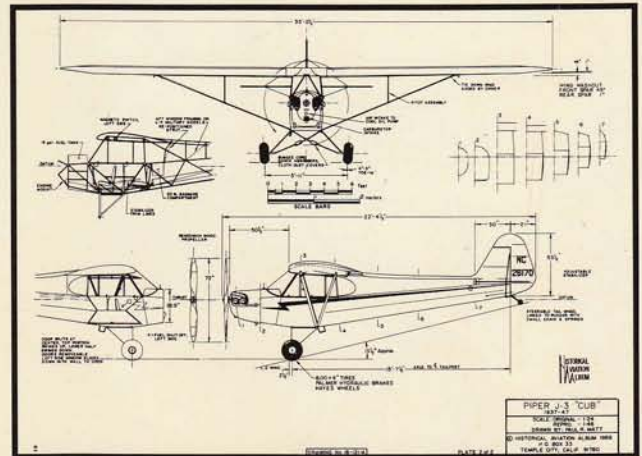
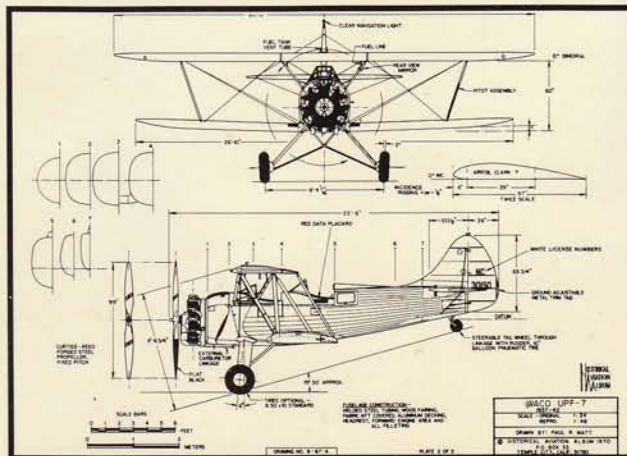
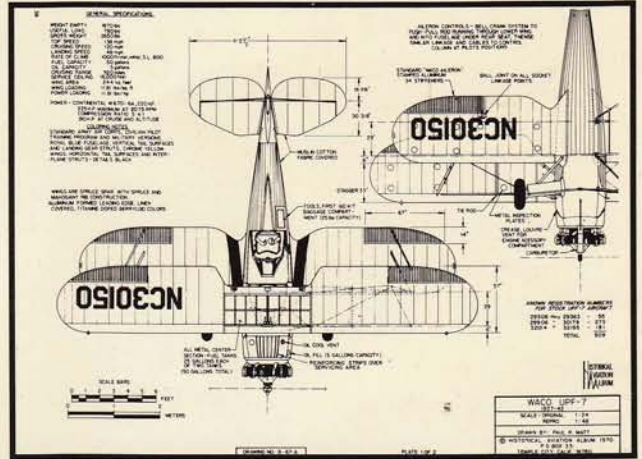
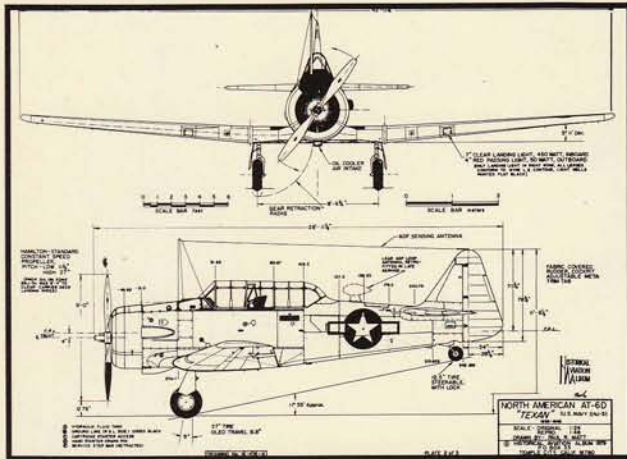
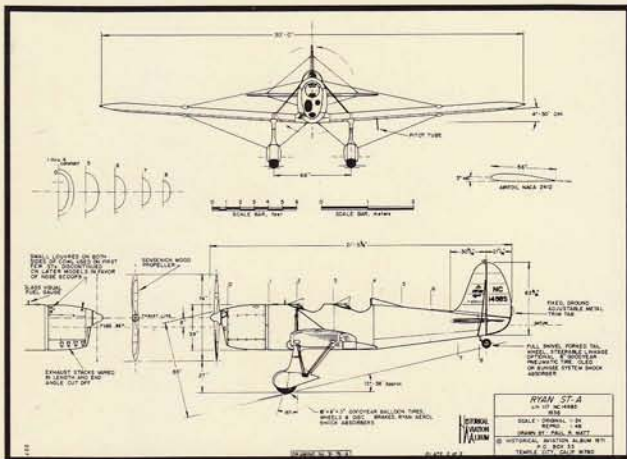
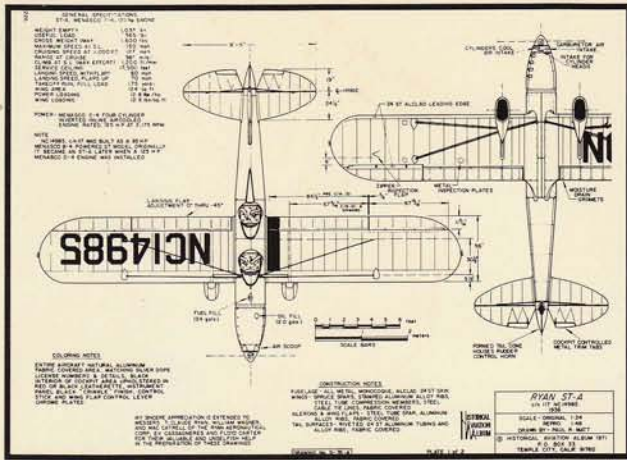


PAUL MATT

SCALE AIRPLANE DRAWINGS VOLUME 2



Paul Matt's Scale Airplane Drawings Volume 2

Drawn by the late, great
Paul Matt
Published as part of the
"Aviation Heritage Library Series"



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C = 1:48 1/4" = 1'	
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E = 1:8 1 1/2" = 1'	
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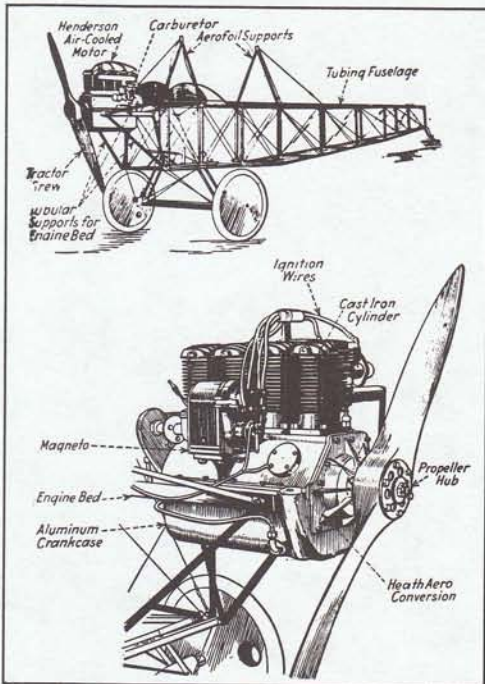
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DEDICATION

Dedicated to the late
Paul R. Matt
and his wife, the late
Joan Woeste Matt
who both contributed greatly to the
recording of aviation history

Heath LNB-4 Parasol

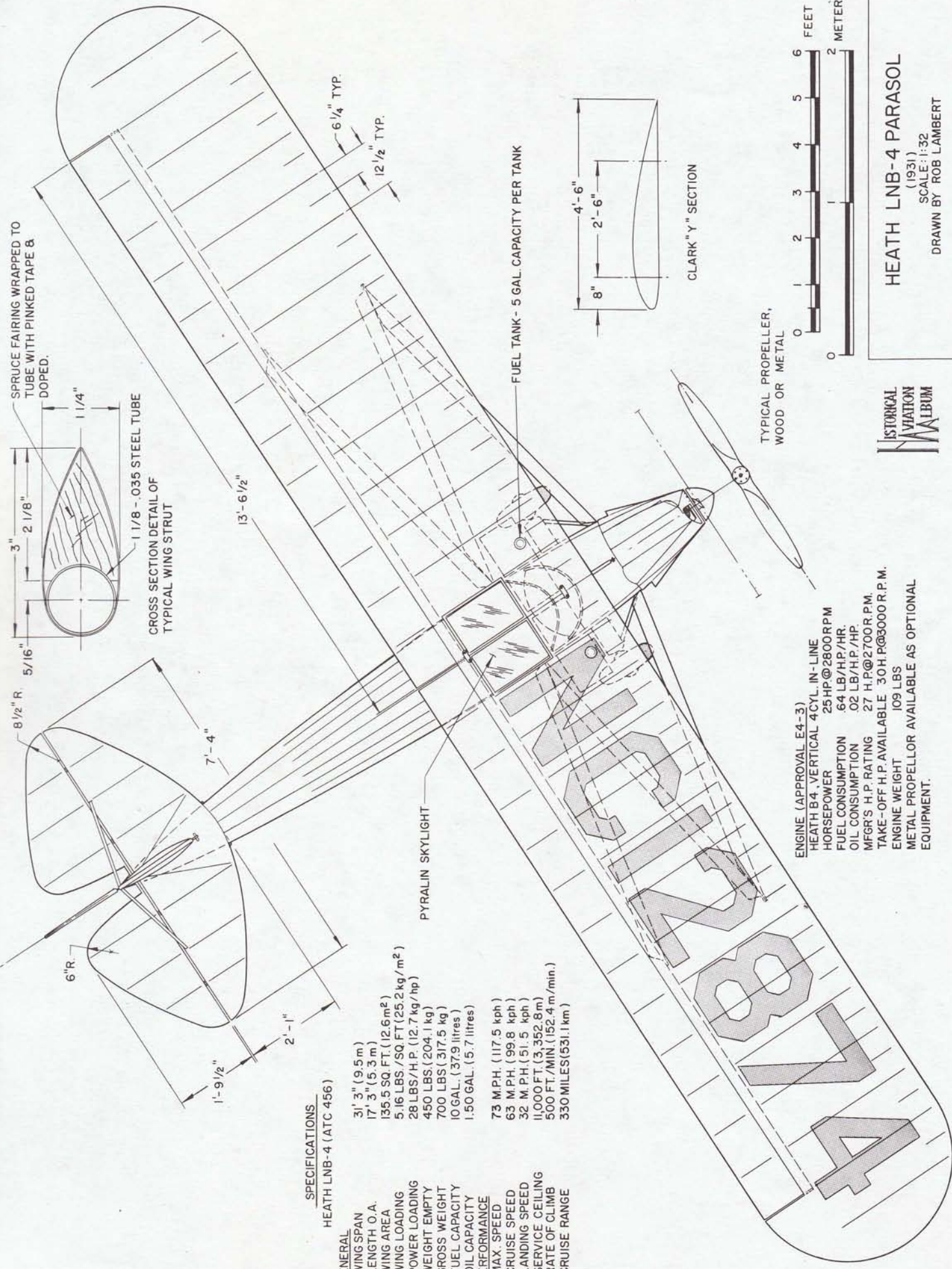


Heath Parasol on floats. Ed Heath by aircraft.

Heath Parasol and Henderson converted motorcycle engine installation.



Heath LNB-4 Parasol.



SPECIFICATIONS
HEATH LNB-4 (ATC 456)

- GENERAL**
- WING SPAN 31' 3" (9.5 m)
 - LENGTH O.A. 17' 3" (5.3 m)
 - WING AREA 135.5 SQ. FT. (12.6 m²)
 - WING LOADING 5.16 LBS./SQ. FT. (25.2 kg/m²)
 - POWER LOADING 28 LBS./H.P. (12.7 kg/hp)
 - WEIGHT EMPTY 450 LBS (204.1 kg)
 - GROSS WEIGHT 700 LBS (317.5 kg)
 - FUEL CAPACITY 10 GAL. (37.9 litres)
 - OIL CAPACITY 1.50 GAL. (5.7 litres)
- PERFORMANCE**
- MAX. SPEED 73 MPH. (117.5 kph)
 - CRUISE SPEED 63 M.P.H. (99.8 kph)
 - LANDING SPEED 32 M.P.H. (51.5 kph)
 - SERVICE CEILING 11,000 FT. (3,352.8 m)
 - RATE OF CLIMB 500 FT./MIN. (152.4 m/min.)
 - CRUISE RANGE 330 MILES (531.1 km)

- ENGINE (APPROVAL E4-3)**
- HEATH B4 VERTICAL 4CYL. IN-LINE
 - HORSEPOWER 25 HP @ 2800 R.P.M.
 - FUEL CONSUMPTION 64 LB/H.P./HR.
 - OIL CONSUMPTION 02 LB/H.P./HR.
 - MFGR'S H.P. RATING 27 H.P. @ 2700 R.P.M.
 - TAKE-OFF H.P. AVAILABLE 30 H.P. @ 3000 R.P.M.
 - ENGINE WEIGHT 109 LBS
 - METAL PROPELLOR AVAILABLE AS OPTIONAL EQUIPMENT.

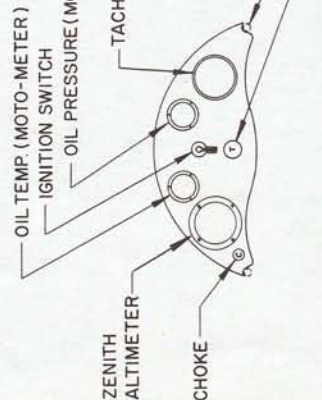
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HEATH LNB-4 PARASOL
(1931)
SCALE: 1:32
DRAWN BY ROB LAMBERT

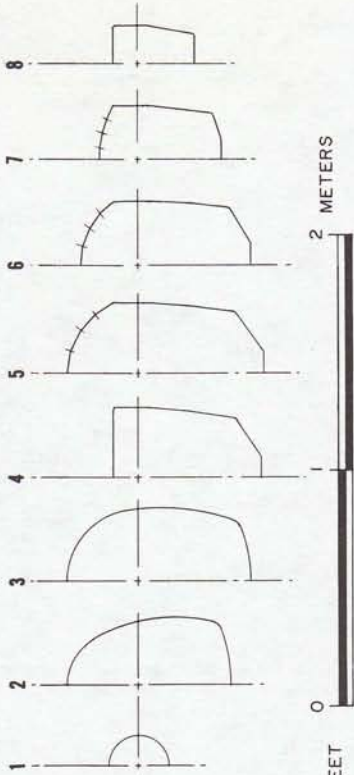
31'-3"

AILERON "PUSH-PULL" CONTROL ROD

2° DIHEDRAL



FUEL TANK CAP
FUEL STRAINER ACCESS HOLE
RUSSELL CORD RING SHOCKS
3°

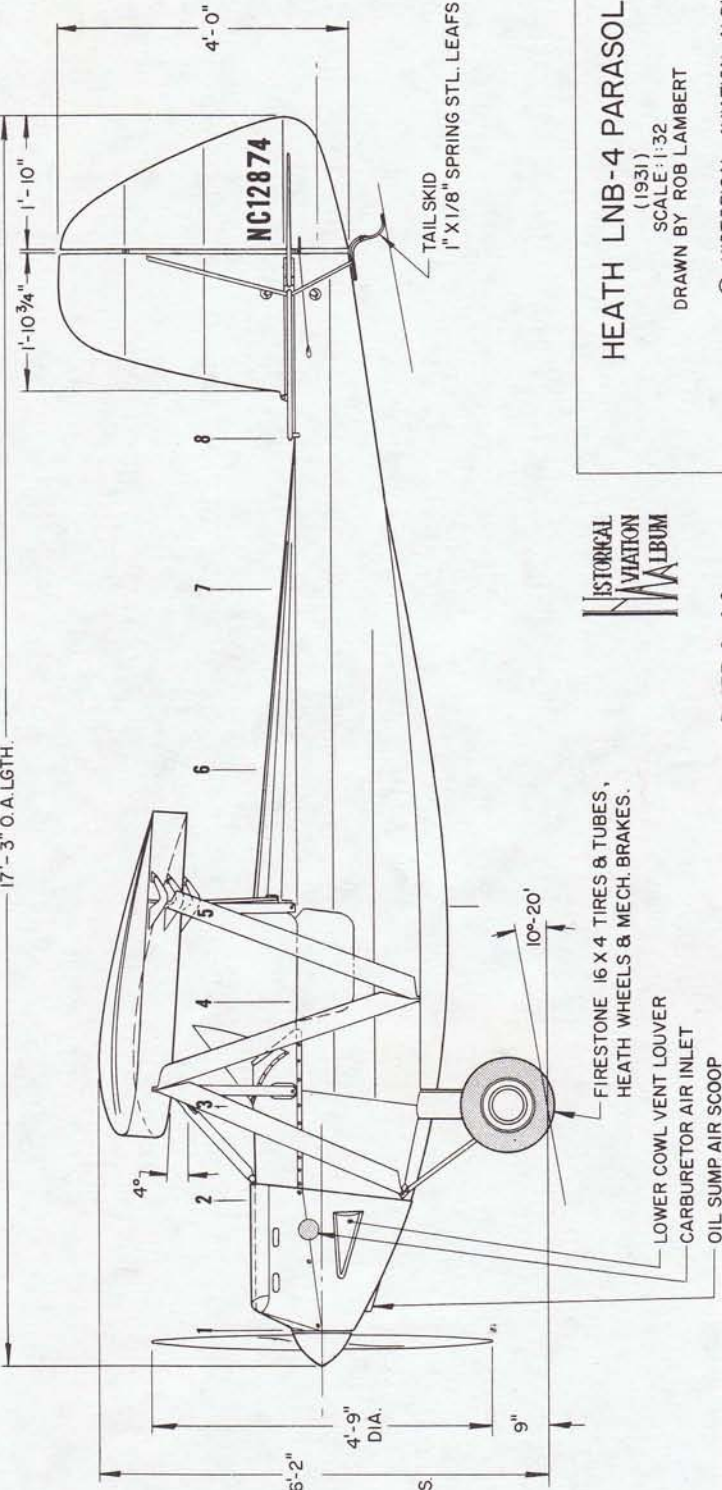


17'-3" O.A. LGTH.

COLOR SCHEME
(FACTORY BUILT)

ENTIRE AIRCRAFT FINISHED IN LIGHT CREAM. REGISTRATION LETTERS, NUMERALS & OPTIONAL TRIM FINISH WERE BLACK.

KNOWN REGISTRATION NUMBERS OF FACTORY BUILT LNB-4 AIRCRAFT ARE LISTED AS FOLLOWS:
NC 10740
NC 10739 - BELIEVED TO BE PROTOTYPE.
NC 12874 - AIRCRAFT SHOWN IN THESE DWGS
NC 13375
NC 13646
NC 15621



HEATH LNB-4 PARASOL
(1931)
SCALE: 1:32
DRAWN BY ROB LAMBERT

Howard DGA 15P

Dark blue and red DGA-15P of the Aeronautical Commission, State of West Virginia, visits Cincinnati, Ohio - 1956.

