

SR-2b

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RESTRICTED

SPECIFICATION
FOR
NAVAL AIRCRAFT INSIGNIA AND MARKING

APPROVED:

Commander, U.S.N.,
Head of Engineering Division

B

SPECIFICATION
FOR
NAVAL AIRCRAFT INSIGNIA AND MARKING

A. INTRODUCTION

A-1. This specification is intended to cover the requirements for application of insignia and marking for the identification of naval aircraft.

B. APPLICABLE SPECIFICATIONS

B-1. The following specifications of the issue in effect on date of initiation for bids, shall form a part of this specification.

B-1a. Navy Aeronautical Specification:

- SH-3 - Model Designation of Naval Aircraft.
- SR-15 - Finishing of Naval Aircraft.
- D-13 - Dope Nitrocellulose, Orange Yellow.
- D-15 - Dope Nitrocellulose, Clear.
- D-16 - Dope Nitrocellulose, Pigmented.
- L-12 - Lacquer, High Resin, Phthalate.

C. CLASSES

This specification covers two classes of marking, as follows:

- I. - Markings for Heavier-than-Air Aircraft.
- II. - Markings for Lighter-than-Air Aircraft.

D. MATERIALS

D-1. Materials.- Unless otherwise specified, all materials used shall conform to the requirements of the latest issue of Navy Department Specifications covering those materials. Lacquers only shall be used for insignia purposes and for squadron and section identification.

D-2. Colors.- The colors used shall conform in shade to standard color samples which have been adopted by the Bureau of Aeronautics.

E. GENERAL REQUIREMENTS

E-1. Standard U. S. Aircraft Insignia

E-1a. Construction.- The insignia design shall be a red circle inside a white five-pointed star inside a blue circumscribed circle. This construction is obtained by marking off 5 equidistant points on the circumference of the circumscribed circle and connecting each point to the two non-adjacent points. The outer parts of the lines thus drawn form the outline of a star. The small inner circle shall be concentric with the larger circle and its circumference shall be tangent to the sides of the pentagon formed by lines connecting the inside points of the star. (See Figure 1).

E-1b. Color.- The inner circle shall be red; that portion of the star not covered by the inner circle shall be white; and that portion of the circumscribed circle not covered by either the inner circle or star shall be blue.

E-1c. Direction.- On vertical surfaces, one of the points of the star shall point directly upward, and on horizontal surfaces one of the points shall point directly forward.

E-1d. Application.- The star insignia shall be applied using pigmented lacquers. Colors may be brushed or sprayed after the fabric has been completely doped, but shall in no case be applied directly over the clear dope. A mask shall be used during spraying to give sharp outlines.

E-1e. Location.- Four insignia shall be placed on the wings of each airplane. One shall be located inboard from each wing tip, on both the top surface of the upper wings and on the under surface of the lower wings for biplanes, or on the top and bottom surfaces of the wings of monoplanes.

E-1e (1). Landplanes and float seaplanes.- The center of the insignia shall be located inboard from the wing tip a distance equal to the chord length of the wing, except for the lower surface of the lower wing of seaplanes, where the insignia shall be located inboard of the wing tip floats, as near as practicable to the afore mentioned location. The circumscribed circle shall be tangent to the forward edge of the aileron. (See Figures 3 and 4).

E-1e (2). Patrol planes.- The location of the star insignia shall be in general accordance with paragraph E-1e (1), but shall be dictated by the size and type of wing. (See paragraph F.).

E-1f. Size.

E-1f (1). Landplanes and seaplanes.- The diameter of the circumscribed circle shall be equal to the distance between the leading edge of the aileron and the leading edge of the wing, provided this distance is not in excess of 60 inches. In the later case the diameter shall be 60 inches.

E-1f (2). Patrol planes.- The size of the star insignia shall be compatible with the size and type of patrol plane. (See paragraph G-2).

E-2. Service marking.

E-2a. The branch of the service - U. S. Navy or U. S. Marines - shall be painted on each side of the fuselage midway between the top and bottom and parallel to the longitudinal axis of the airplane, with the last letter located approximately 12 inches from the rudder hinge. The letters of these markings shall be of an appropriate size so as to provide a neat appearance consistent with the space available and congruous with other markings applied. In no case shall their height be less than 4 inches. (See Figures 5, 6, 7, and 8).

E-2b. On airplanes intended for delivery to the Marine Corps, the Marine Corps Insignia shall be placed on each side of the fuselage. Decalcomanias for this insignia shall be furnished by the Bureau of Aeronautics.

E-3. Propellers.

E-3a. Each propeller blade shall be painted on both sides as follows:

from tip to four inches from tip - insignia red.
 four inches from tip to eight inches from tip -
 bright yellow.
 eight inches from tip to 12 inches from tip -
 insignia blue.

Twelve inches from tip to hub, propellers shall be left unfinished, except that the rear surface may be painted by extending the blue stripe inboard an additional 24 inches to prevent glare caused by the reflection of the sun on the revolving propeller.

E-3b. Blades shall be properly balanced after the paint has thoroughly dried.

E-3c. Propellers shall be painted as specified prior to installation.

E-3d. Propellers on patrol airplanes need not be painted unless the propeller location is hazardous to personnel.

E-4. Marking for piping systems.

E-4a. All pipe lines and metal tubing shall have encircling bands painted or taped near each end and at such intermediate points as may be necessary to follow through the system. Bands shall be 1/2 inch in width. The following colors shall be used to identify the purpose of the pipe and the liquid or gas being conveyed thereby:

Fuel	Red
Oil (Lubricating)	Yellow
Coolant (Prestone)	A band of white on each side of a black stripe.
{	
(Water	1/2 inch white
Fire Extinguisher	Brown
Flotation Equipment	Light Blue
Oxygen	Light Green
Pitot Pressure	
Airspeed	Black
Static Pressure	
Airspeed, Altimeter, Climb indicator	Black - Light Green
Manifold Pressure	White - Light Blue
Vacuum	White - Light Green
Hydraulic Pressure Oil	Light Blue - Yellow - Light Blue
Air Pressure (Compressed)	
Max. 20 p.s.i.	Light Blue - Light Green
Air Pressure (Compressed)	
Min. 25 p.s.i.	Yellow - Light Green
Steam	Light Blue - Black
Purging	Light Blue - Yellow
Exhaust Analysor	Light Blue - Brown
Anti-Icing	White - Red
Vent (Closed Compartments)	Red and Black
Smoke Screen Equipment	Brown - White

E-5. Lift points.- All lift points of airplanes shall be indicated by the words "Lift here" painted in letters 1 inch in height above the lift point.

E-6. Electrical connections.- The following instructions shall be painted at points where necessary to break electrical connections when folding back or removing wings, or removing tail surfaces or struts: "Disconnect electrical wiring before removing (part)".

E-7. Filler caps for fuel and oil tanks, hand pulls for fire extinguishers, and flotation equipment and all other parts and attachments for which identification is necessary or desirable, shall be painted the color applicable to the particular material concerned.

E-8. Letters and numerals.

E-8a. Form.- All characters shall be of the modified vertical block type, uniform in shape and size. (See Figure 18).

E-8b. Color.- All letters and numbers shall be either black or white, depending upon the color of the background upon which they are to be applied. The color shall be one of the greatest contrast in order to give the highest visibility. White shall be used on red or blue, and black shall be used on white, gray, aluminum, green or yellow.

E-9. Class designation.- The following designating letters shall be used to indicate the class to which the aircraft is assigned or the purpose for which intended:

	Airplane	Rigid Airship	Nonrigid Airship	Kite Balloon
Bombing	VB	---	---	---
Fighting	VF	---	---	---
General Utility	VS	---	---	---
Utility Transport	VJR	---	---	---
Training	VN	ZRN	ZNN	ZKN
Observation	VO	---	ZNO	ZKO
Observation-Scouting	VOS	---	---	---
Patrol	VP	ZRP	ZNP	---
Patrol Bombing	VPB	---	---	---
Transport(Multi-engine)	VR	---	---	---
Scouting	VS	ZRS	ZNS	---
Scouting Bombing	VSB	---	---	---
Scouting Training	VSN	---	---	---
Scouting Observation	VSO	---	---	---
Torpedo	VT	---	---	---
Torpedo Bombing	VTB	---	---	---
Experimental	VX	---	---	---
Transport(Single-Engine)	VG	---	---	---
Miscellaneous	VM	---	---	---

E-10. Doping code for fabric covered surfaces.

E-10a. Letters and figures shall be applied to the under surfaces of fuselages, wings and control surfaces to designate the number of coats of dope, the specification for the materials used, date of application, activity finishing the surface and hidden changes that have been incorporated before re-covering. All characters shall be black, unless a different color is required for contrast, and shall be 1/2 inch in height. Dopes shall be indicated by their Navy Department specification letters and numbers. The activities finishing the surfaces shall be indicated by letters as hereinafter noted.

E-10a (1). Commercial activities shall be indicated by the manufacturer's letters as designated in the latest issue of specification SH-3.

E-10a (2). Naval overhaul activities shall be indicated by the following designating letters:

SD ---- NAS San Diego, California
 NOR---- NAS Norfolk, Virginia
 NAF---- Naval Aircraft Factory
 PEN---- NAS Pensacola, Florida
 CS ---- NAS Coco Solo, C. Z.
 PH ---- NAS Pearl Harbor, T. H.
 SE ---- NAS Seattle, Washington.

E-10a (3). Naval Reserve Bases shall be indicated by letters designating the base followed by the letters "RB".

E-10a (4). The numbers indicating the number of coats shall precede the letters and numbers designating the material specifications. The first of these numbers shall indicate the number of clear coats and the second shall indicate the number of pigmented coats. The letters and numbers indicating the specification number of the dope shall follow the numbers indicating the number of coats of dope. The numbers indicating the date of completion as month, day and year, shall follow the dope specification number. The letters indicating the finishing activity shall follow the date group. Examples follow:

4-2D12d 8-15-40 SD - (Indicates 4 clear and 2 aluminum pigmented coats of D-12d dope, finished August 15, 1940 by the NAS San Diego.)

4D12d 3D13c 8-15-40 NAF - (Indicates 4 clear coats of D-12d and 3 coats of D-13c (yellow) dope, finished August 15, 1940 by the N.A.F.)

E-11. Manufacturer's identification plate.- There shall be placed in the pilots cockpit of every airplane, either on the instrument board or on a structural member, a metal plate not exceeding 3 inches by 6 inches, which shall contain the following information:

Name and address of manufacturer.

Manufacturer's model and serial number.

Navy model, class and serial number.

Date of delivery (approximately).

