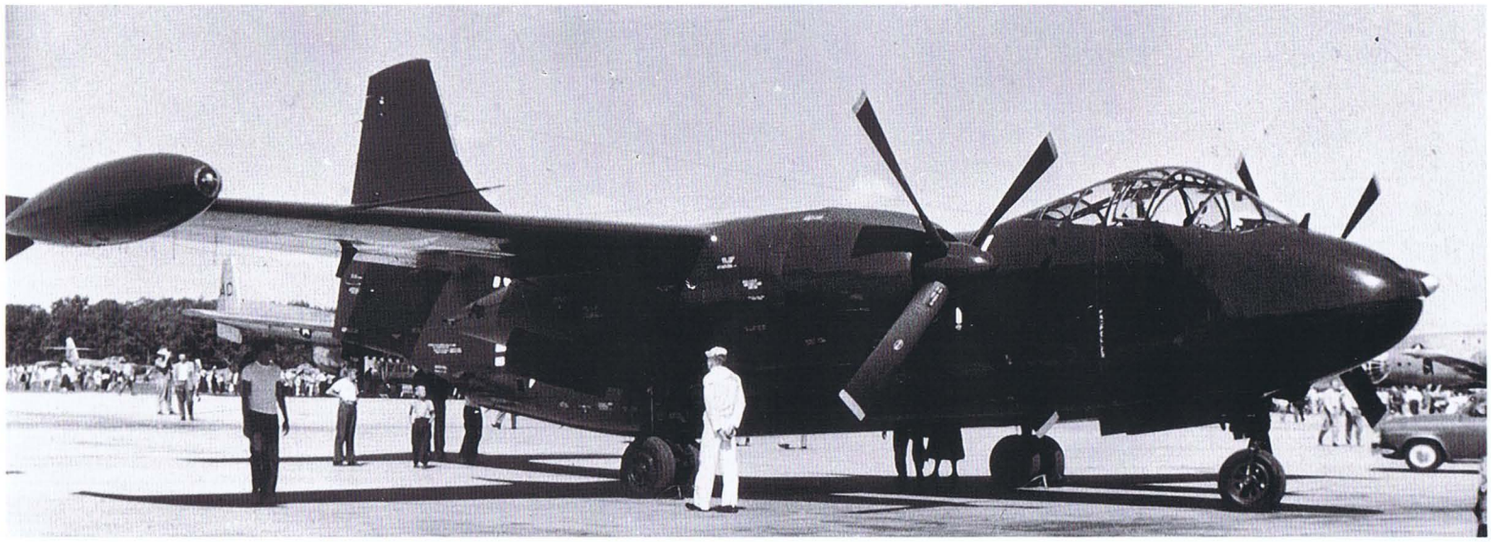


Below: A patriotic red, white, and blue scheme was used on this F9F-5P of VMCJ—3. Navy and Marine Panthers were very colorful aircraft during the 1950s with the distinctive design seemingly lending itself to creative graphic expression.

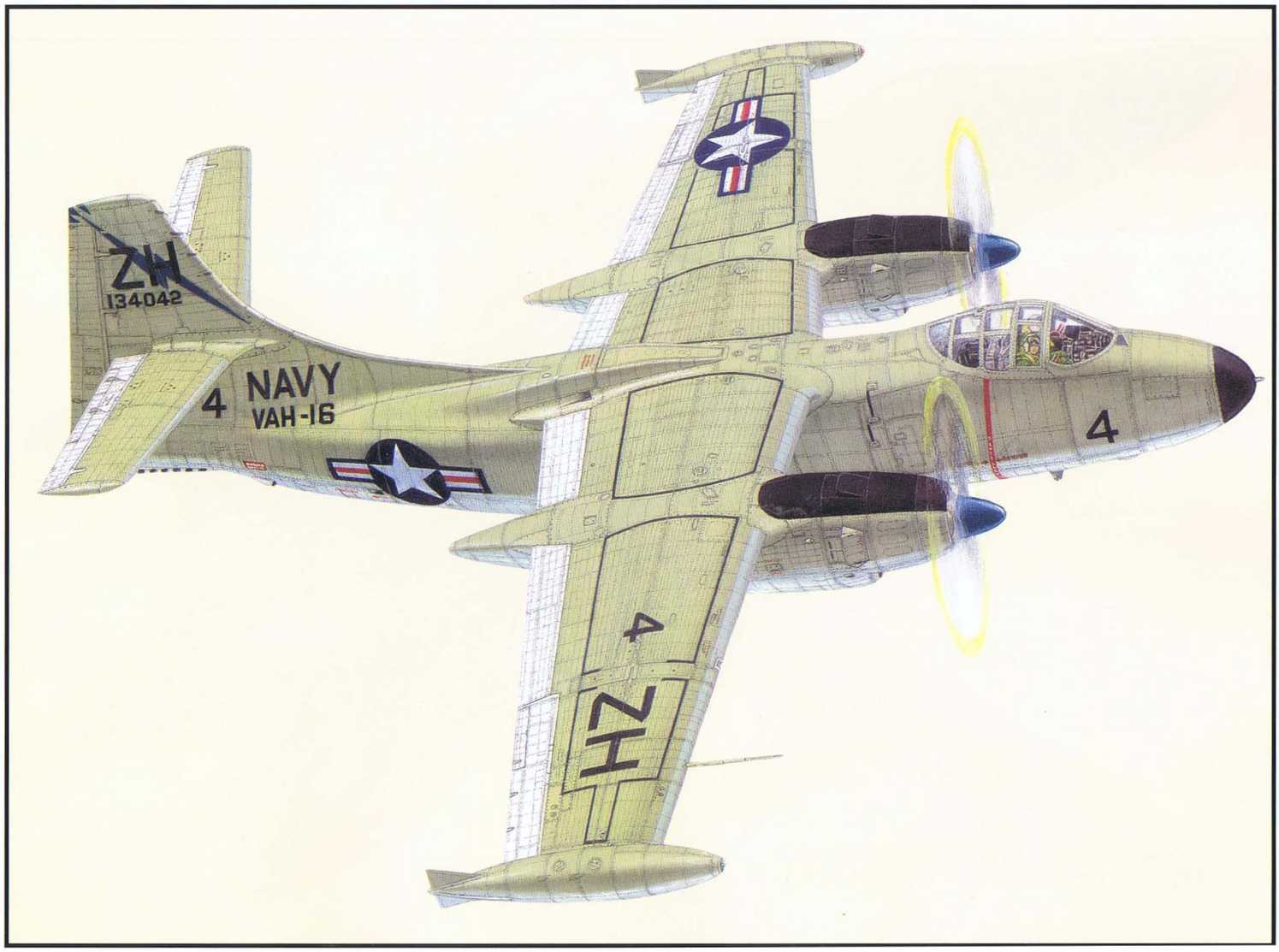


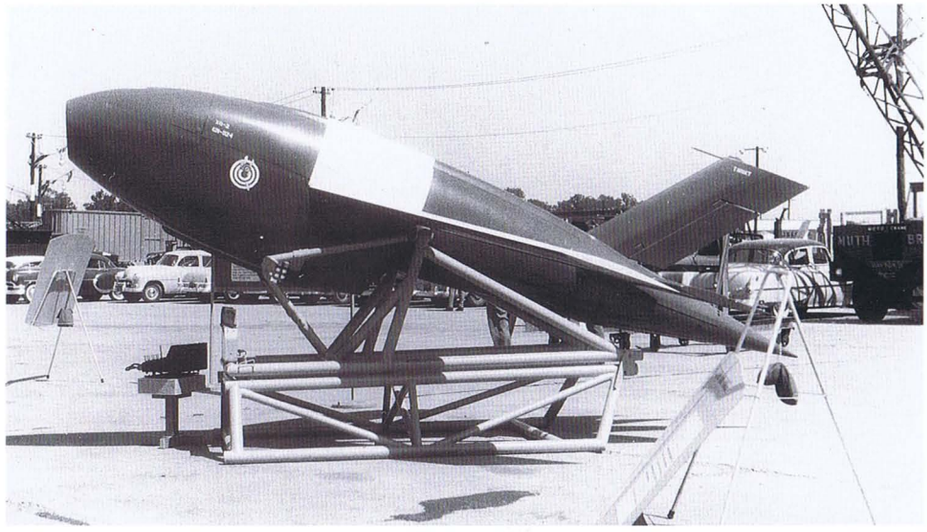
Left: Solar heat white top, Light Gull Gray and high visibility scheme with aluminum doped fabric surfaces mark this MCAS Yuma, Arizona R4D-8.
Below: Another variation of the high visibility scheme is shown on this R4D-5 of Marine Aircraft Repair Squadron 37 at MCAS El Toro.





Above: A North American AJ-2 Savage on display in 1954 at Dayton, Ohio in Sea Blue scheme carries no unit identification. **Below:** The distinctive markings of heavy Attack Squadron 16's AJ-2 Savage is graphically shown here. Initially acquired as a high-performance carrier-based nuclear strike aircraft, many AJs were later converted into aerial tankers. The Savage was not a small airplane. With a span of 75 feet (22.9 m) and a length of 63 feet (19.2 m), it was capable of 470 mph (756 k/hr) at altitude in spite of its 26 ton (23,587 kg) gross weight.





Left: The diminutive Ryan Firebee target drone was a high-speed jet-powered drone built for all three services but used by the Navy under the designation KDA-1. It was to be used for fleet anti-aircraft, aerial gunnery and guided missile training. On the opposite page, artist Dave Power has graphically depicted how the Firebee was to be carried aloft by a special version of the Neptune. Our photograph shows an Air Force Firebee (Q-2), but the Navy version was identical.

continued from p. 52

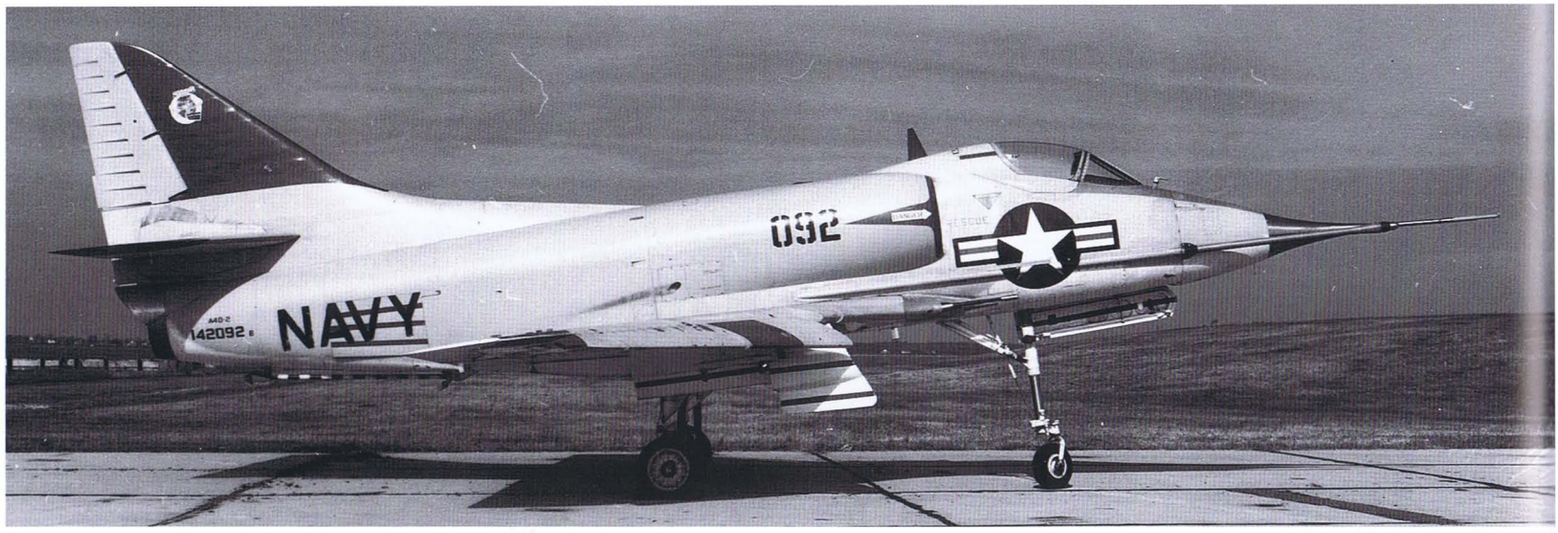
the front of the fuselage was now to extend up to the white solar reflecting roof. The bottom of the fuselage of jet trainers was painted with the fluorescent finish from the nose, aft to the oil breather hole; if there was no oil breather hole in this area, approximately to the half-way mark of the fuselage length. The vertical edge of the fluorescent finish on the aft portion of the fuselage was to be parallel with the rudder hinge line. Wing tip tanks on aircraft finished in the fluorescent scheme were to be painted overall Fluorescent Red Orange with the exception of the antiglare and polished areas. The use of fluorescent paint was to be avoided in any area that would produce glare in the pilot's or co-pilot's eyes. Radomes were not to be overpainted with fluorescent material. Radomes were to be white except for any frontal areas which required rain erosion resistant material. All training, proficiency and utility planes were now to be painted with the fluorescent scheme.

A Douglas F4D-l Skyray is painted in the colorful and highly visible scheme developed for tow target aircraft.

Above: This P2V-7D Neptune of Composite Squadron 3 (VC-3) was to have been painted in the drone control aircraft scheme. The lower portion of the fuselage was incorrectly painted Engine Gray. It was determined that it was not worth the cost to strip and repaint it in the correct colors. **Below:** As a P2V-5FD should appear in the target drone launch and control paint scheme. The black stripes on the upper surface indicate hardened areas where it is safe to walk. Note the two Firebee drones outboard of the jets.

All interior surfaces of retractable landing gear doors, including auxiliary and strut doors, visible when the landing gear was extended were to be painted Insignia White. The outer surfaces were to be painted to match the prescribed color scheme for the particular aircraft. Edges of landing gear doors were to be painted glossy Insignia Red without smearing to the Insignia White of the interior surface of the doors.

Target drones that were controlled out of sight were now to be painted Fluorescent Yellow Orange overall.



Amendment 1 to MIL-C-18263B(Aer), dated April 30, 1959, made several additional painting changes. The underside of the wing leading edge slats on carrier type aircraft and those using the Special Patrol scheme, i.e., aircraft having Insignia White under surfaces, were now to be painted Insignia White for thermal pulse reflection. The surface covered by the slats was to remain Insignia Red and the exterior surface of the slats was to match the adjacent wing surface.

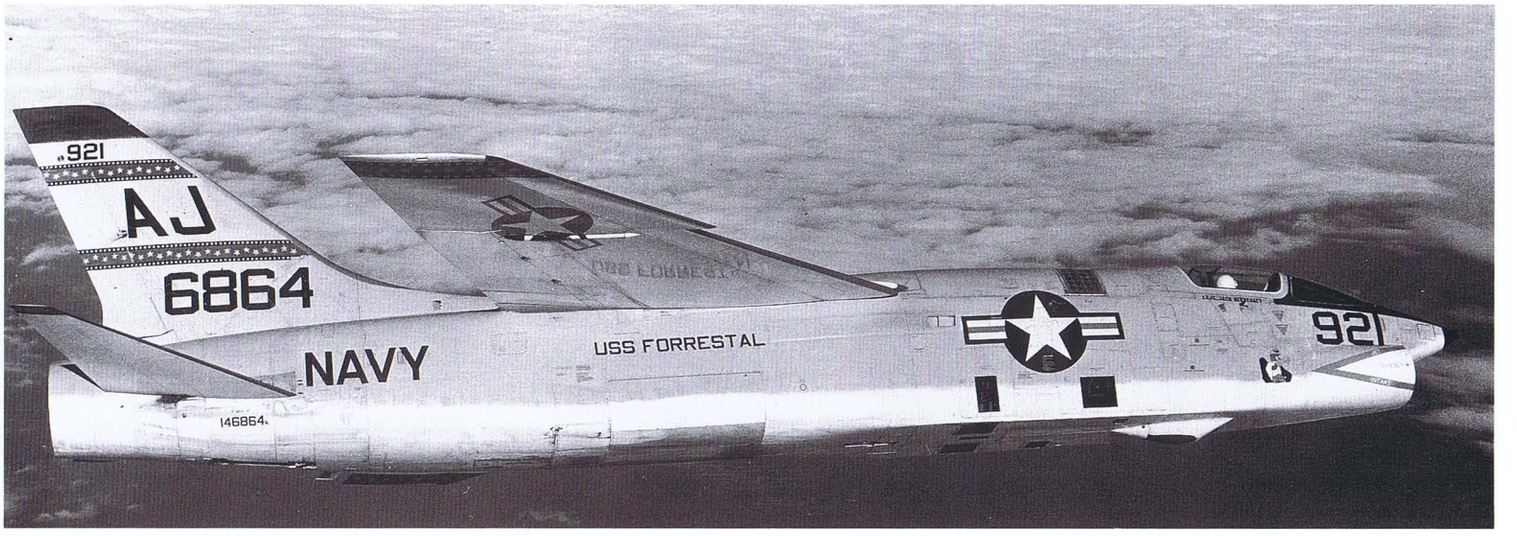
Some operating activities had requested a change in the painting of towing and target drone control aircraft to provide a more brilliant color scheme for safety purposes. Accordingly, the Bureau of Aeronautics issued letter directive Aer-AE-421/152 on August 26, 1959, directing the use of Fluorescent Red Orange in place of Insignia Red. The fuselage, engine cowling, and engine nacelles on multi-engine aircraft were to be Engine Gray. Surfaces which extended into the top surface of the wings were to be painted to match the wing surface. Wing walkways could be either Black or Seaplane Gray. The wings were to be Orange Yellow. The vertical fin and rudder(s) were to be Fluorescent Red Orange. Fin fairings were to be painted to match the fuselage. The Fluorescent Red Orange was to terminate on a line formed by projecting the fin leading edge down to the fuselage. Fluorescent Red Orange bands were to encircle the wing on single and multi-engine aircraft the same as the Insignia Red bands formerly applied.

Amendment 2 to MIL-C-18263B(Aer), dated December 7, 1959, added the requirement not to apply the fluorescent finish to any rain erosion resistant finishes, transparent or translucent plastic, or metal frames and fittings on any aircraft window area. Fluorescent paint was not to be applied on areas where the skin temperatures were above 210° F, nor was it to be applied to the bottom of flying boats, such as the P5M and UF types, from a point 6 inches (15.24 cm) above the water line.

Opposite Left: This Douglas A4D-I was assigned to NAS Patuxent River in April 1958. **Right:** A solar heat reflecting white top was applied to a PBM-5 of Advanced Training Unit 501 at NAS Corpus Christi, Texas. **Left Bottom:** A McDonnell F2H-2 with high visibility markings is shown at Patuxent. **Bottom:** While assigned to the USS Essex, VMA-225 used the AK tail code of Carrier Air Group 10 and the Green tail markings of the fifth squadron.

Helicopters assigned to search and rescue were to have the Red Orange fluorescent finish applied the same as those assigned to training. Those helicopters assigned to antisubmarine operations, such as the HSS-1, were to have the Red Orange fluorescent finish applied to the nose and the tail pylon. On the nose, it was to terminate at a line drawn from the lower forward corner of the pilot's window (closed position) on the HSS-1 and HSS-1N and drawn from the center of the lower edge of the pilot's side window (closed position) in the case of the HSS-2. This border line was to be parallel to the pylon fold hinge line. The fluorescent finish was to be applied on both sides of the pylon and was to cover the area from the pylon fold hinge line aft and terminate a sufficient distance below the top of the pylon to permit application of identification letters and numerals on the background of Seaplane Gray. Transparent areas, openings, screens, and any part of the exhaust trail and antiglare areas were not to be painted. The hull bottom from a line 6 inches (15.24 cm) above the water line was exempt from this requirement.

Problems were encountered in the Fleet with the application of temporary fluorescent paint schemes on those aircraft that were basically painted in the carrier scheme but overpainted in the high visibility scheme. Fuel and hydraulic fluids caused the temporary white paint to deteriorate. On December 16, 1959, the Bureau of Naval Weapons issued letter directive, RRMA-5:SK:vs which authorized the elimination of removable white paint adjacent to the Fluorescent Red Orange areas on the upper surfaces of carrier models, assigned to the Training Command as well as the Fleet, overpainted with the removable fluorescent scheme. It should be noted, however, that the upper surfaces that received the fluorescent paint still required an undercoat of removable white paint under the fluorescent paint in order to obtain the necessary brilliance from this finish. The aircraft affected by this directive were the F11F-1, S2F-1, F9F-8B, and F9F-8P.



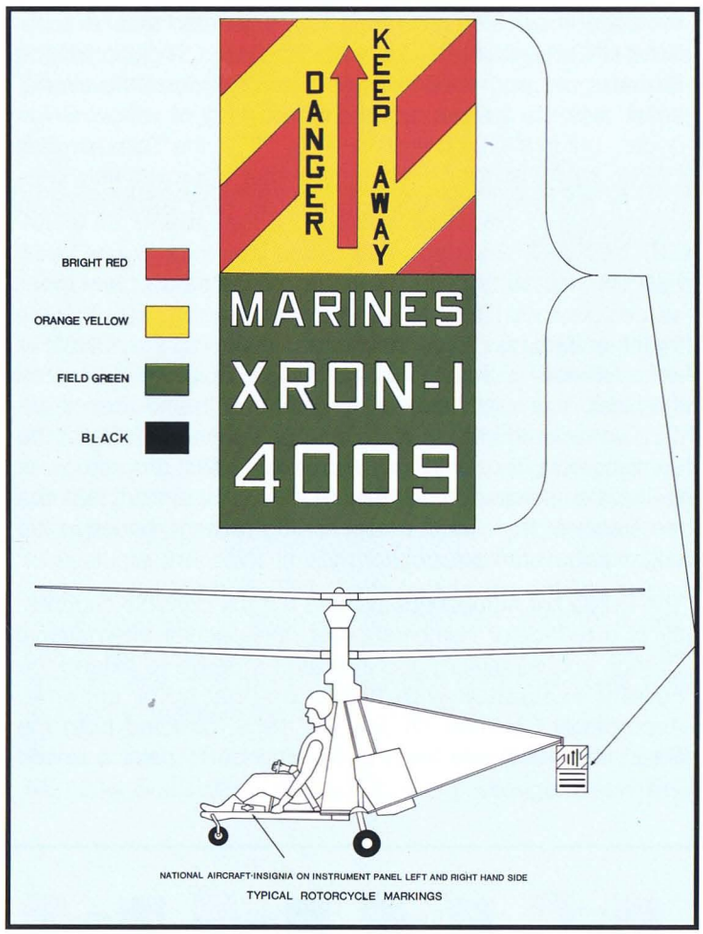
During the 1950s, the Marine Corps experimented with light one-man helicopters to be used in providing combat unit leaders a quick means of aerial reconnaissance. One such vehicle was the Hiller Rotorcycle. However, it was not until MIL-I-18464C(Wep), dated April 11, 1960, was issued that a directive specified how they were to be painted. As they were to be Marine Corps aircraft, the overall color was to be Field Green. Their design presented a problem in the application of identification markings. A national aircraft insignia was applied to the outboard side of both the right and left instrument panels. The stabilizer provided space for the tail rotor warning markings in addition to the Branch of Service, Model Designation and Aircraft Serial Number.

TRAINING COMMAND ACTIVITIES

After several letters form units of the Training Command concerning the painting of aircraft to increase safety in flight, Chief of Naval Air Training (CNATRA) on May 27, 1952, wrote to the Bureau of Aeronautics on the subject. It had been recommended by Chief of Naval Air Basic Training (CNABTRA)

Above: The high gloss of the Insignia White under surface of this Chance Vought F8U-IP Crusader of VFP-62 is made apparent by the reflected ship name. **Below:** Aircraft which were flown by both Navy and Marine Corps reserve units frequently carried both branch-of-service designations as shown on the HUS-I at NAS South Weymouth.

Right: Light Gull Gray North American SNJ-6 of Instructor Basic Training Unit at NAS Pensacola, Florida.



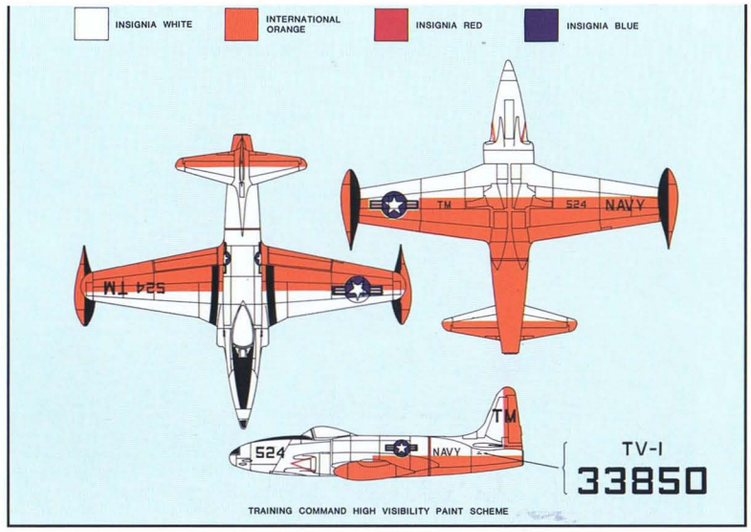
Above: A close-up of a special one-man helicopter under test at NAS South Weymouth during the 50s. Data on the fin refers to it as the GB-I, Ser-001, N10540, Gurleybird. It is unclear if this was a private venture or an official government-approved project.

that all SNJ aircraft be painted yellow, and by Chief of Naval Air Advanced Training (CNAVANTRA) that SNB aircraft be painted blue to improve their visibility. The National Advisory Committee for Aeronautics (NACA) had recommended at one time that aircraft be painted red, and subsequently, white in order to improve the ease with which they could be seen. The current Sea Blue color had been chosen for combat aircraft on the basis that it did not increase the ease with which the aircraft could be seen. From this it can be seen that a considerable difference of opinion still existed as to what color, if any, provided optimum visibility, and on the other hand what colors would provide optimum camouflage.

Instrument training was then conducted within the Training Command and the Fleet utilized an amber windshield and a blue visor or goggles. When used together on these "blue amber flights," the pilot could not see outside the cockpit. The use of either yellow or blue aircraft would be adversely affected when viewed through either color.

Therefore, it was requested that the Bureau of Aeronautics conduct an evaluation to determine whether any one color possessed a significant margin of visibility, under conditions where a collision might be considered imminent, to justify its use. If one color met these requirements then the Bureau should issue instructions for the application of this color, on a uniform basis, to those units wherein safety of flight could be considered of greater importance than combat effectiveness.

Bureau of Aeronautics had worked on this problem several years previous without a final conclusion being reached. It was apparent that a color scheme more visible than the current standard aluminum scheme with Light Green stripes was required for immediate use. In letter Aer-AE-421 Serial



TRAINING COMMAND HIGH VISIBILITY PAINT SCHEME

78827 dated June 3, 1952, CNATRA was authorized to paint a limited number of aircraft in a high visibility color scheme and, if desired, to extend it to other instrument training aircraft after local evaluation of the efficiency of this scheme in comparison with the current standard.

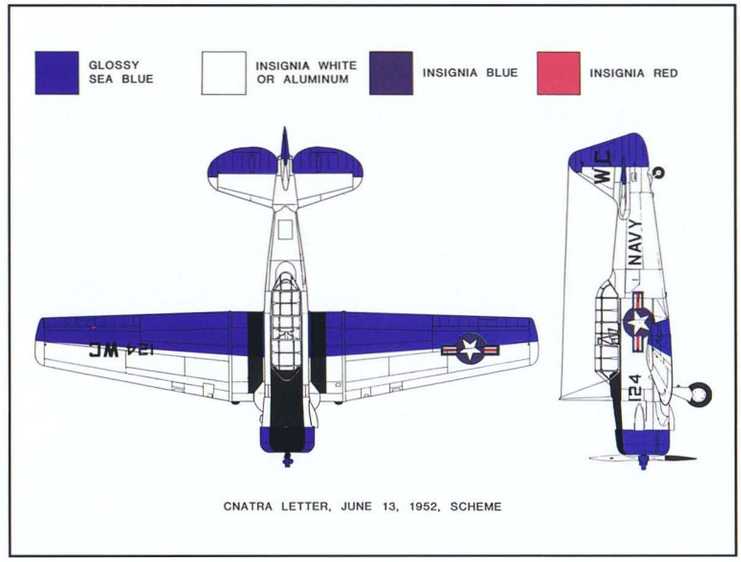
The high visibility color scheme authorized by this letter was for the following areas to be painted glossy Sea Blue: top and bottom of the trailing halves of all horizontal surfaces, the complete rudders, propeller hubs and cowl rings (in the case of multi-engine aircraft the Sea Blue was to be applied to the forward 18 inches (45.72 cm) of the metal portion of the nose instead of on the cowl rings). The remainder of the aircraft was to be glossy Insignia White, except antiglare areas, insignia, etc.

In order to evaluate this scheme under various conditions CNATRA on June 13, 1952, directed that twelve SNJs of Basic Training Unit 1 (BTU-1) at NAAS Whiting Field, twelve SNJs of BTU-2 at NAAS Correy Field, and twelve SNB-5s assigned to US Navy School All Weather Flying (USNSAWF) at NAS Corpus Christi used for instrument training were to be painted with this high visibility scheme. In addition, three SNB-5s at Corry Field used for instrument training were to be painted glossy yellow for comparative purposes.

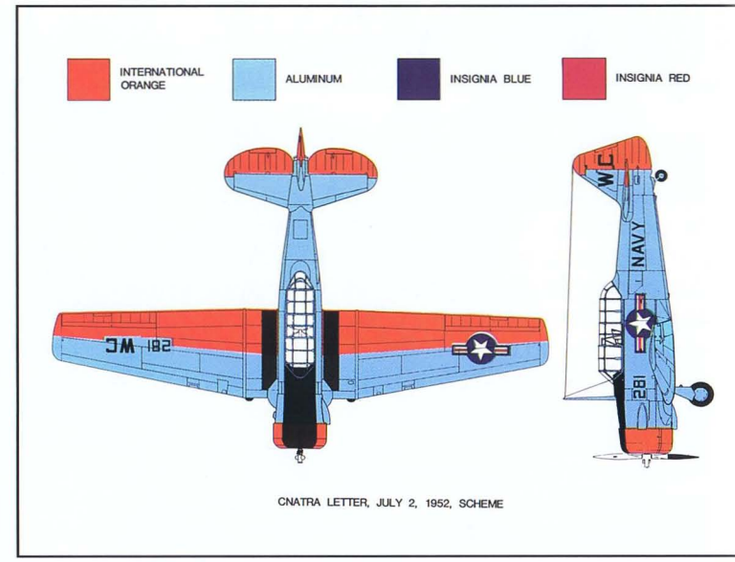
In view of these experiments, it was requested that no additional SNJs be painted yellow pending the completion of the Bureau's program to determine the most desirable aircraft color. It is not known when this painting of yellow SNJs began, but in a letter dated June 20, 1952, the Commanding Officer, NAAS Whiting Field, stated that approximately one-half of the assigned training aircraft had been painted Orange Yellow.

Pilots soon pointed out that the glossy white paint possessed so much brightness that it was quite objectionable by those who had flown the aircraft. In view of this, CNATRA letter NE:40:evc Serial 6452 dated July 2, 1952, authorized the Basic Training Command to paint only the number of aircraft considered necessary to establish characteristics of the configuration. The remaining aircraft in the test program were to have the appropriate Sea Blue areas painted, but the remainder of the aircraft could, for the present, be left in the original aluminum color.

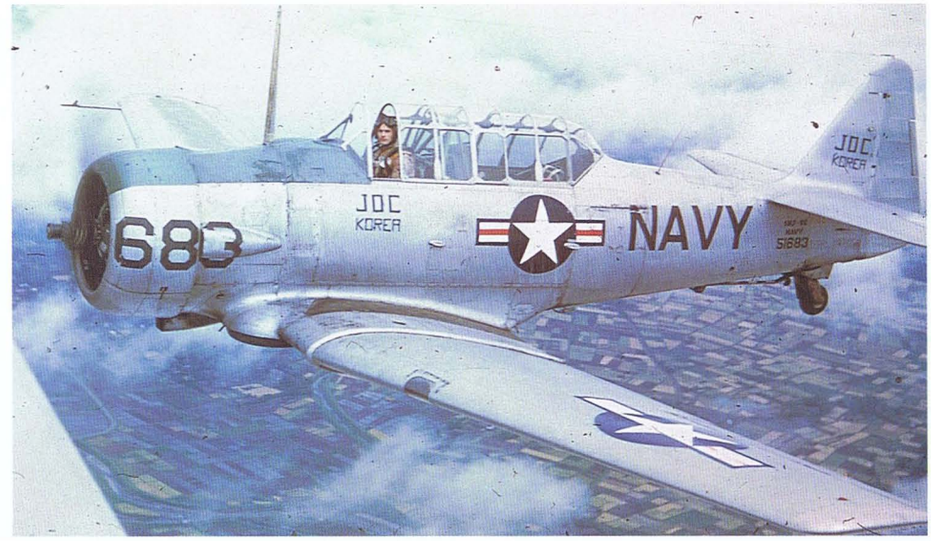
The Bureau of Aeronautics pointed out the possible superiority of a two-color combination of nonspecular International Orange and Aluminum and indicated a desire to extend the current evaluation with this additional color scheme. Accordingly CNATRA on July 25, 1952, directed both the Basic and Advanced Training Commands to paint a limited



CNATRA LETTER, JUNE 13, 1952, SCHEME



CNATRA LETTER, JULY 2, 1952, SCHEME



This Navy SNJ was operated by the Joint Operations Center in Korea in 1951.

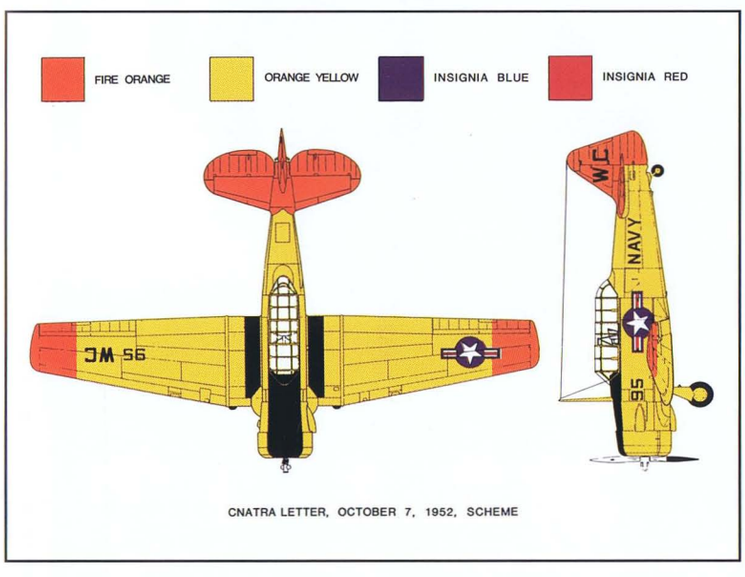
number of additional aircraft (approximately six in each command) using nonspecular International Orange in the areas previously specified as glossy Sea Blue, retaining the aluminum color in the remaining areas, except antiglare areas, insignia, etc.

The Assistant Secretary of Navy for Air wrote to the Chief of Naval Air Training concerning the desirability of evaluating a Fire Orange paint sold under the trade name "Day-Glo." This paint was used at the Naval Ordnance Test Station, Inyokern (now known as Naval Weapons Center, China Lake) on aircraft with considerable success as an aid in locating aircraft at extreme altitudes during test work. Naval Ordnance Test Station, Inyokern, had been instructed to ship sufficient paint to CNATRA for evaluation on a SNJ training aircraft. On September 3, 1952, Chief of Naval Air Training directed that one SNJ within the Basic Training Command be painted Fire Orange overall except the antiglare areas, insignia, etc., and to evaluate the color in comparison with the other colors under consideration. This paint had to be applied over a bright white lacquer finish and required two coats for a good job. It was noted that this two-coat painting should last approximately one month, after which additional coats were required to maintain the desired brilliance.

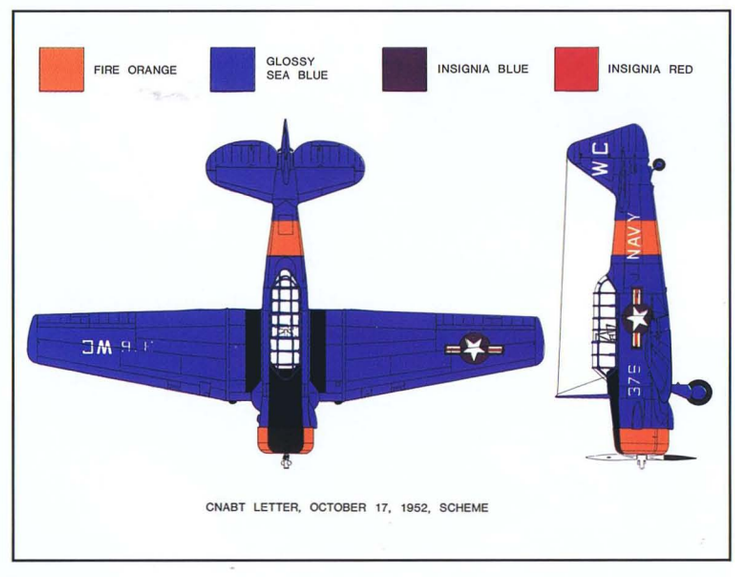
On October 7, 1952, Chief of Naval Air Training by letter NE:42:ky Serial 9802 directed that one Orange Yellow SNJ within the Basic Training Command be painted with Fire Orange paint. This paint was to be applied to the following areas: engine nose cowling (except for antiglare area), the complete empennage (cut-off point was to be the leading edge of the horizontal stabilizer), and wing tips for a distance of 48 inches (121.92 cm) inboard of the tip on both upper and lower surfaces of the wing.

The evaluation of the overall Fire Orange painted SNJ was submitted by the Commanding Officer, NAAS Whiting Field on October 9, 1952. The unanimous opinion of the pilots involved was that the Fire Orange was the outstanding color for sightability and much superior to any other color including Orange Yellow in distant sightability. However, approximately 70 percent of the pilots thought that the Orange Yellow was sighted as well as the Fire Orange when short distances were involved wherein danger of collision was present. The great disadvantages of the Fire Orange paint were the time involved in application, the short duration of the paint and cost involved. Representatives of the paint company would not guarantee the paint for longer than sixty days.

On October 17, 1952, Chief of Naval Air Basic Training directed Basic Training Unit One North (BTU-1N) to evaluate another color scheme using Fire Orange in addition to the two already under consideration. This SNJ was to have the engine speed ring, exclusive of the antiglare area, Fire



CNATRA LETTER, OCTOBER 7, 1952, SCHEME

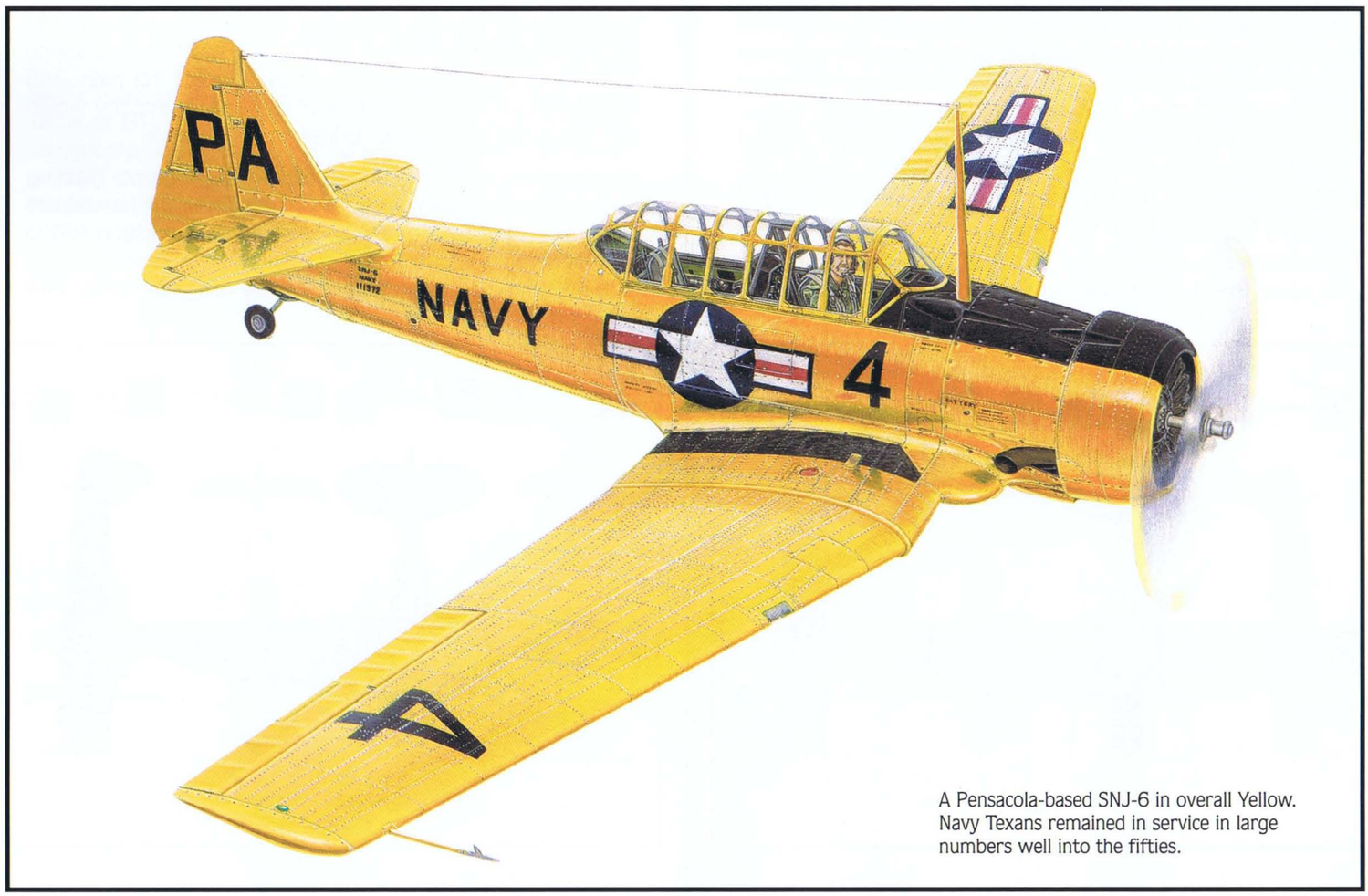


CNABT LETTER, OCTOBER 17, 1952, SCHEME

Orange. A three foot (91.44 cm) band around the rear fuselage, in the location prescribed for the Light Green band on instrument aircraft, was to be Fire Orange. The remaining exterior including all control surfaces, but excluding antiglare area, national aircraft insignia and markings, was to be glossy Sea Blue.

In response to BuAer letter Aer-AE-421 Serial 148385 dated October 20, 1952, CNATRA letter NE:42:lc Serial 10661 dated October 31, 1952, directed CNABTRA that it was permissible, at his discretion, to resume painting all SNJ aircraft within his training units overall Orange Yellow. SNJ aircraft were, however, to continue to be issued from overhaul in aluminum color. In addition, he was to have two SNJs painted overall glossy International Orange. This color scheme was a result of a color test at the Naval Submarine Base, New London, Connecticut, which indicated that International Orange was a more noticeable color than Orange Yellow.

The helicopters in Helicopter Training Unit One (HTU-1) were painted glossy Sea Blue as prescribed in SR-2g. The greater percentage of helicopter pilot training was carried out at low altitude where this color scheme blended with the dark background of the surrounding terrain. On November 17, 1952, the Commanding Officer requested that Bureau of Aeronautics grant authority to change the color on rotary wing aircraft used for pilot training to a more readily distinguishable color such as yellow, orange or bright red. In the



A Pensacola-based SNJ-6 in overall Yellow. Navy Texans remained in service in large numbers well into the fifties.

Opposite Left: Overall Yellow SNJs at NAAS Saufley Field. Notice the landing gear doors have been removed to reduce maintenance. **Right:** Overall Orange Yellow H03S-I rescue helicopter at NAAS Chase Field is shown late in 1955. **Below:** In order for those pilots assigned staff jobs in the Washington area to maintain their proficiency, AES-12 operated many T-28B aircraft such as this example in high visibility scheme. A visual identification code was no longer assigned, but all squadron aircraft were identified by the base name.

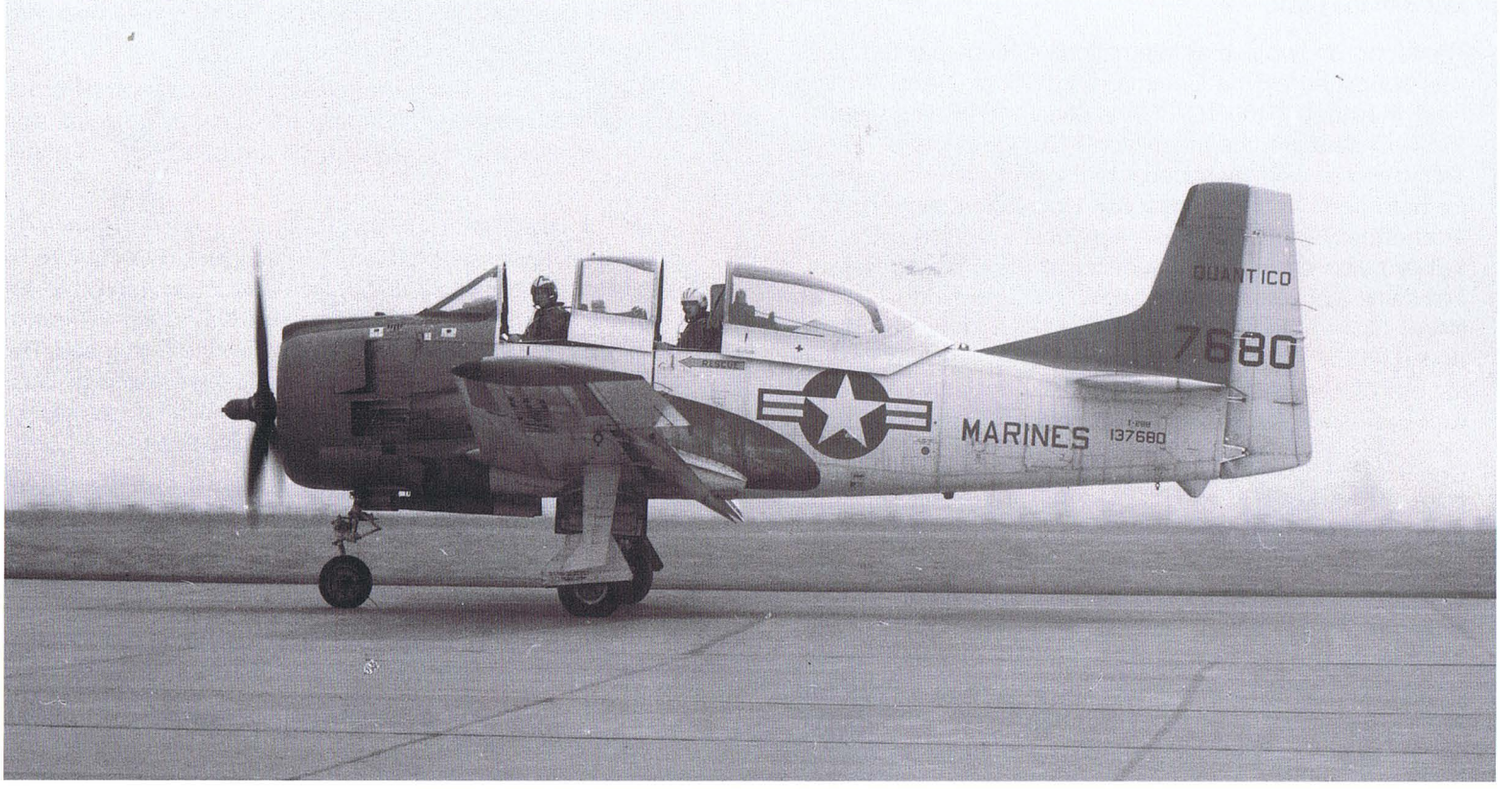
interest of safety and standardization, Chief of Naval Air Basic Training proposed the same Orange Yellow paint, as approved for SNJ training aircraft be used.

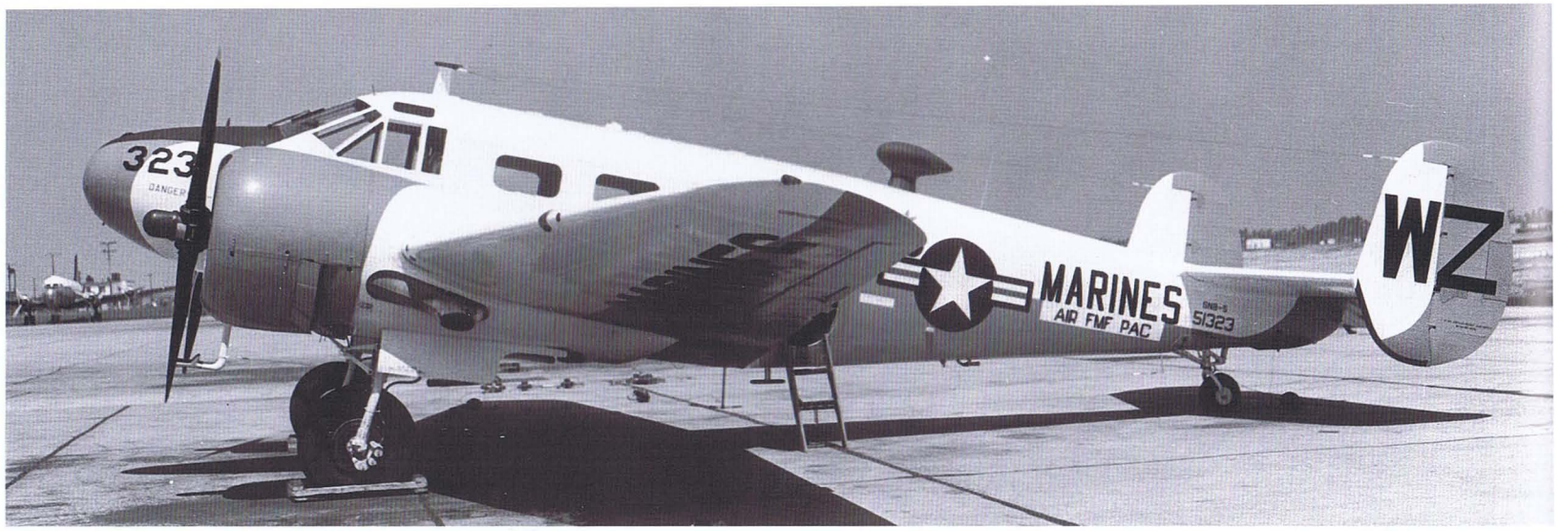
A limited number of training type helicopters were authorized to be painted Orange Yellow by the Bureau of Aeronautics in letter Aer-AE-421 Serial 164502 dated November 24, 1952 for evaluation.

On December 11, 1952, Commanding Officer, NAAS Whiting Field, submitted his report on the evaluation of SNJ aircraft painted Orange Yellow overall, Fire Orange overall, and Aluminum with certain areas Fire Orange. As in other tests, the Fire Orange overall was the unanimous choice for distant sightability. However, at close range the Orange Yellow was just about as good. From a maintenance and economy standpoint the Fire Orange again was rated unacceptable.

Commanding Officer, NAAS Corry Field, reported on December 17, 1952, the results of the Fire Orange and Sea Blue scheme. This combination increased both distant and close sightability when viewed through either clear windshield glass or amber instrument hood material. This paint increased the visibility even more than the glossy Orange Yellow. Once again the difficulty in application, short service life, and cost in men and material rendered the Fire Orange color scheme impractical.

After this multitude of color schemes had been evaluated, the Chief of Naval Air Training reported to the Bureau of Aeronautics in letter NR:42:lc Serial 12361 dated December 22, 1952. It was recommended that all single engine aircraft used primarily for training be painted Orange Yellow overall. This was to apply to SNJ, the new T-28B when received, and other similar trainers. Also, all multi-engine aircraft used primarily for training would be painted International Orange and Insignia White. This would apply to SNB and JRB aircraft. Service type and jet aircraft were to remain painted in





the colors currently established for their use in other than training activities.

The Commanding Officer HTU-1 letter EAD/ajh Serial 161 dated January 20, 1953, reported on the testing of Orange Yellow helicopters. Six HTL helicopters were painted glossy Orange Yellow and evaluated against the remaining Sea Blue aircraft. Students' and instructors' reports were highly favorable in the contrast of Orange Yellow against the type of terrain at NAAS Ellyson Field. Against an overcast background these aircraft were much more distinguishable than the Sea Blue ones. When seen against a light or blue background the advantage was smaller but still favorable. In view of the preponderance of evidence in favor of the Orange Yellow color scheme, it was highly recommended that permission be granted to paint all training type helicopters assigned to HTU-1 in this scheme.

On January 29, 1953, the Bureau of Aeronautics concurred with the Training Command evaluation of Fire Orange paint being unsuitable for use on naval aircraft at its present state of development and recommended discontinuance of the test with the paint.

The report on two overall International Orange painted SNJs was submitted by the Commanding Officer, NAAS Whiting Field, in letter NA 169/TO/CCA/js Serial 11016 dated April 2, 1953. Once again the International Orange and the Orange Yellow aircraft were far superior to the aluminum color aircraft for both close and far sightability. Both colors were considered equally good for close sightability, with the Orange Yellow being considerably superior at more distant ranges. The same test was reported on by the Commanding Officer, NAAS Corry Field, in letter NA9(COC)/F4 Serial 680 dated April 9, 1953. In this case, International Orange was favored for both close and distant sightability through both clear windshields and those with the amber instrument hood.

Upon conclusion of tests by the Naval School, All Weather Flight (NSAWF) at NAS Corpus Christi and the Naval Air Experimental Station, Naval Air Material Center, Philadelphia, on the split International Orange and Insignia White color scheme for SNB/JRB aircraft, the Bureau of Aeronautics by letter Aer-AE-421 J20-1 Serial 70365 dated May 21, 1953, directed its use on all multi-engine trainer aircraft if desired by CNATRA. When the scheme was applied to a SNB/JRB aircraft, the upper fuselage, engine nacelles, forward portion of the upper and lower wing surfaces and stationary tail surfaces were to be painted glossy Insignia White. Fuselage painting terminated 2 inches (5.08 cm) below the passenger windows to a point just forward of the national aircraft insignia. It continued aft of the insignia on a line terminating at the bottom of the horizontal stabilizer fairing. The aft portion of the wing surfaces were to be painted glossy International Orange with the two colors joining along the wing centerline. Horizontal and vertical control surfaces, the fuselage nose 3 inches (7.62 cm) forward of the propeller warning stripe, and ring cowls were to be glossy International Orange except for the antiglare areas. Thus, the top of the fuselage forward of the windshield and the upper inboard portion of the engine nacelles received antiglare Black paint. The actual application was modified slightly by Change 2 to CNATRA INSTRUCTION NAVAER 07.1 dated October 22, 1953.

CNATRA INSTRUCTION NAVAER 07.1 dated June 19, 1953, directed that all SNB/JRB aircraft assigned to and operated by units of the Naval Air Training Command were to be painted in the high visibility International Orange and Insignia White color scheme in accordance with the drawings and description contained in the Bureau of Aeronautics letter of May 21, 1953.

SR-202, *Exterior Color Requirements for Naval Aircraft* directed that helicopters and single reciprocating engine aircraft used for training were to be overall glossy Orange Yellow.

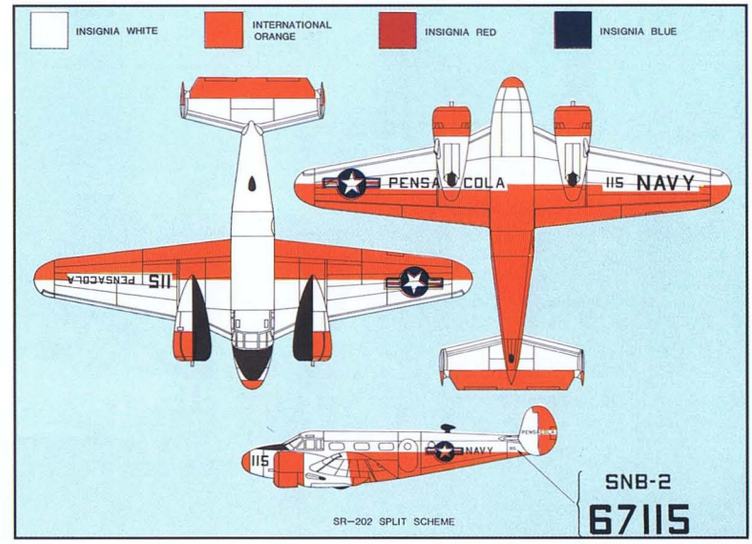
CNATRA INSTRUCTION NAVAER 07.1 dated June 19, 1953, was superseded by CNATRA INSTRUCTION NAVAER 07.1A on November 27, 1953. This instruction applied to all operating aircraft assigned to the Naval Air Training Command, except Naval Air Reserve Training Command. By this instruction the Chief, Naval Air Reserve Training, was delegated the authority to paint aircraft within his command in the high visibility color scheme at his discretion.

All aircraft of the Training Command were to be painted in accordance with SR-202 as follows:

a. SNJ and T-28 type were to be overall glossy Orange Yellow.

b. SNB/JRB type were to be glossy International Orange and White as outlined in SR-202 of August 3, 1953.

c. HTL, HTE, and HTK helicopters were to be overall glossy Orange Yellow.

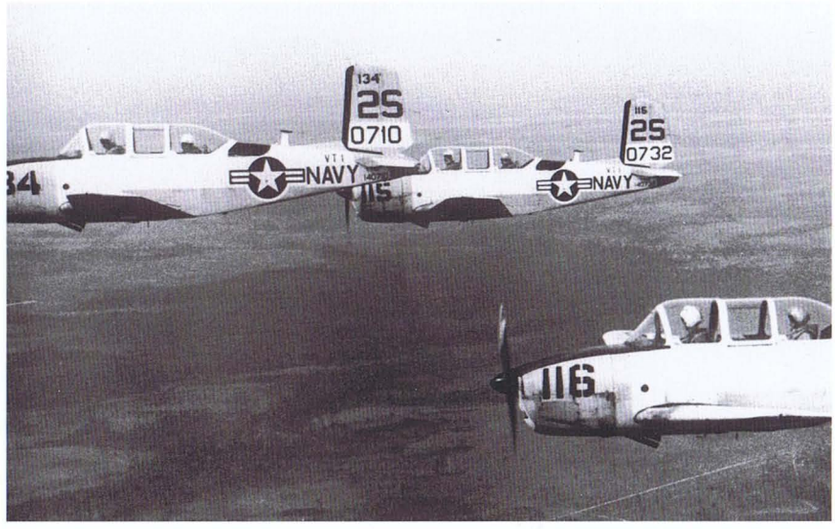


Left and Below: A Beech SNB-5 assigned to Aircraft, Fleet Marine Force Pacific in a local version of the high visibility paint scheme shows both upper and lower surfaces. This was the top administrative command for aircraft on the west coast and in the Pacific area.

The exterior of service type VF, VA, VS, VP, VR, VT, and rotary wing HO, HR, and HU, as well as airships, was to conform to the standard finishes as specified in SR-202.

This was to be accomplished as soon as practicable, but a deadline date of June 30, 1954, was established for the completion of all work.

CNATRA TV Aircraft Technical Bulletin No. 7, dated November 10, 1954, directed the painting of all TV type aircraft in the Training Command in the high visibility International Orange and Insignia White color scheme directed by BuAer letter Aer-AE-421/139 dated October 21, 1954. This scheme completely covered the previously unpainted aircraft to provide improved safety in flight as well as reduction in the maintenance of the unfinished surfaces.



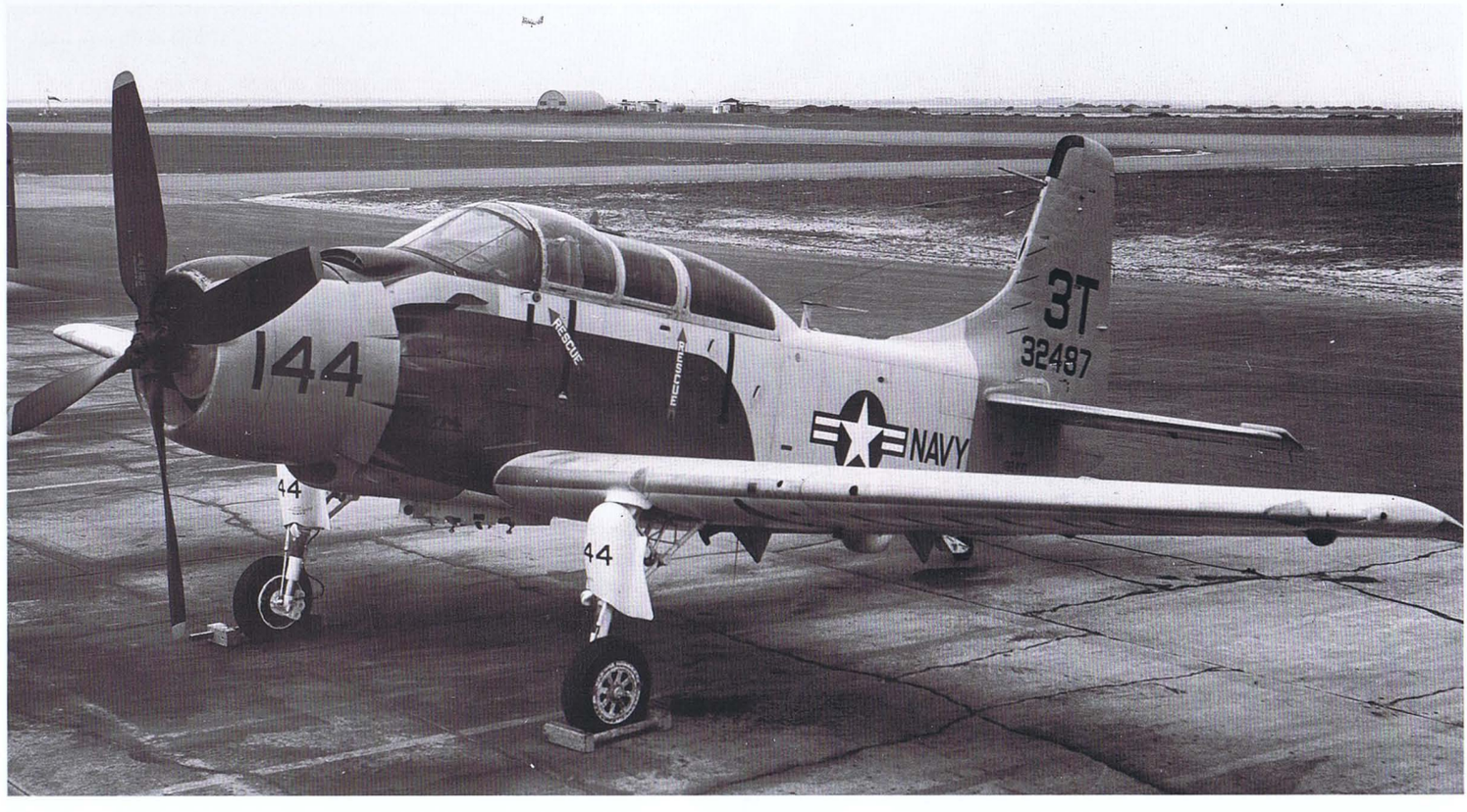
Left: Beech T-34B of Training Squadron 1 at NAAS Saufley Field depicts the high visibility split scheme. **Below:** This AD-5 of Advanced Training Unit 301 has had the side of the fuselage painted black to reduce the upkeep time. Rear of the aircraft is high visibility International Orange.

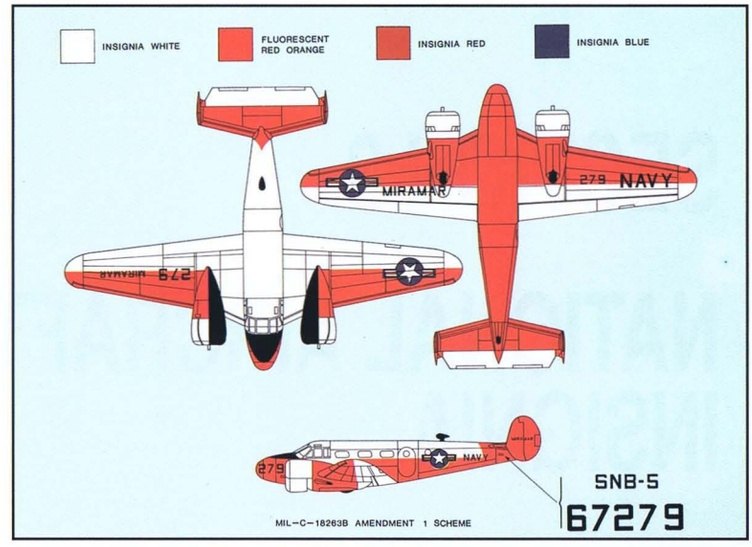
Military Specification MIL-C-18263(Aer), dated February 23, 1955, directed that the International Orange and Insignia White scheme was now to be applied to all reciprocating multi-engine and jet aircraft used in training. Certain models were being used both by the Training Command and operating commands. All of these aircraft regardless of assignment were to be painted with the high-visibility color scheme. This meant that all JRB, SNB, TV, and T2Vs were to be painted International Orange and Insignia White. All single engine trainers, such as the SNJ, T-28, and T-34, were to be painted Orange Yellow overall.

MIL-C-18263A(Aer), dated July 16, 1956, specified that primary jets, primary single reciprocating engine aircraft, primary seaplanes, and helicopters used in training were directed to be painted overall glossy Orange Yellow, except antiglare areas which were to be nonspecular Black. Multi-engine reciprocating aircraft used in training and all other jet aircraft models assigned exclusively to training were to be painted in the International Orange and White "split": scheme. All SNJ, T-28, T-34, and HTL were to remain painted glossy Orange Yellow, while all of the following were to be painted in the "split" scheme; AF-2W, AF-3, AD-3, AD-4, F2H-2, FJ-2, F9F-2, F9F-5, F9F-6, F9F-8T, JRB, SNB, S2F-1, TV, T2J-1, and T2V.

In response to a request from the Commanding Officer, HTU-1, the Chief of Naval Air Training on September 10, 1956, authorized the painting of HUP-2 helicopters, assigned to HTU-1, in a high visibility scheme of International Orange and Insignia White.

MIL-C-18263B(Aer), dated February 12, 1959, modified the high visibility paint scheme requirements. Helicopters such as the HUP-2 and HO4S-3 used in training were to be painted overall Fluorescent Red Orange, except areas requiring extensive masking and antiglare areas which remained nonspecular Black.





Bottom: The McDonnell F4H-1 Phantom II prototype is painted in unusual markings while assigned to NAS Patuxent River.

Amendment 1 to MIL-C-18263B(Aer), dated April 30, 1959, changed the instructions extensively on the painting of trainers and utility aircraft. Now, the forward half of the wing area was to be painted with the fluorescent finish from the leading edge back to the center line of the wing. The fluorescent finish on the aft portion of the aircraft was to cover at least 1/5 of the overall length of the aircraft.

The fluorescent finish was not to be applied to the leading edge of wings, stabilizer, tip tanks, belly tanks, radome, etc., of aircraft having speeds in excess of 250 knots in level flight. The fluorescent finish was not to be applied to control surfaces except in the case of utility, training and carrier type aircraft on which the entire horizontal tail is movable. The F8U is such an aircraft on which the entire horizontal tail was to be fluorescent finish. Utility, training, and carrier type aircraft on which the rudder is more than 25 percent of the area of the combined fin and rudder, such as the SNB, were to have both the fin and rudder painted with the fluorescent finish.

Amendment 2 to MIL-C-18263B(Aer), dated December 7, 1959, stated that aircraft which were exclusively designated for training, such as the S2F-1, F9F-8T, T2J, and T2V, were to continue to use permanent white paint on the areas adjacent to the Fluorescent Red Orange areas.

SECTION 2

NATIONAL AIRCRAFT INSIGNIA

CHAPTER 2 1950-1959

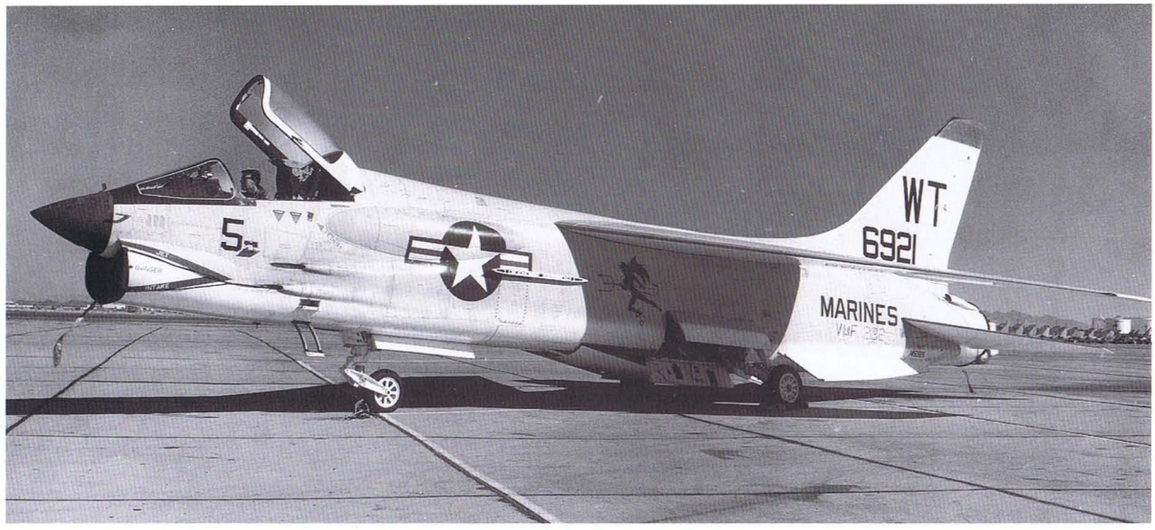
As a part of the consolidation and standardization of documents within the Department of Defense, the Army-Navy Aeronautical Specification AN-I-9c, *Insignia: National Aircraft,* with Amendment 2, was superseded by a new directive, MIL-I-6140, dated April 27, 1950. This was only an administrative change of the directive number. The title remained the same, and the old specifications contained in AN-I-9c continued to direct the national aircraft insignia style and location.