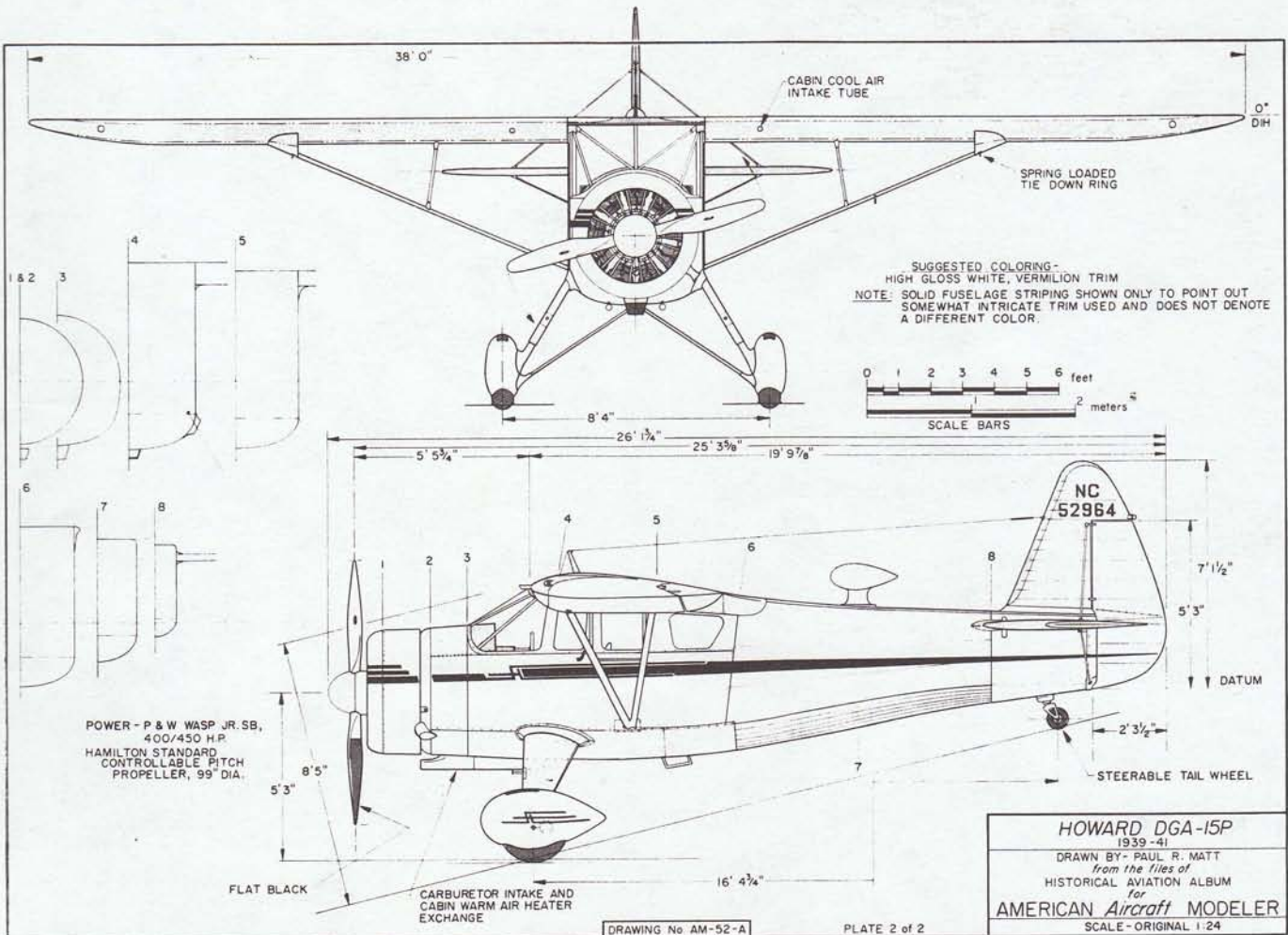
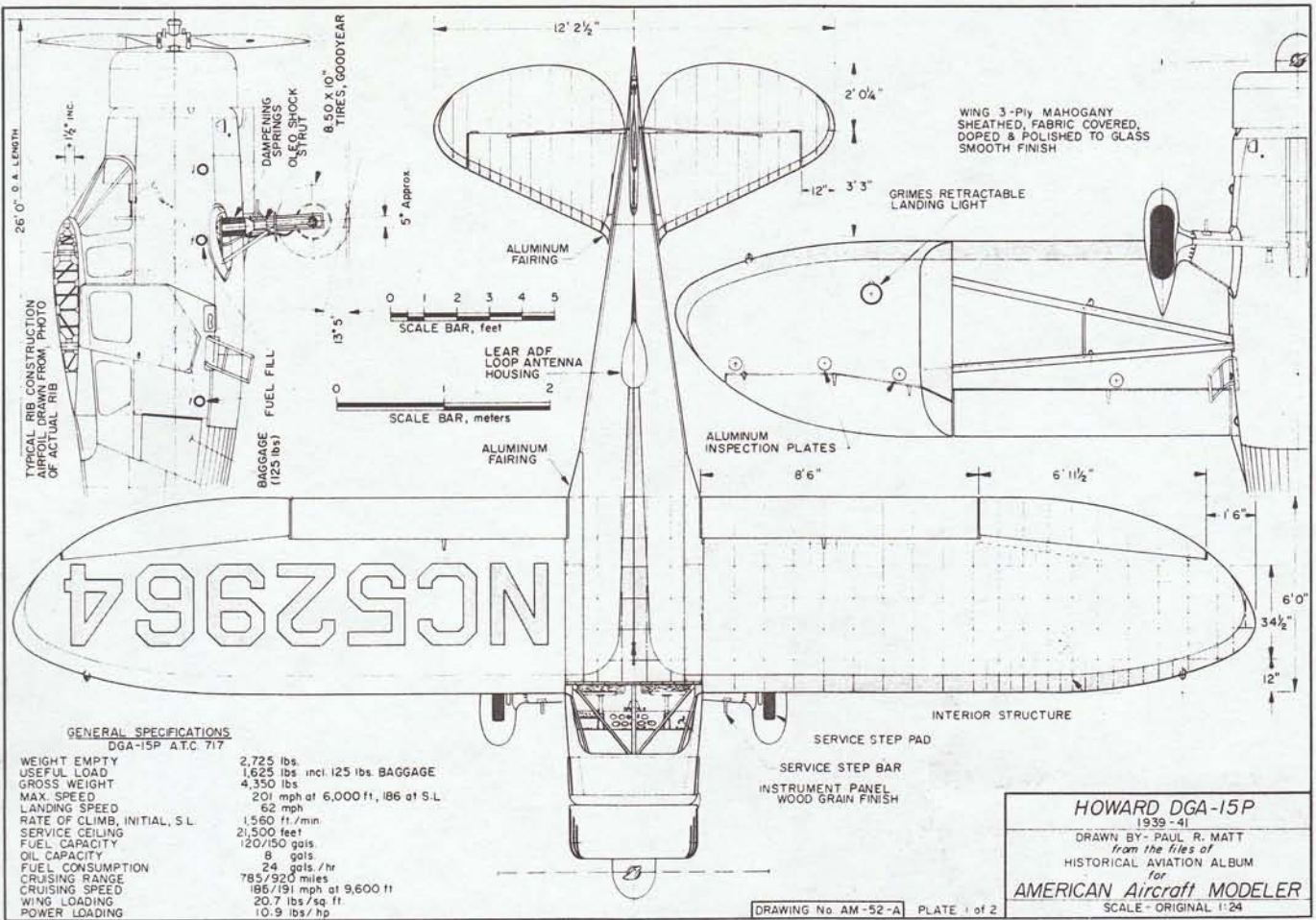


Howard DGA-15P Modified post WWII.



Howard DGA-15P.

9.5"

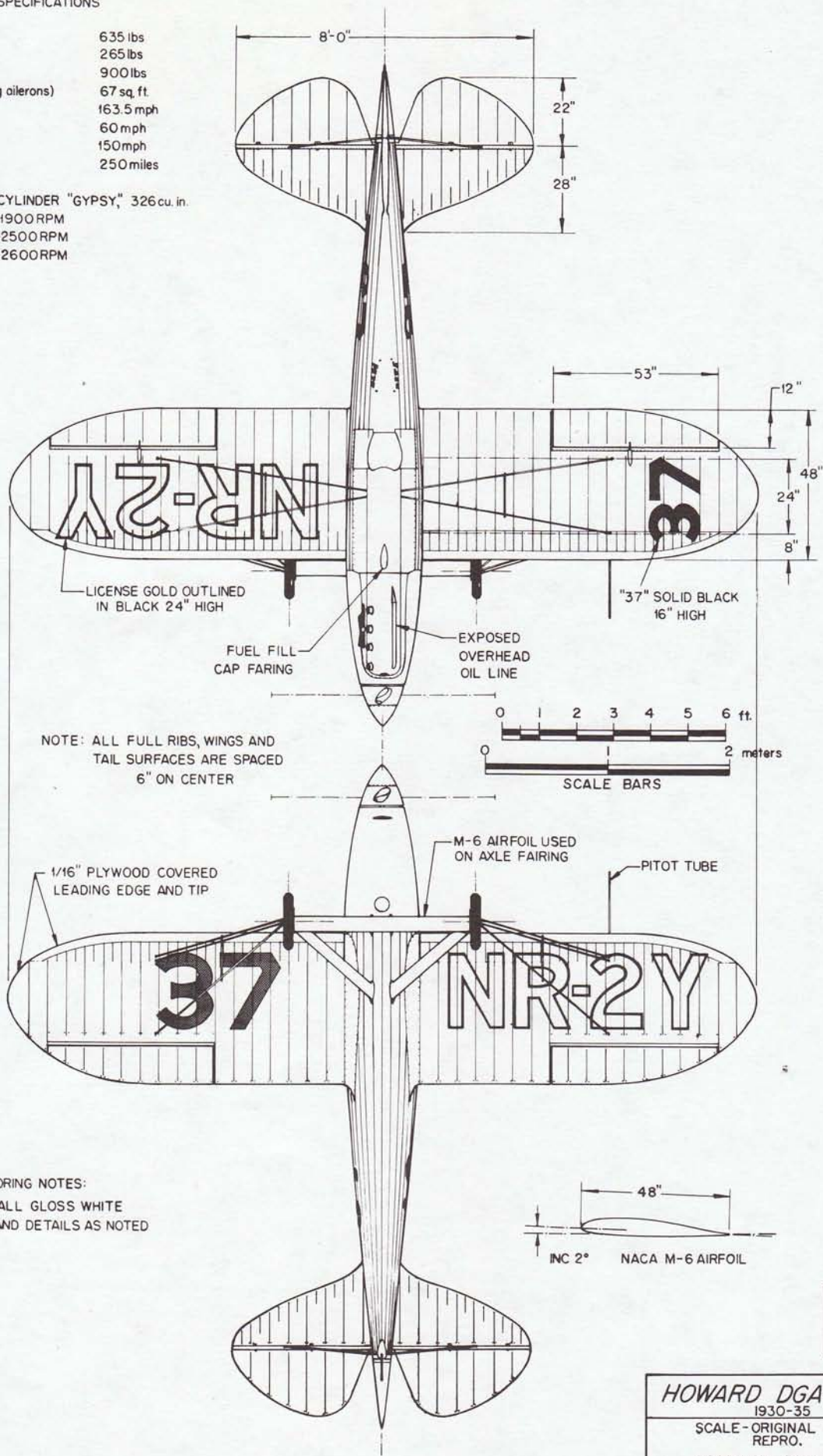


GENERAL SPECIFICATIONS

EMPTY WEIGHT 635 lbs
 USEFUL LOAD 265 lbs
 GROSS WEIGHT 900 lbs
 WING AREA (including ailerons) 67 sq. ft.
 MAXIMUM SPEED 163.5 mph
 LANDING SPEED 60 mph
 CRUISING SPEED 150 mph
 CRUISING RANGE 250 miles

POWER: WRIGHT 4 CYLINDER "GYPSY," 326 cu. in.

85HP @ 1900RPM
 90HP @ 2500RPM
 95HP @ 2600RPM

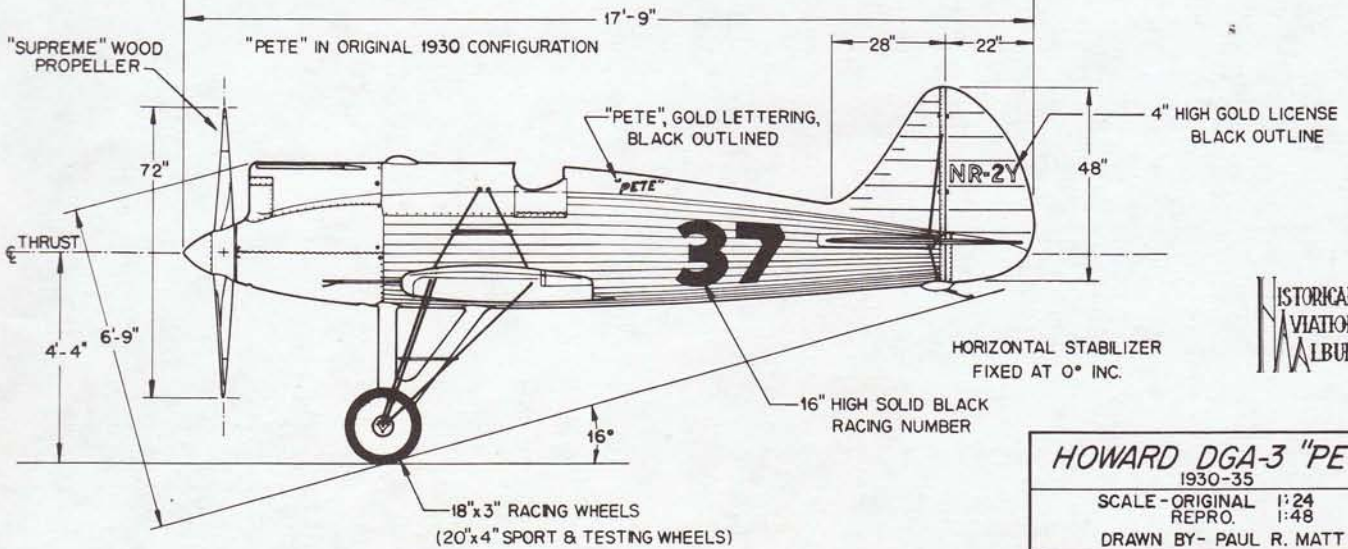
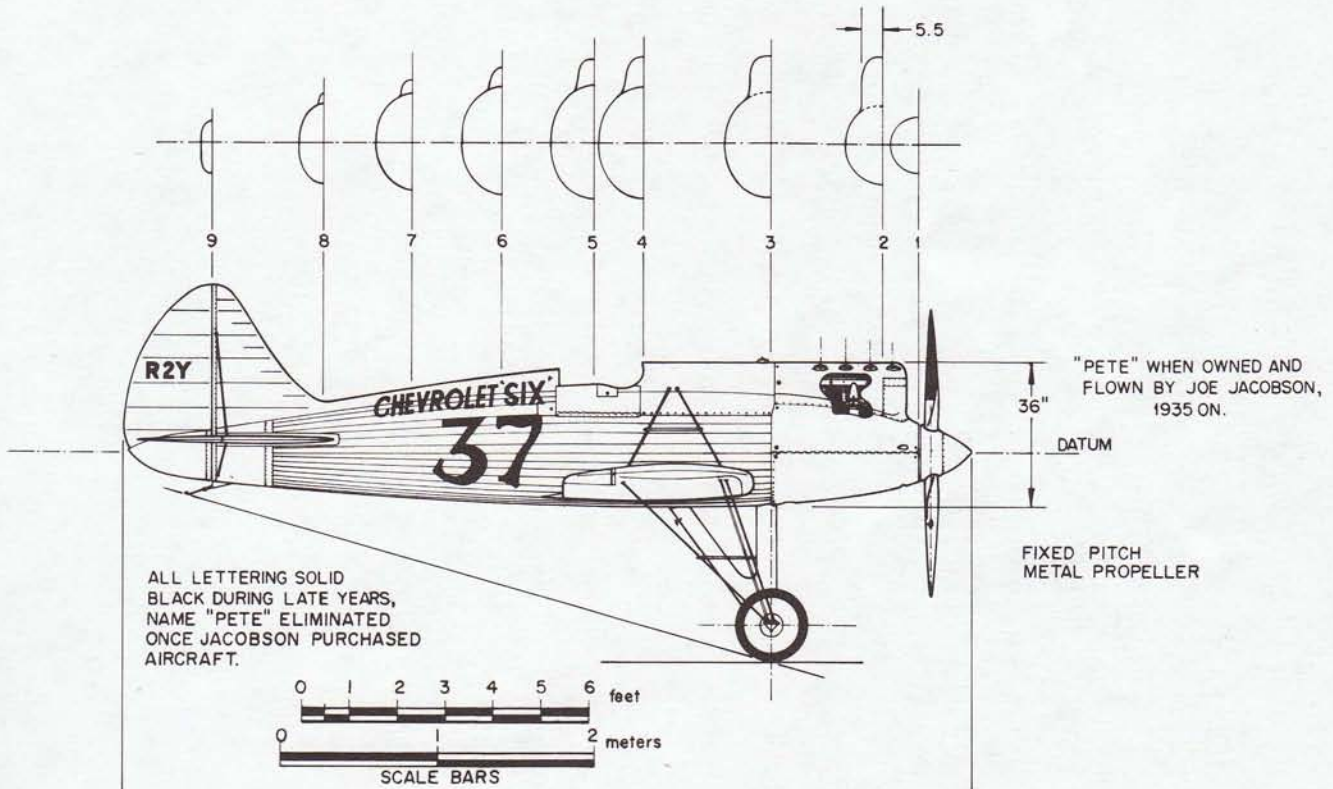
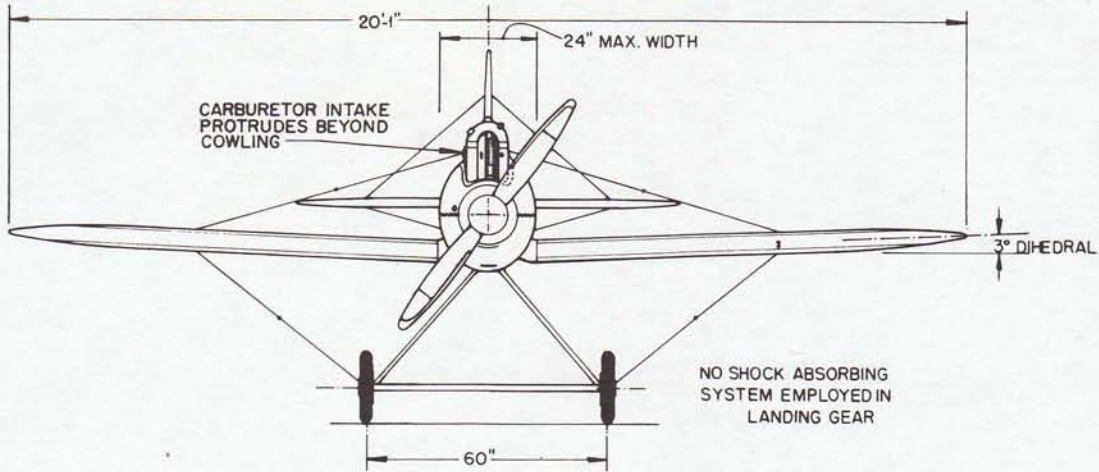


NOTE: ALL FULL RIBS, WINGS AND TAIL SURFACES ARE SPACED 6" ON CENTER

COLORING NOTES:
 AIRCRAFT ALL GLOSS WHITE
 LETTERING AND DETAILS AS NOTED

HISTORICAL AVIATION ALBUM

HOWARD DGA-3 "PETE"
 1930-35
 SCALE-ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY- PAUL R. MATT
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 P.O. BOX 33
 TEMPLE CITY, CALIF. 91780