E-12. Part numbering.- Each part and assembly wherever practicable and desirable from the standpoint of securing replacement parts except standard parts such as bolts, nuts, washers, turnbuckles, etc., or those which do not have a suitable or sufficient surface for a part number, shall be marked with a number which shall be the same as the applicable drawing number. The number shall be as large as practicable, and if possible, so located as to permit its being read after assembly in the complete unit. Care must be taken, particularly on light gauge material, not to impair the strength of the part by stamping. Army-Navy standard parts shall be employed whenever practicable and shall be referred to in all manufacturer's drawings and erection instructions by the designating A-N number. When no A-N number exists, consideration shall next be given to the use of a standard Navy part number. Only in the absence of either of the foregoing will the use of manufacturer's part numbers be permitted. All A-N standard bolts which are reworked from a regular A-N Standard bolt by shortening the thread length, drilling the head for safety wiring, cutting shoulder on thread, etc., shall have a circle circumscribed about the standard asterisk. All fully special bolts, wherever possible, shall have the manufacturer's part number stamped on the head. This applies not only to bolts which are obviously dimensionably non-standard, but to bolts of special material, high tensile heat-treatment, etc. Where it is not practicable to do this, as in the case of a very small bolt head, or on one having an extremely long part number, the bolt should be stamped "SPEC.".

E-13. Strut numbering.- All wing struts shall be numbered to indicate their position on the airplane. The strut number shall be placed one inch from the lower end of the strut and a corresponding number shall be placed on the lower wing or fuselage close to the lower strut fitting. Figures shall be 1 inch in height. The front outermost strut on the right of the pilot shall be numbered 1, and the remaining front struts marked in order from right to left with

consecutive odd numbers. The right rear outermost strut shall be numbered 2 and the remaining rear struts from right to left shall be marked with consecutive even numbers.

F. DETAIL REQUIREMENTS.

F-1. Individual squadron insignia and markings shall be painted on all naval aircraft except staff planes, training planes and other aircraft not attached to regularly organized squadrons.

F-2. Squadron plane markings, Heavier-than-Air Aircraft.

F-2a. Fuselage.

F-2a (1). Airplanes shall be marked on each side of the fuselage with a series of three designating markings of an appropriate size as follows:

first figure ----- number of squadron.
 second figure ----- class of squadron. (See paragraph E-9).
 third figure ----- number of plane in squadron.

These markings shall be forward of the service markings as specified in paragraph E-2 and shall be in such position that the centers of the two groups are on a horizontal axial plane. (See Figure 5).

F-2a (2). A colored band about 20 inches wide shall be painted around the fuselage of section leaders' planes in a position forward of the service marking. (See Figure 5). The following colors are assigned to each section for identification:

1st Section ----- Insignia red.
 2nd Section ----- White.
 3rd Section ----- True Blue.
 4th Section ----- Black.
 5th Section ----- Willow Green.
 6th Section ----- Lemon Yellow.

F-2a (3). Carrier Air Group Commanders' Planes.- A diagonal band, fourteen inches wide, of the same color as distinguishing empennage painting of the carrier group, shall be painted around the fuselage forward of the service marking, with the letters "Commander (Name of Ship) Group" painted horizontally on each side of the fuselage. (See Figure 9).

F-2a (4). An individual squadron insignia, as adopted by the squadron to which the aircraft is allocated, shall be placed on each side of the fuselage, forward of the squadron

markings on land and seaplanes and forward of the service marking on the hulls of patrol planes, provided it does not obscure or interfere with other specified markings.

F-2a (5). For aircraft regularly attached to squadrons but based upon surface vessels other than aircraft carriers, the name of the ship shall be painted on the fuselage immediately below the squadron class and plane number designation. (See Figure 5).

F-2a (6). Squadron insignia shall be applied to the fuselage in such location as dictated by the design and other markings for the airplane. (See paragraph G-2).

F-2b. Wings.

F-2b (1). The number of the plane in the squadron, for biplanes, shall be painted on the upper surface of the upper wing in the center of the span in numerals of the largest practicable size. For low-wing monoplanes and for patrol planes the plane number shall be painted on each outer wing panel midway between the star insignia and the extremity of the center wing panel. On patrol planes the number shall also be painted on the lower surface of the wing, legible from the rear, and a lower altitude. (See Figures 3, 10 and 17).

F-2b (2). A chevron of the same color as the section leader's fuselage band shall be painted on all planes of the section. Where possible, the chevron shall be so applied that the apex of the chevron aligns with the center of the pilot's cockpit. When chevron marking on the wing terminates at the leading edge, continue the chevron to a point on the under surface of the wing to approximately five percent of the chord from the leading edge. (See Figures 3 and 17).

F-2c. Empennage.

F-2c (1). General.- The serial number assigned by the Navy Department and specified in the contract shall be painted on each side of the vertical fin or on the outboard side of each multiple fin. The letters and numbers designating the manufacturer, class and model of the airplane shall be painted centrally near the top on each side of the rudder or on the outboard side of each multiple rudder. The numerals and characters shall be at least 3 inches in height. (See Figures 2, 11 to 15 inclusive).

F-2c (2). Marine Corps Aircraft.- On airplanes intended for delivery to the Marine Corps, vertical red, white and blue stripes shall be painted on the rudder, except in case of conflict with paragraph F-2c (3) which shall govern. The rudder surface aft of the rudder hinge shall be divided into three equal parts and the colors applied with red at the trailing edge, white in the center and blue adjacent to the rudder hinge. (See Figure 2).

F-2c (3). On aircraft assigned to the fleet, the empennage shall be painted a distinguishing color or design as noted hereinafter. The colors and design shall be in accordance with instructions of Commander in Chief, U.S. Fleet. The current design and colors are as follows:

Saratoga Aircraft	-----	White	(Solid)	Complete	Empennage
Lexington Aircraft	-----	Lemon Yellow	(Solid)	"	"
Ranger Aircraft	-----	Willow Green	(Solid)	"	"
Yorktown Aircraft	-----	Insignia Red	(Solid)	"	"
Enterprise Aircraft	-----	True Blue	(Solid)	"	"
Wasp Aircraft	-----	Black	(Solid)	"	"

Patrol Wing One - Single Vertical Stripe.(Elevators and Rudder)

VP-11	-----	Insignia Red
VP-12	-----	White
VP-13	-----	True Blue
VP-14	-----	Black

Patrol Wing Two - Double Vertical Stripe.(Elevators and Rudder)

VP-22	-----	Insignia Red
VP-23	-----	White
VP-24	-----	True Blue
VP-25	-----	Black
VP-26	-----	Willow Green
VP-27	-----	Lemon Yellow

Patrol Wing Three - Single Horizontal Stripe.(Elevators and Rudder)

VP-31	-----	Insignia Red	Rudder)
VP-32	-----	White	
VP-33	-----	True Blue	
VP-34	-----	Black	

Patrol Wing Four - Double Horizontal Stripe.(Elevators and Rudder)

VP-41	-----	Insignia Red	Rudder)
VP-42	-----	White	
VP-43	-----	True Blue	
VP-44	-----	Black	

Patrol Wing Five - Solid.(Complete Empennage)

VP-51	-----	Insignia Red
VP-52	-----	White
VP-53	-----	True Blue
VP-54	-----	Black
VP-55	-----	Willow Green
VP-56	-----	Lemon Yellow

Patrol Wing Six - Checkered.(Elevators and Rudder)

VP-61	-----	Insignia Red
VP-62	-----	White

Patrol Wing Seven - Double Vertical Stripe.(Elevators and
 VP-71 ----- Insignia Red Rudder)
 VP-72 ----- White

VO-1 ----- Insignia Red, Solid (Complete Empennage)
 VO-2 ----- White, Solid " "
 VO-3 ----- True Blue, Solid " "
 VO-4 ----- Black, Solid " "
 VO-5 ----- Lemon Yellow, Solid " "

VCS-2 ---- True Blue, Double Horizontal Stripe)
 VCS-3 ---- Insignia Red, Double Horizontal Stripe)
 VCS-4 ---- True Blue, Single Horizontal Stripe) Elev-
 VCS-5 ---- Lemon Yellow, Single Horizontal Stripe) ators
 VCS-6 ---- Black, Single Horizontal Stripe)
 VCS-7 ---- Willow Green, Single Horizontal Stripe) and
 VCS-8 ---- Black, Double Horizontal Stripe)
 VCS-9 ---- Willow Green, Double Horizontal Stripe) Rud-
 USS Raleigh, Insignia Blue, Double Horizontal Stripe) der
 USS Detroit, Insignia Blue, Double Horizontal Stripe)
 USS Richmond, Insignia Red, Double Horizontal Stripe)

VJ-1 ----- Willow Green (Solid))
 VJ-2 ----- Lemon Yellow (Solid)) Complete Empennage
 VJ-3 ----- Aluminum (Solid))
 (See Figures 11 to 15 inclusive).

F-2d. Engine cowling.- The nose of the cowling forward of the engine on aircraft powered with air-cooled engines, or a band 12 inches wide beginning at the nose on aircraft equipped with liquid-cooled engines shall be painted in the color designated for each section, as follows:

Section leader ----- complete band
 Second airplane ----- upper half band
 Third airplane ----- lower half band

F-2e. Instrument flying airplanes additional to the normal squadron complement shall be painted with two red fore and aft stripes, three feet wide, on the upper surfaces of the upper wings and lower surfaces of the lower wings, with a red band, three feet wide, around the fuselage forward of the horizontal stabilizer. (See Figure 16).

F-3. Staff, Liaison and Shore based Aircraft.

F-3a. Fuselage.- The name of the station or ship shall be painted on the fuselage in the position usually occupied by the markings for squadron, class and plane number designation. The branch of service shall be centrally located

immediately below the name. A serial number if assigned by the station or vessel, may be located immediately following the name of the station or vessel. (See Figure 7).

F-3b. Empennage.- The rudder shall be painted with vertical red, white and blue stripes in accordance with paragraph F-2c (2) except where in conflict with paragraph F-2c (3) which shall govern.

F-4. Training planes.- The number of the plane in the squadron shall be painted on each side of the fuselage. This shall be the only figure on the fuselage of primary training planes. (See Figure 8). The branch of the service shall be painted in accordance with paragraph E-2.

F-5. Rigid and non-rigid airships.

F-5a. Insignia.- Insignia shall be prescribed in each case by the Bureau of Aeronautics, and will be shown on the Bureau of Aeronautics detailed drawings for each airship.

F-5b. Markings.- The markings shall be prescribed in each case by the Bureau of Aeronautics and will be shown on the Bureau of Aeronautics detailed drawings.

F-6. Non-rigid airships.

F-6a. Insignia.- Two insignia, five feet in diameter will be placed on the envelope of each airship, one on top and one on the bottom, the center of each insignia being on a line established by the intersection of a vertical longitudinal axial plane with the envelope. The insignia shall center at the intersection of this established line and the greatest diameter of the envelope, as shown in Figure 19. The center of the bottom insignia shall be on the established line, three feet back of a point midway between the front of the car and the tip of the bow of the envelope, measured horizontally as shown in Figure 21.

E-6b. Marking.- The class letter and number designating each airship, assigned by the Bureau and specified by the contract, together with the words "U. S. NAVY", shall be painted in letters 54 inches high on the envelope in the locations hereinafter specified with suitable blue pigmented paint that is free from oil or other ingredients that may be injurious to rubberized fabric.

F-6c. Three sets of the identification group shall be affixed on the envelope, one set on each side, preceded by the words "U. S. NAVY", the center of the letters and wording being on the horizontal axial plane, and over the center of the car, and one under the bow, the center being ten feet 6 inches forward of the lower insignia, as shown in Figures 20 and 21.