SR-2g, *Insignia, Markings and Exterior Color of Naval Aircraft,* dated February 1, 1949, had required that the Branch of Service, Model and Bureau Serial Number be placed on the side of the fuselage in larger characters than were previously used. These new markings could conflict with the national aircraft insignia placement. Amendment 1, dated May 12, 1950, changed the location of the Unit Identification letter or station name from the undersurface of the left wing to the undersurface of the right wing. It also eliminated some of the confusion over placement of the various markings. In the event the positioning of the national aircraft insignia and Branch of Service on the fuselage conflicted, the national aircraft insignia was to be moved forward consistent with symmetry. On the undersurface of the starboard wing, the national aircraft insignia could be moved outboard as far as necessary to accommodate the new station or unit identification. This was also the first instruction to consider where to apply the national aircraft insignia on helicopters. Due to the unusual configuration, helicopters were to be marked in accordance with the drawings in the directive for each model then in use. The size and location varied from model to model.

Although Amendment 1 to SR-2g was not mandatory, the majority of commands elected to apply the large markings specified. This caused an increased workload on some

Right: Due to the configuration of the Douglas F4D wing, it was necessary to move the national aircraft insignia to the forward fuselage. Note the rescue and warning markings on fuselage and engine.


WARNING
RESCUE
F4D-1
130743
NAVY
NAVY



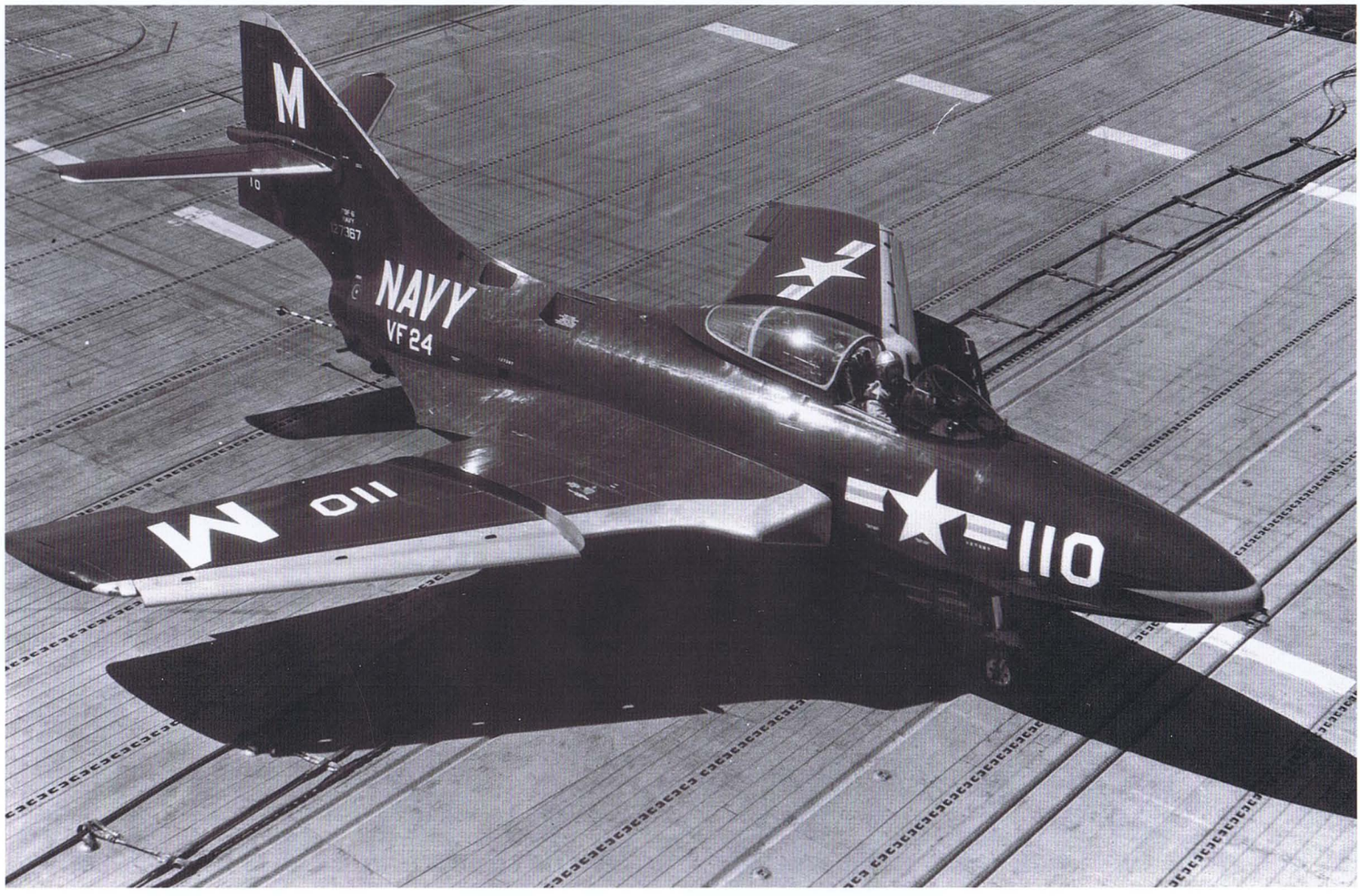
Left: The national aircraft insignia was not supposed to be applied where its shape could be covered or changed in a combat situation. Yet this VMF-232 F8U-2 has a missile launcher that will partly cover it when a missile is installed. When opened, the refueling probe door will completely change the design.

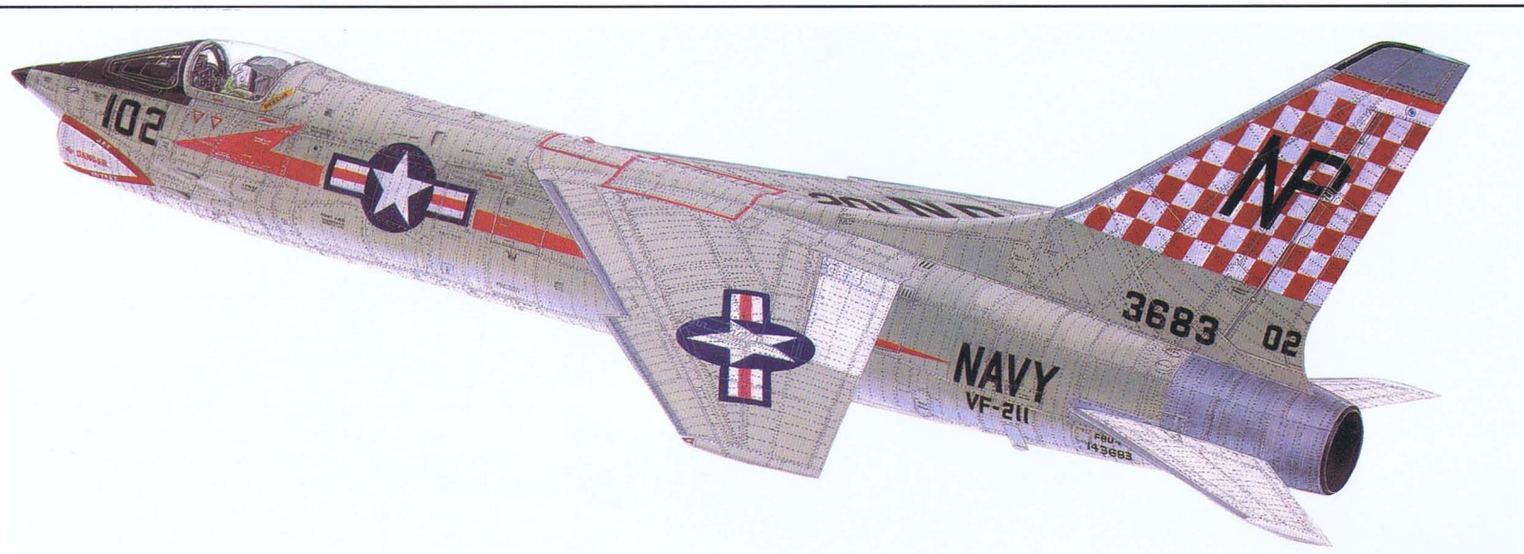
activities that had to repaint the markings since aircraft being delivered to the various commands were still painted in accordance with the earlier mandatory instructions of SR-2g.

In order to minimize the work required to add the non-mandatory markings, the Chief, Bureau of Aeronautics letter Aer-AE-42 79707, dated October 11, 1950, directed Overhaul and Repair shops to apply the national aircraft insignia to all aircraft undergoing overhaul in the location specified in Amendment 1. All contractors were also advised to apply the national aircraft insignia on all aircraft in production in the location specified in Amendment 1.

MIL-I-6140(ASG), dated September 15, 1954, was the first directive to consider the new swept wing aircraft. It specified that on aircraft having swept wings or wings of variable sweep, the national aircraft insignia was to be so placed that it would not extend onto flaps, slats, or control surfaces, provided the specified size and symmetry were maintained. The insignia on such wings was to be placed so that a line through the top star point and the center of the star was perpendicular to the line formed by the constant 50 percent

Below: This Grumman F9F-6 has the national aircraft insignia, aircraft number, and identification letter painted at a right angle to the line of flight rather than on the fifty percent chord line as specified. This was not an unusual painting error.





chord line of the wing which passes through the center of the star. On straight wing aircraft, the top star point of the insignia still pointed forward and a line through that point and the star's center was parallel to the line of flight in normal flight attitude. When the fuselage section between the trailing edge of the wing and the leading edge of the stabilizer was not large enough to accommodate the minimum size specified, or placing the insignia in that location was impractical for other reasons such as excessive temperature conditions which would scorch the insignia, the insignia was to be placed on such other parts of the fuselage as would permit its being readily seen from the side. All other previous considerations remained in effect.

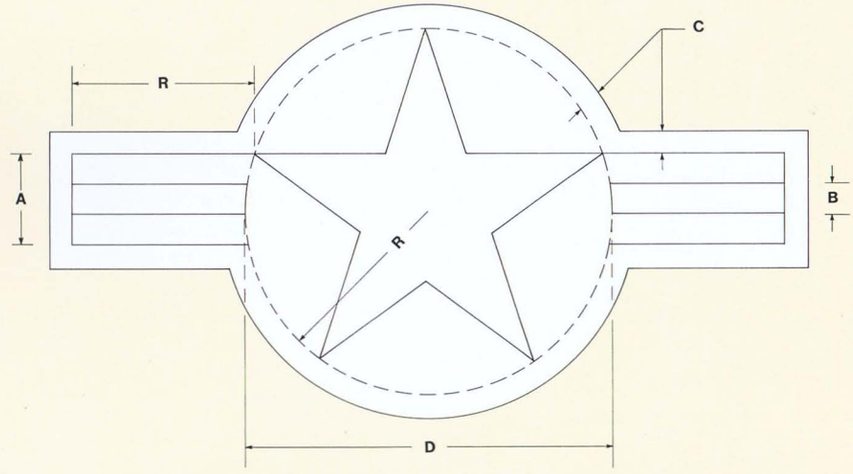
Special instructions pertaining to helicopters were also given. On helicopters, four national aircraft insignia were to be applied in such a manner as to be visibly identifiable from either side, above and below. Alternate locations because of design configurations, as permitted above, were to be such as to obtain suitable identification. As on fixed wing aircraft, the fuselage insignia could cover doors and emergency

Above: Properly applied national aircraft insignia are depicted on this colorful F8U-1 of VF-211. **Below:** While undergoing tests, this XA2D-1 Skyshark had only Navy and national aircraft insignia.

Left: Soon to become VA(AW)-33, this Douglas AD-5N of VC-33 is about to have the national aircraft insignia obliterated by exhaust stain. **Opposite Right:** This Utility Squadron 3 F4D-I clearly illustrates the need to position the national aircraft insignia on the forward portion of the fuselage.

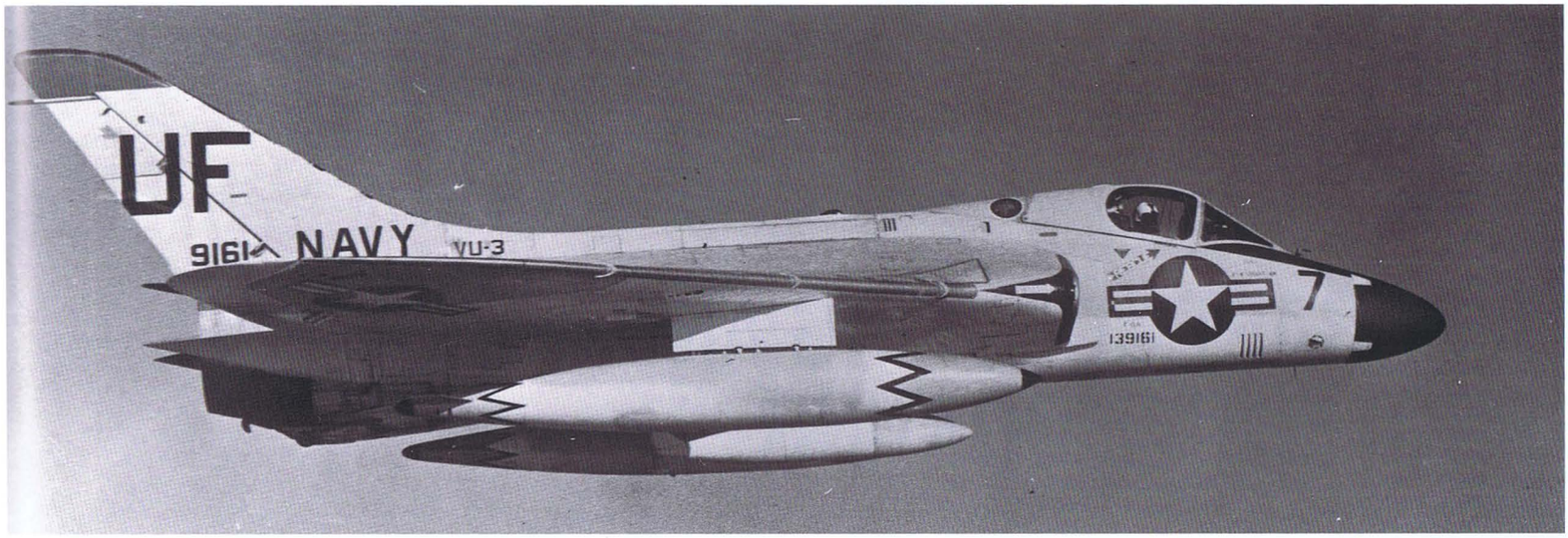
exits, but could not extend over windows or such openings used during flight which would change the insignia pattern. If space limitations and configuration permit, an additional insignia was to be applied to the nose of helicopters to provide more positive air-to-air identification. The national aircraft insignia application on vertical surfaces was to be such that the top star point was upward and a line through that point and the star's center was perpendicular to the line of flight in normal flight attitude. The insignia, excluding the blue border, could have a maximum diameter of 50 inches (127.00 cm) and a minimum diameter of 15 inches (38.10 cm). Standard sizes are in 5 inch (12.70 cm) multiples. The proper diameter was the standard size which comes nearest to, but does not exceed, 75 percent of the height of the projection of the fuselage at the point of application. If the above dimensions were impracticable, the most practicable standard diameter was to be used.

DIMENSIONS FOR NATIONAL AIRCRAFT INSIGNIA



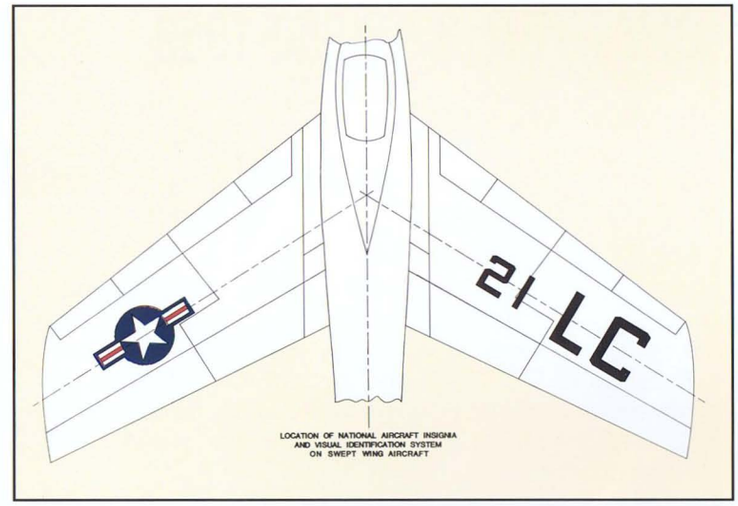
The Publisher wishes to advise the reader that a slight error was inadvertently made in Volume 2 (page 81) with respect to the length of the horizontal bar to the national aircraft insignia. The length of the white bar, as represented by "R", is to originate from the point of the star and not from a vertical line tangent to the star's circumference.

D	R	A	B	C
9.50" (24.13 cm)	4.75" (12.06 cm)	2.38" (6.03 cm)	0.80" (2.01 cm)	0.59" (1.49cm)
10.00" (25.40 cm)	5.00" (12.70 cm)	2.50" (6.35 cm)	0.83" (2.12 cm)	0.63" (1.59 cm)
15.00" (38.10 cm)	7.50" (19.05 cm)	3.75" (9.52 cm)	1.25" (3.18 cm)	0.94" (2.38 cm)
20.00" (50.80 cm)	10.00" (25.40 cm)	5.00" (12.70 cm)	1.66" (4.23 cm)	1.25" (3.18 cm)
25.00" (63.50 cm)	12.50" (31.75 cm)	6.25" (15.88 cm)	2.08" (5.29 cm)	1.56" (3.97 cm)
30.00" (76.20 cm)	15.00" (38.10 cm)	7.50" (19.05 cm)	2.50" (6.35 cm)	1.88" (4.76 cm)
35.00" (88.90 cm)	17.50" (44.45 cm)	8.75" (22.22 cm)	2.92" (7.41 cm)	2.19" (5.56 cm)
40.00" (101.60 cm)	20.00" (50.80 cm)	10.00" (25.40 cm)	3.33" (8.47 cm)	2.50" (6.35 cm)
45.00" (114.30 cm)	22.50" (57.15 cm)	11.25" (28.58 cm)	3.75" (9.52 cm)	2.81" (7.14 cm)
50.00" (127.00 cm)	25.00" (63.50 cm)	12.50" (31.75 cm)	4.17" (10.58 cm)	3.13" (7.94 cm)
55.00" (139.70 cm)	27.50" (69.85 cm)	13.75" (34.92 cm)	4.58" (11.64 cm)	3.44" (8.73 cm)
60.00" (154.40 cm)	30.00" (76.20 cm)	15.00" (38.10 cm)	5.00" (12.70 cm)	3.75" (9.53 cm)



Military Specification MIL-I-18464(Aer), dated March 9, 1955, *Insignia and Markings for Naval Aircraft,* which superseded SR-2h, once again authorized decalcomanias of the national aircraft insignia. When used they were available in 20, 30, 40, 50, and 60 inch (50.80, 76.20, 101.60, 127.00, 152.40 cm) diameter. This in no way changed the standard sizes in steps of 5 inches (12.70 cm). Target drones and surface-to-surface type guided missiles with wings were considered for the first time. These were to have the national aircraft insignia applied the same as regular fixed wing aircraft.

Amendment 1, dated November 7, 1955, to MIL-I-6140(ASG), discontinued the use of gray paint for the star on the upper wing surfaces finished in low visibility camouflage color scheme which had been in effect since ALNAV 129 dated June 28, 1943.



LOCATION OF NATIONAL AIRCRAFT INSIGNIA AND VISUAL IDENTIFICATION SYSTEM ON SWEPT WING AIRCRAFT

A F3H-2M of VF-112 properly marked in addition to a colorful paint scheme. Note how the tail code has been slanted to conform with the shape of the vertical tail surface.

SECTION 3

AIRCRAFT COLORING AND PROTECTIVE COATING

CHAPTER 3 1950-1959

FLEET ACTIVITIES

The reduction in force under the Truman administration is reflected in the following changes in the Visual Identification System from those shown in the last listing, in Volume II, dated June 15, 1949. The *Aircraft Complement and Allowances of the Navy and Marine Corps,* dated February 23, 1950, the next known listing of tail codes, shows the following deletions.

CARRIER AIR GROUPS AND SQUADRONS

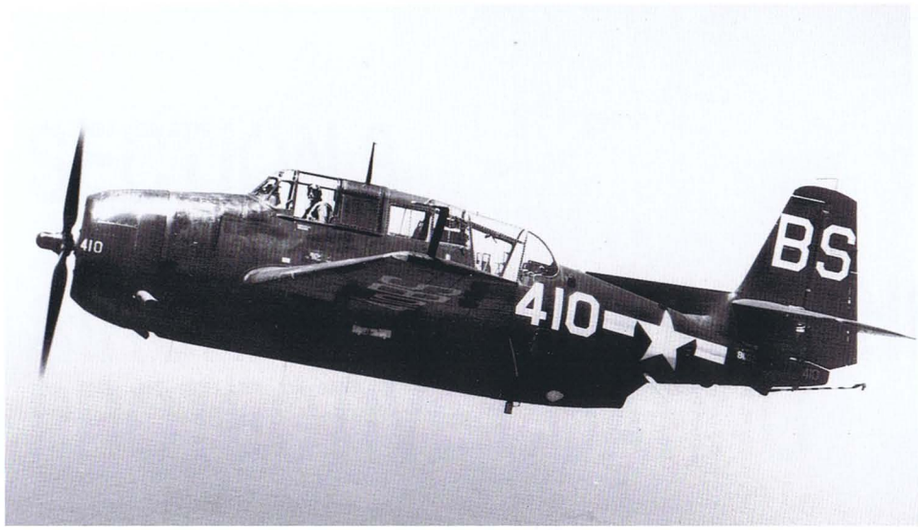
		Disestablished
CVG-9	D	December 1, 1949
VF-91		February 15, 1950
VF-93		June 30, 1949
VA-94		June 30, 1949
VA-95		November 30, 1949
CVG-13	P	November 30, 1949
VF-132		November 30, 1949
VF-133		October 31, 1949
VA-135		November 3, 1949
CBVG-15	A	December 1, 1949
VA-154		December 1, 1949
VA-155		November 30, 1949

PATROL SQUADRONS

		Disestablished
VP-20	DD	March 31, 1949

Right: Painting the ship name in red is unusual. The Light Green tail markings of these Douglas AD-6s show VA-85 is the fifth squadron aboard.


AJ
7575
AJ
7570
AJ
7580
USS FORRESTAL
NAVY
VA 85
137580
USS FORRESTAL
NAVY
VA 85
7569



Left: A General Motors TBM-3S was assigned to VS-2 at NAS San Diego in 1950. The aircraft number 410 and visual identification letters BS are repeated on the upper surface of the right wing. **Below:** This Douglas R4D-5 is identified as being assigned to a Naval Air Station rather than to a specific squadron. It is finished with aluminum-doped, fabric surfaces and unpainted metal.

VP-25	BB	July 1, 1949
VP-27	DC	January 11, 1950
VP-29	DE	January 18, 1950
VP-32	DB	April 6, 1949
VP-33	EB	December 15, 1949
VP-40	CA	January 25, 1950
VP-43	BC	
VP-44	CC	January 20, 1950
VP-48	MB	December 31, 1949
VP-51	EW	February 1, 1950
VP-61	SD	January 17, 1950
VP-62	EF	January 30, 1950

TRANSPORT, UTILITY AND MISCELLANEOUS SQUADRONS

Disestablished

VR-23	RC	January 31, 1950
VR-44	RM	April 20, 1950
VO-1	UB	March 31, 1949
VO-2	UC	April 4, 1949
VU-1	UA	April 30, 1949
VU-5	UE	April 5, 1949
VU-9	UK	

MARINE CORPS SQUADRONS

Deactivated

VMF-218	AH	December 31, 1949
VMF-222	LE	December 31, 1949
VMP-254	WT	November 30, 1949
VMF-322	AD	November 30, 1949
VMP-354	LV	December 8, 1949
VMF-452	AB	December 31, 1949
VMF-461	LP	February 28, 1950
VMO-3	AA	August 20, 1949

Technical Note No. 5-50, *Markings of Naval and Marine Corps Aircraft,* dated March 31, 1950, specified supplemental markings to those of SR-2g, *Insignia, Markings and*

Right: This Grumman F6F-5 is a good example of a squadron which had aircraft assigned but not a visual identification code and is painted in the same manner as an airplane assigned to an air station. **Below:** Another R4D-5 in the bare metal finish is shown during the same period as that on the previous page. The base name and aircraft number are in different positions and are on the under surface of the left wing. These are a good example of how varied the markings could be under the same instruction.

Exterior Color of Naval Aircraft, dated February 1, 1949. These markings were optional to facilitate identification on the ground and at close range. For the first time since prior to WW II, the branch of service was to be applied in large letters to both sides of the fuselage just forward of the empennage. On aircraft operated by the U S Navy, U S Naval Reserve, or operated jointly by the U S Navy and U.S. Marine Corps, the designation was to be NAVY. On aircraft operated by the U S Marine Corps and U S Marine Corps Reserve, the designation was to be MARINES. The letters used were to be the largest possible which could be accommodated on the aircraft, selected from the standard sizes of 12, 16, 20, 24, and 28 inches (30.48, 40.64, 50.80, 60.96, 71.12 cm) which could be accommodated on the aircraft.

On aircraft assigned to a Navy, Marine Corps, or their reserve component squadrons, the squadron designation, e.g. VF-42 or VMF-214, etc., was to be located on both sides of the fuselage and centered below the appropriate branch of service. The characters used for this were to be half the height of those used in the branch of service.

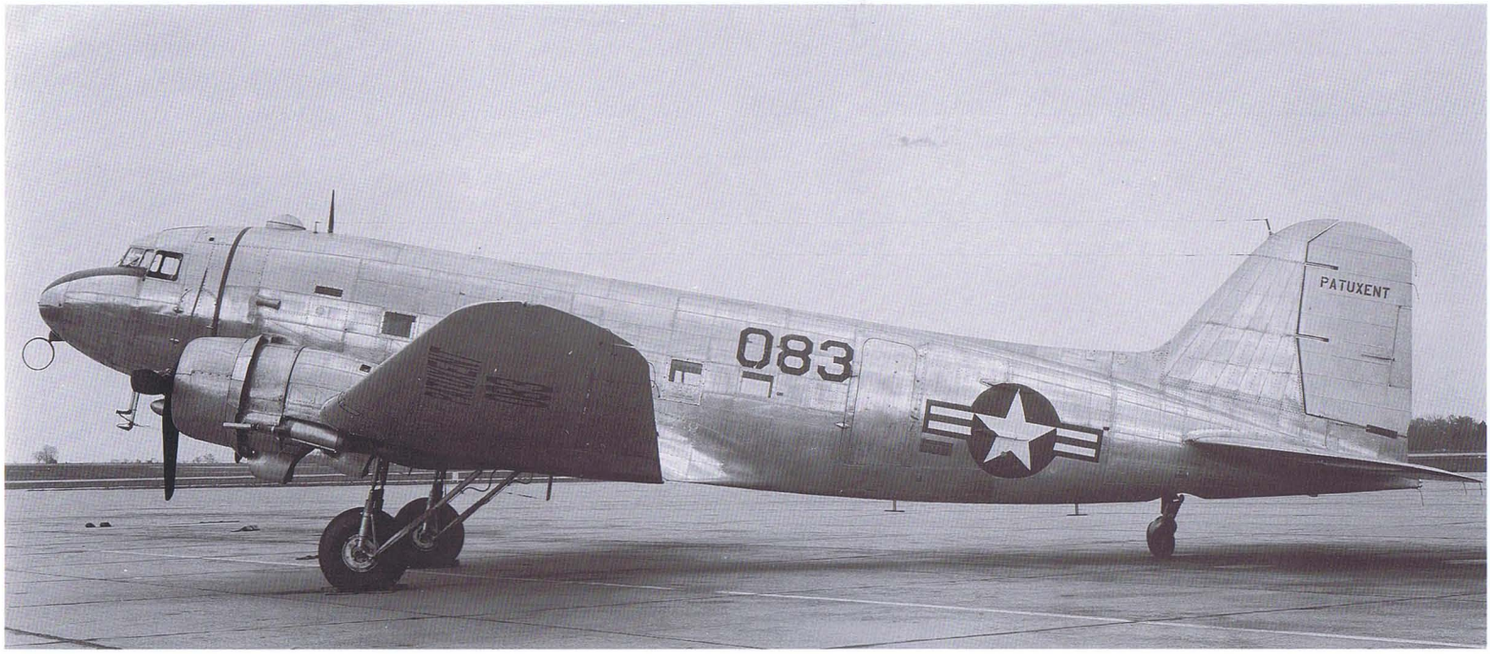
Aircraft not assigned to a squadron were to have the station name on each side of the fuselage centered under the appropriate branch of service in lieu of a squadron designation. These letters were to be half the size of the branch of service. If the station name was applied to the fin and rudder, it was not to be applied to the fuselage under NAVY or MARINES.

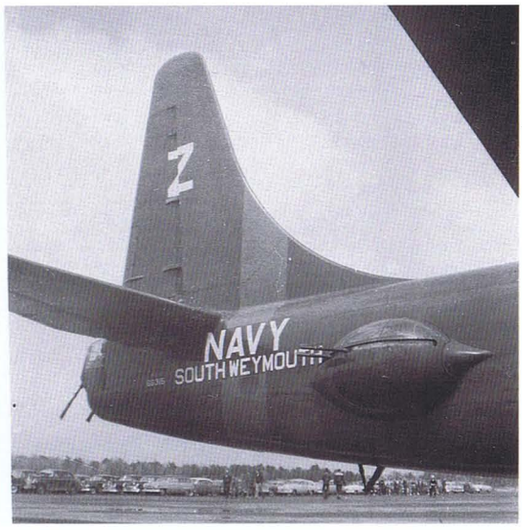
The same branch of service designation was to be applied to the under surface of the left wing, as far outboard as possible, as was applied to the fuselage. The size letters were to be the largest possible size which could be accommodated on the aircraft selected from the standard sizes of 24 inches (60.96 cm) and 30 inches (76.20 cm).

Other markings on the under surface of the wing were to be relocated as follows:

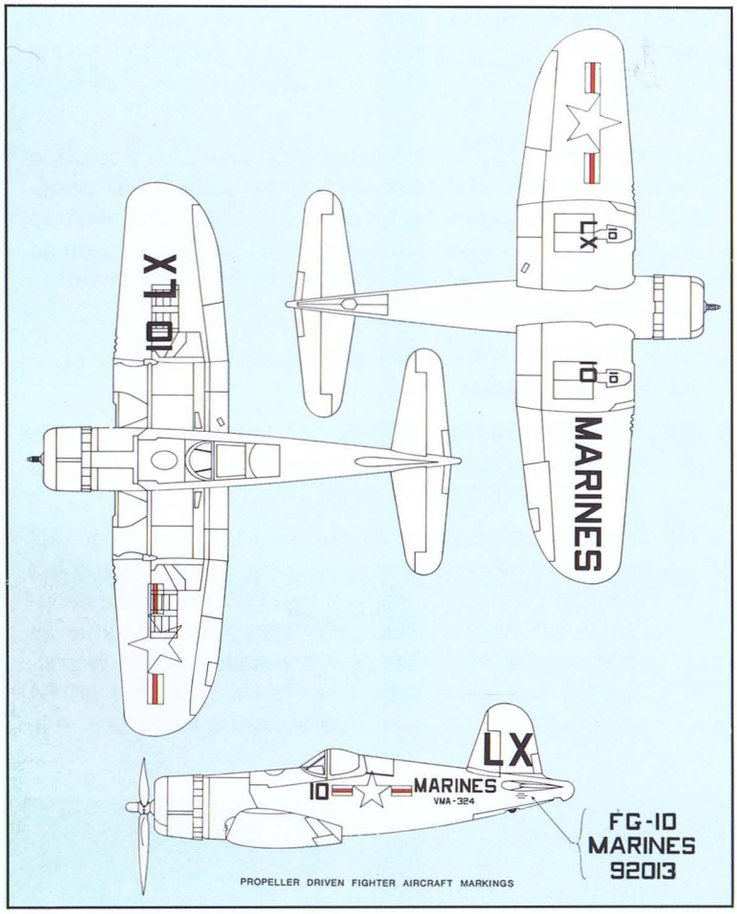
(a) The unit identifying letters and unit aircraft numerals were to be moved inboard, consistent with symmetry, and reduced to 16 inches (40.64 cm).

(b) Station and support aircraft had the station or unit name transferred from the under surface of the left wing to the under surface of the right wing. The national aircraft insignia could be moved outboard as far as necessary to accommodate the station or unit identification. The letters used were to be 16 inches (40.64 cm) high. If necessary, due to space limitations, this





Left: This photograph of a consolidated PB4Y-2 tailsection is another example of how the aircraft configuration could vary the placement of insignia and markings. Due to the location of the side gun turrets on the PB4Y-2 Privateer, the reserve fuselage band and base name had to be applied much further aft than normal.

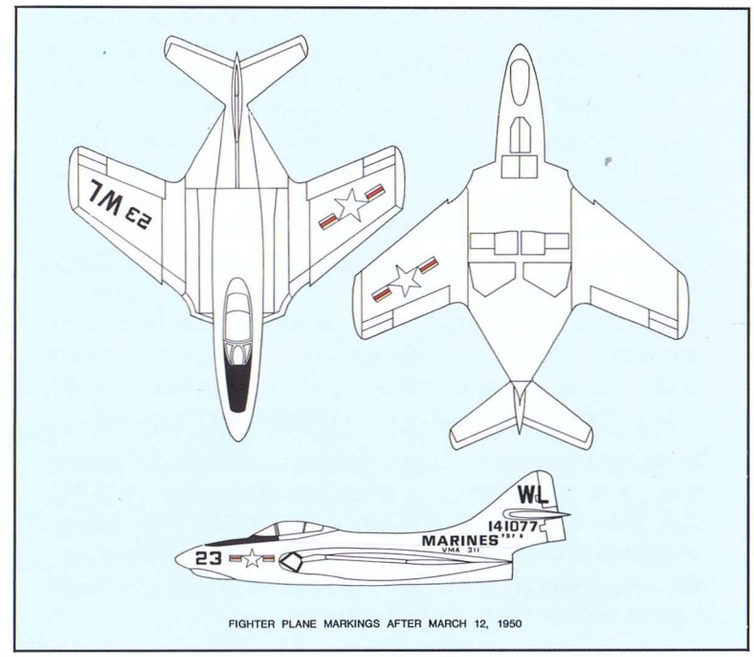


marking could be divided to occupy two lines. When the two lines were required for a station name, there was to be no hyphen at the end of the first line. The letters on the after line were to be centered symmetrically behind the forward line which was to contain the first syllables.

(c) All identifying information placed on the under surface of the wings was to be so applied that it could be read from left to right when standing in front of and facing the aircraft.

(d) All other markings were to be as specified in SR-2g.

Amendment 1 to SR-2g, dated May 12, 1950, expanded the marking requirements in addition to the permissible markings already specified in Technical Note 5-50. Most of these

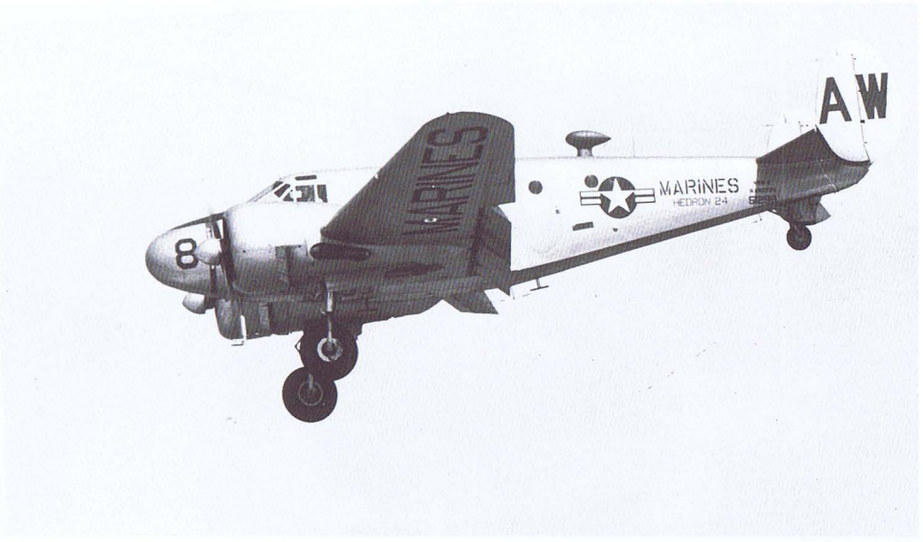


markings did not become mandatory until June 16, 1952, with the issue of SR-2h.

The large branch of service designation was still optional on fuselage and wings. On aircraft assigned to the Naval or Marine Corps Reserve, the station name was to be applied on both sides of the fuselage, just forward of the empennage and centered under the branch of service. The size of the letters used for the station name was to be half that used for the branch of service. This marking was to be in addition to the assigned station letter on the tail and the International Orange band around the fuselage. The continuity of the fuselage band was to be broken to permit the branch of service and station name to be applied in the prescribed location.

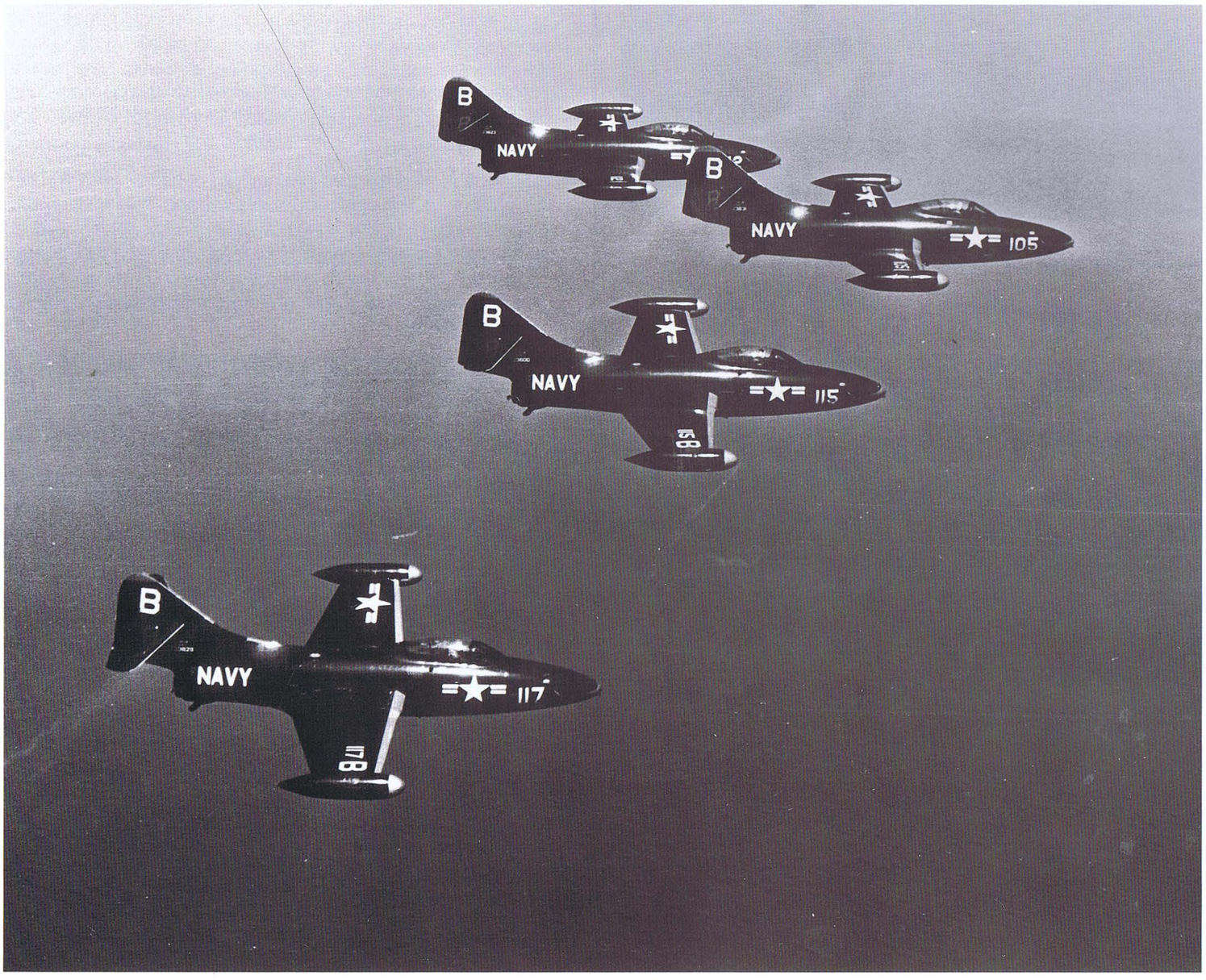
If necessary, any markings such as the national aircraft insignia, unit aircraft number, etc., whose current location would conflict with or overlap the branch of service marking were to be moved forward consistent with symmetry. The model designation, service marking and Bureau Number could be moved aft of the stabilizer leading edge if necessary.

The unit aircraft number was to be moved inboard on the under surface of the left wing, consistent with symmetry, and reduced to 16 inches (40.64 cm).



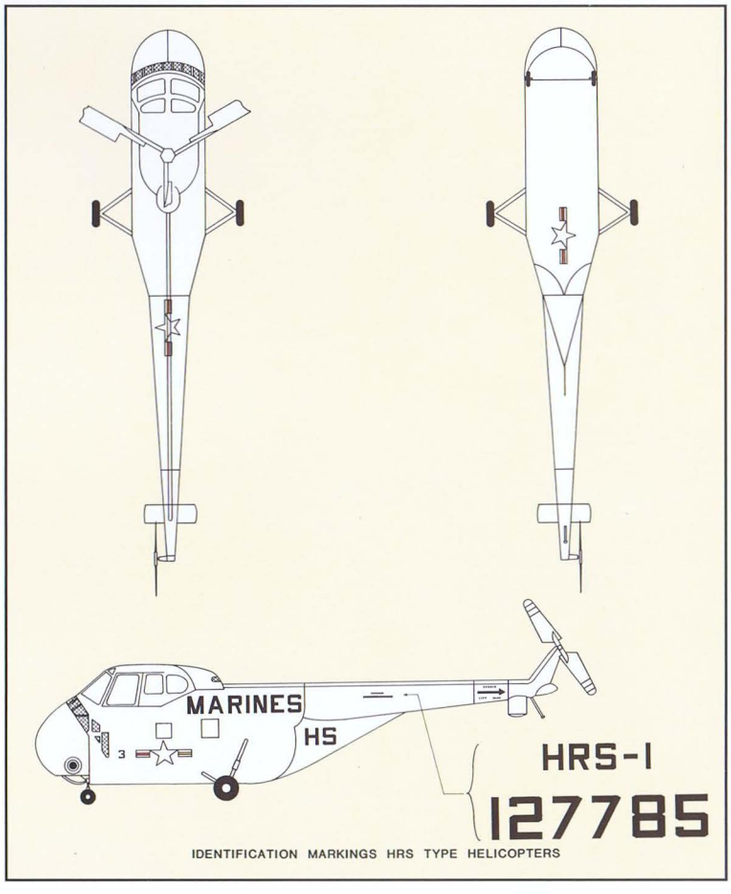
Above: This Headquarters Squadron 24 Beech SNB-5 shows the branch of service marking which became mandatory on the under-wing surface for the first time since July 1932. Only NAVY or MARINES was to be used; the previous U.S. was not authorized. **Below:** These F9Fs of VF-191 in May 1951 can only be identified as the senior fighter squadron of CVG-19 by their markings.

In the case of squadron aircraft, the unit identifying letters were transferred to the under surface of the right wing and located symmetrically between the national aircraft insignia and the fuselage. The letters were reduced to 16 inches (40.64 cm).

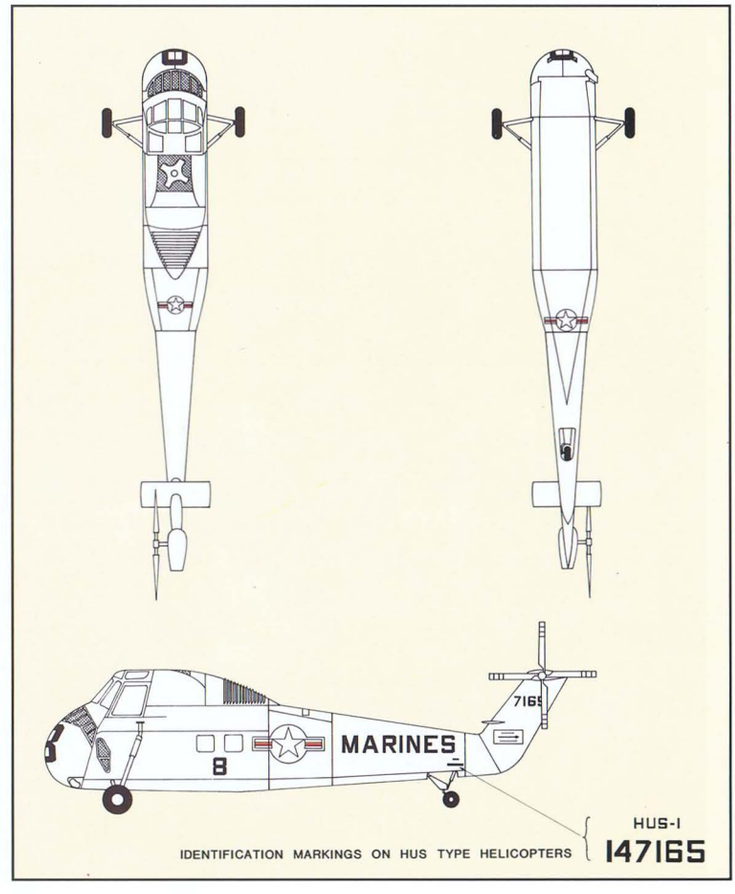


Helicopters were to be marked in accordance with these instructions insofar as practicable. Due to the number of different models and their peculiar shapes, no specific directions were provided. Numerous drawings showed examples for guidance.

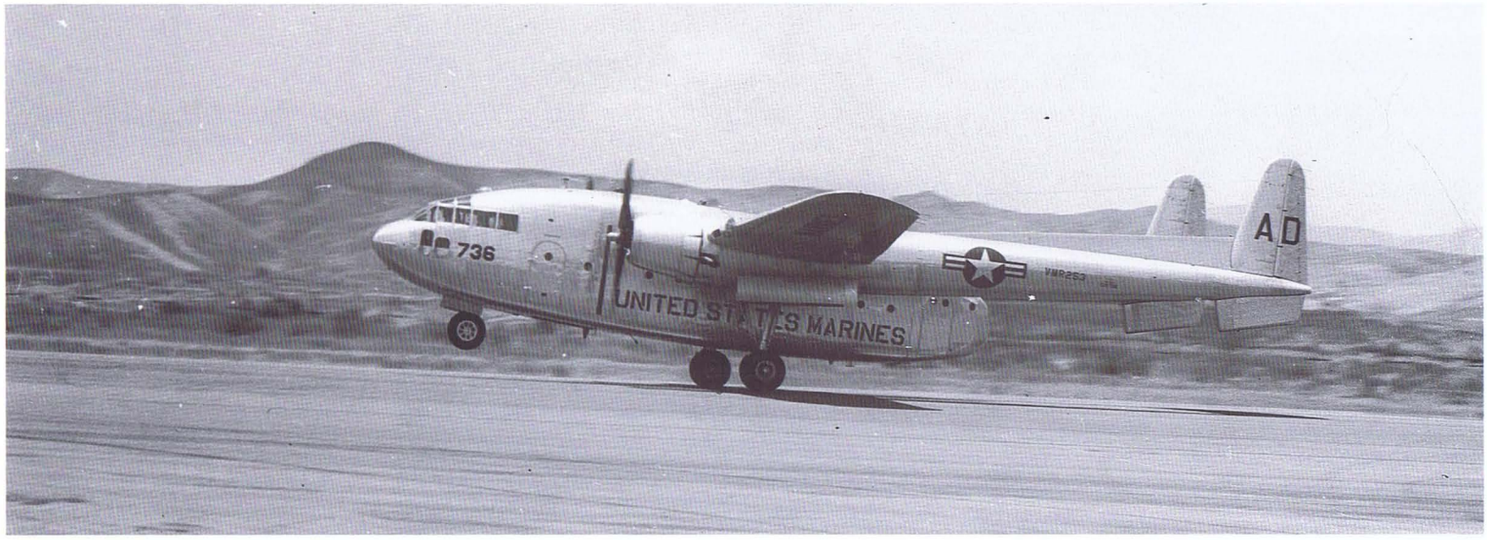
Above: In August 1950, this Bell HTL-3 at NAS Patuxent River was painted Sea Blue with Orange Yellow safety markings on the rear of the tail boom. See page 51 for the front view of this aircraft. **Left:** The instruction of the period concerning placement of markings on helicopters left much to the imagination of the squadron painter, as shown by this Hiller HTE-2 of NAS Squantum.



IDENTIFICATION MARKINGS HRS TYPE HELICOPTERS



IDENTIFICATION MARKINGS ON HUS TYPE HELICOPTERS



The branch of service on transport aircraft was determined the same for Fleet and Reserve components. However, on transport aircraft, it was now to be written out completely, UNITED STATES NAVY or UNITED STATES MARINES, whichever was appropriate. This marking on transports was to be located along both sides of the fuselage, consistent with symmetry, or along the outboard side of each main tail boom, as appropriate. This marking on low wing transports was located centrally above the windows; for high wing transports it was to be located on the fuselage either under the wing or aft of the trailing edge of the wing, or along the centerline of the tail boom. The lettering, selected from the standard sizes previously listed, was to be the largest possible size that could be accommodated on the aircraft.

On low wing transport aircraft, the station name or squadron designation was applied along the centerline on both sides of the fuselage, just forward of the empennage. On high wing transports, if the branch of service marking was placed on the fuselage, either under the wing or aft of the trailing edge of the wing, the station or squadron designation was centered symmetrically under this marking. Where the branch of service marking was along the booms, the station or squadron designation was centered symmetrically under it. If this was not practicable, the station or squadron designation was moved aft along the fuselage below the centerline. Letters and numerals used for squadron and station identification marking were to be half the size of the letters used for the branch of service marking. Marking instructions for the wings of transport aircraft are identical with instructions previously given for other models of aircraft. If the station name is marked on the fin and rudder, it was not to be applied to the fuselage or tail booms. These instructions also applied to the Naval Air Training Command.

The Visual Identification System for Naval Aircraft was modified slightly with the issue of Aviation Circular Letter No. 43-50, dated July 19, 1950.

Above: The squadron designation has been placed on the tail boom of this R4Q-1 rather than under the branch of service on the fuselage.
Below: This Sea Blue Convair OY-1 of VMO-1 carries the prefix TN so that it reads TN-OY-1, which seems to be stretching the designation as explained in Volume 2.

Left: Nose art was not common in naval aviation, but here are two Marine Corps squadrons, VMF-214 the Black Sheep and VMF-312 Checkerboard, at K-I Korea in October 1951 carrying distinctive unit insignia. **Below:** A TBM-3W of VS-32 aboard the USS Palau (CVE-122) displays the optional markings of pilot and plane captain names and squadron Insignia in July 1951.

Carrier Air Groups were now composed of four fighter squadrons and one attack squadron. The fourth squadron was now a VF and was assigned the block of numbers 401 to 499 for use in assigning side numbers. The VA squadron was number five and identified by the block of numbers from 501 to 599.

The following changes show the continuing reduction and reorganization taking place in naval aviation under the unification of the Armed Forces.

AIR GROUPS AND SQUADRONS

Disestablished

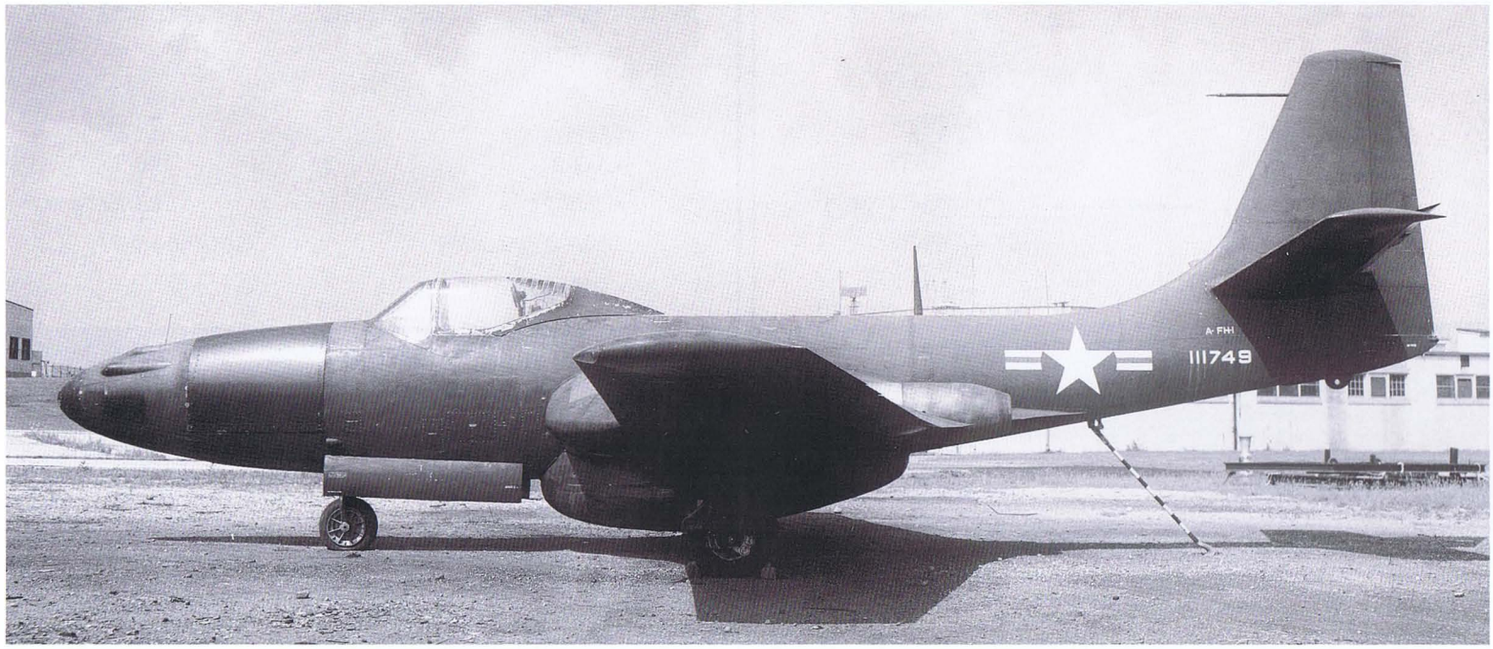
CVG-4	F	June 8, 1950
VF-41		June 1950
VF-42		June 8, 1950
VF-43		December 31, 1949
VA-44		December 31, 1949
VA-45		June 8, 1950
CVG-8	E	
VF-81		January 17, 1950
VF-82		November 29, 1949
VF-83		June 30, 1949
VA-84		November 29, 1949
VA-85		November 29, 1949
VF-174		January 25, 1950

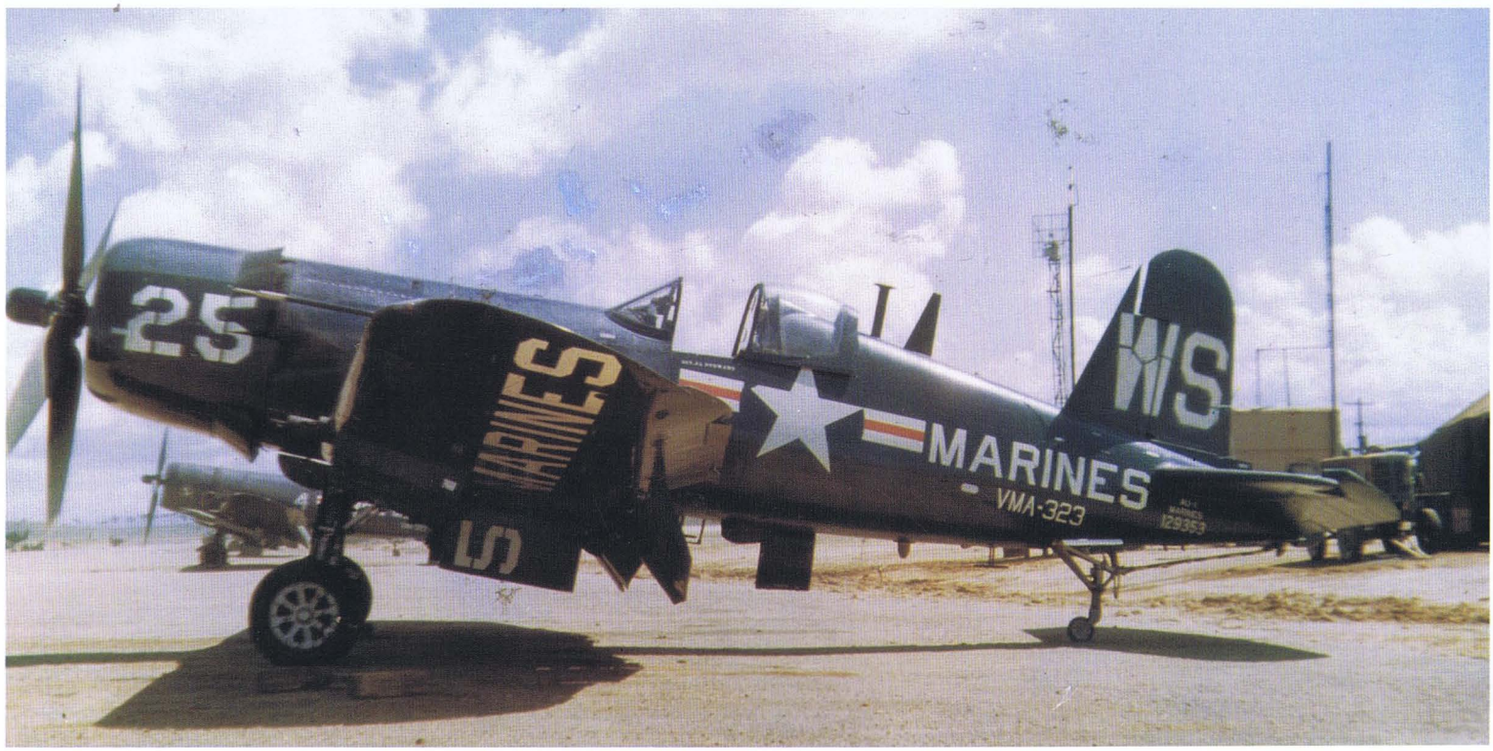
The current assignment of Identification Letters in ACL 43-50, dated July 19, 1950, were as follows. Previous designations are shown in parentheses.

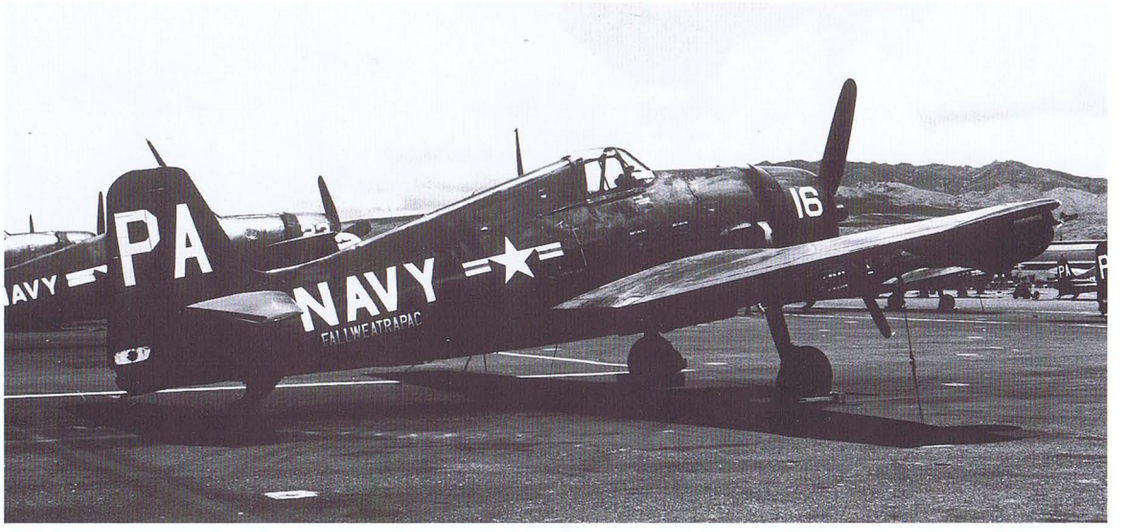
CARRIER AIR GROUPS AND SQUADRONS

		Established/ Designation Changed
CVG-1	T	
VF-11		
VF-12		

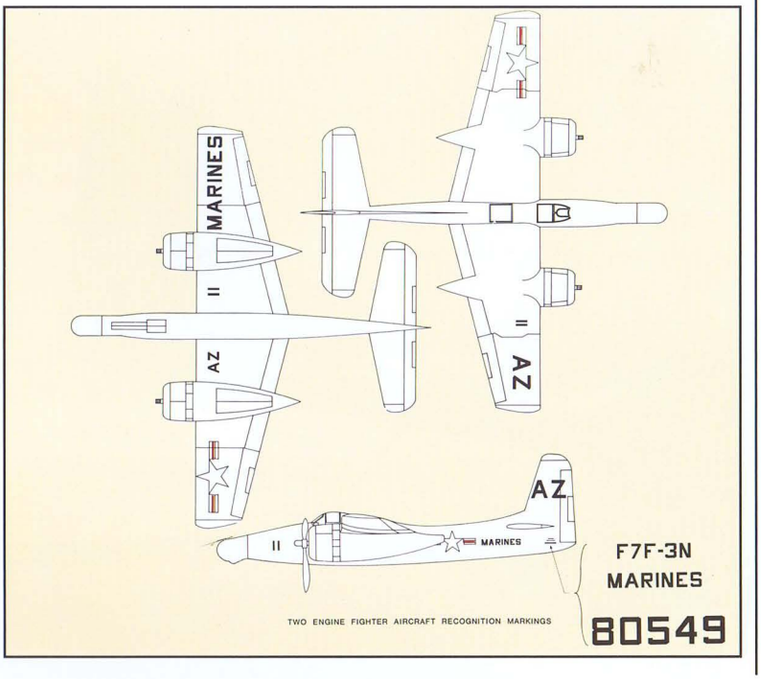
Right: An F2H-2 Banshee of VMF-224 at MCAS Cherry Point carries the optional markings of pilot and plane captain names. **Below:** As it neared the end of its service life this FH-I Phantom is identified as a second line aircraft by adding the prefix letter A to the aircraft designation. **Bottom:** A VMA-323 AU-I Corsair is shown on the flight line at Pyongtack, (K-6), Korea in the summer of 1952.



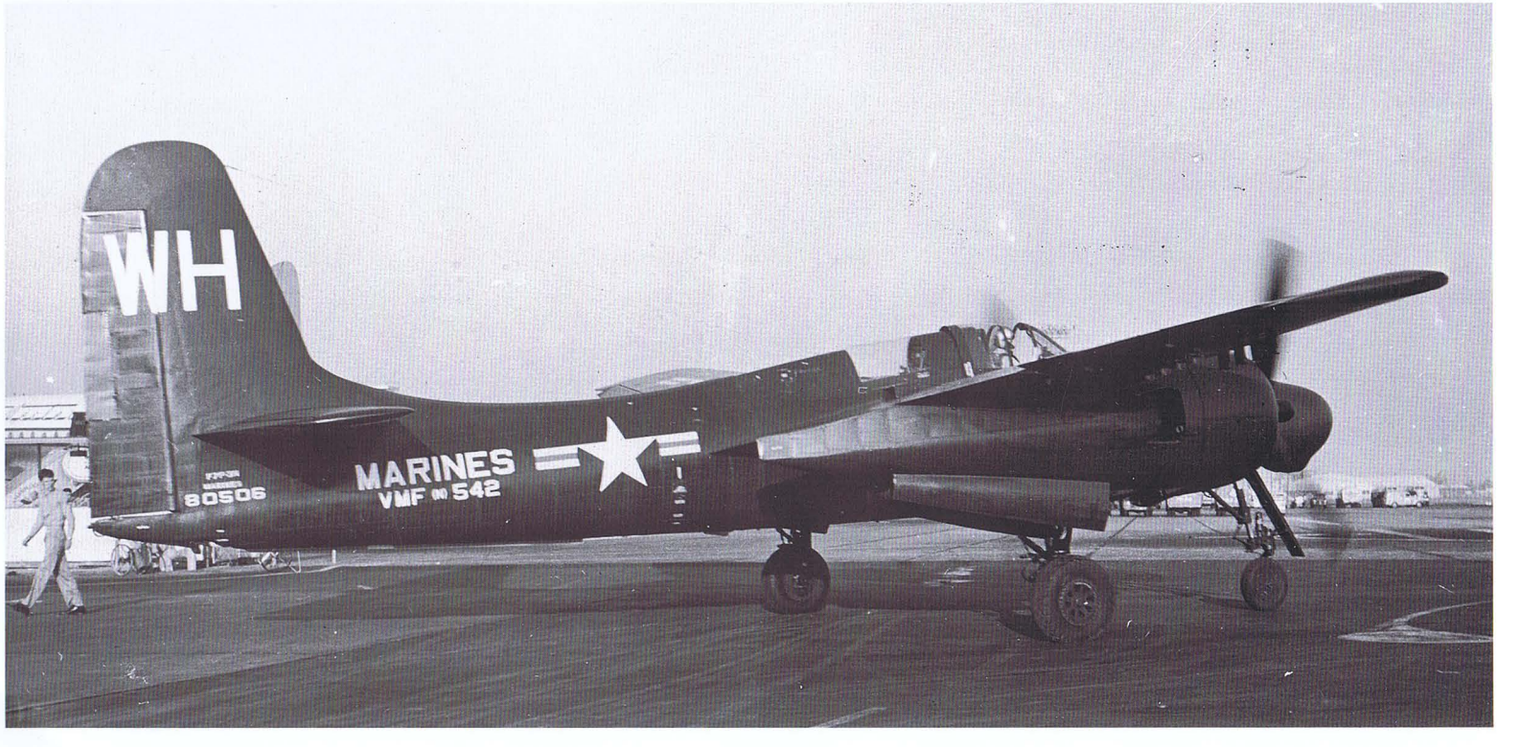


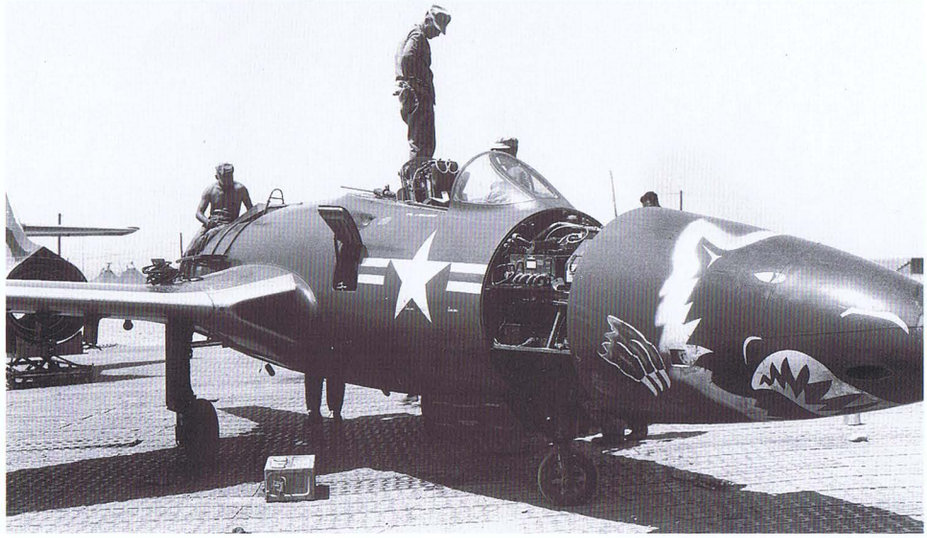


Left: The acronym on this F6F-5 at NAS Barbers Point, Hawaii in 1952 identifies it as the Fleet All Weather Training Squadron, Pacific. **Below :** This F7F-3N is an example of where the branch of service and squadron designation were moved aft to extend under the horizontal stabilizer. The majority of the available space was occupied by the national aircraft insignia. This then required the markings normally located under the leading edge of the stabilizer to be moved further aft.