HISTORICAL AVIATION ALBUM

HOWARD DGA-3 "PETE"
1930-35

SCALE - ORIGINAL 1:24
REPRO. 1:48

DRAWN BY - PAUL R. MATT

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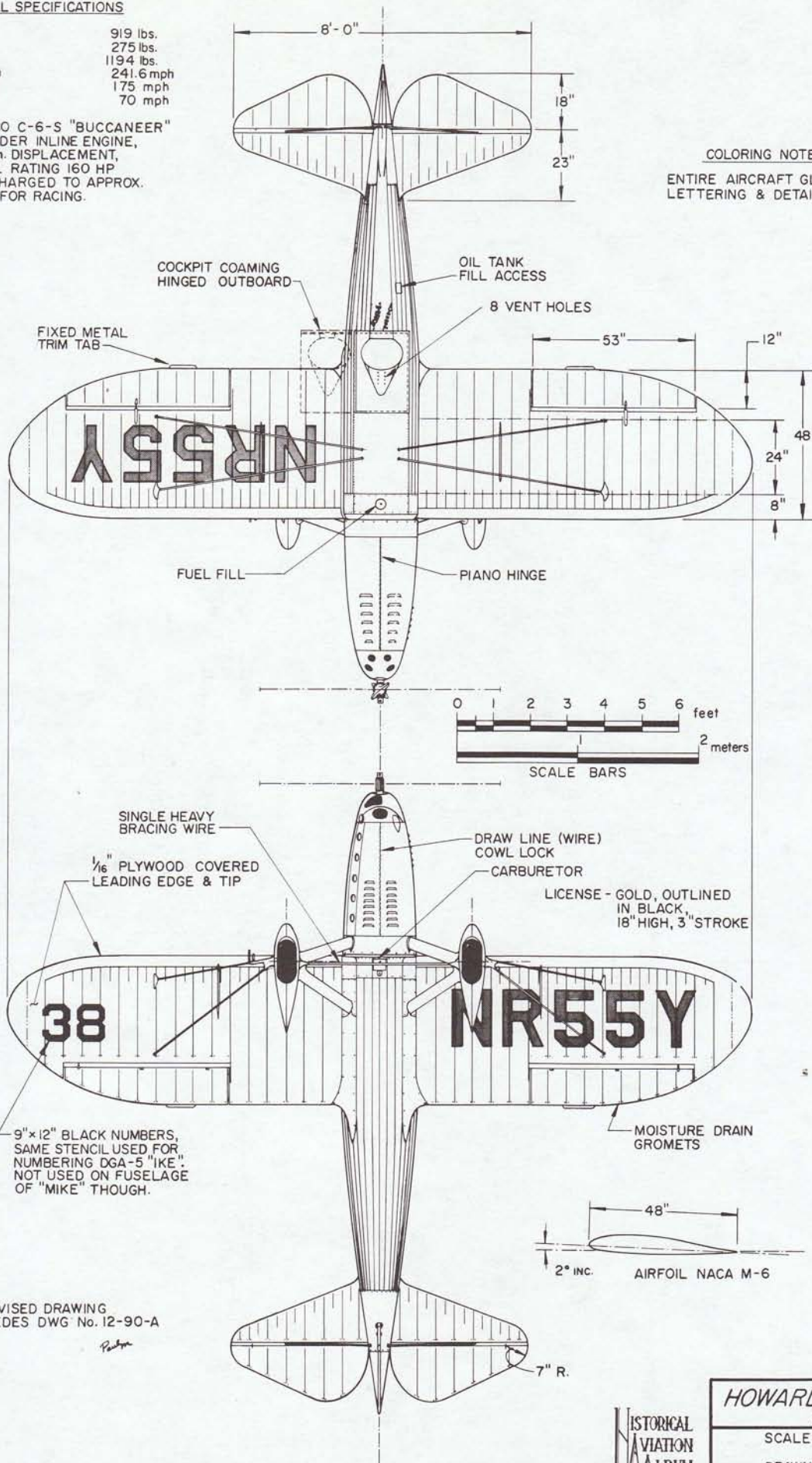
GENERAL SPECIFICATIONS

EMPTY WEIGHT 919 lbs.
 USEFUL LOAD 275 lbs.
 GROSS WEIGHT 1194 lbs.
 MAXIMUM SPEED 241.6 mph
 CRUISING SPEED 175 mph
 LANDING SPEED 70 mph

POWER: MENASCO C-6-S "BUCCANEER"
 6 CYLINDER INLINE ENGINE,
 489 cu. in. DISPLACEMENT,
 NORMAL RATING 160 HP
 SUPERCHARGED TO APPROX.
 200 HP FOR RACING.

COLORING NOTES

ENTIRE AIRCRAFT GLOSS WHITE,
 LETTERING & DETAILS AS NOTED



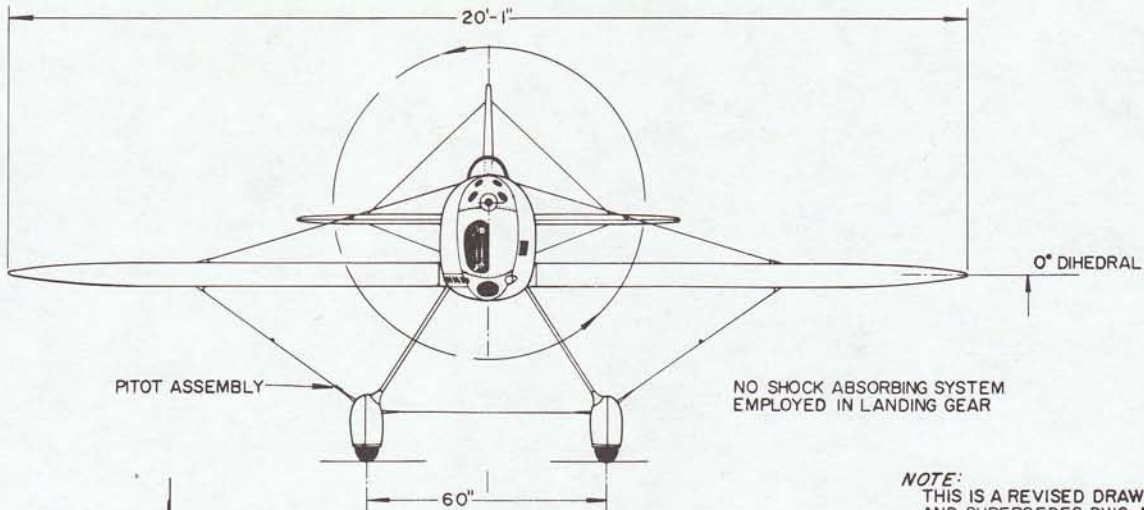
9" x 12" BLACK NUMBERS,
 SAME STENCIL USED FOR
 NUMBERING DGA-5 "IKE".
 NOT USED ON FUSELAGE
 OF "MIKE" THOUGH.

NOTE:
 THIS IS A REVISED DRAWING
 AND SUPERSEDES DWG No. 12-90-A

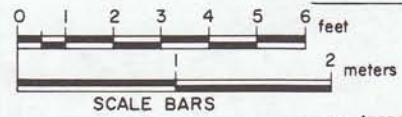
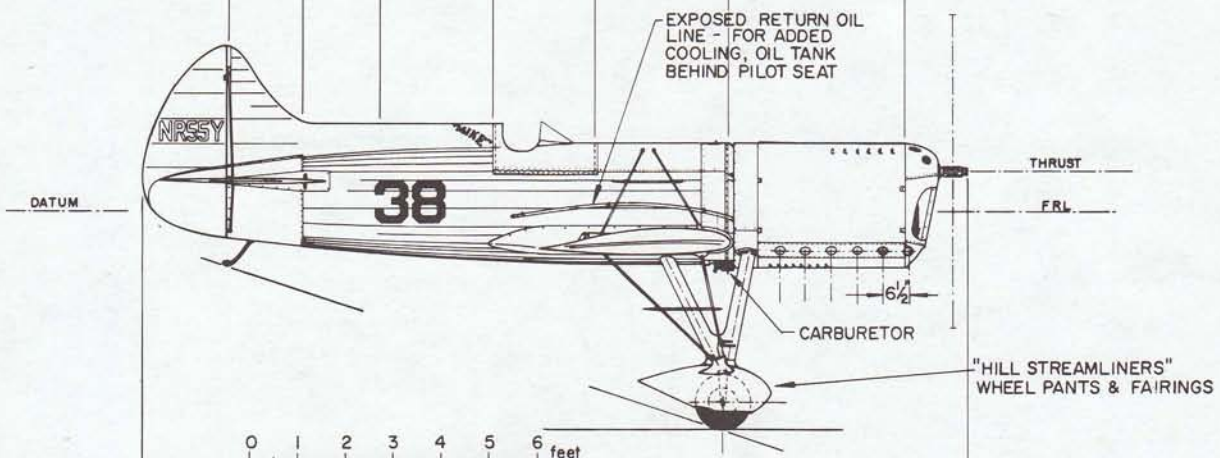
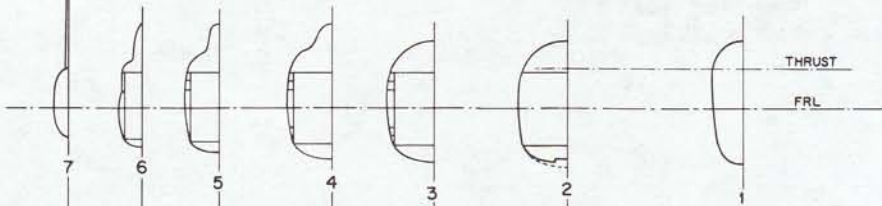
Paul R. Matt



HOWARD DGA-4 "MIKE"	
1932-37	
SCALE - ORIGINAL	1:24
REPRO.	1:48
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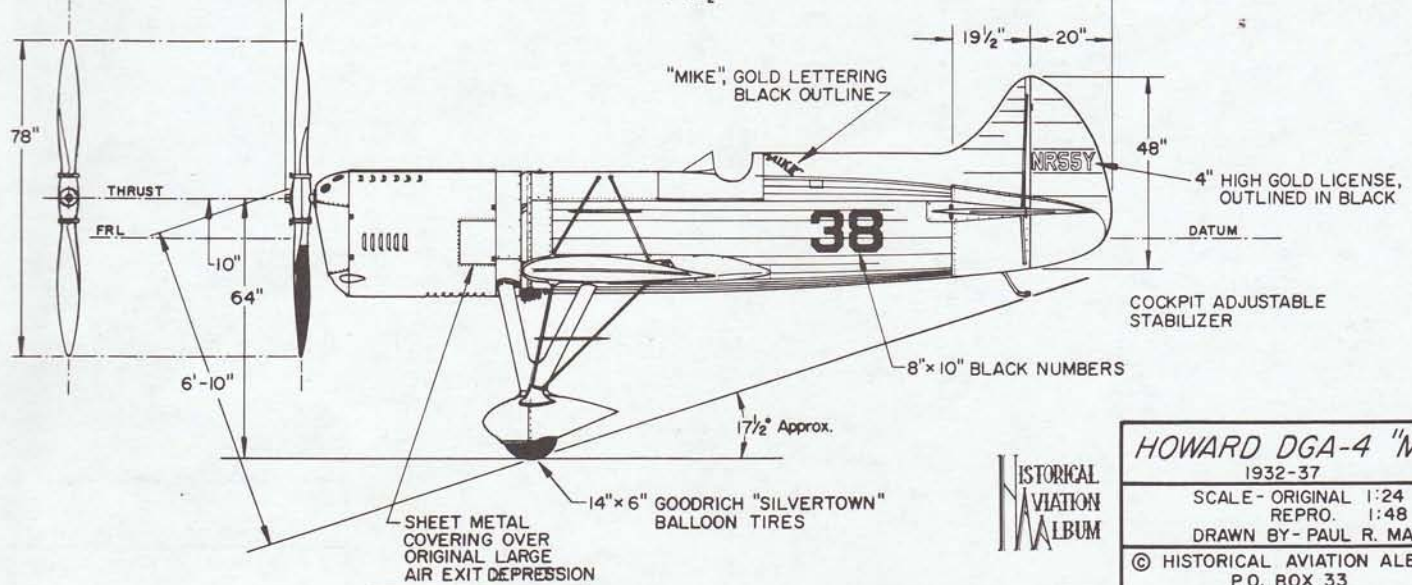


NOTE:
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Paul R



SMITH GROUND ADJUSTABLE METAL PROPELLOR

17'-2 1/2" APPROX.



DRAWING No. 13-90-A

-PLATE 2 of 2



HOWARD DGA-4 "MIKE"
1932-37
SCALE - ORIGINAL 1:24
REPRO. 1:48
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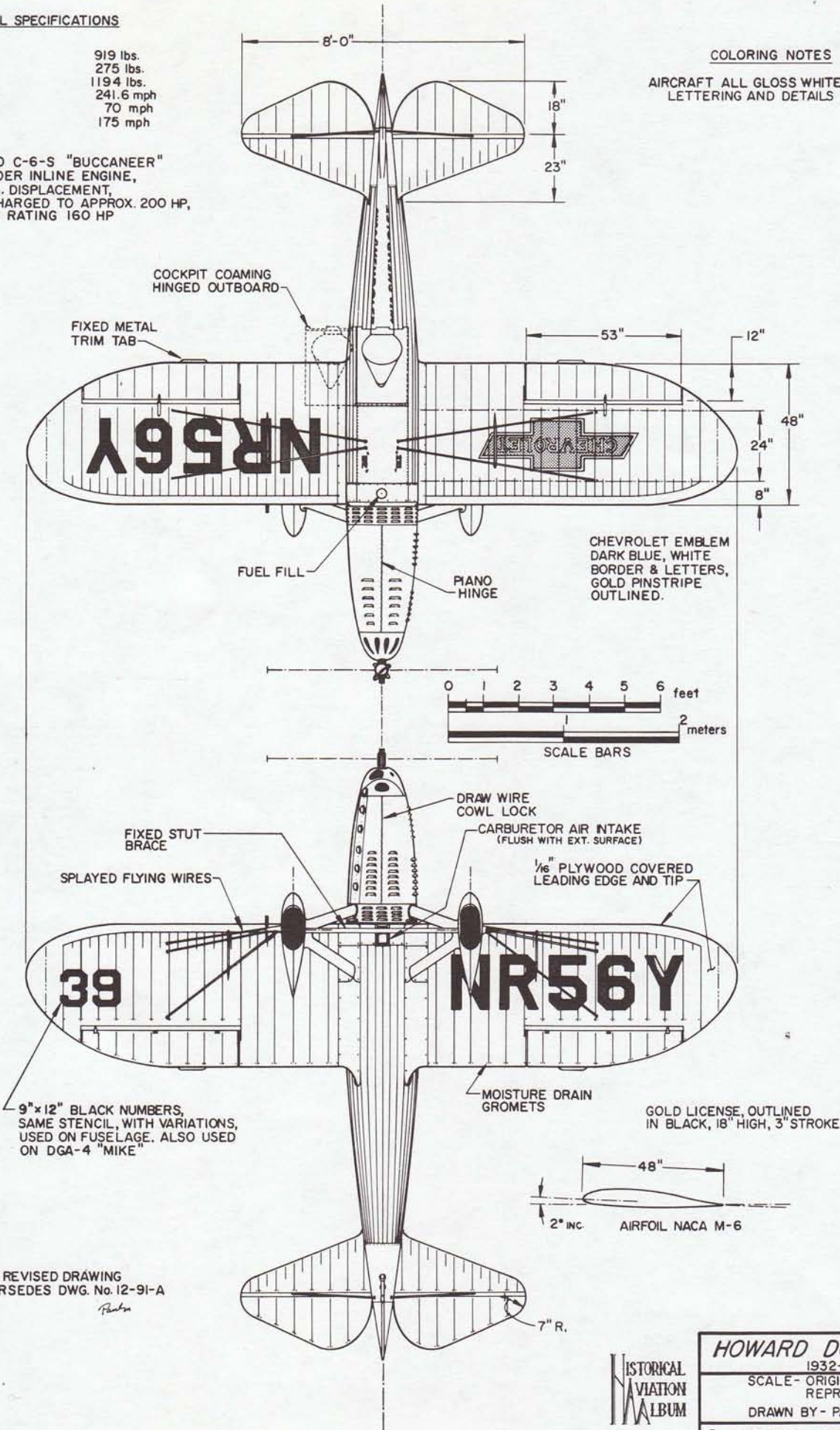
GENERAL SPECIFICATIONS

EMPTY WEIGHT 919 lbs.
 USEFUL LOAD 275 lbs.
 GROSS WEIGHT 1194 lbs.
 MAXIMUM SPEED 241.6 mph
 LANDING SPEED 70 mph
 CRUISING SPEED 175 mph

POWER: MENASCO C-6-S "BUCCANEER"
 6 CYLINDER INLINE ENGINE,
 489 cu.in. DISPLACEMENT,
 SUPERCHARGED TO APPROX. 200 HP,
 NORMAL RATING 160 HP

COLORING NOTES

AIRCRAFT ALL GLOSS WHITE,
 LETTERING AND DETAILS AS NOTED

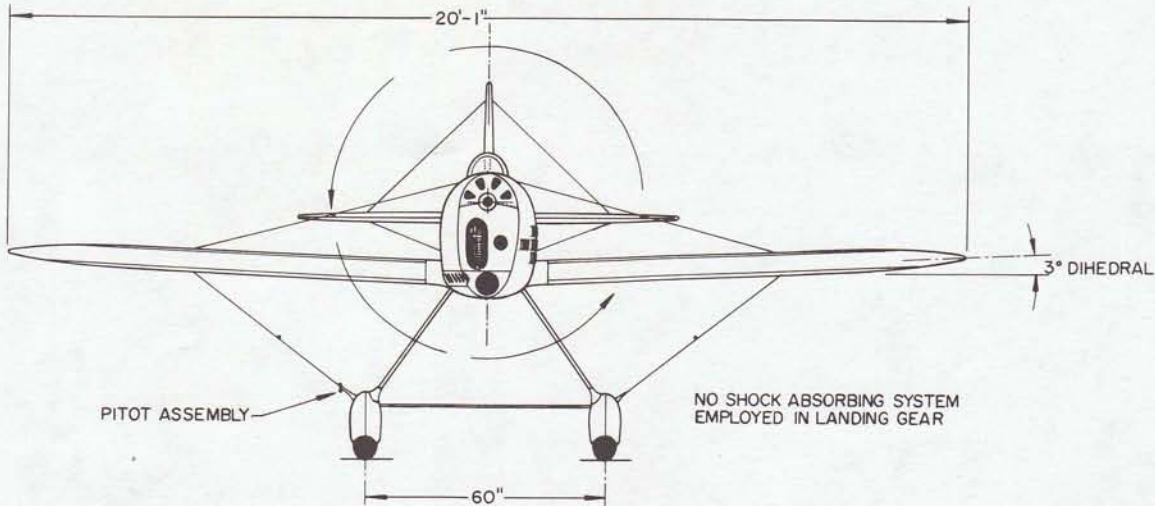


9" x 12" BLACK NUMBERS,
 SAME STENCIL, WITH VARIATIONS,
 USED ON FUSELAGE. ALSO USED
 ON DGA-4 "MIKE"

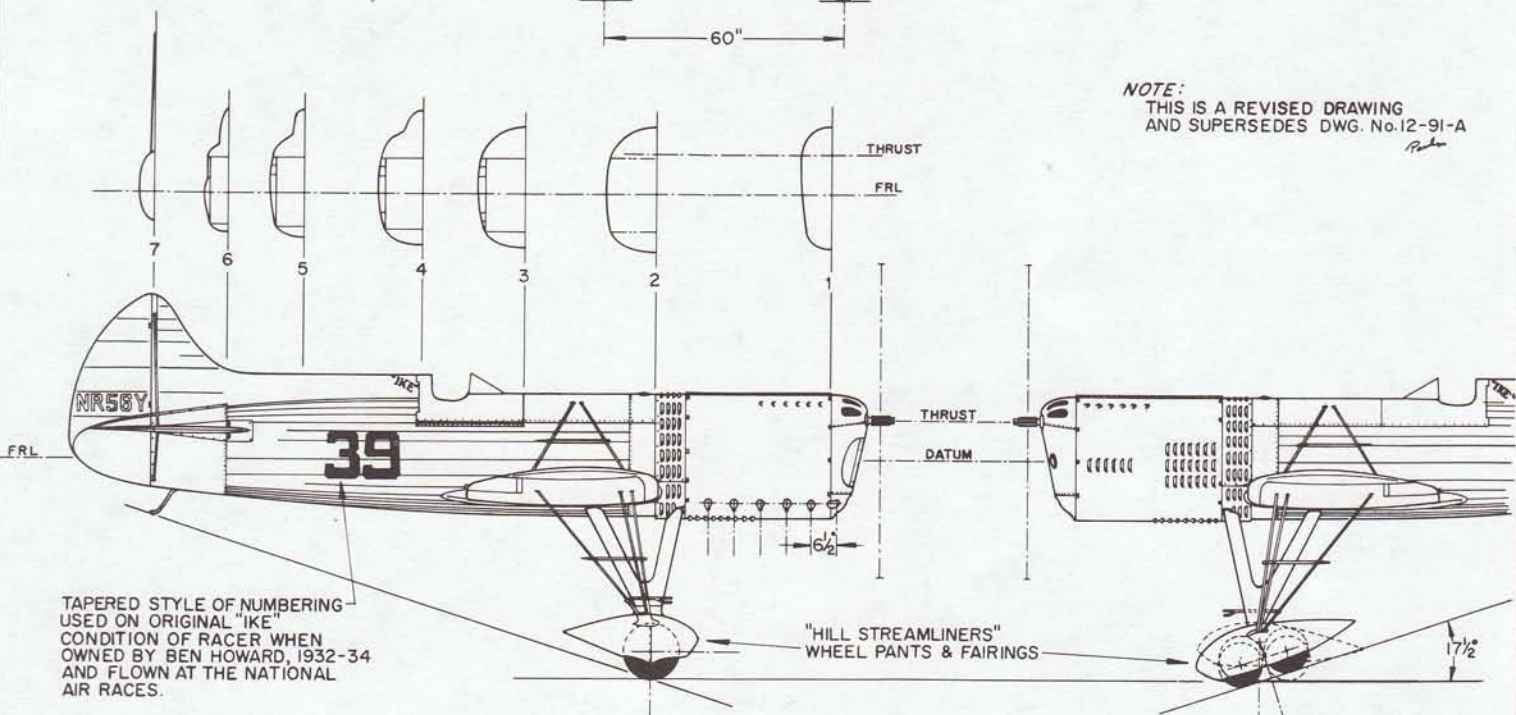
GOLD LICENSE, OUTLINED
 IN BLACK, 18" HIGH, 3" STROKE