F-6d. Building letters and numbers.- The building letters and numbers to be painted in insignia blue on the aircraft as hereinafter described, are arbitrary symbols, assigned by the Department for the purpose of referring to a component unit, such as the car or the envelope of an airship.

F-6e. The building letter and number of the car, assigned by the Navy Department and specified in the contract, shall be painted in 3 inch blue figures on each side of the car at about the midpoint of its length, and level with the top longitudinal number, as shown in Figure 20.

F-6f. The building letter and number of the envelope assigned by the Navy Department and specified in the contract, shall be painted in 3 inch blue figures, only on the lower side and just aft of the lower insignia, as shown in Figure 21. The top of letters and numbers shall be nearer to the insignia. In case the color of the envelope is such that blue figures are not readily distinguishable, there shall be painted a white background, with 1 inch margin, about these building letters and numbers.

F-6g. The building letters and numbers, designating each set of control surfaces and corresponding stabilizers or fins shall be painted in 3 inch blue letters on each side, as shown in Figures 19, 20 and 21.

F-6h. The letters and numbers on the elevators shall be painted on the white band in such location that the top of the letters or numbers is three inches from the inboard margin of the band.

F-6i. The letters and numbers on the rudders shall be painted on the white band in such location that the top of letters or numbers is three inches from the top margin of the band.

F-6j. The letters and numbers on the fins or stabilizers shall be painted on their surfaces in direct line with the letters and numbers on the control surfaces, and six inches forward of the rear edge of the fin or stabilizer.

F-6k. All letters and numbers on both the upper and lower surfaces, on either right or left side, shall be so placed that the bottom of the letters and numbers is outboard in each case.

F-6l. The letters and numbers on the vertical surface shall read from forward aft on the left side, and from aft forward on the right side.

F-7. Free Balloons.

F-7a. Insignia.- For spherical balloons two insignia, five feet in diameter shall be placed on the envelope, one at each end of a diameter which is inclined 45° to the vertical axis of the balloon as shown in Figure 22.

F-7b. Marking.- The words "U. S. NAVY" in letters 5/4 inches high, shall be painted on the envelope centered on each end of a horizontal diameter, as shown in Figure 22, in a vertical plane, perpendicular to the plane passing through the centers of the insignia, with suitable blue pigmented paint that is free from oil or other ingredients that are injurious to rubberized fabric.

F-7c. The letters and figures showing the class designation of the balloon shall be located as specified in the contract.

F-7d. The building letters and numbers, assigned by the Navy Department and specified in the contract, shall be painted on the envelope three inches below the lower insignia, the letters and figures to be insignia blue, three inches high. In case the color of the envelope is such that blue figures are not readily distinguishable, there shall be painted a white background, with 1 inch margin about these building letters and numbers.

F-8. Kite Balloons.

F-8a. Insignia.- Two insignia, five feet in diameter, shall be placed on each kite balloon, one on top and one on the bottom of the envelope, the center of each insignia to be at the intersection of a vertical plane, through the longitudinal axis, with a vertical plane through the greatest diameter of the envelope as shown in Figure 23.

F-8b. Marking.- The words "U. S. NAVY" shall be painted in letters 5/4 inches high on each side of the envelope on the longitudinal center line approximately midway between the nose and the forward end of the empennage with blue pigmented paint that is free from oil or other ingredients that are injurious to rubberized fabric.

F-8c. The letters and figures showing the class designation of the balloon shall be located as specified in the contract.

F-8d. The building letters and numbers, assigned by the Department and specified in the contract, shall be painted on the envelope three inches aft of the lower insignia, the letters and figures to be insignia blue three inches high. In case the color of the envelope is such that blue figures are not readily distinguishable, there shall be painted a white background with 1 inch margin about these building letters and numbers.

G. METHOD OF INSPECTION AND TESTS.

G-1. Materials used by contractors in applying insignia and marking to Naval aircraft shall be subject to inspection by authorized Government Inspectors to determine compliance with the applicable specifications. Any markings applied before materials are approved will be at the risk of the contractor, and, if materials fail to meet the specified requirements, all work accomplished shall be removed and done again with suitable materials to the satisfaction of the inspector.

G-2. Contractors shall submit for approval on all production contracts, a drawing or drawings showing the size and location of each type of marking required.

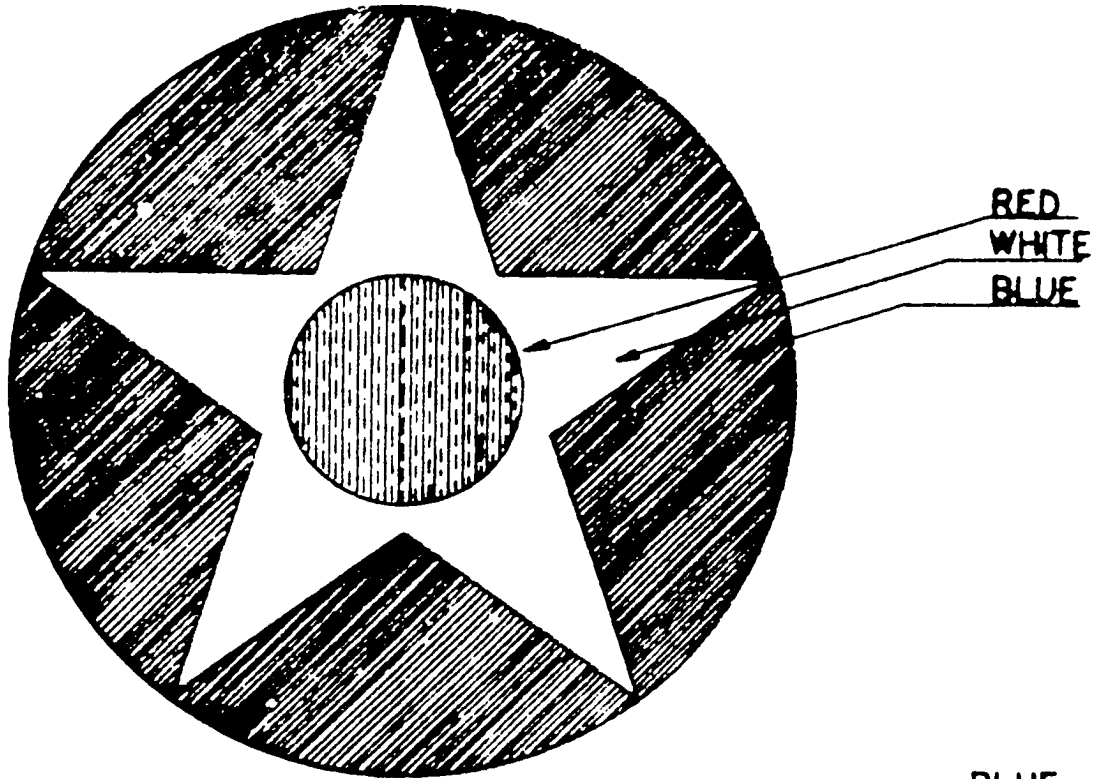
H. PACKING AND MARKING.

H-1. Not applicable to this specification.

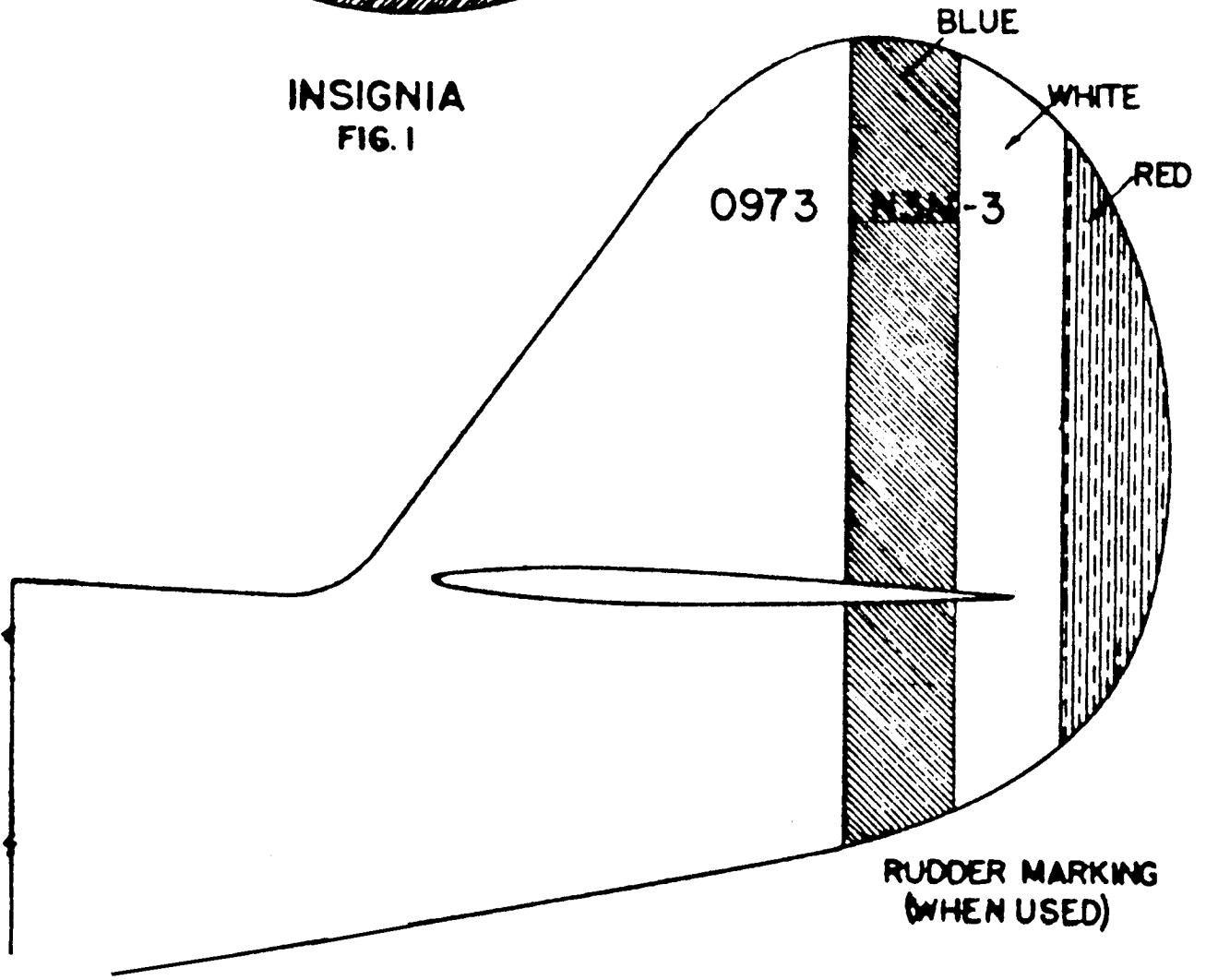
I. NOTES.