	VF-13	
	VF-14	
	VA-15	
CVG-2		M
	VF-21	
	VF-22	
	VF-23	
	VF-24	
	VA-25	
CVG-3		K
	VF-31	
	VF-32	
	VF-33	
	VF-34 (VF-91)	February 15, 1950
	VA-35	



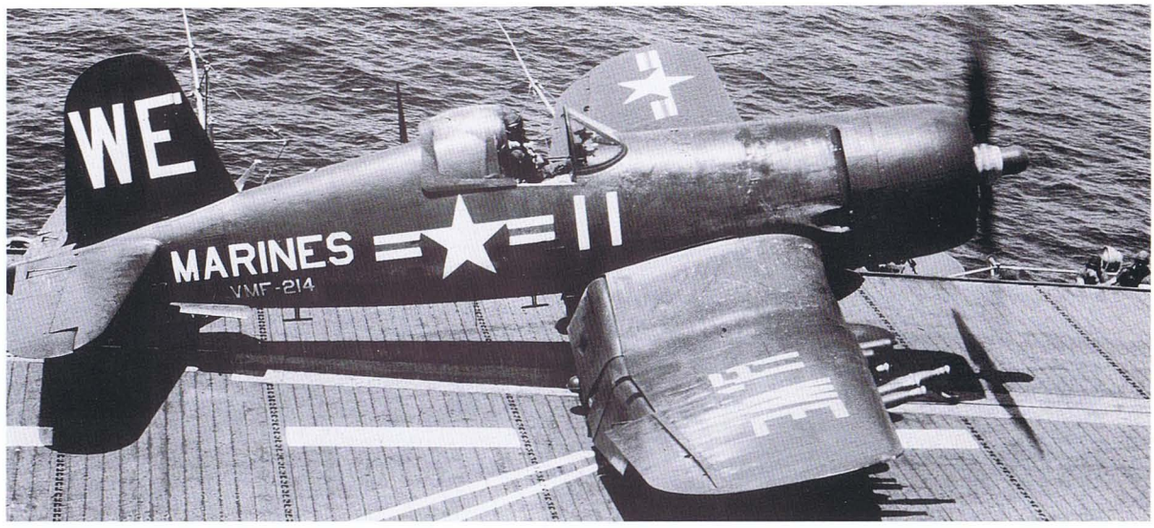


Right: An unusual bit of nose art on a First Marine Aircraft Wing F9F in Korea during June 1951. While in violation of all painting directives, such imaginative and colorful markings were overlooked for the unit esprit which was generated.

VC-4 Det		
CVG-5	S	
VF-51		
VF-52		
VF-53		
VF-54 (VF-152)		February 15, 1950

VA-55		
CVG-6	C	
VF-61		
VF-62		
VF-63		
VF-64 (VF-131)		February 15, 1950

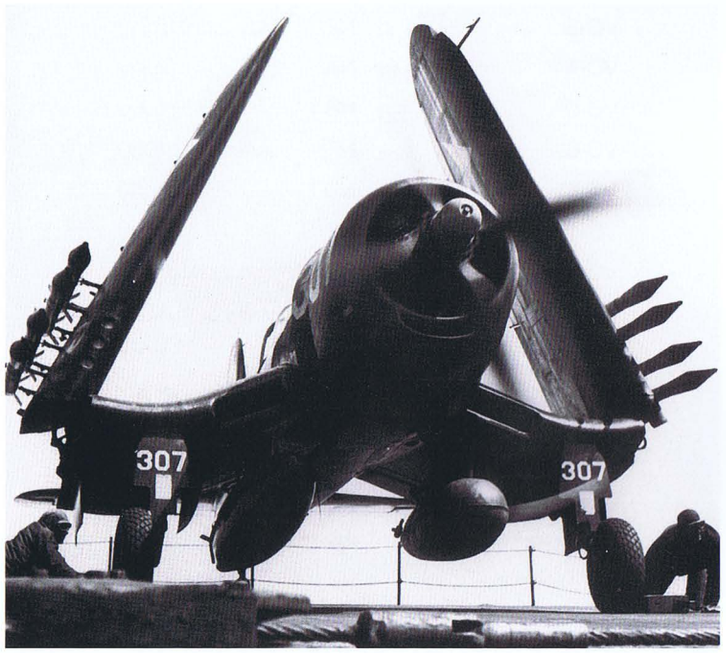
A Grumman F7F-3N Tigercat of VMF(N)-513 has reduced visibility markings as flown in 1951/52 in Korea.



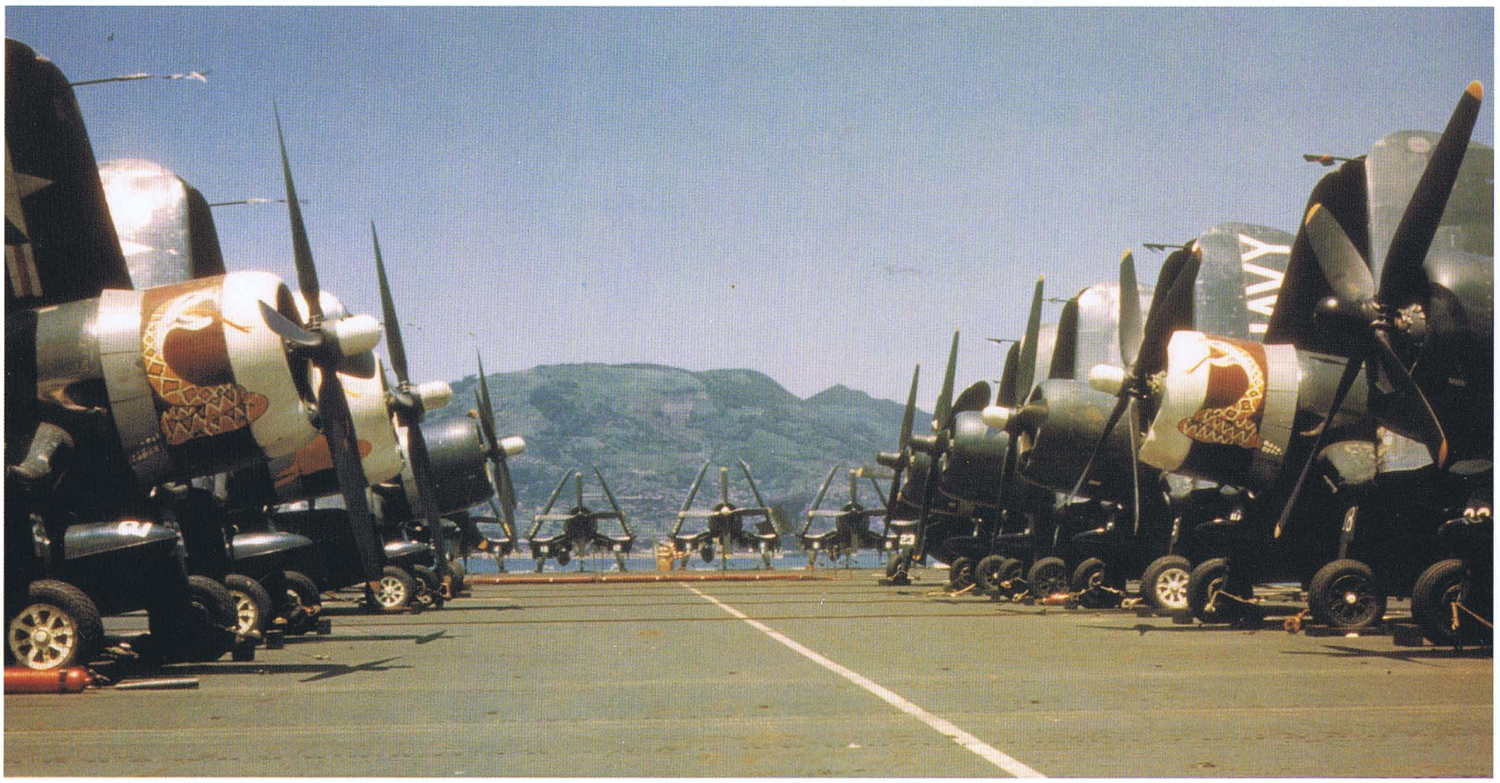
Left: The propeller hub and tail fairing are Insignia Red. Note the braced position of the pilot in preparation for catapult launch. In addition to bombs, the armament consists of 5" HVAR with VT fuzes for a strike against North Korean targets.
Below: The Checkerboard squadron aboard the USS Badoeing Strait (CVE-116) in the winter of 1952 start up their F4U-4Bs for a strike against North Korea. The crowded conditions aboard the escort carriers is readily apparent.

VA-65		
CVG-7	L	
VF-71		
VF-72		
VF-73		
VF-74 (VF-92)		February 15, 1950
VA-75 (VA-74)		February 15, 1950
CVG-11	V	
VF-111		
VF-112		
VF-113		
VF-114 (VF-192)		February 15, 1950
VA-115		
CVG-17	R	
VF-171		

	VF-172	
	VF-173	
	VF-174 (VF-134)	February 15, 1950
	VA-175	
CVG-19	B	
	VF-191	
	VF-192 (VF-151)	February 15, 1950
	VF-193	
	VF-194 (VF-153)	February 15, 1950
	VA-195	



Above: An F4U-4B of VMF-312 in the winter of 1952 shows an Insignia White tail fairing. **Right:** The aircraft number on the landing gear of this F4U-4 was an aid for the ground crew. **Below:** The gaudy nose art on these VMF-323 F4U-4s during the Korean conflict was derived from its unit insignia and Death Rattlers nickname.

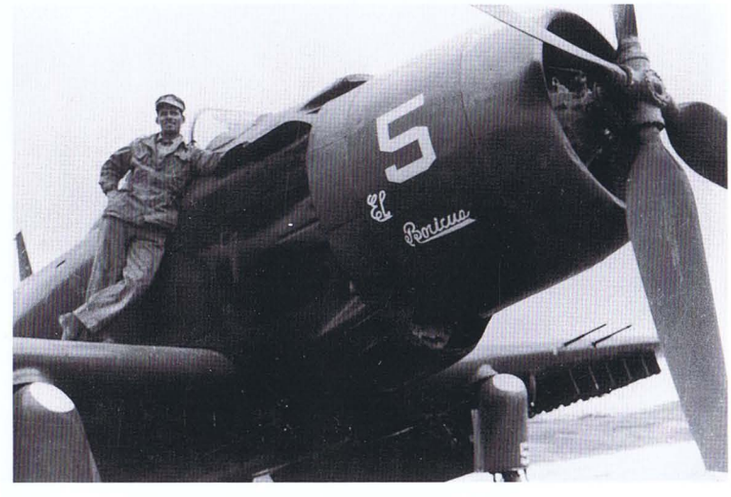


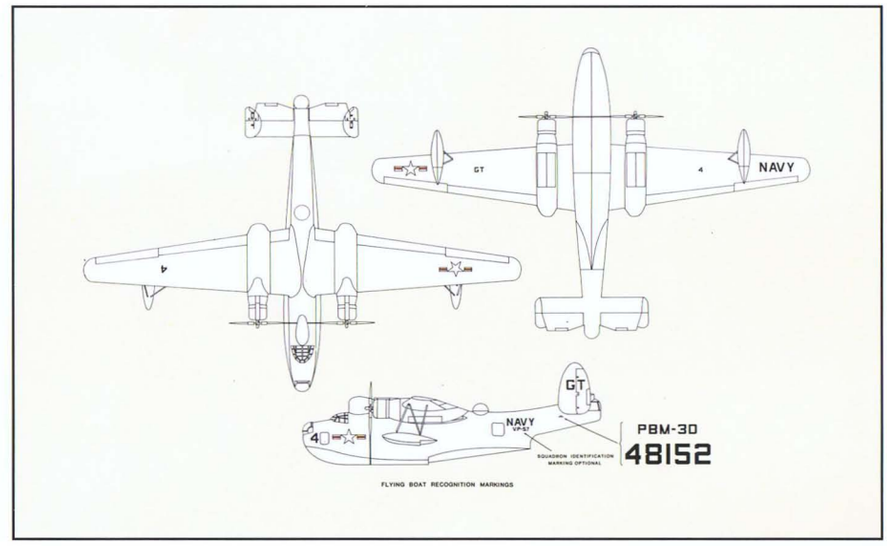
VC-3	NP	May 2, 1949
VC-4	NA	
VC-5	NB	
VC-6	NF	January 6, 1950
VC-11	ND	
VC-12	NE	
VC-33	SS	
VC-35	NR	May 25, 1950
VC-61	PP	
VC-62	PL	July 1950
VS-21 (VC-21)	BS	April 23, 1950
VS-22 (VC-22)	SL	April 20, 1950
VS-23 (VC-23)	MI	April 23, 1950
VS-24 (VC-24)	SI	April 20, 1950
VS-25 (VC-25)	SK	April 20, 1950
VS-31 (VC-31)	SP	April 20, 1950
VS-32 (VC-32)	SR	April 20, 1950

PATROL SQUADRONS

VP-1	CD
VP-2	SB
VP-3	MB (CB)
VP-4	SC
VP-5	MC
VP-6	BE
VP-7	HE
VP-8	HD
VP-21	HC
VP-22	CE
VP-23	MA (EH)
VP-24	HA
VP-26	EB (HB)
VP-28	CF
VP-34	EC
VP-42	SA
VP-45	EE
VP-46	BD
VP-47	BA
VP-49	EA

Above: VF-11 of Carrier Air Group 1 had these colorful markings on its F3D-2s. **Lower Left:** VMA-251 Douglas AD-4B displays aircraft number and tail code on the landing gear fairings. **Below:** Cpl. L. Santos was plane captain of this VMA-251 AD-4B in Korea in 1953. El Boricua is named in honor of Puerto Rican Indians.





Below: These VMF(N)-513 replacement F3D-2 Skyknights have the dull red identification markings, but all other markings are standard. The Skyknight was entered through the top of the cockpit. The white stripes are a guide to the recessed steps to aid in climbing up.

TRANSPORT, UTILITY AND MISCELLANEOUS SQUADRONS

FAETULANT	FA
FAETUPAC	FP
FAWTULANT	LA
FAWTUPAC	PA
HU-1	UP
HU-2	UR
VR-1	RP
VR-2	RA
VR-3	RT
VR-5	RS
VR-6	RU
VR-8	RH
VR-21	RZ
VR-22	
VR-24	RD
VR-31	RE
VR-32	RF
VU-3	UF
VU-4	UD
VU-7	UH
VU-10	UL

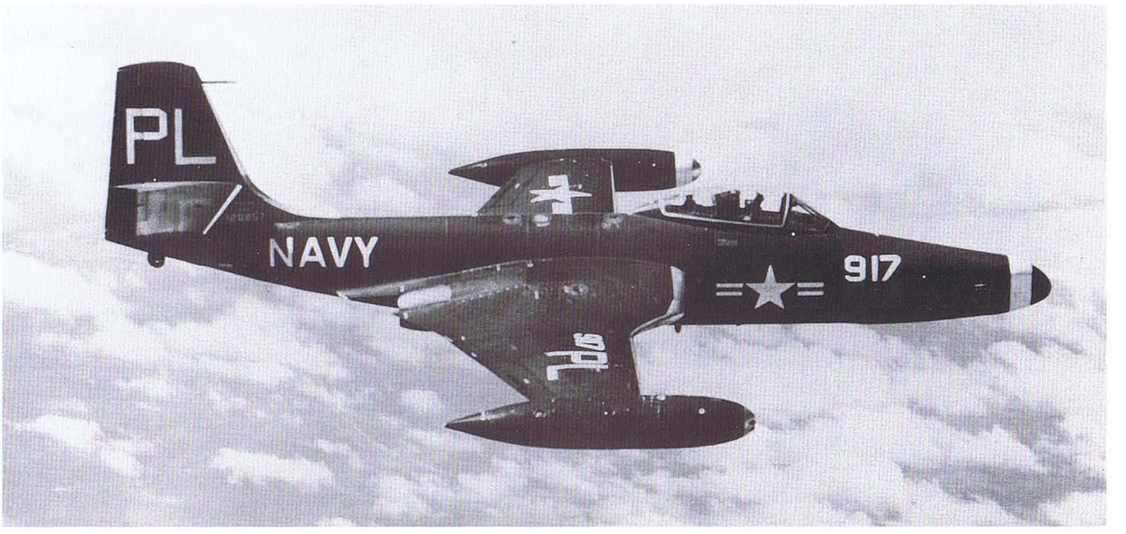
Above: Reduced visibility markings were carried on the F4U-5N Corsair of VMF(N)-513 in Korea. Note the flash hiders on the 20 mm aircraft cannon to reduce the glare in the pilot's eyes. Rocket launchers have been replaced with bomb racks for 220/260 pound fragmentation bombs. **Below:** This F4U-4 shows the extensive damage to the under surface of the wings caused by the ejected ammunition links and cartridge cases. Production of the F4U-4 amounted to 2,357 aircraft with many of these serving in Korea. Armed with six 50 cal. machine guns, this version of the famous Corsair could reach 446 mph (718 km/h) at 26,200 feet (7986 m).

Right: VF-11 painted the wingtip tanks of its F2H-2s the same as the forward portion of the fuselage with aircraft number and colored nose.
Middle Right: All required markings are visible on this F9F-2 of VMF-223 except the squadron designation.
Below Left: The pylon marking of this Kaman HOK-1 is Orange Yellow while the aircraft is Field Green.
Below Right: The tail code XA identifies this General Motors TBM-3W as belonging to VX-1.

VX-1	XA	
VX-2	XB	
VX-3	XC	
VX-4	XD	
ZP-1	ZW	
ZP-2	ZL	
ZP-3		September 28, 1950
ZX-11 (ZW-11)	XL	May 10, 1950
HTU-1		December 4, 1950

MARINE CORPS SQUADRONS

AIRFMFLANT	LZ
AIRFMFPAC	WZ
H&HS-1	AZ
H&HS-2	LL
H&HS-11	LM
H&HS-12	WA
H&HS-14	LN
H&HS-15	AV

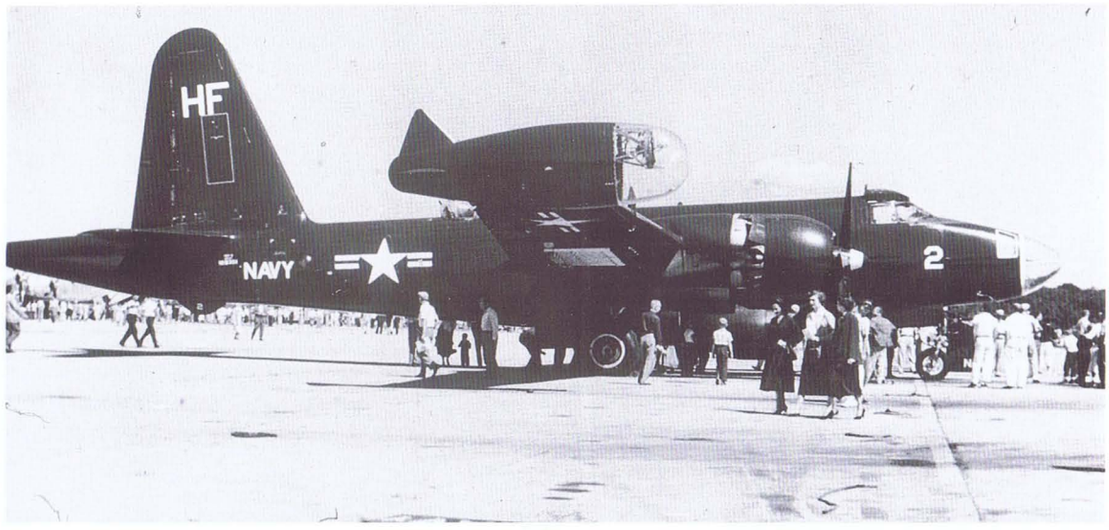


Left: VC-62 painted a white band around the forward portion of the fuselage of its F2H-2P Banshees as an additional recognition marking. **Middle Left:** A P2V-7 Neptune assigned to the Naval Air Test Center, Patuxent River, Maryland while undergoing its Board of Inspection and Survey trials. **Bottom:** When VF-13 was withdrawn from CVG-I with the tail code T, and made part of Air Task Group 201 (ATG-201), the resulting combination was cleverly combined for an unusual tail code on a colorful F9F-8 Cougar.

H&HS-24	AW
H&HS-33	WM
HMX-1	XM
MTACS-1	LI
MTACS-2	WV
VMF-115	AE
VMF-122	LC
VMF-211	AF
VMF-212	LD
VMF-214	WE
VMF-223	WP
VMF-224	WK
VMF-225	WI
VMF-311	WL

Right: A Sea Blue Douglas AD-5 of VMA-331 at MCAS Miami, Florida is shown during 1955. The author was the Ordnance Officer of the squadron at this time. **Below:** VF-192 F9F-5s, F9F-8s, and VA-195 AD-4Bs line up on the bow of USS Oriskany (CV-34) in November 1954. The Golden Dragon on the nose of the CO's aircraft number 201 is in keeping with the squadron nickname. The transition to the new gray and white scheme had just started in VF-192.

VMF-312	WR
VMF-323	WS
VMF(N)-114	LK
VMF(N)-513	WF
VMF(N)-531	LT
VMF(N)-533	AI
VMF(N)-542	WH
VMO-1	LR
VMO-6	WB
VMR-152	WC



Left: A P2V-5 Neptune assigned to VP-5 has been upgraded to include Magnetic Anomaly Detection (MAD) gear in the lengthened rear fuselage. A searchlight in the nose of the right wingtip tank illuminates targets at night. **Below:** In 1954 VF-154 carried nose and tail yellow markings on its F9F-5s.

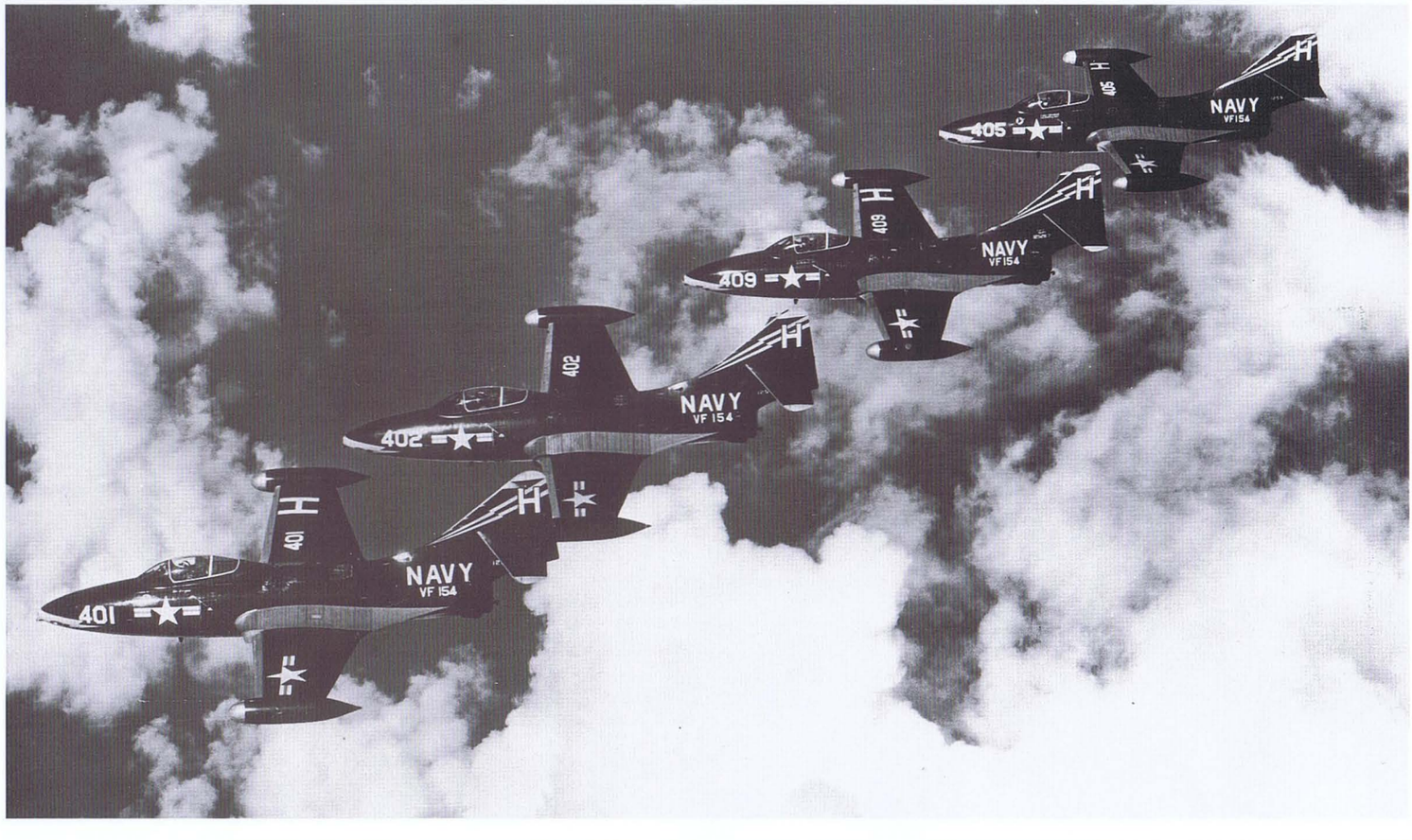
VMR-153	AC
VMR-252	LH
VMR-352	LB
VMT-1	LF
VMT-2	WD

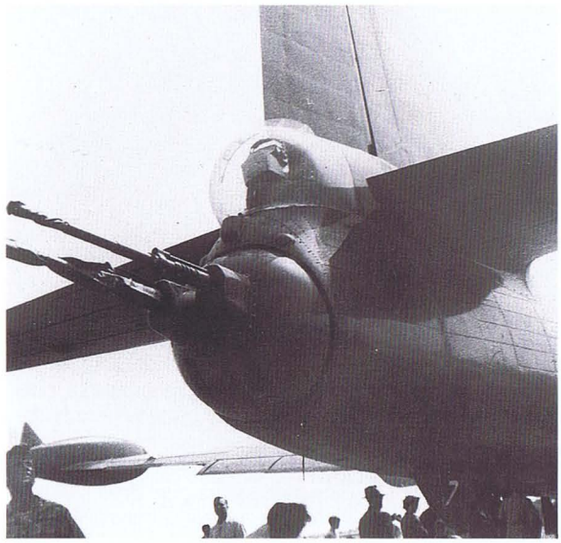
The Marine Corps tail codes were assigned on the basis of squadron location. A for those overseas in Asia, L for the East Coast (Atlantic), and W for the West Coast.

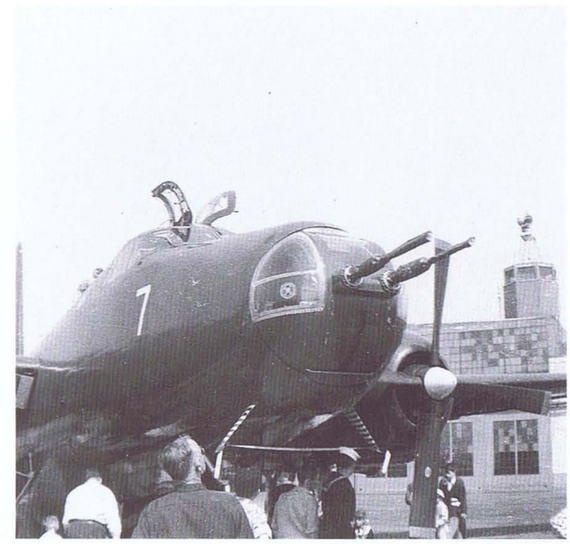
While the markings specified in Amendment 1 to SR-2g were not mandatory, the majority of commands elected to apply the new markings. The Bureau of Aeronautics on October 3, 1950, therefore, requested all aircraft manufacturers to relocate the national aircraft insignia in accordance with Amendment 1 at the earliest practicable date on all aircraft in production or undergoing overhaul or reconditioning. This would provide space for the application of the Branch of Service markings, if cognizant commands elected to apply the optional markings. This was expanded on October 11, to include all Overhaul and Repair facilities.

Aircraft Circular Letter 77-50, dated December 20, 1950, canceled and superseded ACL 172-46. While aircraft were still to be designated as First Line Combat Aircraft; Second Line Combat Aircraft; and Non Combat Aircraft (including training, transport and utility aircraft) they were no longer to carry the A, TN, or N prefix to the aircraft designation.

When naval aviation was called on to support the United Nations action in Korea, it had to call on the Reserve to fill the gap. Squadrons were called to active duty and given the necessary training and equipment to be fully operational. Many were used to augment regular squadrons, but two





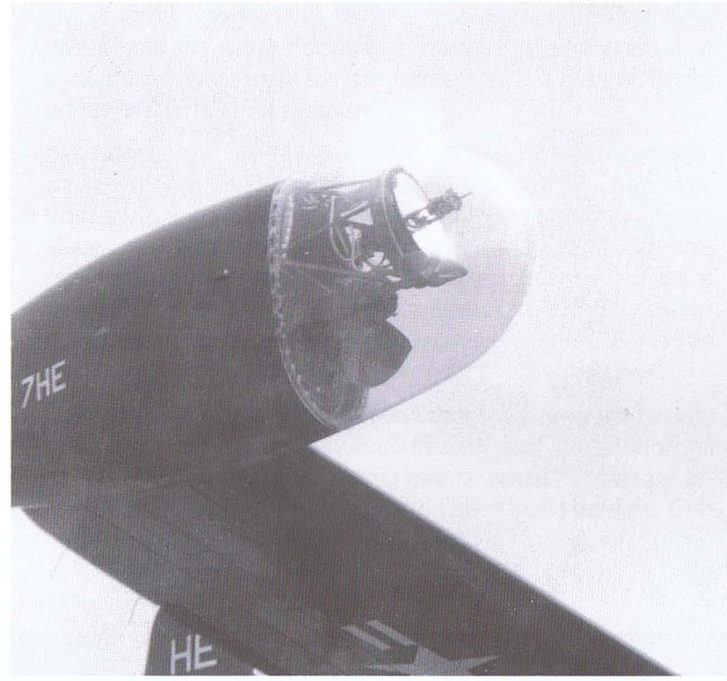


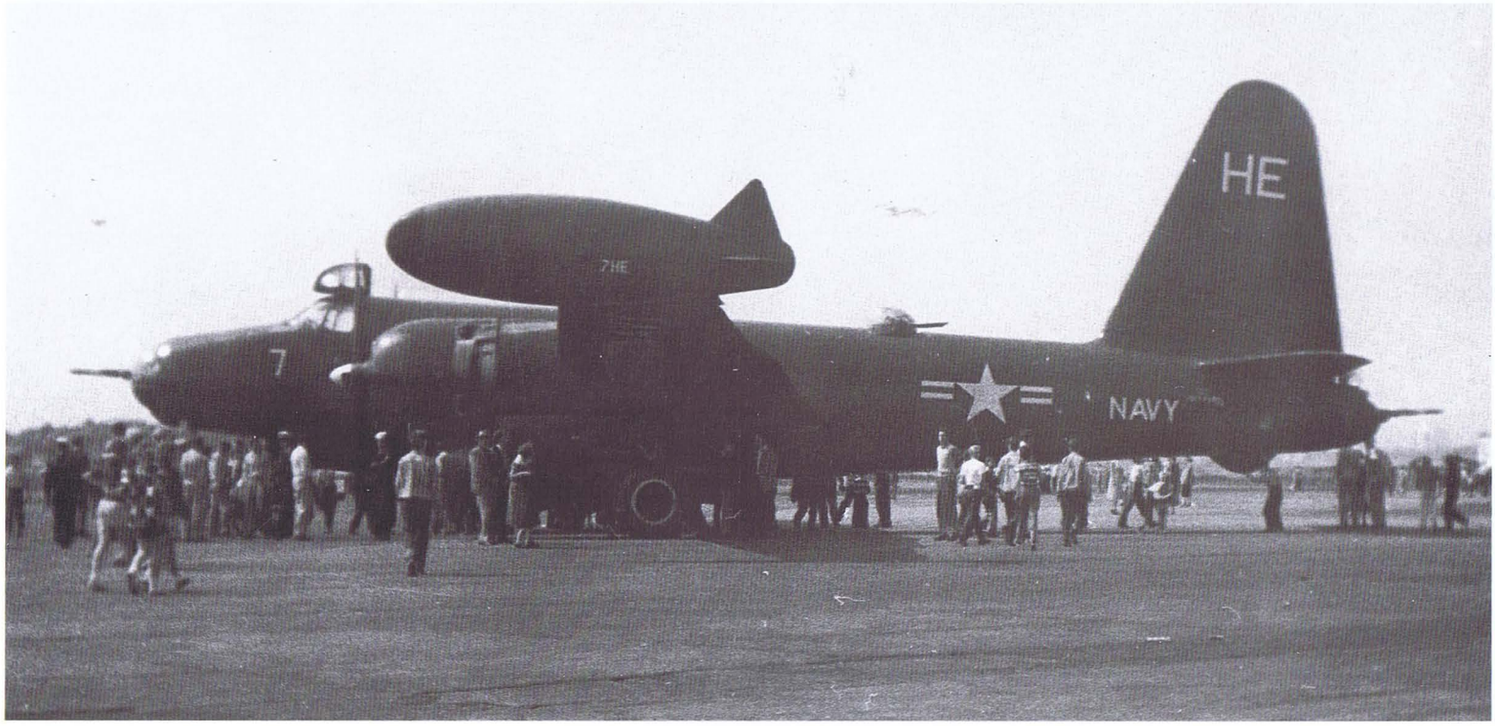
This Page: Detail views of a Lockheed P2V-6 Neptune of VP-7 during a 1953 open house day at NAS Squantum, Massachusetts. The starboard wingtip fuel tank marked with the aircraft number and squadron identification letters also houses a searchlight.

Carrier Air Groups operating on carriers in Korea were fully composed of Reserve squadrons. At the height of the conflict, it was stated by the Assistant Secretary of the Navy (Air) John F. Floberg, that in the month of June 1951, approximately 74 percent of the naval air combat effort and approximately 48 percent of the Marine air combat effort was flown by the so-called Week-End Warriors. Recall was not always for a full squadron, but the following tactical squadrons were activated.

NAVY RESERVE SQUADRONS CALLED TO ACTIVE DUTY FOR KOREA

CVG-102	D	August 1, 1950
VF-781		August 2, 1950
VF-783		August 2, 1950
VF-871		August 2, 1950
VF-874		August 2, 1950
VA-923		August 2, 1950

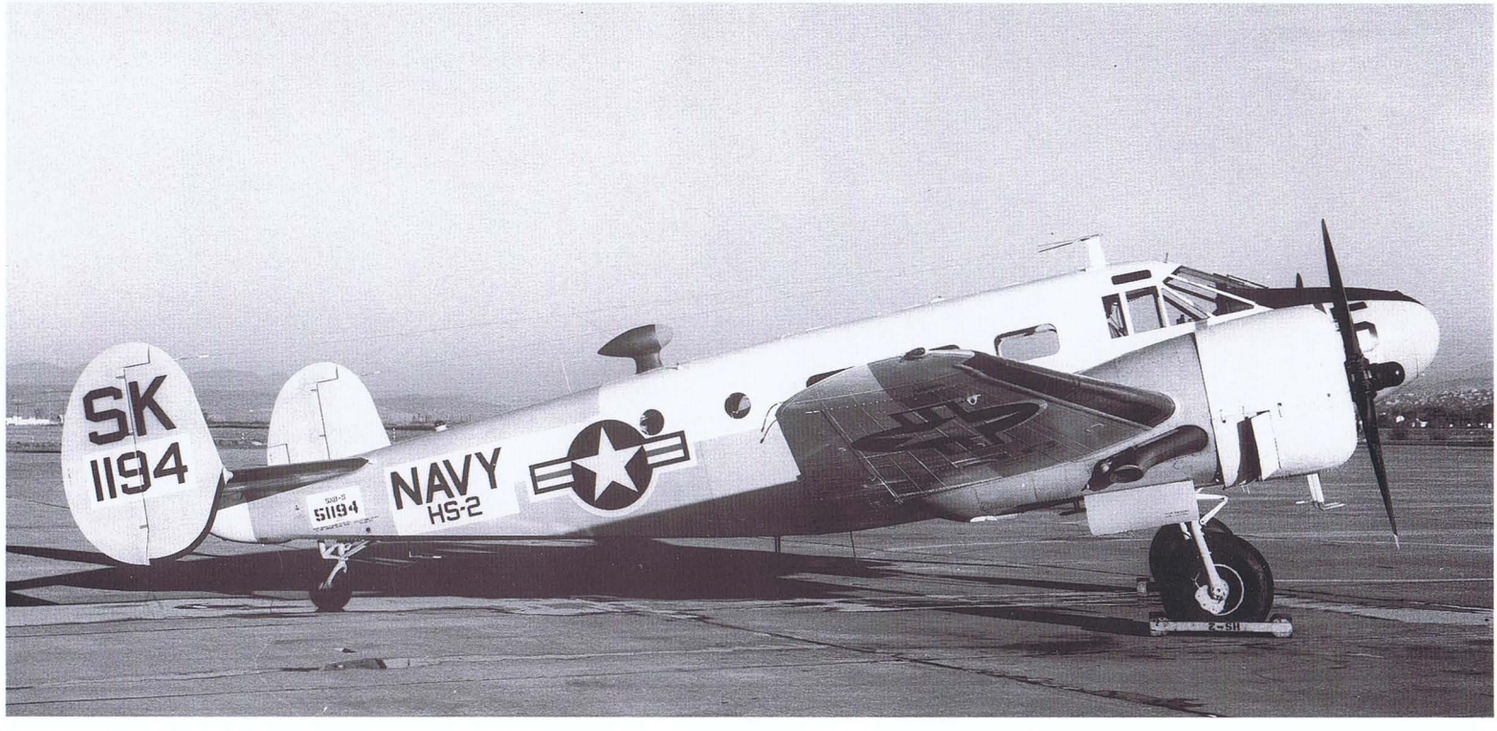




Left: These Light Gull Gray Sikorsky HO4S-3, Piasecki HUP-2, and Bell HUL-1, all assigned to Helicopter Utility Squadron 2, illustrate the difficulty in specifying a standard placement of markings due to the varied configuration of the early helicopters. **Below:** A Beech SNB-5 assigned to Helicopter Anti-Submarine Squadron 2 for utility work is painted in a variation of the high visibility scheme.

CVG-101	A	August 1, 1950
VF-721		July 28, 1950
VF-791		July 28, 1950
VF-821		July 28, 1950
VF-884		July 28, 1950
VA-702		July 28, 1950
VF-653		February 1, 1951
VF-671		February 1, 1951
VF-713		February 1, 1951
VA-728		February 1, 1951
VF-742		February 1, 1951
VF-831		February 1, 1951
VF-837		February 1, 1951
VA-859		February 1, 1951
VF-916		February 1, 1951
VF-921		February 1, 1951

VS-801	SW	February 1, 1950
VS-831	SD	June 1951
VS-871	SU	May 1951
VS-892	ST	August 2, 1950
VS-913	SN	April 1, 1951
VS-931	SV	March 1, 1951
VP-661	EH	September 15, 1950
VP-731	SF	September 29, 1950
VP-741	HH	March 1, 1951
VP-772	BH	September 1, 1950
VP-812	BF	July 28, 1950
VP-861	HF	September 15, 1950
VP-871	CH	March 1, 1951
VP-892	SE	August 2, 1950
VP-931	BI	September 1, 1950



Right: Size and placement of MARINES applied to the under surface of the wing on the FJ-2s assigned to VMF-235 and VMF-451 when received in 1954. These two squadrons deployed to Japan where they operated together. **Bottom:** The Insignia Red triangle on the tail and fuselage band are outlined with Insignia White on the Light Gull Gray surface. Squadron designation VMF-232 is masked by the wingtip. The Red Devil insignia has been used by the squadron since 1927, making it one of the oldest continuously used in the Marine Corps.

MARINE CORPS RESERVE SQUADRONS CALLED TO ACTIVE DUTY FOR KOREA

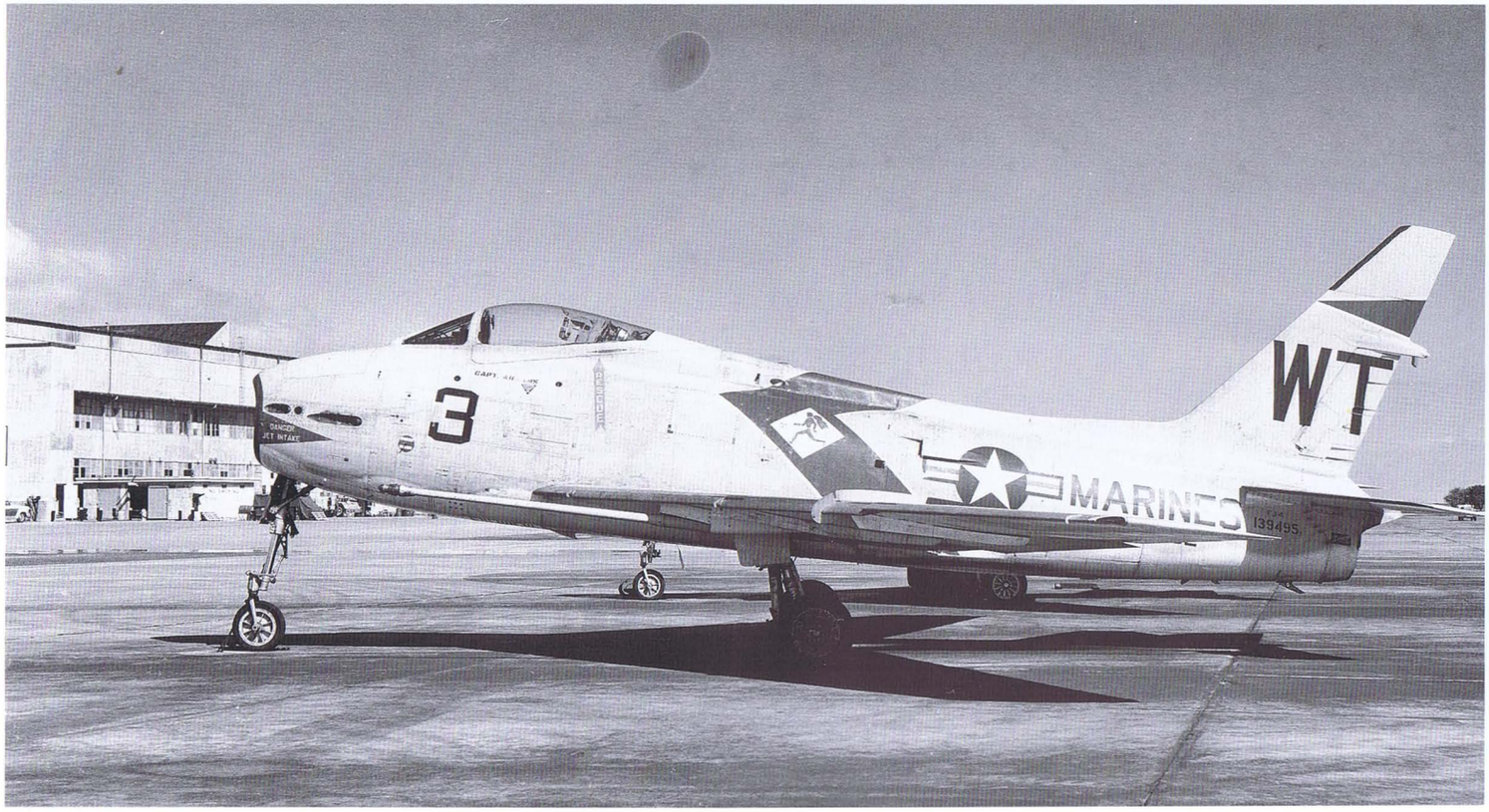
VMF-121	AK	March 1, 1951
VMF-232	WT	August 12, 1950
VMF-235	WU	August 12, 1950
VMF-251	AL	March 1, 1951
VMF-451	AM	January 11, 1951

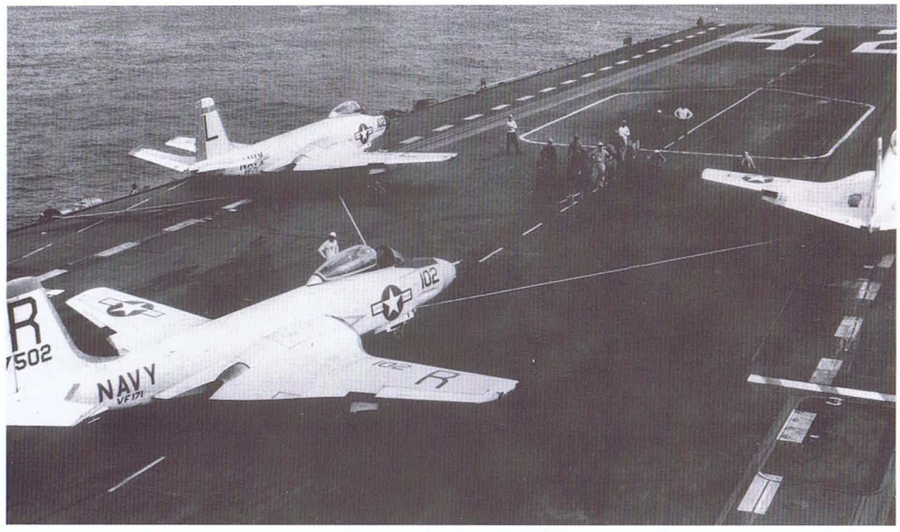
There were seventeen other Marine Corps reserve squadrons called to active duty beginning on July 23, 1950. However, it was just the personnel of these squadrons that were activated and used to bring the regular squadrons up to full strength. Their aircraft remained at the home base.

When the Marine Corps established their reserve program in 1946, they picked up squadron numbers that had been formed during World War II, and in some cases even prior to December 7, 1941. The reserve squadrons that were integrated into the regular component after Korea retained their designation which already conformed to the Marine Corps squadron numbering system.

On August 24, 1951, the Chief, Bureau of Aeronautics, directed that the Branch of Service marking, that was applied at the discretion of cognizant commands with the issue of Amendment 1 to SR-2g, dated May 12, 1950, was now mandatory. All Overhaul and Repair activities were requested to apply the Branch of Service marking to all aircraft undergoing overhaul or modernization in such a manner as not to interfere with production.

Operations in Korea soon showed that the Carrier Air Group, consisting of a combination of five VF and VA squadrons plus an assortment of VC detachments, could not be operated effectively in combat aboard the Essex class carriers. One squadron was temporarily withdrawn from each group scheduled for deployment to Korea. These extra units were





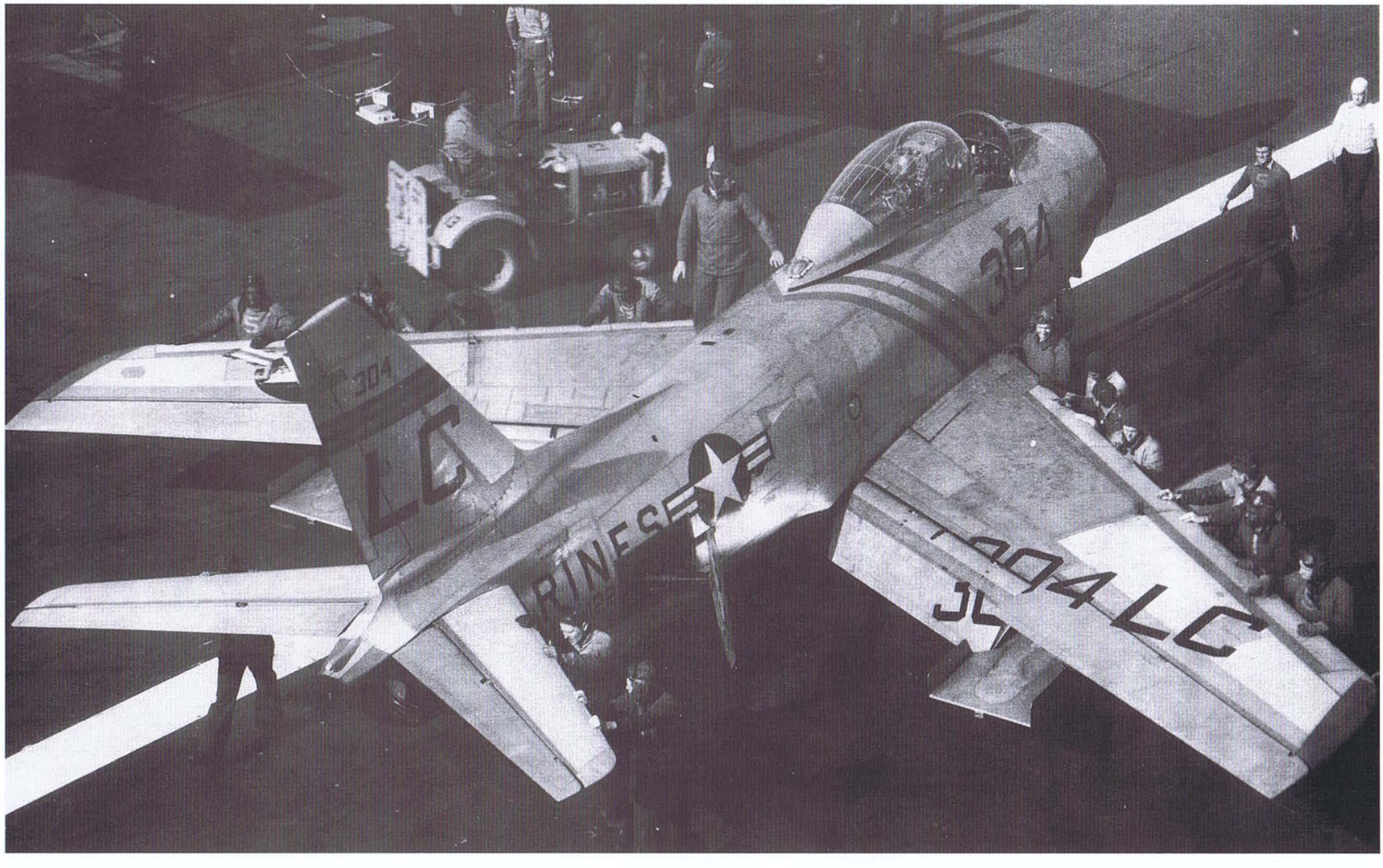
Left: These McDonnell F2H-3s of VF-71 and VF-171 are being readied for launching on the catapults of the USS Franklin D. Roosevelt in October 1956. They are an unusual combination as they are both number two aircraft of the senior squadron of the two Air Groups. **Bottom:** This FJ-3 well illustrates how markings can become difficult to read when painted over flaps, speed brakes or doors which can be opened. However, this problem would not have existed if the wing markings were correctly positioned on this Fury.

formed into Air Task Groups (ATG). In the records, all five squadrons continued to be carried in their parent air group even though a squadron was actually operating as a component of an Air Task Group. As the Air Task Group was not a normally established organization, they did not violate the maximum number of Carrier Air Groups allowed by Congress. This, however, now presents the historical researcher with a problem, as there were few official records maintained as to their existence.

The ATG was essentially a tactical organization of a temporary nature, formed as an air group for the accomplishment of a specific task, and comprised of four squadrons and assigned composite squadron detachments. The units were detached from both operational and administrative control of their permanent air group and upon completion of the task deployment were to return to their original air groups. The VC detachments were ordered to squadrons operating similar type aircraft for both administrative and operational control. Air Task Group One is a good example of this integration to provide the various aircraft capabilities.

VF-111 and VC-61 Det	F9F*, F9F-*P
VF-52	F9F*
VF-653 and VC-3 Det	F4U*, F4U-4N
VF-194 and VC-35 Det, VC-11 Det	AD*, AD-*Q, AD-*N, AD-*W

*Denotes more than one modification number.



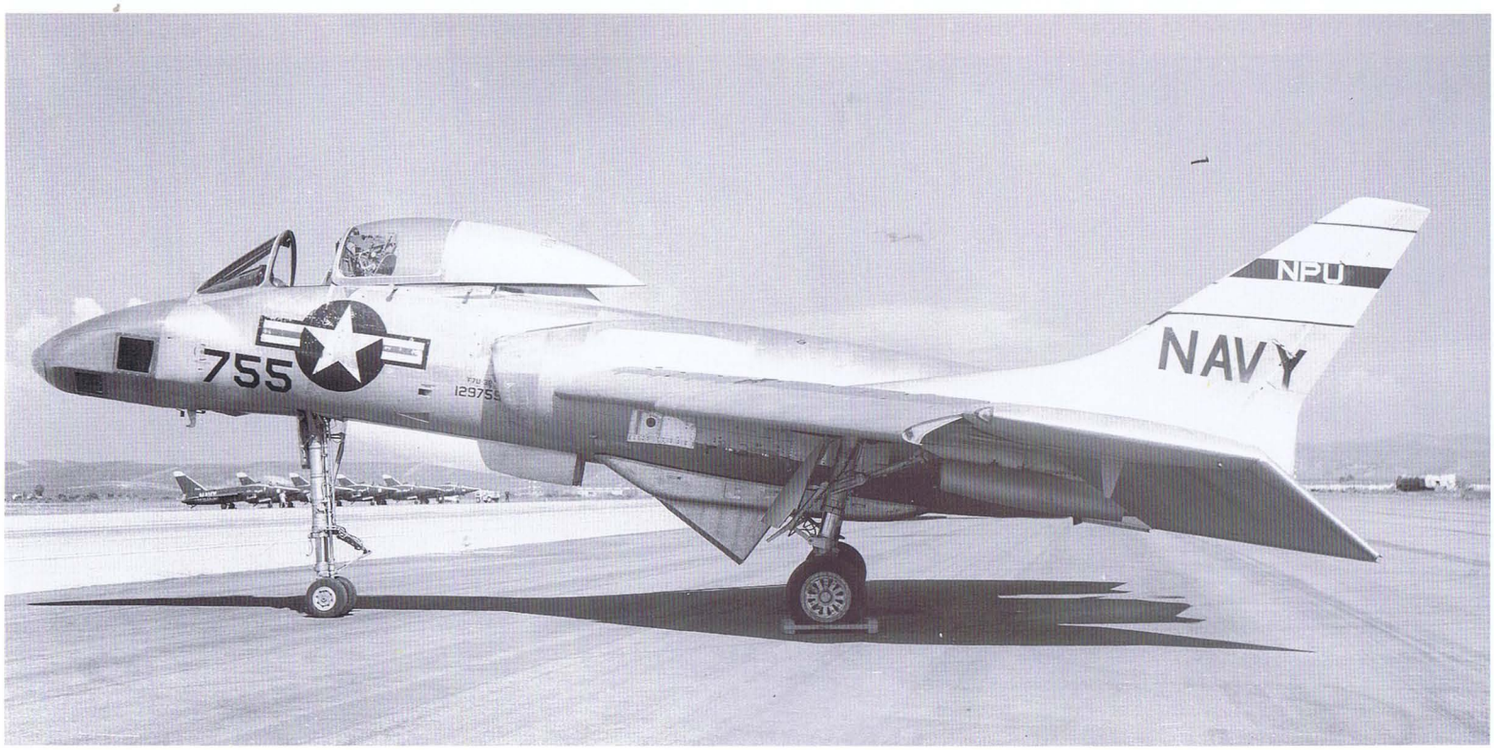
The small staff required for the ATG was composed of personnel from the attached squadrons being assigned the necessary collateral duties. Because of the temporary nature of the group, all responsibilities, other than those directly concerned with group level tactical operations, were handled at the squadron level as much as possible. While this was a good operational procedure at the time, it has made the tracing of Air Task Group composition and operations difficult.

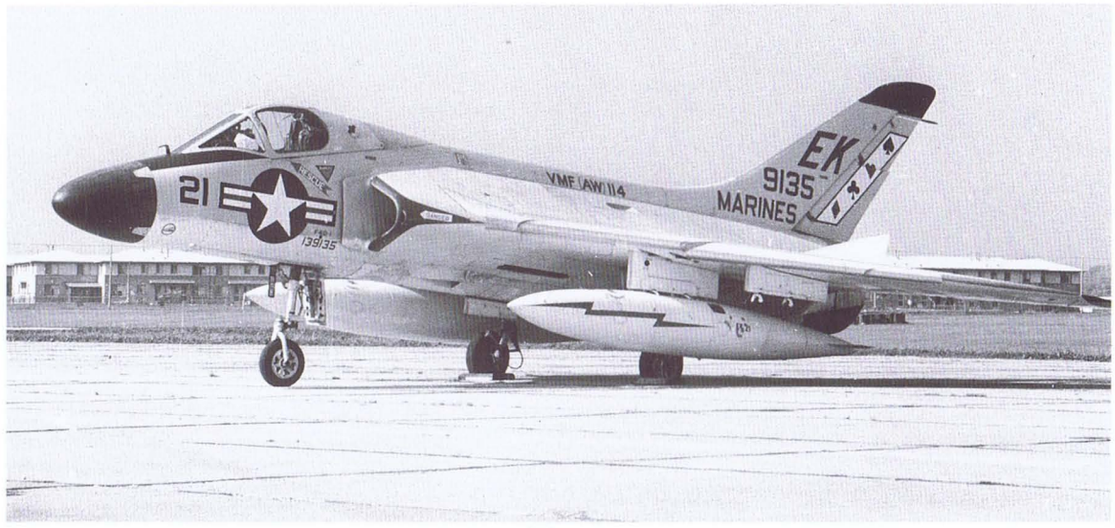
Air Task Group ONE was the first to see combat on December 11, 1951, aboard the USS Valley Forge. The ATG concept was continued until early 1959 by which time seven additional ATGs had been formed. Single letters in the Visual Identification System were initially assigned to all ATGs. When the Carrier Air Groups were assigned two letter codes, the ATGs were as well. Because the Air Task Group was of a temporary nature and really only an administrative organization, the squadrons assigned at first retained their original air group code letter. This made for some interesting and confusing tail designations.

Above: In September 1954 VF-124 painted its F3H-2Ns in these colorful markings. The fuselage stripes and vertical tail are yellow while the letter D and tail stripes are-black. **Bottom:** This bare metal F7U-3P was being operated by the Naval Parachute Unit at NAAS El Centro, California.

AIR TASK GROUPS

Air Task Group	Date Established
ATG-1	Exact date not known — began service in Korea in December 1951
ATG-2	Exact date not known — began service in Korea in July 1952
ATG-3	Exact date not known — in existence in June 1955
ATG-4	30 March 1955
ATG-181	Exact date not known — in existence in November 1953
ATG-182	Exact date not known — first appears in Fleet Locations in July 1955 — probably established that month



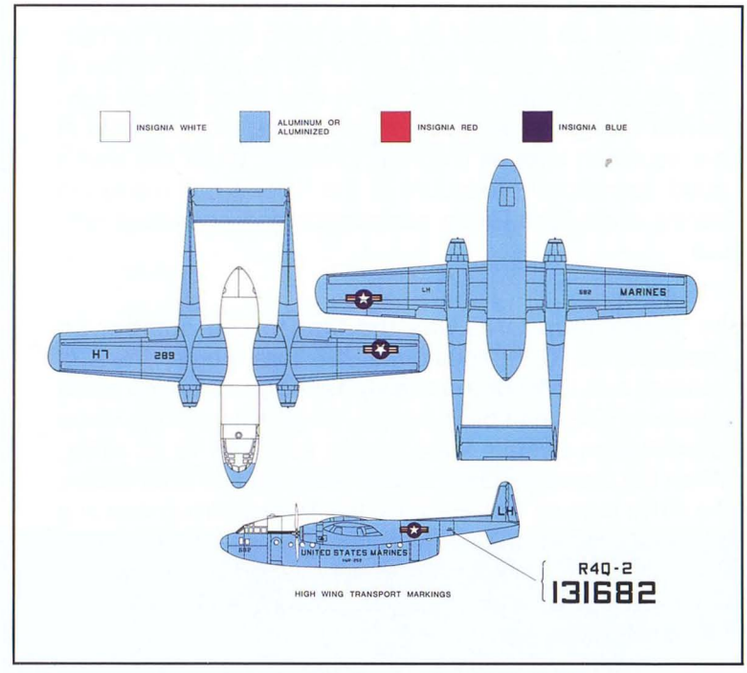


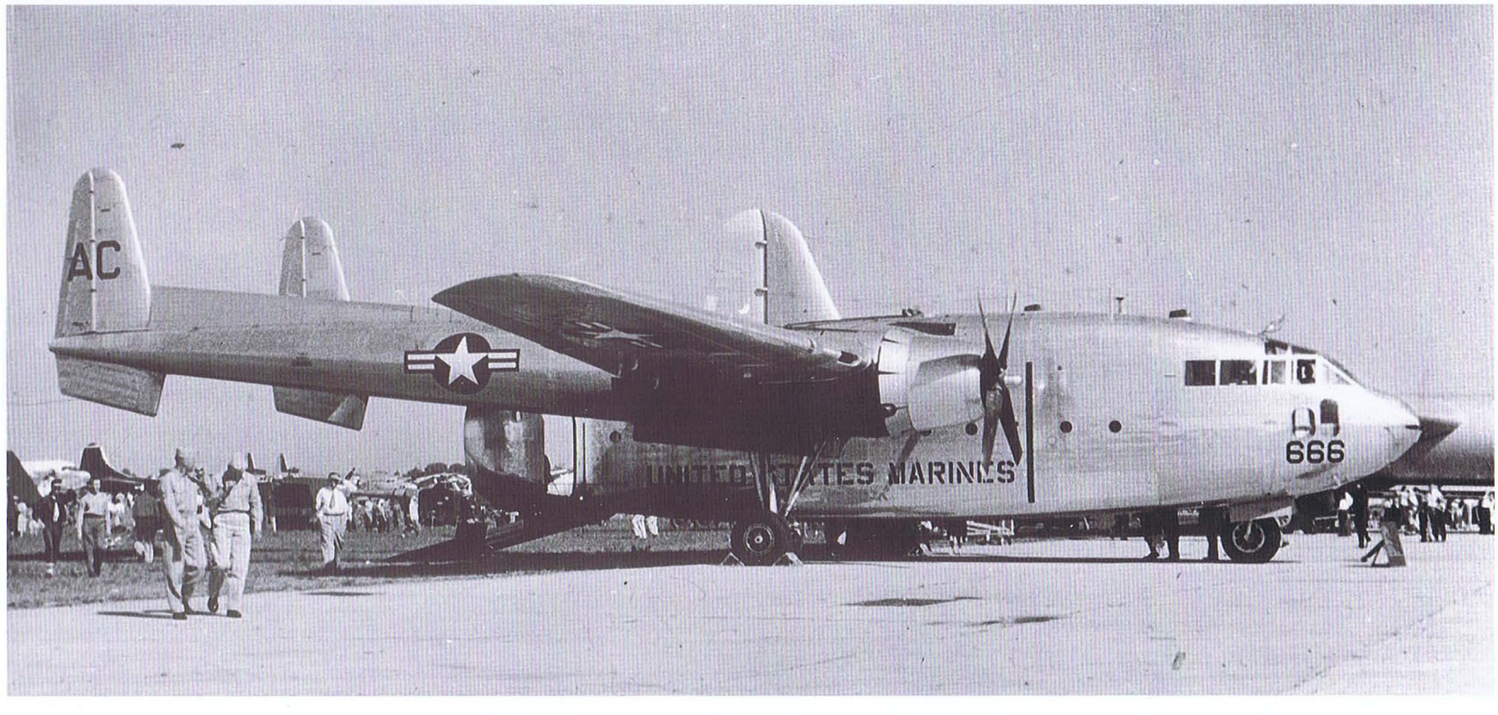
Left: This Douglas F4D-I of VMF(AW)-114 has unusual placements of markings due to the aircraft design. The squadron designation has been placed along the top of the fuselage while the bureau number shows forward of the engine intake duct. **Bottom:** This Fairchild R4Q-2 Packet assigned to Marine Transport Squadron 163 (VMR-163) is using the last three digits of the bureau number as the aircraft number.

ATG-201	Exact date not known — first appears in Administrative Organization of Air Force, U.S. Atlantic Fleet, October 1, 1954 — probably established that month
ATG-202	Exact date not known — first appears in Fleet Locations in July 1955 — probably established that month

It must be remembered that the lack of firm dates is partially a result of Command Histories not being required during this period as well as the unstructured nature of the Air Task Groups.

SR-2h, dated June 16, 1952, specified a new location for branch of service, model designation, and serial number on transport aircraft having twin booms. On this type aircraft the markings were to be located on the outboard side of each main boom, between the national aircraft insignia and the horizontal stabilizer, just as though the tail boom was the fuselage. The aircraft serial number was to be symmetrically located 2 inches (5.08 cm) below the model designation.



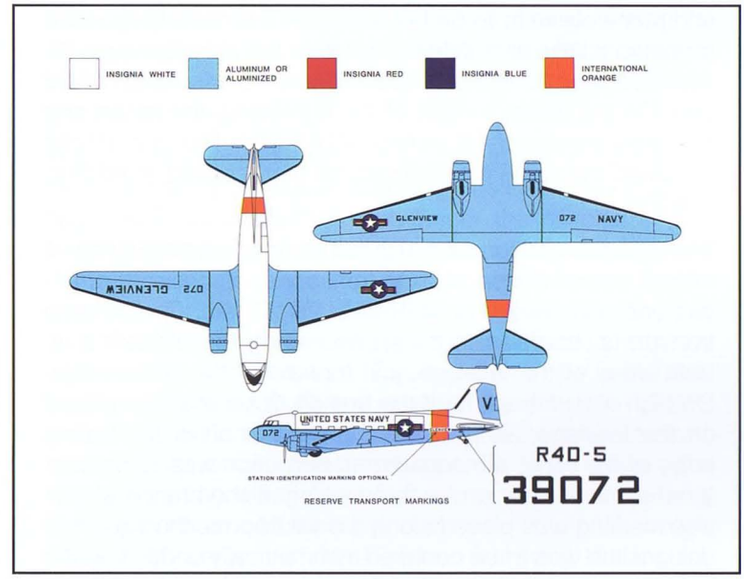


Right: This Douglas R5D-3 assigned to Headquarters, First Marine Aircraft Wing, has the unit designation applied to the rear of the fuselage. The aircraft has been painted with Light Gull Gray to reduce the corrosion and related upkeep problems of a bare metal aircraft. **Below:** An excellent in-flight photograph of a Douglas R6D of VR-1. Note the small blue flag placard below the cockpit with four stars denoting that an admiral is aboard.

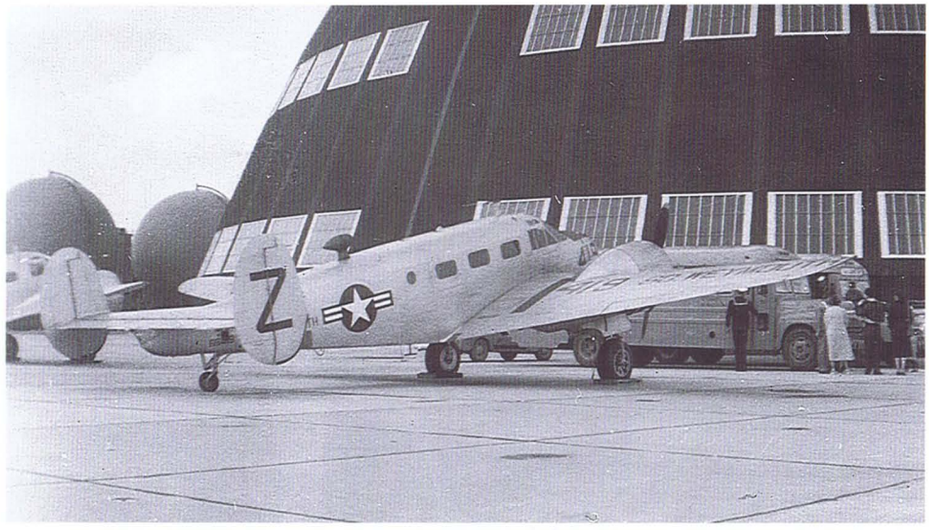
The permissible markings, previously identified in Amendment 1 to SR-2g, now became mandatory with the exception of squadron designation and the station name on the fuselage. The station marking was only to be applied to aircraft operated by the Reserve component, in which case it was mandatory. The large squadron designation remained an optional marking.

On transport aircraft assigned to the Navy or Marine Corps Air Reserve, where the branch of service is placed on the fuselage above the windows, the station name was placed along the centerline on both sides of the fuselage, just forward of the empennage. This is in addition to the station letter on both sides of the vertical fin and rudder. The International Orange band around the fuselage to identify Navy and Marine Corps Air Reserve aircraft was interrupted to permit the station name to be applied. These letters were to be half the height of the branch of service. The International Orange band in all applications was to be 36 inches (91.44 cm) wide regardless of the diameter of the national aircraft insignia or its location on the fuselage.

In the case of shore-based aircraft where no Visual Identification Letters were assigned, the station or unit name was to be applied to the upper surface of the right wing in the location specified for the Visual Identification Letter(s).