NOTE:
 THIS IS A REVISED DRAWING
 AND SUPERSEDES DWG. No. 12-91-A
 Paul R. Matt

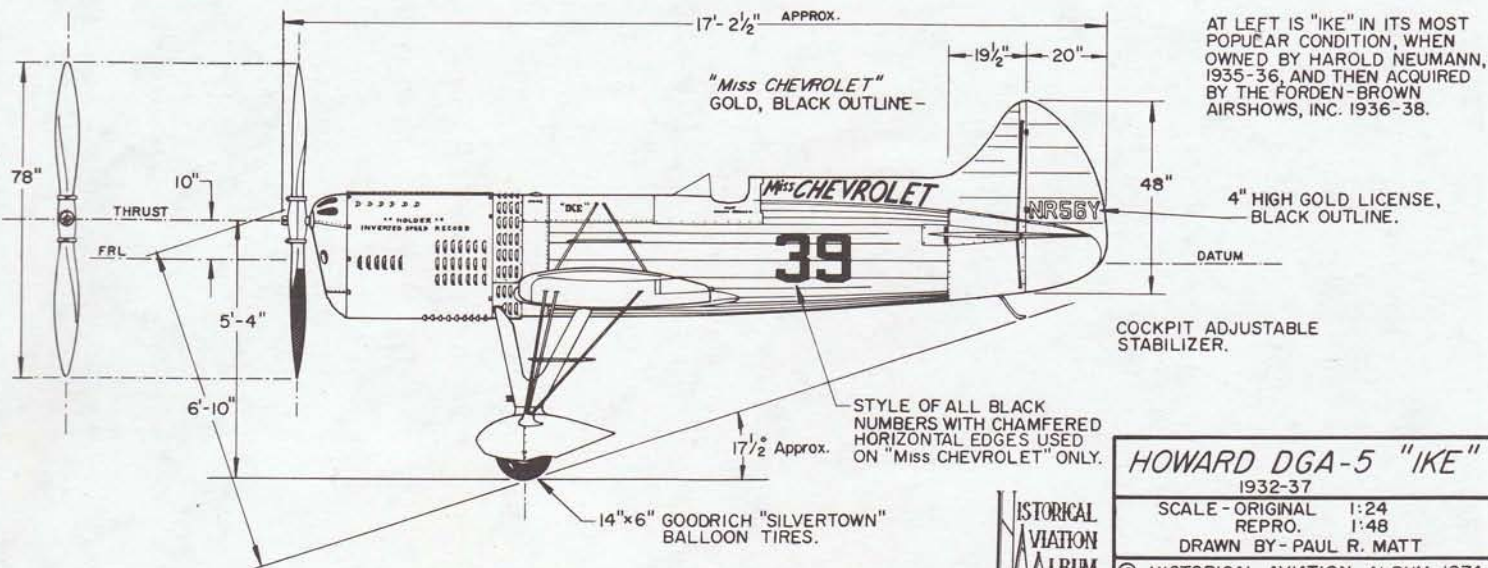
HISTORICAL AVIATION ALBUM	HOWARD DGA-5 "IKE"	
	1932-37	
	SCALE - ORIGINAL	1:24
	REPRO.	1:48
DRAWN BY - PAUL R. MATT		
© HISTORICAL AVIATION ALBUM 1974		
P.O. BOX 33		
TEMPLE CITY, CALIF. 91780		



NOTE:
THIS IS A REVISED DRAWING
AND SUPERSEDES DWG. No.12-91-A



SMITH GROUND ADJUSTABLE METAL PROPELLER.



AT LEFT IS "IKE" IN ITS MOST POPULAR CONDITION, WHEN OWNED BY HAROLD NEUMANN, 1935-36, AND THEN ACQUIRED BY THE FORDEN-BROWN AIRSHOWS, INC. 1936-38.

HOWARD DGA-5 "IKE"
1932-37

SCALE - ORIGINAL 1:24

REPRO. 1:48

DRAWN BY - PAUL R. MATT

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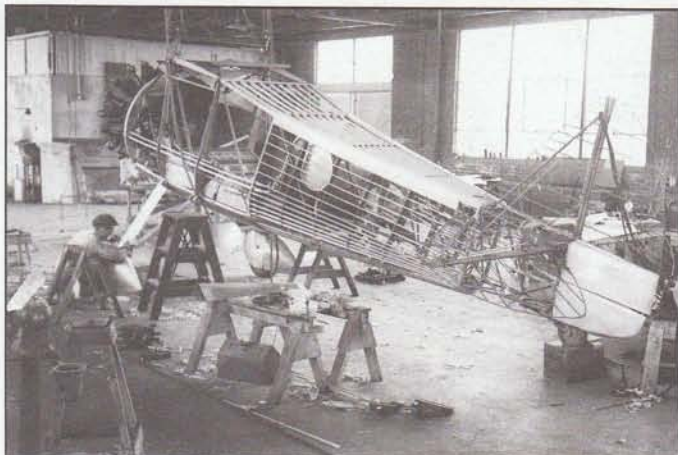
TEMPLE CITY, CALIF., 91780

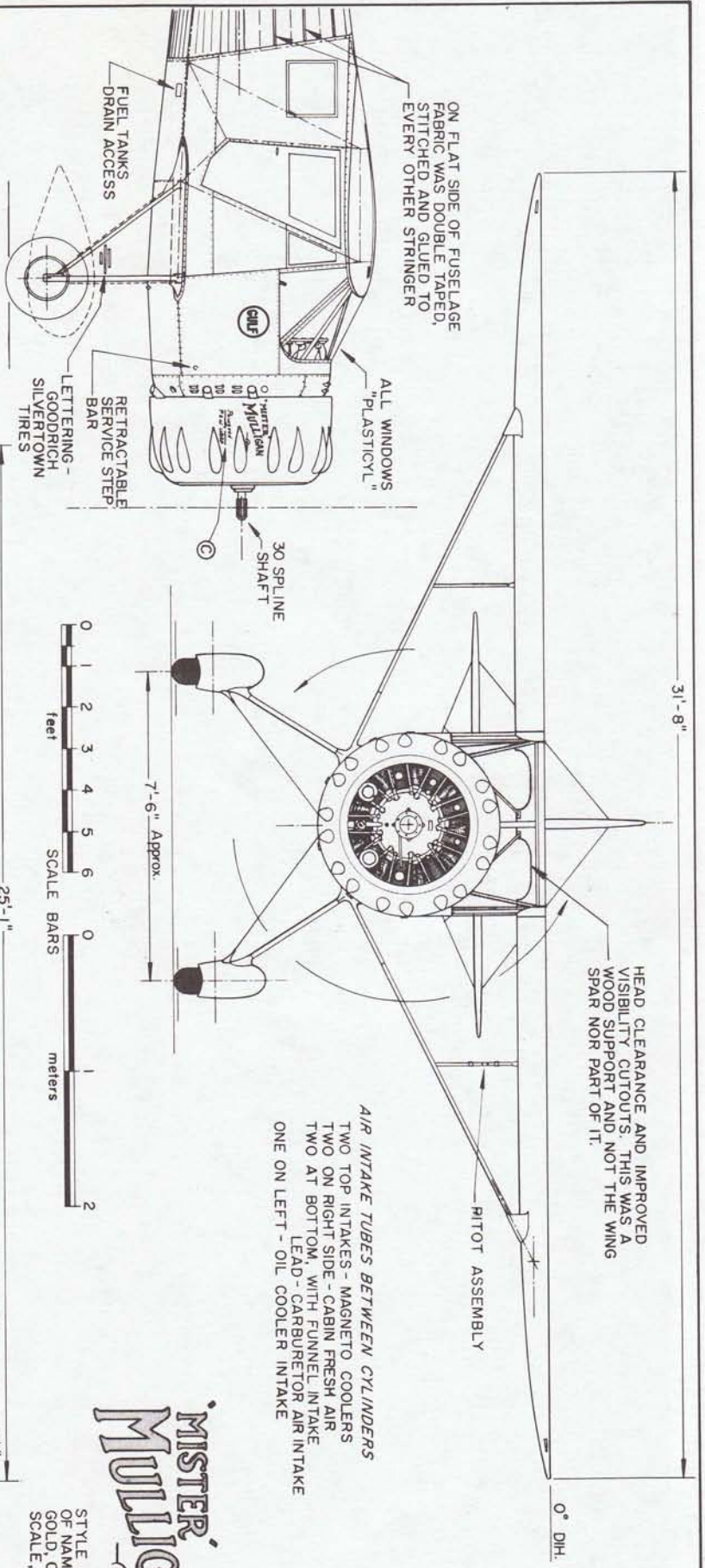
DRAWING No.13-91-A

PLATE 2 of 2

HISTORICAL
AVIATION
ALBUM

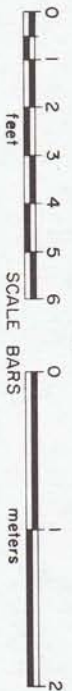
Howard DGA-6 Mister Mulligan





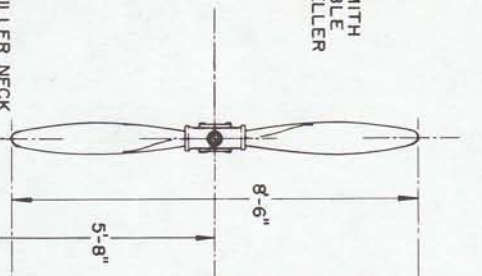
MISTER MULLIGAN

STYLE AND PLACEMENT OF NAME ON ENGINE COWL. GOLD. OUTLINED IN BLACK. SCALE, 4X SCALE OF G.A.

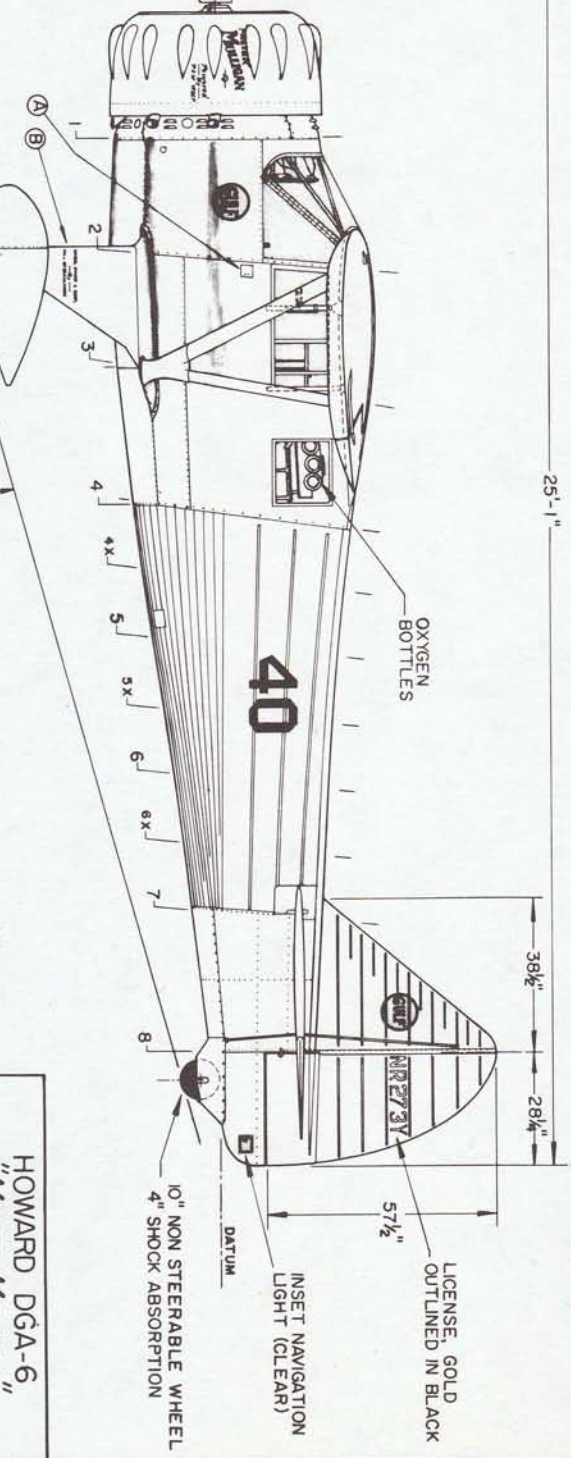


WORDING REPLACED BY P&W "EAGLE" LOGO
DECAL FOR 1936 RACING SEASON

LYCOMING-SMITH CONTROLLABLE PITCH PROPELLER



- A- ACCESS TO FUEL FILLER NECK FOR TANKS LOCATED IN BELLY OF PLANE
- B- LETTERING "WHEEL PANTS & COWL ON LEFT WHEEL STRUT — HILL STREAMLINERS"
- C- LETTERING ON RIGHT - "GOODRICH SILVERTOWN TIRES"



DRAWING No. 14-99-A

PLATE 2 of 3

HISTORICAL AVIATION ALBUM

HOWARD DGA-6	
"MISTER Mulligan"	
1934-36	
SCALE - ORIGINAL	1:24
REPRO.	1:48
DRAWN BY - PAUL R. MATT	
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TEMPLE CITY, CALIF. 91780	

GENERAL SPECIFICATIONS

BENDIX CROSS-COUNTRY CONFIGURATION	NORMAL CATEGORY
WEIGHT EMPTY	2600 lbs.
USEFUL LOAD	2700 lbs.
GROSS WEIGHT	5300 lbs.
WING AREA	150.7 sq. ft.
WING LOADING	39 lbs./sq. ft.
POWER LOADING	30.7 lbs./sq. ft.
	7.65 lbs./h.p.

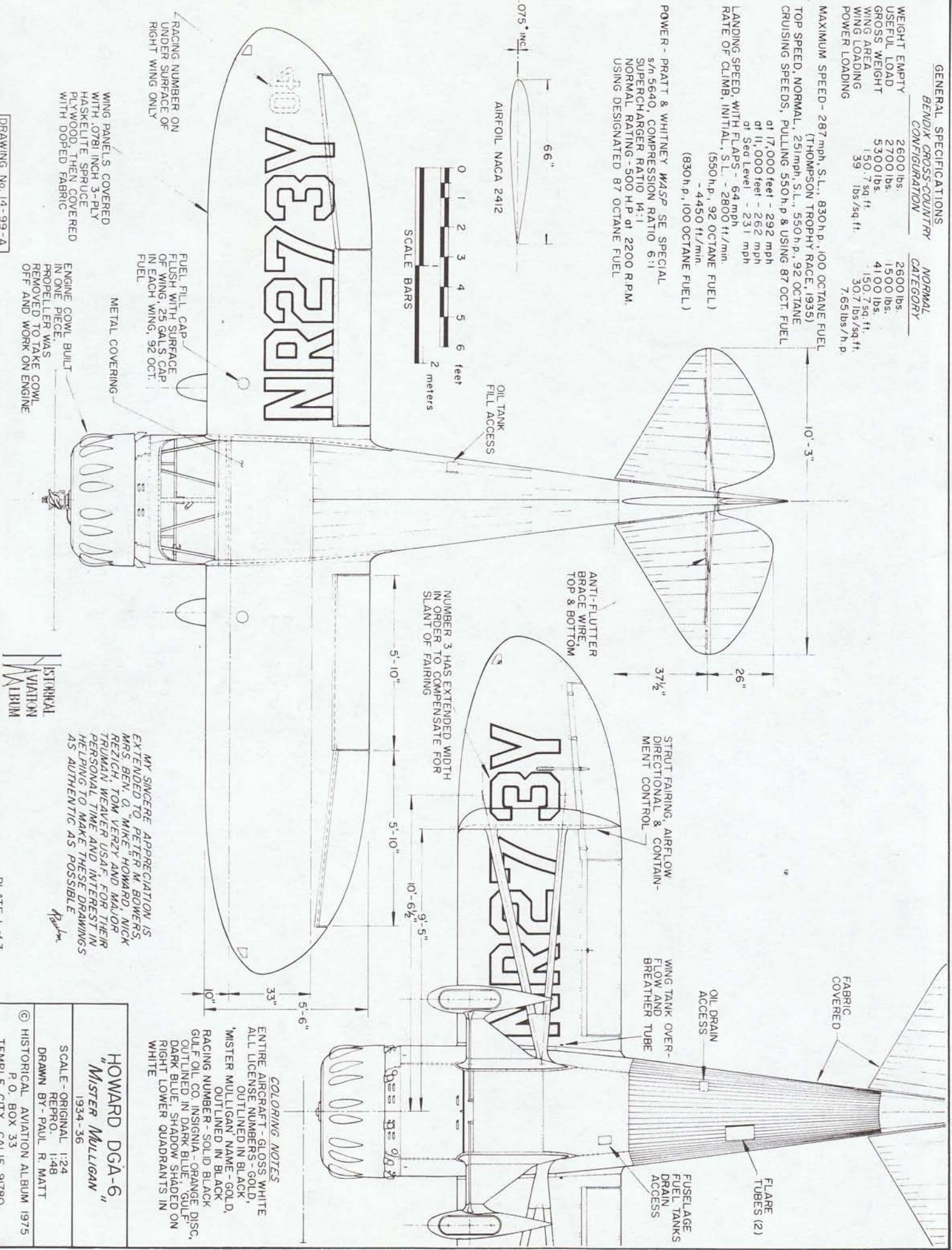
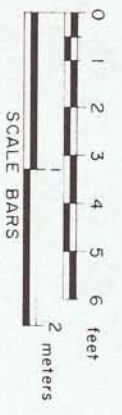
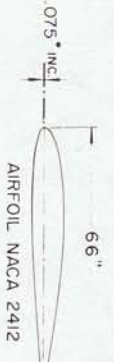
MAXIMUM SPEED - 287 mph, S.L., 830 h.p., 100 OCTANE FUEL (T HOMERSON TROPHY RACE, 1935)

TOP SPEED, NORMAL, 251 mph, S.L., 550 h.p., 92 OCTANE

CRUISING SPEEDS, PULLING 550 h.p. & USING 87 OCT. FUEL
 at 17,000 feet - 292 mph
 at 11,000 feet - 262 mph
 at Sea Level - 231 mph

LANDING SPEED, WITH FLAPS - 64 mph
 (550 h.p., 92 OCTANE FUEL)
 - 4450 ft./min.
 (830 h.p., 100 OCTANE FUEL)

POWER - PRATT & WHITNEY WASP SE SPECIAL
 s/n 5640, COMPRESSION RATIO 6:1
 SUPERCHARGER RATIO 14:1
 NORMAL RATING - 500 H.P. at 2200 R.P.M.
 USING DESIGNATED 87 OCTANE FUEL