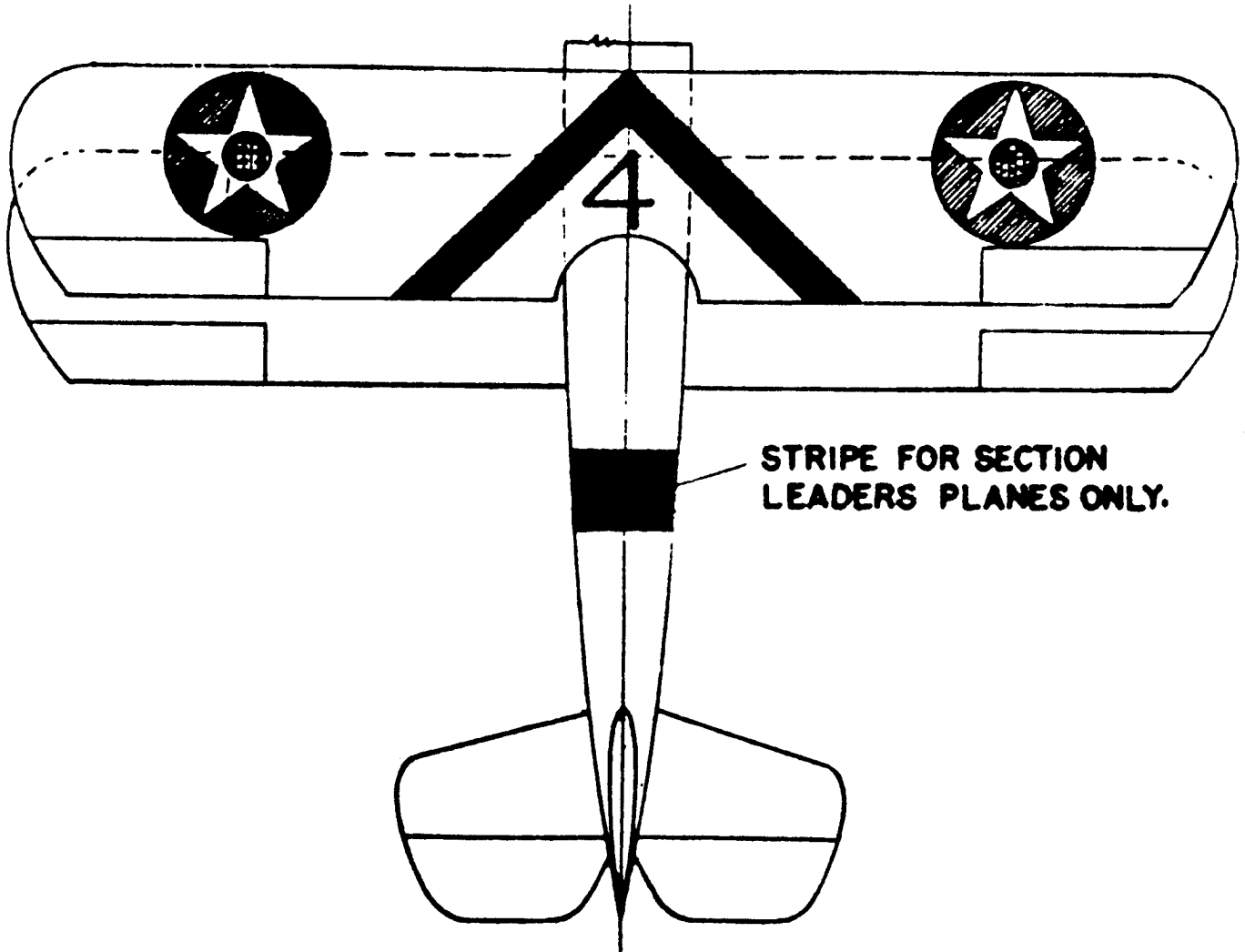
I-1. The distinguishing insignia and marking herein described and no other shall be used on all United States Naval Aircraft. The impossibility of specifying exact locations and sizes for the markings to suit all classes and models of aircraft is recognized, and it is therefore intended that sufficient latitude be permitted as necessary to meet differing conditions and yet conform to the general requirements of this specification.

I-2. Copies of this specification may be obtained upon application to the Bureau of Aeronautics, Navy Department, Washington, D. C.



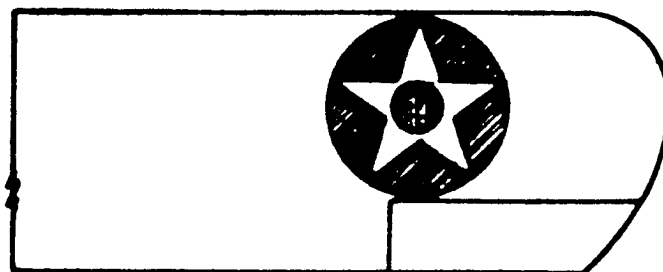
INSIGNIA
FIG. 1





STRIPE FOR SECTION
LEADERS PLANES ONLY.

FIG. 3



UNDER SURFACE OF
LOWER WING

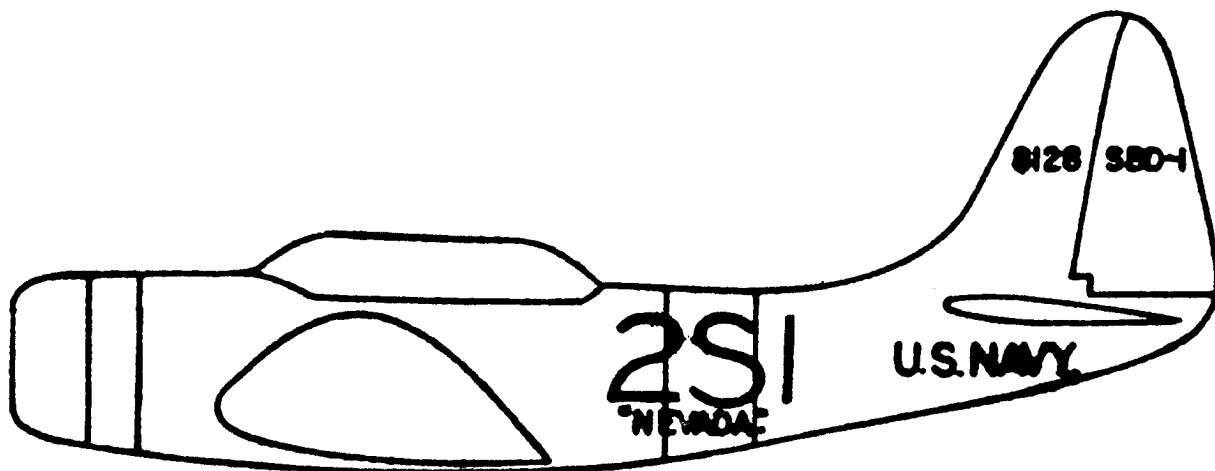


FIG. 5

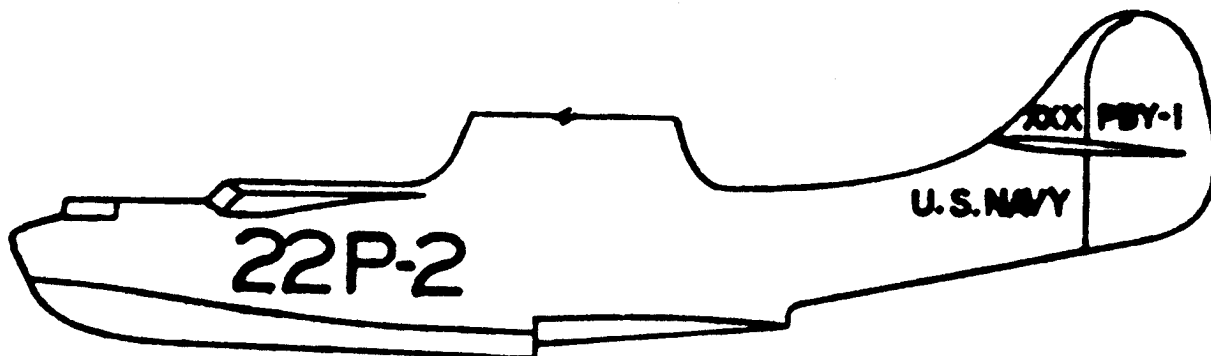
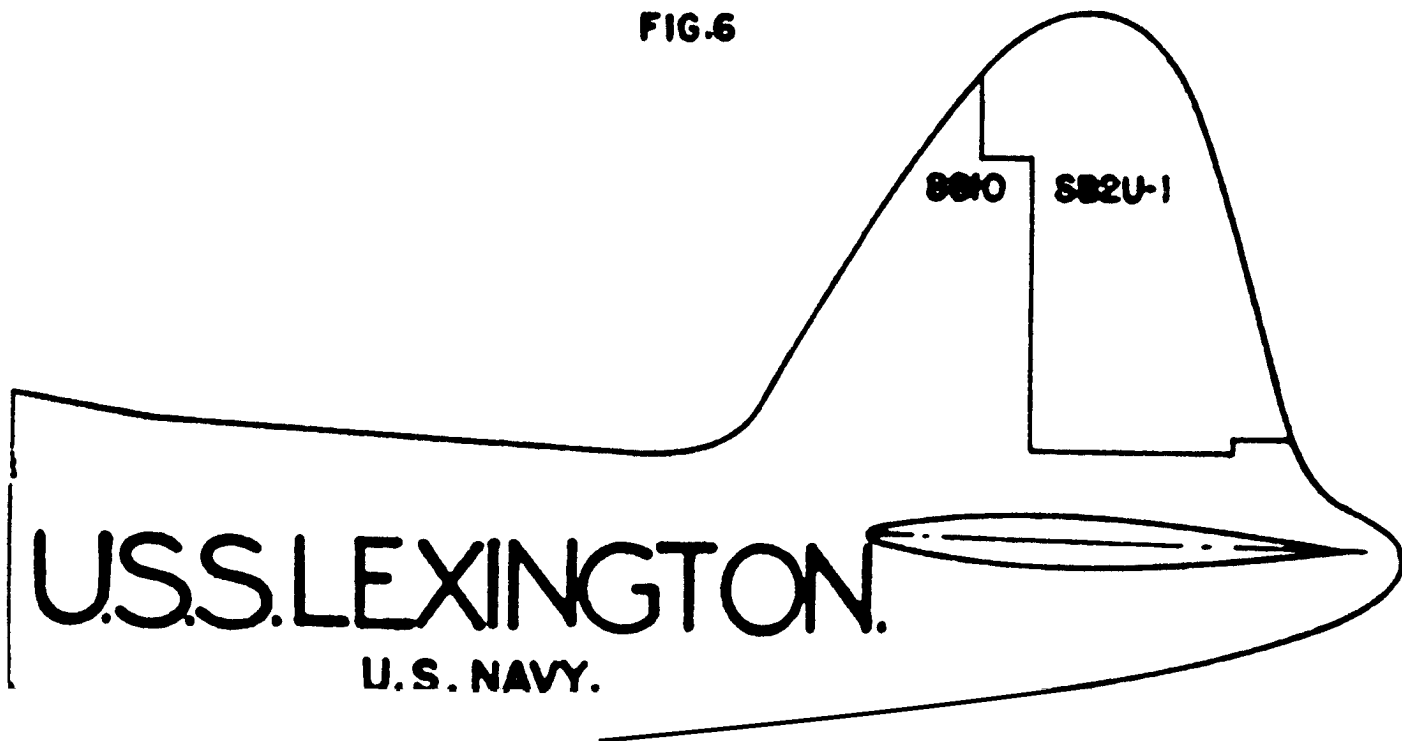