The size of the station or unit name on the wings was also modified. On the upper surface of the right wing, the letters

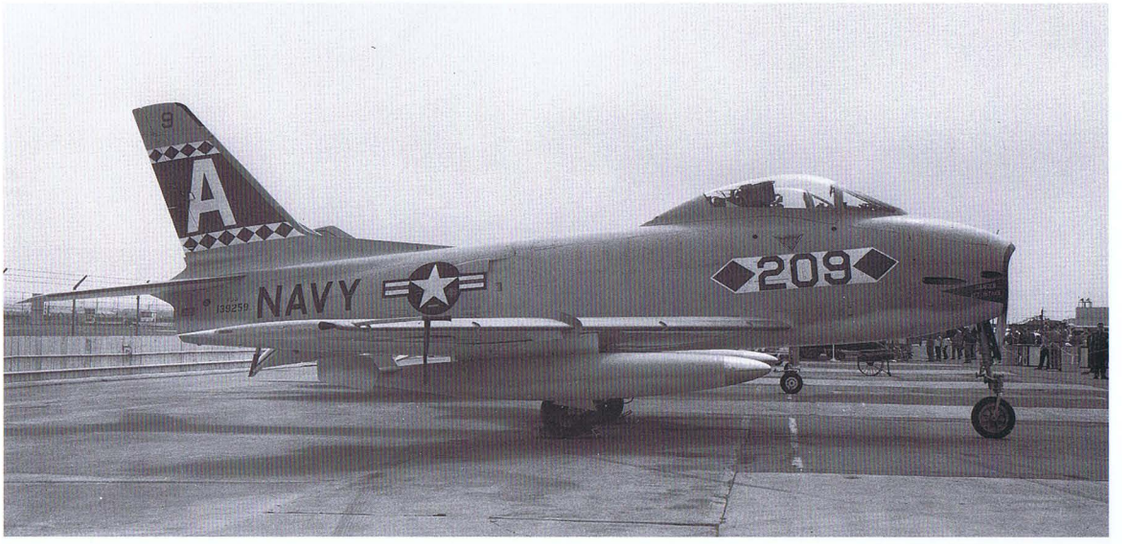


Left: Believed to be a JRB-4, this aircraft was used extensively by NAS South Weymouth as a small utility transport. **Bottom:** A Beech JRB-6 is being used by the US Naval Attache in France.

and numerals were to be the largest which could be accommodated on the aircraft, selected from the standard sizes: 8, 12, 16, 20, or 30 inches (22.86, 30.48, 40.64, 50.80, 76.20 cm). On the under surface of the right wing, the letters and numerals remained 16 inches (40.64 cm). The instructions remained the same for designations that required more than one line.

The squadron designation was still an optional marking on all aircraft except transports. On transports, it consisted of letters and numerals, e.g. VMR-352, VR-23, etc. On low wing transports, this was to be applied along the centerline on both sides of the fuselage, just forward of the empennage. On high wing transports if the branch of service was placed on the fuselage, either under the wing or aft of the trailing edge of the wing, the squadron designation was to be centered symmetrically under the marking. If the branch of service marking was placed along the tail booms, the squadron designation was to be centered symmetrically under it. In the event this was not practicable, the squadron designation was to be placed aft along the fuselage below the centerline. Letters and numerals used for the squadron designation were to be half the size of those used in the branch of service.

American Legation, US Naval Attache (ALUSNA) aircraft were to have the branch of service applied the same as other transports in the case of JRB, R4D, and larger aircraft. The acronym ALUSNA stands for United States Naval Attache. The prefix letters AL were added to distinguish it from USNA which has always been the recognized short form for the United States Naval Academy located at Annapolis, Maryland. Utility aircraft such as the JRF were to have the UNITED STATES NAVY applied to the after portion of the hull in a line which would be above the top of the extended window line. The size was to be the largest possible size which could be accommodated on the aircraft and selected from the standard sizes stated above for other aircraft.

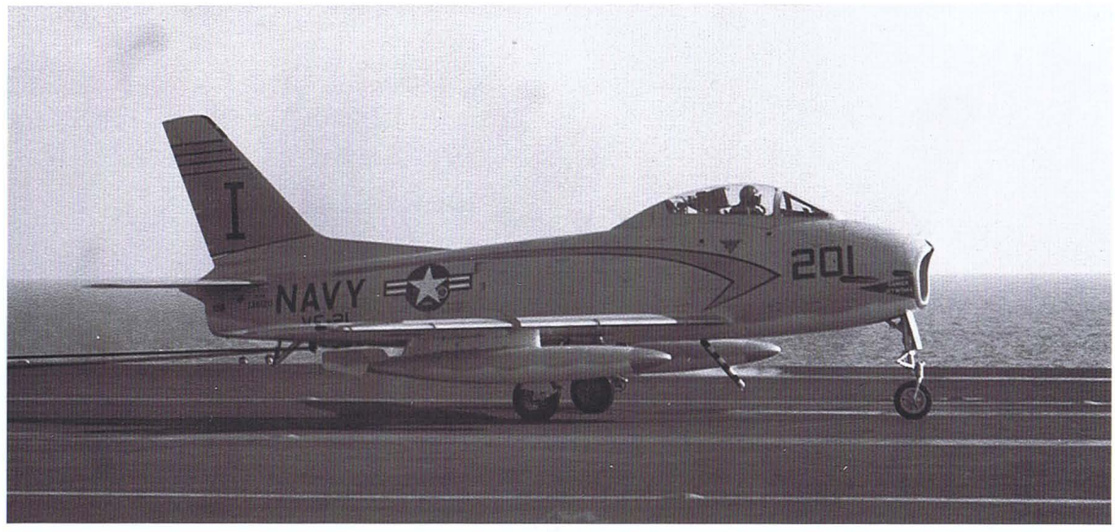


Right: During 1956 the FJ-3M of VF-142 were painted with black diamonds on a white background and a wide black band on the tail. Notice that a solid Insignia Red triangle is used as the jet engine intake warning in lieu of a chevron. **Bottom:** In September 1956 these AD-5W Skyraiders of Carrier Air Early Warning Squadron 12 (VAW-12) are without distinctive markings. This NAS Quonset based squadron provided detachments to the Carrier Air Groups.

Also, these aircraft were required to carry special markings to identify them as such. However, these markings could be deleted on the basis of local, diplomatic, or other important considerations.

The fuselage was to carry the words: UNITED STATES NAVAL ATTACHE TO (name of country). For the benefit of foreign personnel, the same lettering as above, but worded in the language of the country to which the Attache was accredited, was placed approximately 2 inches (5.08 cm) below the American inscription. This marking was to be located forward on the aircraft, approximately under the pilot's cockpit, on both sides of the fuselage. On R4D and larger aircraft, the American inscription was located above the centerline of the fuselage, and the foreign inscription below the centerline of the fuselage. On smaller aircraft, all of the inscriptions were located above the centerline of the fuselage. The letters in both the American and foreign inscriptions were 4 inches (10.16 cm) high on R4D and larger aircraft. Lettering was to be reduced proportionally for smaller aircraft. The width of the letters was to be two-thirds the height, and the width of the individual strokes forming the letters was to be one-sixth the height. These letters were to be white on a dark background, or black on a white background, as appropriate.

The branch of service was not applied to the under surface of the left wing on ALUSNA aircraft. Instead, the American flag was located approximately under the national aircraft insignia on the upper surface. The flag was to be centered symmetrically and applied so that an observer on the ground, with the aircraft approaching, would view the flag with the blue field forward and to his left, and with the stripes extending outboard. The flag was to be in the proportions of 1 foot (30.48 cm) in height (the hoist) to 1 foot 9 inches (53.34 cm) in length (the fly), in accordance with standard American flag requirements. In all cases, the largest size flag which can be accommodated on the wing was to be used. However, in no case could the height exceed 75 percent of the distance between the leading edge of the wing and the aileron cut-out at the point of application.

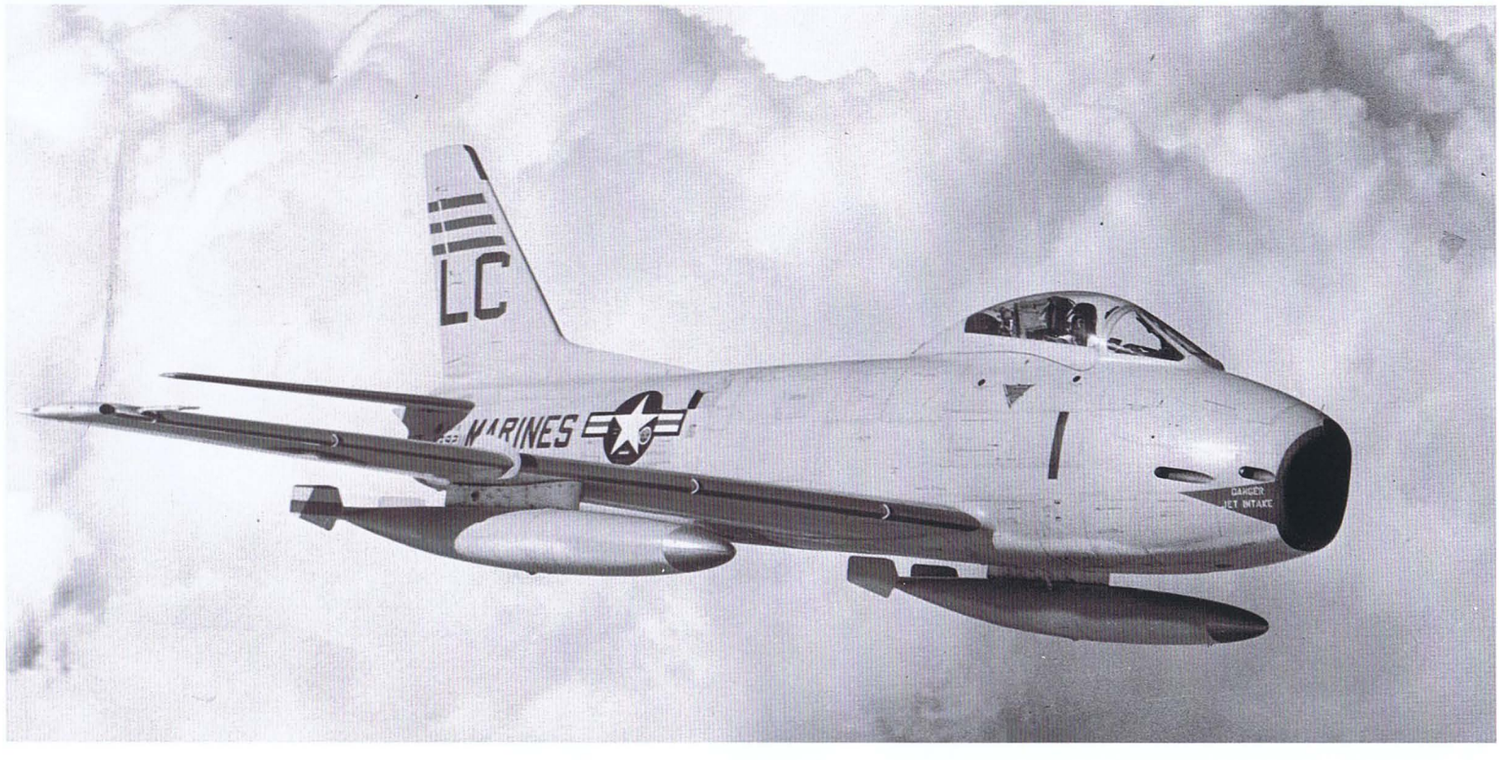


Left: Landing aboard the USS Forrestal (CVA-59) in 1956, this VF-21 FJ-3 is brilliantly painted with three black stripes on a yellow tail and a yellow stripe outlined in black down the fuselage. **Bottom:** The Scarlet and Gold stripes on the FJ-3 identifies it as belonging to VMF-122, the Candystripers at MCAS Cherry Point during1956.

The vertical tail marking for ALUSNA aircraft was also to consist of the American flag. The flag was to be applied to both sides of the vertical tail, except in the case of multiple tails. In which case, it was applied to the outboard side of each tail only. The flag on the left side of the aircraft was applied with the blue field forward and the stripes extending aft. The flag on the right side of the aircraft was applied with the blue field aft and the stripes extending forward. On both sides of the tail, the flag was to be centered symmetrically. For R4D and larger aircraft, the flag was 3 feet (91.44 cm) in height and 5 feet 7 inches (170.18 cm) in length. For smaller aircraft such as the JRB, the flag could not exceed 75 percent of the chord at half the height of the vertical surface from the horizontal surface. In all cases, the proportions as stated above must be used. Insignia Red, Insignia White, and Insignia Blue are to be used in applying the American flag.

As a result of the Armed Services Unification Act of 1947, two wartime transport agencies were consolidated to form the first unified command in US military history. On June 1, 1948, the Air Transport Command and Naval Air Transport Service became the Military Air Transport Service (MATS). The Navy transport squadron VR-3 was assigned to the Continental and Atlantic division while VR-6, VR-7, and VR-8, were assigned to the Pacific division. This merging of services required a new painting directive for the Navy aircraft involved.

US Navy aircraft assigned to MATS were to be identified in accordance with the Military Air Transport Service specifications. MATS Form 7B, dated January 1, 1955, is the earliest copy located and detailed the markings to be applied to C-54 — R5D aircraft. This originally was an Air Force directive and it is not known exactly how close it was followed in painting the Navy aircraft. Obviously, there was considerable delay before all aircraft were painted in compliance with the new directive. In any event, the aircraft were basically the normal Navy transport scheme with solar resistant fuselage top. The detailed Air Force instructions were as follows:



Right: This P2V-7 of VP-67 has the solar heat reflecting white top to reduce the temperature of the cabin for those operating all the antisubmarine warfare equipment. Colorful tail designs were a feature of the VP community.

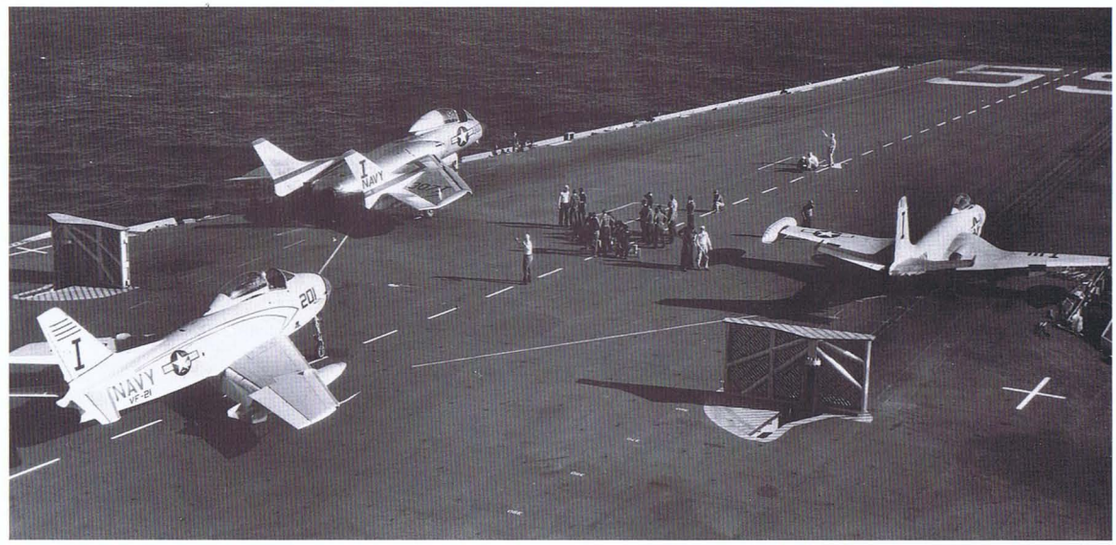
MARKING	LOCATION	SPECIFICATIONS
Last four digits of aircraft serial number	Centered on each side of the nose gear door, 31 inches (78.74 cm) from forward tip to center of marking.	Insignia Blue on Orange Yellow background 8 inches (20.32 cm) wide, 26 1/2 inches (67.31 cm) long, bordered by a 1 1/2 inch (3.81 cm) Insignia Blue stripe. Numbers were to be 6 inches (15.24 cm) high, 4 inches (10.16 cm) wide with the strokes 1 inch (2.54 cm) wide.
U.S. NAVY	On each side of the fuselage, commencing at station 30, letter bottoms on stringer 17.	Insignia Blue 18 inches (45.72 cm) high.
Model designation, aircraft serial number	On left side of fuselage, 3 inches (7.62 cm) below base of cockpit sliding window.	Glossy Black 2 inches (5.08 cm) high. Crew weight and octane rating letters and numerals were to be 1 inch (2.54 cm) high.
MILITARY AIR TRANSPORT SERVICE	Each side of fuselage. Letter M was to commence on left side and letter E on	Insignia Blue 9 inches (22.86 cm) high and 6 inches (15.24 cm) wide.

Carrying a combination of markings, this Navy R6D-I served in the Military Air transport Service under Air Force control.

Left: The acronym below the NAVY on these FJ-3Ds refers to Guided Missile Group 1. This unit controlled Regulus missiles during the last half of the 50s.

	right side at center of second window; over-all length of letters was to be 198 1/2 inches (504.19 cm); base of letters was to be 4 inches (10.16 cm) above blue stripe or 8 inches (20.32 cm) above top of windows.	
Solar resistant white finish	Top of entire fuselage, commencing at top of windows, bordered by a 4 inch (10.16 cm) blue stripe, to extend above windows, from horizontal stabilizer to windshield; 2 inch (5.08 cm) blue stripe to connect right and left side of 4 inch (10.16 cm) stripe over top of fuselage at base of windshield; framework of windshield was to be white. A 4 inch (10.16 cm) stripe was also to be painted on top of the fuselage along base of the dorsal fin, continuing aft to a connecting point with the horizontal blue stripe extending along the top of windows.	Glossy White enamel with an Insignia Blue stripe.
National Aircraft Insignia	Each side of fuselage, center of star was to be 70 inches (177.80 cm) forward from station 858 and 26 1/2 inches (67.31 cm) below bottom of 4 inch (10.16 cm) blue stripe.	Diameter of star was to be 45 inches (114.30 cm).
MATS Insignia	Each side of fuselage, 30 inch (76.20 cm) outside diameter, center of insignia was to be on same center line as the bar of national aircraft insignia and located 18 inches (45.72 cm) aft of station 858.	The insignia was to be 24 inches (60.96 cm) in diameter encircled with a 3 inch (7.62 cm) Orange Yellow band.
Division Marking i.e., PACIFIC, CONTINENTAL	Each side of the vertical stabilizer and rudder. Top 3 inches (7.62 cm) Orange Yellow stripe to commence 16 inches (40.64 cm) below center of top rudder hinge. Letters were to be centrally located between leading edge of stabilizer and trailing edge of rudder.	To be Insignia White, 9 inches (22.86 cm) high on a 15 inch (38.10 cm) field of Insignia Blue, with an additional 3 inch (7.62 cm) Orange Yellow stripe at top and bottom of field.
Call Letters	To be located between leading edge and trailing edge of vertical stabilizer, top of numerals was to be 12 inches (30.48 cm) below bottom of Orange Yellow stripe and 12 inches (30.48 cm) forward of trailing edge of stabilizer to last numeral.	To be painted glossy Black, 9 inches (22.86 cm) high and 6 inches (15.24 cm) wide.
NAVY (Wings)	On right wing top surface and left wing under surface. Top of letters was to be toward leading edge of wing, commencing at bulkhead at inboard end of aileron.	To be painted Insignia Blue 60 inches (152.40 cm) high, 40 inches (101.60 cm) wide, ninety degrees to center line of aircraft.
National Aircraft Insignia (Wings)	Under surface of right wing and top surface of left wing, inboard end of bar to commence at bulkhead at inboard end of aileron.	To be 60 inches (152.40 cm) in diameter, center line of star was to be ninety degrees to center line of aircraft.

Several Speed Letters were written on February 8 and 9, 1951, which added additional units and their Visual Identification Letters to those listed in Aviation Circular Letter 43-50. These and other additions during this expansion period are shown in the following list. A large number of these units were Reserve squadrons, including two Reserve Carrier Air Groups, formed from squadrons called to active duty during the Korean conflict. At this time Reserve squadron numbers were above 500. At the end of the Korean conflict,

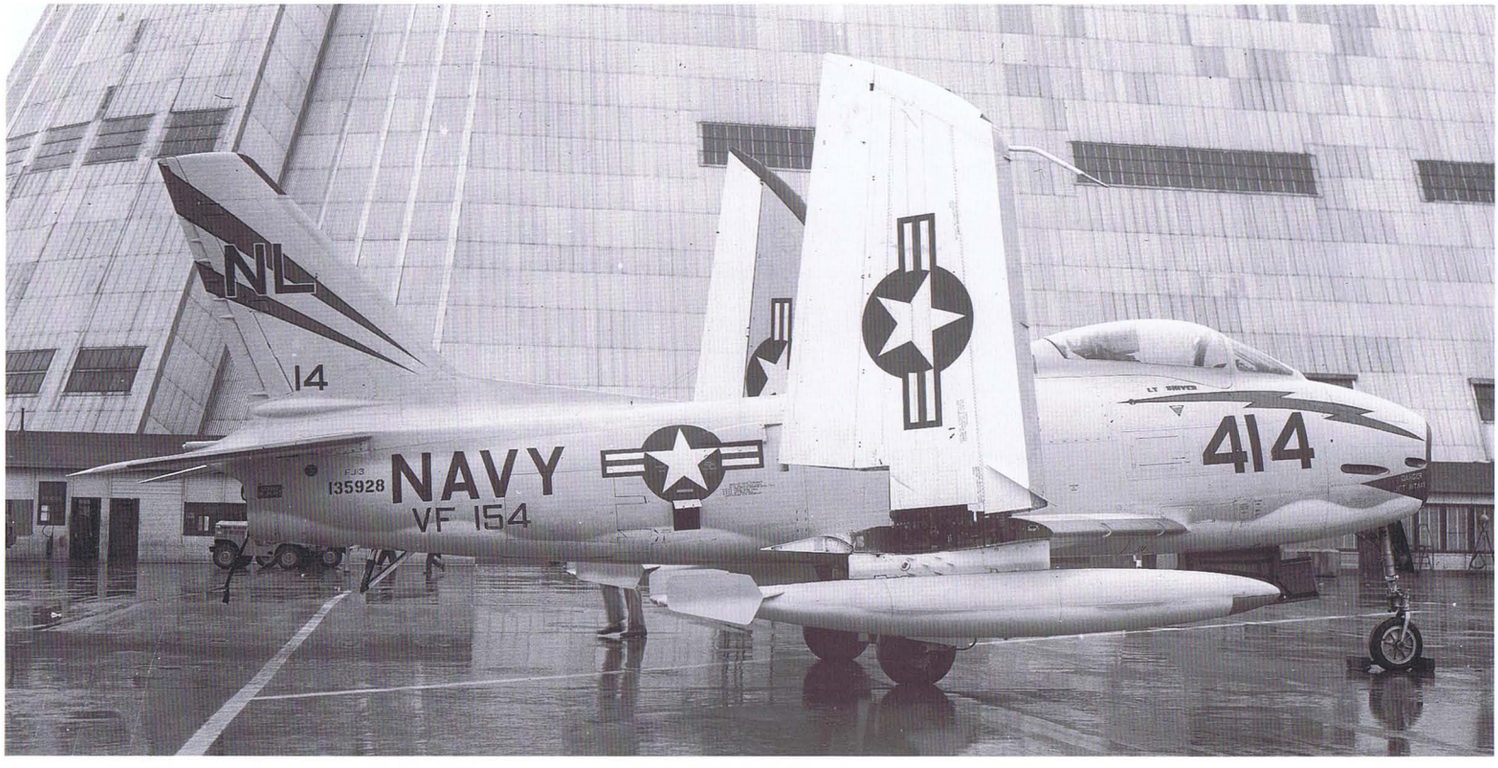


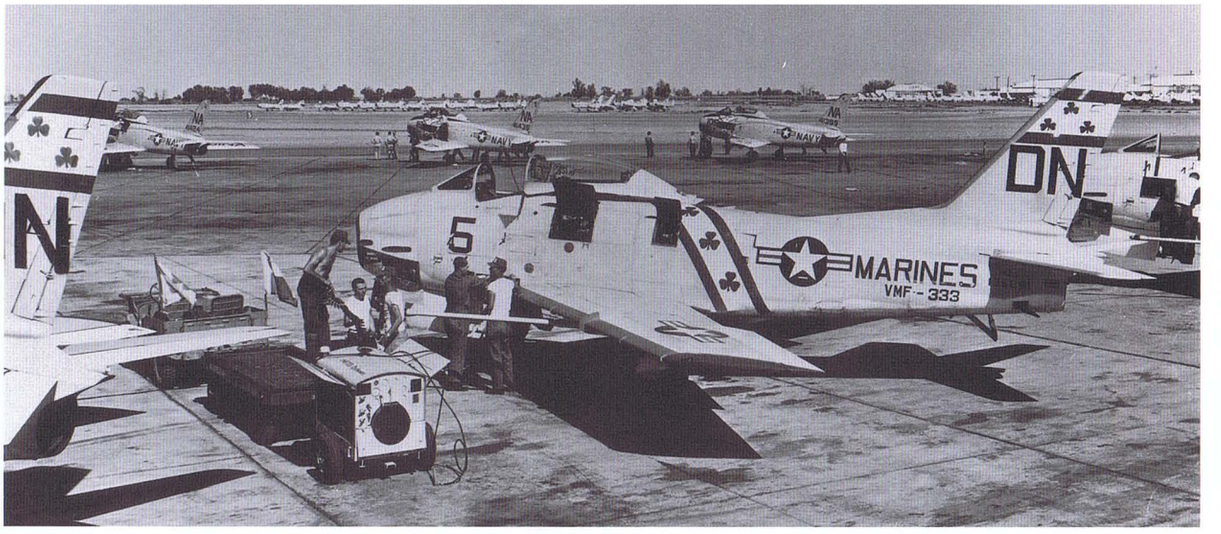
Right: The three fighter squadrons are shown in January 1956 operating on the USS Forrestal in Air Task Group 181. On the starboard catapult is a F2H-3 Banshee of VF-41; on the port catapult is a F7U-3M Cutless of VF-86, while a FJ-3 Fury of VF-21 awaits its turn. **Bottom:** In May 1957 this VF-154 FJ-3 is painted in the gray and white scheme as are its drop tanks. The lightning bolts on the forward fuselage and slashes on the tail are Orange.

many of the reserve squadrons that had been called to active duty were retained in the regular fleet composition. In order not to cause a conflict in the numbering system of fleet and reserve activities, these squadrons were redesignated as shown. These reserve squadrons are shown in the sequence they would take when redesignated. Previous designations are shown in parentheses. Dates show when a squadron was redesignated or a new squadron was formed. As of July 1, 1953, the Naval Aeronautical Organization, OPNAV Notice 05400, showed the following units.

CARRIER AIR GROUPS AND SQUADRONS

		Established/ Designation Changed
CVG-1	T	
VF-11		
VF-12		
VF-13		
VF-14		
VA-15		
CVG-2		
VF-23	M	
VF-24		
VF-63		
VF-64		
VA-65		
CVG-3		
VF-31	K	
VF-32		
VF-33		
VF-34		
VA-35		
CVG-4	F	September 1, 1950





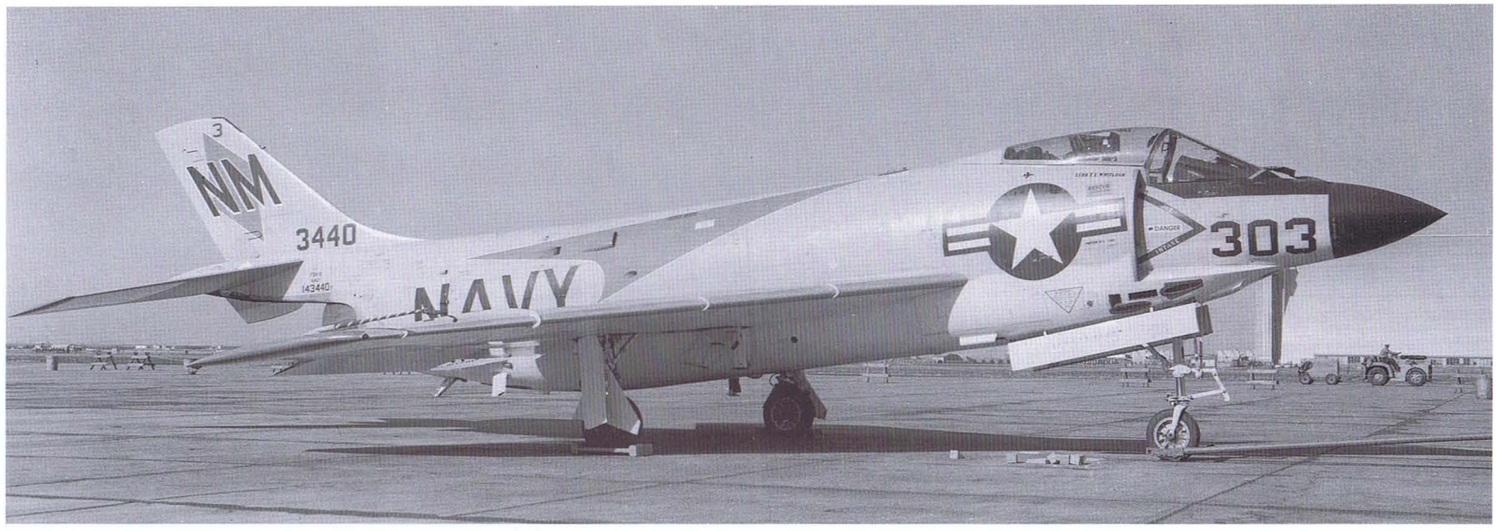
Left: The shamrock design on the FJ-3 of VMF-333 makes it obvious that the squadron has to be known as the Shamrocks. The shamrocks are green on a white background outlined with green stripes. **Right:** The red stripes on the wing as part of the drone control marking can be seen on this P2V-7D. For another view of the same airplane see page 59.

VF-22		
VF-43		September 1, 1950
VF-44		September 1, 1950
VF-62		
VA-45		September 1, 1950
CVG-5	S	
VF-51		
VF-52		
VF-53		
VF-54		
VA-55		
CVG-6	C	
VF-21		
VF-41		September 1, 1950
VF-42		September 1, 1950
VF-61		
VA-25		
CVG-7	L	
VF-71		
VF-72		
VF-73		
VF-74		
VA-75		
CVG-8	E	April 9, 1951
VF-81 (VF-671)		February 4, 1953
VF-82 (VF-742)		February 4, 1953
VF-83 (VF-916)		February 4, 1953
VF-84 (VF-921)		February 4, 1953
VA-85 (VA-859)		February 4, 1953
CVG-9	N	March 26, 1952
VF-91		March 26, 1952
VF-92		March 26, 1952
VF-93		March 26, 1952
VF-94		March 26, 1952
VA-95		March 26, 1952
CVG-10	P	May 1, 1952
VF-101		May 1, 1952
VF-102		May 1, 1952
VF-103		May 1, 1952
VF-104		May 1, 1952
VA-105		May 1, 1952
CVG-11	V	
VF-111		
VF-112		
VF-113		
VF-114		
VA-115		
CVG-12 (CVG-102)	D	
VF-121 (VF-781)		February 4, 1953
VF-122 (VF-783)		February 4, 1953
VF-123 (VF-871)		February 4, 1953
VF-124 (VF-874)		February 4, 1953
VA-125 (VA-923)		February 4, 1953
CVG-14 (CVG-101)	A	
VF-141 (VF-721)		February 4, 1953
VF-142 (VF-791)		February 4, 1953
VF-143 (VF-821)		February 4, 1953
VF-144 (VF-884)		February 4, 1953
VA-145 (VA-702)		February 4, 1953
CVG-15	H	April 5, 1951
VF-151 (VF-653)		February 4, 1953
VF-152 (VF-713)		February 4, 1953
VF-153 (VF-831)		February 4, 1953

VF-154 (VF-837)		February 4, 1953
VA-155 (VA-728)		February 4, 1953
CVG-17	R	
VF-171		
VF-172		
VF-173		
VF-174		
VA-175		
CVG-19	B	
VF-191		
VF-192		
VF-193		
VF-194 (VF-153)		
VA-195		
VC-3	NP	
VC-4	NA	
VC-5	BM	
VC-6	NF	
VC-7	NH	August 10, 1950
VC-8	NC	December 3, 1951
VC-9	FG	January 15, 1953
VC-11	ND	
VC-12	NE	
VC-30	SP	1950
VC-33	SS	
VC-35	NR	
VC-61	PP	
VC-62	PL	
VS-20 (VS-931)	SV	February 4, 1953
VS-21	BS	
VS-22	SL	
VS-23	MI	
VS-24	SI	
VS-25	SK	
VS-26	SH	September 15, 1950
VS-27	SM	November 15, 1950
VS-30 (VS-801)	SW	February 4, 1951
VS-31	SP	
VS-32	SR	
VS-36 (VS-831)	SD	February 4, 1953
VS-37 (VS-871)	SU	February 4, 1953
VS-38 (VS-892)	ST	February 4, 1953
VS-39 (VS-913)	SN	February 4, 1953

PATROL SQUADRONS

VP-1	CD	
VP-2	SB	
VP-3	MB	
VP-4	SC	
VP-5	MC	
VP-6	BE	
VP-7	HE	
VP-8	HD	
VP-9	CB	March 15, 1951
VP-10	HK	March 19, 1951
VP-11	HB	May 15, 1952
VP-16 (VP-741)	HH	February 4, 1953
VP-17 (VP-772)	BH	February 4, 1953
VP-18 (VP-861)	HF	February 4, 1953
VP-19 (VP-871)	CH	February 4, 1953
VP-21	HC	
VP-22	CE	
VP-23	MA	
VP-24	HA	
VP-26	EB	
VP-28	CF	
VP-29	BF	August 27, 1952
VP-34	EC	

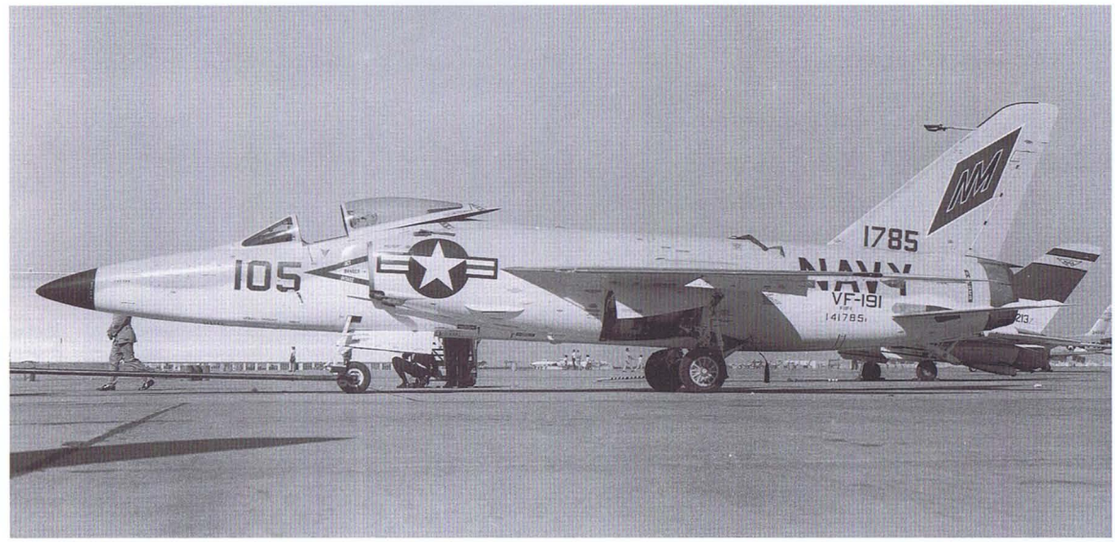


VP-40	CA	January 20, 1951
VP-42	SA	
VP-44	CC	January 29, 1951
VP-45	EE	
VP-46	BD	
VP-47	BA	
VP-48 (VP-731)	SF	February 4, 1953
VP-49	EA	
VP-50 (VP-892)	SE	February 4, 1953
VP-56 (VP-661)	EH	March 2, 1953
VP-57 (VP-931)	BI	February 4, 1953
VP-61	EF	January 20, 1951

TRANSPORT, UTILITY AND MISCELLANEOUS SQUADRONS

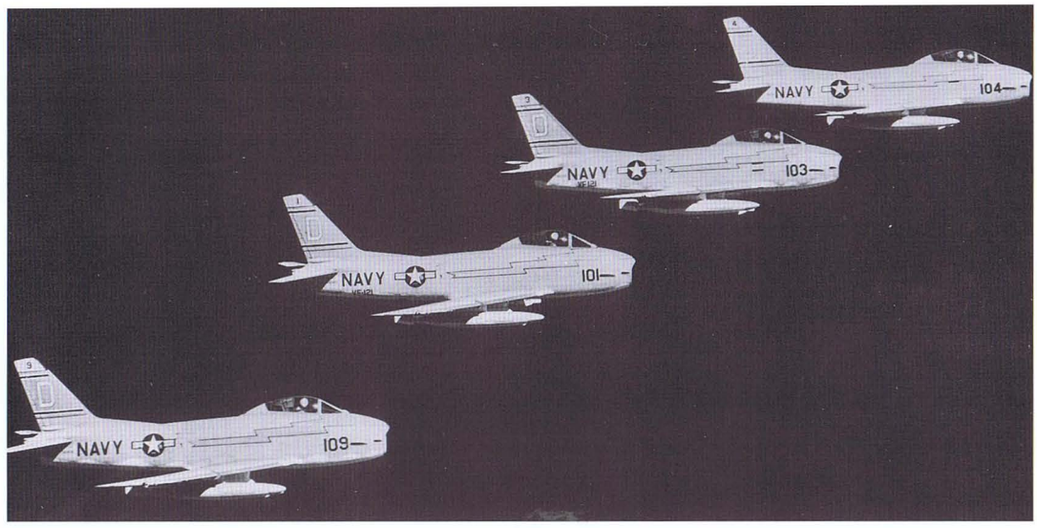
VR-1	RP	
VR-2	RA	
VR-3	RT	
VR-5	RS	
VR-6	RU	
VR-7	AS	
VR-8	RH	
VR-21	RZ	
VR-22	RB	
VR-23	RK	August 30, 1951
VR-24	RD	
VR-25		June 16, 1952
VR-31	RE	
VR-32	RF	
ZP-1	ZW	
ZP-2	ZL	
ZP-3	ZC	
ZP-4	ZD	May 8, 1951
VX-1	XA	
VX-2	XB	
VX-3	XC	
VX-4	XF	September 25, 1952
VX-5	XE	June 18, 1951
VJ-1	PM	March 19, 1952
VJ-2	PN	March 10, 1952
VJ-61 (VP-61)	PB (EF)	March 5, 1953
VJ-62	TP	April 10, 1952
HS-1	HU	October 3, 1951
HS-2	HV	March 7, 1952
HS-3	HW	June 18, 1952
HS-4	VO	June 30, 1952
HU-1	UP	
HU-2	UR	
VW-1	TE	June 18, 1952
VW-2	TF	January 1, 1952
VU-1	UA	July 20, 1951
VU-2	UJ	January 8, 1952
VU-3	UF	
VU-4	UD	
VU-5	UE	August 16, 1950
VU-6	UG	March 1, 1952
VU-10	UL	
FASRON-76	JM	
FASRON-77	BL	
HATU	AN	
FAGUPAC	TR	May 15, 1952
FAWTUPAC	PA	
FAWTULANT	LA	
FAETUPAC	FP	
FAETULANT	FA	

Left: Compare the clarity of this VF-193 tail code on a F3H-2 with the F11F-1 to the right. Both squadrons were aboard the USS Bon Homme Richard (CVA-31) in 1958. As number three fighter squadron the colors are Blue. **Right:** VF-191 painted its tail code in a red diamond outlined with white. One of the original requirements was that the letters be easy to read, but the practice of joining letters had become quite common by this



MARINE CORPS SQUADRONS

AIRFMFLANT	LZ	
AIRFMFPAC	WZ	
H&HS 1st MAW	AZ	
H&HS 2nd MAW	LL	
H&HS 3rd MAW	LU	February 1, 1952
H&HS MAG-11	LM	
H&HS MAG-12	WA	
H&HS MAG-13	AU	March 13, 1951
H&HS MAG-14	LN	
H&HS MAG-15	AV	
H&HS MAG-16	WW	March 1, 1951
H&HS-MAG-20	AT	December 1, 1951
H&HS MAG-24	AW	
H&HS MAG-25	AX	1952
H&HS MAG-26	ML	June 16, 1952
H&HS MAG-31	LV	March 17, 1952
H&HS MAG-32	MV	May 8, 1952
H&HS MAG-33	WM	
H&HS MAG-35	MM	April 21, 1952
H&HS MAG-36	WX	June 2, 1952
H&HS MAG-45	MK	June 18, 1952
HMR-161	HR	January 15, 1951
HMR-162	HS	June 30, 1951
HMR-163	HP	December 1, 1951
HMR-261	HM	April 5, 1951
HMR-262	HT	September 1, 1951
HMR-263	IL	June 16, 1952
HMR-361	HN	February 25, 1952
HMR-362	HL	April 30, 1951
HMR-363	HZ	June 2, 1952
HMX-1	XM	
MARS-17	SZ	July 1, 1953
MARS-37	LU	July 1, 1953
MTG-10	WD	December 1, 1951
VMA-121 (VMF-121)	AK	May 15, 1951
VMA-211 (VMF-211)	AF	June 30, 1952
VMA-212 (VMF-212)	LD	June 10, 1952
VMA-223 (VMF-223)	WP	December 1, 1954
VMA-224 (VMF-224)	WK	December 1, 1954
VMA-225 (VMF-225)	WI	June 17, 1952
VMA-251 (VMF-251)	AL	April 29, 1951
VMA-312 (VMF-312)	WR	June 10, 1952
VMA-323 (VMF-323)	WS	June 30, 1952
VMA-324	LX	March 17, 1952
VMA-331	MP	April 23, 1952
VMA-332	MR	April 23, 1952
VMA-333	MN	August 1, 1952
VMA-334	MX	May 31, 1952
VMF-114 (VMF(N)-114)	LK	June 1, 1953
VMF-115	AE	
VMF-122	LC	
VMF-214	WE	
VMF-232	WT	
VMF-235	WU	
VMF-311	WL	
VMF-314	LW	February 1, 1954
VMF-451	AM	April 30, 1951
VMF-533 (VMF(N)-533)	AI	July 1, 1953
VMF(N)-513	WF	
VMF(N)-531	LT	
VMF(N)-542	WH	
VMAT-10	SB	December 1, 1951
VMAT-20	LY	December 1, 1951
VMFT-20	LF	December 1, 1951



Left: VF-121 of CVG-12 flew these FJ-3M Furies during June 1957. The colorful markings are Insignia Red outlined with Black.
Bottom: These F4D-1s of VF-213 have all their decorative markings in Black. Due to the delta wing configuration of the F4D-1, the unit designation has to be applied along the upper fuselage.

VMIT-20	LE	December 1, 1951
VMAT-20	LY	December 1, 1951
VMIT-21	HX	December 1, 1951
VMC-1	RM	September 15, 1952
VMC-2	CM	September 15, 1952
VMC-3	TN	October 15, 1952
VMJ-1	MW	
VMJ-2	MT	
VMJ-3	MU	
VMO-1	LR	
VMO-2	LS	
VMO-6	WB	
VMR-152	WC	
VMR-153	AC	
VMR-252	LH	
VMR-253	AD	June 15, 1951
VMR-352	LB	
VMR-353	MZ	May 15, 1952
VMTRG-10 (VMT-2)	WD	December 1, 1951

DISESTABLISHED

VP-812	BF	August 27, 1952 to inactive status
ZX-11	XL	June 1, 1950

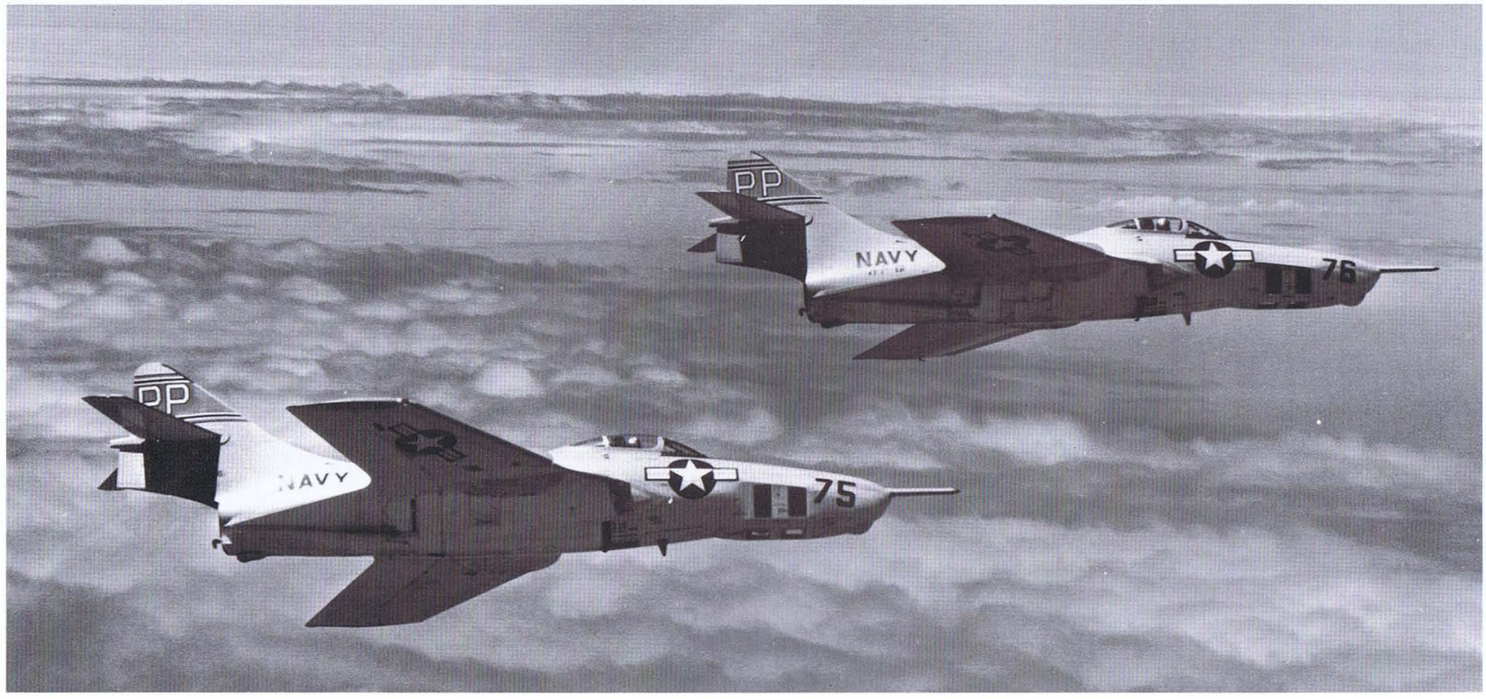
Right: The inner surfaces of flaps, as on this F2H, were painted Insignia Red as a warning to those working around them to be alert to the fact that they might close, causing personal injury. **Bottom:** The tail markings are red on these F9F-8P Cougar photo planes of VFP-61 Detachment Golf in June 1957. These detachments normally continued to use their squadron tail codes rather than that of the Air Group to which they were temporarily attached.

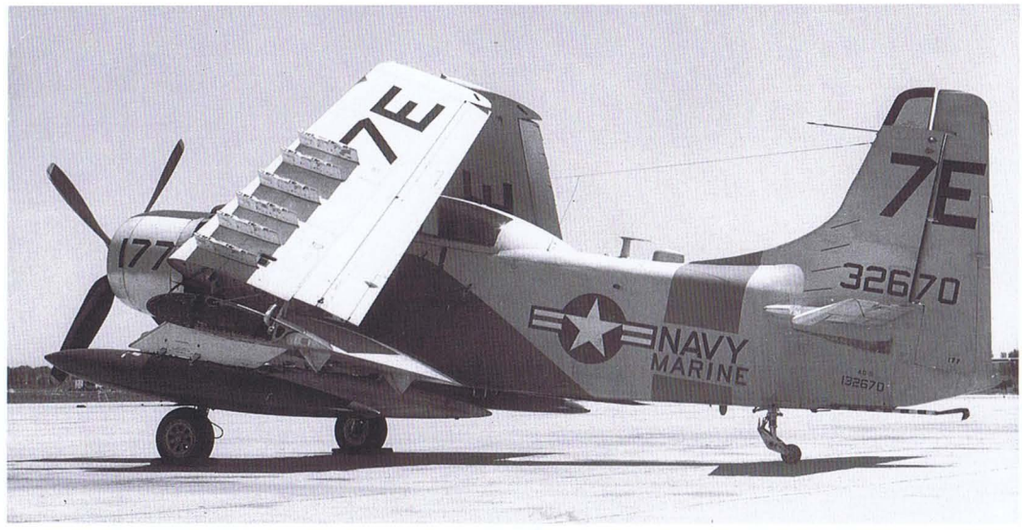
Bureau of Aeronautics letter Aer-AE-423/250 dated May 9, 1955, advised that SR-2h had been completely revised and superseded by MIL-I-18464(Aer) *Insignia and Markings for Naval Aircraft, Revised Specifications For,* dated March 9, 1955. It was anticipated that the new instruction would be distributed through established channels in the near future. This letter was issued two months after the date on the instruction and it is not possible to determine how much additional time passed before the instruction was actually issued. This is an excellent example of the problem of trying to establish a firm date for a change in markings.

Among other points in the letter was the statement "That examples of insignia and markings applied to Naval Aircraft, which are included for guidance only, have been reduced and dimensions for location of the markings have been deleted, to permit a greater degree of latitude by Naval activities and the contractors in the application of the markings required." Once again pointing out the possibility of widely different markings on a given aircraft model, all of which are "correct" within the broad scope of the instructions.

When issued MIL-I-18464(Aer) dated March 9, 1955, contained numerous minor modifications as well as some new marking requirements. A radio call number now became a mandatory marking on all aircraft except those not having radio equipment. This number consisted of not less than the last four digits of the aircraft serial number. It was applied to both sides of the vertical stabilizer and rudder assembly, or to each outboard side, as applicable. On helicopters or if space limitations on other aircraft do not permit this, the number was to be applied aft along the fuselage, or aft along each side of the tail boom, as applicable. The size of the Radio Call Number was to be the largest possible of the standard sizes 12, 16, 20, 24, 30, and 36 inches (30.48, 40.64, 50.80, 60.96, and 91.44 cm), but in no case less than 12 inches (30.48 cm) in height.

The branch of service marking — NAVY or MARINES — on the fuselage of all models except transports and ALUSNA aircraft was changed in size. The 28 inch (71.12 cm) size was discontinued with 30 inch (76.20 cm) and 36 inch (91.44 cm) sizes added to the previously listed sizes. NAVY or MARINES remained on the under surface of the left wing as far outboard as possible in letters of the largest possible





Left: A Douglas AD-5N assigned to NAS Minneapolis reserve unit shows that there are both Navy and Marine Corps units aboard who operate the aircraft. **Bottom:** The XF2Y-I Sea Dart was a Sea Blue aircraft. The high visibility stripes were to assist in photographic evaluation during testing (see page 188).

size the aircraft could accommodate. Standard sizes of 24 inches (60.96 cm), 30 inches (76.20 cm), and 36 inches (91.44 cm) were for NAVY and 12, 16, 20, 24, 30, and 36 inches (30.48, 40.64, 50.80, 60.96, and 91.44 cm) were for MARINES. At the discretion of cognizant commands, the branch of service marking on aircraft operated jointly by Reserve components of the Navy and Marine Corps, could consist of the words

NAVY

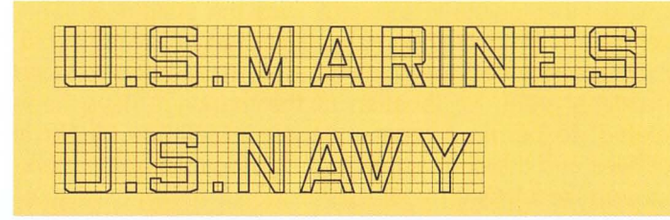
MARINE

If these words were applied, the station name was omitted.

All aircraft intended for carrier use, and patrol aircraft, which were painted white on the underside of the wings in accordance with MIL-C-18263(Aer), were not to have the branch of service markings, unit identifying letters or unit aircraft numerals applied to the underside of the wings. Only the national aircraft insignia (glossy) and any small maintenance markings were required.

Experimental aircraft were to be marked in the same manner as operational aircraft of the same type insofar as practicable. In addition to these markings, U.S. NAVY was applied to the upper surface of the right wing and the under surface of the left wing. This marking was to be located in a similar location to the national aircraft insignia on the opposite wing. The height of the letters was to be the largest possible size that can be accommodated on the aircraft, selected from the following standard sizes: 12, 16, 20, 24, 30, and 36 inches (30.48, 40.64, 50.80, 60.96, and 91.44 cm).

TYPICAL SERVICE BRANCH LETTERING



Right: The only military airship west of the east coast in 1953 was operated by "Weekend Warriors" from NAS Oakland as a flying billboard for the Naval Air Reserve program. **Bottom:** This F8U-1 Crusader of VF-103 has its distinctive large yellow arrow outlined in black on the vertical tail surfaces.

Reflecting the new tail surface configuration of nonrigid airships in which the surfaces are oriented 45 degrees from the horizontal and vertical positions, as in the form of an X, the unit identifying letters and numerals were applied to both sides of the two lower surfaces. None of this marking was to be on the movable control surfaces. These characters were to be 40 inches (101.60 cm) high.

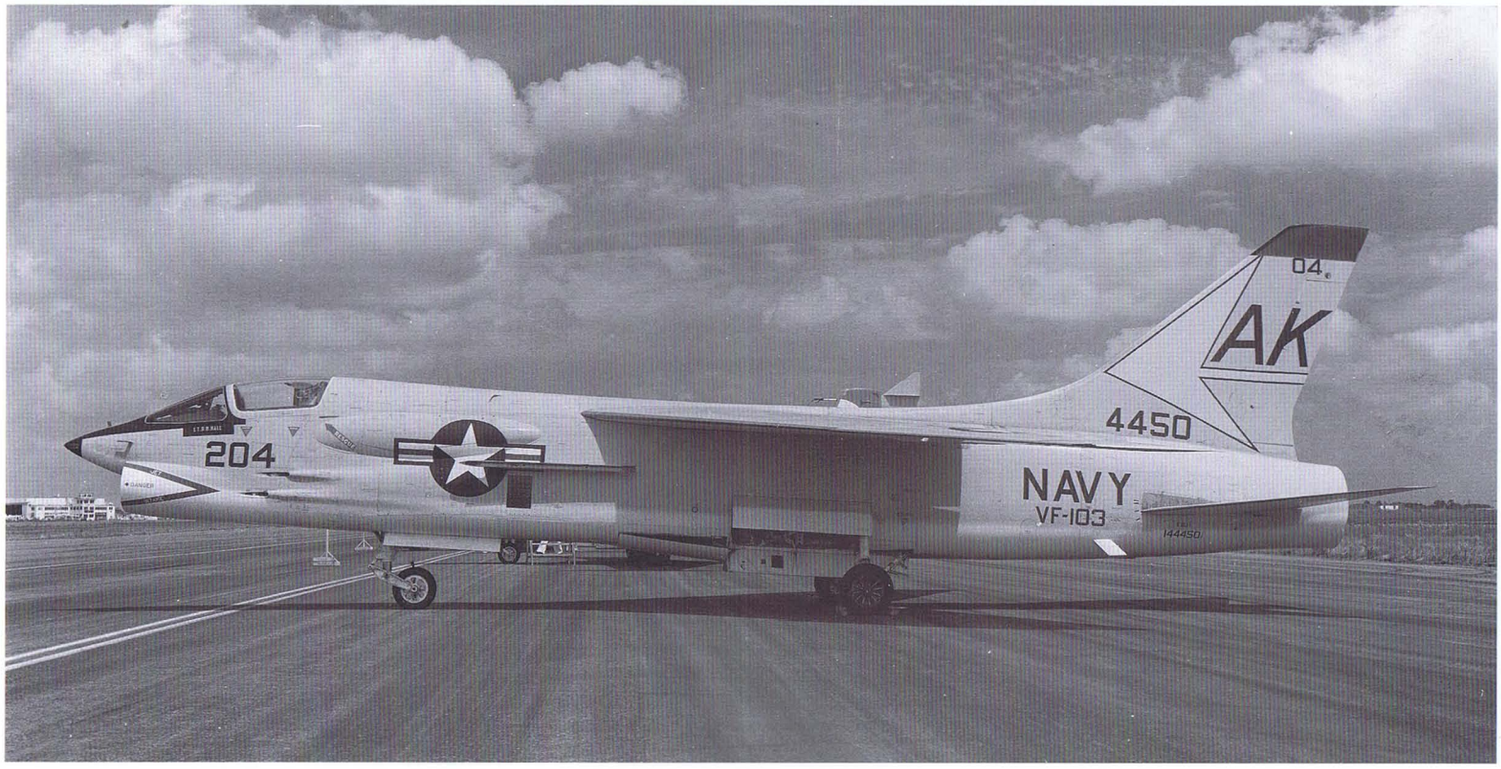
Airships assigned to air stations or shore units where no identifying letters or numerals were assigned were to have the station name or unit abbreviation applied to both sides of the lower vertical fin, or both lower fins in the case of surfaces 45 degrees from horizontal, as explained above in characters 15 inches (38.10 cm) high. The serial number was to be centered under this marking in numerals 24 inches (60.96 cm) high.

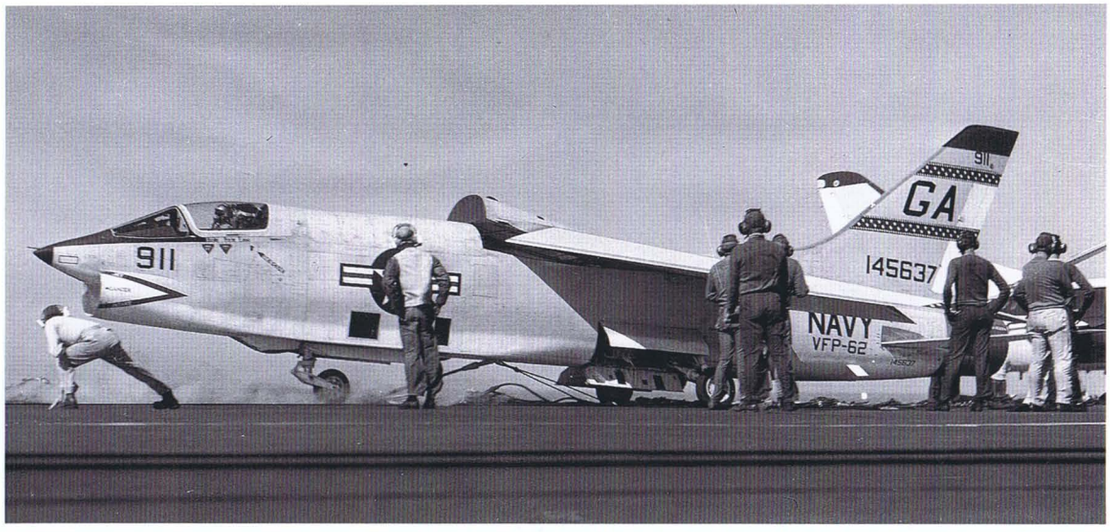
The identification number consisting of letters and numerals to identify the significant features of the airship was to be applied to the envelope, along the line where the car meets the envelope in 3 inch (7.62 cm) characters. A typical number could be GN975C2N.

The location of the model designation and serial number for nonrigid airships was stated more definitely. It was now directed to be located on both sides of the car beginning at a point approximately 20 percent of the length from the forward end of the car, with the horizontal centerline of the lettering at approximately 75 percent of the height as measured from the bottom of the fairing. Letters and numerals were to be 4 inches (10.16 cm) high.

Appendix A should be consulted for a complete explanation of this numbering system.

If more positive identification of ALUSNA aircraft was required because of local conditions or other considerations, an additional American flag could be applied to the upper surface of the right wing on an interim basis. This flag was to be removed when the local conditions or other requirements permitted. The flag size was to be the same as that applied to the under surface of the left wing and located approximately over the national aircraft insignia on the under surface of the right wing.





Left: VFP-62 had colorful Maroon bands with white stars on the tail and wingtips of its F8U-IP aircraft. This marking was retained by detachments when they were assigned to various carriers. **Bottom:** VMF-323 developed this diamond pattern for its FJ-4 Fury while deployed to Japan during 1958.

The colors designating squadron position within a Carrier Air Group was changed to the following sequence.

1st squadron or unit	Insignia Red
2nd squadron or unit	Orange Yellow
3rd squadron or unit	Light Blue
4th squadron or unit	International Orange
5th squadron or unit	Light Green
6th squadron or unit	Black
Composite Squadron	Maroon

Propeller spinner(s) and approximately the top 7 inches (17.78 cm) on both sides of the vertical tail surface(s), above the unit identifying letters, were to be painted the appropriate color.

The size of the letters and numerals to designate either the station or unit on the upper surface of the right wing were changed in size. The standard sizes became 12, 16, 20, 24, 30, and 36 inches (30.48, 40.64, 50.80, 60.96, 76.20, 91.44 cm). The 8 inch (20.32 cm) size was deleted.

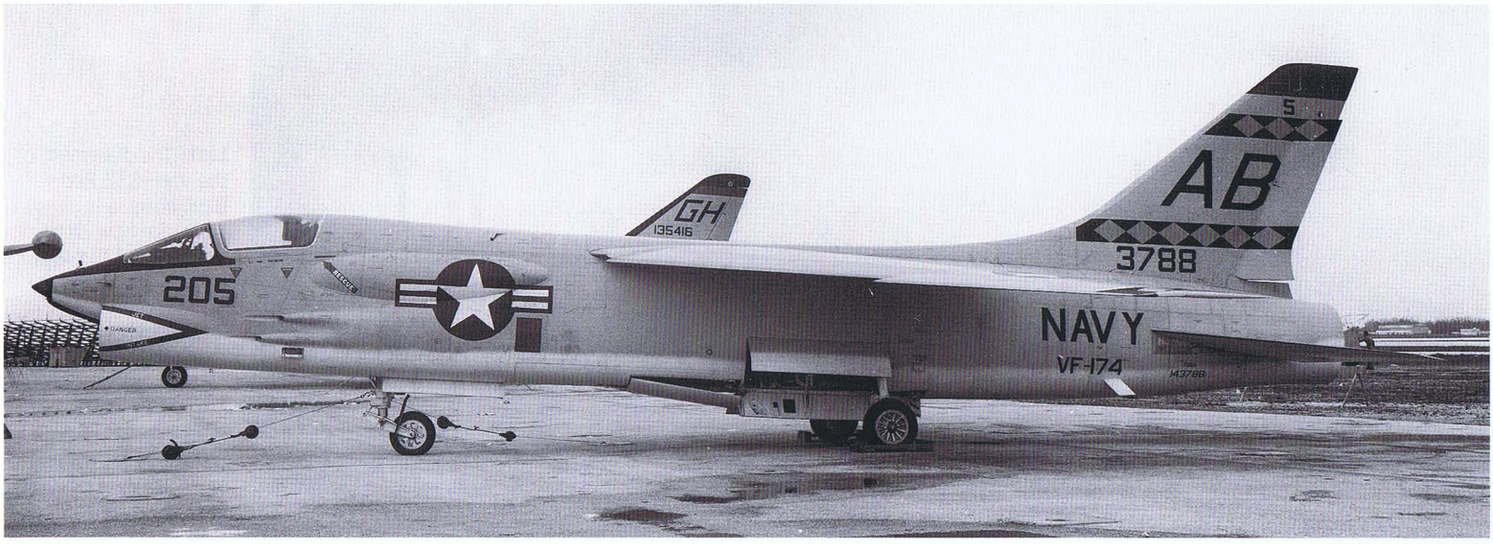
On swept-back wings and wings of variable sweep, all letters and numerals were to be applied symmetrically along the 50 percent constant chord line, as is required for application of the national aircraft insignia.

Units were authorized to display campaign and commendation replicas on their aircraft in an appropriate location as fleet commanders prescribed. No other crests, emblems, individual squadron insignia, etc. were to be applied. Certain CNO directives did, however, authorize the application of squadron insignia which were CNO approved.

OPNAV INSTRUCTION 03561.2, dated August 2, 1955, superseded the old Aviation Circular Letter 43-50 concerning the Visual Identification System for Naval Aircraft.

Changes in the composition of the Carrier Air Groups caused the blocks of numbers used in assigning side numbers to be revised.

CAG Division	0 - 99
VF Squadron	101 - 199
VF Squadron	201 - 299
VF Squadron	301 - 399



Above: In May 1958, VF-174 painted its F8U-1s with Orange Yellow diamonds on Black stripes to further identify them as the second squadron of the Carrier Air Group. **Bottom:** In 1958/59, these F4D-1s of VF-213 at a NAAS El Centro gunnery meet show their Light Blue and White checkers on the tail with Light Blue border. The arrow on the fuselage is Light Blue as are the designs on the drop tanks.

VA Squadron	401 - 499
VA Squadron	501 - 599
VA Squadron	601 - 699

During the two years since the previous table dated July 1, 1953, the following changes had taken place.

REDESIGNATED

VJ-2 PN to VW-4 TH		December 15, 1953

ESTABLISHED

CAG-21	G	July 1, 1955
VF-211		June 1955
VF-212		
VF-213		June 22, 1955
VA-214		
VA-215		

Left: The placement of the VMF-232 Red Devil insignia is unusual. Notice how dirty the forward fuselage can become when the 20 mm cannon are fired. **Bottom:** This F3H-2 Demon of VF-121 is a good example of the high visibility scheme on a fleet aircraft. The red surface under the leading edge slats is clearly visible.

VA-216			
VF-86			July 1, 1955
VQ-1		PS	June 1, 1955
VX-6		XD	January 17, 1955

TAIL CODE ASSIGNED

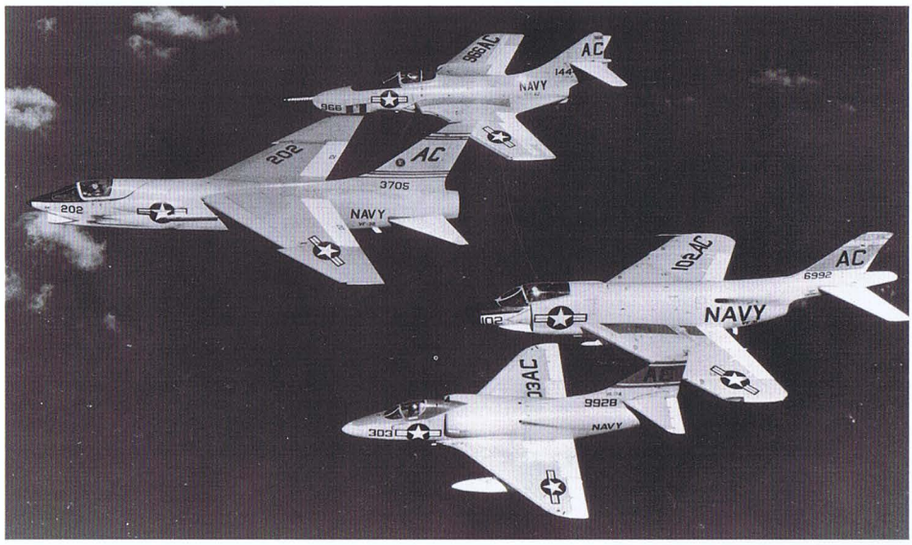
FASRON-76	JM	July 1, 1955

CHANGES IN MISSION OR AIRCRAFT ASSIGNMENT

H&HS 2nd MAW	to MARS-27	LL	July 1, 1953
H&HS 3rd MAW	to MARS-37	LU	July 1, 1953
All H&HS MAG redesignated H&MS			February 15, 1954
VMA-312	to VMF-312	WR	February 15, 1954
VMA-334	to VMF-334	MX	January 23, 1954
VMF(N)-531	to VMF(AW)-531	LT	December 1, 1955
VMF(N)-542	to VMF(AW)-542	WH	September 1, 1955
VMT- 2	to VMTRG-10	WD	December 1, 1951

Amendment 1 to MIL-I-18464(Aer), dated March 30, 1956, made several modifications to the instructions concerning markings on Naval aircraft. The first concerned radio call numbers. It stated that if space permits the application of the full Bureau Airplane Serial Number on the vertical surface for radio call numbers and if the model designation is in close proximity to the radio call number so that the numbers may be seen on the ground, the additional Bureau Airplane Serial Number may be omitted. If the radio call numbers are fewer than the full Bureau Number, due to space limitations, the Bureau Airplane Serial Number is to be applied below the model designation. This is one of the few cases where the Bureau Number and Airplane Serial Number have been combined in an official directive indicating again that at the Bureau level they were synonymous.

The application of markings of a heraldic nature was further restricted. Aircraft units were authorized to display Naval Aviation Insignia in an appropriate location on aircraft, as fleet commanders may prescribe, in accordance with the requirements of applicable Chief of Naval Operations directives. No other crests, emblems, individual squadron insignia, cam-



Right: An assortment of paint schemes is shown by these four squadrons, VF-31 (F3H-2N), VF-32 (F8U-I), VA-34 (A4D-2), and VFP-62 (F9F-8P), all assigned to Carrier Air Group 3 in 1959. **Bottom:** Another VF-121 F3H-2 of the same period as that shown on the previous page shows the variation in application of the high visibility paint scheme that could be found within a squadron.