RACING NUMBER ON UNDER SURFACE OF RIGHT WING ONLY

WING PANELS COVERED WITH .0781 INCH 3-PLY HASKELITE SPRUCE PLYWOOD, THEN COVERED WITH DOPED FABRIC

FUEL FILL CAP FLUSH WITH SURFACE OF WING, 25 GALS. CAP IN EACH WING, 92 OCT. FUEL

METAL COVERING

ENGINE COWL BUILT IN ONE PIECE. PROPELLER WAS REMOVED TO TAKE COWL OFF AND WORK ON ENGINE

NUMBER 3 HAS EXTENDED WIDTH IN ORDER TO COMPENSATE FOR SLANT OF FAIRING

ANTI-FLUTTER BRACE WIRE TOP & BOTTOM

STRUT FAIRING, AIRFLOW DIRECTIONAL & CONTAINMENT CONTROL

WING TANK OVERFLOW AND BREATHER TUBE

OIL DRAIN ACCESS

FUSELAGE FUEL TANKS DRAIN ACCESS

FLARE TUBES (2)

FABRIC COVERED

COLORING NOTES
 ENTIRE AIRCRAFT - GLOSS WHITE
 ALL LICENSE NUMBERS - GOLD, OUTLINED IN BLACK
 'MISTER MULLIGAN' NAME - GOLD, OUTLINED IN BLACK
 RACING NUMBER - SOLID BLACK
 GULFOIL CO. IN SIGNIA - ORANGE DISC, OUTLINED IN DARK BLUE, GULF DARK BLUE, SHADOW SHADED ON RIGHT LOWER QUADRANTS IN WHITE

HOWARD DGA-6 "MISTER Mulligan"
 1934-36

SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT

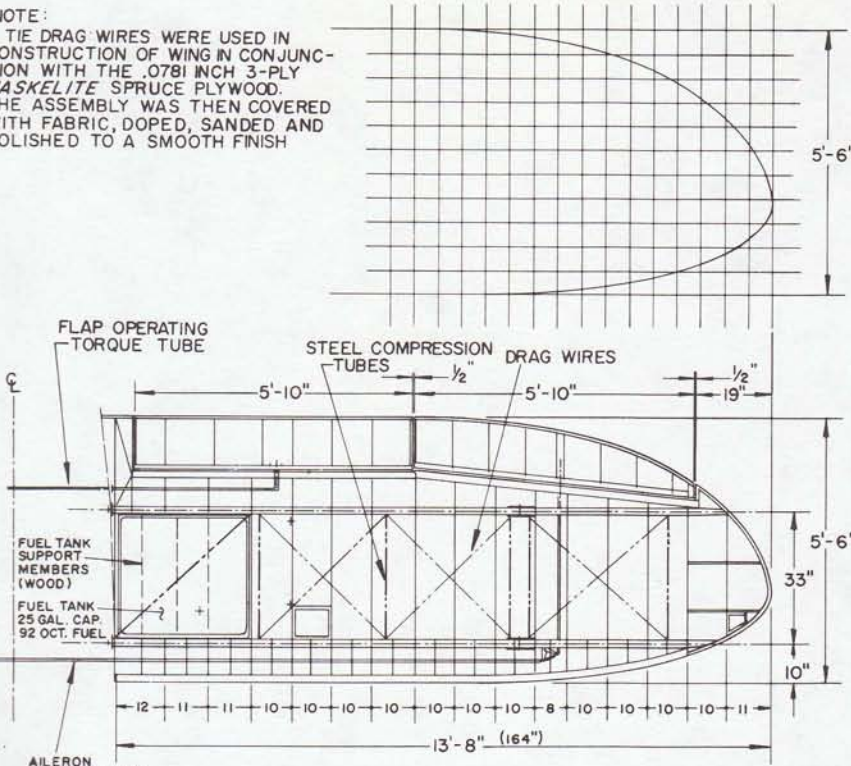
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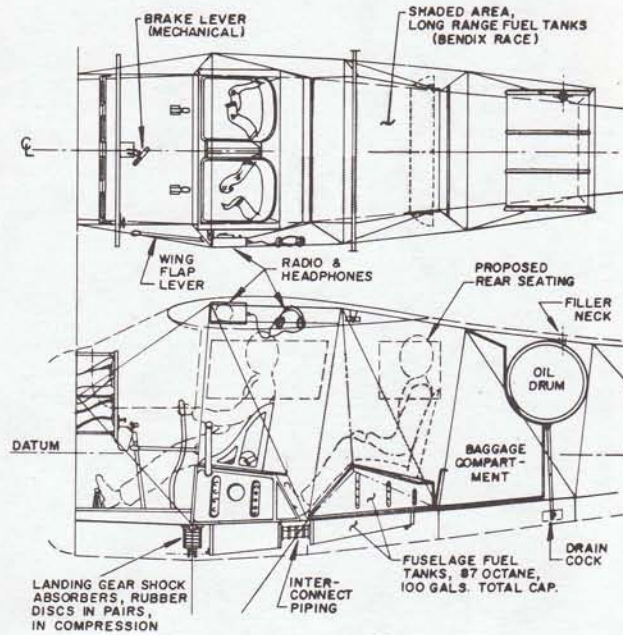
"MISTER MULLIGAN" WING TIP LAYOUT
ON 6 INCH INCREMENTS

NOTE:

TIE DRAG WIRES WERE USED IN CONSTRUCTION OF WING IN CONJUNCTION WITH THE .0781 INCH 3-PLY HASKELITE SPRUCE PLYWOOD. THE ASSEMBLY WAS THEN COVERED WITH FABRIC, DOPED, SANDED AND POLISHED TO A SMOOTH FINISH



INTERIOR OF CABIN - NATURAL MAHOGANY PLY-VENEER
FLOORBOARD - PAINTED DARK GRAY

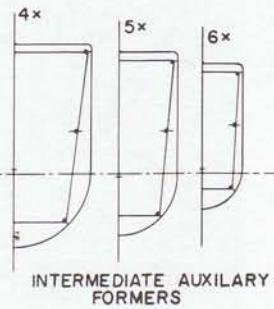
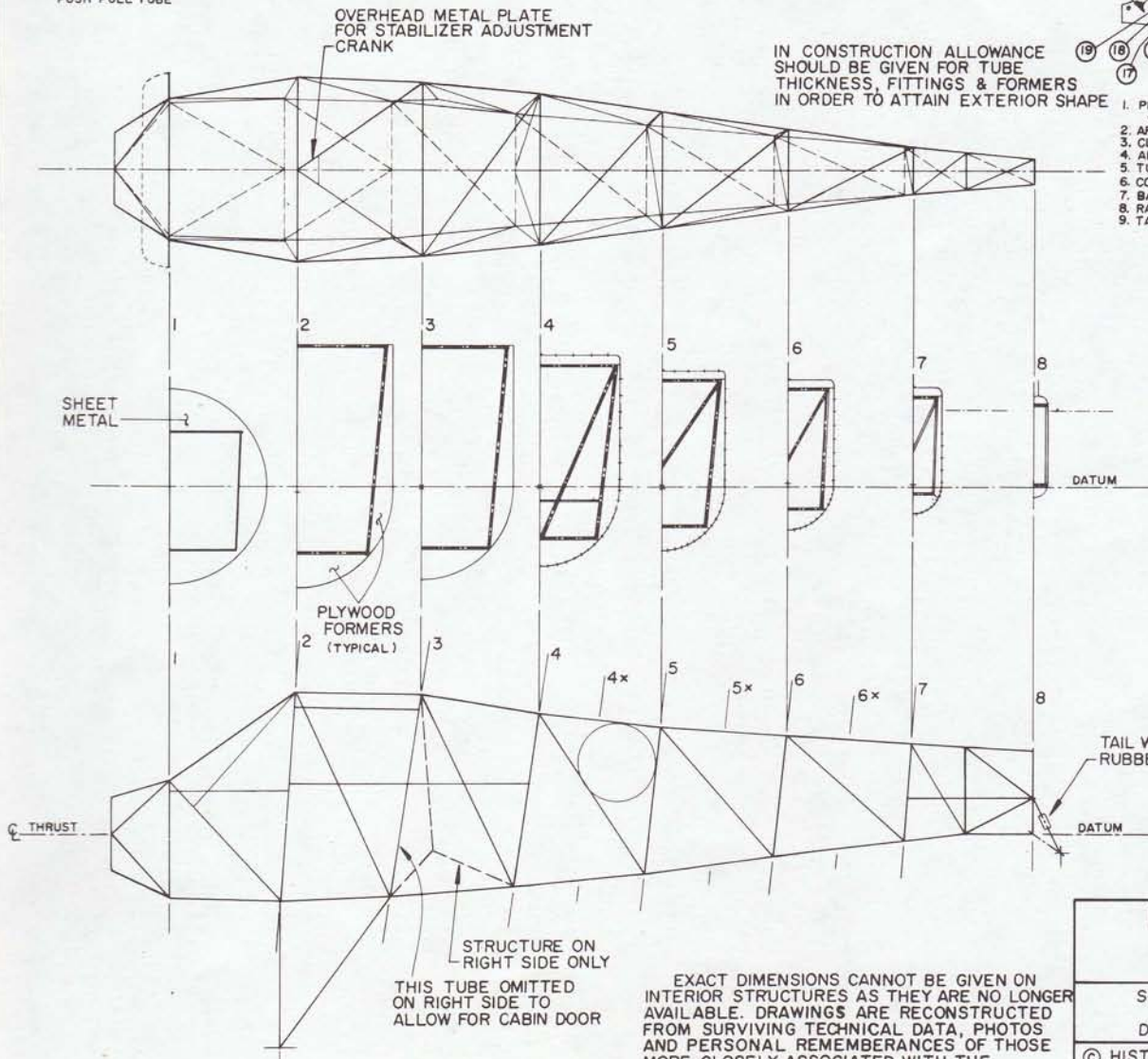


INSTRUMENT PANEL, BLACK
CENTER FLIGHT
INSTRUMENT SQUARE,
CRINKLE FINISH



IN CONSTRUCTION ALLOWANCE
SHOULD BE GIVEN FOR TUBE
THICKNESS, FITTINGS & FORMERS
IN ORDER TO ATTAIN EXTERIOR SHAPE

1. PROP. PITCH CONTROL INDEX
2. ARTIFICIAL HORIZON
3. CLOCK
4. AIRSPEED
5. TURN INDICATOR
6. COMPASS
7. BALL & BANK
8. RATE OF CLIMB
9. TACHOMETER
10. ---
11. ENGINE PRIMER
12. THROTTLE & MIXTURE CONTROL
13. IGNITION SWITCH
14. ALTIMETER
15. MULTI POSITION CHECK
16. ON ENGINE HEAD
17. TEMPERATURE
18. OIL PRESSURE
19. OIL TEMPERATURE



HISTORICAL
NAVIGATION
ALBUM

HOWARD DGA-6
"MISTER MULLIGAN"
1934-36

SCALE - ORIGINAL 1:24
REPRO. 1:48
DRAWN BY - PAUL R. MATT

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GENERAL SPECIFICATIONS

GROSS WEIGHT 6200 lbs.
 WEIGHT EMPTY 4097.40 lbs.
 TOP SPEED, APPROX. 330 mph
 WING AREA 191 sq. ft.
 WING LOADING 32.5 lbs/sq.ft.
 POWER LOADING 8.86 lbs/H.P.
 FUEL CAPACITY 280 gals.
 OIL CAPACITY 30 gals.

POWER: PRATT & WHITNEY SA5-G (R-1535),
 TWIN WASP Jr., s/n 27, (Redesignated s/n 281)
 700 HP at 2500 rpm. PROPELLER REDUCTION
 GEARING 4:3. POWER BOOSTED TO APPROX.
 900 HP THROUGH "DOPED" FUEL AND
 CARBURETION ADJUSTMENTS.

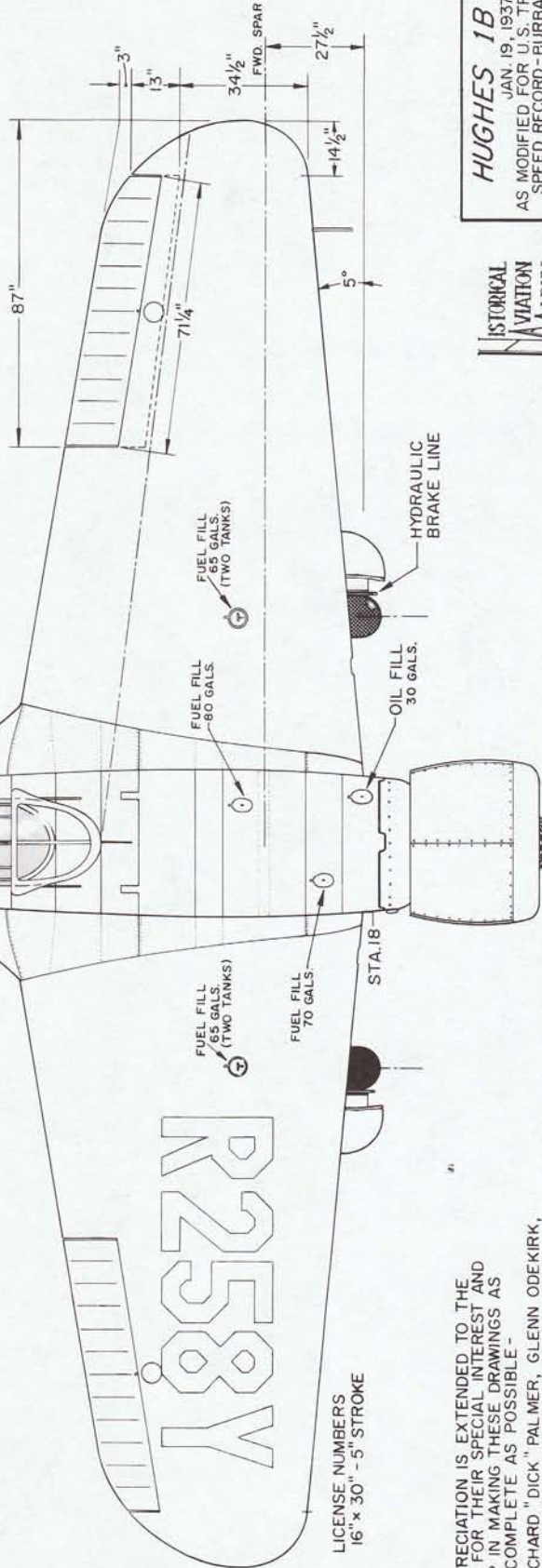
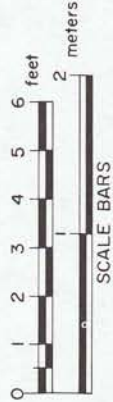
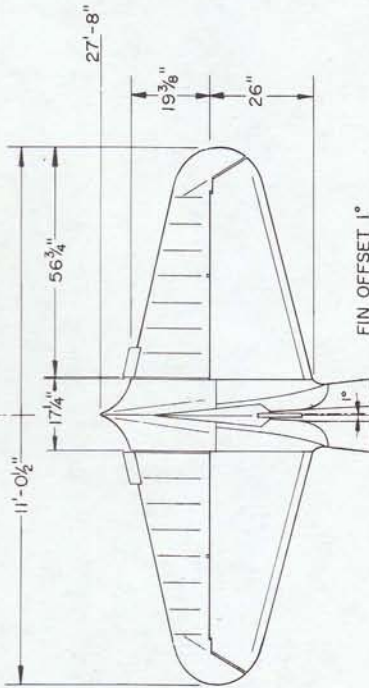
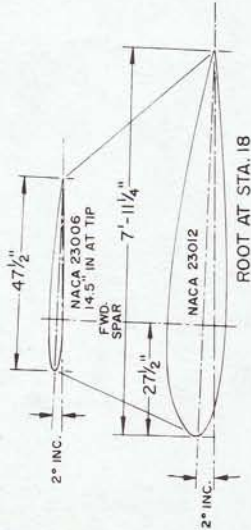
CONSTRUCTION NOTES

FUSELAGE AND FIXED TAIL SURFACES - ALUMINUM,
 FUSELAGE PROPER - FLAT SHEET, BUTT JOINED,
 FLUSH, SHAVED, BURNISHED & POLISHED. RIVETING
 CONTROL SURFACES - METAL FRAMEWORK, FABRIC
 COVERED, WING FLAPS - WOOD FRAMEWORK,
 PLYWOOD COVERED.
 WINGS - WOOD SPARS AND RIBS, PLYWOOD COVERED,
 SHAVED, CLOTH COVERED, DOPED AND POLISHED.
 LANDING GEAR - ALUMINUM BOX CONSTRUCTION,
 RIGID EXCEPT FOR SHORT 5" SHOCK STRUT AT
 WHEEL AXEL.

COLORING NOTES

FUSELAGE, FIXED TAIL SURFACES - NATURAL ALUMINUM.
 ELEVATORS AND RUDDER - SILVER DOPED.
 WINGS - DARK ROYAL BLUE, (Hughes Tool Co. blue)
 (MUNSELL 5PB 2/4)
 LICENSE NUMBERS ON WINGS - DEEP YELLOW,
 (Hughes Tool Co. yellow)
 (MUNSELL 7.5 Y 8/12)

ALL SURFACES WERE EXTREMELY SMOOTH IN FINISH.



MY SINCERE APPRECIATION IS EXTENDED TO THE FOLLOWING MEN FOR THEIR SPECIAL INTEREST AND PERSONAL HELP IN MAKING THESE DRAWINGS AS ACCURATE AND COMPLETE AS POSSIBLE -
 MESSRS. RICHARD "DICK" PALMER, GLENN ODEKIRK, EARL MARTYN, VAN STORM, ROBERT HIRSCH, JOEY REINLEIB, AND WALTER BOYNE AND ROBERT MIKESH OF THE NATIONAL AIR AND SPACE MUSEUM.