FIG. 6



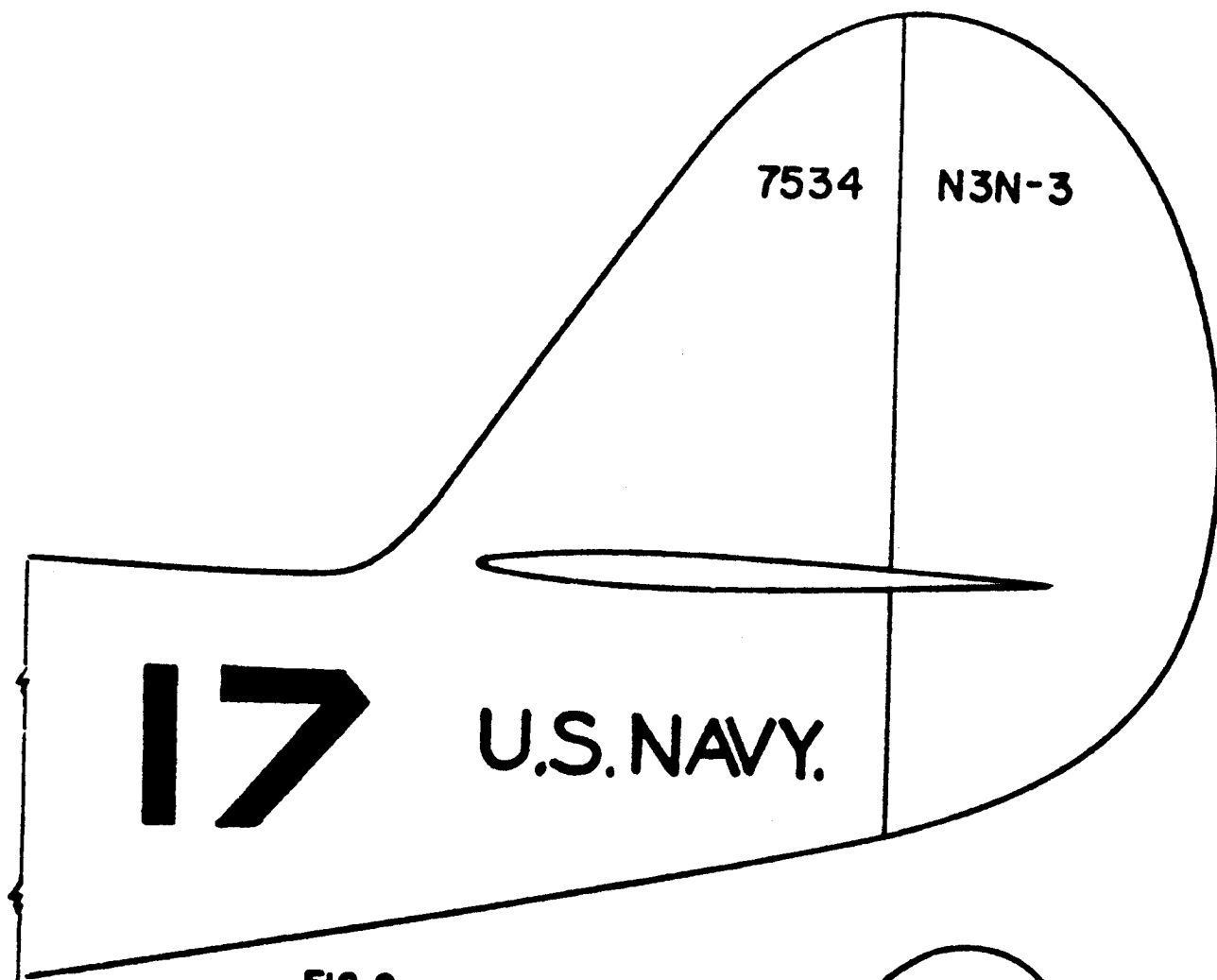


FIG. 8

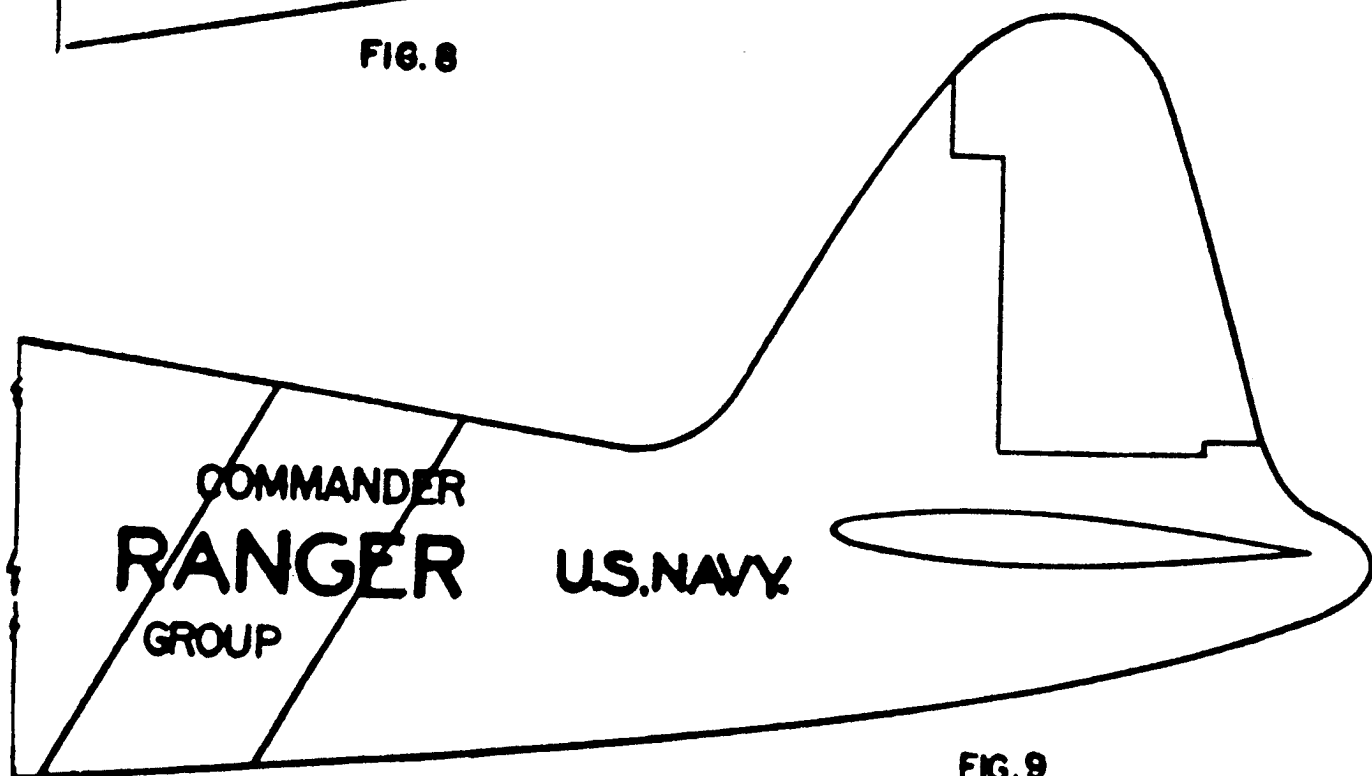


FIG. 9