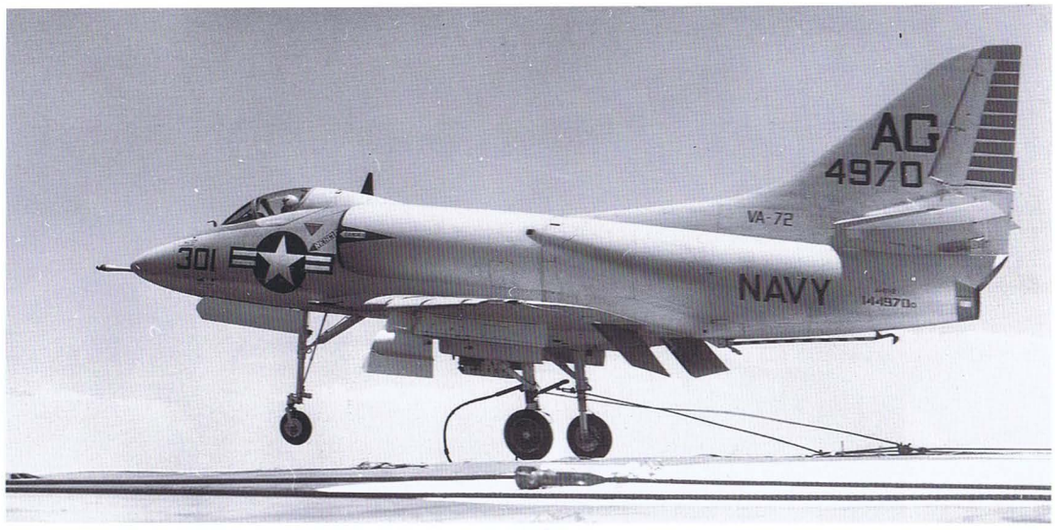
paign and commendation replicas, etc., could be painted on or affixed to the exterior structure of aircraft, except as authorized by CNO directives. However, the CNO directive delineating the requirements for unit insignia authorized the use of such an insignia on aircraft. If applied, the insignia had to face the enemy and be located forward of the cockpit, on or above the horizontal center line of the fuselage.

Individual helicopters assigned to the antisubmarine warfare (ASW) mission were to have large side and bow markings applied for visual identification. These markings consisted of a one-digit numeral or two-digit numeral, as cognizant commands prescribed, applied to the bow and on each side of the fuselage. The size of the numeral(s) was to be the largest size possible, but in no case less than 48 inches (121.92 cm) in height except that two-digit numerals could be reduced proportionately, if space limitations or other considerations required. These markings were to be located in areas so as not to interfere with the other required markings.

Target aircraft were now to have the word TARGET applied, in letters a minimum of one inch (2.54 cm) high, along the left side of the forward and the aft sections of the fuselage, the right side of the mid-section of the fuselage, the top side of each wing assembly, inboard from the wing tips, and, as applicable, the top side of each horizontal tail surface, inboard from the tips and on the right side of each vertical tail surface.

OPNAV INSTRUCTION 03561.2A, *Visual Identification System For Naval Aircraft,* dated July 24, 1956, was issued to improve the system and centralize its control. It again modified the system slightly and stated the requirements of a successful system. Tail markings and side numbers serve to identify aircraft of one unit or group from those of another activity and aid in tactical operations. It specified that such a system for Navy and Marine Corps aircraft must possess simplicity, readability, and flexibility. It also must (a) be capable of rapid and orderly expansion in the event of mobilization, (b) reduce changes to a minimum, consistent with tactical and security requirements, and (c) possess rapid identification characteristics.

Commander Air Force, U.S. Atlantic Fleet; Commander Air



Left: The tail color of this VA-72 A4D-2 aboard the USS Independence (CVA-62) in May 1959 is Blue. Notice the catapult bridle just dropping free as the aircraft clears the lip of the flight deck. **Below Left:** The 900 block of numbers identify these F9F-8Ps as a detachment from Photographic Reconnaissance Squadron Composite 63.

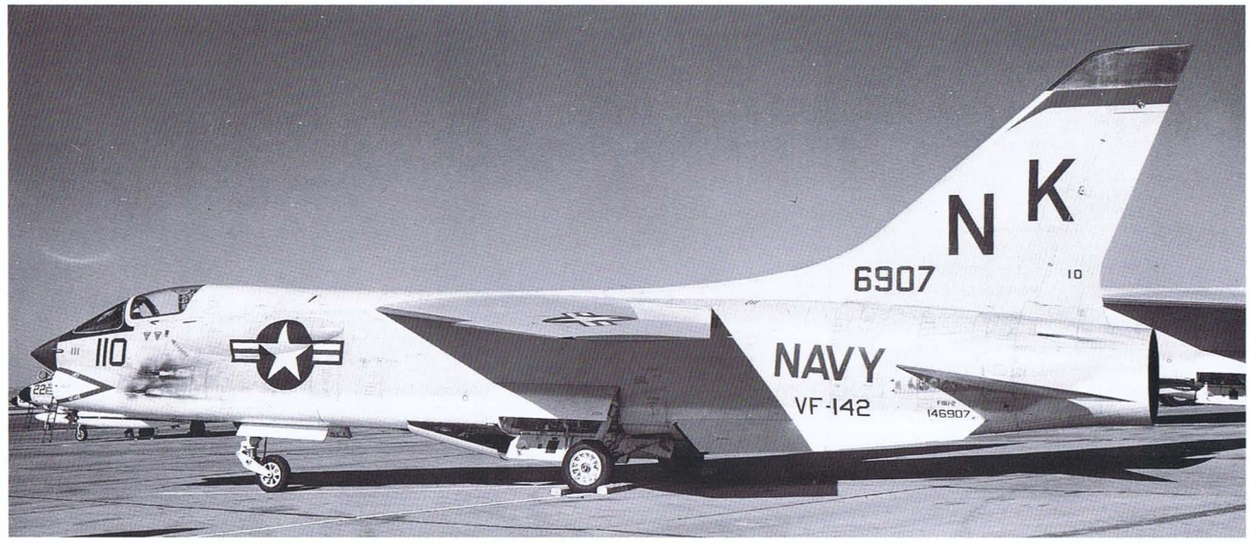
Force, U.S. Pacific Fleet; and Chief of Naval Air Training were delegated the authority to assign unit identifying characters for aircraft of wings, groups, squadrons and units of their commands in accordance with the following guidelines:

Unit identification characters were to consist of a combination of any two characters indicated in the table below.

COMMAND	FIRST CHARACTER	SECOND CHARACTER
COMAIRLANT	A through M	A through Z
COMAIRPAC	N through Z	A through Z
CNATR	2 through 9	A through Z

Expansion of the system, if necessary, was to be accomplished by assigning the numerals 2 through 9 as the second character in place of a letter.

It was directed that the letters I and O are too easily confused with the numerals one and zero and were not to be used.



Right: An F8U-2 of VF-142 at MCAS Yuma is depicted in December 1959 assigned to gunnery duties. The tail is color-coded Insignia Red as the senior squadron in the Air Group.
Bottom: In August 1959 the Blue Nemesis, VF(AW)-3, painted its F4D-1s with blue markings in keeping with its name. This is the second squadron to be identified as VF(AW)-3.

Those aircraft assigned to units other than those covered by the Visual Identification System codes were still to have the name of the station or unit to which they were assigned spelled out, as previously directed by MIL-I-18464B. The aircraft side numbers were to be assigned by the appropriate Air Force, Wing, Group or Squadron commanders.

Fighter squadrons were to be the low-numbered squadrons with the aircraft side numbers and identification colors as shown.

SQUADRON	SIDE NUMBER	SQUADRON COLOR
1st Squadron	101 - 102 etc.	Insignia Red
2nd Squadron	201 - 202 etc.	Orange Yellow
3rd Squadron	301 - 302 etc.	Light Blue
4th Squadron	401 - 402 etc.	International Orange
5th Squadron	501 - 502 etc.	Light Green
6th Squadron	601 - 602 etc.	Black

Combat squadrons, (other than those composing Groups and Task Groups), Development, Training and Utility squadrons were to have their individual aircraft number consist of one or two digits starting with the numeral 1.

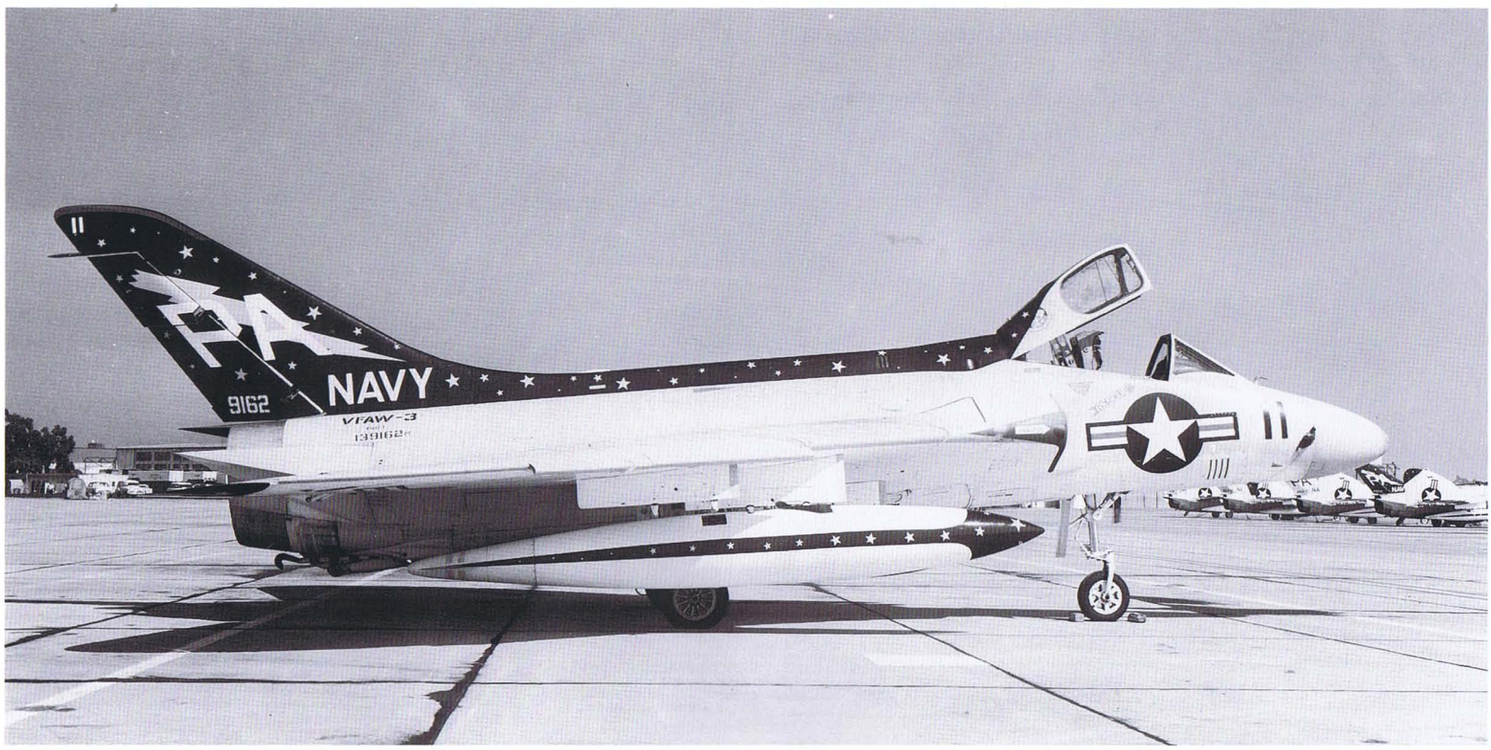
Squadrons and Units of the Naval Air Training Command were to be marked as directed by the Chief of Naval Air Training.

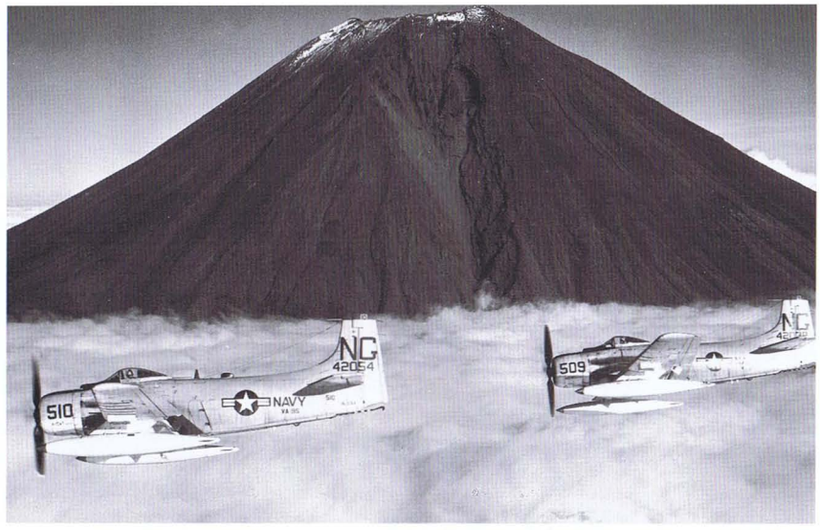
All other activities were to assign individual aircraft numbers using the last three digits of the Bureau Number.

The assignment of new unit identification characters under this directive was to be completed by June 1, 1957. It was recognized that during this transition period duplication of identification characters could occur, which was considered acceptable.

Although Air Task Groups had been in existence since ATG ONE was formed in 1951, it was not until this directive that Visual Identification Letters were specified. These units were now to be identified with the following letters.

ATG-1	U
ATG-2	W
ATG-3	Y





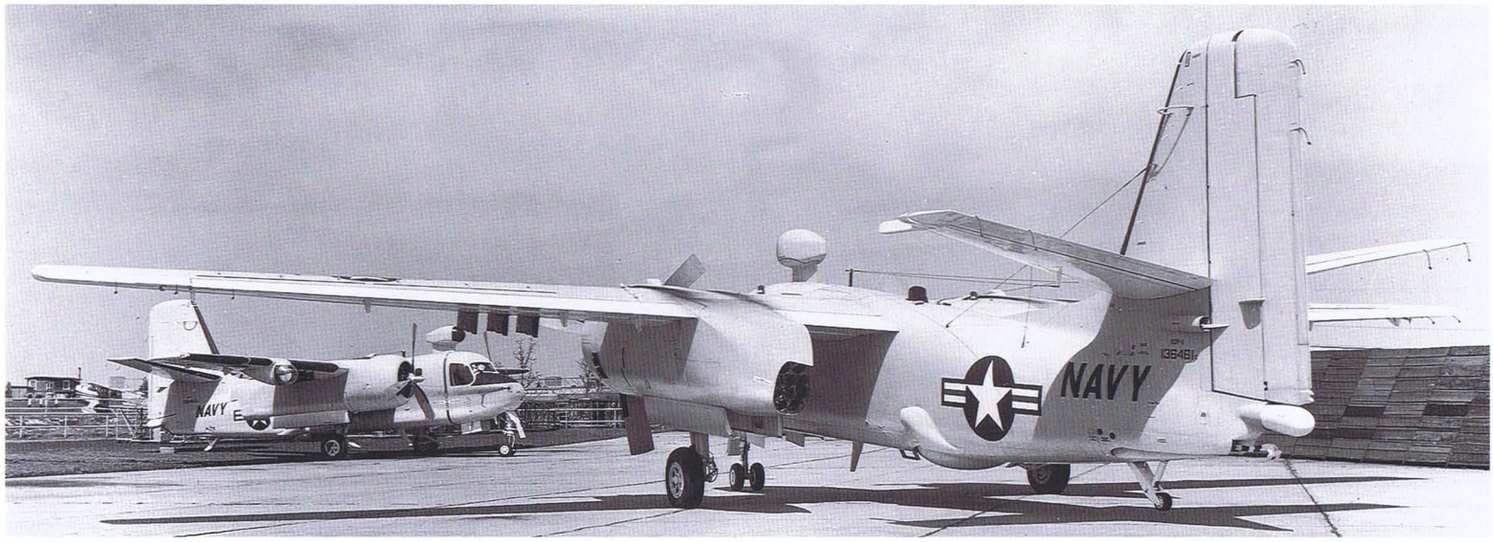
Left: VA-95 applied the last two digits of,the aircraft number to the tip of the vertical tail surfaces of its AD-6s for additional identification. **Bottom:** The white undersurface was to have just the national aircraft insignia and small maintenance instructions. The red, white and blue stripes at the wingtips and MARINES on the F4D-I of VMF-115 were in violation of this directive. **Right:** This Grumman S2F-I illustrates the markings required of the manufacturer prior to delivery to the Navy.

ATG-4	Z
ATG-181	I
ATG-182	O
ATG-201	J
ATG-202	X

While this instruction continued in force, the publication of the Assignment of Identification Letters to Naval Aircraft Units was now to be found in the Naval Aeronautical Organization OPNAV NOTICE 05400. The fiscal year 1957 issue showed that the following unit changes had taken place.

DESIGNATION CHANGES

VFP-61	(VC-61)	PP	July 2, 1956
VFP-62	(VC-62)	PL	July 2, 1956
VAW-11	(VC-11)	ND	July 2, 1956
VAW-12	(VC-12)	NE	July 2, 1956
VA(AW)-33	(VC-33)	SS	July 2, 1956
VA(AW)-35	(VC-35)	BR	July 1, 1956
VF(AW)-3	(VC-3)	NP	July 1956
VF(AW)-4	(VC-4)	NA	July 2, 1956
VAP-61	(VJ-61)	PB	1956
VAP-62	(VJ-62)	TP	July 22, 1956
VAH-2	(VP-29)	BF	November 1, 1955
VAH-4	(VP-57)	BI	July 3, 1956
VAH-5	(VC-5)	NB (BM)	November 1, 1955
VAH-6	(VC-6)	NF	July 1, 1955
VAH-7	(VC-7)	NH	November 1, 1955
VAH-9	(VC-9)	FG	November 1, 1955
VAH-11	(VC-8)	NC	November 1, 1955
VA(HM)-10	(VP-17)	BH	July 1, 1956
VA(HM)-13	(VP-24)	HA	July 1, 1956



VW-3	(VJ-1)	PM	December 15, 1954
VW-4	(VJ-2)	PN	December 15, 1954

ADDITIONS

HS-5	HY	January 1, 1956
HS-6	PF	March 21, 1956
HS-7	FS	April 2, 1956
HS-8	PG	June 1, 1956
HS-9	HJ	January 6, 1956
HU-912		November 1, 1955
VAH-3	EW	June 15, 1956
VU-7	UH	
VW-11	TJ	August 1955
VW-12	TR	July 2, 1956
VW-13	TK	September 1, 1955
VW-14	TS	August 1, 1956
VW-15	TL	October 1, 1955
VW-16	TT	September 1, 1956
ZW-1	ZP	January 3, 1956
GMGRU-1	DA	
GMGRU-2	DB	1955

DISESTABLISHED

HS-2	HV	June 1, 1956
VS-20	SV	June 1, 1956
VS-22	SL	June 1, 1956
VS-24	SI	June 1, 1956
VS-25	SK	June 1, 1956
VS-26	SH	May 28, 1956
VU-10	UL	February 10, 1956
VP-3	MB	November 1, 1955
VP-34	EC	June 15, 1956
FASRON 77	BL	

MARINE CORPS

Deactivated

H&MS-25	AX	January 31, 1956
H&MS-45	MK	August 15, 1955
#VMC-2	CM	December 1, 1955
#VMJ-2	MT	December 1, 1955
@VMC-3	TN	December 1, 1955
@VMJ-3	MU	December 1, 1955
VMTRG-10	WD	**
VMAT-10	SB	March 15, 1954
VMIT-21	HX	January 15, 1956

**Identification code assigned to individual squadrons within Replacement Training Group 10 after June 1956.

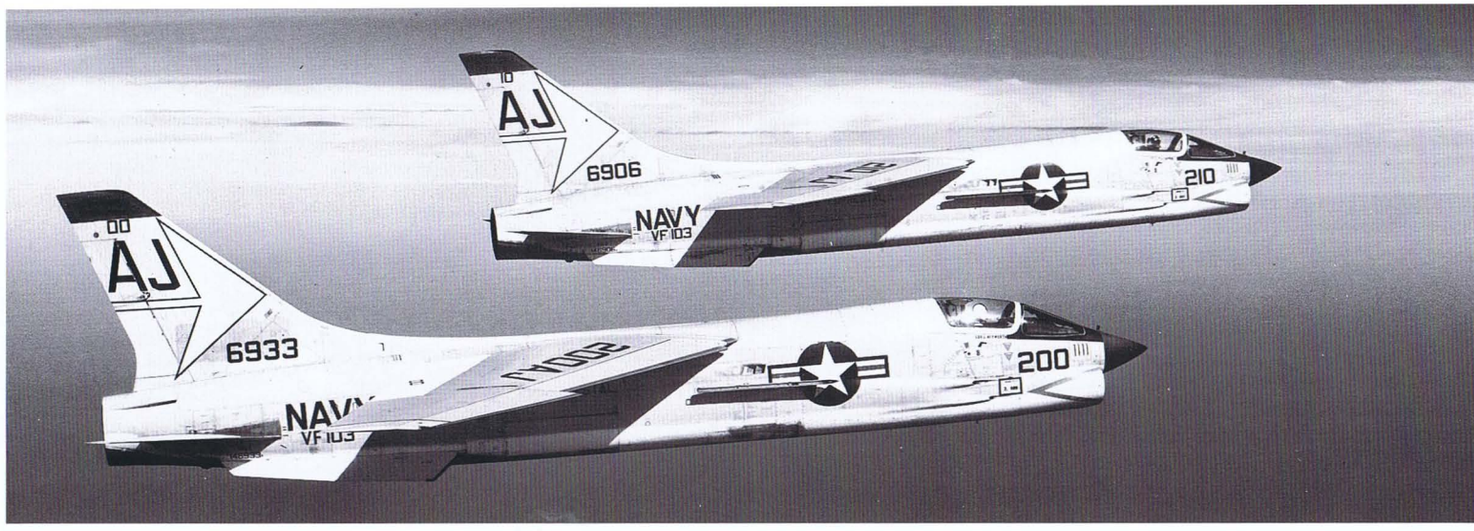
VMC-2 and VMJ-2 combined to form VMCJ-2

@ VMC-3 and VMJ-3 combined to form VMCJ-3

A note in MIL-I-18464(Aer), dated March 28, 1957, taking into consideration the changes in fuselage and tail configuration, stated that insofar as practicable, all letters and numerals were to be positioned on the fuselage and vertical tail surfaces so as to be perpendicular to the fuselage reference line.

Carrier Air Groups and Air Task Groups were invariably deployed aboard aircraft carriers with detachments of VAW, VA(AW), and VFP squadrons. In accordance with OPNAV INSTRUCTION 03561.2A, the aircraft assigned to these detachments were visually identified by one- or two-digit numbers, starting with the numeral 1. This quite often led to a duplication of aircraft side numbers aboard a given aircraft carrier. The general practice for a normal deployment was to renumber the detachment aircraft using three-digit numbers in the 700, 800, and 900 series. The short time normally involved for carrier qualification, shakedown, and training cruises precluded this renumbering of aircraft, creating a nuisance and resulting in confusion where duplication of side numbers existed. In order to eliminate the problems associated with the duplication of side numbers, it was recommended by Fleet units that the instructions be changed to provide for the permanent assignment of three-digit numbers in the 700, 800, and 900 series for the visual side numbers of aircraft assigned to VAW, VA(AW), and VFP squadrons.

In response to this Fleet request, OPNAV INSTRUCTION 0356.2A Change 1, dated May 20, 1957, was issued to standardize aircraft side numbers of certain composite squadrons in Air Force Atlantic Fleet and Air Force Pacific Fleet. Only aircraft assigned to carrier usage were affected



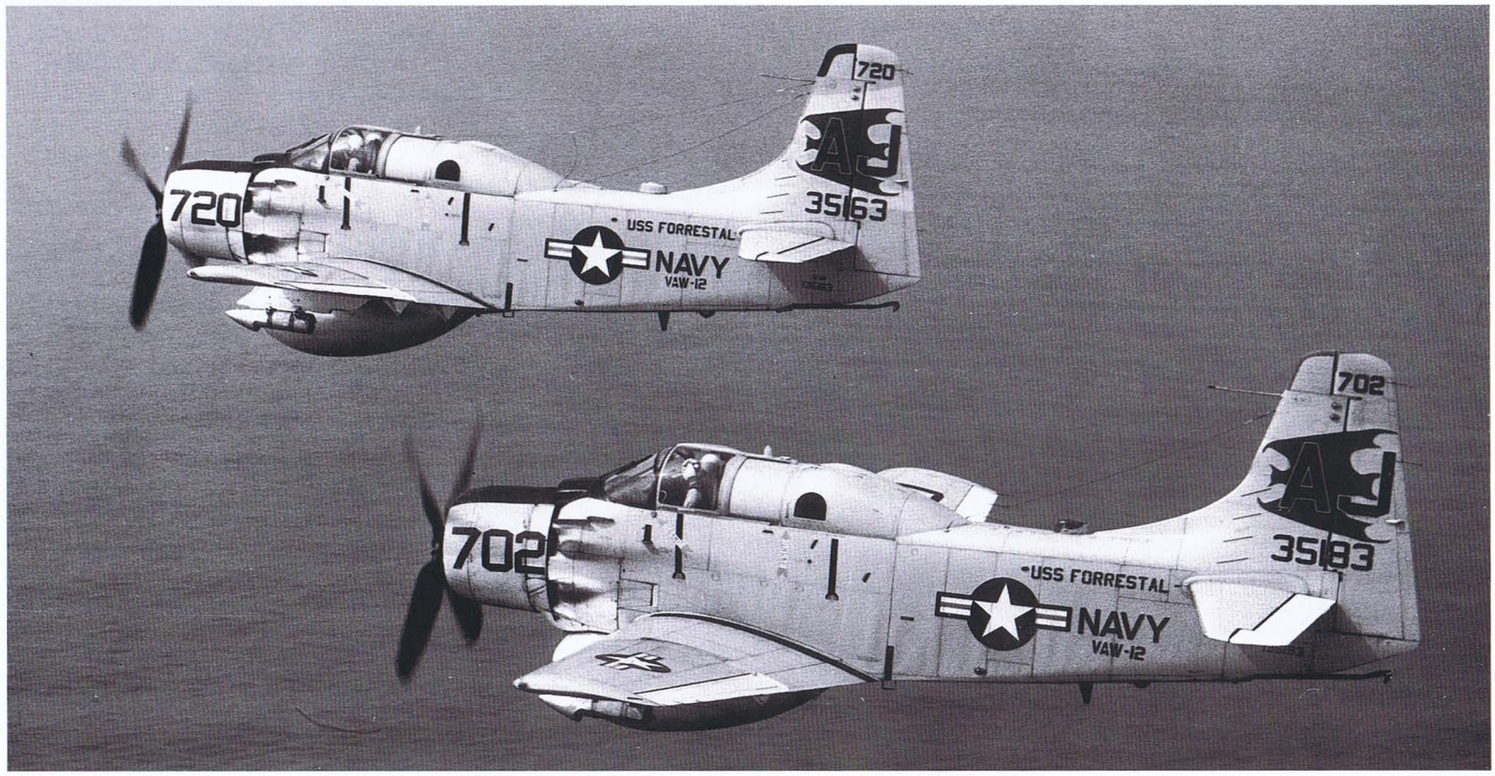
by this change. The new numbers and colors were.

SQUADRON	SIDE NUMBER	SQUADRON COLOR
1st Squadron	101 - 102 etc.	Insignia Red
2nd Squadron	201 - 202 etc.	Orange Yellow
3rd Squadron	301 - 302 etc.	Light Blue
4th Squadron	401 - 402 etc.	International Orange
5th Squadron	501 - 502 etc.	Light Green
6th Squadron	601 - 602 etc.	Black
Carrier Airborne Early Warning Squadron (VAW)	701 - 702 etc.	Maroon
Attack (All Weather) Squadron (VA(AW))	801 - 802 etc.	Maroon
Light Photographic Squadron (VFP)	901 - 902 etc.	Maroon

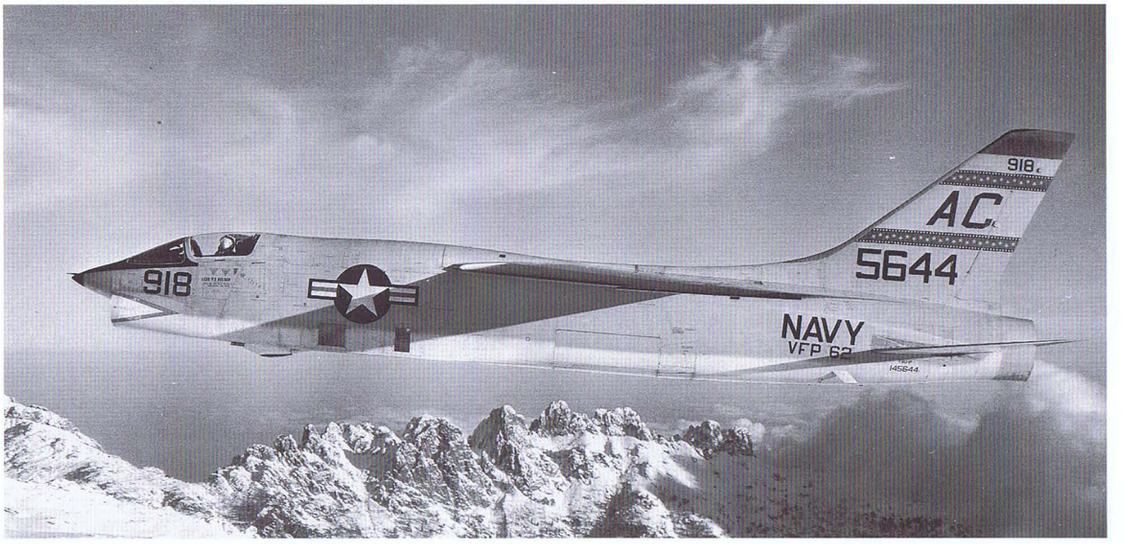
These last three categories would not have an entire squadron as part of the Air Group. Due to the nature of their missions, only a detachment would be deployed. The squadron colors specified above were to be applied as a 4 inch (10.16 cm) horizontal stripe on the vertical tail surfaces. In normal practice, this was applied to the tip of the surfaces.

COMAIRLANT INSTRUCTION 03561.8 dated May 29, 1957, assigned new unit identification characters to aircraft of wings, groups, squadrons and units under the control of Commander Air Force, U.S. Atlantic Fleet. In addition to the renumbering of VAW, VA(AW), and VFP aircraft directed by OPNAV INSTRUCTION 0356.2A Change 1, an undated Change 1 directed that within the Atlantic Fleet, Marine Corps Helicopter Transport Squadrons within the same group were to be identified by one- or two-digit numerals. These numbers were to run consecutively, starting with the numeral(s) 1, 20, 40 etc. Air Antisubmarine Squadrons (VS) and Helicopter Antisubmarine Squadrons (HS) were to be identified with side numbers from 1 to 49 for VS squadrons and from 50 to 99 for HS squadrons.

Amendment 1 to MIL-I-18464A(Aer), dated August 9, 1957, added markings for search and rescue helicopters. In addi-



Left: The 00 on the tip of the tail of the near F8U-2 indicates that this VF-103 Crusader is the Air Group Commander's aircraft. The arrowhead design is yellow outlined with black. **Left Bottom:** Carrier Airborne Early Warning Squadron 12 provided an AD-5W detachment to the USS Forrestal in 1959. As can be seen detachment aircraft were not necessarily numbered in sequence. **Right:** The markings used by VFP-62 were Purple atop the tail to go along with the 900 block of numbers for the composite squadron. **Bottom:** VF-21 was well known for the brilliant Yellow scheme on its FJ-3s. The red basket over the engine intake is to prevent foreign objects being ingested when the engine is being run- up for testing on the flight deck.



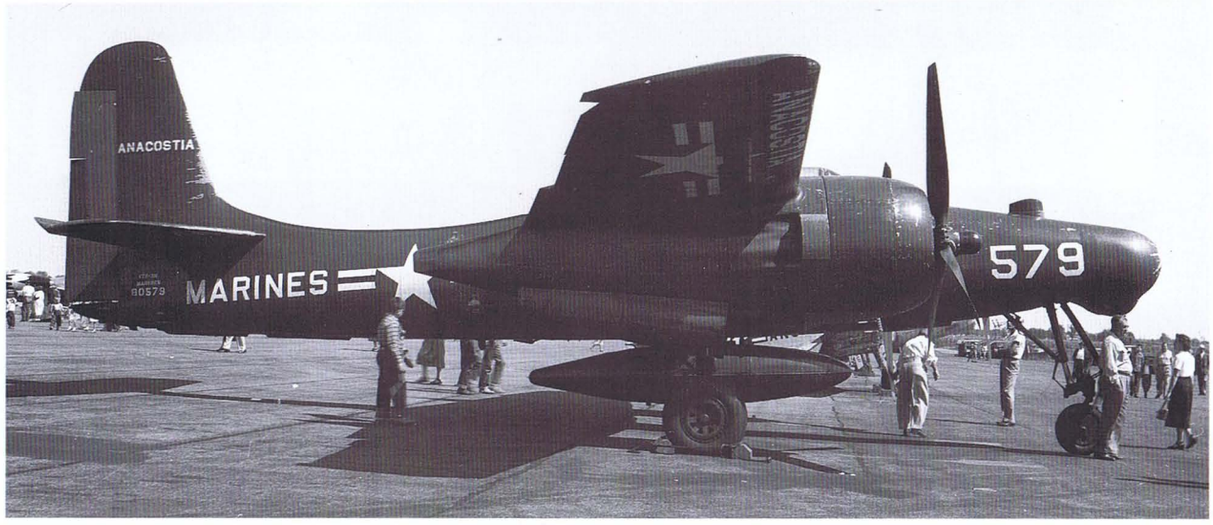
tion to the markings required by MIL-I-6143, the words ABANDON CHUTE were to be applied to the bottom of the fuselage of all search and rescue helicopters in an appropriate location so as to be readily visible from below. The letters were to be the largest size which could be accommodated on the helicopter, selected from the standard sizes of 12, 16, 20, 24, 30 and 36 inches (30.48, 40.64, 50.80, 60.96, 76.20, 91.44 cm).

The assignment of identification letters in the Naval Aeronautical Organization OPNAV NOTICE 05400 for fiscal year 1958 (July 1, 1957 to June 30, 1958) show practically a complete change in identification codes. It was not until the issuing of this directive that Carrier Air Groups, including the Air Task Groups, had two letter codes the same as squadrons. While not specifically stated, these changes should most likely have taken place on the first of July 1957. However, Enclosure 1 to COMAIRLANT INSTRUCTION 03561.8 dated May 29, 1957, and effective upon receipt, shows all of these two letter codes for Atlantic Fleet units including Marine Corps. When these two letter codes were assigned to the Carrier Air Groups, the codes beginning with the letter "A" were Atlantic Fleet units while those beginning with the letter "N" were Pacific Fleet units. Unfortunately as with all the previous systems this distinction was lost due to unit transfers. As always, there were numerous changes with new squadrons being formed, old ones being redesignated and/or being disestablished. These establishment and disestablishment dates are shown in column five, when known, for changes that took place since OPNAV INSTRUCTION 03561.2A of July 24, 1956.

The current identification codes are in column three, while the previous code is in column four and enclosed in parentheses. In the event of a change in squadron mission, the previous designation is in column two and is enclosed in parentheses.

CARRIER AIR GROUPS AND SQUADRONS

CVG-1	AB	(T)
CVG-2	NE	(M)

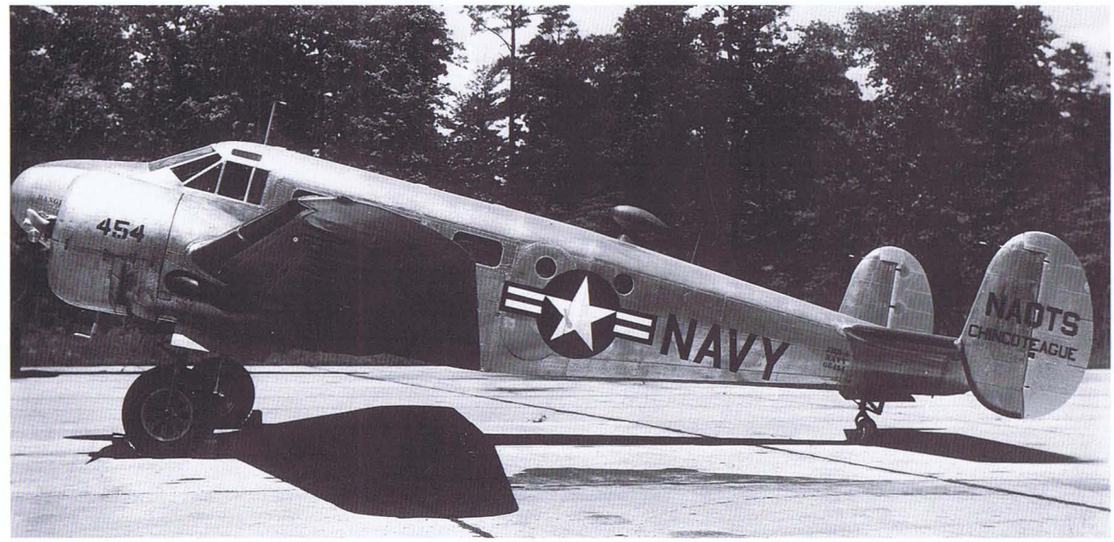


Left: In 1954 this Grumman F7F-3N was assigned to NAS Anacostia for use by Headquarters Marine Corps aviators in maintaining their flight proficiency. The placement of ANACOSTIA on the under surface of the right wing is most unusual.

CVG-3	AC	(K)	
CVG-4	AD	(F)	
CVG-5	NF	(S)	
CVG-6	AF	(C)	
CVG-7	AG	(L)	
CVG-8	AJ	(E)	
CVG-9	NG	(N)	
CVG-10		AK	(P)
CVG-11		NH	(V)
CVG-12		NJ	(D)
CVG-14		NK	(A)
CVG-15		NL	(H)
CVG-17		AL	(R)
CVG-19		NM	(B)
CVG-21		NP	(G)
ATG-1		NA	(U)
ATG-2		NB	(W)
ATG-3		NC	(Y)
ATG-4		ND	(Z)
ATG-181		AM	(I)
ATG-182		AN	(O)
ATG-201		AP	(J)
ATG-202		AQ	(X)
VF(AW)-3		TT	(NP)
VF(AW)-4		GC	(NA)
VFP-61		PP	(PP)
VFP-62		GA	(PL)
VAW-11		RR	(ND)
VAW-12		GE	(NE)
VA(AW)-33		GD	(SS)
VA(AW)-35		VV	(NR)
VAP-61		SS	(PB)
VAP-62		GB	(TP)
VAH-1		GH	(TB)
VAH-2		ZA	(BF)
VAH-3		GJ	(EW)
VAH-4		ZB	(BI)
VAH-5		GK	(NB)
VAH-6		ZC	(NF)
VAH-7		GL	(NH)
VAH-8		ZD	May 1, 1957
VAH-9		GM	(FG)
VAH-11		GN	(NC)
VAH-15		GP	January 15, 1958
VAH-16		ZH	January 15, 1958
VA(HM)-10		ZE	(BH)
VA(HM)-12		ZF	
VA(HM)-13		LR	(HA)
VS-21		YA	(BS)
VS-23		PF	(MI)
VS-27		MA	(SM)
VS-30		MB	(SW)
VS-31		MC	(SP)
VS-32		MD	(SR)
VS-36		ME	(SD)
VS-37		SU	(SU)
VS-38		ST	(ST)
VS-39		MF	(SN)

PATROL SQUADRONS

VP-1	YB	(CD)
VP-2	YC	(SB)
VP-4	YD	(SC)
VP-5	LA	(MC)
VP-6	PC	(BE)
VP-7	LB	(HE)
VP-8	LC	(HD)
VP-9	PD	(CB)
VP-10	LD	(HK)
VP-11	LE	(HB)
VP-16	LF	(HH)
VP-18	LG	(HF)
VP-19	PE	(CH)



Right: When Technical Note 8-50 was issued this JRB-4 at the Naval Aviation Ordnance Test Station, Chincoteague, Virginia was one of the first aircraft to be painted in accordance with the new directive. Painting the national aircraft insignia over the cabin door does not violate the directives as the door would never be opened in flight.

VP-21	LH	(HC)	
VP-22	QA	(CE)	
VP-23	LJ	(MA)	
VP-26	LK	(EB)	
VP-28	QC	(CF)	
VP-40	QE	(CA)	
VP-42	RB	(SA)	
VP-44	LM	(CC)	
VP-45	LN	(EE)	
VP-46	RC	(BD)	
VP-47	RD	(BA)	
VP-48	SF	(SF)	
VP-49	LP	(EA)	
VP-50	SG	(SE)	
VP-56	LQ	(EH)	

TRANSPORT, UTILITY AND MISCELLANEOUS SQUADRONS

VR-1	JK	(RP)	
VR-2	RA		
VR-3	RT		
VR-6	JR	(RU)	
VR-7	RN	(AS)	
VR-8	RH		
VR-21	RZ	(RZ)	
VR-22	JL	(RB)	
VR-23	RK	(RK)	
VR-24	JM	(RD)	
VR(F)-31 (VR-31)	JN	(RE)	July 15, 1957
VR(F)-32 (VR-32)	JP	(RF)	
ZP-2	KB	(ZL)	
ZP-3	KC	(ZC)	
ZW-1	KE	(ZP)	
VX-1	JA	(XA)	
VX-2	JB	(XB)	
VX-3	JC	(XC)	
VX-4	XF	(XF)	
VX-5	XE	(XE)	
VX-6	JD	(XD)	
HS-1	HA	(HL)	

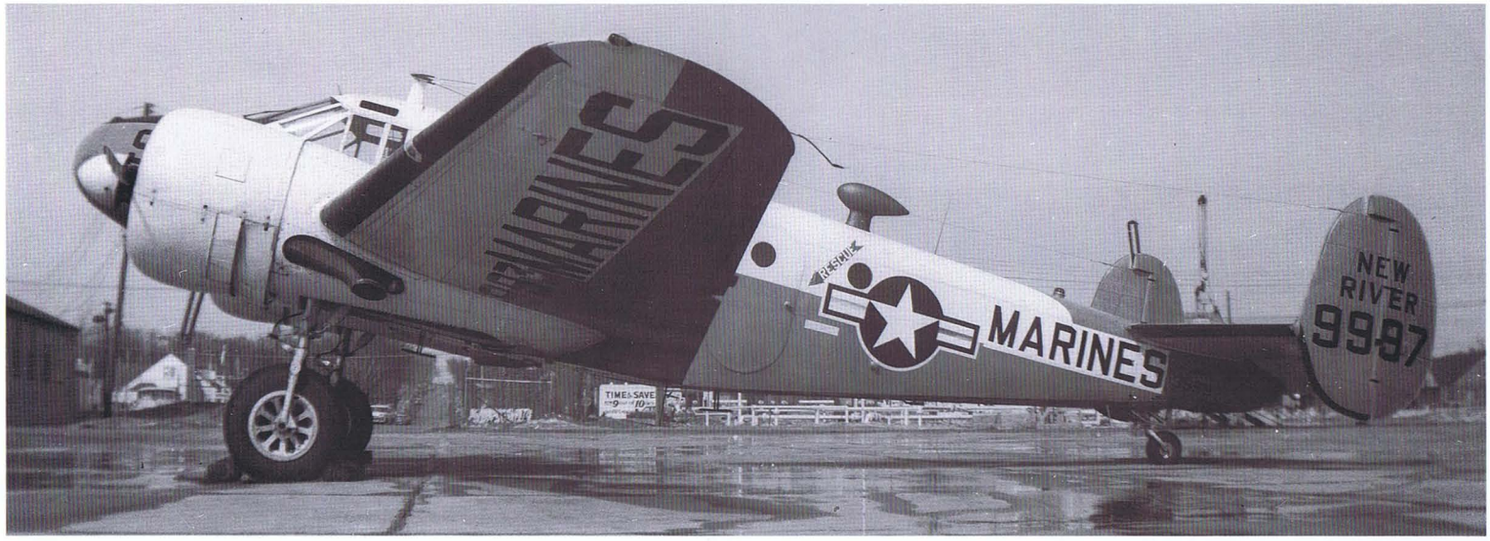
HS-2	SK	(HV)	
HS-3	HB	(HW)	
HS-4	TA	(VO)	
HS-5	HC	(HY)	January 1, 1956
HS-6	UB	(PF)	June 1, 1956
HS-7	HD	(FS)	
HS-8	VB	(PG)	
HS-9	HE	(HJ)	
HS-11	HF		April 27, 1957
HU-1	UP	(UP)	
HU-2	UH	(UR)	
VW-1	TE	(TE)	
VW-2	MG	(TF)	
VW-3	PM		
VW-4	MH	(PN)	
VW-11	MJ	(TJ)	
VW-12	SJ	(TR)	
VW-13	MK		June 3, 1958
VW-14	VA	(TS)	
VW-15	ML	(TL)	
VQ-1	PR	(PR)	
VQ-2	JQ	(PS)	
VU-1	UA	(UA)	
VU-2	JE	(TF)	
VU-3	UF	(UF)	
VU-4	JF	(UD)	
VU-5	UE	(UE)	
VU-6	JG	(UG)	
VU-7	UH	(UH)	
VU-10	JH	(UL)	
FASRON-2	FA		
FASRON-3	FB		
FASRON-5	FC		
FASRON-6	FD		
FASRON-9	FE		
FASRON-51	FG		
FASRON-102	FJ		
FASRON-104	FK		

Left: A JRB-4 assigned to MCAS El Toro, California is carrying a Brigadier General as indicated by the one star plaque on the engine nacelle. The placement of the aircraft number on the inboard surface of the vertical tail is unusual. **Bottom:** While attached to Air Task Group 201, the Top Hat Squadron VF-14 carried this scheme on its F3D-2 aircraft. **Right:** This JRB-6 assigned to MCAF New River, North Carolina, illustrates another variation to the high visibility scheme used to accommodate the local markings.

FASRON-105	FL		
FASRON-106	FM		
FASRON-107	FN		
FASRON-108	FP		
FASRON-109	FQ		
FASRON-111	FR		
FASRON-121	FS		
FASRON-200 (FASRON-76)	FT	(JM)	
FASRON-201	FU		
FAWTULANT	HG	(LA)	
FAWTUPAC	PA	(PA)	
FAETULANT	HJ	(FA)	
FAETUPAC	PB	(FP)	
FAGUPAC	TR		
AIRBARSRON-2	SH		
GMGRU-1	ZZ	(DA)	
GMGRU-2	GF	(DB)	
SWULANT	HL		
HATULANT (HATU)	HK	(AN)	August 1, 1957
HATUPAC	ZG		June 15, 1957

MARINE CORPS SQUADRONS

AIRFMFPAC	WZ	(WZ)	
H&HS LANT (AIRFMFLANT)	BZ	(LZ)	



MARS-17	SZ	(SZ)	
MARS-27	CZ	(LL)	
MARS-37	QF	(LU)	
H&MS-10	SE	(WD)	
H&MS-11	TM	(LM)	
H&MS-12	WA	(WA)	
H&MS-13	YU	(AU)	
H&MS-14	CN	(LN)	
H&MS-15	YV	(AV)	
H&MS-16	WW	(WW)	
H&MS-20	BT	(AT)	
H&MS-24	EW	(AW)	
H&MS-26	EL	(ML)	
H&MS-31	DV	(LV)	
H&MS-32	DA	(MV)	
H&MS-33	WM	(WM)	
H&MS-35	BM	(MM)	
H&MS-36	WX	(WX)	
HMR(L)-161 (HMR-161)	YR	(HR)	December 31, 1956
HMR(L)-162 (HMR-162)	YS	(HS)	December 31, 1956
HMR(L)-163 (HMR-163)	YP	(HP)	December 31, 1956
HMR(L)-261 (HMR-261)	EM	(HM)	December 31, 1956
HMR(L)-262 (HMR-262)	ET	(HT)	December 31, 1956
HMR(L)-263 (HMR-263)	EG	(IL)	December 31, 1956
HMR(L)-361 (HMR-361)	YN	(HN)	December 31, 1956
HMR(L)-362 (HMR-362)	YL	(HL)	December 31, 1956
HMR(L)-363 (HMR-363)	YZ	(HZ)	December 31, 1956
HMR(M)-461	CJ		January 12, 1957
HMR(M)-462	YF		November 3, 1957
HMX-1	XM	(XM)	
VMA-121	VK	(AK)	
VMA-211	CF	(AF)	
VMA-212	WD	(LD)	
VMA-214 (VMF(AW)-214)	WE	(WE)	July 9, 1957
VMA-223	WP	(WP)	
VMA-224	WK	(WL)	
VMA-225	CE	(WI)	
VMA-311 (VMF-311)	WL	(WL)	June 7, 1957
VMA-324	DX	(LX)	
VMA-331	DP	(MP)	
VMA-332	VL	(MR)	
VMA-533 (VMF-533)	ED	(AI)	
VMC-1	RM	(RM)	
VMJ-1	YW	(MW)	
VMCJ-2	CY		December 1, 1955
VMCJ-3	TN		December 1, 1955
VMF(AW)-114 (VMF(N)-114)	EK	(LK)	May 1, 1957
VMF(AW)-115 (VMF-115)	VE	(AE)	December 31, 1956
VMF-122	DC	(LC)	
VMF-232	WT	(WT)	
VMF-235	DB	(WU)	
VMF-251 (VMA-251)	DW	(AL)	April 20, 1957
VMF-312	DR	(WR)	
VMF(AW)-314	VW	(LW)	
VMF-323 (VMA-323)	WS	(WS)	December 31, 1956
VMF-333 (VMA-333)	DN	(MN)	January 28, 1957
VMF-334	WU	(MX)	
VMF-451	VM	(AM)	
VMF(AW)-513 (VMF(N)-513)	WF	(WF)	
VMF(AW)-531 (VMF(N)-531)	EC	(LT)	December 1, 1955
VMF(AW)-542	WH	(WH)	
VMFT-10	SA	(SA)	
VMFT(AW)-10	SC	(SC)	
VMIT-10	SD		
VMFT-20	BF	(LF)	
VMFT(AW)-20	BP	(LP)	
VMIT-20	BE	(LE)	
VMAT-20	BY	(LY)	
VMO-1	ER	(LR)	
VMO-2	VS	(LS)	
VMO-6	WB	(WB)	
VMR-152	WC	(WC)	
VMR-153	BC	(AC)	
VMR-252	BH	(LH)	

VMR-253	QD	(AD)
VMR-352	QB	(LB)
VMR-353	DZ	(MZ)

As always, there were numerous squadrons disestablished during this period which is shown in the following list with the effective dates.

DISESTABLISHED

FAWTUPAC	PA		March 14, 1958
FAWTULANT	HG		June 10, 1958
ATG-2	NB		April 1, 1958
ATG-3	NC		April 1, 1958
ATG-182	AN		March 15, 1958
ATG-202	AQ		March 15, 1958
VR-2	RA		June 5, 1958
VR-5	RS		July 15, 1957
VR-13	RT		
VR-16	RU		
VR-18	RH		
VR-23	RK		
VW-16	TT		December 1, 1957
VX-2	JB	(XB)	January 15, 1958
ZP-1	ZW		June 30, 1957
ZP-4	ZD		June 30, 1957
VW-13	TK		
HATULANT	HK		June 10, 1958
FASRON 101	FH		May 6, 1958

Naval Aeronautical Organization OPNAV NOTICE 05400 for fiscal year 1959 (July 1, 1958 to June 30, 1959) contained several additions. However, the greatest change was in the deletions and squadron changes. All weather fighter and attack configured aircraft were the norm and their special training squadrons were changed to regular fleet activities and assigned to various carrier air groups. With this change, they were dropped from the list of identification letters. Others, such as the Heavy Mining Attack Squadrons, became regular Patrol Squadrons. These changes, and others, are shown in the following tables. Dates for these changes are shown when known.

DISESTABLISHED/DEACTIVATED

CVG-17	AL	September 15, 1958
ATG-1	NA	February 23, 1959
ATG-4	ND	January 19, 1959
ATG-181	AM	August 15, 1958
ATG-201	AP	November 28, 1958
VAH-15	GP	February 15, 1959
VAH-16	ZH	January 30, 1959
FAETULANT	HJ	
FASRON 121	FS	March 21, 1959
SWULANT	HL	

MARINE CORPS
Deactivated

H&MS-10	SE	1958
H&MS-20	BT	June 28, 1958
VMR-152	WC	January 31, 1959
VMR-153	BC	May 20, 1959
HMR(M)-463	YG	June 30, 1959
VMFT-20	BF	June 30, 1958
VMFT(AW)-10	SC	July 1, 1958
VMF(AW)-20	BP	June 30, 1958
VMIT-20	BE	June 30, 1958
VMAT-20	BY	June 23, 1958
VMC-1	RM	July 31, 1958
VMJ-1	YW	July 31, 1958
VMFT-10	SA	July 1, 1958
VMIT-10	SD	July 1, 1958

CHANGE OF MISSION

GMGRU-2	GF to GMSRON-2	GF	July 1, 1958
FAWTUPAC	PA merged with VF(AW)-3 TT to become		
VF(AW)-3		PA	May 2, 1958
VA(AW)-35	VV to VA-122		June 29, 1959
HATUPAC	ZG to VAH-123		June 29, 1959

CHANGE OF CODE

VMA-331	DP to VL	1958
VMA-332	VL to EA	1958
HMX-1	XM to MX	1959

Left: Censors sometimes, through lack of knowledge, produce a bit of humor. The small VMF-311 has been carefully blocked out on these F9F-2Bs in Korea in 1953, yet the well known large tail codes were left. **Right:** Marine Corps Schools, Quantico was no longer assigned the identification letters EA. AES 12 flew a variety of aircraft besides this AD-5 and identified them with both the base and squadron designation. **Bottom:** This AU-I of AES-12 violates the restriction on markings on the white undersurface. Perhaps it was as a morale booster for the junior officers in training when these aircraft flew ordnance missions in support of the various officer training schools.

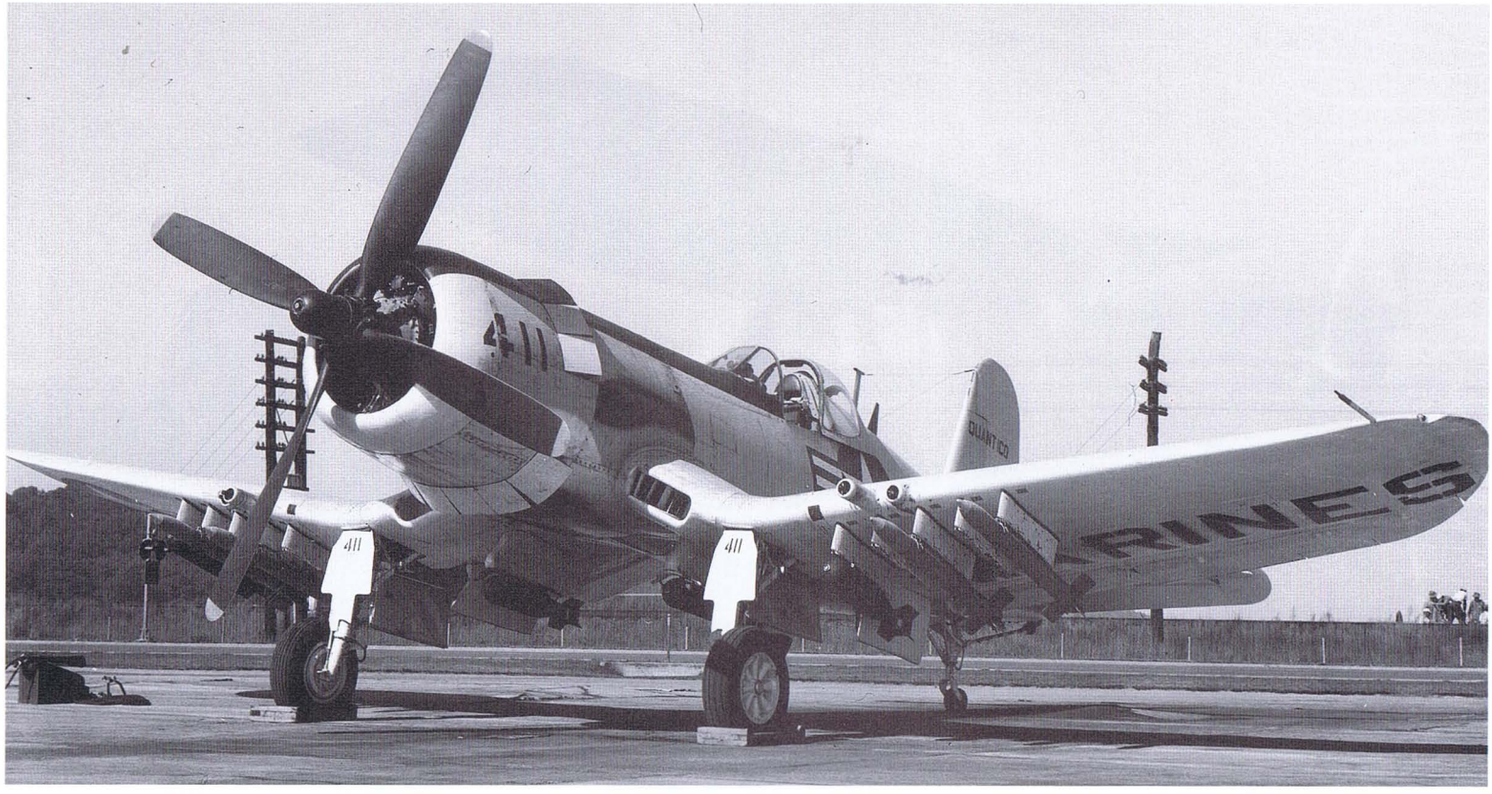
ESTABLISHED/ACTIVATED

VW-13	MK	September 1, 1959
HMR(L)-264	EH	June 30, 1959
HMR(M)-463	YG	September 1, 1958
VMT-1	BE	July 1, 1958
VMT-2	SD	July 1, 1958
(formed from VMFT-10 and VMIT-10)		
VMCJ-1	RM	July 31, 1958
(formed from VMC-1 and VMJ-1)		

Chief of Naval Operations letter Op-501C/pg dated November 18, 1958, eliminated the confusion of having to change visual identification letters when a squadron transferred from one Fleet to another. Reassignment of identification letters upon transfer meant a certain loss of tradition that had accrued after long and continuous association with the same identification letters. The system had undergone many changes, but the intent had been to provide permanent identification as the frequent transfer of squadrons had not been anticipated.

Until OPNAV INSTRUCTION 03561 was modified, Commander Naval Air Force, Pacific Fleet; Commander Naval Air Force, Atlantic Fleet, and Chief of Naval Air Training were requested to assure that assigned units retained their current visual identification. In the carrier air group reorganization, VAH squadrons were to retain their assigned letters for the present.

OPNAV INSTRUCTION 3561.2B, dated December 23, 1958, again specified that identification letters currently assigned would be retained permanently regardless of transfers of units between fleets. The authority to assign identification letters was now a prerogative of the Chief of Naval Operations (CNO). Reserve components activated and assigned to NAVAIRPAC or NAVAIRLANT would be assigned new identification letters by CNO in accordance with appropriate fleet designations. This eliminated a great deal of painting within squadrons as they moved from command to command, as

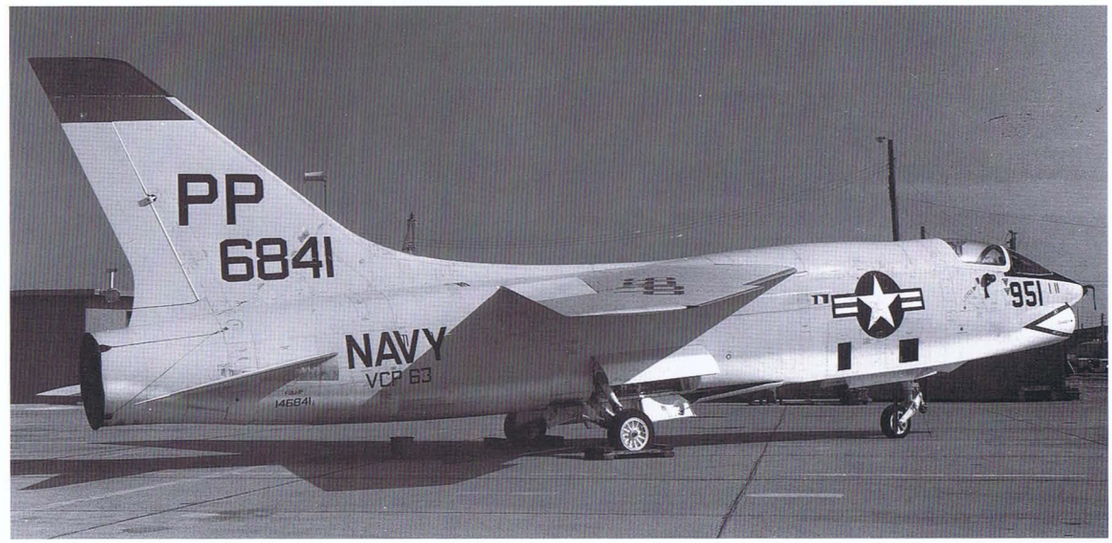


well as retaining a feeling of permanency with the identification letters akin to that of the unit designation. Upon a unit being established, the CNO establishing directive contains the identification letters assigned. Whenever a unit is disestablished, the identification letters revert to CNO for future use.

The assignment of identification letters as of July 1, 1959, in OPNAV NOTICE 05400, *Naval Aeronautical Organization Fiscal Year 1960* were:

CARRIER AIR GROUPS AND SQUADRONS

CVG-1	AB
CVG-2	NE
CVG-3	AC
CVG-4	AD
CVG-5	NF
CVG-6	AF
CVG-7	AG
CVG-8	AJ
CVG-9	NG
CVG-10	AK
CVG-11	NH
CVG-12	NJ
CVG-14	NK
CVG-15	NL
CVG-19	NM
CVG-21	NP
VF(AW)-3	PA
VFP-62	GA
VAW-11	RR

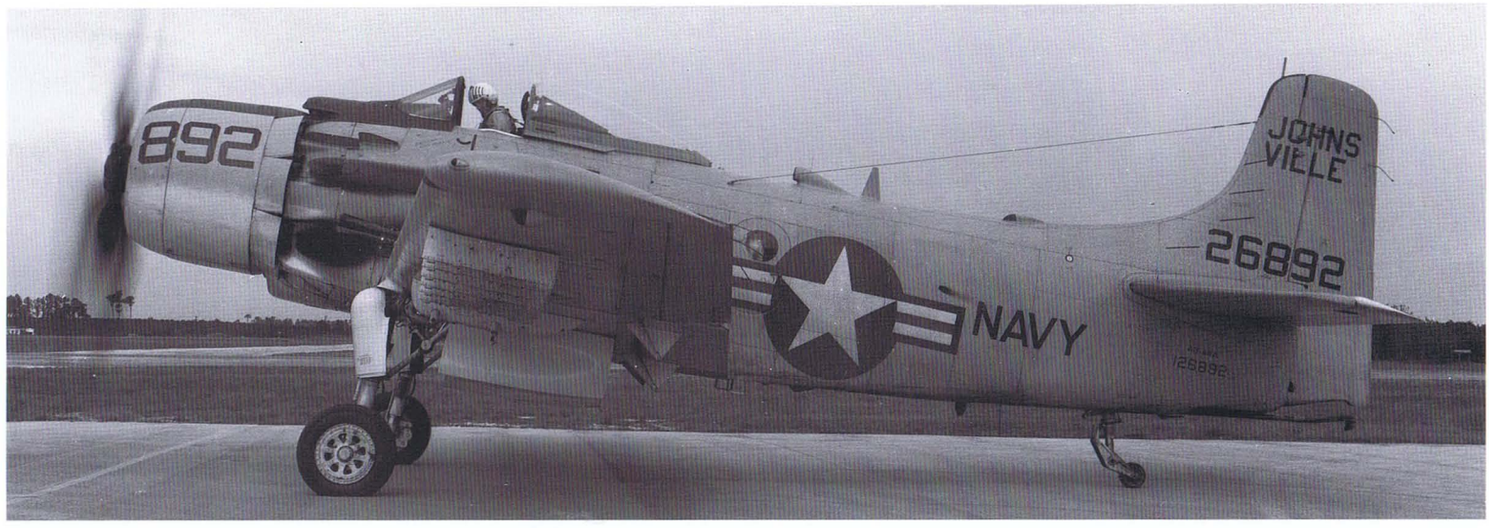


Left: A Cessna OE-2 of Marine Observation Squadron 2 (VMO-2) is shown in the land camouflage of Olive Drab on the uppersurfaces and Light Gull Gray on the undersurfaces. **Left Bottom:** A VMO-2 OE-1 painted in the overall Sea Blue scheme for observation aircraft. **Right:** F8U-1P of VCP-63 is identified by the Maroon stripe below the synthetic tail cap as the photographic detachment to the Carrier Air Group.

VAW-12	GE	
VAW-33 (VA(AW)-33)	GD (GD)	July 1, 1959
VAP-62	GB	
VAH-1	GH	
VAH-3	GJ	
VAH-4	ZB	
VAH-5	GK	
VAH-7	GL	
VAH-9	GM	
VAH-11	GN	
VAH-15	GP	
VAH-16	ZH	
VA(HM)-12	ZF	
VCP-61 (VAP-61)	SS (SS)	July 1, 1959
VCP-63 (VAFP-61)	PP (PP)	July 1, 1959
VS-21	YA	
VS-23	PF	
VS-27	MA	
VS-30	MB	
VS-31	MC	
VS-32	MD	
VS-36	ME	
VS-37	SU	
VS-38	ST	
VS-39	MF	
HS-1	HA	
HS-2	SK	
HS-3	HB	
HS-4	TA	
HS-5	HC	
HS-6	UB	
HS-7	HD	
HS-8	VB	
HS-9	HE	
HS-11	HF	

PATROL SQUADRONS

VP-1	YB	
VP-2	YC	
VP-4	YD	
VP-5	LA	
VP-6	PC	
VP-7	LB	
VP-8	LC	
VP-9	PD	
VP-10	LD	
VP-11	LE	
VP-16	LF	
VP-17 (VA(HM)-10)	ZE (ZE)	July 1, 1959
VP-18	LG	
VP-19	PE	
VP-21	LH	
VP-22	QA	
VP-23	LJ	
VP-24 (VA(HM)-13)	LR (LR)	July 1, 1959
VP-26	LK	
VP-28	QC	
VP-40	QE	
VP-42	RB	
VP-44	LM	
VP-45	LN	
VP-46	RC	
VP-47	RD	
VP-48	SF	
VP-49	LP	
VP-50	SG	
VP-56	LQ	



TRANSPORT, UTILITY AND MISCELLANEOUS SQUADRONS

VW-1	TE
VW-2	MG
VW-3	PM
VW-4	MH
VW-11	MJ
VW-12	SJ
VW-13	MK
VW-14	VA
VW-15	ML
VR-1	JK
VR-21	RZ
VR-24	JM
VRF-31	JN
VRF-32	JP
VQ-1	PR
VQ-2	JQ
VU-1	UA
VU-2	JE
VU-3	UF
VU-4	JF
VU-5	UE
VU-6	JG
VU-7	UH
VU-10	JH
VX-1	JA
VX-3	JC
VX-4	XF
VX-5	XE
VX-6	JD
ZP-2	KB
ZP-3	KC
ZW-1	KE
AIRBARSON-2	SH
GMGRU-1	ZZ
GMSRON-2	GF
FAGUPAC	TR
FASRON-3	FB
FASRON-5	FC
FASRON-9	FE
FASRON-51	FG
FASRON-102	FJ
FASRON-104	FK
FASRON-105	FL
FASRON-106	FM
FASRON-107	FN
FASRON-108	FP
FASRON-111	FR
FASRON-200	FT

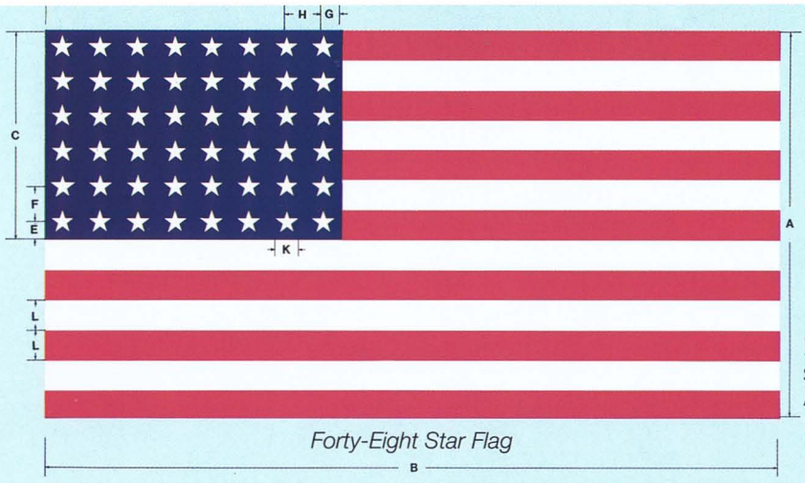
FLEET MARINE FORCE AND SUPPORT UNITS

AIRFMFPAC	WZ
H&HS LANT	BZ
H&MS-11	TM
H&MS-12	WA
H&MS-13	YU
H&MS-14	CN
H&MS-15	YV
H&MS-16	WW
H&MS-24	EW
H&MS-26	EL
H&MS-31	DV
H&MS-32	DA
H&MS-33	WM
H&MS-35	BM
H&MS-36	WX

VMF-122	DC
VMF-232	WT
VMF-235	DB
VMF-251	DW
VMF-312	DR
VMF-323	WS
VMF-333	DN
VMF-334	WU
VMF-451	VM
VMF(AW)-114	EK
VMF(AW)-115	VE
VMF(AW)-314	VW
VMF(AW)-513	WF
VMF(AW)-531	EC
VMF(AW)-542	WH
VMA-121	VK
VMA-211	CF
VMA-212	WD
VMA-214	WE
VMA-223	WP
VMA-224	WK
VMA-225	CE
VMA-311	WL
VMA-324	DX
VMA-331	VL
VMA-332	EA
VMA-533	ED
MARS-17	SZ
MARS-27	CZ
MARS-37	QF
VMO-1	ER
VMO-2	VS
VMO-6	WB

Left Above: This Douglas AD-4NA was used in a test program. Notice that the base name is divided without the use of a hyphen. The same form should be used on the upper and lower wing surfaces.Since there were few aircraft assigned, it was more practical to use the last three digits of the bureau number as the aircraft number than a sequential number. **Above:** Unlike its Navy counterpart, the red on the wing tips and tail had no significance as to the squadron seniority but was purely decorative on the Douglas AD-6 of VMA-324.