Paula

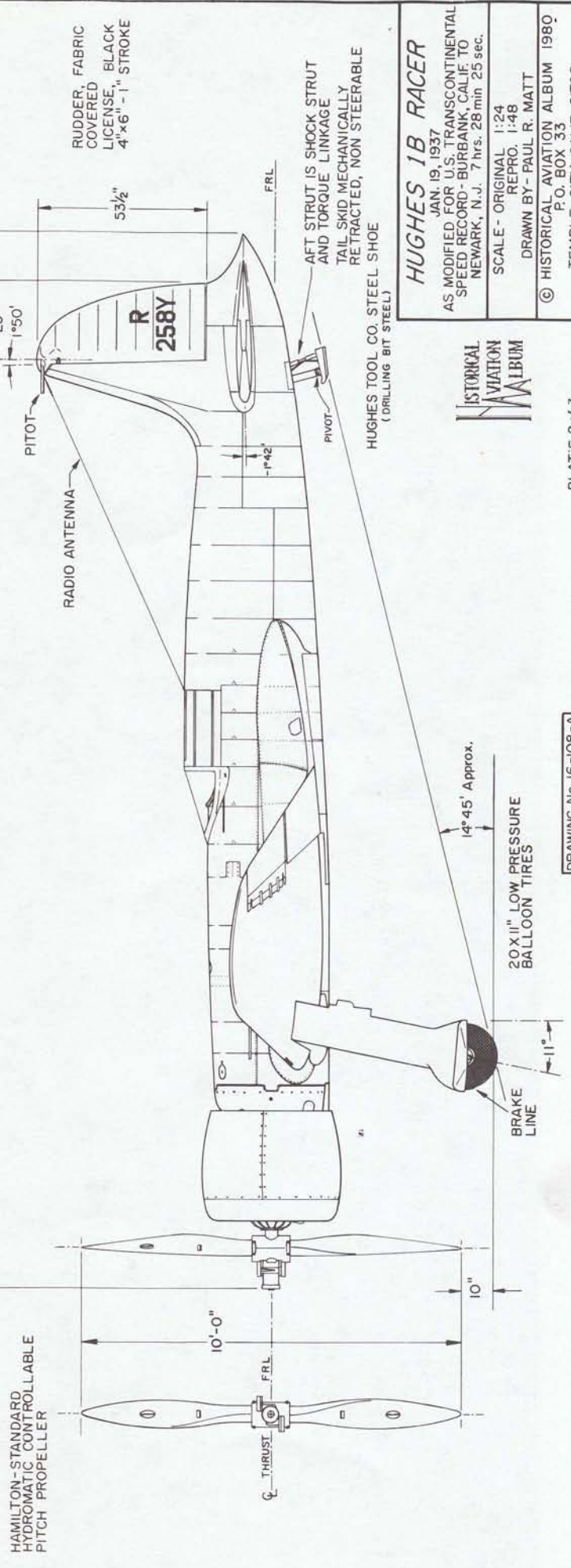
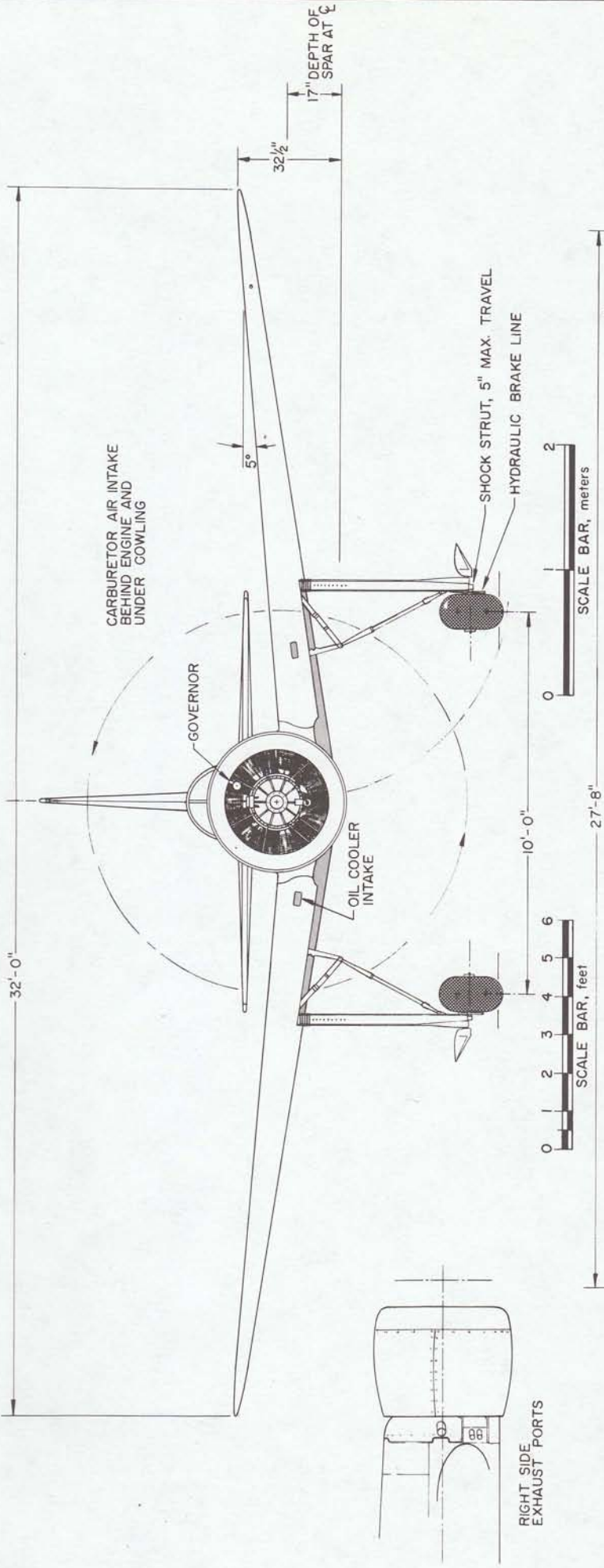


HUGHES 1B RACER
 JAN. 19, 1937
 AS MODIFIED FOR U.S. TRANSCONTINENTAL
 SPEED RECORD - BURBANK, CALIF. TO
 NEWARK, N.J. 7 hrs. 28 min. 25 sec.
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
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STA. 0

DRAWING No. 16-108-A

PLATE 1 of 3



RUDDER, FABRIC COVERED LICENSE, BLACK 4'x6"-1" STROKE

HUGHES 1B RACER
 JAN. 19, 1937
 AS MODIFIED FOR U.S. TRANSCONTINENTAL SPEED RECORD - BURBANK, CALIF. TO NEWARK, N.J. 7 hrs. 28 min 25 sec.
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
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ELEVATORS,
FABRIC COVERED
FIXED METAL
TRIM TABS

SPRING LOADED
FAIRING DOORS

FLUSH HOLE,
RELIEF TUBE

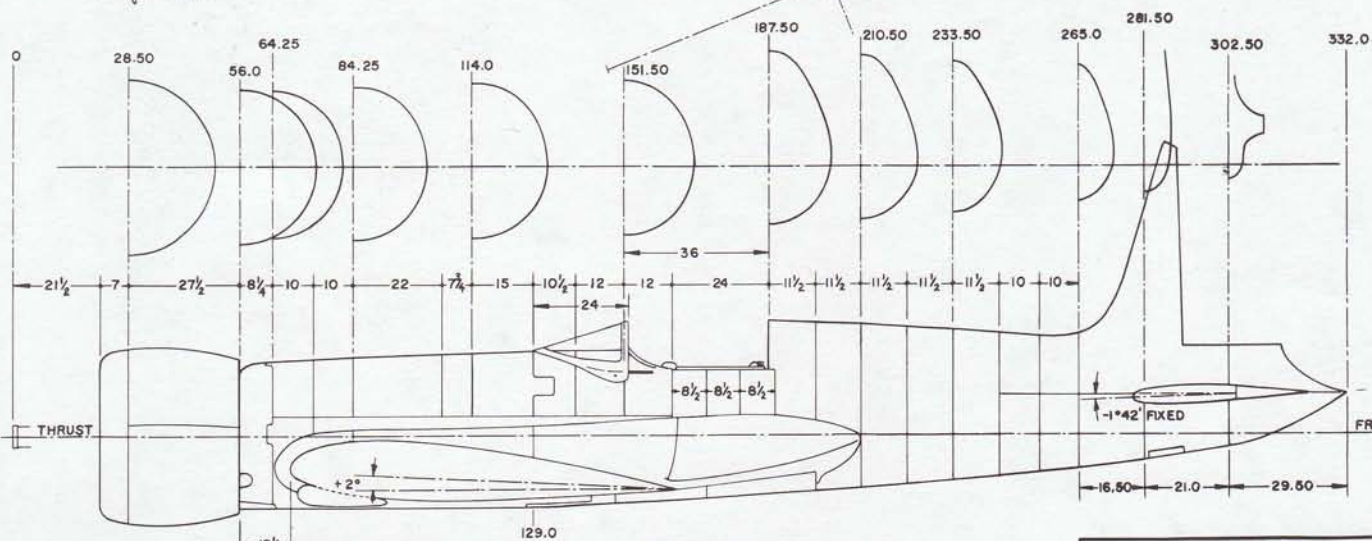
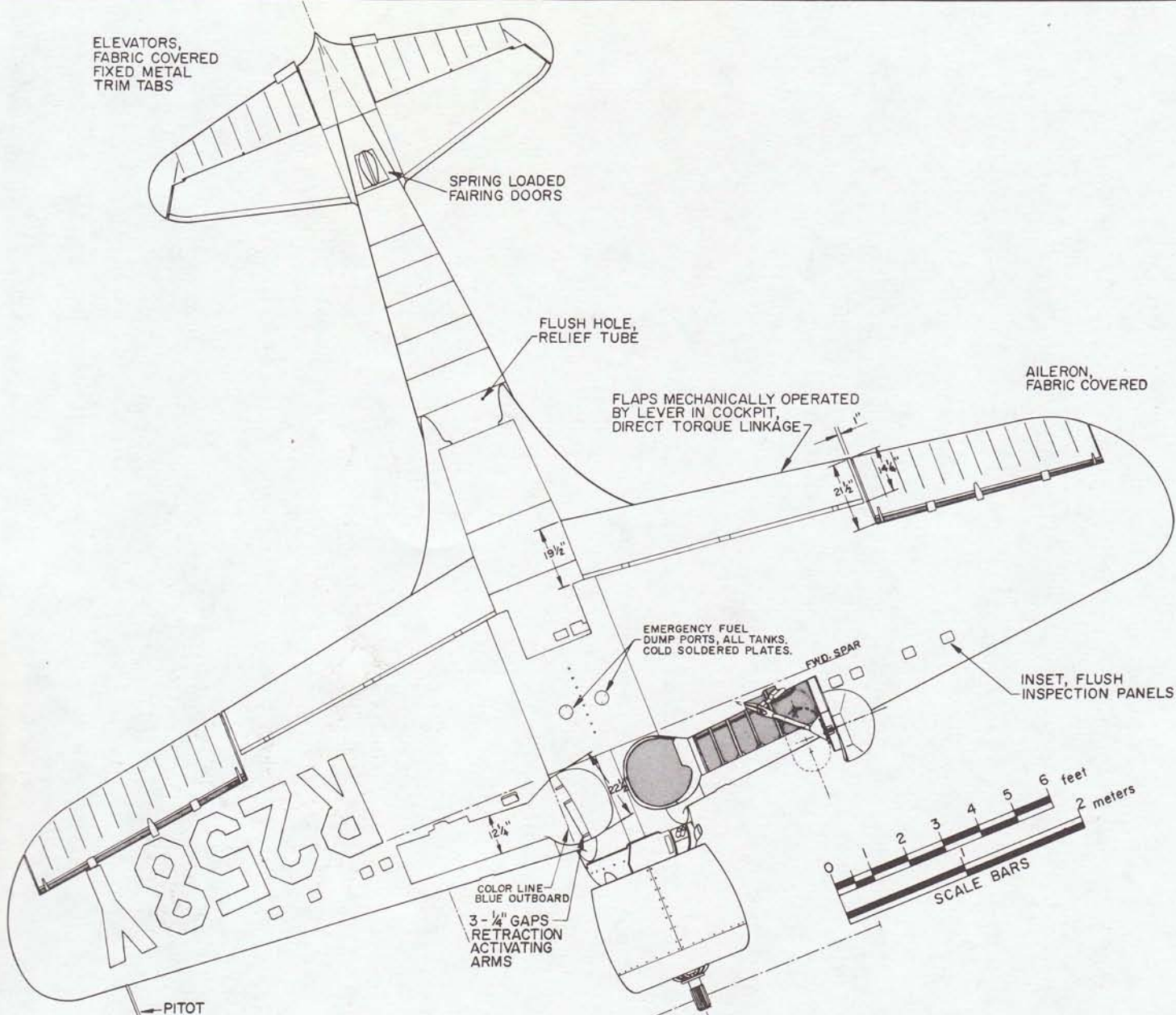
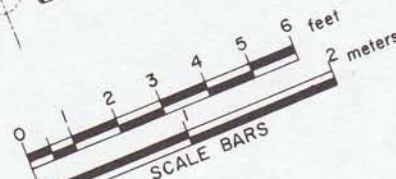
FLAPS MECHANICALLY OPERATED
BY LEVER IN COCKPIT,
DIRECT TORQUE LINKAGE

AILERON,
FABRIC COVERED

EMERGENCY FUEL
DUMP PORTS, ALL TANKS,
COLD SOLDERED PLATES.

INSET, FLUSH
INSPECTION PANELS

COLOR LINE
BLUE OUTBOARD
3 - 1/4" GAPS
RETRACTION
ACTIVATING
ARMS



STRAIGHT KEEL LINE
STA. 56 TO STA. 129

COCKPIT CANOPY SHOWN
IN OPEN POSITION, WINDSHIELD
SLIDES FORWARD, SIDE PANELS
SLIDE DOWN INTO FUSELAGE

ALL DIMENSIONS IN PROFIE VIEW ARE INCHES

HISTORICAL
AVIATION
ALBUM

HUGHES 1B RACER

JAN. 19, 1937
AS MODIFIED FOR U.S. TRANSCONTINENTAL
SPEED RECORD- BURBANK, CALIF TO
NEWARK, N.J. 7 hrs. 28 min 25 sec.

SCALE - ORIGINAL 1:24

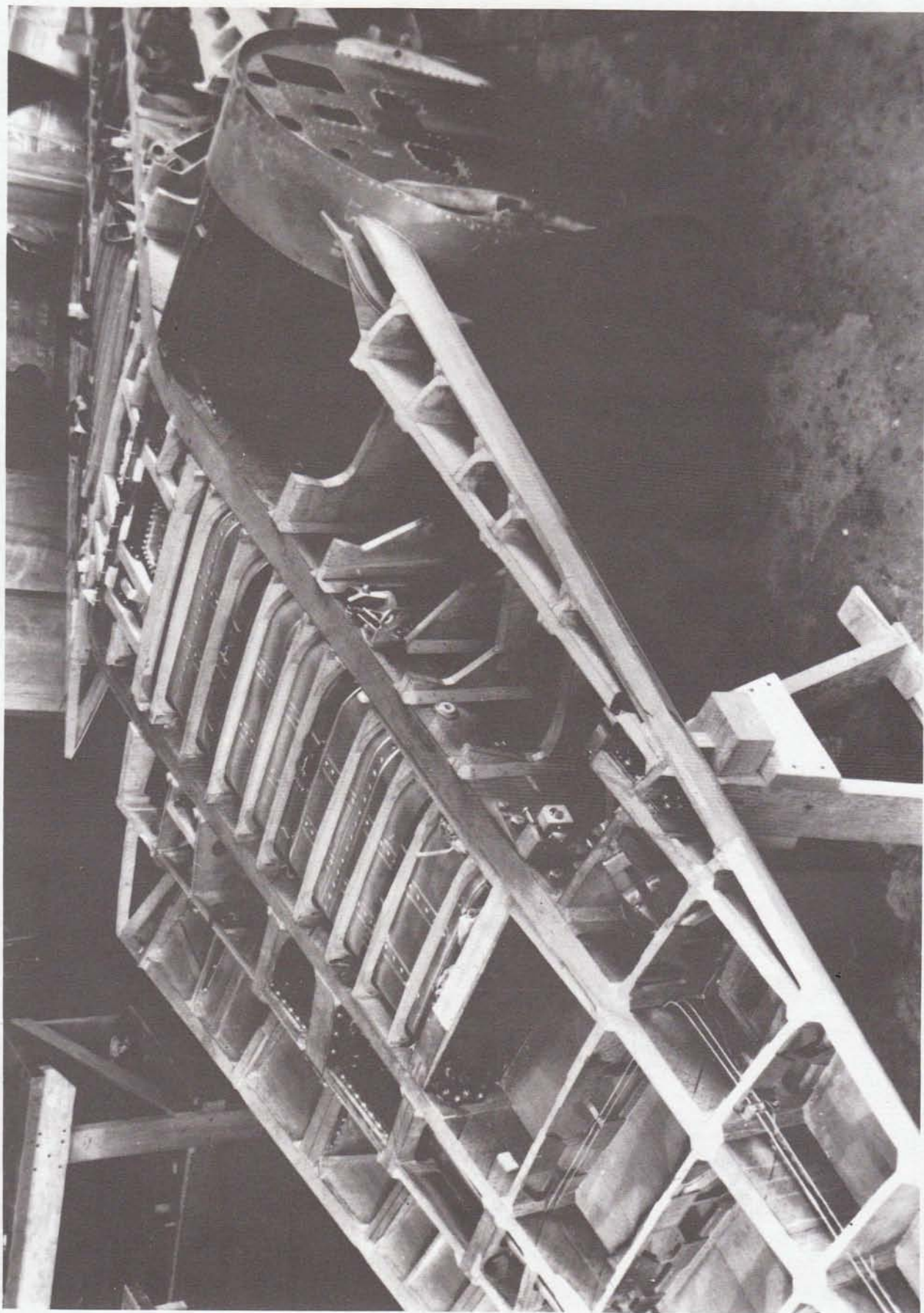
REPRO. 1:48

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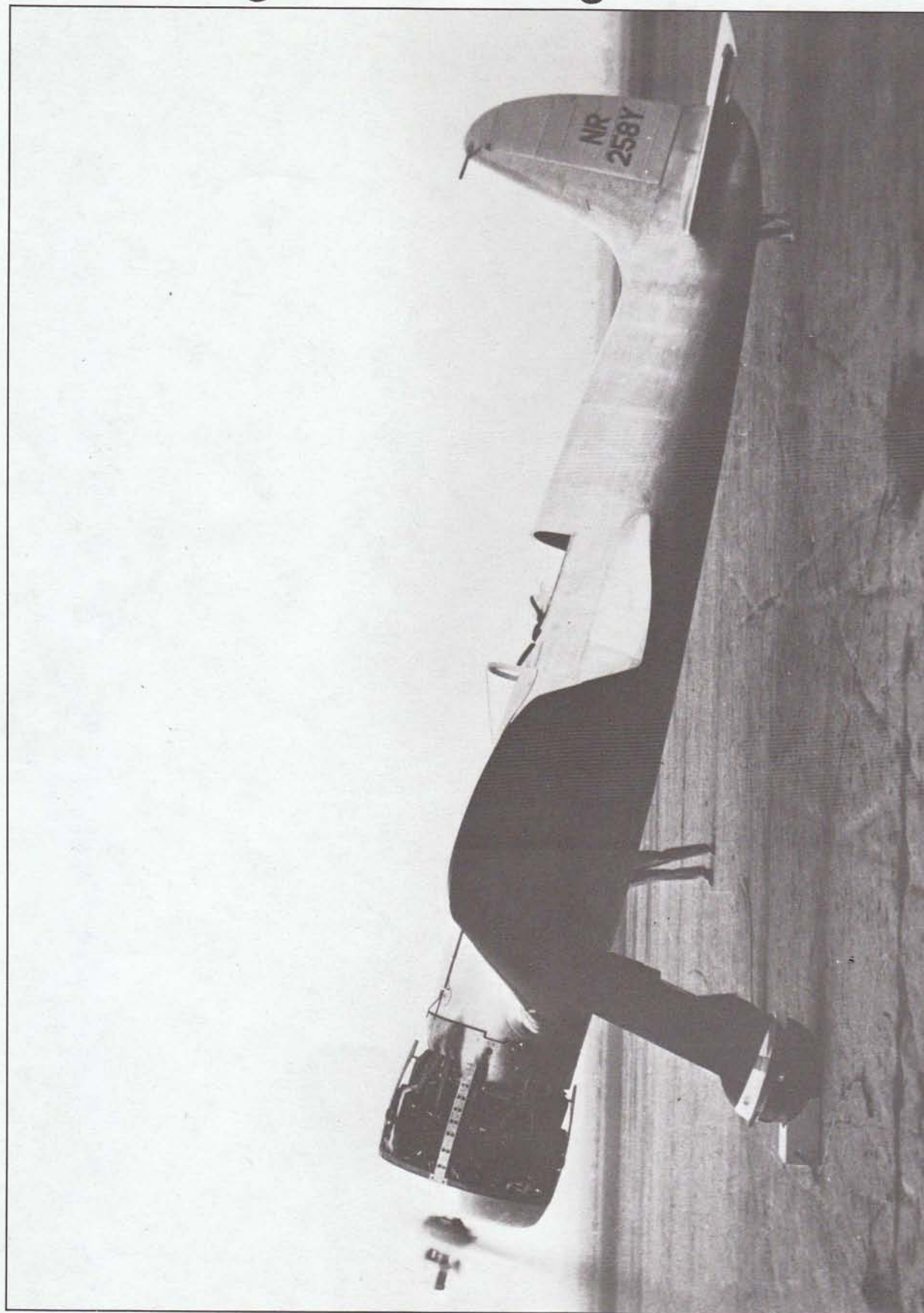
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Hughes IB Racer, "Longwing" under construction in 1937.

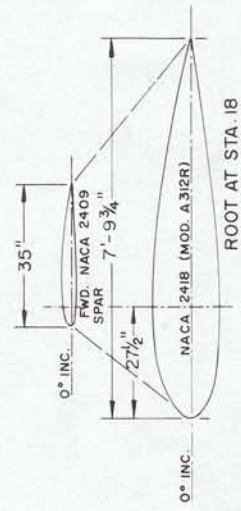
Hughes Shortwing Racer



GENERAL SPECIFICATIONS

GROSS WEIGHT 5492 lbs.
 WEIGHT EMPTY 3564.5 lbs.
 TOP SPEED, AVERAGE, OVER MEASURED COURSE 352.4 mph
 WING AREA 138 sq. ft.
 WING LOADING 39.8 lbs./sq. ft.
 POWER LOADING 7.85 lbs./H.P.
 FUEL CAPACITY 250 gals.
 OIL CAPACITY 30 gals.