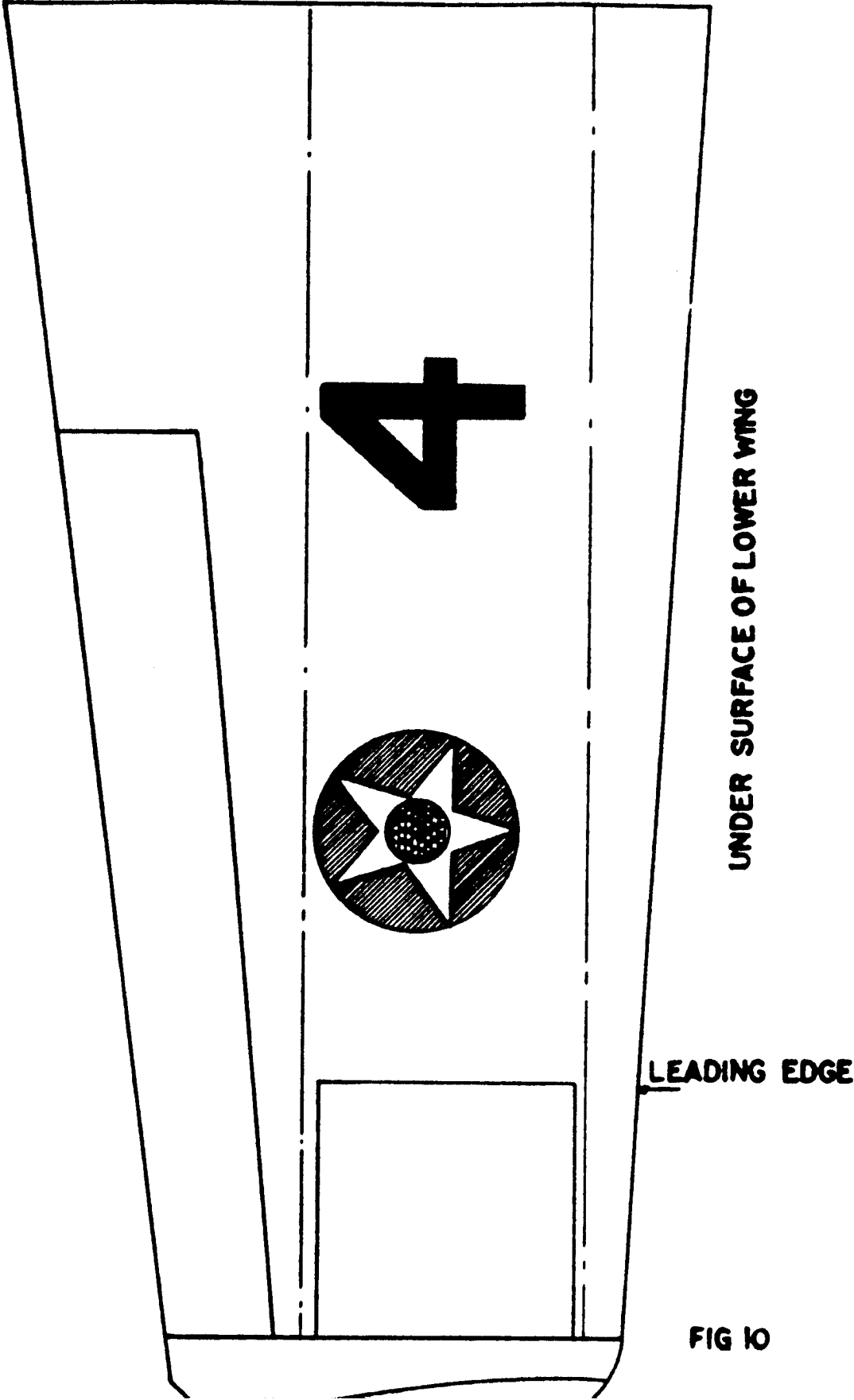


FIG 10

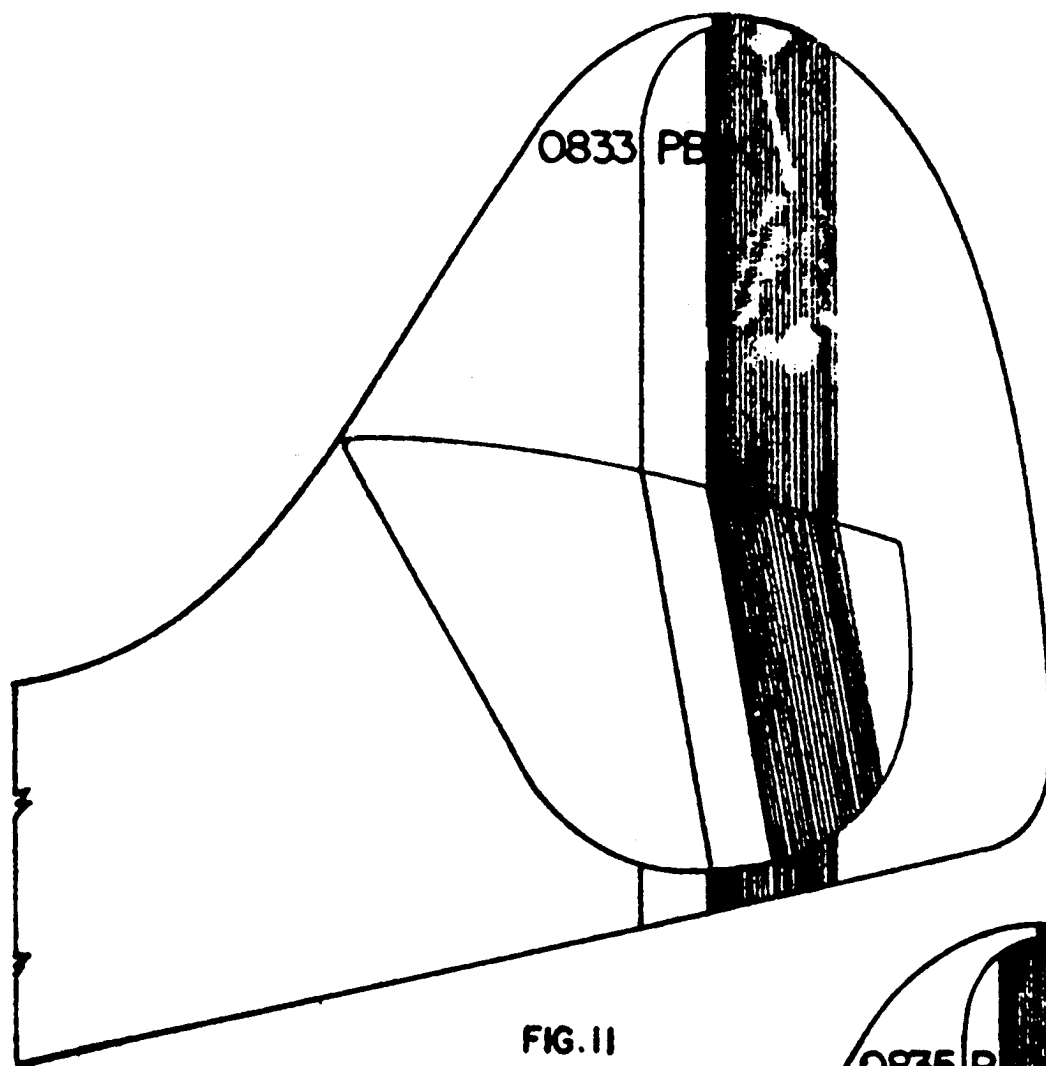
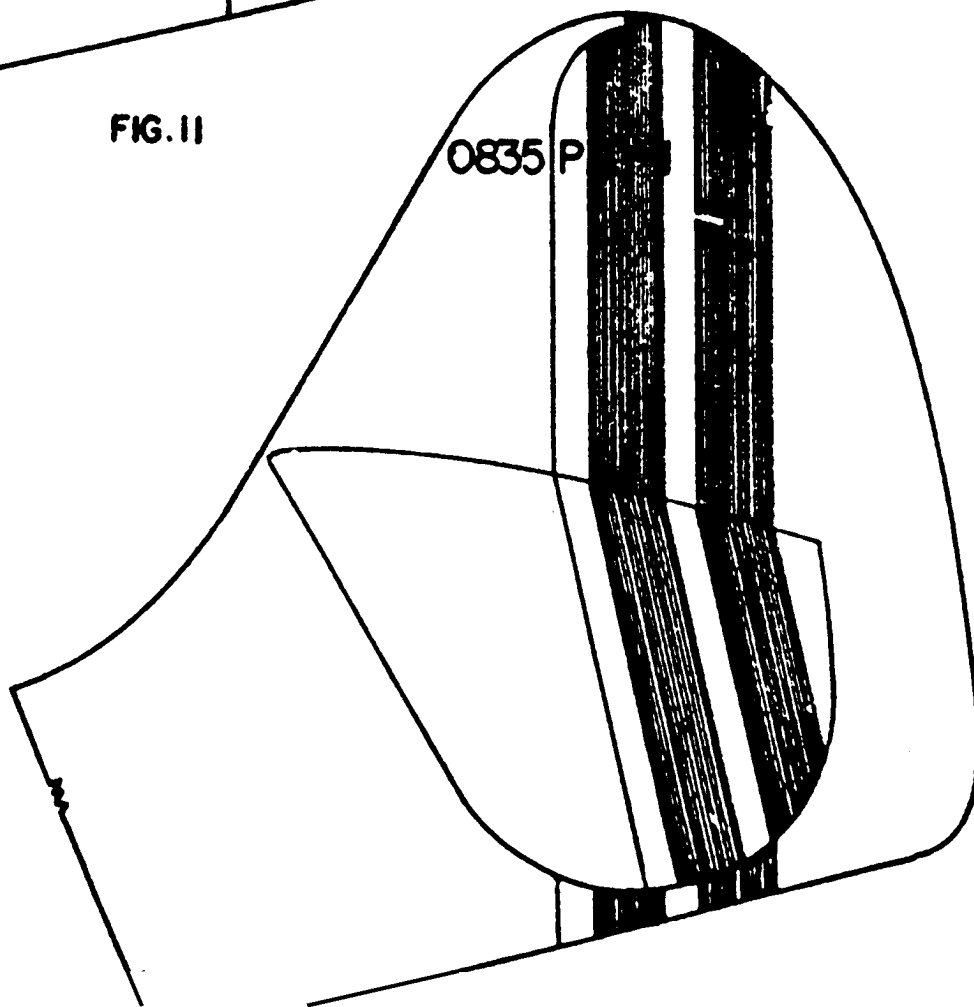