VMCJ-1	RM
VMCJ-2	CY
VMCJ-3	TN
VMR-252	BH
VMR-253	QD
VMR-352	QB
VMR-353	DZ
HMR(L)-161	YR
HMR(L)-162	YS
HMR(L)-163	YP
HMR(L)-261	EM
HMR(L)-262	ET
HMR(L)-263	EG
HMR(L)-264	EH
HMR(L)-361	YN
HMR(L)-362	YL
HMR(L)-363	YZ
HMR(M)-461	CJ
HMR(M)-462	YF
HMX-1	MX
VMT-1	BE
VMT-2	SD



Forty-Eight Star Flag

Left: The forty-eight star flag had been in use since 1912 when the states of New Mexico and Arizona were admitted to the Union.

At the beginning of the new 1960 fiscal year there were the expected changes in unit designations.

DELETIONS

HATUPAC	ZG	July 1, 1959
VAH-2	ZA	July 1, 1959
VAH-6	ZC	July 1, 1959
VAH-8	ZD	July 1, 1959
VF(AW)-4	GC	July 1, 1959
FAETUPAC	PB	July 1, 1959
FASRON 2	FA	July 1, 1959
FASRON 6	FD	July 1, 1959
FASRON 109	FQ	July 1, 1959
FASRON 201	FU	July 1, 1959

MARINE CORPS

Deactivated

VMR-153	BC
HMR(M)-463	YG

ESTABLISHED

VAW-13	VR	September 1, 1959

TRAINING COMMAND ACTIVITIES

Chief of Naval Air Training letter NAT/F39 Serial 7128 dated August 9, 1950, to all Training Command activities, directed that all previous CNATRA directives relative to marking of aircraft within the Naval Air Training Command were canceled and superseded. Aircraft Circular Letter No. 43-50 had established the current identification system for all Navy and Marine Corps aircraft. As in the past, the various components of the Training Command were given the authority to assign identification letters and numbers.

Chief of Naval Air Technical Training letter NM58-3/F39 Serial 3534 dated August 30, 1950, in accordance with CNATRA letter dated August 9, 1950, directed that all previous CNATechTra directives relating to marking aircraft were canceled. Effective on or about October 1, 1950, aircraft of the Naval Air Technical Training Command were to be marked as follows:

Memphis Transportation Pool

Type Aircraft	Marking
R4D-5	MEMPHIS 094
R4D-5R	MEMPHIS 412
JRB	MEMPHIS 100 and 677

NAS Memphis

Type Aircraft	Marking
F6F-5	MU 200 - 225
R4D-*E	MU 236 - 240
SNB-*E	MU 241 - 261
SNB/JRB	MU 262 - 270
SNJ	MU 271 - 295

NATechTraUnit Pensacola

Type Aircraft	Marking
F8F-2P	PT 300 - 315
SNB-*P	PT 316 - 331
SNJ	PT 332 - 349

NATechTraUnit Lakehurst

Type Aircraft	Marking
R4D-7	LK 350 - 352

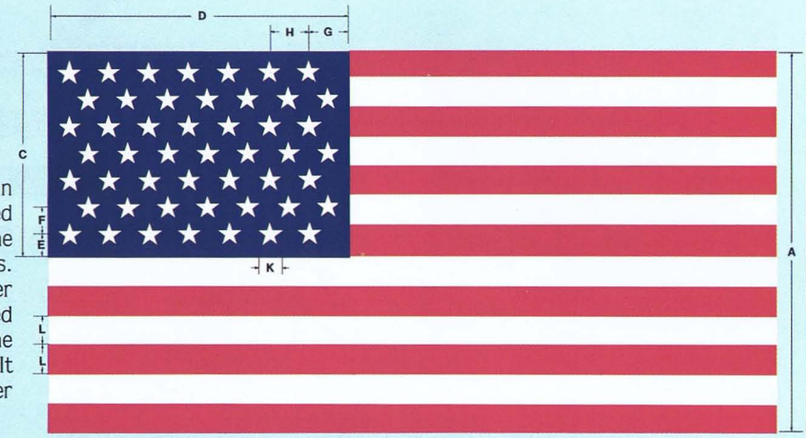
NATechTraUnit Olathe

Type Aircraft	Marking
SNB/JRB	KT 360 - 399

NATechTraUnit Glenview

Type Aircraft	Marking
F8F	VW 400 - 420
F6F	VW 421 - 442
SNB	VW 450 - 470

The introduction of Alaska on January 3, 1959, as the forty-ninth state in the Union required the American flag to be redesigned. It should be noted that the blue field is still the width of four red stripes in height, but the width has been adjusted to accommodate the new arrangement of stars. This design of the American flag was applied to ALUSNA, and selected other aircraft, for only eight months. On August 21, 1959, Hawaii was admitted as the fiftieth state and once again the arrangement of the stars upon the blue field was adjusted requiring the width of the field to change again. It remained four red stripes width in height. The basic hoist to fly ratio never changed as the basis for all dimensions of the flag.



Forty-Nine Star Flag

NATechTraUnit El Centro

Type Aircraft	Marking
SNJ	EL 480 - 490

*Denotes more than one modification number.

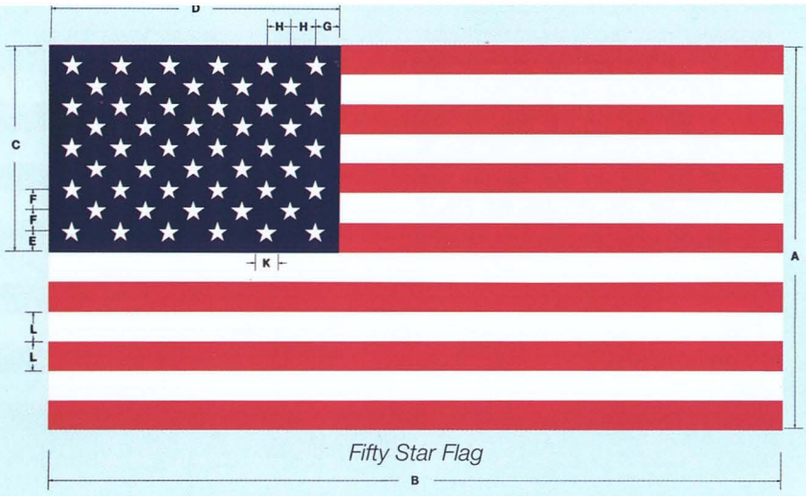
The Chief of Naval Air Basic Training (CNABT) Order No. 70-50 (Revised), dated August 31, 1950, canceled the previous directives and established the following system of designating letters and blocks of numbers for aircraft in the Basic Training Command.

Unit	Station Designator	Unit Designator	Unit Aircraft Number
		NAS Pensacola	
NATTU	P	P	1 through total on board
IBTU	P	A	1 through total on board
VU	PENSACOLA		Last three digits of the Bureau Number
		NAAS Whiting	
JTU	W	A	1 through total on board
BTU-1	W	B	1 through total on board
VU	WHITING		Last three digits of the Bureau Number
		NAAS Saufley	
BTU-3	S	B	1 through total on board
VU	SAUFLEY		Last three digits of the Bureau Number
		NAAS Corry	
BTU-2	C	A	1 through total on board
CQTU-4	C	B	1 through total on board
VU (Transport)	PENSACOLA		Last three digits of the Bureau Number
VU(SNJ)	CORRY		Last three digits of the Bureau Number

STANDARD DIMENSIONS FOR THE UNITED STATES FLAG

A		B		C		D		E		F		G		H		K		L	
Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric	Ft & In	Metric
48 STAR FLAG																			
5' 0"	152.40 cm	9' 6"	289.56 cm	2' 8 5/16"	82.07 cm	3' 9 5/8"	115.88 cm	2 15/16"	7.46 cm	5 3/8"	13.65 cm	2 7/8"	7.30 cm	5 3/4"	14.60 cm	3 13/64"	9.68 cm	4 5/8"	11.74 cm
3' 6 1/4"	107.32 cm	6' 8 1/4"	203.83 cm	1' 10 3/4"	52.70 cm	2' 8"	81.28 cm	1 7/8"	4.76 cm	3 13/64"	9.68 cm	2"	5.08 cm	4"	10.16 cm	2 5/8"	6.66 cm	3 1/4"	8.25 cm
2' 11"	88.90 cm	5' 6 1/8"	167.95 cm	1' 6 3/4"	47.62 cm	2' 2 7/16"	67.15 cm	1 9/16"	3.96 cm	3 1/8"	7.93 cm	1 5/8"	4.12 cm	3 15/16"	8.41 cm	2"	5.08 cm	2 11/16"	6.82 cm
49 STAR FLAG																			
5' 0"	152.40 cm	9' 6"	289.56 cm	2' 8 5/16"	82.07 cm	3' 9 5/8"	115.88 cm	3 3/8"	8.57 cm	4 1/4"	10.79 cm	3 15/16"	8.41 cm	3"	7.62 cm	3 13/16"	9.68 cm	4 5/8"	11.74 cm
3' 6 1/4"	107.32 cm	6' 8 1/4"	203.83 cm	1' 10 3/4"	52.70 cm	2' 8"	81.28 cm	2 3/8"	6.03 cm	3"	7.62 cm	2 3/16"	5.55 cm	2 1/8"	5.40 cm	2 5/8"	6.66 cm	3 1/4"	8.25 cm
2' 11"	88.90 cm	5' 6 1/8"	167.95 cm	1' 6 3/4"	47.62 cm	2' 2 7/16"	67.15 cm	1 7/8"	4.76 cm	2 1/2"	6.35 cm	1 13/16"	4.60 cm	1 3/4"	4.44 cm	2"	5.08 cm	2 11/16"	6.82 cm
50 STAR FLAG																			
5' 0"	152.40 cm	9' 6"	289.56 cm	2' 8 1/4"	81.91 cm	3' 9 5/8"	115.88 cm	3 7/32"	8.17 cm	3 7/32"	8.17 cm	3 51/64"	9.64 cm	3 51/64"	9.64 cm	3 23/32"	9.44 cm	4 5/8"	11.70 cm
3' 6"	106.68 cm	6' 7 3/4"	202.56 cm	1' 10 9/16"	57.30 cm	2' 7 15/16"	81.12 cm	2 1/4"	5.71 cm	2 1/4"	5.71 cm	2 21/32"	6.74 cm	2 21/32"	6.74 cm	2 41/64"	6.70 cm	3 1/4"	8.21 cm
2' 4 7/16"	72.23 cm	4' 6"	137.16 cm	1' 3 23/64"	39.01 cm	1' 9 19/32"	54.84 cm	1 17/32"	3.88 cm	1 17/32"	3.88 cm	1 51/64"	4.56 cm	1 51/64"	4.56 cm	1 3/4"	2.54 cm	2 3/16"	5.55 cm

NOTE: Some of the fractions have been rounded off to a more commonly used dimension



Left: The fifty star flag did not come into official use until July 4, 1960, but is shown here with the other two for continuity purposes.

Aircraft were to be marked in accordance with SR-2g with Amendment 1. The various markings were to be applied as follows:

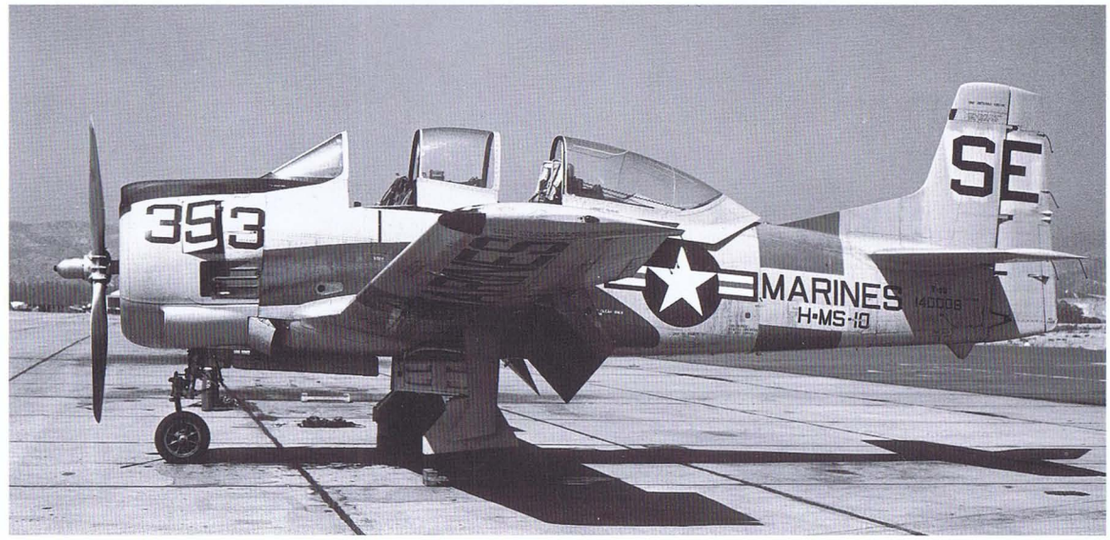
Location	Marking	Size
Nose Cowl(Front)	Unit Aircraft Number	6 inches (15.24 cm)
Fuselage Side	Unit Aircraft Number	18 inches (45.72 cm)
	NAVY	18 inches (45.72 cm)
Tail	Station Unit Designator (e.g. CA, WB, etc.)	18 inches (45.72 cm)
Right Wing (Upper surface)	Unit Aircraft Number	24 inches (60.96 cm)
	Station Unit Designator	24 inches (60.96 cm)
Right Wing (Lower surface)	Station Unit Designator	18 inches (45.72 cm)
Left Wing (Lower surface)	Unit Aircraft Number	18 inches (45.72 cm)
	NAVY	24 inches (60.96 cm)

Below: The unusual configuration of the F7U-3M Cutlass resulted in this placement of the identification markings. No longer operational, it is being held for use by the Overhaul and Repair Departments. Tail markings are white stars on a dark blue background outlined in red.

The optional Light Green stripes for Instrument Aircraft were not to be applied to any aircraft of the Basic Training Command. These markings were to be accomplished with a minimum of interference to the training program, but was to be completed prior to January 1, 1951.

On September 15, 1950, CNABT Order No. 70-50 (Revised) was again revised. The identification letters for NATTU at NAS Pensacola were now to be assigned by the Chief Naval Air Technical Training. NAVY was reduced to 12 inches (30.48 cm) on the fuselage of all aircraft.

The Chief of Naval Air Advanced Training Command on September 27, 1950, issued CNAAT Order No. 61-50 assigning the following identification letters and numbers for aircraft within the command.



Right: The Light Green stripes on the T-28B of Headquarters and Maintenance Squadron 10 identifies it as an instrument trainer. This squadron was a component of Marine Aircraft Group 10 at MCAS El Toro which was a training rather than a tactical group.

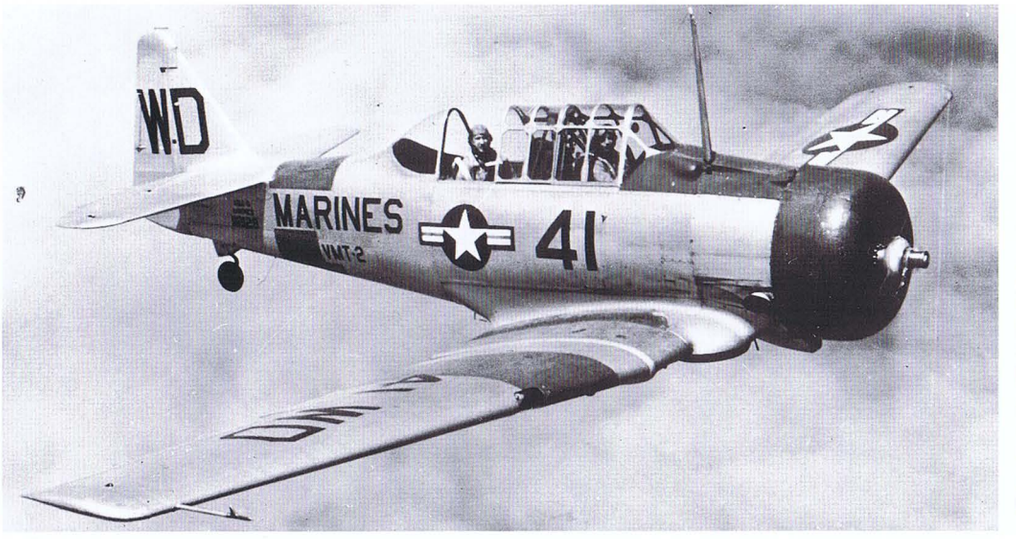
Unit	Station Designator	Unit Designator	Unit Aircraft Number
		NAS Corpus Christi	
ATU-10	C	A	101 - 200
ATU-12	C	B	201 - 300
NSAWF	C	C	Last three digits of the Bureau Number

The optional Light Green stripes for instrument aircraft were to be applied to all aircraft assigned to the Naval School, All Weather Flight.

NAS	NAS Corpus Christi	Last three digits of the Bureau Number

Unit	Station Designator	Unit Designator	Unit Aircraft Number
		NAS Cabaniss Field	
ATU-1	M	A	101 - 200
ATU-2	M	B	201 - 300
ATU-4	M	C	401 - 500
ATU-5	M	D	501 - 600
NAAS	NAAS CABANISS		Last three digits of the Bureau Number

Below: A North American T-28B of Advanced Training Unit 800 is painted as an instrument trainer.



Left: The Light Green stripes around the wings, belly band and engine cowl of this SNJ-6 identify it as an instrument trainer of VMT-2 and warns other aircraft to keep clear. This MCAS El Toro-based squadron provided refresher and transition training for West Coast Marine aviators.
Bottom: A R4D-8 used by MCAS Cherry Point for instrument training. Notice that the lower portion of the fuselage is painted Light Gull Gray in lieu of a bare metal finish.

This order also specified the size and location for the identification letters and the unit aircraft numbers.

Location	Marking	Size
Nose cowl (Front) (Optional)	Unit Aircraft Number	6 inches (15.24 cm)
Landing Gear Faring (Optional)	Unit Aircraft Number	6 inches (15.24 cm)
Fuselage (Front, side view)	Unit Aircraft Number	18 inches (45.72 cm)
Fuselage	NAVY	18 inches (45.72 cm)
Fuselage Side (Centered under NAVY)	Unit Designation (e.g. ATU-1 etc.)	9 inches (22.86 cm)
Tail	Station Unit Designator (e.g. MA, CB etc.)	18 inches (45.72 cm)
Right Wing (Upper surface)	Unit Aircraft Number	24 inches (60.96 cm)
	Station Unit Designator	24 inches (60.96 cm)
Right Wing (Lower surface)	Station Unit Designator	18 inches (45.72 cm)
Left Wing (Lower surface)	NAVY	24 inches (60.96 cm)
	Unit Aircraft Number	18 inches (45.72 cm)

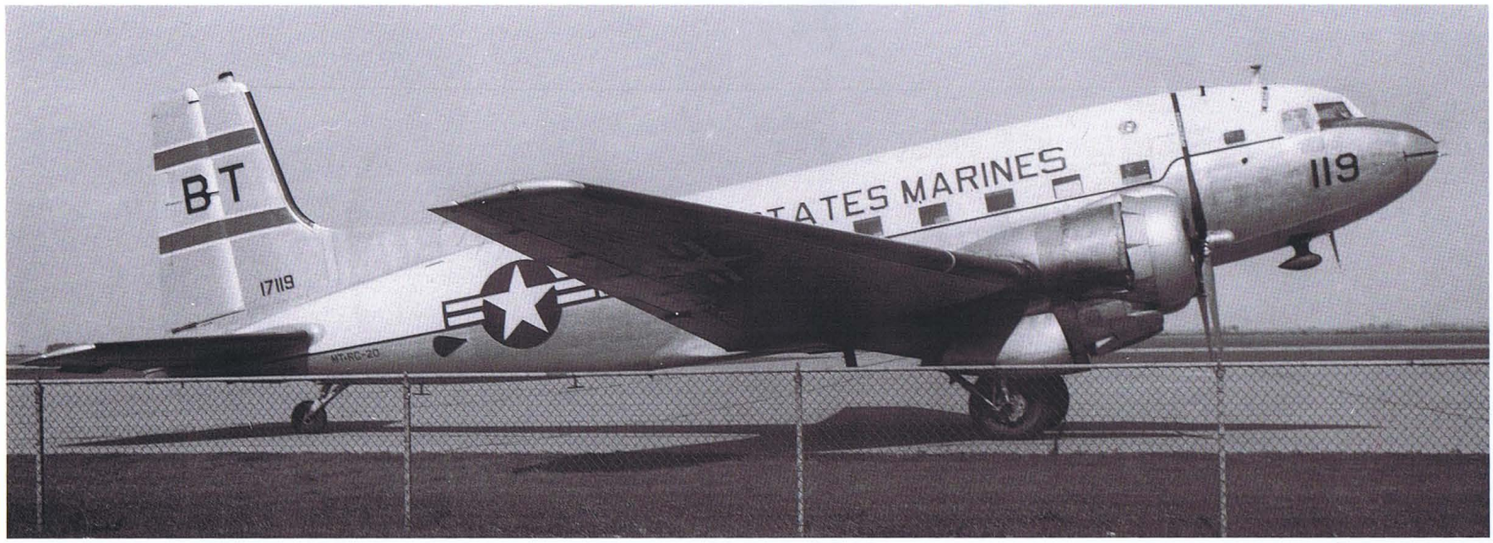
Search and Rescue Helicopters within the Training Command were to be painted in accordance with the instructions in AN-I-38a. All other aircraft assigned to units for search and rescue operations were to be painted and operated as other aircraft assigned to the units concerned.

The entire fuselage was to be painted Orange Yellow with the word "RESCUE" in Black at the widest part of the fuselage (aft of the enclosure) and on the bottom of the fuselage, using vertical block letters as large as the space would permit. All other markings for helicopters were also to be applied. These markings were to be accomplished with a minimum of interference to the training program, but completed prior to January 1, 1951.

On November 18, 1950, CNATechTra issued a letter NM58-3/F39 Serial 4467 which added these markings for aircraft assigned to NATechTraUnit Glenview.

TBM-3W	VW	500 - 510
FH-1	VW	511 - 530
F2H-1	VW	531 - 551

On February 7, 1951, the Chief of Naval Air Basic Training (CNABT) issued Order No. 70-51 which made some slight changes in aircraft markings within the command. At NAAS Whiting, BTU-1 was to be known as BTU-1S and retain the

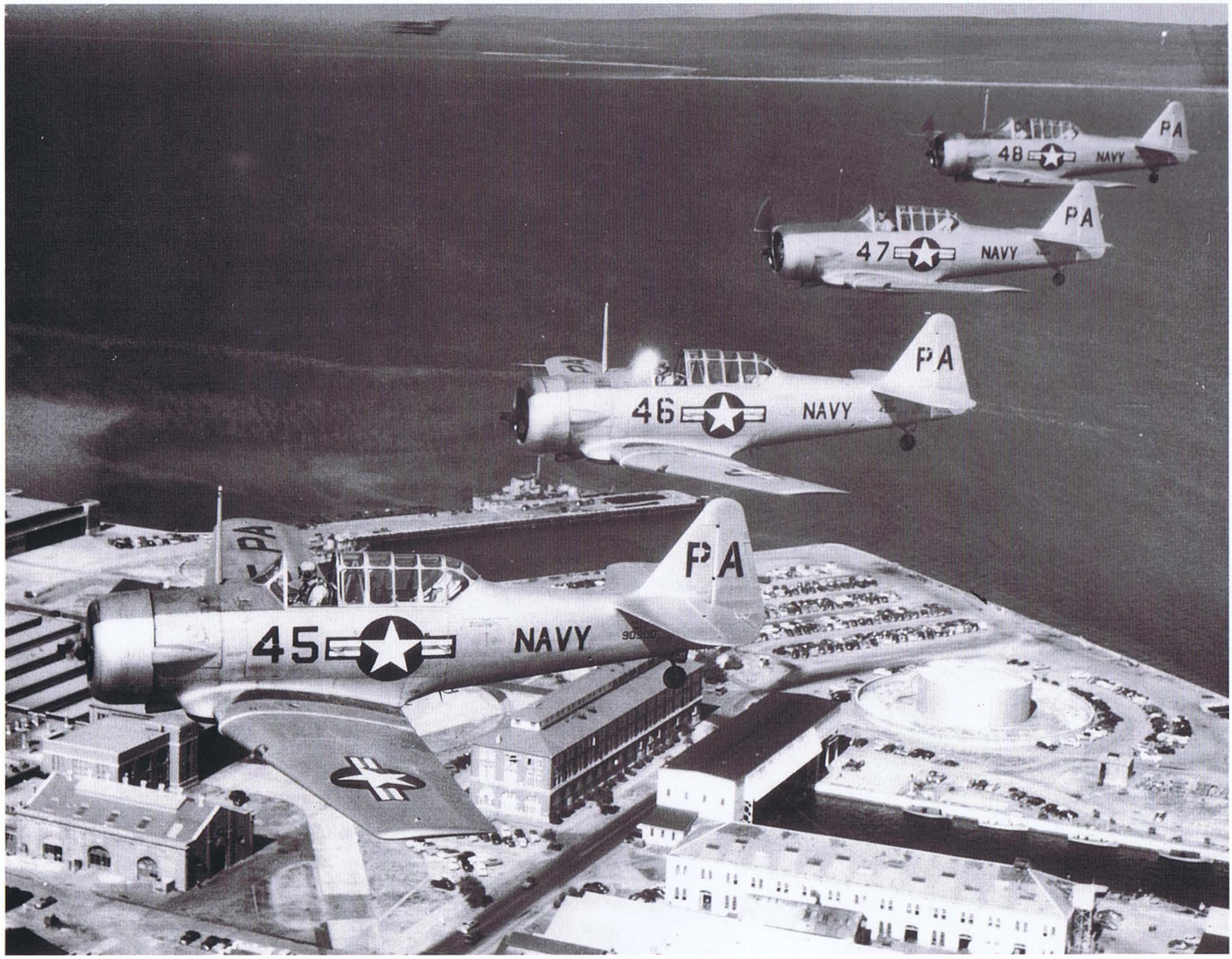


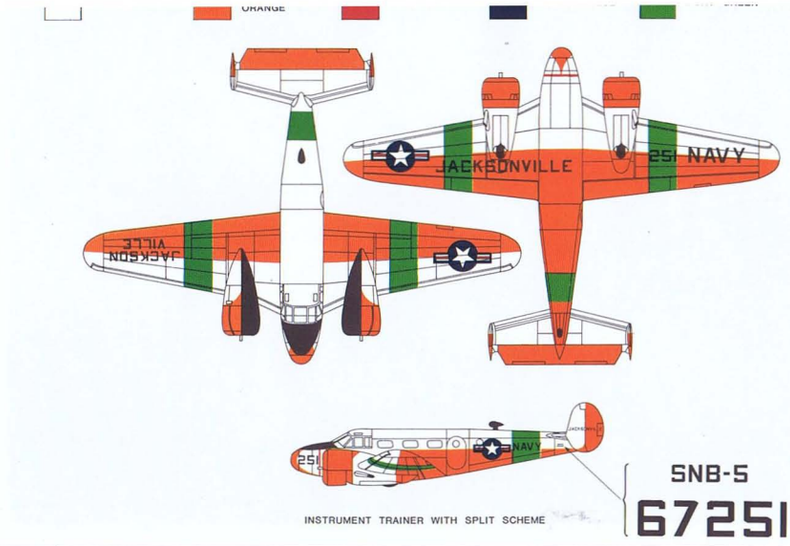
designation WB. A new unit, BTU-1N, was to be designated as WC. This change reflected the location of these two training units at North and South field.

Helicopter training at NAAS Ellyson Field was added as shown:

Unit	Station Designator	Unit Designator	Unit Aircraft Number
HTU-1	E	A	1 through total on board

Above: This R4D-8 is assigned to Marine Training and Replacement Group 20 in 1957. This group provided the East Coast Marine aviators with the same function as MAG-10. **Below:** The volume of SNJ-5s at Pensacola is indicated by the aircraft number in this photo. Note the training carrier at the dock assigned for carrier qualification of the fledgling naval aviators.

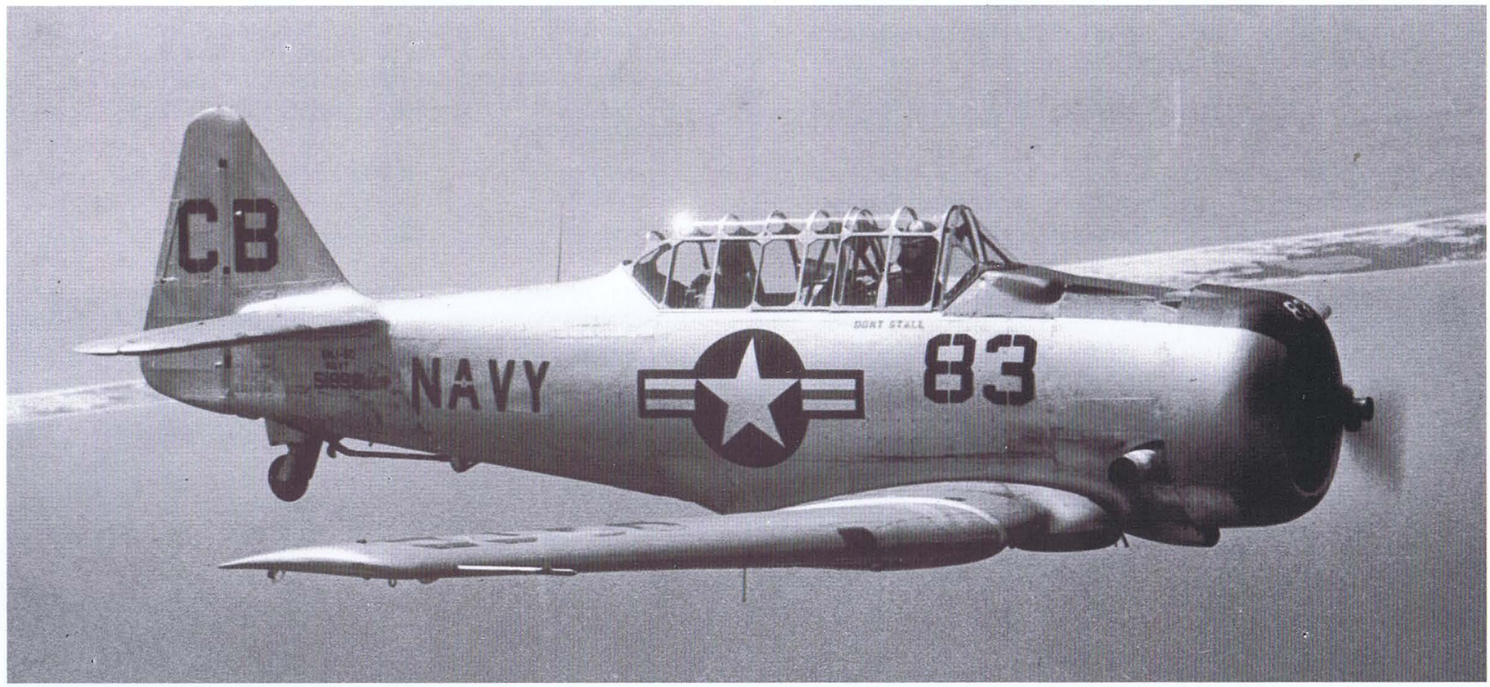


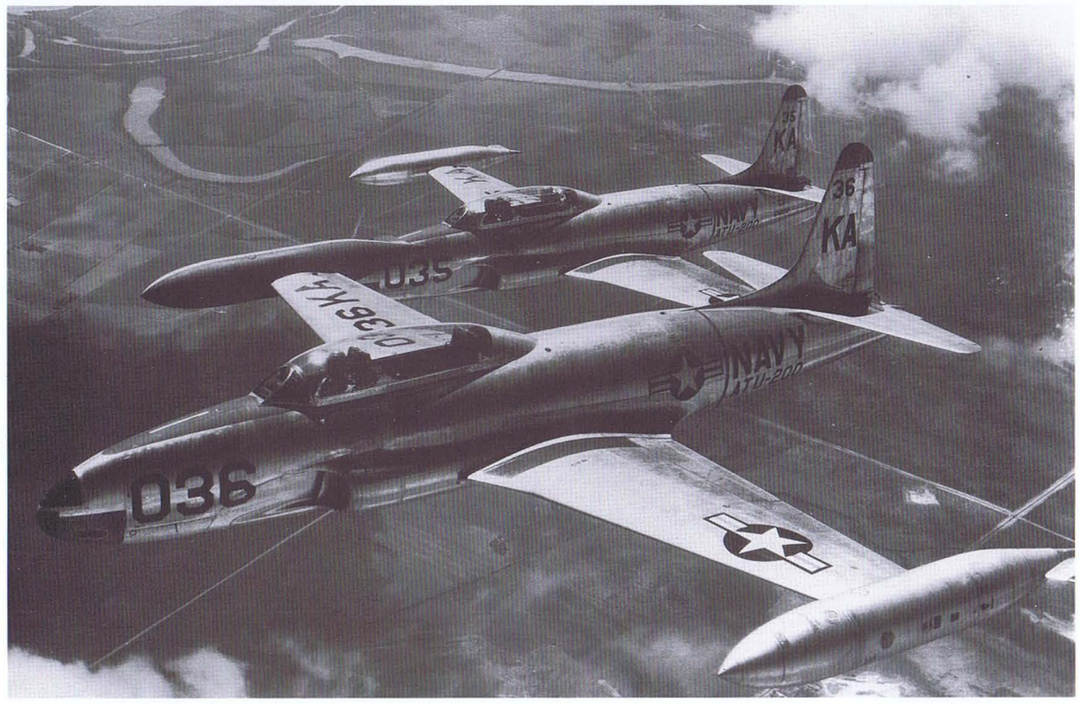


SNB-5

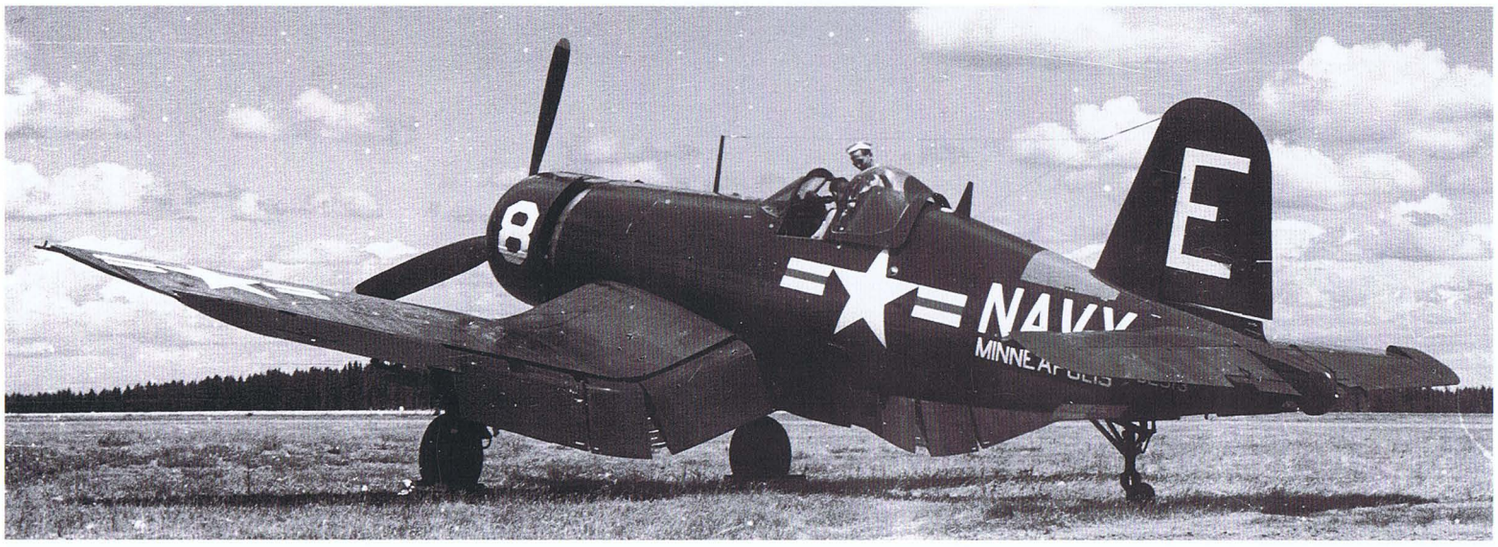
67251

INSTRUMENT TRAINER WITH SPLIT SCHEME





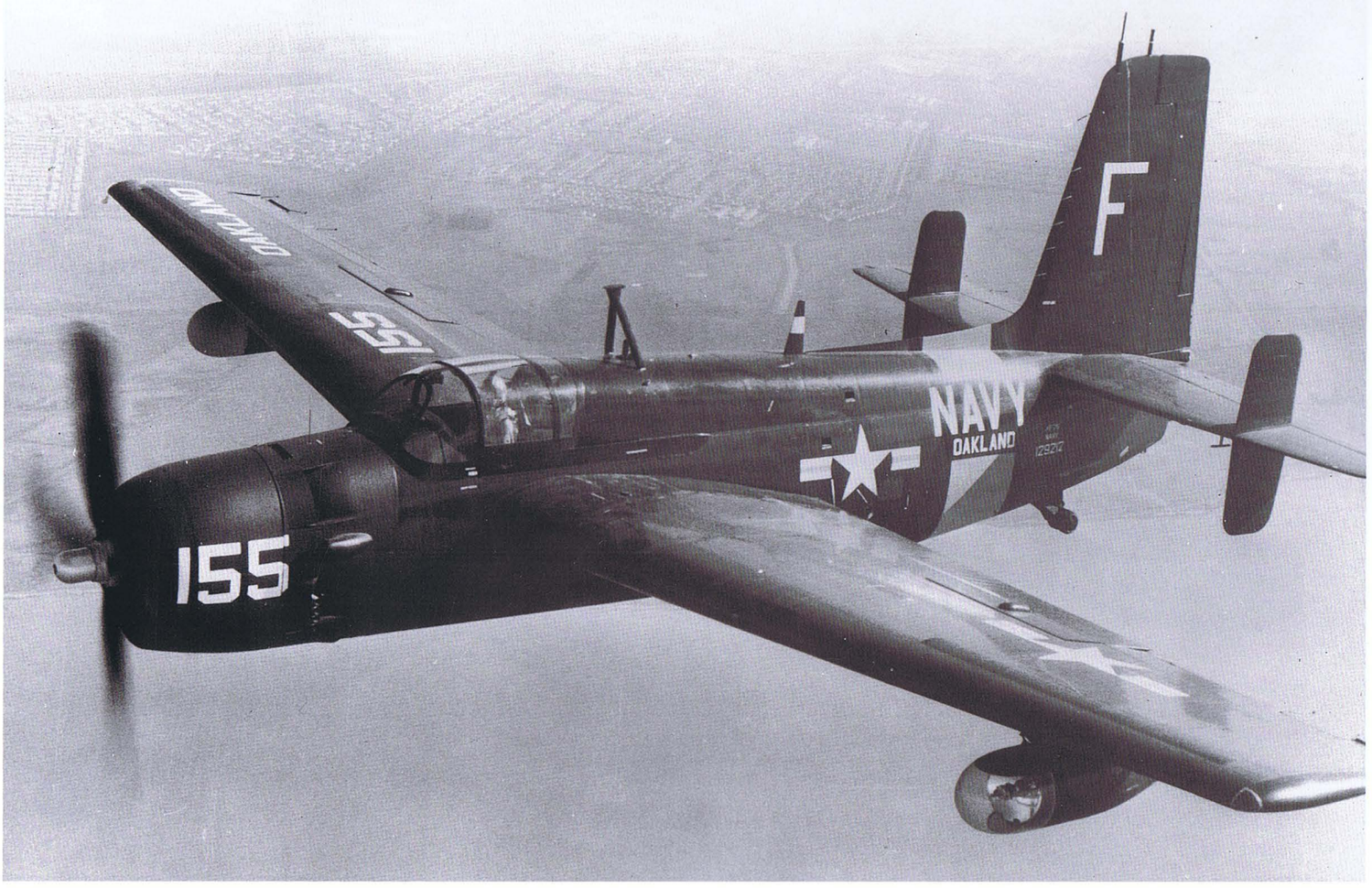
Above: This SNJ-SC is assigned to Carrier Qualification Training Unit 4 at NAAS Correy Field in 1950. The C modification shows that these airplanes have been modified with a tail hook for carrier operations. The legend under the lip of the pilot's canopy DON'T STALL was a gentle reminder each time a student climbed in. **Left:** A two-plane echelon of bare metal Lockheed TV-2s. These two-place jet trainers are assigned to Advanced Training Unit 200 based at NAAS Kingsville, Texas. **Right Above:** This is an F4U-1D with the additional reserve markings of base name and International Orange fuselage band. **Right:** NAVY has been applied higher than usual on this AF-2S Guardian to make the base name OAKLAND more visible in the center of the International Orange band.

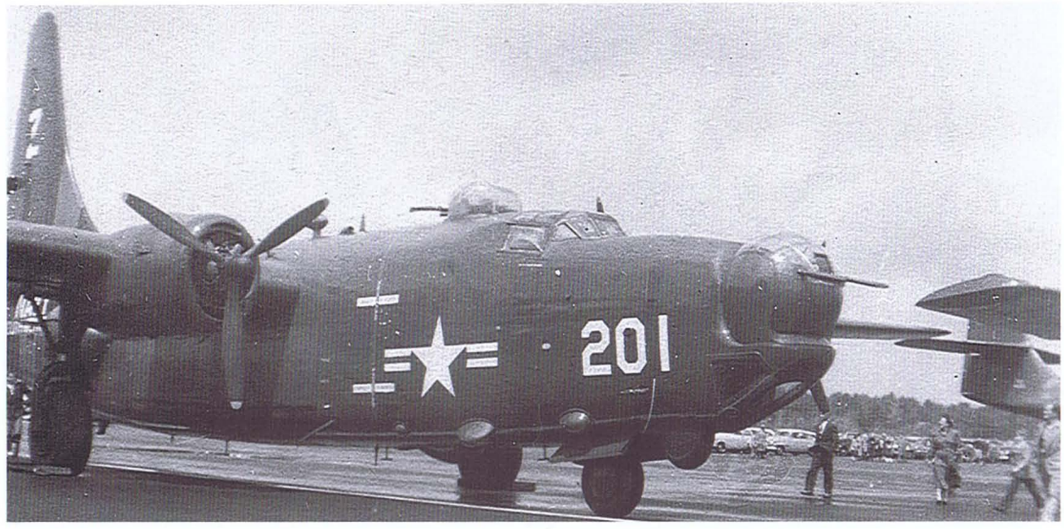


Chief Naval Air Reserve Training Memorandum No. 51-31 dated April 23, 1951, specified the markings to be carried on all reserve aircraft. The International Orange fuselage band was to be applied to all assigned aircraft, but not to any aircraft assigned for USN flight proficiency or other aircraft not directly connected with the Naval Air Reserve Program. In the event an aircraft was received from overhaul with lettering applied in a position that would interfere with the application of the orange band, the band was to be broken as necessary, consistent with symmetry. No deviations from the instructions in SR-2g w/Amendment 1 were permitted.

The letter-numeral identification markings for aircraft assigned to the Naval Air Reserve Training Command activities were now identified as shown.

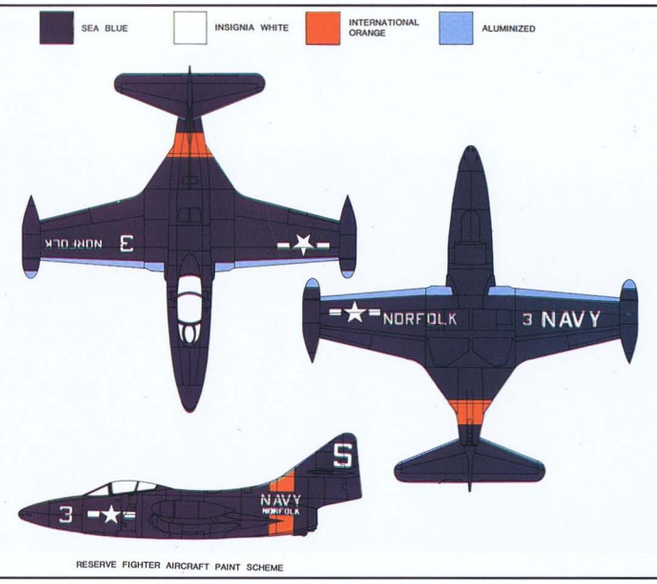
NAS Akron	L	NAS Miami	H
NAResTraUnit NAS Anacostia	A	NAS Minneapolis	E
NAS Atlanta	B	NAS New Orleans	X
NAS Birmingham	T	NAS New York	R
NAS Columbus	C	NAS Niagara Falls	H
NAS Dallas	D	NAResTraUnit NAS Norfolk	S
NAS Denver	P	NAS Oakland	F





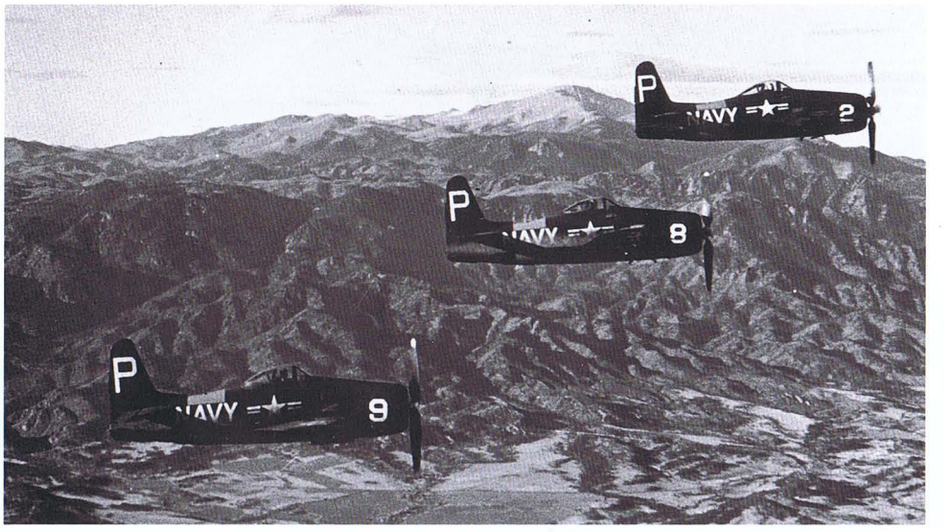
NAS Glenview	V	NAS Olathe	K
NAS Grosse Ile	I	NAResTraUnit NAS Seattle	T
NAResTraUnit NAS Jacksonville	F	NAS Spokane	N
NAS Lincoln	B	NAS St. Louis	U
NAS Los Alamitos	L	NAS Squantum	Z
NAResTraUnit NAS Memphis	M	NAS Willow Grove	W

Above: Front 3/4 view of a PB4Y-2 Privateer based at NAS South Weymouth. **Below:** PB4Y-2 assigned to the reserve Patrol Bombing squadrons based at NAS South Weymouth, after the transfer from NAS Squantum. Note that the two-word name was applied in a single line.



RESERVE FIGHTER AIRCRAFT PAINT SCHEME

Below: Reserve squadron VF-783 flew these F4U-4 Corsairs during the Korean conflict while on active duty with CVG-12.



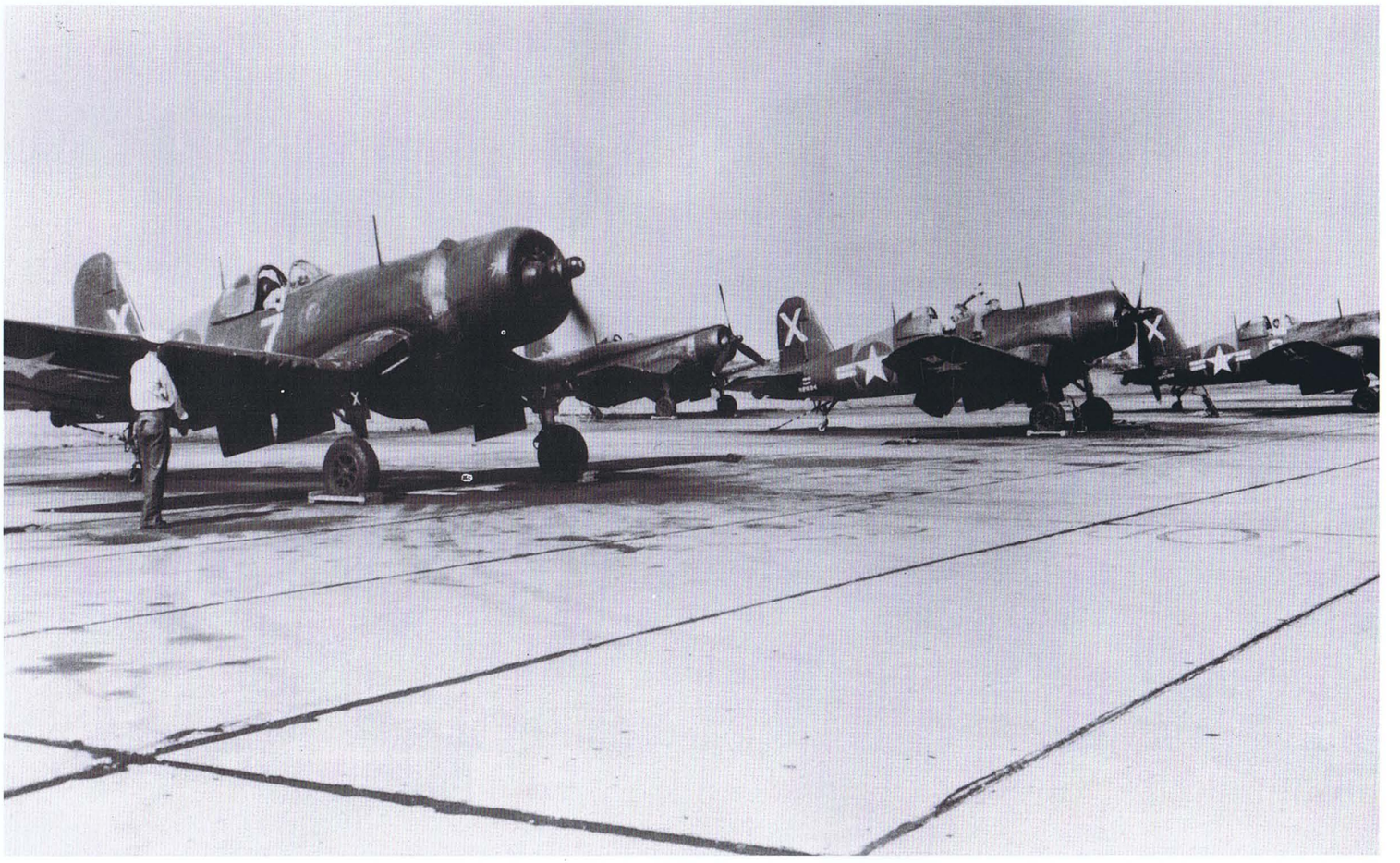
Left: The F8F Bearcat assigned to the Denver-based reserve fighter squadrons did not carry the base name on the fuselage band or wings. **Bottom:** When these F4U-4 Corsairs were introduced to the New Orleans reserves, the base designator was X. Later when the system was changed this became 7X. Notice that the width of the International Orange stripe is equal to the diameter of the national aircraft insignia.

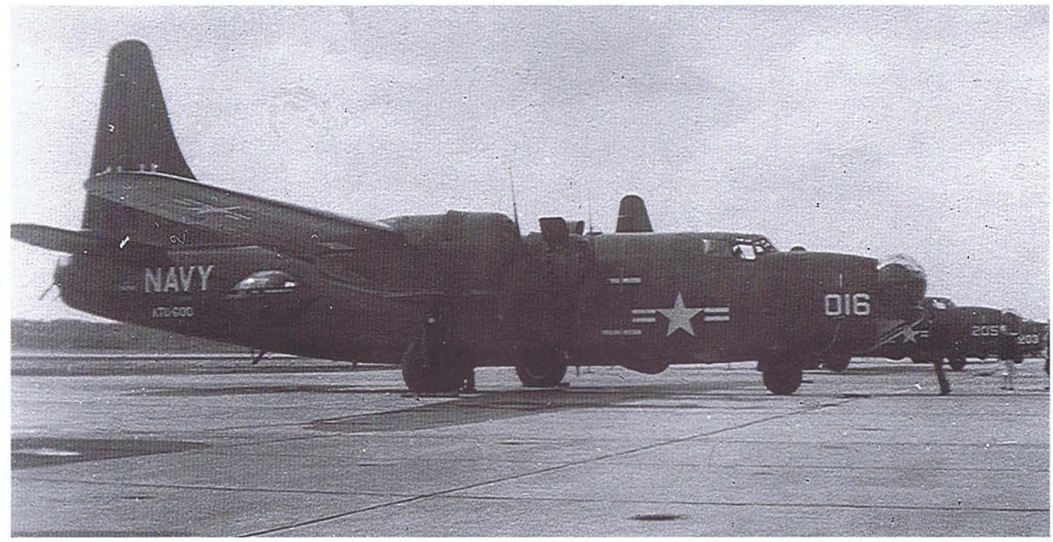
Nontactical aircraft were to use the last three digits of the aircraft Bureau Number which were to be the same size as the Unit Aircraft Numeral as specified in SR-2g. Tactical aircraft were to be identified numerically with numbers from the blocks shown for the various aircraft types.

VF	1 - 100
VF(Jet)	101 - 125
VA	126 - 175
PV-2	176 - 200
PBY-5A, -6A	201 - 215

After having been in effect for just under one year, Chief Naval Advanced Training Command superseded CNAVANTRA Order No. 61-50 with CNAVANTRA INSTRUCTION 410.1 on August 20, 1951. This new system of designating letters and block numbers reflected the expansion of the Training Command and was designed to have sufficient combinations to identify all aircraft within the Command and retain simplicity and readability.

Unit	Station Designator	Unit Designator	Unit Aircraft Number
		NAS Corpus Christi	
ATU-10	C	A	101 - 199
ATU-12	C	B	201 - 299
NSAWF	C	C	Last three digits of Bureau Number
*ATU-6	K	C	601 - 699
NAS	NAS CORPUS CHRISTI		Last three digits of Bureau Number





Right: The Training Command operated this PB4Y-2 Privateer in Advanced Training Unit 600. **Below:** As the Bearcat was phased out of Fleet squadrons, some F8F-1s were assigned to Advanced Training Unit 100 at NAAS Kingsville.

	NAAS Cabaniss Field		
ATU-1	M	A	101 - 199
ATU-2	M	B	201 - 299
ATU-4	M	C	401 - 499
ATU-5	M	D	501 - 599
NAAS	NAAS CABANISS		Last three digits of Bureau Number
	NAAS Kingsville		
**ATU-2	K	B	201 - 299
ATU-3	K	A	301 - 399
**ATU-5	K	D	501 - 599
ATU-6	K	C	601 - 699
NAAS-MIT	NAAS KINGSVILLE		Last three digits of Bureau Number

*Retain marking after move to Kingsville

**Effective upon move to Kingsville

There were slight changes in the application of these designations from what had been specified previously.

Location	Marking	Size
Nose Cowl (Front view) (Optional)	Unit Aircraft Number	6 inches (15.24 cm)
Landing Gear Fairing (Optional)	Unit Aircraft Number	6 inches (15.24 cm)
Fuselage (Side view, forward)	Unit Aircraft Number	18 inches (45.72 cm)

Left: This Bell HTL-2 is assigned to Helicopter Training Unit 1 at NAAS Ellyson Field. **Bottom:** Numerous service markings can be seen on the Sea Blue finish of this HUP-2 in Helicopter Training Unit 1. These two photos are a good example of identification code which cannot be relied on in determining the lineage of a squadron. EA was previously used to designate Marine Corps Schools, Quantico, Virginia.

Fuselage	NAVY	18 inches (45.72 cm)
Fuselage (Centered under NAVY)	Unit Designation (e.g. ATU-1, NSAWF, etc.)	9 inches (22.86 cm)
Tail	Station/Unit Designators (e.g. MA, CB, etc.)	18 inches (45.72 cm)
Right Wing (Upper surface)	Unit Aircraft Number	24 inches (60.96 cm)
	Station/Unit Designators	18 inches (45.72 cm)
Left Wing (Lower surface)	NAVY	24 inches (60.96 cm)
	Unit Aircraft Number	18 inches (45.72 cm)

If, for any reason, these markings could not be applied as specified, the largest size letter or numeral was to be selected that would fit in the prescribed location. The optional Light Green stripe to identify an instrument aircraft was required to be placed on all aircraft assigned to NSAWF.

Search and Rescue Helicopters in the Advanced Training Command were to be painted as directed for this type aircraft and mission. All other aircraft assigned to units for search and rescue operations were to be painted and operated as other aircraft assigned to the unit concerned.

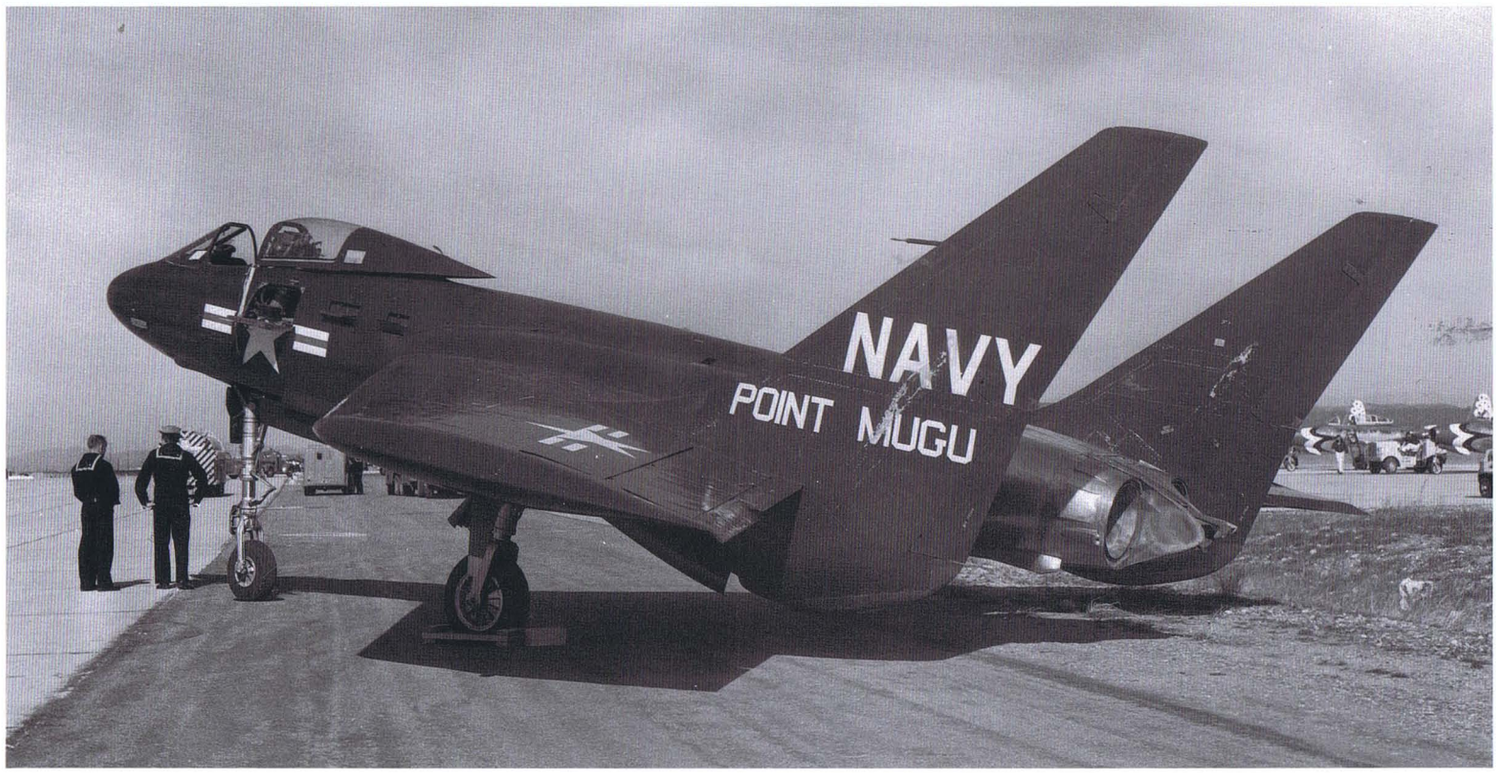
Whenever two or more units operated the identical type of aircraft, a 12 inch (30.48 cm) identification stripe on the tip of the vertical stabilizer and rudder was authorized. Different colors could be used at the discretion of the Commanding Officer. The colors and units that used these markings apparently were not recorded.

Chief of Naval Air Basic Training Command on August 31, 1951, issued CNABTRA INSTRUCTION 370.3 which assigned the identification markings to be used within the Basic Training Command. These changes reflected the movement of some units from one location to another as well as the deletion of units.

Right: This is an NAS Oakland-based F4U-4 Corsair in July 1953. By this time the second letter to designate the type of squadron was no longer used. **Bottom:** The large size of the F7U-1 vertical tail aliowed the two-word base name to be applied on a single line. The unusual configuration also required the national aircraft insignia to be moved to the nose of the aircraft.

Unit	Station Designator	Unit Designator	Unit Aircraft Number
		NAS Pensacola	
IBTU	P	A	1 through total on board
VU	PENSACOLA		Last three digits of Bureau Number
		NAS Whiting	
BTU-1S	W	B	1 through total on board
BTU-1N	W	C	1 through total on board
VU	WHITING		Last three digits of Bureau Number
		NAAS Ellyson Field	
HTU-1	E	A	HTE 1 - 19 HTL 20 - 49 HTK 50 - 59 HO3S 60 - 89 HUP 90 - 99
SNJ/JRB	HTU-1		Last three digits of Bureau Number
		NAAS Saufley	
BTU-3	S	B	1 through total on board
VU	SAUFLEY		Last three digits of Bureau Number
		NAAS Corry	
BTU-2	C	A	1 through total on board
CQTU-4	C	B	SNJ 1 through 99 Service Type 1 through 299 using a block of numbers for each type of aircraft.
VU (Transport & Air Sea Rescue)	PENSACOLA		Last three digits of Bureau Number
VU (SNJ/JRB)	CORRY		Last three digits of Bureau Number

These markings were to be applied in accordance with SR-2g. As before, the optional green stripes for instrument training aircraft were not to be applied to any aircraft assigned to the Naval Air Basic Training Command.



Opposite Right: This VMF(AW)-1 Douglas F4D-1 is shown at MCAS El Toro, California with colorful tail and drop tank stripes on an otherwise standard finish. **Left:** A New Orleans-based HSS-1 shows a multitude of service markings and rescue arrows to advantage. Notice how the national aircraft insignia will be covered when the door is opened in flight. **Bottom:** The location of the name on the undersurface of the right wing of this F8F-2 is a little unusual. This aircraft was assigned to the Navy Post Graduate School at Monterey, California for students to maintain flight proficiency. **Bottom Right:** These colorfuliy painted F9F-2s were operated by Advanced Training Unit 206 at NAS Pensacola.

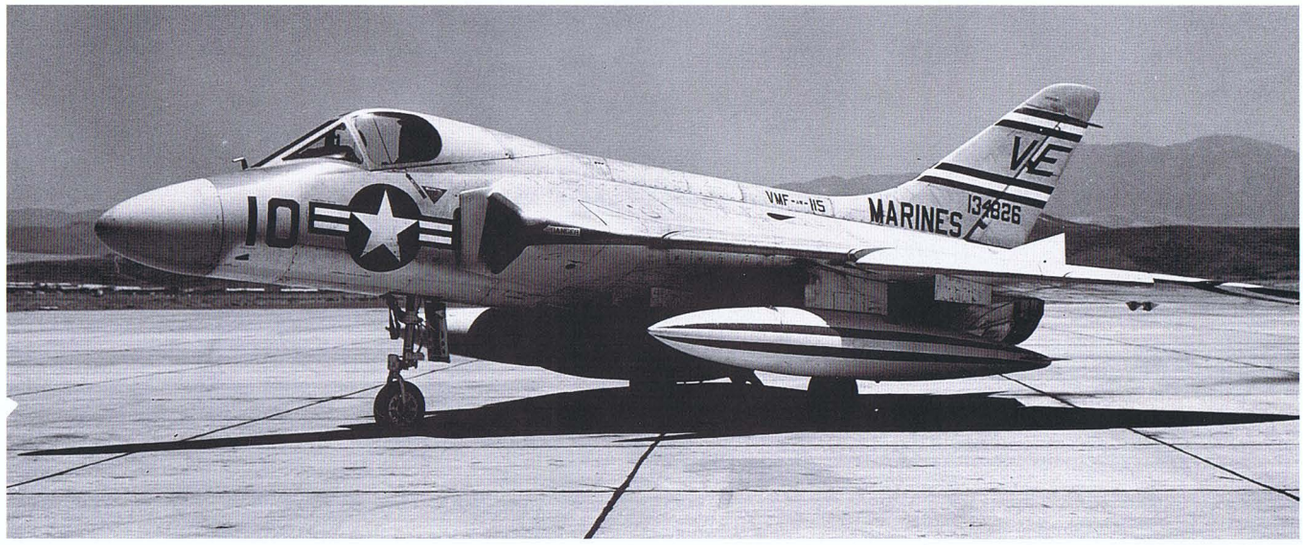
On March 5, 1954, Chief of Naval Basic Training issued CNABATRA INSTRUCTION 3561.1A which directed the following Visual Identification Markings.

NAVAL BASIC TRAINING COMMAND

Unit	Station Designator	Unit Designator	Unit Aircraft Number
Airship Training Unit ZTU	—	ZT	1 - 6 (LTA)
HTA Aircraft	—	ZT	Last three digits of Bureau Number
NAAS Whiting Field			
BTU-1S	W	B	1 through total on board
BTU-1N	W	C	1 through total on board
NAAS NABTC	WHITING		Last three digits of Bureau Number

Chief of Naval Air Technical Training on April 1, 1954, issued CNATECHTRA Instruction 3561.1 which assigned the Visual Identification letters and aircraft numbers to be applied to all aircraft within the Technical Training Command.

NAS Memphis	(Transport & Administrative aircraft)	MEMPHIS
	(All post training aircraft)	TM
NATECHTRACEN Norman		TN
NATECHTRACEN Jacksonville		TJ
NAVCICOFFSCOL Glenview		TGV
NATECHTRAU Lakehurst		TL
NAAS Glynco		TG
NAVCICOFFSCOL Glynco		TGL
NATECHTRAU Olathe		TO



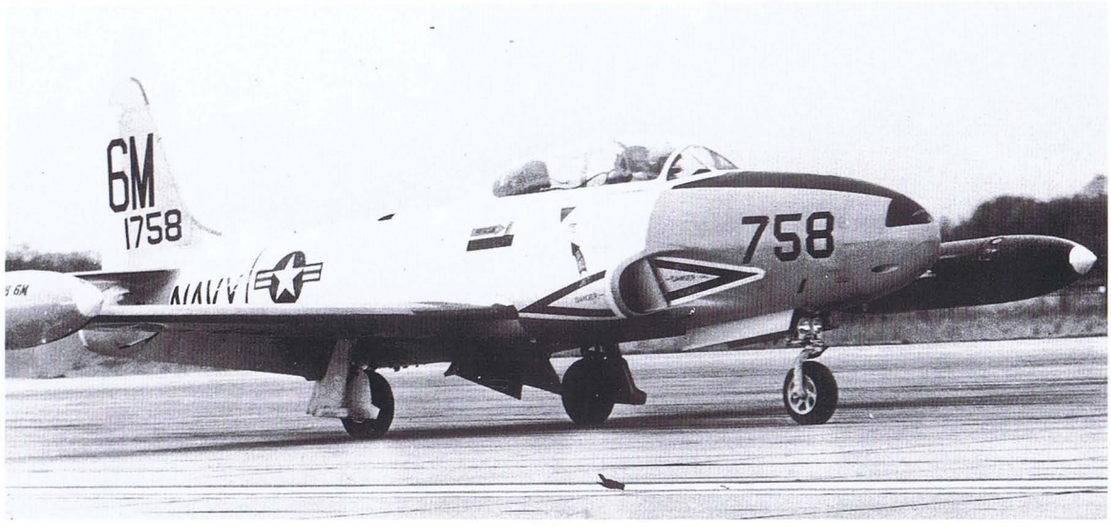
NATECHTRAU Philadelphia	TPA
NATECHTRAU Pensacola	TPC
NATECHTRAU El Centro	TEC

In addition, numbers were to be placed on each side of the nose, in numerical sequence for each activity by type, models and use as shown.

VT(ME)	Post Training	001 - 099
VT(SE)	Post Training	100 - 199
VT(Jet)	Post Training	200 - 299
VR(M)	Post Training	300 - 399
VF(Props)	Post Training	400 - 499
VF(Jet)	Post Training	500 - 599
VA(W)	Post Training	600 - 699
VW	Post Training	700 - 799
Helicopters	Post Training	800 - 899
Transportation Pool and Administrative (including SAR helicopters)		Last three digits of Bureau Number

MIL-I-18464(Aer), dated March 9, 1955, directed that reserve aircraft were not to have the Light Green bands around the wings and fuselage to signify an instrument training aircraft. Nor was the International Orange fuselage band to denote a Reserve aircraft required if the aircraft was painted in the high visibility color scheme.