POWER: PRATT & WHITNEY SAI-G (R-1535), TWIN WASP Jr., s/n 22, 700 HP at 2500 rpm
 PROPELLER REDUCTION GEARING 4:3
 POWER BOOSTED TO APPROX. 900 HP THROUGH "DOPED" FUEL AND CARBURETION ADJUSTMENTS.

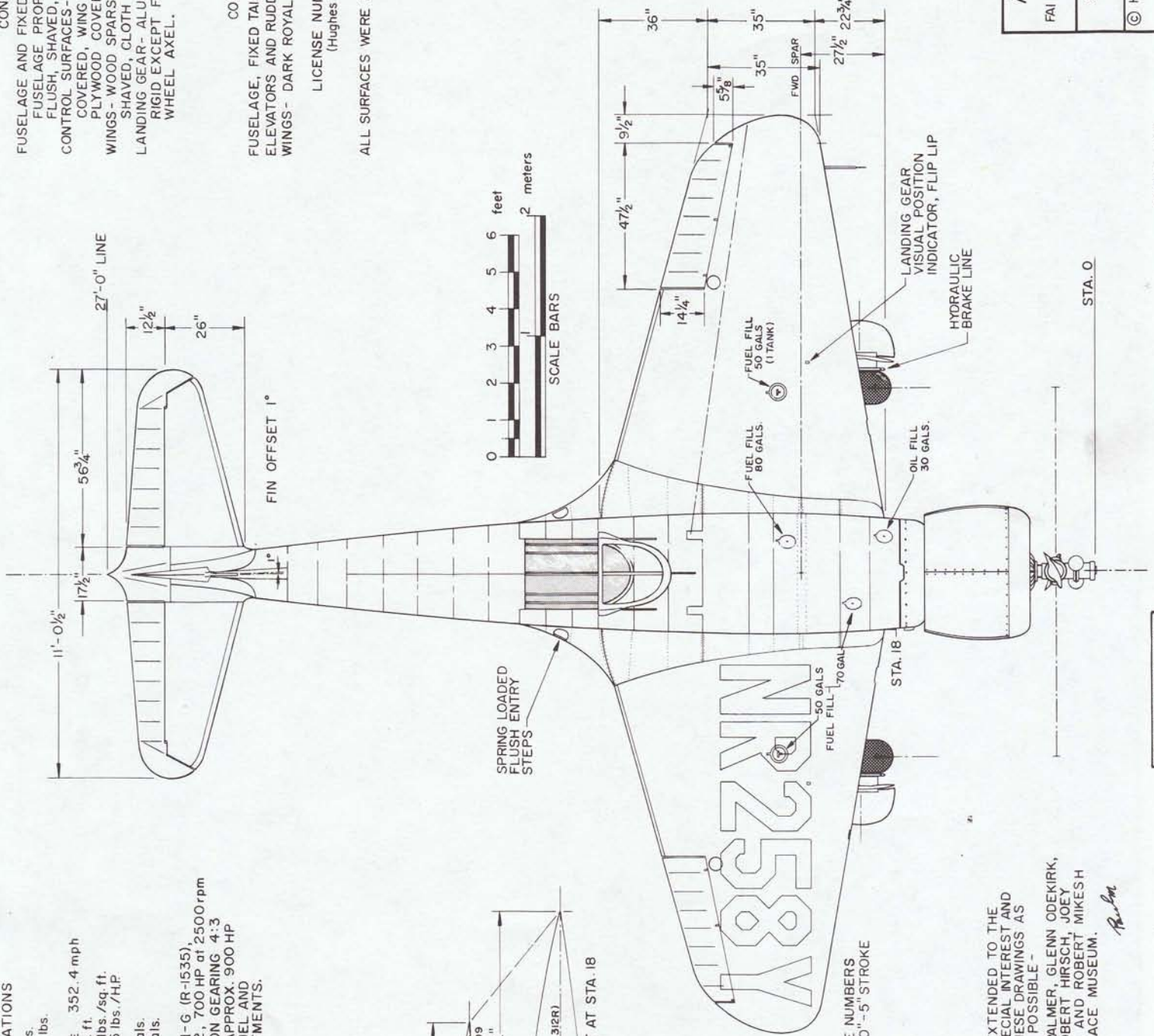
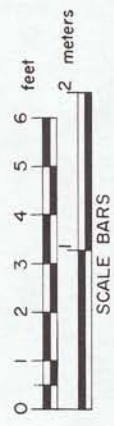


CONSTRUCTION NOTES

FUSELAGE AND FIXED TAIL SURFACES - ALUMINUM,
 FUSELAGE PROPER - FLAT SHEET, BUTT JOINED,
 FLUSH, SHAVED, BURNISHED & POLISHED RIVETING.
 CONTROL SURFACES - METAL FRAMEWORK, FABRIC
 COVERED, WING FLAPS - WOOD FRAMEWORK,
 PLYWOOD COVERED.
 WINGS - WOOD SPARS AND RIBS, PLYWOOD COVERED,
 SHAVED, CLOTH COVERED, DOPED AND POLISHED.
 LANDING GEAR - ALUMINUM BOX CONSTRUCTION,
 RIGID EXCEPT FOR SHORT 5" SHOCK STRUT AT
 WHEEL AXEL.

COLORING NOTES

FUSELAGE, FIXED TAIL SURFACES - NATURAL ALUMINUM.
 ELEVATORS AND RUDDER - SILVER DOPED.
 WINGS - DARK ROYAL BLUE, (Hughes Tool Co. blue)
 (MUNSELL SPB 2/4)
 LICENSE NUMBERS ON WINGS - DEEP YELLOW,
 (Hughes Tool Co. yellow)
 (MUNSELL 7.5 Y 8/12)
 ALL SURFACES WERE EXTREMELY SMOOTH IN FINISH.



HUGHES 1B RACER
 SEPT. 13, 1935
 FAI 3 Km. SPEED RECORD 352.388 mph
 (567.155 Km/h)

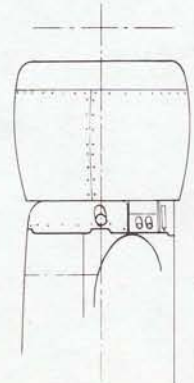
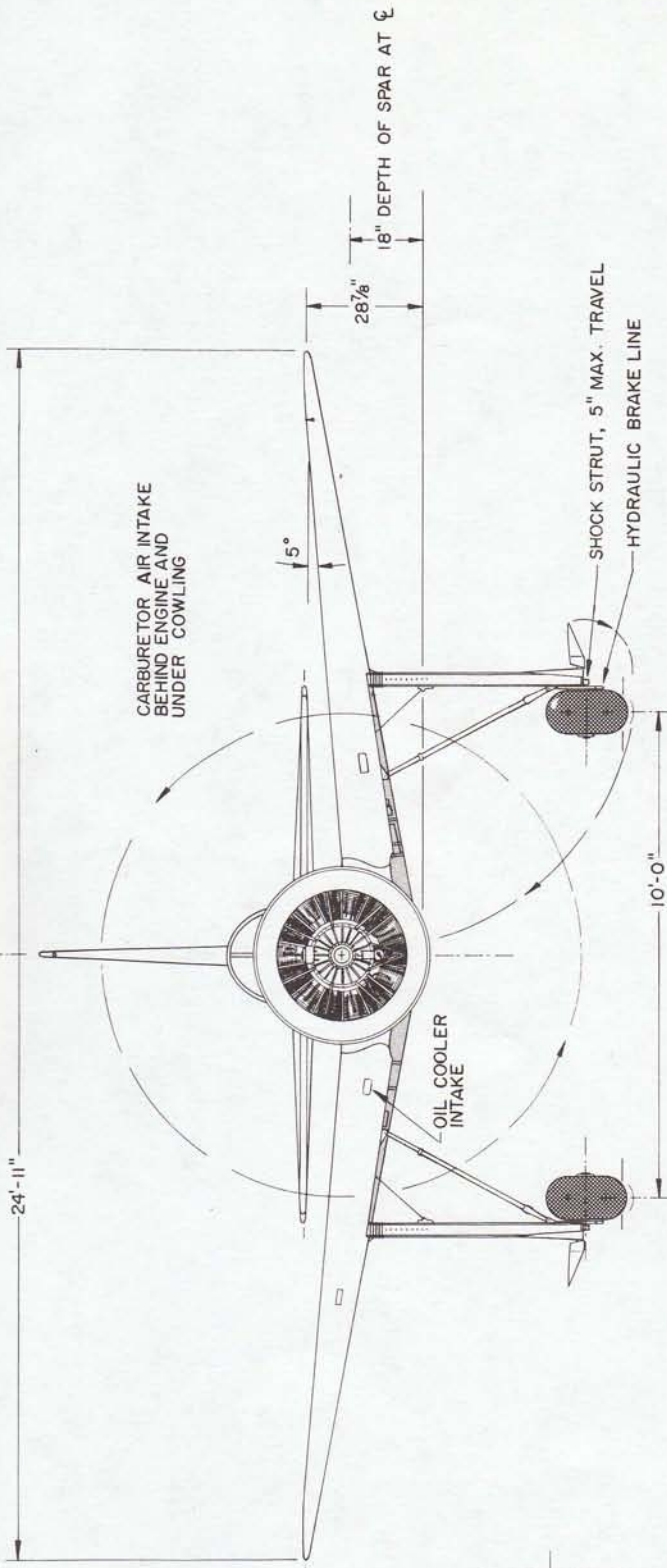
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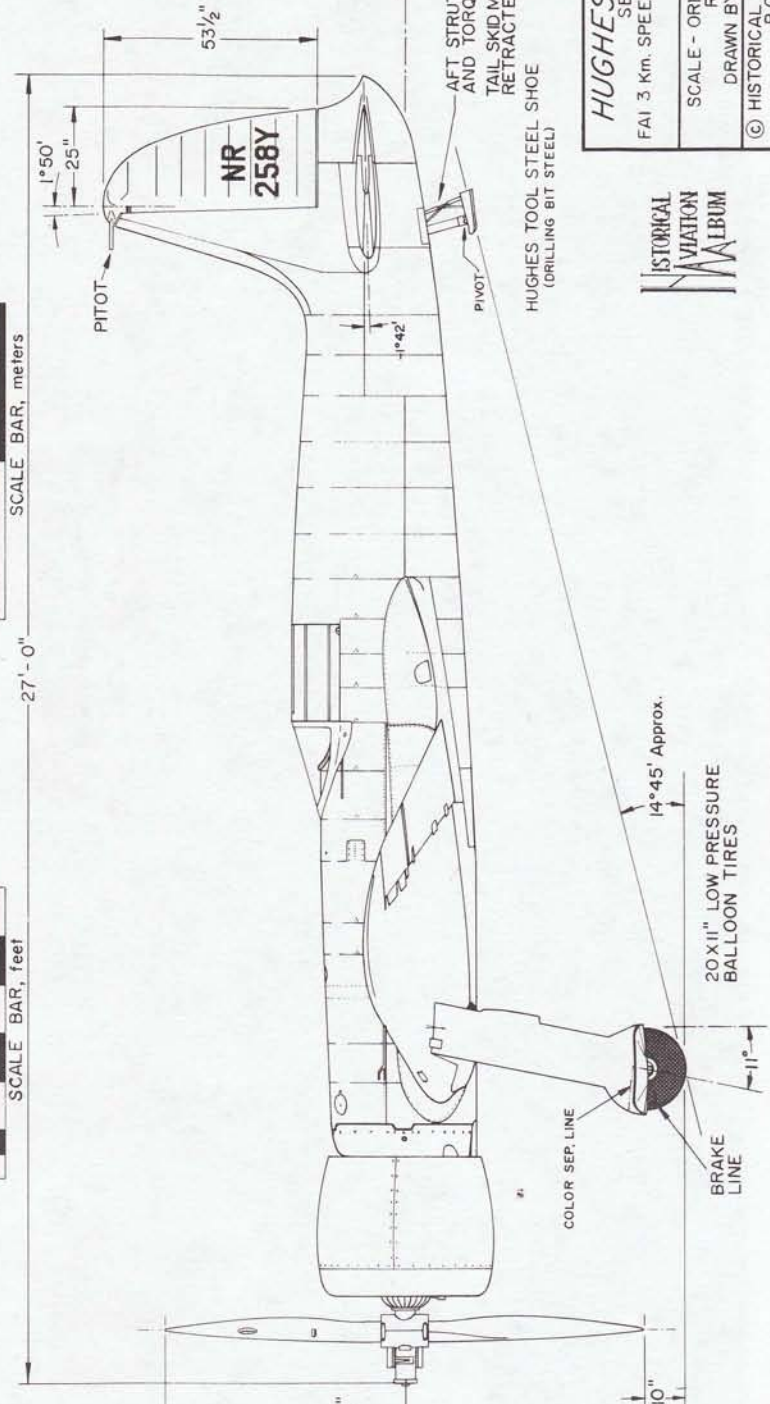
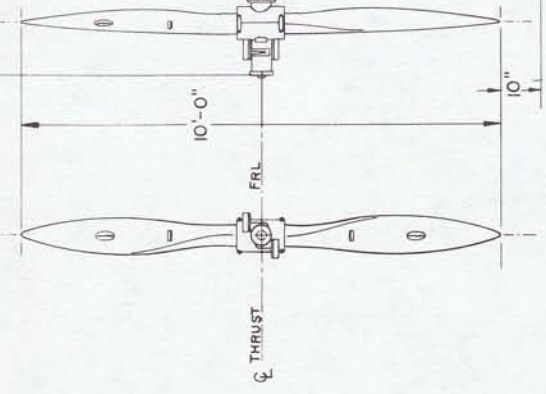
STA. 0

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R. Matt



HAMILTON-STANDARD HYDROMATIC CONTROLLABLE PITCH PROPELLER



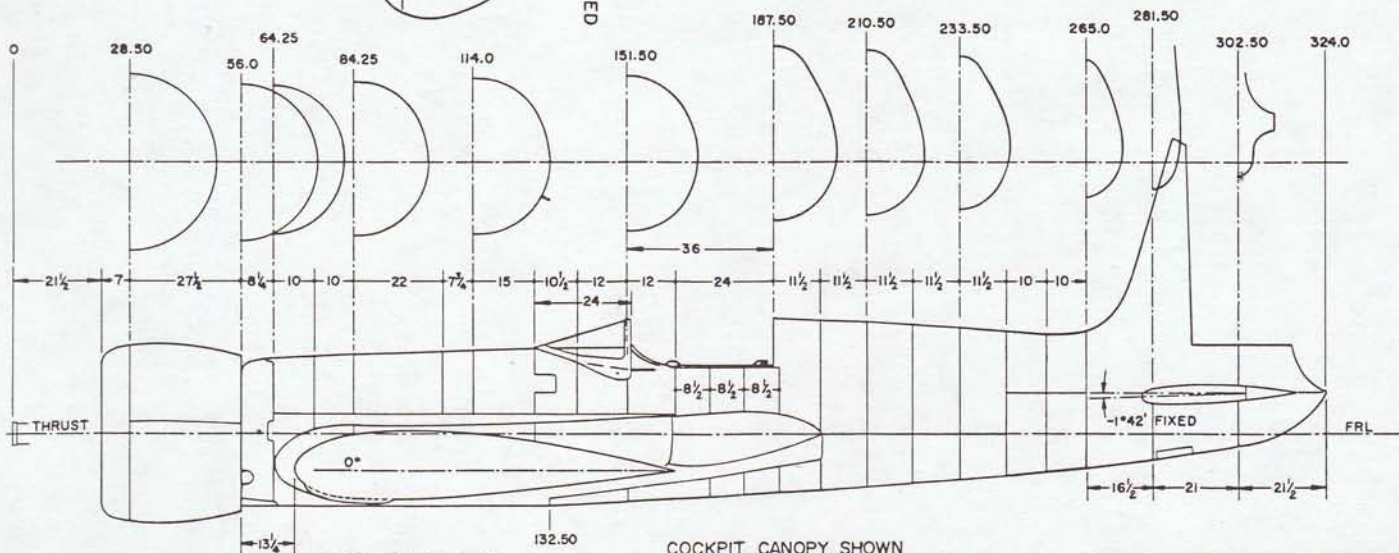
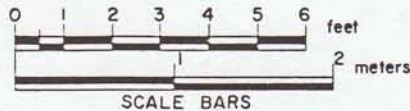
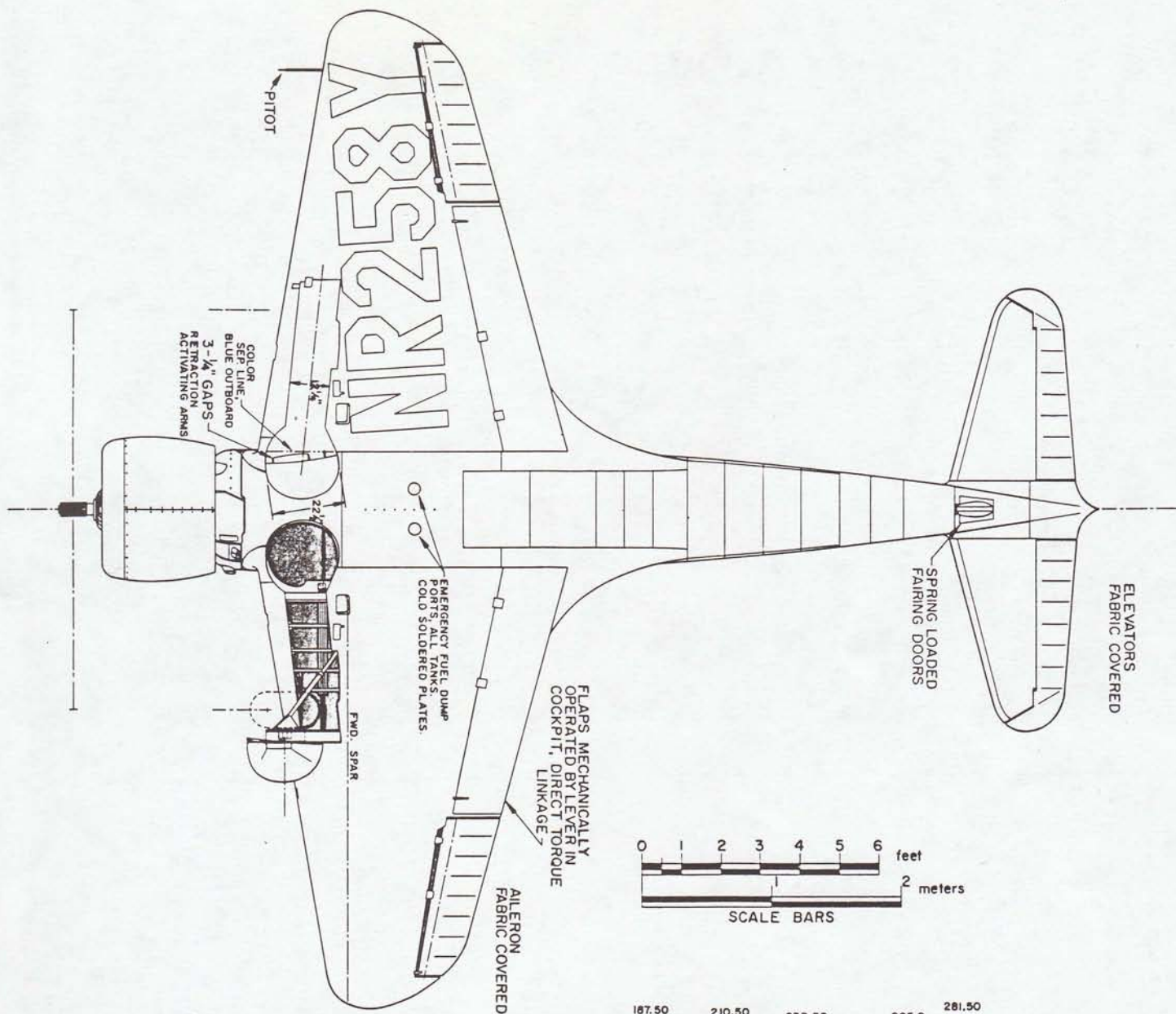
RUDDER, FABRIC COVERED LICENSE, BLACK 4"x6"-1" STROKE