FIG. 11



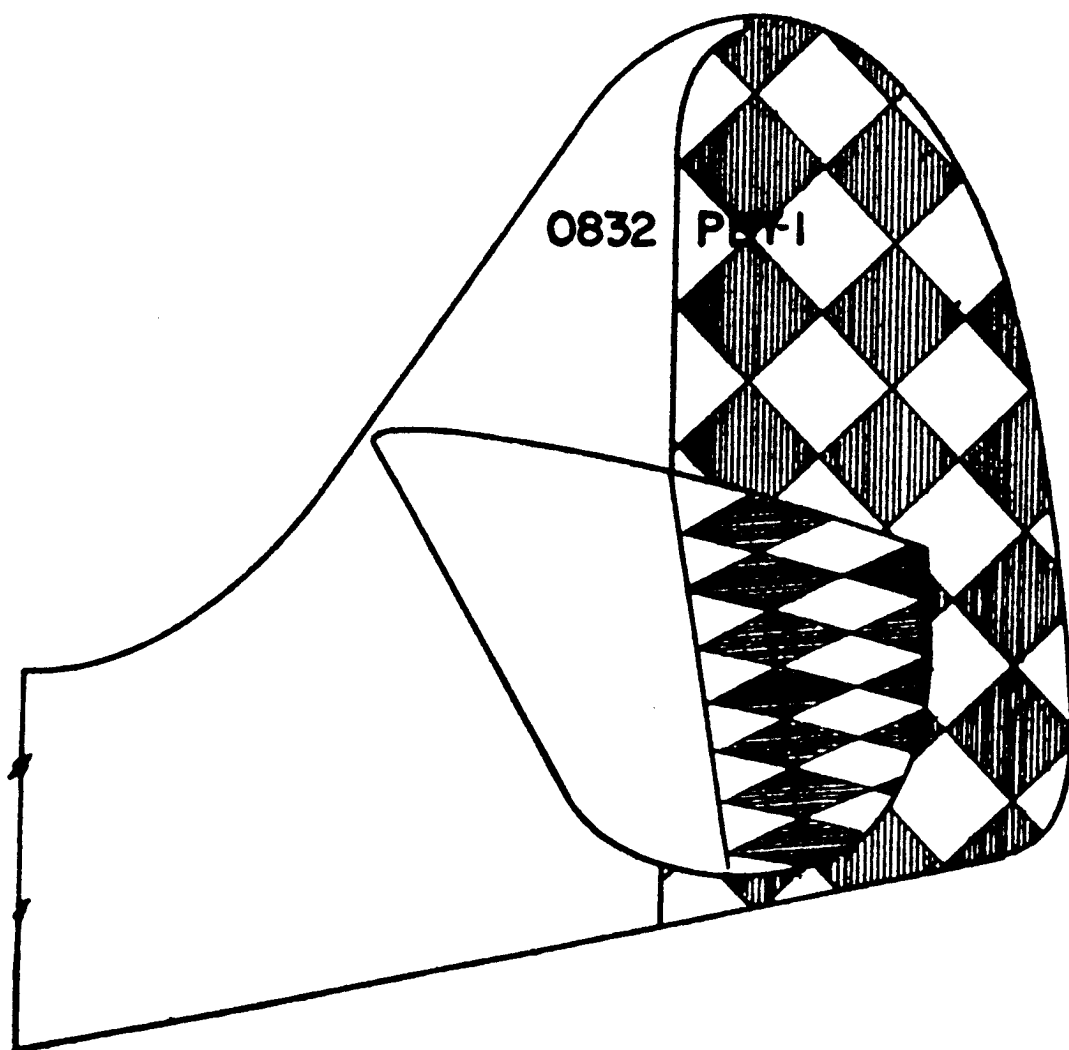


FIG.15

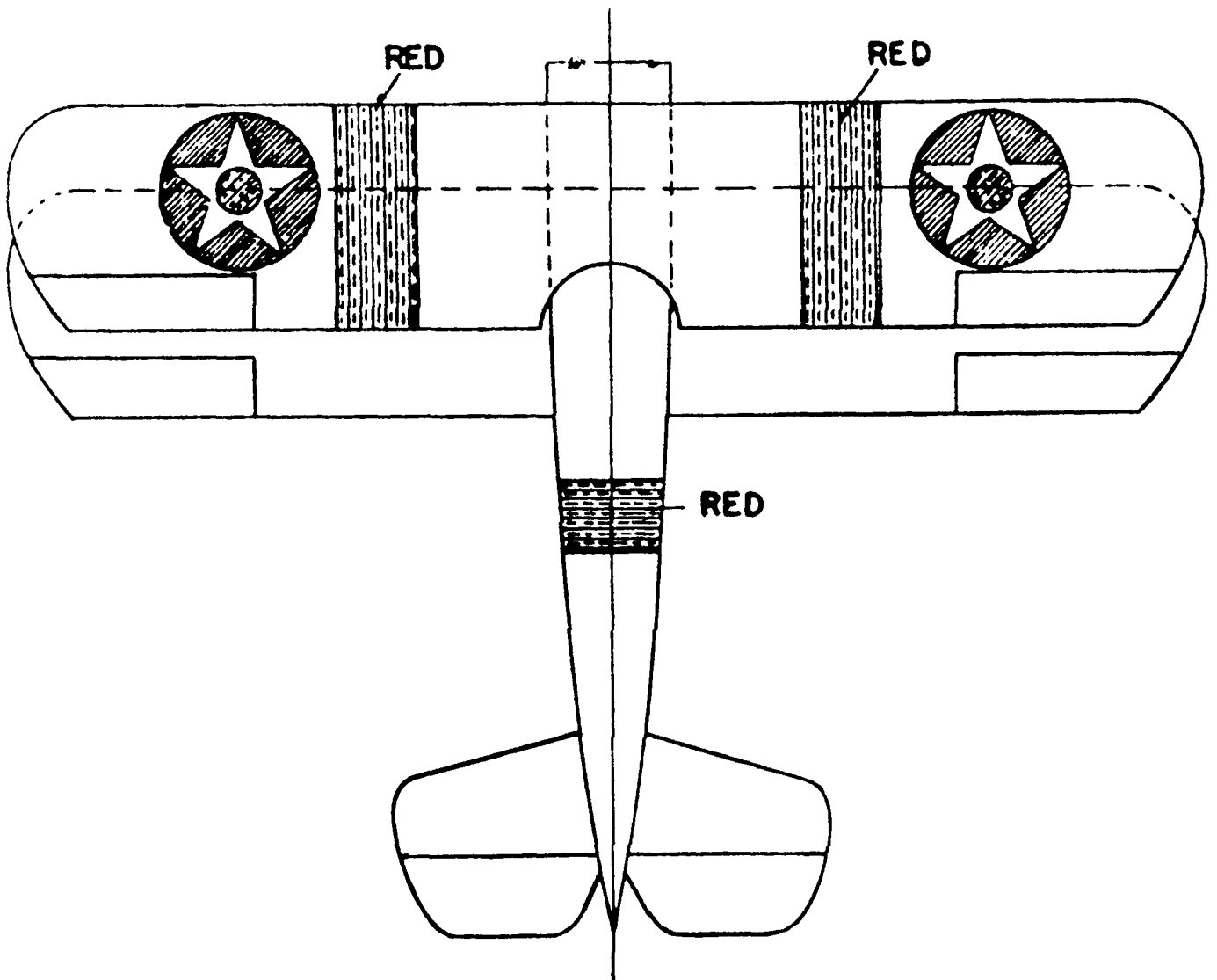
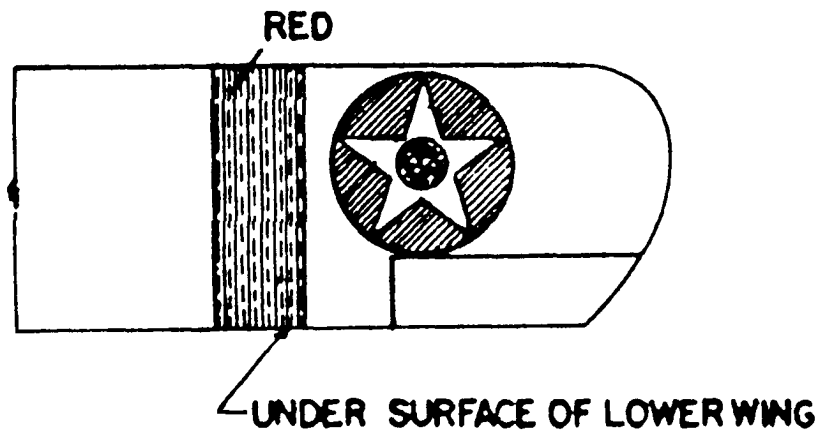