On August 11, 1955, Chief of Naval Air Advanced Training requested a modification of the Visual Identification System. Training squadrons within the Advanced Training Command,



Left: This Lockheed TO-2 was assigned to the Naval Air Reserve Training Unit at NAS Memphis. Notice how the jet intake warning chevron is applied to both the fuselage and the engine fairing. Both aircraft number and base identification have been applied to the wingtip tanks. **Opposite Right:** The Martin XP6M-1 Sea Master four jet-powered flying boat on a test run in Cheasepeake Bay before its maiden flight in May 1956. Top surfaces were in Sea Blue while all lower surfaces were in White. Only eight prototypes and three P6M-2s were built before the program was cancelled.

with the exception of those based at NAS Corpus Christi, were supported with aircraft by centralized maintenance groups. These maintenance groups performed all the maintenance functions to provide operable aircraft to all units based aboard a particular station. For example, at NAAS Kingsville, the centralized maintenance group maintained TV-2 aircraft for both ATU-202 and 212, F9F-2s for the same units and T-28Bs for two other units. Similar situations existed at other NAVANTRACOM stations. The current system of marking an aircraft to indicate the squadron to which it was attached considerably reduced the flexibility of aircraft assignment under the centralized method of maintenance. Accordingly, it was requested that the requirement for a squadron designating letter on its aircraft be eliminated within the Advanced Training Command. Chief of Naval Operations letter Op-501C2/pg dated September 12, 1955, authorized the Chief of Naval Air Training to eliminate the squadron designating letter in all cases where appropriate.

OPNAV INSTRUCTION 03561.2A, *Visual Identification System for Naval Aircraft,* dated July 24, 1956, authorized squadrons and units of the Naval Air Training Command to be marked as directed by the Chief of Naval Air Training. In response to this, on September 6, 1956, the Chief of Naval Air Training (CNATRA) sent letter NE:14:cl Serial 0257 to Chief of Naval Air Basic Training (CNABATRA), Chief of Naval Air Advanced Training (CNAVANTRA), Chief of Naval Air Technical Training (CNATECHTRA), and Chief of Naval Air Reserve Training (CNARESTRA) directing the character sequences to be used for unit identification to be as follows:

	FIRST CHARACTER	SECOND CHARACTER
CNABATRA	2	A through Z
CNAVANTRA	3	A through Z
CNATECHTRA	4	A through Z
CNARESTRA	5 through 9	A through Z

The Chief of each branch of the Training Command assigned Visual Identification codes to each unit within their command. On October 1, 1956, Chief of Naval Air Training Command reported to the Chief of Naval Operations in letter NE:14:ekd 0283 the following assignments.

NAVAL BASIC TRAINING COMMAND		
NAS Pensacola		2F
NAAS Corry		2C
NAAS Whiting		2W
NAAS Saufley		2S
NAAS Barin		2B
NAS Glynco		2G
ALF Ellyson		2E
NAVAL ADVANCE TRAINING COMMAND		
NAS Corpus Christi	ATU-101	3A
	ATU-201	3B
	ATU-501	3C
NAAS Kingsville	ATU-102	3D
	ATU-202	3E
	ATU-212	3F
	ATU-402	3G
NAAS Chase Field	ATU-203	3H
	ATU-213	3J
	ATU-223	3K
NAS Hutchinson	ATU-604	3L
	ATU-614	3M
NAS Memphis	ATU-105	3N
	ATU-205	3P
NAS Pensacola	ATU-206	3R
NAAS Cabaniss Field	ATU-107	3S
	ATU-307	3T
NAS Olathe	JTTU	3U
NAVAL AIR TECHNICAL TRAINING COMMAND		
NAS Memphis		4M
NAS Glynco		4B
NATTC Norman		4N
NATTC Jacksonville		4J
NATTU Olathe		4U
NATTU Pensacola		4P
NATTU Lakehurst		4L

VP-18

VS-26

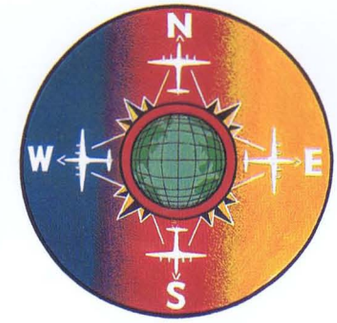
VF-32

VF-81 VF-66

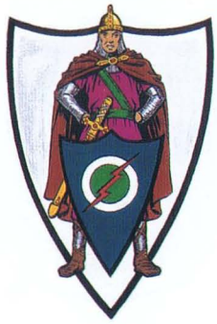
VF-54

VS-36

VF-22



VR-22



VF-23

VF-831 VF-153

VF-72

VW-3

Left: For a time during 1957, VF-111 operated this F9F-8T with the high visibility paint scheme. Placement of the squadron insignia was specified beneath the canopy, not this location on the tail. Additionally, the absence of a hyphen in the squadron designation is also nonregulation.

VC-9

VC-33

VF-191

VA-145

VAH-2

VP-28

VF-92

VP-50

VMF-224

VF-21

VF-113 VA-113

VMF-451

HMR-161

VF-174

VP-5

VF-64

Right: The Consolidated (Convair) XP5Y-1 was designed to meet a long-range reconnaissance role and was first flown on April 18, 1950. It is shown here powered by four powerful Allison XT40-A-4 turboprops each developing 5,500 hp. Note the white factory calibration stripe and red propeller warning stripes on the hull. Only two XP5Ys were built before the Navy requirements changed.

VF-53

VP-42

VA-196

VP-721

VF-931

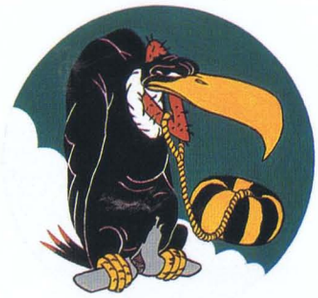
VMA-331

VA-34 VF-34

VA-25

VF-91

VC-12



VP-34

VF-44

Left: A R4D-6 assigned to NAS Birmingham reserves has the lower portion of the fuselage Light Gull Gray in lieu of a bare metal finish to reduce maintenance.

NATTU El Centro	4E
NATTU Philadelphia	4F
NAVCICOFFSCOL Glenview	4C
NAVCICOFFSCOL Glynco	4G
NAVAL AIR RESERVE TRAINING COMMAND	
NAS Akron	7A
NAS Atlanta	7B
NAS Columbus	7C
NAS Dallas	7D
NAS Denver	7P
NAS Glenview	7V
NAS Grosse Ile	7Y
NAS Lincoln	7N
NAS Los Alamitos	7L
NAS Minneapolis	7E
NAS New Orleans	7X
NAS New York	7R
NAS Niagara Falls	7H
NAS Oakland	7F
NAS Olathe	7K
NAS Seattle	7T
NAS South Weymouth	7Z
NAS St. Louis	7U
NAS Willow Grove	7W
NAVAL AIR RESERVE TRAINING UNITS	
NARTU Anacostia	6A
NARTU Jacksonville	6F
NARTU Lakehurst	6N
NARTU Memphis	6M
NARTU Miami	6H
NARTU Norfolk	6S
NAVAL AIR RESERVE FACILITIES	
NARF Birmingham	5T
NARF Spokane	5N
*NARF Houston	5U

*(Effective upon establishment)

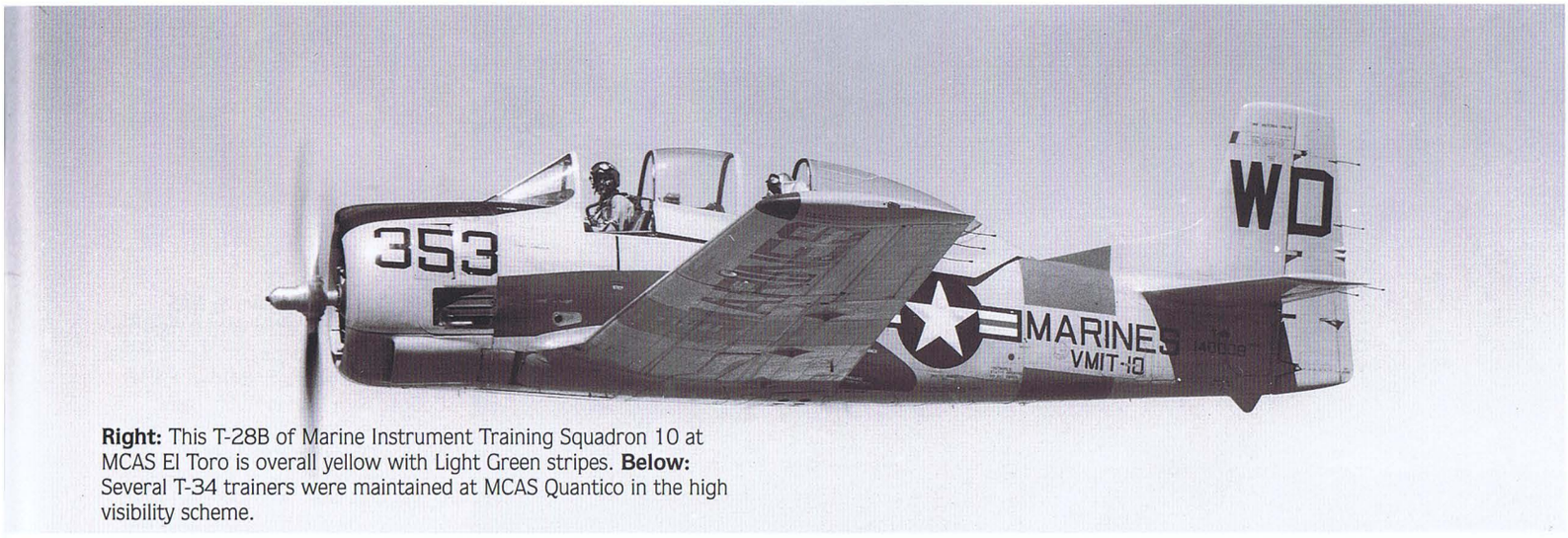
Chief of Naval Air Basic Training Command instruction 3561.1C dated October 12, 1956, specified the following markings were to be applied to aircraft of the command.

Activity	Training Group	First Character	Second Character	Side Number
NAS Pensacola	BSG	2	A	001 - 099
	METG	2	F	100 - 999
	BTG-9	2	F	100 - 999
NAAS Saufley	BTG-1	2	S	100 - 999
NAAS Whiting	BTG-3N	2	W	100 - 999
	BTG-3S	2	W	100 - 999
NAAS Barin	BTG-4	2	B	100 - 999
	BTG-5	2	B	100 - 999
NAS Memphis	BTG-7	2	M	100 - 999
NAS Glynco	ZTG	2	G	100 - 999
ALF Elyson	HTG	2	E	100 - 999

A reorganization of the Naval Air Reserve Training Command resulted in the disestablishment of NAS Akron, Ohio; NAS Lincoln, Nebraska; and NAS St. Louis, Missouri in February 1958.

On June 12, 1958, the Chief of Naval Air Training requested all components within the Training Command to revise the unit identifying characters due to the recent disestablishment and changes in various activities within the command. In response to this request, Chief Naval Air Technical Training submitted the following in his letter 3A1 Serial 053 dated June 23, 1958.

Activity	Identifying Character	Side Number
NAS Memphis	4M	Last 3 digits of Bureau No.
NAS Glynco	4B	Last 3 digits of Bureau No.
NATECHTRACEN Norman	4N	Last 3 digits of Bureau No.
NATECHTRU Olathe	4U	Last 3 digits of Bureau No.
NATECHTRU Pensacola	4P	Last 3 digits of Bureau No.
NATECHTRU Lakehurst	4L	Last 3 digits of Bureau No.
NATECHTRU Philadelphia	4F	Last 3 digits of Bureau No.



Right: This T-28B of Marine Instrument Training Squadron 10 at MCAS El Toro is overall yellow with Light Green stripes. **Below:** Several T-34 trainers were maintained at MCAS Quantico in the high visibility scheme.

NAVCICSCOL Glynco	4G	Last 3 digits of Bureau No. All aircraft except VF. VF side numbers 101 - 199

Chief, Naval Air Advanced Training on June 25, 1958, in letter NE1/V-3 F4 082 submitted the revised list for his command as follows.

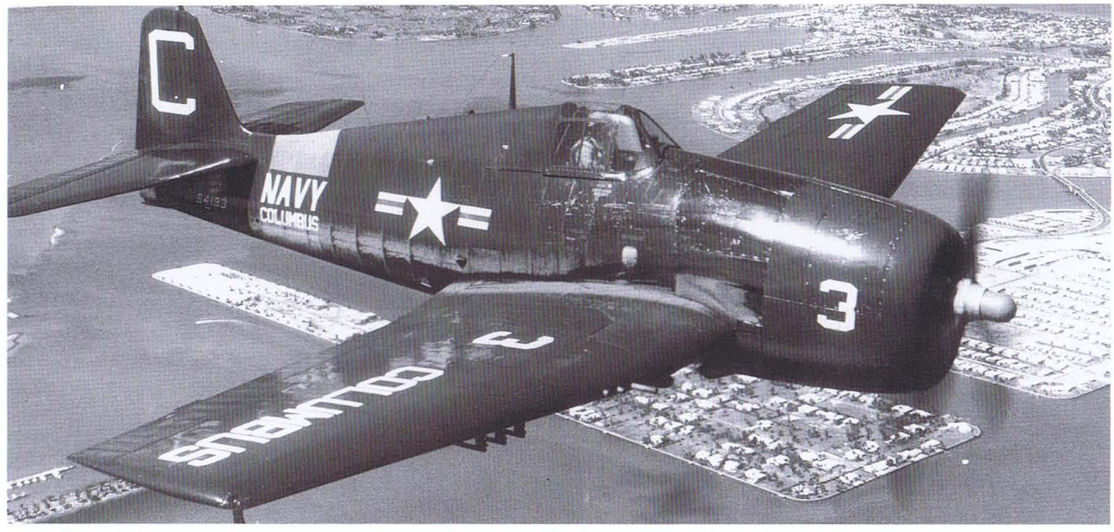
Activity	Training Unit	Identifying Character
NAS Corpus Christi	ATU-301	3T
	ATU-601	3A
	ATU-611	3B
	ATU-501	3C
NAAS Kingsville	ATU-202	3E
	ATU-212	3F
	ATU-402	3G
NAAS Chase Field	ATU-203	3K
	ATU-213	3J
NAS Olathe	JTTU	3U

The three-digit numbering of aircraft within the Basic Training Command which had been specified in CNABATRAINST 3561.1D was modified on December 22, 1958, to a two-digit system on the Helicopter Training Group helicopters at NAAS Ellyson Field. This change was due to the necessity of reducing the size of the characters because of the aircraft configuration which would result in identification problems in the landing pattern.

Naval Aeronautical Organization Fiscal Year 1960, dated July 1, 1959, now included the Visual Identification System for the Naval Air Training Command.

NAVAL BASIC TRAINING COMMAND

NAS Pensacola	Basic Standardization Group (BSG)	2A
	Basic Training Group 9 (BTG 9)	2F
	Multi-Engine Training Group (METG)	2F
NAAS Saufley	Basic Training Group 1 (BTG 1)	2S
NAAS Whiting	Basic Training Group 2 North Field	2W
	Basic Training Group 3 South Field	2W
NAS Memphis	Basic Training Group 7 (BTG 7)	2M



Left: This F6F-5 flown at NAS Columbus is depicted with a full compliment of markings peculiar to Naval Air Reserve aircraft. **Below:** F9F-6 Cougar with high visibility paint scheme as flown by both Navy and Marine Corps reserve fighter squadrons is shown at NAS South Weymouth.

NAS Glynco	LTA Training Group (ZTG)	2G
ALF Ellyson	Helicopter Training Group (HTG)	2E

NAVAL ADVANCED TRAINING COMMAND

NAS Corpus Christi	Advanced Training Unit 301 (ATU-301)	3T
	Advanced Training Unit 501 (ATU-501)	3C
	Advanced Training Unit 601 (ATU-601)	3A
	Advanced Training Unit 611 (ATU-611)	3B
NAAS Kingsville	Advanced Training Unit 202 (ATU-202)	3E
	Advanced Training Unit 212 (ATU-212)	3F
	Advanced Training Unit 402 (ATU-402)	3G
NAAS Chase Field	Advanced Training Unit 203 (ATU-203)	3K
	Advanced Training Unit 213 (ATU-213)	3J
NAS Olathe	Jet Transition Training Unit (JTTU)	3U

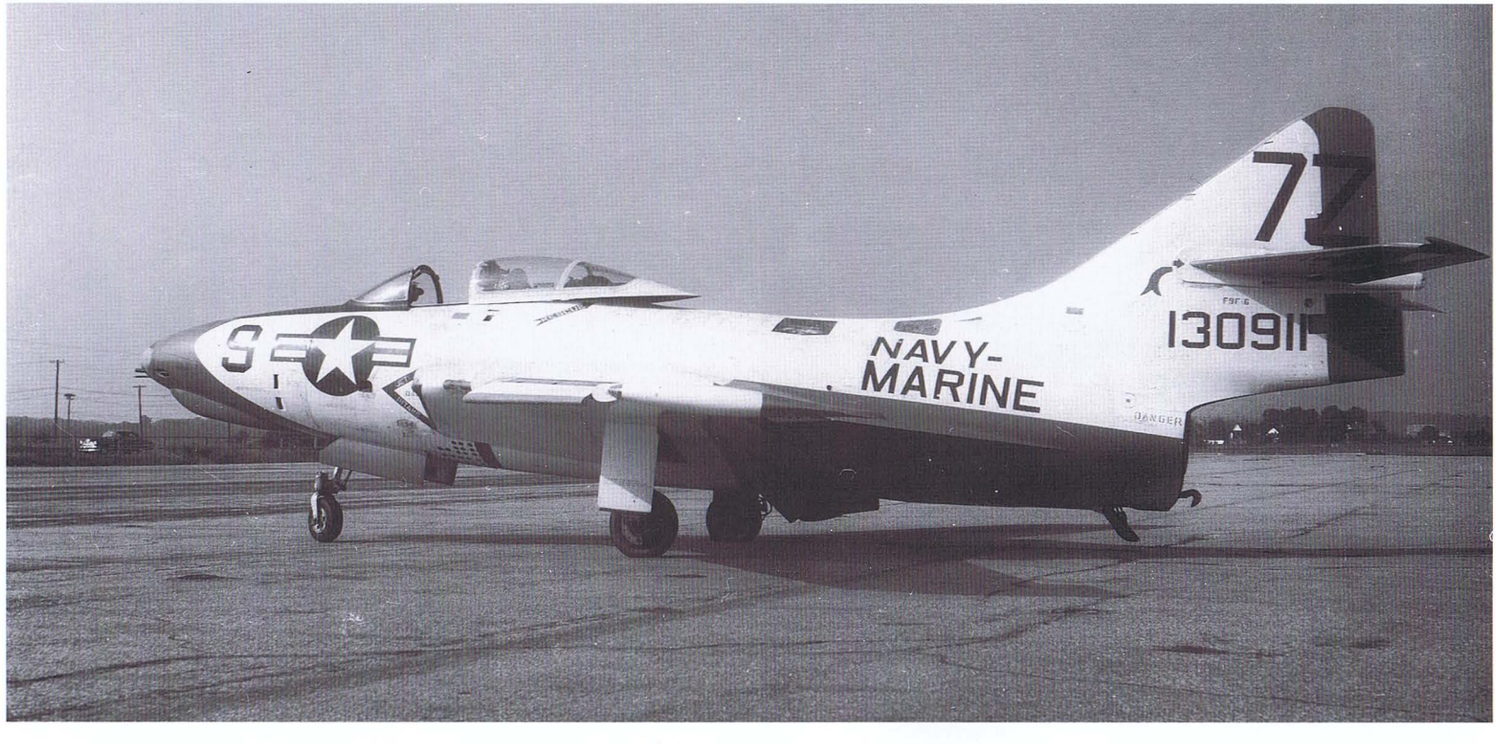
NAVAL AIR TECHNICAL TRAINING COMMAND

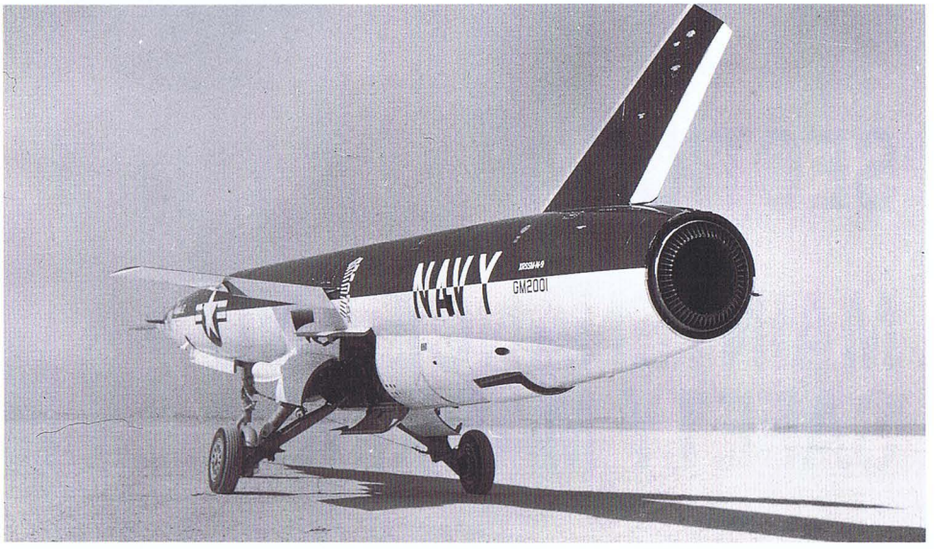
NAVTECHTRA Glynco	4B
NATTC Memphis	4M
NATTC Norman	4N
NATTU Lakehurst	4L
NATTU Olathe	4U
NATTU Pensacola	4P
NATTU Philadelphia	4F
NAVCICSCOL Glynco	4G

Aircraft side numbers were to be the last three digits of the Bureau Number except for VF aircraft which were to use the numbers 101 to 199.

NAVAL AIR RESERVE TRAINING COMMAND

NAS Atlanta	7B
NAS Dallas	7D
NAS Glenview	7V
NAS Grosse Ile	7Y
NAS Los Alamitos	7L
NAS Minneapolis	7E
NAS New Orleans	7X
NAS New York	7R
NAS Oakland	7F





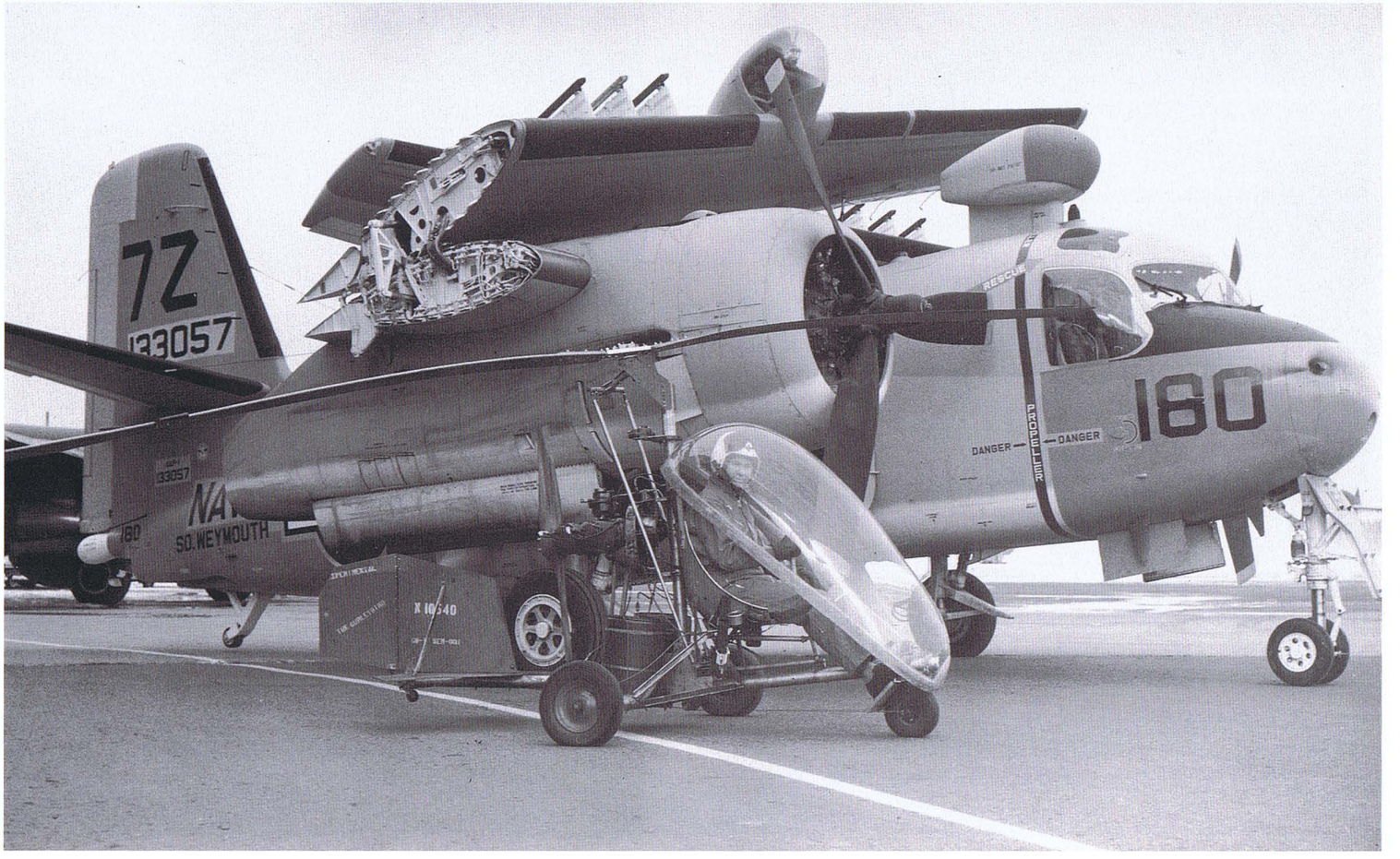
Right: A Chance Vought XSSM-N-9 Regulus surface-to-surface missile in its colorful paint scheme of Sea Blue above and White below. The 30 foot Regulus as produced in two versions; as an expendable missile and, as our photograph illustrates, as a recoverable training missile with retractable landing gear. Powered by an Allison J-33 turbojet, the Regulus was launched with the aid to two solid fuel boosters. Note how the painters have reversed the colors to the NAVY inscription along the centerline.

NAS Olathe	7K
NAS Seattle	7T
NAS South Weymouth	7Z
NAS Willow Grove	7W
NARTU Anacostia	6A
NARTU Jacksonville	6F
NARTU Lakehurst	6N
NARTU Memphis	6M
NARTU Norfolk	6S

Below: This S2F-1 with the South Weymouth reserves, in the high visibility scheme. Notice how the bureau number and NAVY have been applied on a white background for increased visibility.

Disestablished

NATTC Norman	4N	June 30, 1959
NARF Birmingham	5T	
NARF Spokane	5N	
NARF Houston	5U	
NARF Miami	6H	June 20, 1959
NAS St. Louis	7U	
NAS Akron	7A	
NAS Lincoln	7N	
NAS Columbus	7C	June 26, 1959
NAS Denver	7P	June 30, 1959
NAS Niagara Falls	7H	June 18, 1959



SECTION 4

MAINTENANCE AND SAFETY MARKINGS

CHAPTER 4 1950-1959

Thln keeping with the new administrative procedures, MIL-I-6142 dated April 27, 1950, superseded AN-I-37, *Identification of Escape Hatches.* This was only a new directive number and made no changes to the original instructions.

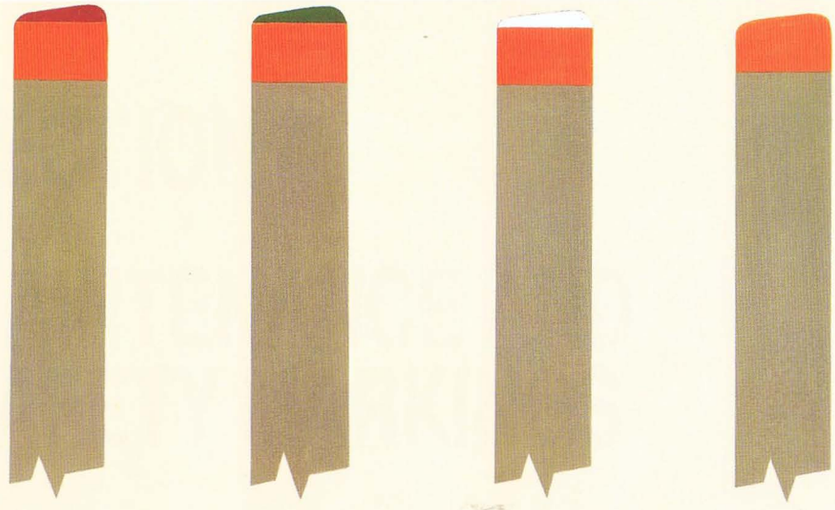
With the issue of SR-2h, *Insignia and Markings for Naval Aircraft,* dated June 16, 1952, safety warning signs were now required on helicopters. Helicopters having tail rotor blades revolving in the vertical plane were to have a warning sign painted on both sides of the tail boom. This safety marking consisted of an Orange Yellow band approximately 33 inches (83.82 cm) wide encircling the tail boom forward of the arc of the rotating blades. An Insignia Red arrow, of appropriate size, pointing toward the rotor blades was superimposed on the center of this band. The word DANGER was located above the arrow and the words KEEP AWAY were located below the arrow. These letters were to be Black and approximately 2 inches (5.08 cm) high.

Matched sets of main rotor blades were still to be painted as before. The first 2 inches (5.08 cm) of each blade tip was to be painted an identifying color. One blade tip was to be painted glossy Insignia White, another glossy Insignia Red and the third glossy Light Green, with a 6 inch (15.24 cm) band of nonspecular Orange Yellow inboard of the tip color. Only unmatched sets of main rotor blades were painted nonspecular Orange Yellow on both sides of the blade from the tip to 6 inches (15.24 cm) from the tip.

Tail rotor blades were to be painted on both sides. A glossy Orange Yellow stripe was to be painted from the tip to 6 inches (15.24 cm) from the tip, followed by a 6 inch (15.24 cm) wide stripe of nonspecular Black, followed by another 6 inch (15.24 cm) stripe of glossy Orange Yellow.

Right: Numerous maintenance and safety markings can be seen on the F3H-1 while undergoing Service Test at NATC Patuxent River.


RESCUE
631
JET
DANGER
INTAKE
NATC
NAVY



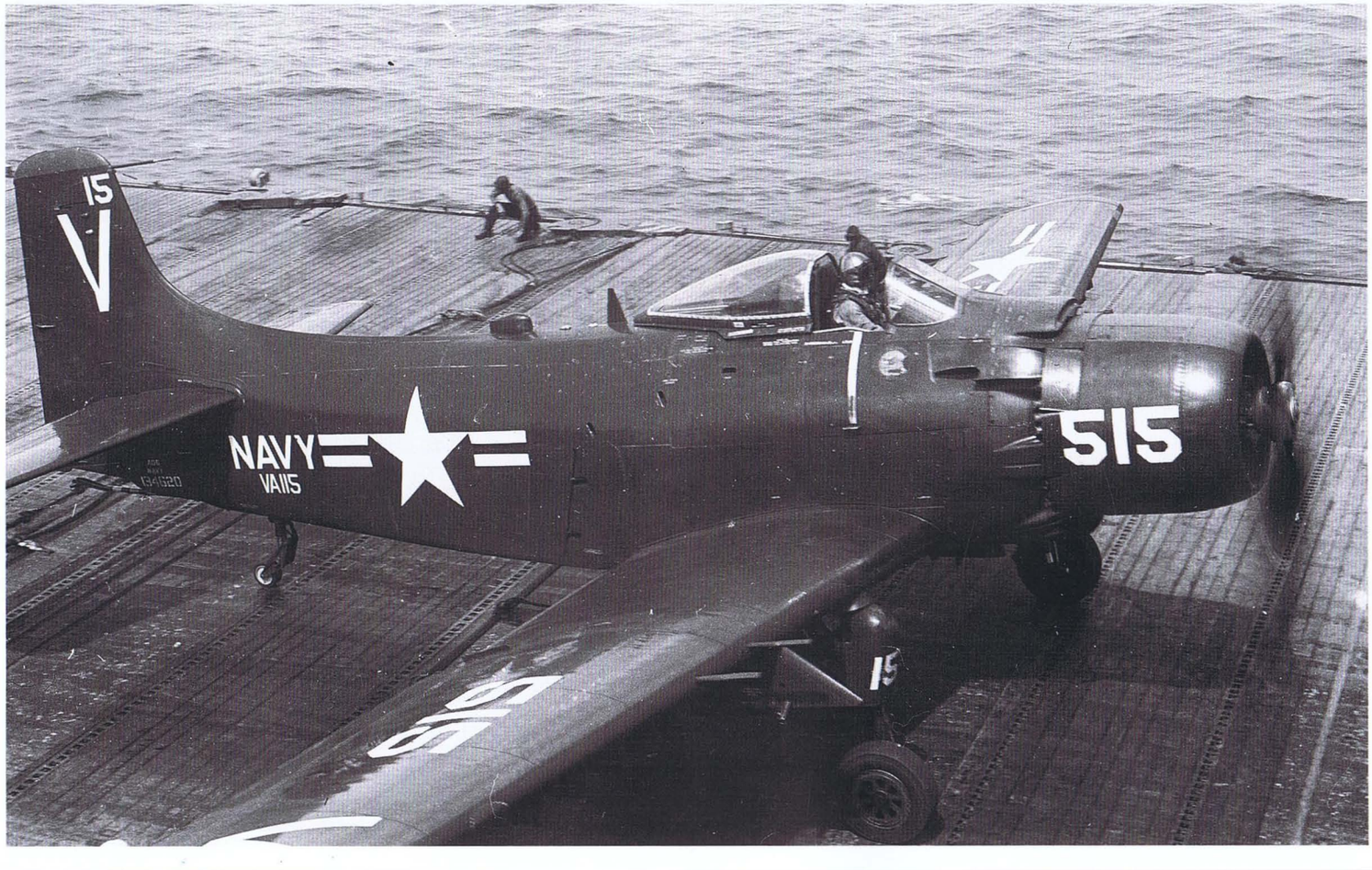
Left: Red, White and Light Green on the tips outboard of the Orange Yellow indicated a matched set of rotor blades. All others only had the Orange Yellow warning stripe.

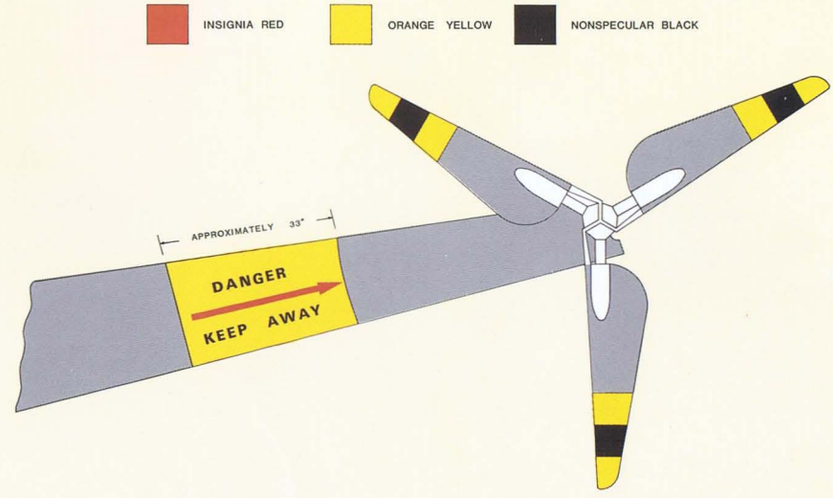
On propeller driven aircraft, glossy Insignia Red words DANGER, BEWARE PROPELLER, and arrows pointing to the propeller warning stripe were now to be superimposed on a stripe of glossy Insignia White 3 inches (7.62 cm) in height. This was to be applied to the external surface of floats and fuselage as well as the internal surface of the fuselage or bomb bay.

Aircraft having wingtip tanks with fins extending outboard in a horizontal plane at such a height that personnel could inadvertently walk into them were to have warning stripes painted on the fins. These stripes were to be an Orange Yellow band encircling the fin from the tip to 2 inches (5.08 cm) inboard followed by an Insignia Red band encircling the fin from 2 inches (5.08 cm) from the tip to 4 inches (10.16 cm) from the tip.

Bureau of Aeronautics letter Aer-AR-422 Serial 49302, dated April 10, 1953, specified the safety markings for helicopter tail rotors. They were now to be nonspecular Bright Red from the tip to 6 inches (15.24 cm) from the tip, followed by a glossy Insignia White stripe 6 inches (15.24 cm) wide, followed by a Bright Red stripe 6 inches (15.24 cm) wide. The remainder of the blade was to be nonspecular Black to within 6 inches (15.24 cm) of the hub. These remaining 6 inches (15.24 cm) were to be painted Bright Red.

Below: A Douglas AD-6 of VA-115 in Carrier Air Group 11 carries the Light Green on the tail indicating the fifth squadron. The stripe on the fuselage is a guide to the recessed step in getting out.





HELICOPTER TAIL ROTOR SAFETY MARKINGS

Right: Helicopter tail rotors which were in a vertical plane and low enough to present a hazard to personnel were originally identified by these safety markings. **Bottom:** The prominent safety warning on the pylon of the HOK-1 was necessary because of the angle to the side in which the blades rotated causing the tips to be below head height.

Reflecting the change to Military Specifications for all material, SR-70e, *Application of Dopes and Lacquers to Fabric Surfaces of Aircraft* was superseded on December 22, 1954. The new title of the series was MIL-C-18187(Aer), *Coatings, Protective: Application of to Fabric Surfaces of Aircraft.* Two examples of the doping code as it would now look are:

1MIL-D-7850 3MIL-D-5549 2MIL-D-5551 2-15-53 SD

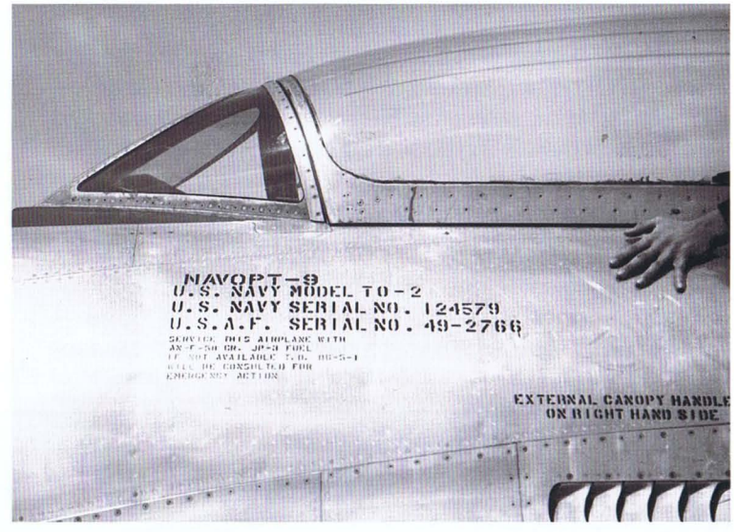
This code indicates one coat Fungicidal first coat dope — Specification MIL-D-7850; three coats clear dope — Specification MIL-D-5549; two coats pigmented gloss dope — Specification MIL-D-5551; finished February 15, 1953, by NAS San Diego, California. The use of predoped fabric would still be indicated by the letters PDF preceding the doping code:

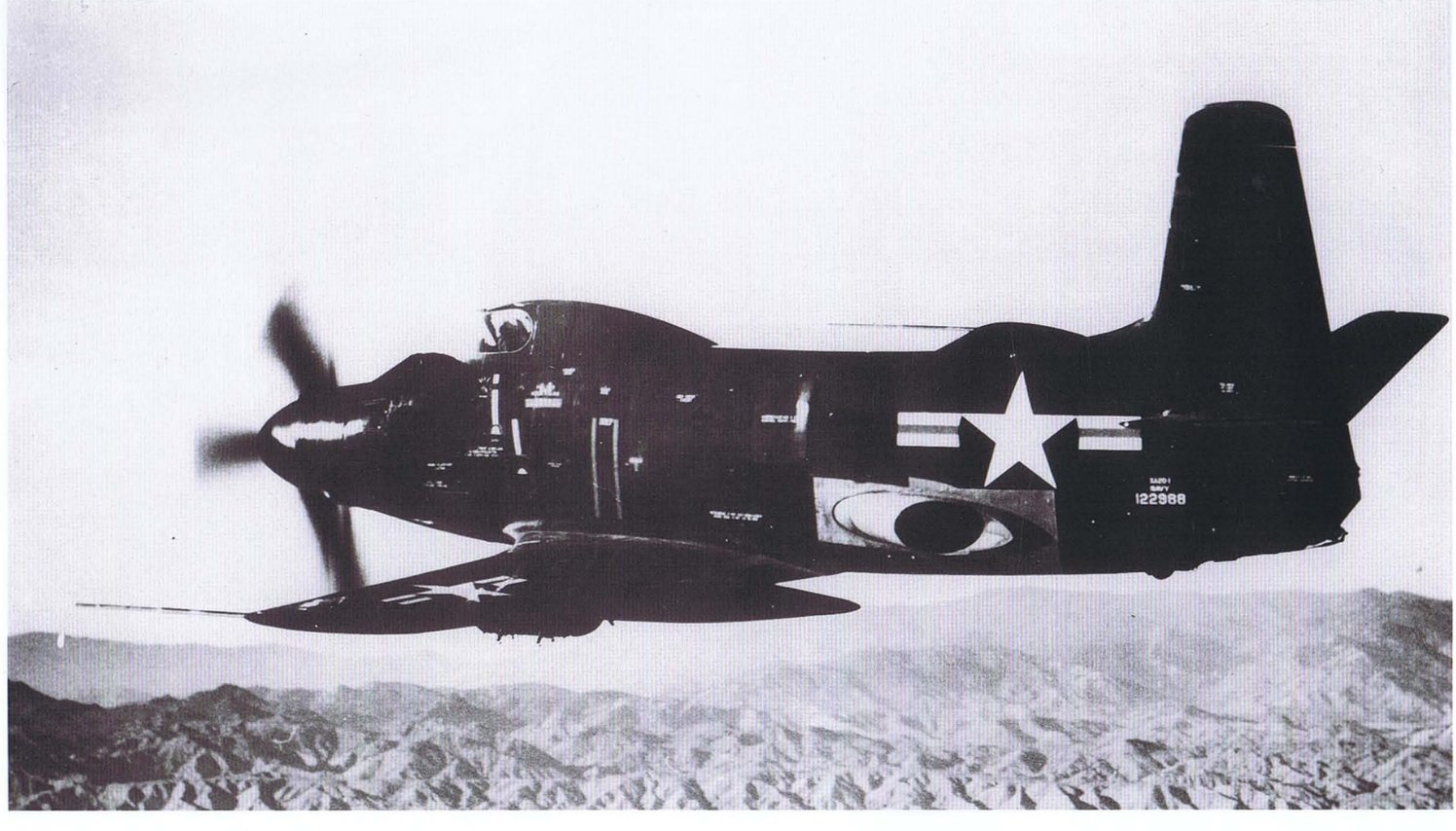
PDF 4MIL-D-5549 2MIL-D-5550 5-21-54 NAMC

This code indicates predoped fabric; 4 coats clear dope MIL-D-5549; 2 coats camouflage dope MIL-D-5550; finished May 21, 1954 by Naval Air Material Center, Philadelphia, Pennsylvania.

SR-2h was superseded on March 9, 1955, by the new Military Specification MIL-I-18464(Aer), *Insignia and Markings*

Left: The numerous service markings that could be applied show clearly on this Sea Blue reserve F9F-6 from Los Alamitos, California. **Below Left:** The NO PUSH along the elevator trailing edge as well as the doping code on the bottom of the rudder can be seen on this F4U-5 being respotted on the deck of the USS Coral Sea (CVB-43) during a 1950 Mediterranean cruise. **Below:** Navy acquisition of TO-2 was through the US Air Force. This aircraft shows its lineage by displaying the serial numbers of both services. **Bottom:** While still in the experimental stage, this XA2D-1 displays a full assortment of servicing and technical instructions.

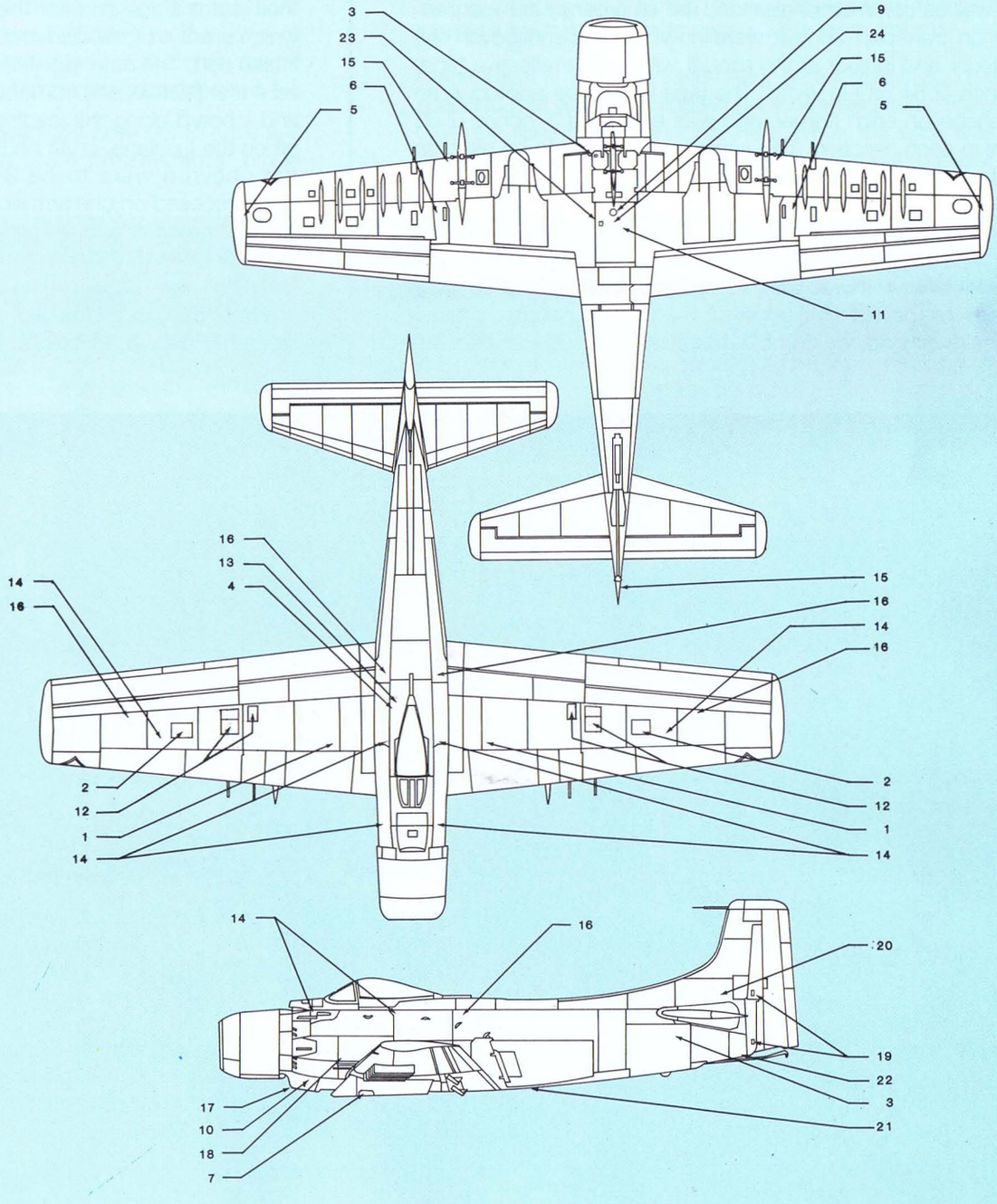




Right: With its wing folded, this Douglas AD-4N was an interesting exhibit at the 1954 Dayton air show. Aside from Bu No124739, and type identification, there are no unit markings.

List of Servicing Instructions

1. AILERON CONTROL ACCESS
2. AMO CAN ACCESS
3. ARRESTING HOOK AIRVALVE & GAUGE INSIDE
4. CAUTION: USE ONLY GRADE 115/145 FUEL PER AN-F-48
5. DISCONNECT ELEC. WIRING BEFORE REMOVING WING TIP
6. DISCONNECT ELEC. WIRING & CONTROLS BEFORE REMOVING OUTBD. WINGS
7. DROP TANK INSTRUCTIONS INSIDE
8. EXTERNAL POWER RECEPTACLE 28 VOLTS D.C. 115 VOLTS A.C.
9. FUEL DRAIN INSIDE
10. FUEL STRAINER
11. FUEL TANK VENT
12. GROUND HERE
13. GUN ACCESS
14. HOIST (top of wing & 2 on fuselage)
15. JACK HERE (2 places)
16. JURY STRUT SOCKET (on top of wing and fuselage)
17. OIL DILUTION VALVE ACCESS
18. PLATFORM
19. SPRING TAB MECH.
20. STAB ACTUATOR
21. STEP
22. UNLOCK TAIL WHEEL BEFORE TOWING
23. WARNING — DEADLY POISON IF TAKEN INTERNALLY
24. WATER TANK DRAIN



TYPICAL MAINTENANCE INSTRUCTIONS

Left: The Insignia Red propeller warning stripe did not show up too well on a Sea Blue aircraft as can be seen on the P2V-5 of Weather Reconnaissance Squadron 3. **Below:** This VMF(N)-531 F3D-2 Skyknight has a red warning stripe in line with the turbine as a warning due to the possibility that a blade could be thrown free when the engine was running.

for Naval Aircraft. Safety markings on aircraft were becoming more important as the use of aircraft increased in the military as well as commercial aviation. The emergency escape panels on transport aircraft were now to be identified on the exterior and interior of the aircraft with yellow reflective tape, 1 inch (2.54 cm) in width. The tape was to be applied in an L-shape on each corner, and was to extend 3 inches (7.62 cm) in each direction. This same marking was to be used on patrol aircraft, but on the inside only.

The hazard to personnel around the intake of operating jet engines had been well-publicized to all working on this type aircraft. Now, it was also to be graphically indicated. The areas of the leading edge of the wing, fuselage, engine nacelle or pod, or combinations thereof, adjacent to the sides of a jet engine intake were to be marked. An Insignia Red warning chevron was to be applied so that the arms at their outer sides contact the edge of the intake at points which are 3/4 of the diameter, or 3/4 of the short axis, of the intake port. The outer points of the chevron were to be located 4 feet (121.42 cm) from the center of the intake, outboard and inboard along the leading edge of the wing, forward or aft on the fuselage, or aft on the nacelle or pod. The arms of the chevron were to be 3 inches (7.62 cm) in width. Superimposed on one arm of the chevron was the word JET, and on the other arm the word INTAKE in Insignia White letters 2 inches (5.08 cm) in height. The Insignia Red word DANGER with an arrow head pointing to the point of the chevron was superimposed on a stripe of Insignia White, 3 inches (7.62 cm) in height. The height of the letters and

Right: The propeller warning stripe completely encircles the fuselage of this R4D-5 assigned to Marine Aircraft Maintenance Squadron 10 in Korea in 1953. **Bottom:** The contrast between White and Dull Red markings is clearly evident on this replacement F3D-2 of VMF(N)-513 in Korea.

length of the arrow were to be 2 inches (5.08 cm). The dimensions as specified were to be adhered to in general; however, they could be varied depending on the location. The word DANGER with the arrow pointing to the edge of the intake could be applied within the V of the chevrons, if necessary, due to space limitations or other considerations.

Aircraft with instrument static openings were not to have any finish applied within a 1 inch (2.54 cm) diameter circle around the opening. A red 1/2 inch (1.27 cm) wide circular band was to be applied around this unpainted area. The following wording was to be applied adjacent to the band: INSTRUMENT STATIC OPENING — DO NOT COVER.

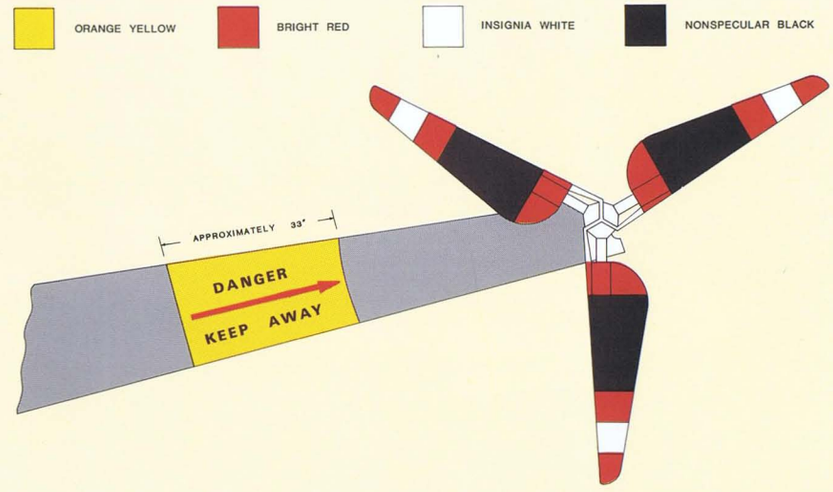
Amendment 1 to MIL-I-18464(Aer), dated March 30, 1956, specified that aircraft having wing fold warning flags, were to have the flags painted Insignia Red. When the wing was in the spread position, this red warning flag was not to show.

Aircraft with flush type pressure fueling caps were to have three Black radial lines painted across them. These lines were to be 3/8 inch (.952 cm) wide and 120° apart and were to extend 1 inch (2.54 cm) beyond the cap on the adjoining surface. The line positioning was to be such that they formed a continuous line when the cap was in the locked position. A sign stating the type and grade of fuel for servicing the aircraft was also to be applied adjacent to the filler cap.

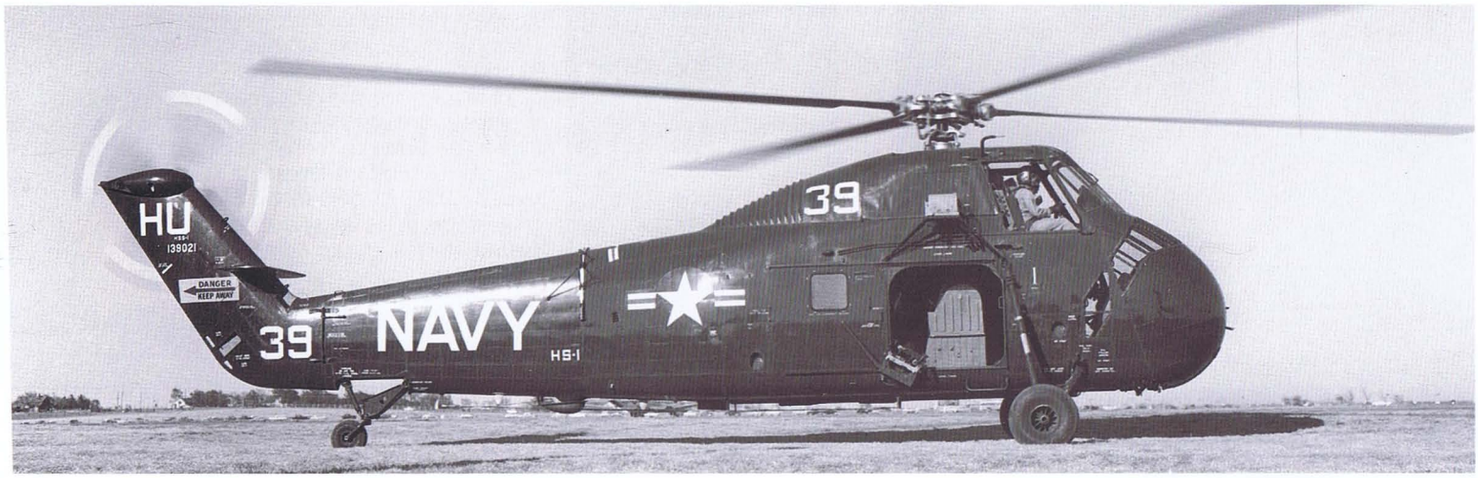
Helicopters having tail rotor guards and/or stabilizers were to have warning markings applied to prevent ground personnel accidentally running into them. These markings consisted of 2 inch (5.08 cm) wide alternating stripes of Orange Yellow and Insignia Red encircling the guard or stabilizer.

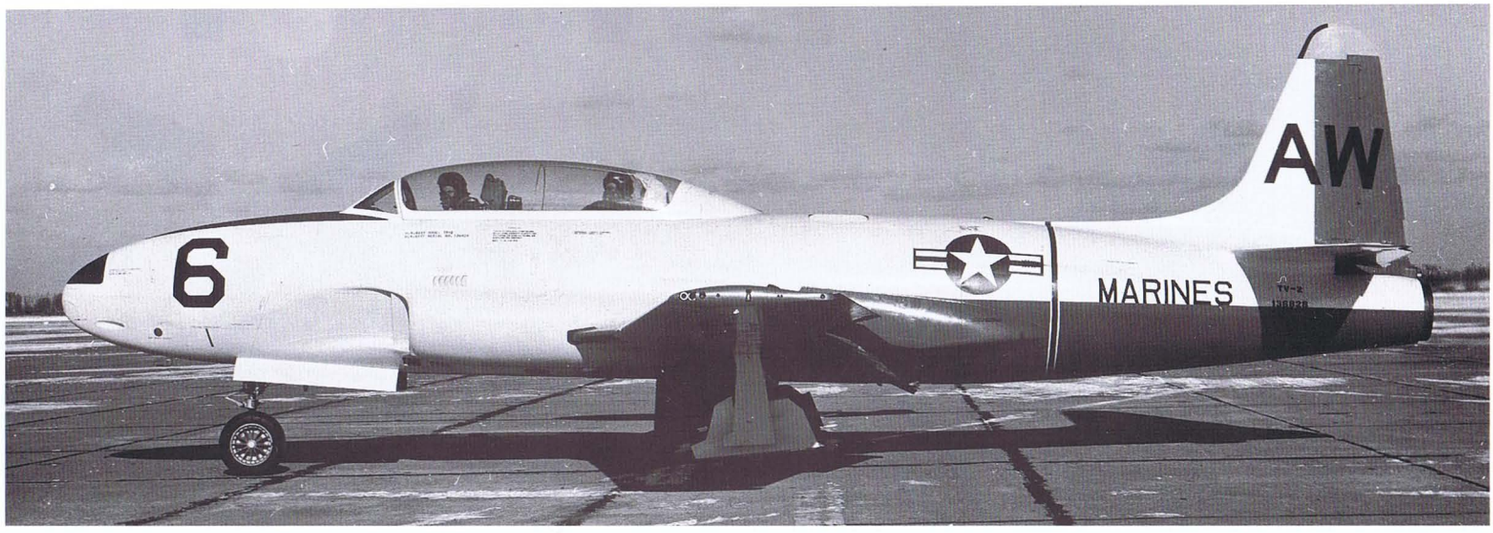
As more and more maintenance and safety markings were applied to aircraft, some models tended to have a cluttered appearance. MIL-I-18464B(Aer), dated September 30, 1958, authorized the reduction in height of the letters to a minimum of 1/2 inch (1.27 cm) if space limitations did not permit the 1 inch (2.54 cm) size or if the application of the warning legends, maintenance markings, etc., resulted in an unsightly appearance. In any event, the application of Black maintenance markings on the White under surfaces was to be kept to a minimum.

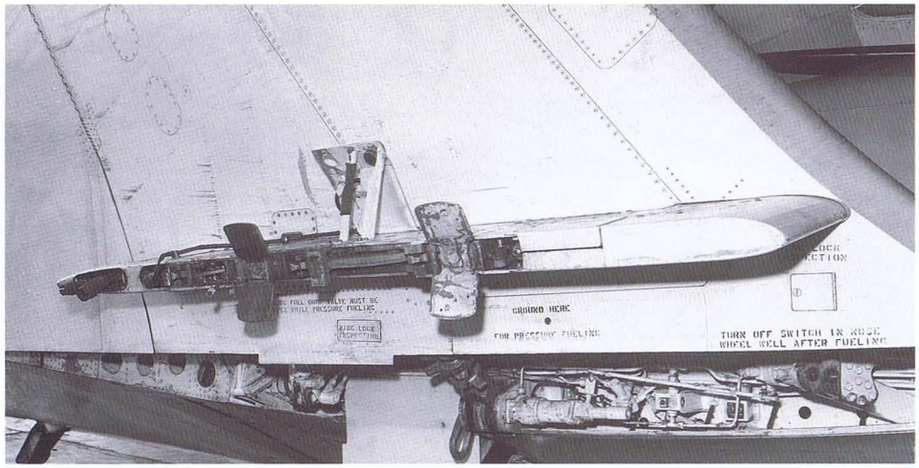
Above: Some of the numerous technical markings that could be applied to the bottom of an aircraft are seen on the landing gear door of this F9F-5 in August 1954. **Below:** Not all aircraft displayed as many service type markings as are shown on this Sea Blue FJ-3. The two circles surround the fuel filler caps. Opposite **Right:** The tail rotor warning instructions had to be applied to the tail pylon of the HSS-1 rather than as shown in the drawing above. The national aircraft insignia has been applied far enough aft so it is not covered by the open door. Opposite **Right Bottom:** It is the forward rotor blades that were a safety problem on the HUP-2 as shown on this Helicopter Antisubmarine Squadron 1 aircraft.



HELICOPTER TAIL ROTOR SAFETY MARKINGS
AFTER MARCH 9, 1955

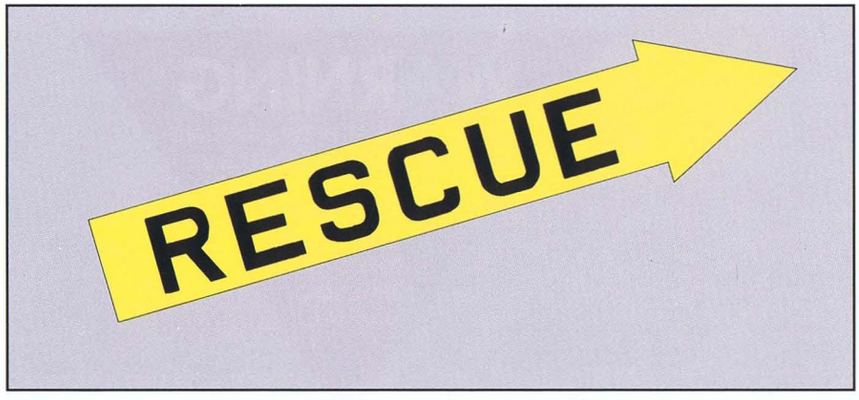




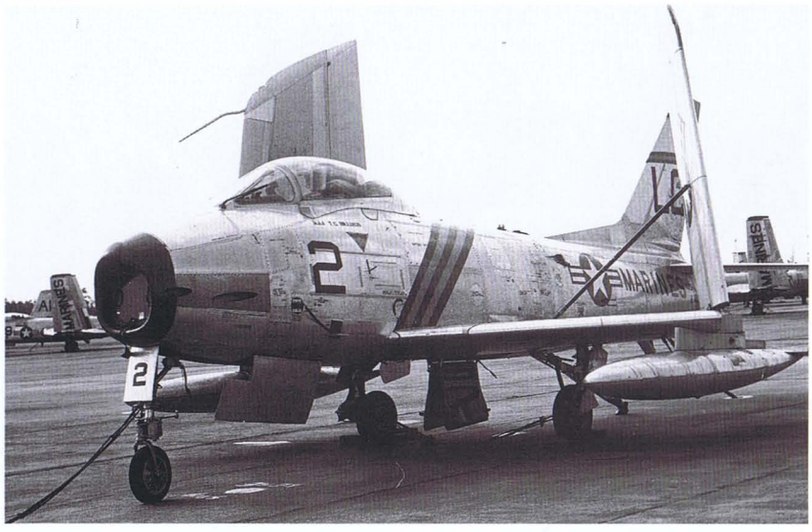


Above: A Lockheed TV-2 of Headquarters Squadron, Marine Aircraft Group 24 with high visibility scheme again shows the concern over the early turbine wheel throwing a blade. **Left:** Due to their small size most technical markings such as these on a F9F-8T do not show on photographs of the entire aircraft. **Below:** The rain erosion Cora-Guard on the leading edges of the wing and tail surfaces on this FJ-3 was dull aluminum, while the distinctive markings are red outlined with white.

Right: The rescue and hazard warnings to be found near the cockpit are clearly visible on the Douglas A4D-2 of VMA-224 at MCAS Yuma. **Below:** Yellow with Black letter rescue arrows were originally red with White letters. **Below Right:** Some of the rescue instruction to be found on an airplane are shown by the rear seat of this F9F-8T.

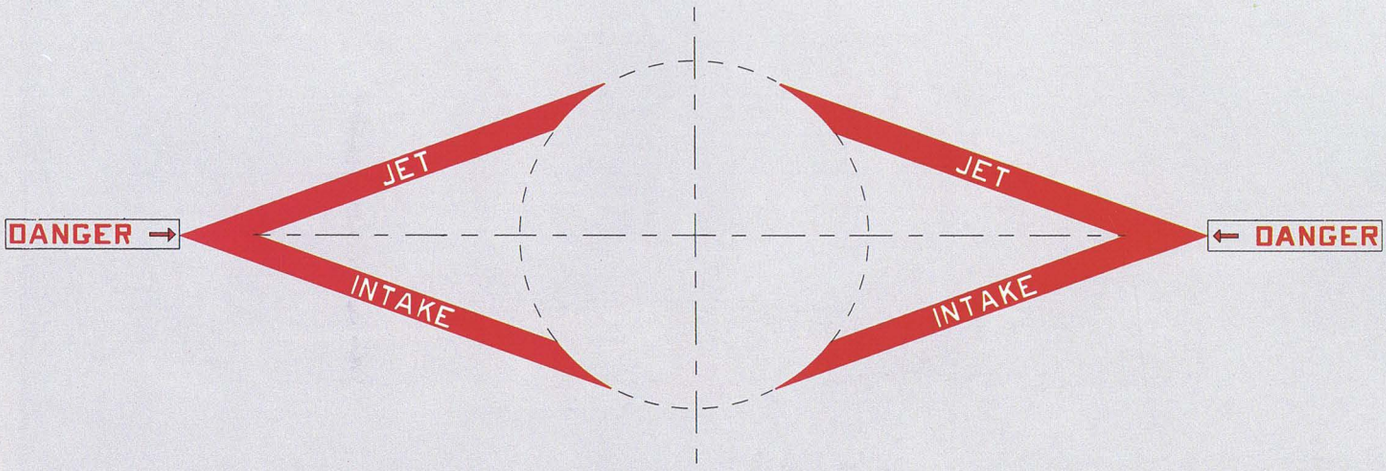


This McDonnell F2H-2 Banshee of the Red Ripper squadron (VF-II) shows its meritorious achievements as well as a record of missions flown in Korea.

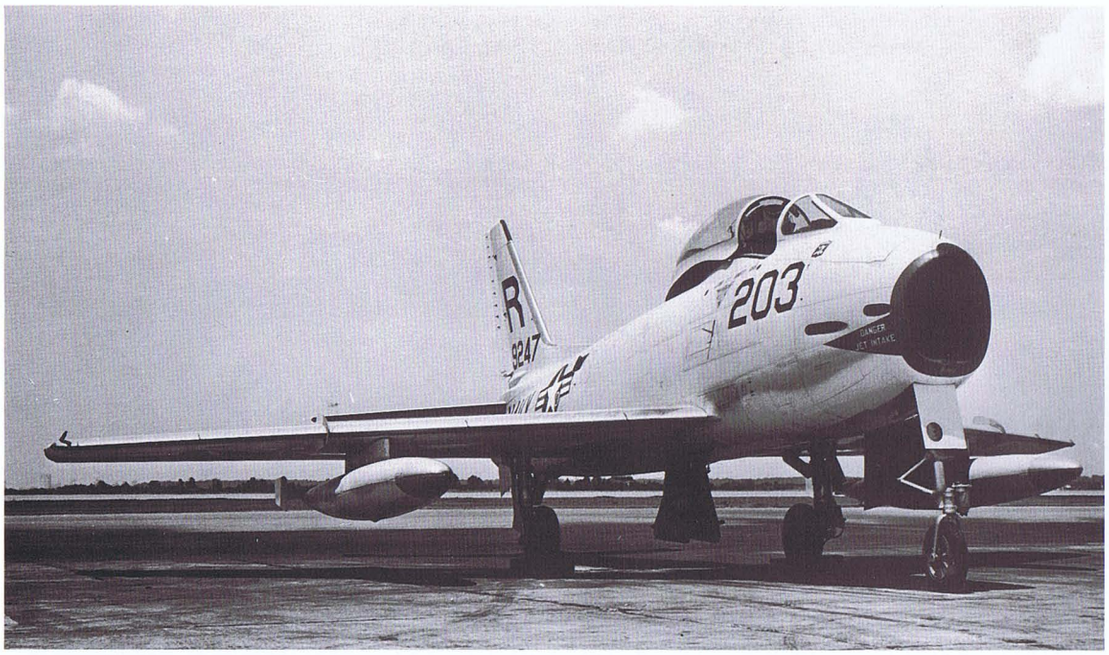


Top Left: The shine of bare metal makes it more difficult to see, but there are just as many maintenance and safety markings on this FJ-2 as seen on page 172. **Top Right:** Note the danger warning for the hot tail pipe on this FIIF-I and the production block letter d after the bureau number. **Left and Right:** Typical explosive activated device warning labels.