FIG 16



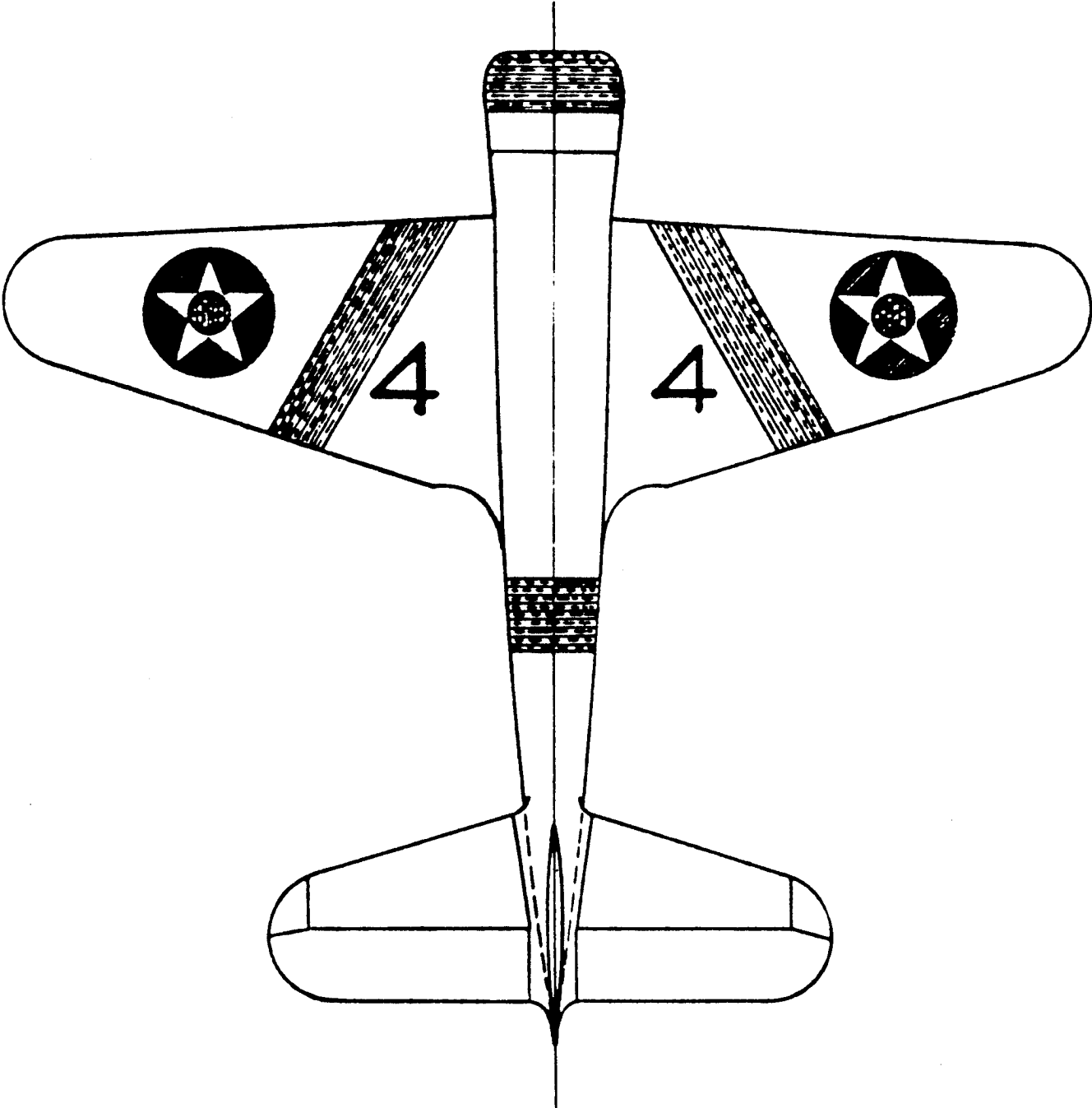


FIG. 17

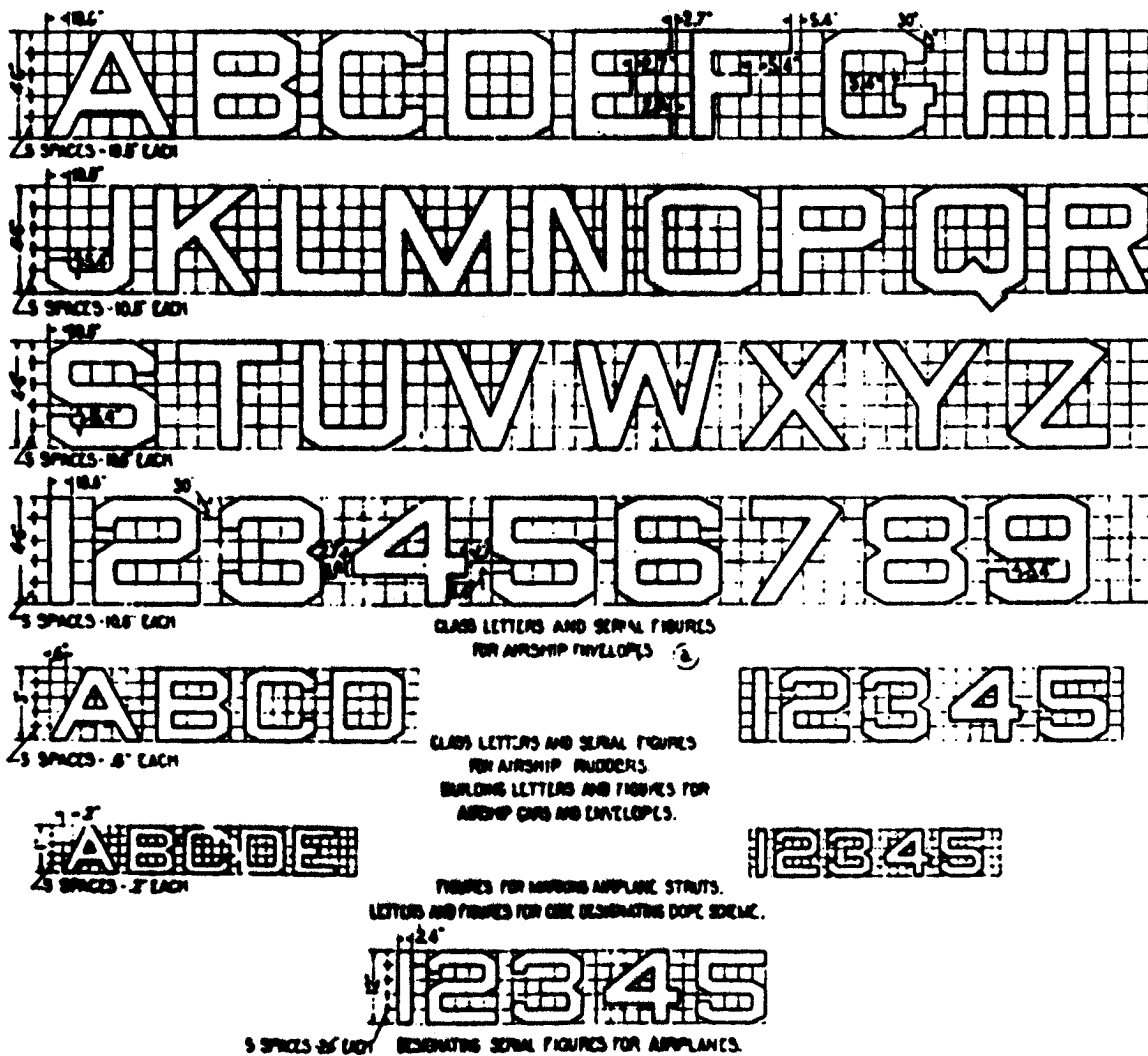
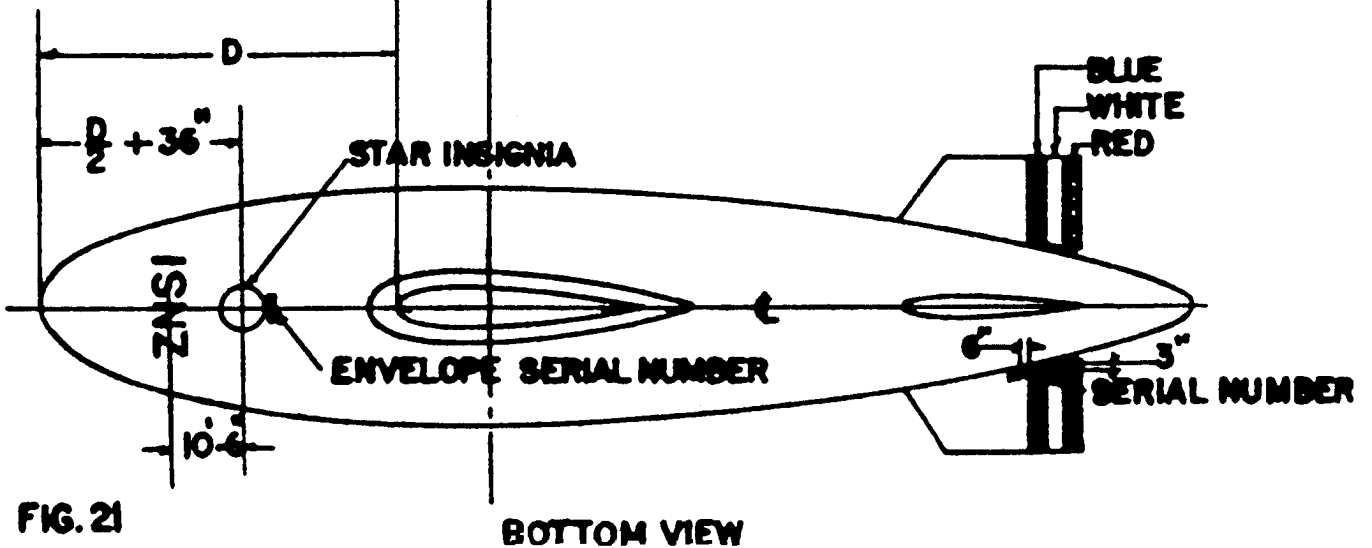
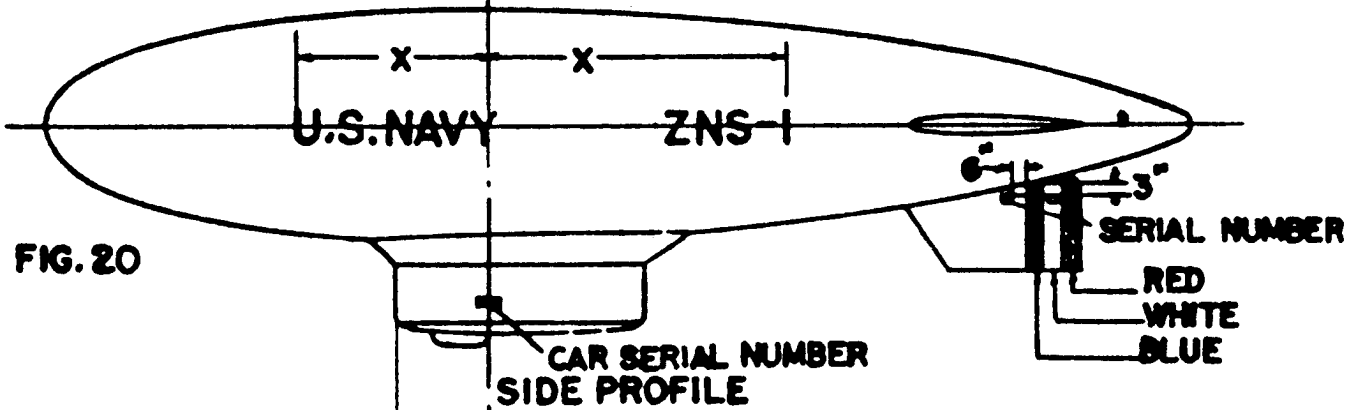
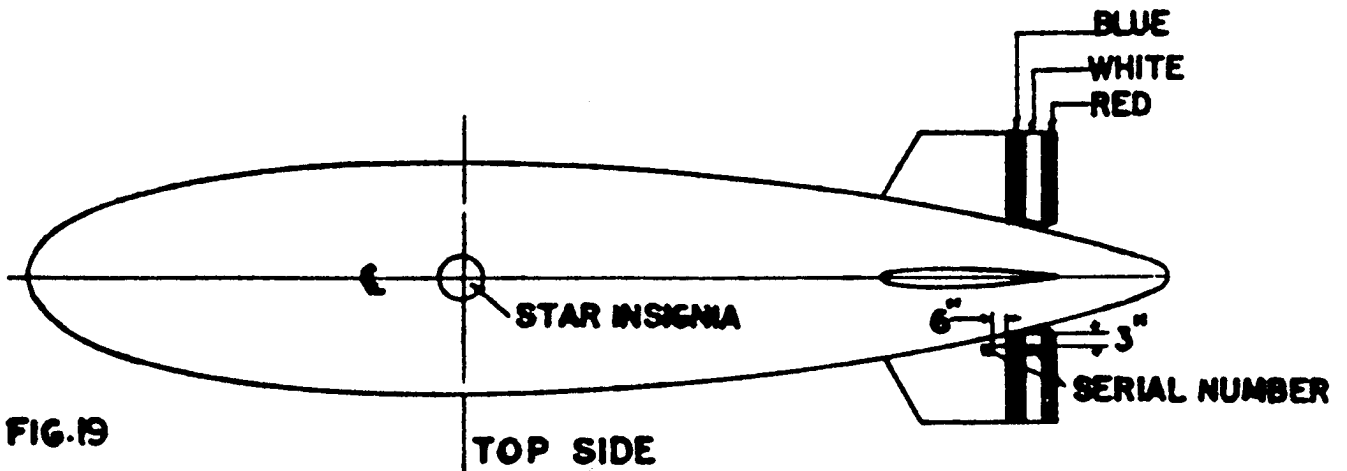


FIG. 18



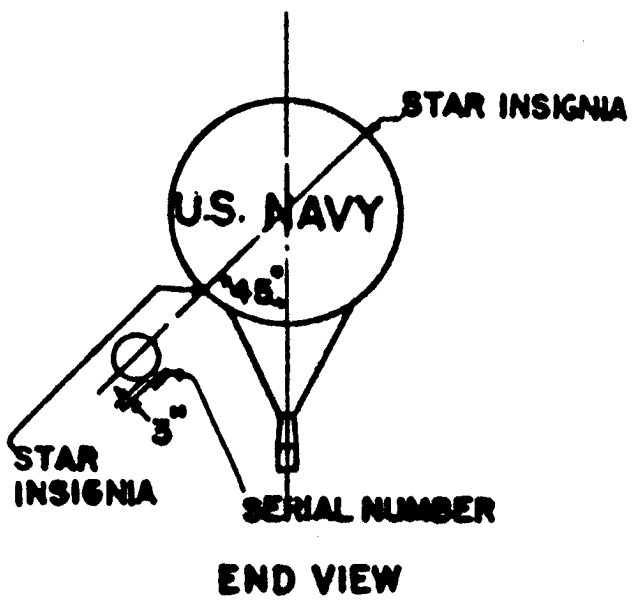


FIG 22

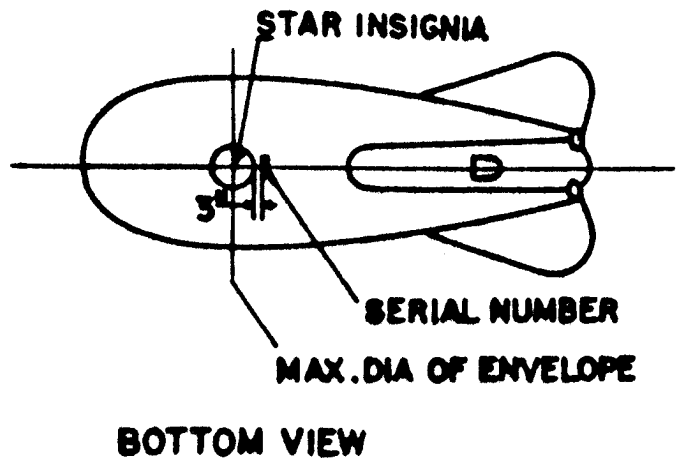
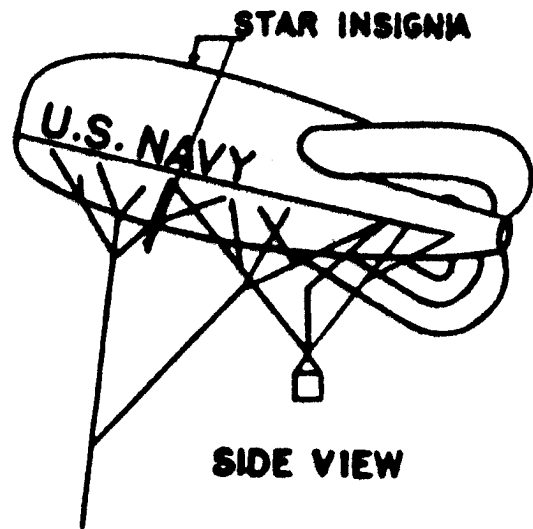


FIG 23