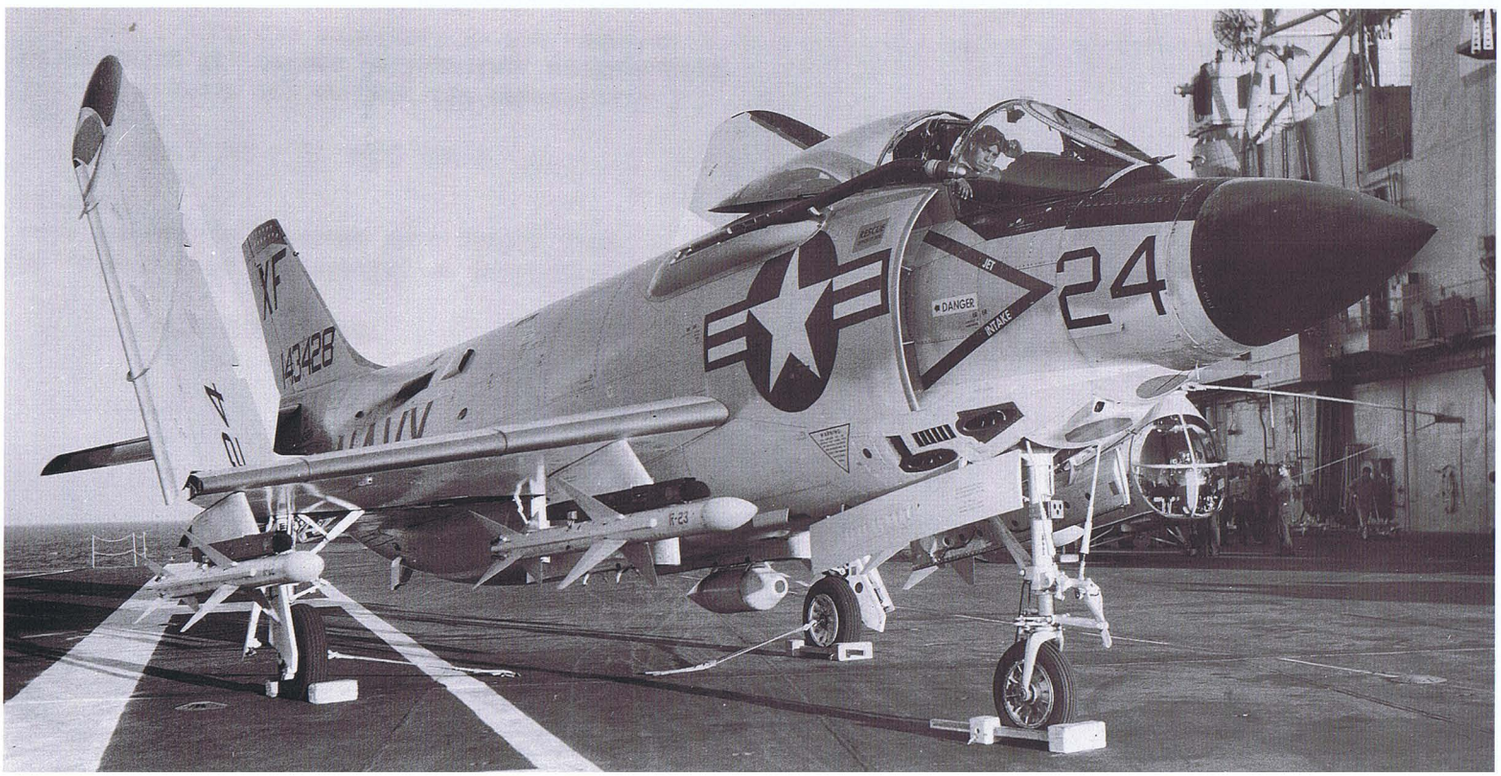
F4D-I of VMF(AW)-531 is shown in1958. Due to its configuration the engine intake lip is solid red. The red rescue arrow was soon replaced with a yellow arrow in keeping with other rescue markings.



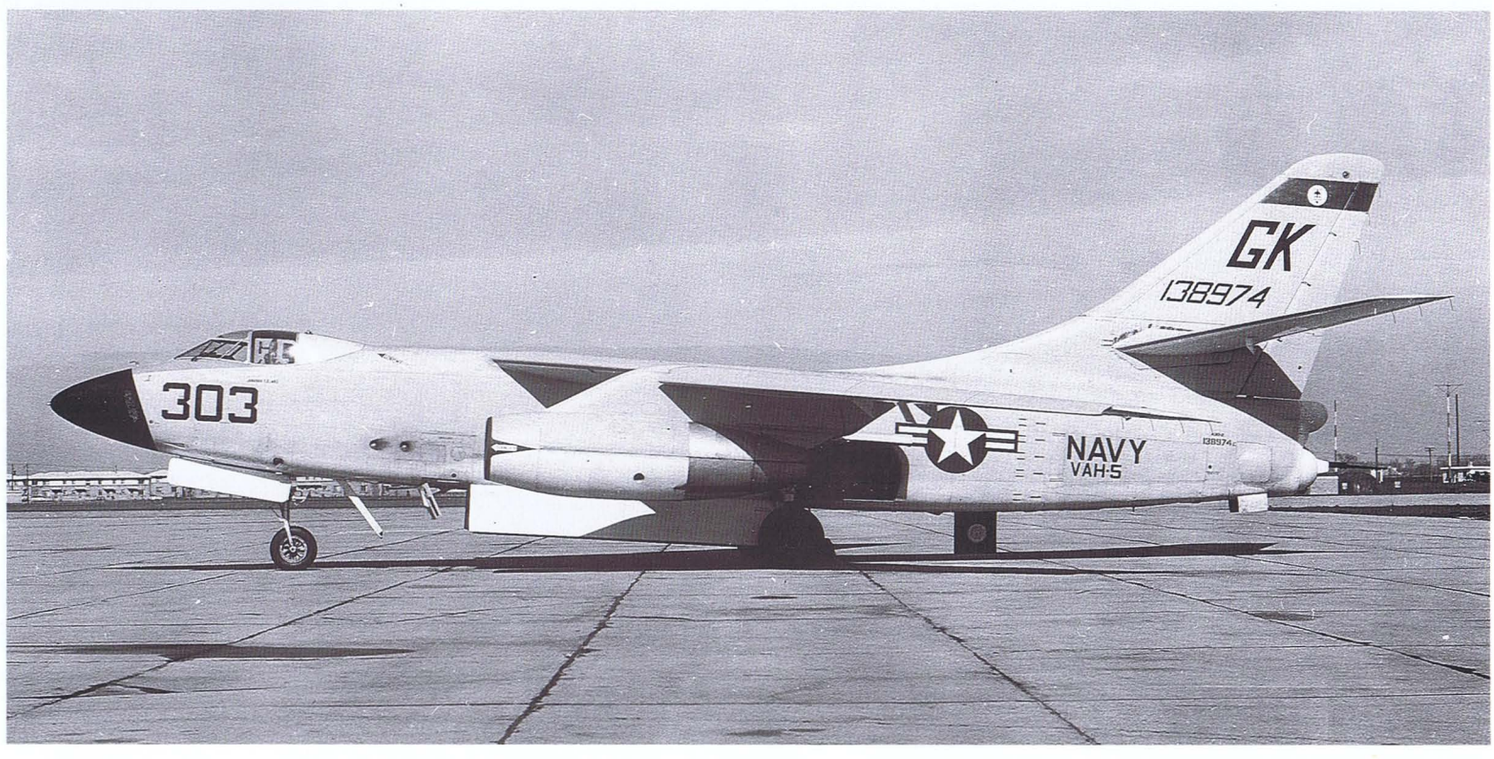
JET ENGINE INTAKE WARNING

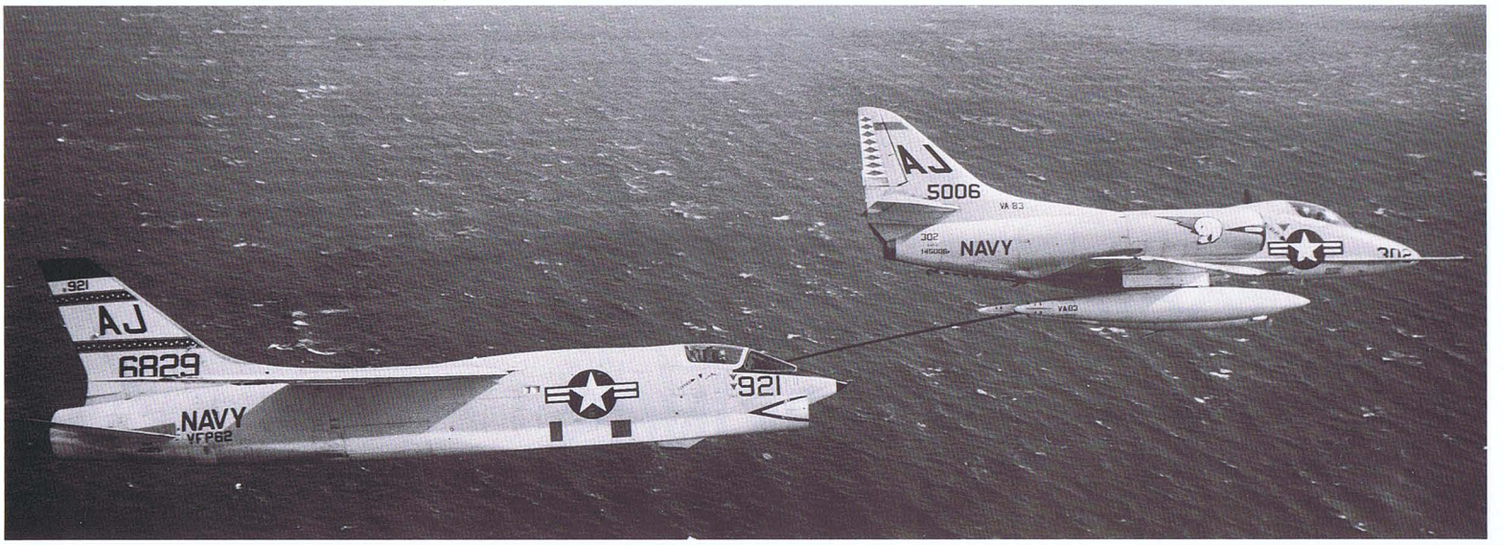


Right: The solid triangle rather than a chevron as well as a solid red band completely encircling the lip of the intake duct, except for the fiberglass fairing at the top for the radar, was a common practice on the FJs. **Below:** This VX-4 F3H-2 carries the prescribed jet warning chevron plus a red edge on the intake duct. Note the warning and rescue placards.

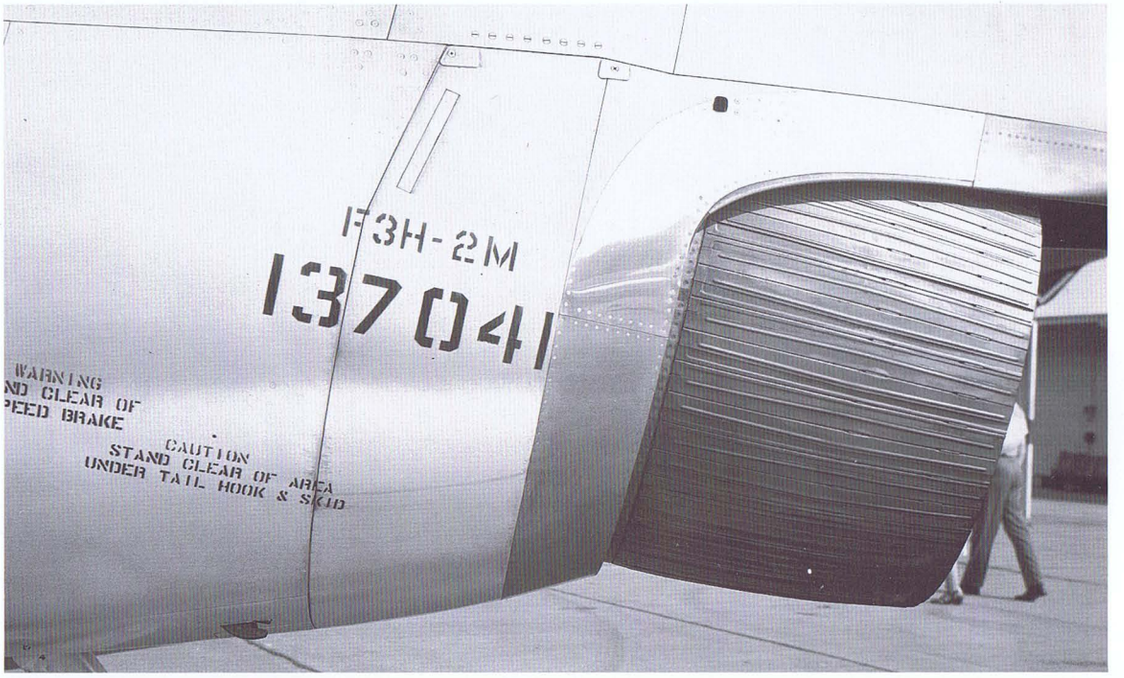


Left: Jet engine warning chevrons have been applied both fore and aft of the intake on this F3D-2 to insure it will be seen because of the low position and ease with which personnel could become involved. Due to the entrance being through the top of the cockpit, the rescue arrow is near the top of the fuselage in a position where the uninitiated might not look. **Below:** In contrast to the above, notice how small the engine intake warnings are on this Douglas A3D-2 Skywarrior.





Above: Interpretation of the instructions and difference in aircraft configuration resulted in completely different engine warning markings on these F8U-IP and A4D-2. **Right:** While there is no warning concerning the large hot tail pipe, this F3H-2M has other safety instructions applied. **Below:** Another view of FJ-3 technical markings on this white and gray aircraft of VF-173.



SECTION 5

MERITORIOUS RECOGNITION MARKINGS

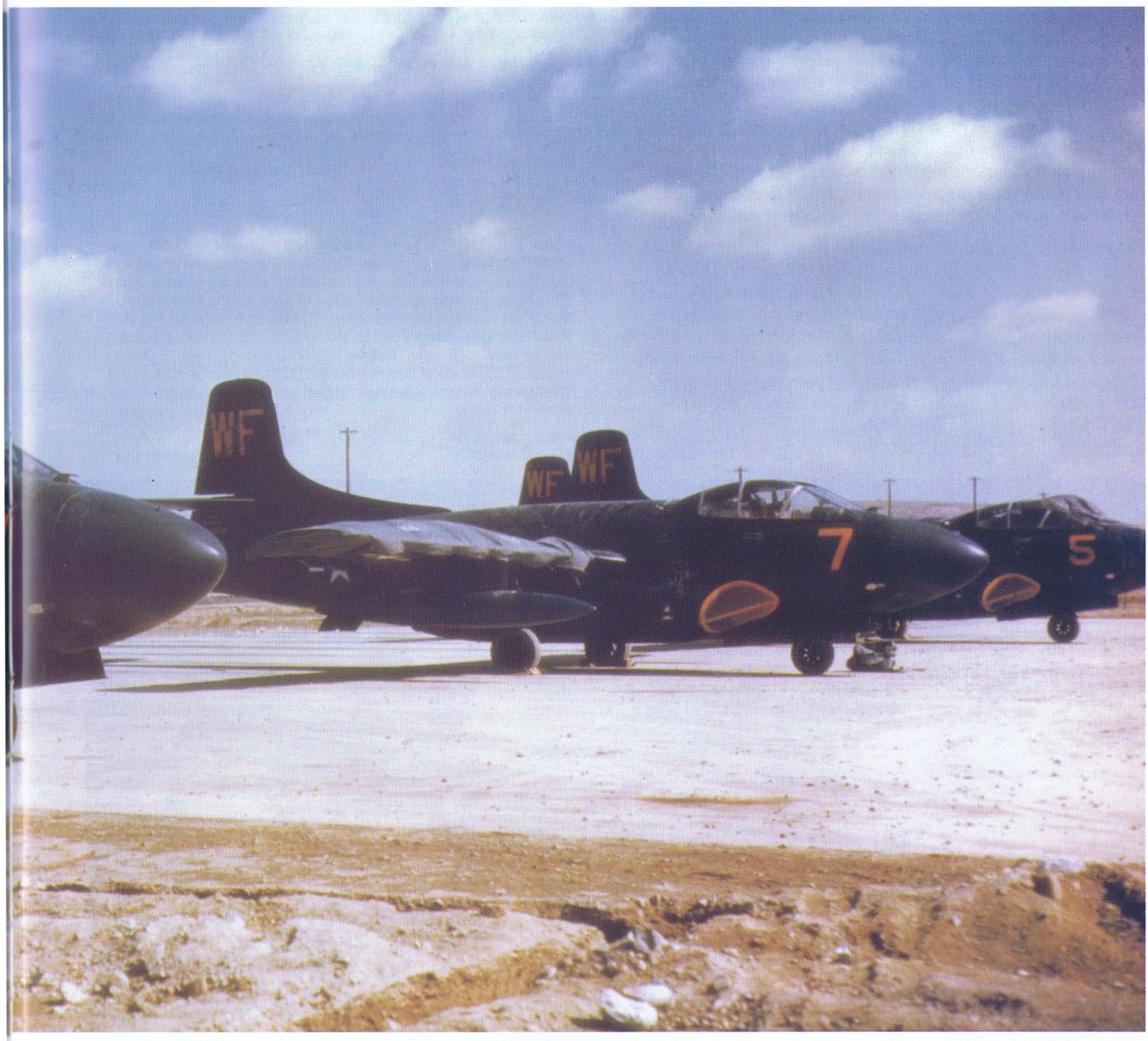
CHAPTER 5 1950-1959

The Chief of Naval Operations issued OPNAV INSTRUCTION 5030.2, dated September 25, 1951, which specified insignia that could be applied to ships and aircraft. Aircraft units were authorized to apply the following campaign and commendation ribbon replicas to their aircraft. Replicas of the ribbons of each service, area or campaign medal to which the aircraft would be entitled under the rules and regulations prescribed for individuals. A replica of the Navy Unit Commendation Ribbon, when duly awarded, could be displayed in the same locality as the other ribbons and was to take precedence over the service, area and campaign ribbons. When duly awarded, a replica of the Presidential Unit Citation could be applied in the same locality and was to take precedence over all others. Operation and service stars were to be displayed on the painted replica, to which the personnel serving in the aircraft unit at the time of the award were entitled.

In addition to the above, the Chief of Naval Operations considered that there was a beneficial effect to morale in the adoption of a crest or emblem and its use in recreational and social activities. The Commanders in Chief, Atlantic and Pacific Fleets, were to encourage the adoption of unit crests or emblems. However, these crests or emblems were not to be painted on or affixed to the exterior structure of an aircraft.

SR-1h dated June 16, 1952, specified that aircraft units were authorized to display campaign and commendation replicas painted on an appropriate location on aircraft as fleet commanders might prescribe. No other crests, emblems, individual squadron insignia, etc., were to be painted or affixed to the exterior structure of aircraft, except as authorized in applicable Chief of Naval Operations directives. This was the first time the Navy "E" had been dropped from the approved list of aircraft markings since World War II.

Right: The number of night missions flown in Korea can be seen on the number 1 F3D-2 of VMF(N)-513.

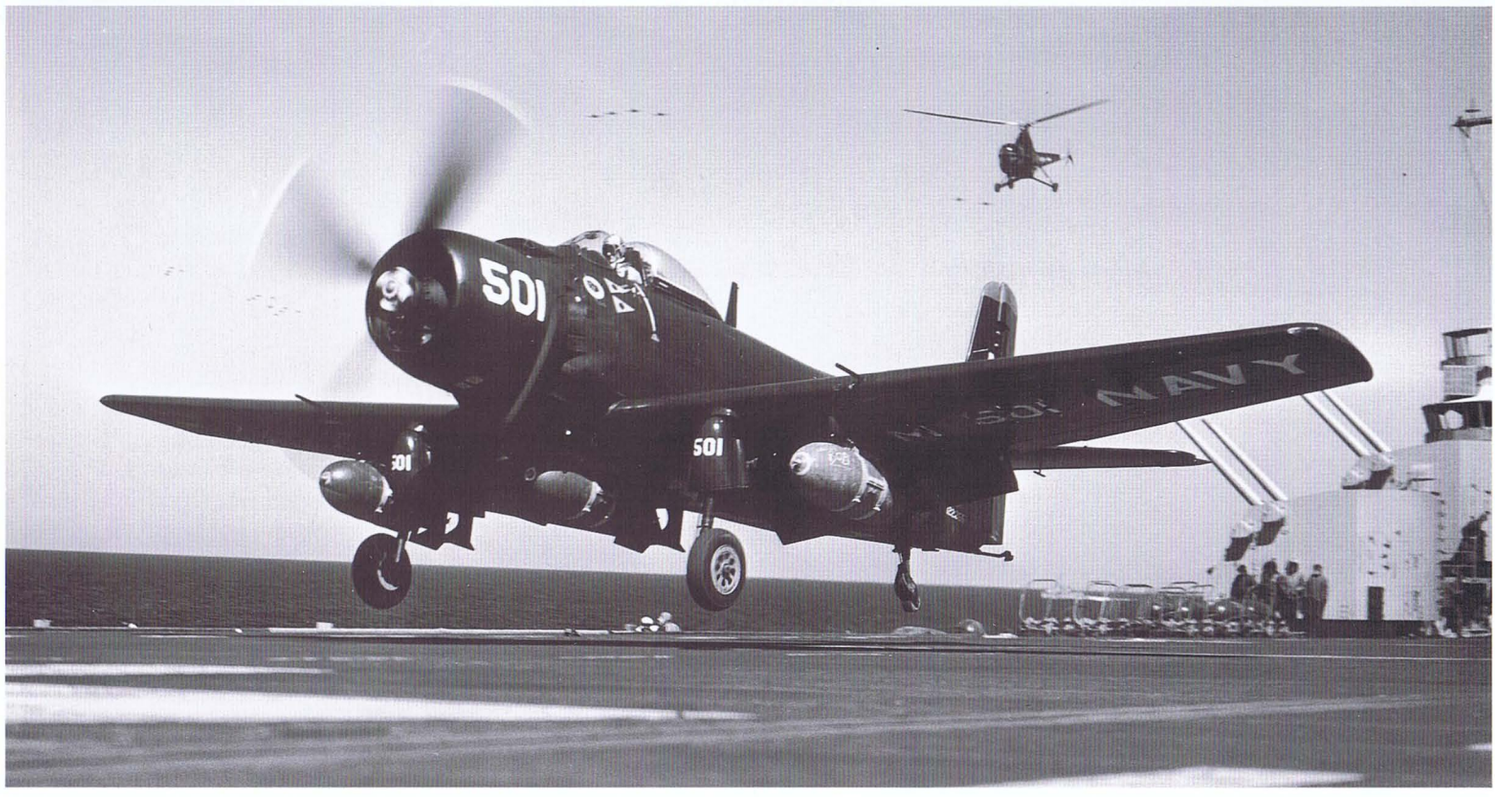

WF
WF
WF
7
5

Amendment No. 1 to Military Specification MIL-I-18464(Aer) dated March 30, 1956, directed that aviation units were authorized to display Naval Aviation Insignia in an appropriate location on aircraft, as fleet commanders might prescribe, in accordance with the requirements of applicable CNO directives. This meant the wings and anchor design as used in the pilot wings. The application of campaign and commendation replicas were not to be applied to the exterior surface of aircraft, except as authorized by applicable CNO directives. To date no such directive has been located.

Thus ended the Bureau of Aeronautics approval for the application of meritorious markings on US Navy and Marine Corps aircraft. The Navy "E" continued to be awarded by Commander Aircraft Atlantic and Commander Aircraft Pacific in place of the Bureau of Aeronautics. Requirements for the award were not the same in both commands, nor have the directives specifying the requirements been retained by these commands. As this was no longer a Bureau controlled award for all Navy/Marine Corps squadrons, no attempt has been made to track its use. While it continued to be applied to aircraft, it was an unauthorized marking.

A "S" denoting the Chief of Naval Operations Safety Award was also applied to aircraft but again it was not an approved marking which accounts for the variety of locations in which it was applied by various squadrons.

Above Left: This P5M patrol squadron had a sense of humor in recalling the 50s television performer Dagmar in the application of its excellency award. Note how far down the hull the white top extends. **Above:** While no longer included in the Bureau of Aeronautics painting directives, Fleet award of the E continued. The letters B and R on this VP-9 P2V-7 obviously were for bombs and rockets. It is assumed that the A was for the ASW mission. **Below:** This AD-2 taking off with 6,000 pounds (272.16 kg) of bombs from the USS Valley Forge (CVA-45) in 1951 shows an unusual arrangement of two Gunnery Trophy awards.



APPENDIX A AIRCRAFT DESIGNATION SYSTEM

As in Volume II, the system to designate naval aircraft during the period covered by this book, was a continuation of the system instituted in 1922. It was necessary to make numerous small changes in the designations to keep pace with the changes in naval aircraft and their missions. The tables contained in this appendix show the letters necessary to develop a designation for aircraft that were operational between January 1, 1950 and December 31, 1959.

Aircraft Circular Letter No. 45-50 (ACL 45-50), dated July 19, 1950, deleted the Type letter G to denote gliders, as all gliders had been stricken from the list of operational aircraft by this time. The letter H, to denote Air-Sea Rescue, was also deleted from both the rotary wing and lighter-than-air aircraft mission.

However, the mission of Submarine Search and Attack had been added to carrier-based aircraft. This resulted in the addition of the letter S, which once again produced the VS designation. This new designation requires careful consideration of the date when referring to a VS squadron to keep from confusing it with the earlier carrier-based Scouting squadrons, which were discontinued in 1946 with the introduction of the VA Attack squadrons. The S was also used in denoting rotary wing aircraft with the antisubmarine mission which gives the new designation HS.

There were five major elements in the system of Model Designation of Naval Aircraft as follows:

1. Type
2. Class
3. Manufacturer Model Sequence
4. Manufacturer
5. Aircraft Modification Sequence

The type of naval aircraft were divided into three distinct groups designated as follows:

1.	Heavier-than-air (fixed wing)	V
2.	Heavier-than-air (rotary wing)	H
3.	Lighter-than-air	Z

The letter V is omitted in the model designation. However, H and Z are used where applicable. The three types were further subdivided into classes in accordance with their basic mission as follows:

HEAVIER-THAN-AIR

(Type V fixed wing)

	Class	Class Designation	Type-Class Designation
1.	Attack	A	VA
2.	Fighter	F	VF
3.	Observation	O	VO
4.	Patrol	P	VP
5.	Transport	R	VR
6.	Submarine Search & Attack (carrier)	S	VS
7.	Training	T	VT
8.	Utility	U	VU
9.	Warning	W	VW

The class warning was added in 1951.

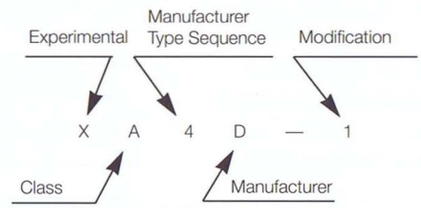
HEAVIER-THAN-AIR

(Type H rotary wing)

	Class	Class Designation	Type-Class Designation
1.	Observation	O	HO
2.	Submarine Search & Attack	S	HS
3.	Transport	R	HR
4.	Training	T	HT
5.	Utility	U	HU
6.	Cargo	C	HC
7.	Aircraft Early Warning	HW	W

The class Cargo was added in 1951, while Aircraft Early Warning was added in 1955.

In designating the first model of a class produced by a given manufacturer, the first number (1) is omitted in the Manufacturer Type Sequence position, but is shown in the Modification Sequence position. Thus in the VA class, the first attack aircraft built by Douglas Aircraft was the AD-1. When a major alteration not of a character to change the model was made in the AD-1, the modified aircraft became the AD-2. However, a later attack aircraft by Douglas was the A3D-1 and successive modification to this aircraft became the A3D-2. It must be remembered that the Aircraft Modification Sequence Number is always one digit higher than the actual modification number. This can be expanded to show additional characteristics as shown below. The letter X as a prefix designated an experimental model.



A letter suffix could be added after the modification number to indicate a special purpose.

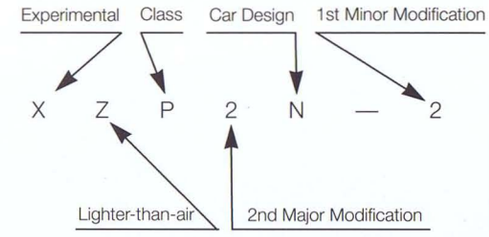
An aircraft designated earlier with two letters to designate Type/Class, such as JR for Utility Transport, continued to use both letters. Dual letters were also used in the case of helicopters where the Type letter H was used in conjunction with the class letter.

LIGHTER-THAN-AIR (Type Z)

Lighter-than-air aircraft at the beginning of this period consisted of just the two classes of Patrol and Training, which were shown by the letters P and T respectively. In 1953, training blimps were dispensed with and the T designation was only for free balloons. In 1954, the letter S was added to designate Search and Antisubmarine missions. The Antisubmarine mission was also added to the Patrol mission. The letter W was introduced in 1955 to indicate an Airborne Early Warning mission.

	Class	Class Designation	Type-Class Designation
1.	Patrol	P	ZP
2.	Training	T	ZT
3.	Patrol and Antisubmarine	S	ZS

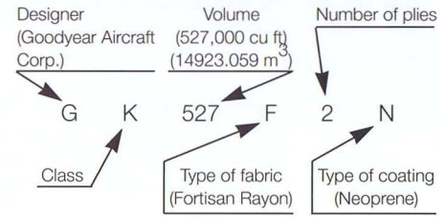
Lighter-than-air craft were designated by a system similar to heavier-than-air aircraft, except a letter followed the design number to indicate the series of the airship as it relates to design of the car and size in the same Type/Class. A number could be inserted immediately ahead of this design letter to indicate modification to the basic design. As in the case of heavier-than-air aircraft, the numeral 1 was not used. The designation was expanded with the addition of a numeral after the design identification letter (separated from it by a dash), to indicate a modification to the aircraft. In this case, the numeral 1 was used to indicate the first of the series, and succeeding modifications were numbered in sequence. A suffix letter selected from those shown in Table II could be added to indicate configuration for a special mission.



In 1954, lighter-than-air aircraft designations were changed to use the same system as was used for both fixed and rotary wing heavier-than-air aircraft.

The lighter-than-air envelope also had a designation code which was to be applied in 3 inch (7.62 cm) letters along the line where the car joined the envelope. This code consisted of the following elements:

1. Manufacturer's identification letter
2. Class (mission) letter
3. Volume in 1,000's of cubic feet (28.32 m^3)
4. Type of fabric
5. Number of plies in fabric construction
6. Type of fabric coating

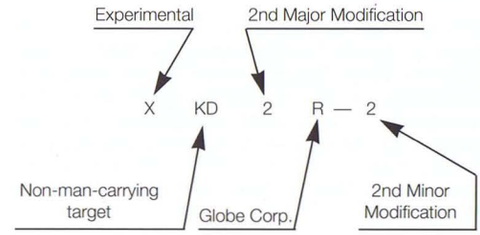


PILOTLESS AIRCRAFT

Pilotless aircraft were divided into two types as follows:

1.	Target Drones	K
2.	Guided Missiles	M

There were two distinct types of target drones used by the US Navy. Target drones (man-carrying) were conventional aircraft specially equipped for operation by remote control and intended for use as targets. These aircraft were designated by a suffix letter K after the normal aircraft designation. On the other hand, target drones (non-man-carrying), were aircraft in which no provision was made for a human pilot. These aircraft were designated by the letter KD in the Class/Type designation. These target aircraft were designated in the same manner as conventional aircraft.



apply to pilotless aircraft with an aircraft configuration, the entire missile family identification system is included.

The sequence of letters for missiles was completely different than that used to designate aircraft and was composed of the following components.

1. Prefix Letter

   X Experimental model

   Y Service test model

   R Research

   T Training

2. Class Letter

   A two letter combination of the letters — A (Air), S (Surface), U (Underwater) — in which the first letter designates the launch point and the second the impact point of the missile.

3. Type Letter

   The type letter M indicating missile followed the class letters.

4. Service Letter

   Each basic designation was followed by a service letter — A (Air Force), G (Army), N (Navy). After approved for joint use, the service letter was dropped and the designation was preceded by ANG.

5. Design Number

   The service letter was followed by a number to indicate the design number. These numbers were issued in sequence for each class.

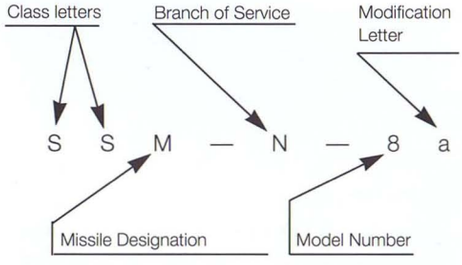
6. Modification Letter

   The model number was followed by a small lowercase letter to indicate the modification; a indicates the first modification, b the second and so on.

7. Designer's Letter

   There was no designer letter used in the designation of guided missiles.

This system generated designations such as the example below for the Regulus II surface-to-surface missile.



SPECIAL SUFFIX LETTERS

Throughout this series an attempt has been made to identify all of the prefix/suffix letters used in the identification of US Naval aircraft. There is one special use suffix letter that needs to be explained. That is the letter X. This suffix was not to appear on the aircraft and is of interest only to those who might be restoring an airplane of the period and have the aircraft logbook or other documents which might contain this suffix.

This suffix was established on April 4, 1951, with the issue of Aircraft Circular Letter No. 9-51, *Special Suffix to Model Designation for Aircraft Involved in Conversion.* It only applied to aircraft involved in conversion to a different configuration and was established for use in a reporting procedure to identify these conversion aircraft in the controlling custody of Material and Services, Bureau of Aeronautics.

aircraft which changes the aircraft enough to warrant a change of the model designation of that aircraft (e.g. TBM-3E to TBM-3W2 or JRB-5 to SNB-5, etc.). Conversion could be accomplished by either a major operating command or on an aircraft under the custody of Material and Services, Bureau of Aeronautics.

As soon as an aircraft was selected for conversion, regardless of the status or how long before it was to be converted, the reporting custodian reported the change showing the old designation and the designation which the aircraft was to be after conversion plus the letter suffix X, (e.g. from TBM-3E to TBM-3W2X, from JRB-4 to SNB-5X, or from F6F-5 to F6F-6KX, etc.). This X suffix to the model designation meant "to be converted to this model, but conversion not completed."

After the model designation change was first reported until the process of conversion was completed, all records and reports were to identify the aircraft with the new designation plus the suffix X. This included such records as the aircraft logbook and flight records.

Once the conversion was reported as completed, all references to the aircraft were with the new model designation without the suffix X.

TABLE I
CLASS DESIGNATION

← Denotes in existence prior to January 1, 1950

↔ Denotes in existence as of December 31, 1959

Class	Meaning	Period
A	Attack	↔
C	Cargo (transport helicopter)	1951 ↔
F	Fighter	↔
H	Air-Sea-Rescue	↔
KD	Target	↔
O	Observation	↔
P	Patrol	↔
R	Transport	↔
R	Rotorcycle	1955 ↔
S	Submarine Search and Attack	↔
T	Training	↔
U	Utility	↔
W	Air Early Warning	1955 ↔

Technical Note 11-55, *Designation of Rotorcycles,* dated December 19, 1955, added the letter R for rotorcycles as well as manufacturer letter N for Gyrodyne. The designation for rotorcycles followed the same sequence of letters and numerals as in conventional aircraft.

SPECIAL PURPOSE SUFFIX

Suffix Letter	Meaning	Example
A	Amphibious version	PBY-5A
B	Special Armament version	FJ-4B
C	Carroer version	SNJ-5C
D	Drone Control version (controlling aircraft)	FJ-3D
E	Special Electronics version	WV-2E
G	Search and Rescue version	P5M-1G
H	Hospital version	SNB-5H
K	Target Drone version controlled version)	F9F-6K
L	Winterized version	F4U-3M
M	Guided missile carrier	F7U-3M
N	All Weather Operating version	F7F-2N
N(A)	All Weather version stripped for day attack	AD-4N(A)
P	Photographic version	AJ-2P
Q	Countermeasures version	AD-3Q
R	Transport version	TBM-3R
S	Submarine Search and Attack version	AF-2S
T	Training version	R4D-6T
U	Utility version	S2F-2U
W	Airborne Early Warning version	PO-1W/ZPG-2W
Z	Administrative version	R4Y-1Z

Aviation Circular Letter No. 25-51 (ACL 25-51) dated July 13, 1951, directed the suffix letter L to indicate a winterized version.

TABLE III
CLASS DESIGNATION

← Denotes in existence prior to January 1, 1950

↔ Denotes in existence as of December 31, 1959

Letters	Manufacturer	Period
A	Ryan Aeronautical Co.	1955 ↔
B	Beech Aircraft Co.	↔
C	DeHaviland Aircraft of Canada	1955 ↔
D	Douglas Aircraft Co.	↔
E	Cessna Aircraft Corp.	1951 ↔
E	United Helicopters, Inc.	↔ 1952
E	Hiller Aircraft C.	1952 ↔
F	Grumman Aircraft Engineering Co.	↔
G	Globe Corp.	↔
H	McDonnell Aircraft Corp.	↔
J	North American Aviation Inc.	↔
K	Kaman Aircraft Corp.	↔
L	Bell Aircraft Corp.	↔
M	Glenn L. Martin Co.	↔
N	Gyrodyne Company of America	1955 ↔
O	Lockheed Aircraft Corp. (Factory B)	↔ 1952
P	Piasecki Helicopter Corp.	↔ 1955
P	Vertol Aircraft Corp.	1955 ↔
Q	Fairchild Engine and AirplaneCorp.	↔
R	Radioplane Co.	1955 ↔
S	Sikorsky Aircraft Division of United Aircraft Corp.	↔
T	Temco Aircraft Corp.	1955 ↔
U	Chance Vought Aircraft Division of United Aircraft Corp.	↔ 1954
U	Chance Vought Aircraft Corp.	1954 ↔
V	Lockheed Aircraft Corp. (Factory A)	↔
Y	Consolidated Vultee Aircraft Corp.	↔ 1954
Y	Convair Division (General Dynamics Corp.)	1954 ↔

A Lockheed P2V-5 of VP-7 is shown during 1953 on the visitors line at NAS Squantum.

APPENDIX B
OVERHAUL ACTIVITIES AND DESIGNATING LETTERS

In order to create complete doping codes, it is necessary to know the letter codes used to identify the overhaul facilities authorized to perform this work.

No later directives specifying when these facilities stopped doing fabric work have been located. It seems to have just slowly been terminated as the various facilities no longer had a requirement for fabric work.

Activity Designation	
NAS Alameda, CA	AL
NAS Atlanta, GA	ATL
NAS Coco Solo, Canal Zone	CS
NAS Dallas, TX	DAL
NAS Grosse Ile, MI	GI
NAS Glenview, IL	GLV
NAS Hutchinson, KS	HCH
NAS Kaneohe Bay, HI	KAN
NAS Lakehurst, NJ	LK
NAS Memphis, TN	MEM
NAS Miami, FL	MI
NAS World-Chamberlin Airport, Minneapolis, MN	MIN
NAS Moffett Field, CA	MOF
NAS Naval Air Material Center, Philadelphia, PA	MAMC
NAS New Orleans, LA	NEO
NAS Norfolk, VA	NOR
NAS Norman, OK	NMN
NAS Olathe, KS	OLA
NAS Pensacola, FL	PEN
NAS Pearl Harbor, HI	PH
MCAS Quantico, VA	QUA
NAS Richmond, South Miami, FL	RCH
NAS Squantum, MA	SQN
NAS Lambert Field, St. Louis, MO	STL
NAS Seattle, WA	SE
NAS San Diego, CA	SD

APPENDIX C

BLUE ANGELS

Of all the various paint schemes applied to US Naval aircraft, one of the most controversial is that employed by the Navy Flight Demonstration Squadron, the Blue Angels. While the Blue Angels are among the most visible, seen by thousands each year, the precise colors selected for the Blues since their beginning have not been carefully recorded. As a result, the question of what color the team used on a particular aircraft at a particular time is difficult to answer. There are several reasons for this.

First of all, these aircraft are painted in what the team deems the most appropriate scheme and not in accordance with any of the Bureau of Aeronautics directives. To further complicate reconstructing these markings, the scheme has been changed slightly at frequent intervals. In addition, nonregulation paint colors have frequently been used.

While they have been listed in the Aeronautical Organization tables, they, unlike most squadrons, have never submitted an annual Command History, so there is no official record of their activities. Queries to the squadron show that they have not maintained accurate records as to how their aircraft have been painted. Lacking these records it is necessary to go to the manufacturers' records of how they painted the aircraft at the factory. Not only do these drawings show the size and location of the peculiar markings, but they also specify the paint mixture to obtain the distinctive colors as first issued. Best of all, these drawings were approved by the commanding officer of the squadron. It is realized that once these aircraft were in the hands of the squadron, there were variations applied in the field and these variations cannot be fully documented.

Using the Grumman Aircraft Engineering Corp. drawing SP10106, we are able to determine that the six F9F-8s were painted at the factory as follows. The basic overall color of the aircraft was referred to as Blue Angels Blue and was made by mixing one part Insignia Blue with two parts Insignia White. The notes on the drawings show that previously this color consisted of one part Insignia White and three parts Insignia Blue. Basically, the aircraft were painted the same as production aircraft with the following exceptions. The top surface of the stub wing from the fuselage to the wing fold joint, and from leading edge to trailing edge was left natural metal. All external markings, including the national aircraft insignia, were omitted except those shown in the drawing. The aircraft were numbered consecutively on the fin from 1 to 6 with the Bureau Numbers 131205, 131208, 131210, 131211, 131212, and 131213. Even the lettering applied to the external surface of

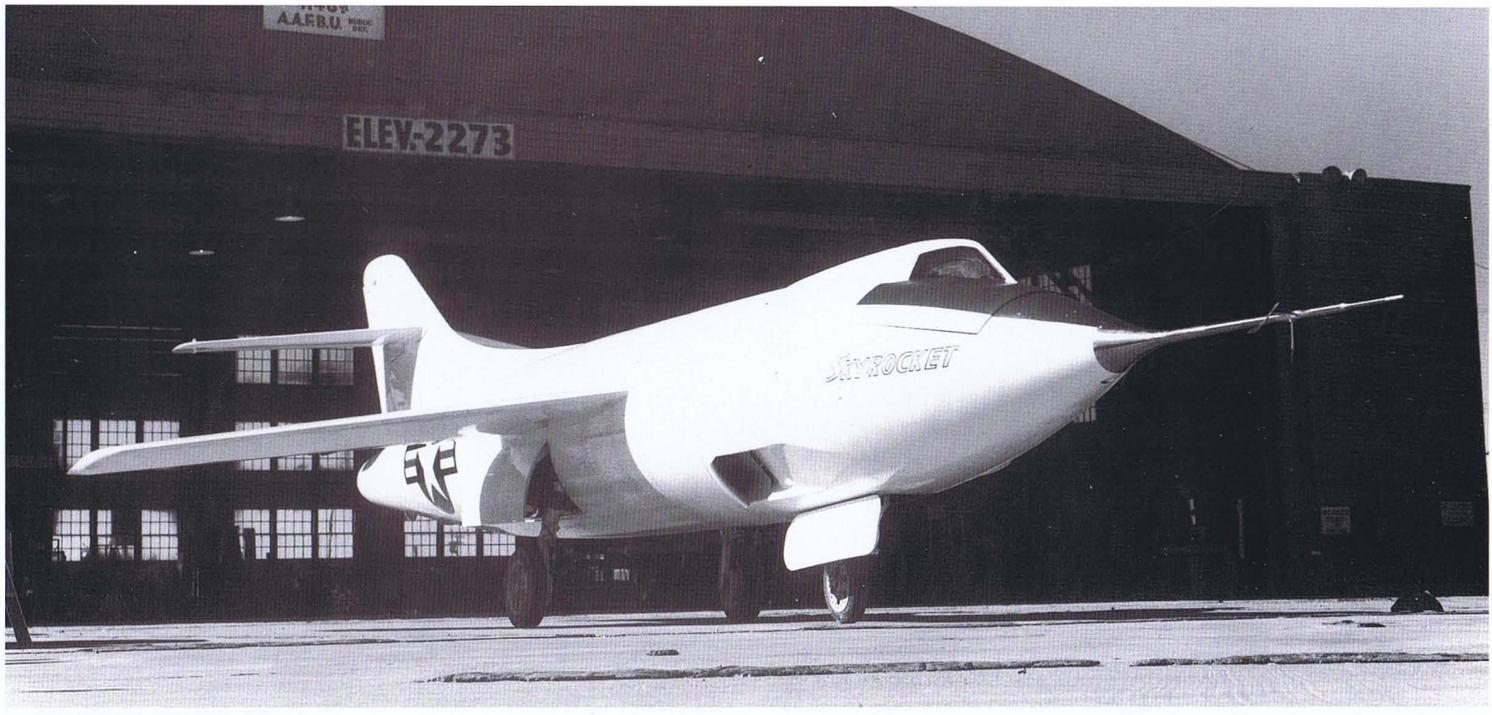
Top: The Blue Angels flew two of the F7U-ls for only a short period in 1952. **Above:** The unit insignia of the Navy Flight Demonstration Team (Blue Angels) is shown here on an F9F-5.

Grumman F9F-8T of the Blue Angels was their utility aircraft, marked number 7. It was painted the same as the demonstration aircraft.

the aircraft was nonstandard. On the side of the fuselage US NAVY was applied in letters 12 inches (30.48 cm) wide by 20 inches (50.80 cm) high, while on the under surface of the wings the letters were to be 14 inches (35.56 cm) wide by 24 inches (60.96 cm) high. This did not conform to the width-to-height ratio specified in the painting directives of the period. The name Blue Angels in script was a complete departure from all previous directives, which had always specified vertical block letters for all exterior markings on aircraft. All of the markings applied to the exterior surface and the wing tips were painted Orange Yellow. This color was obtained by mixing two parts Orange Yellow and one part Insignia White. While these special colors did result from the mixing of Federal Standard 595a colors, no attempt has been made to recreate these colors due to the numerous variables in paint batches. Consequently, there are no Munsell numbers for them, nor do they appear in the color chart.

Above: This TV-2 was operated by the Blue Angels as a team support aircraft.

This Grumman FIIF-I shows the special paint scheme which used colors not found in Federal Standard 595a but were created just for the Navy Flight Demonstration Squadron.



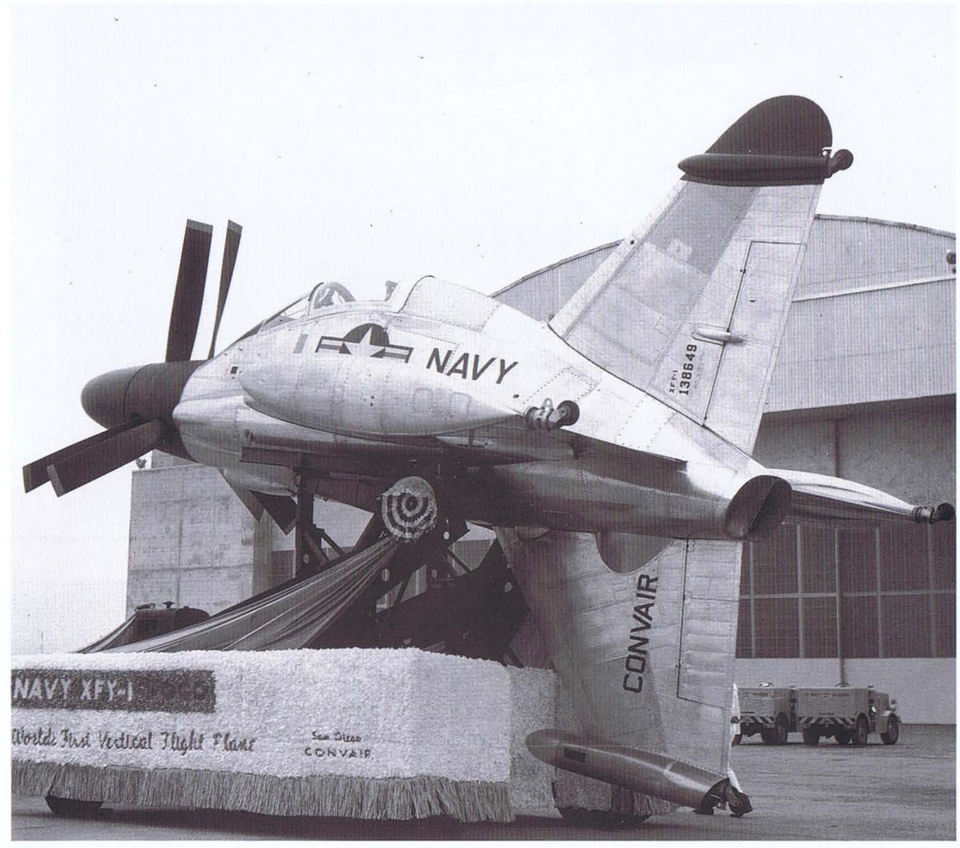
APPENDIX D RESEARCH AIRCRAFT

As discussed in Appendix A of volume two, the US Navy was instrumental in the development of a number of exotic research aircraft. In the decade of the 50s there were several design concepts built under the cognizance of the Bureau of Aeronautics. Most never passed beyond the prototype stage, but they were, nevertheless, historically significant. The Douglas D-558-II Skyrocket, shown above, was just such an aircraft. Built for the Navy at El Segundo, California, with the cooperation of the National Advisory Committee, the Skyrocket was the second model of the national scientific research project known as D-558 (see volume two for the first project, the Skystreak). Three Skyrockets were built, all powered by both jet and rocket engines. Painted a high gloss white overall, except the antiglare panel ahead of the cockpit, each carried the US national aircraft insignia only on the fuselage. On November 21, 1953, the Skyrocket became the first piloted aircraft to fly twice the speed of sound, attaining Mach 2.01 (1,327 mph) at 65,000 feet (2,136 km/hr — 19,812 m). All three Skyrockets still survive.

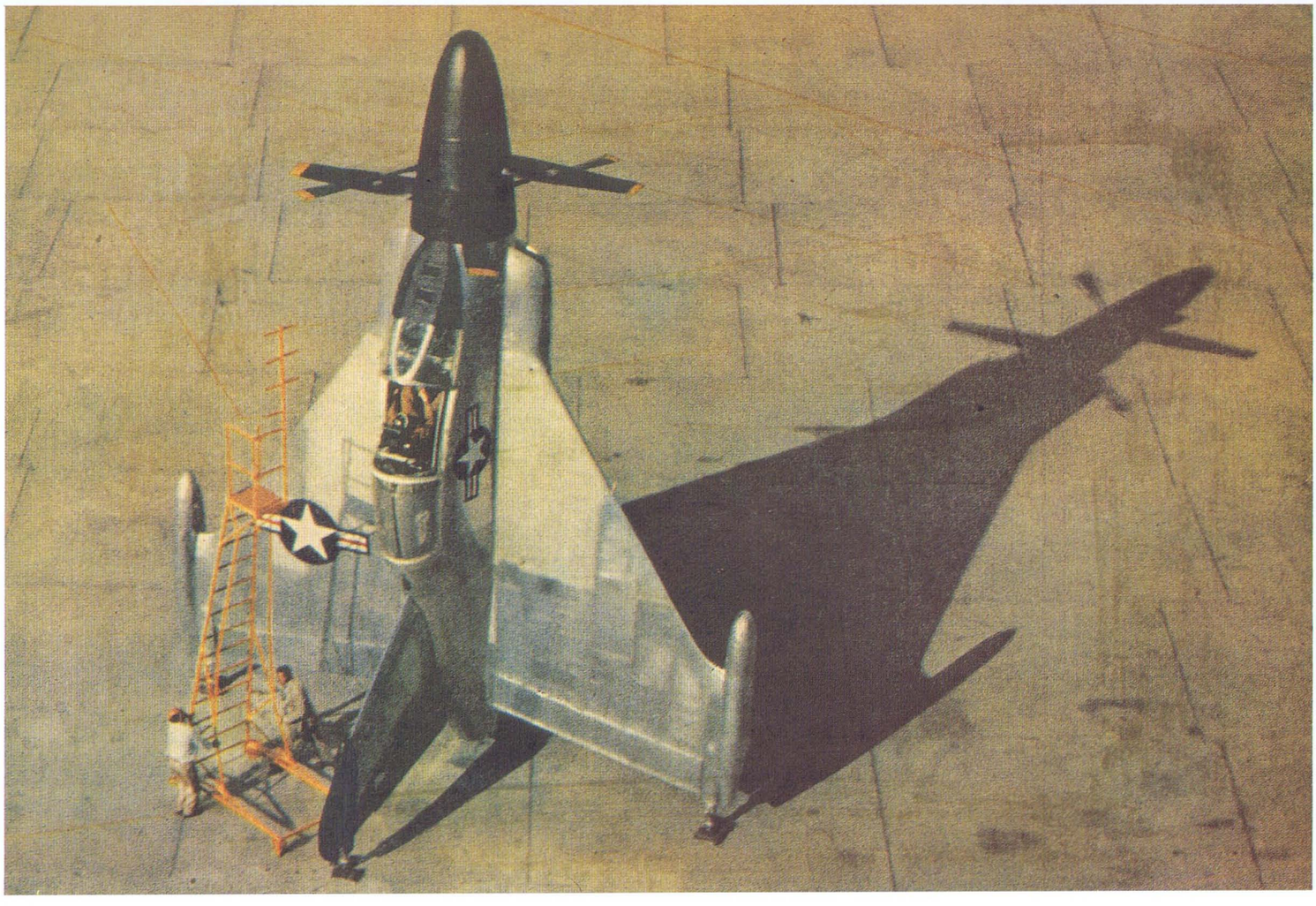
Shown below is the remarkable Convair YF2Y-1, Sea Dart, flying boat jet fighter, which was built with two afterburning J46S engines. It was painted in Sea Blue overall apart from yellow recognition stripes atop the fuselage and on the trailing edges of the vertical tailplane and wings. This aircraft tragically broke up in flight in November 1954 while attempting a high-speed, low-altitude pass over water. No national aircraft insignia was carried; but the word, NAVY, was painted across the fin. Only five aircraft were built in the 50s with at least one still surviving.

The highly unusual Convair XFY-1, Pogo, shown right and below, was designed to

offer convoy protection by operating off the deck of a freighter. It was to be serviced in the vertical position and was first flown vertically on August 2, 1954, without protective paint or camouflage, but was left in its natural aluminum finish apart from black spinner, prop blades and a section of the vertical tailplane. National aircraft insignia was carried on the wings and below the cockpit. The word NAVY was painted aft of the fuselage insignia, atop the starboard wing and beneath the port wing. Although flown successfully, the project never progressed very far before it was cancelled. The sole Pogo exists as part of the National Air and Space Museum collection.



The Convair XFY-1 Pogo, was powered by an Allison VT40-A-14 turboprop capable of developing almost 7,100 hp during take off. The pilot sat in a gimbal-mounted seat which could tilt forward 45 degrees when the aircraft was in the vertical position. As the Pogo rotated to horizontal flight, the pilot's seat also rotated to its normal position. The XFY-1's landing gear consisted of four small castoring wheels. Ground tests conducted with Pogo indicated that it could remain in a stable vertical position up to 26 degrees from level before it was in danger of toppling.



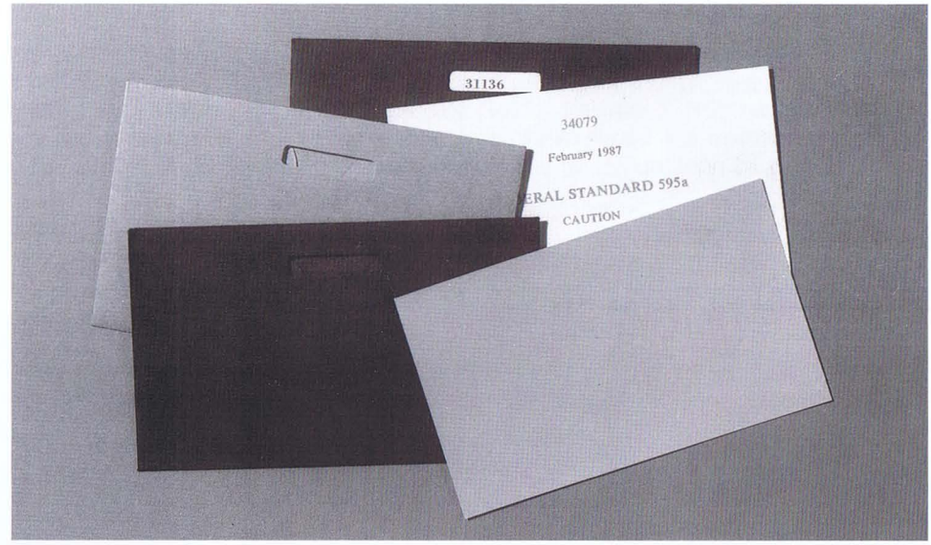
APPENDIX E
COLORS FOR US NAVAL AIRCRAFT

The paint chips in this Appendix cover all the colors described in this volume that were in use for painting and marking US Navy and Marine Corps aircraft between January 1, 1950 and December 31, 1959. There are some new colors that have not been shown in previous volumes. Some previously shown colors have been dropped from the chart as they are no longer used. As in the previous two volumes, Federal Standard 595a *COLORS* has been used to provide a consistent reference as the various colors are tracked through several numbering systems.

The following short explanation of the system should help those not familiar with this Federal Standard to understand how it and this Appendix E chart are laid out. When Federal Standard 595a was established in 1968, color names were not used as they could be so ambiguous. However, as time passed names have crept back into the system. All colors presented in this volume originally had color names in the previous systems. As color names have been use throughout the text, these names are included in the chart to make it easier to know which color is being referred to. The five-digit number used to identify a color consists of the first digit to identify the specularity or gloss of the color and a four-digit color number. A 1 in the first position indicates a glossy color, a 2 semiglossy, and a 3 a nonspecular or camouflage color. It can be seen that the same four-digit color number may have any one, or all, of the first digits. That does not necessarily mean that all three colors have the same name.

In the chart on the following pages, the right hand column gives the Munsell numbers for the colors still being used that can be traced back to the 1933 Bureau of Aeronautics color master. The Army/Navy Aeronautics Bulletins 157 and 166 were introduced in 1943 and identified the colors with a three-digit system. These were basically a direct carry-over from the previous two-digit system and their Munsell numbers show little change. In 1950, Federal Standard TT-C-595 was introduced to consolidate all of the various Federal color standards and established a four-digit color number system. This in turn was replaced with Federal Standard 595a. The left three columns show this series of numbers, their Munsell number, and color name. As the various systems were introduced, a cross reference was issued which showed the previous number(s) which the current number superseded. There have been numerous attempts to determine which color most nearly matches a previous color. Due to the numerous variations found in old color examples, we have made no such attempt to second guess these matches, but have relied on the published documents as to what was intended.

Fed Spec 595a	Munsell 595a Series	
10049	1.4YR 2.38/3.25	
11136	5.6R 3.9/10.1	
12197	8.6R 5.0/12.9	
13538	9.6YR 7.7/13.3	
14187	8.3GY 5.0/7.1	
15042	8.0B 2.8/0.8	
15044	6.0PB 2.6/1.6	
15102	4.3PB 4.0/7.3	
16081	1.2BG 3.8/0.2	
16473	8.8BG 6.9/0.6	
17038	3.8Y 2.4/0.1	
17875	2.0BG 9.3/0.3	
22246	9.9R 5.5/12.3	
26081	3.2B 2.5/0.1	
27038	3.2B 2.5/0.1	
28913		
31136	5.5R 3.9/11.7	
33538	9.6R 7.8/13.4	
34079	3.5GY 3.0/1.4	
34087	4.7Y 3.6/2.1	
34097		
34151	1.1GY 4.2/3.5	
36231	9.9BG 5.3/0.4	
36440	4.2GY 7.1/0.3	
(1)		
37038	2.7G 2.3/0.0	



Right: Federal Specification color samples were used to match the color chips found on page 193 and 194 of this volume.

COLORS FOR U.S. NAVAL AIRCRAFT 1950 — 1959

Color Name	Munsell ANA Series	Fed Spec TT-C-595	ANA Bulletin 157/166	Munsell 1933 Series	Remarks
Maroon	1.4YR 2.38/3.25	1010/1015	510		
Insignia Red	7.66R 3.13/11.55	1105	509	7.5R 3.23/11.7	
International Orange	9.3R 4.49/13.7	1205	508	9.3R 4.87/12.5	
Orange Yellow	1.2Y 7.13/13.05	1310/1315	506	1.4Y 7.72/15.05	
Light Yellow	8.5GY 4.67/8.15	1460	503	2.5GY 5.20/4.7	
Sea Blue	0.55PB 2.59/1.45	1505	623		
Insignia Blue	4.9PB 1.25/2.95	1510	502	5.8PB 1.16/3.9	
Light Blue	3.7PB 3.54/8.15	1520	501	4.6PB 3.60/9.2	
Engine Gray	2.7B 3.10/0.35	1610	513	7.6B 3.14/0.5	
Aircraft Gray	2.4B 6.68/0.8	1645	512	0.4PB 6.82/0.9	
Black	0.9PB 1.34/0.45	1770/1775	515	2.0PB 0.68/0.6	
Insignia White	4.2GY 8.93/0.6	1755	511	4.5GY 9.34/0.5	
International Orange		2205			
Seaplane Gray	(3)	(2)	625		
Instrument Black	2.4PB 2.30/0.4	2710	514		
Fluorescent Red-Orange	(3)	(2)	633		
Bright Red	5.2R 4.16/10.65	3115	619		
Orange Yellow	0.5Y 7.16/11.0	3305	614		
Medium Green	0.3G 3.57/1.85	3406	612		
Olive Drab	7.0Y 3.62/1.5	3412	613		
Field Green	(3)	(2)	611		
Interior Green	3.3GY 4.55/3.6	3430	621		
Dark Gull Gray	7.3B 5.36/0.5	3615	620		
Light Gull Gray	4.55GY 7.08/0.27	3635	602		see vol. 2
Light Gray	2.4GY 6.51/0.5		604		
Black	3.2PB 2.28/0.1	3725			

1. Not carried over to FS 595a — combined with AN-620 Light Gull Gray.
2. Not carried over to TT-C-595.
3. Color master no longer available.

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Balogh, William J. 31B, 32B
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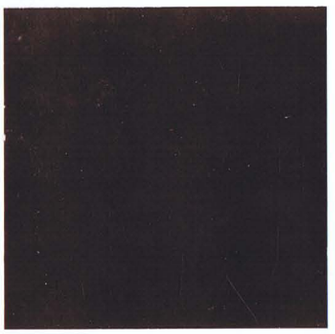
The twenty-five color chips shown below and on the next page are precise duplications of the colors specified in Federal Standard 595a and were in use during the period covered in this book. The application and usage of all these colors is described in *The Official Monogram U.S. Navy and Marine Corps Aircraft Color Guide, Volume 3, 1950-1959.* The application and general use of many of these colors is also relevant to the final volume of this series. If a question arises concerning a specific color match, the Munsell number should be used as the most precise documentation by which the color can be recreated.



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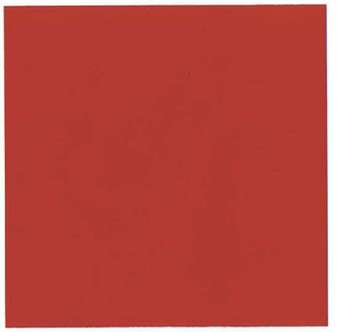

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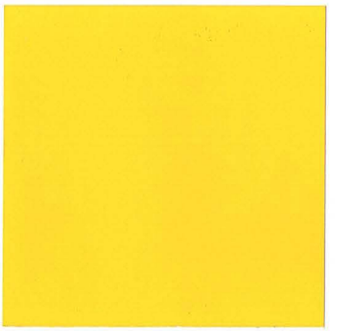

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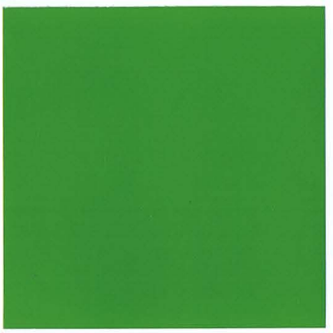

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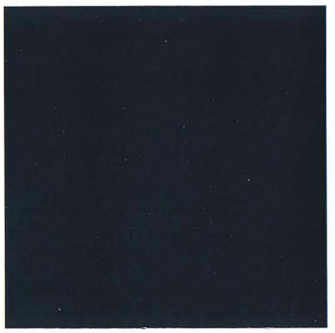

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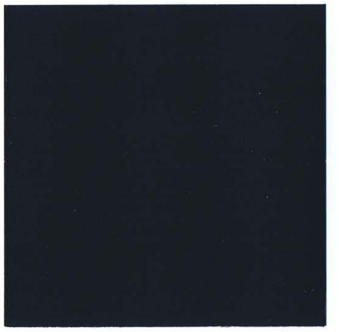

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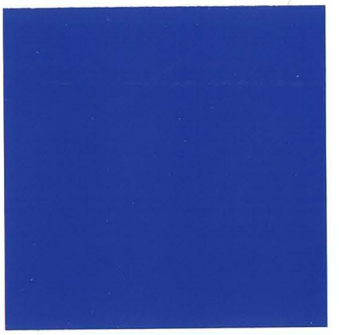

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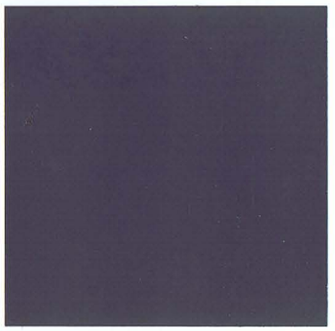

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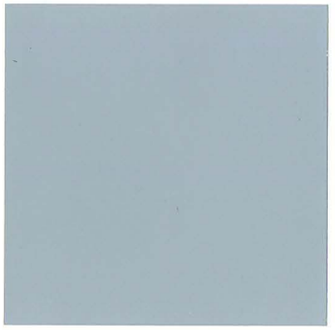

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BLACK 17038

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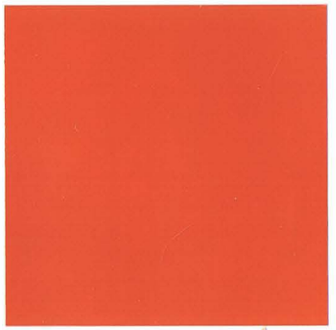

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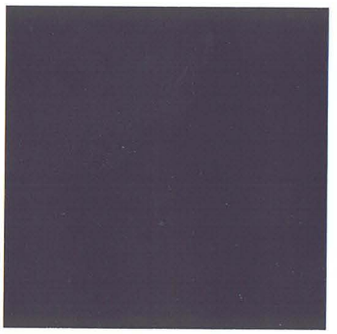

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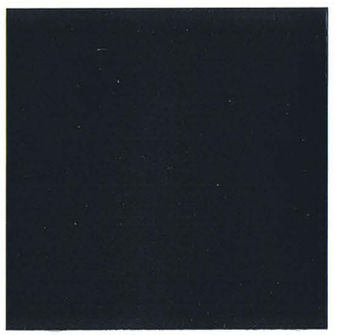

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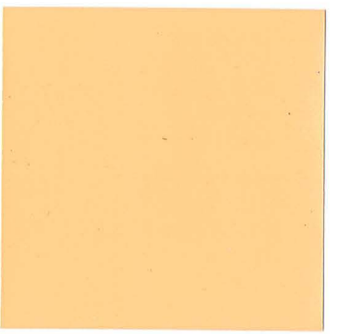

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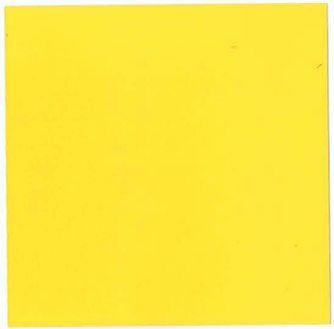
BRIGHT RED 31136



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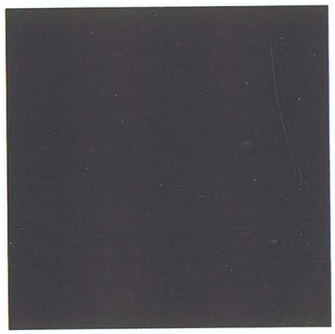

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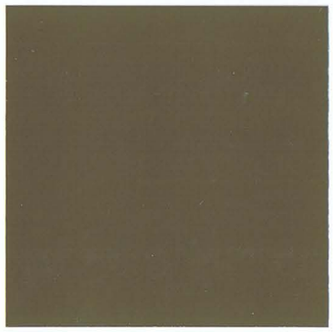

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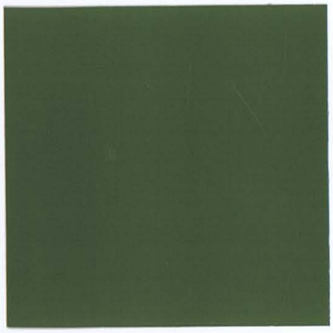

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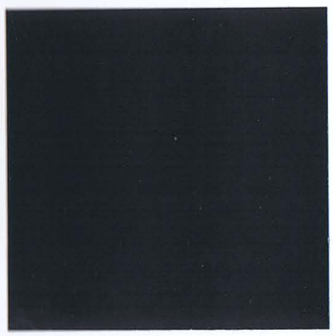

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