HUGHES 1B RACER
 SEPT. 13, 1935
 FAI 3 Km. SPEED RECORD 352.388 mph (567.155 Kmph)

SCALE - ORIGINAL 1:24
 REPRO. 1:48

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 P. O. BOX 33
 TEMPLE CITY, CALIF. 91780





STRAIGHT KEEL LINE
STA. 56 TO STA. 132.5

COCKPIT CANOPY SHOWN
IN OPEN POSITION, WINDSHIELD
SLIDES FORWARD, SIDE PANELS
SLIDE DOWN INTO FUSELAGE

ALL DIMENSIONS IN PROFILE VIEW ARE INCHES

DRAWING No. 16-107-A

PLATE 3 of 3

HISTORICAL
AVIATION
ALBUM

HUGHES 1B RACER

SEPT. 13, 1935

FAI 3 Km. SPEED RECORD 352.388 mph
(567.155 Kmph)

SCALE - ORIGINAL 1:24

REPRO. 1:48

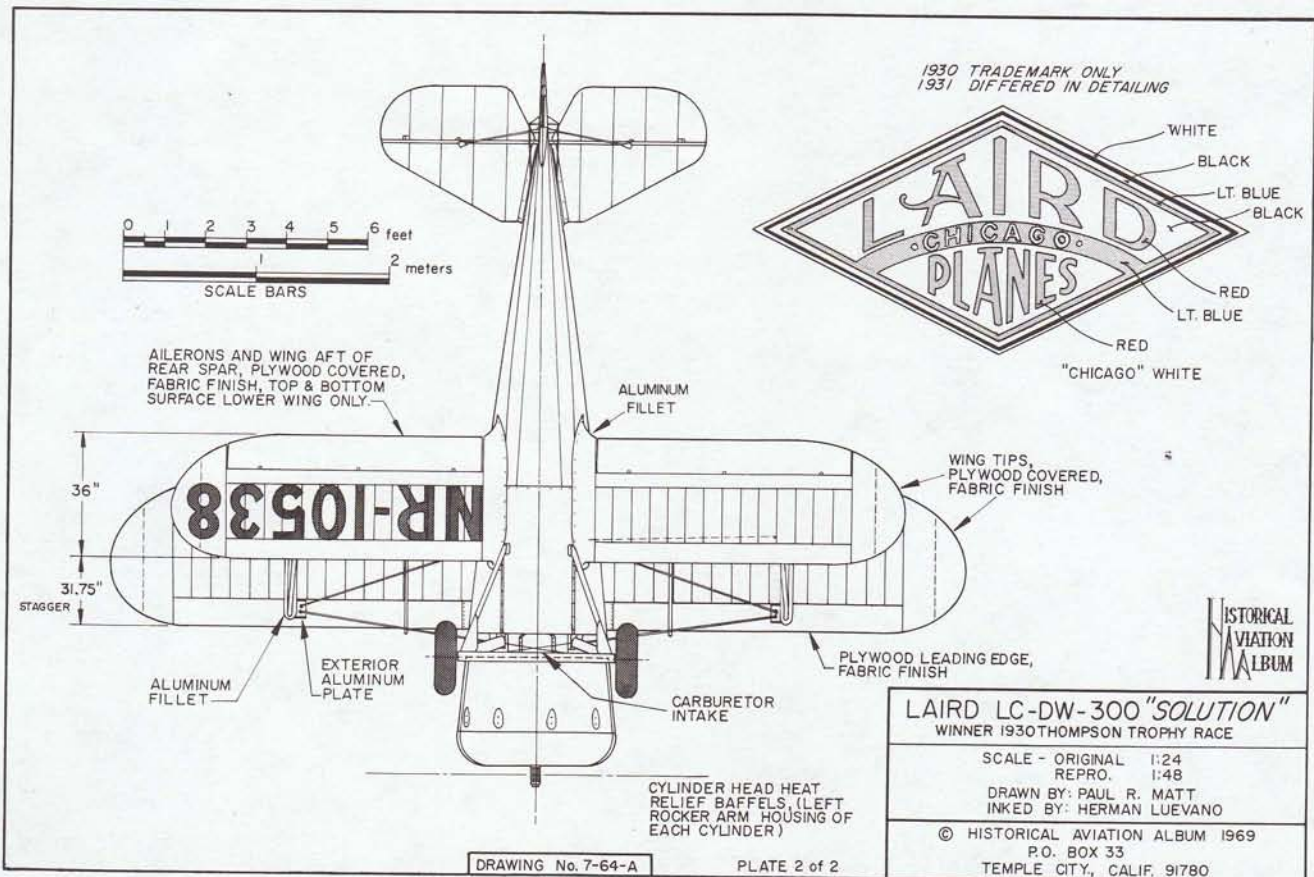
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Laird LC-DW-300 "Solution"

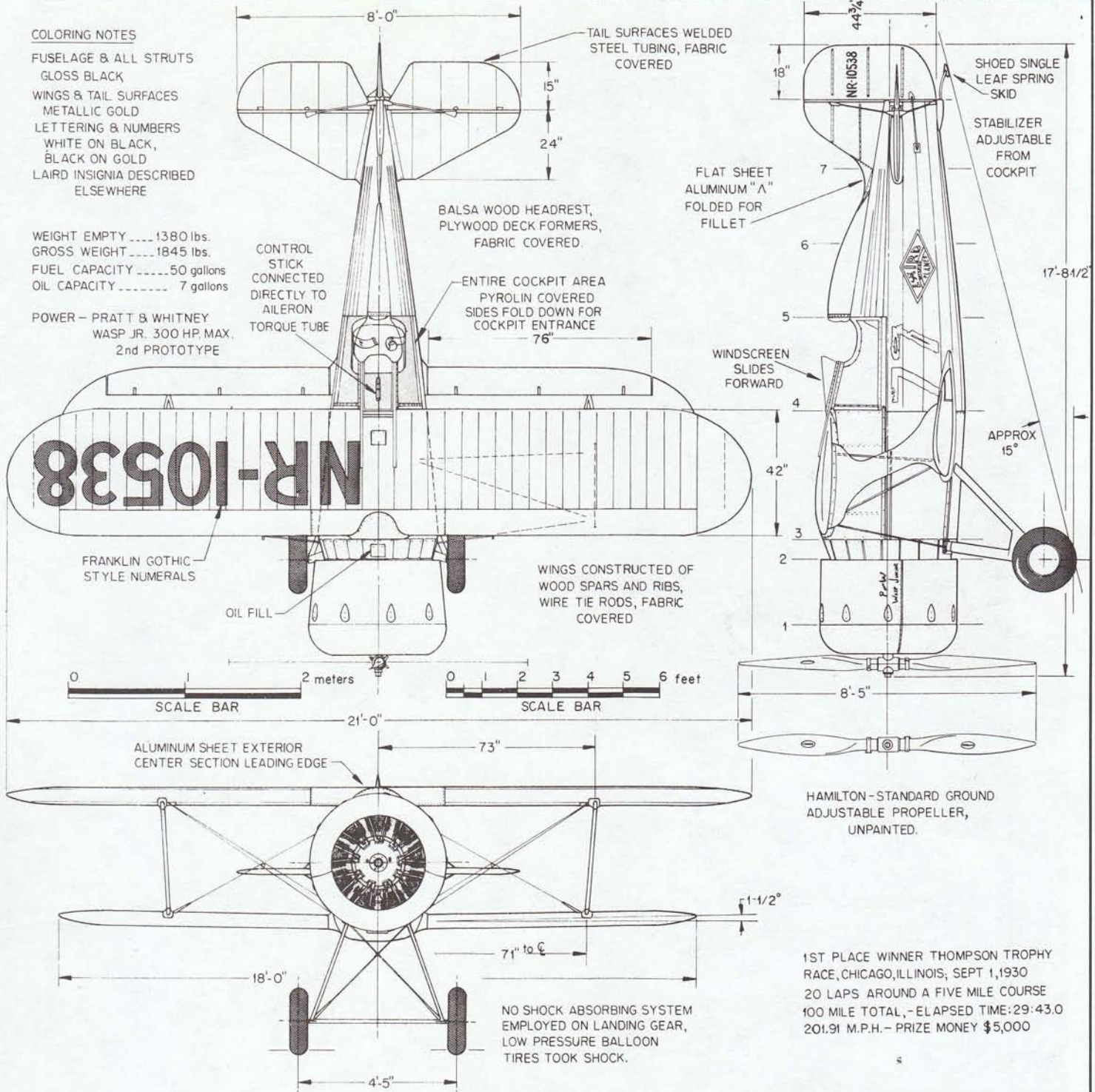


COLORING NOTES

FUSELAGE & ALL STRUTS
GLOSS BLACK
WINGS & TAIL SURFACES
METALLIC GOLD
LETTERING & NUMBERS
WHITE ON BLACK,
BLACK ON GOLD
LAIRD INSIGNIA DESCRIBED
ELSEWHERE

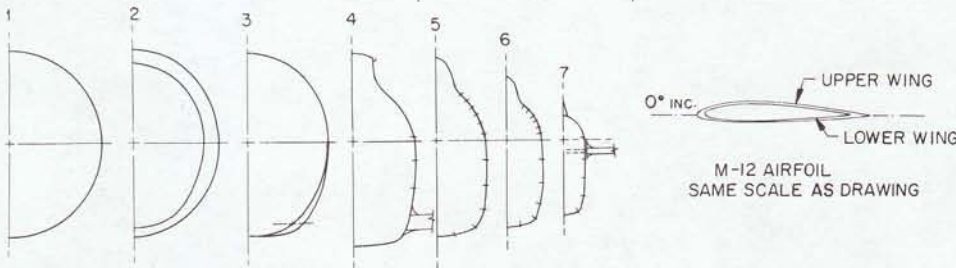
WEIGHT EMPTY1380 lbs.
GROSS WEIGHT1845 lbs.
FUEL CAPACITY50 gallons
OIL CAPACITY 7 gallons

POWER - PRATT & WHITNEY
WASP JR. 300 HP MAX.
2nd PROTOTYPE



1ST PLACE WINNER THOMPSON TROPHY RACE, CHICAGO, ILLINOIS, SEPT 1, 1930
20 LAPS AROUND A FIVE MILE COURSE
100 MILE TOTAL, - ELAPSED TIME: 29:43.0
201.91 M.P.H. - PRIZE MONEY \$5,000

OUR SINCERE APPRECIATION IS EXTENDED TO MAJ. TRUMAN S. WEAVER, USAF RET., MAJ. ROBERT HIRSCH, USAF RET., E. M. MATTY LAIRD, KEN. C. WILSON, HARVEY LIPPINCOTT AND EVE. CASSENGERES OF THE CONNECTICUT AVIATION HISTORICAL ASSC. FOR THEIR ASSISTANCE IN THE PREPARATIONS OF THESE DRAWINGS.



AIRFOIL NACA M-12
(DEVELOPED INTO NACA 2212)
ORDINATES UPON REQUEST

HISTORICAL AVIATION ALBUM

LAIRD LC-DW-300 "SOLUTION"
WINNER 1930 THOMPSON TROPHY RACE

SCALE - ORIGINAL 1:24
REPRO. 1:48

DRAWN BY: PAUL R. MATT
INKED BY: HERMAN LUEVANO

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P.O. BOX 33

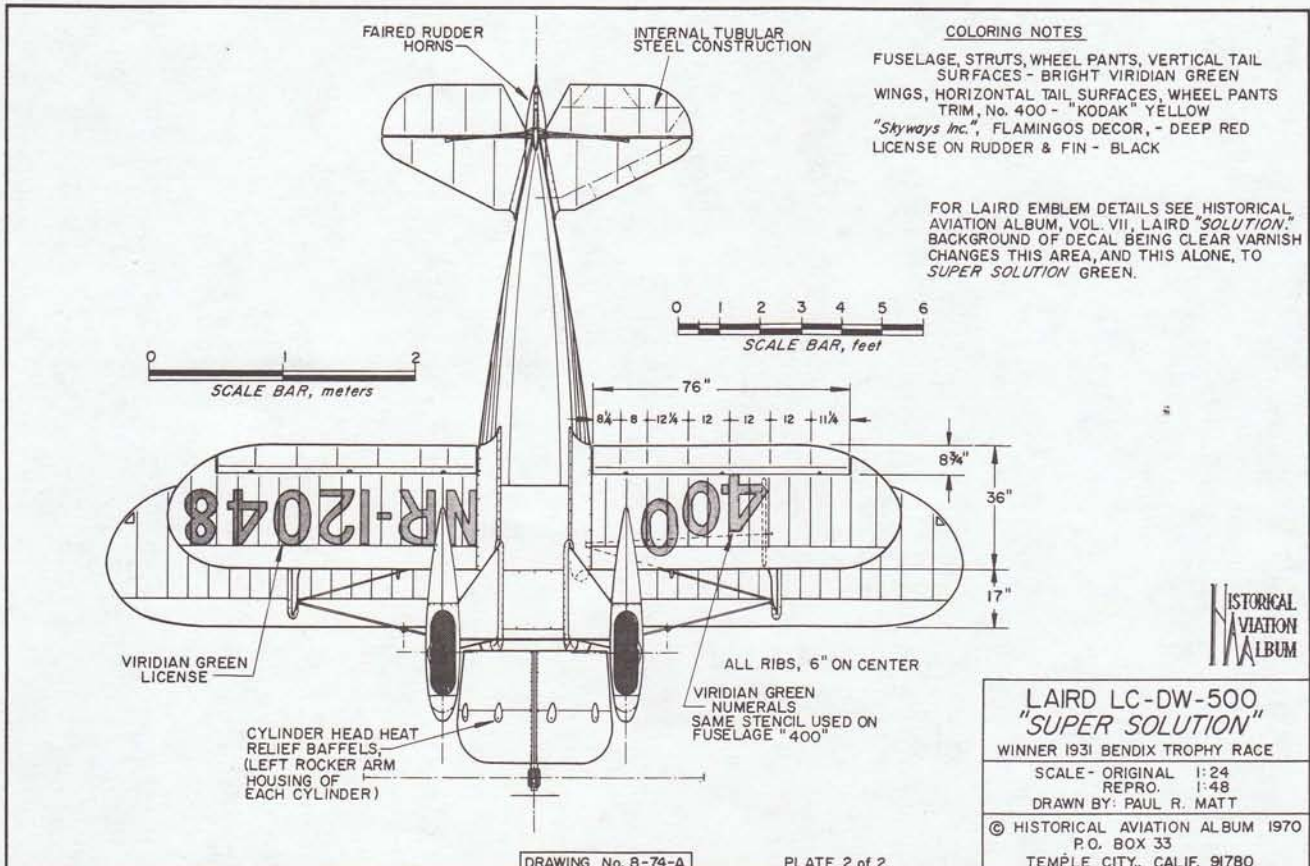
TEMPLE CITY, CALIF. 91780

Laird LC-DW-500 "Super Solution"



Laird Super Solution

Jimmy Doolittle in front of Laird Super Solution, September, 1931.

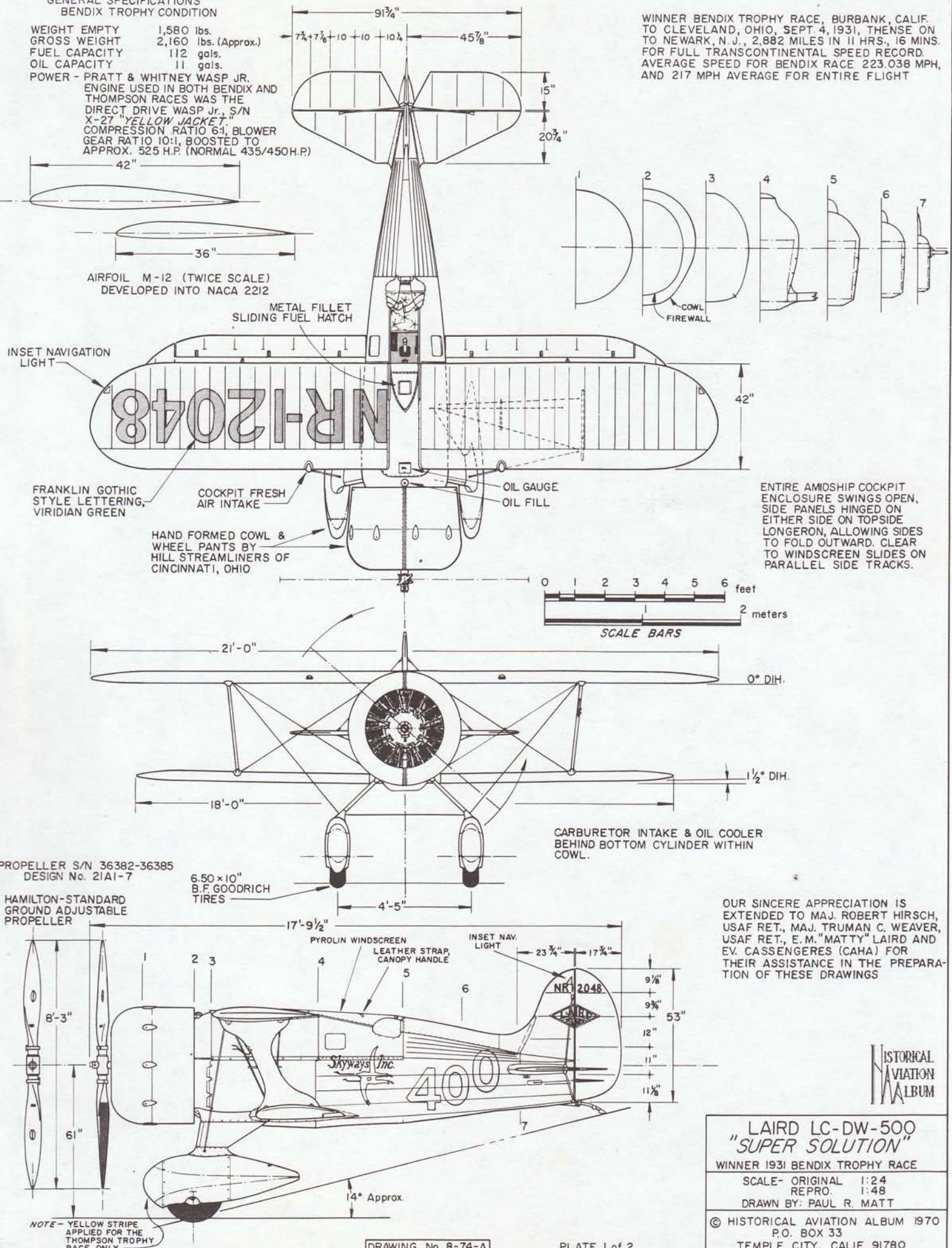


GENERAL SPECIFICATIONS
BENDIX TROPHY CONDITION

WEIGHT EMPTY 1,580 lbs.
GROSS WEIGHT 2,160 lbs. (Approx.)
FUEL CAPACITY 112 gals.
OIL CAPACITY 11 gals.

POWER - PRATT & WHITNEY WASP JR.
ENGINE USED IN BOTH BENDIX AND
THOMPSON RACES WAS THE
DIRECT DRIVE WASP Jr., S/N
X-27 "YELLOW JACKET".
COMPRESSION RATIO 6:1, BLOWER
GEAR RATIO 10:1, BOOSTED TO
APPROX. 525 H.P. (NORMAL 435/450H.P.)

WINNER BENDIX TROPHY RACE, BURBANK, CALIF.
TO CLEVELAND, OHIO, SEPT. 4, 1931, THENSE ON
TO NEWARK, N.J., 2,882 MILES IN 11 HRS., 16 MINS.
FOR FULL TRANSCONTINENTAL SPEED RECORD.
AVERAGE SPEED FOR BENDIX RACE 223.038 MPH,
AND 217 MPH AVERAGE FOR ENTIRE FLIGHT



OUR SINCERE APPRECIATION IS
EXTENDED TO MAJ. ROBERT HIRSCH,
USAF RET., MAJ. TRUMAN C. WEAVER,
USAF RET., E. M. "MATTY" LAIRD AND
EV. CASSENGERES (CAHA) FOR
THEIR ASSISTANCE IN THE PREPARA-
TION OF THESE DRAWINGS

HISTORICAL
NAVIGATION
ALBUM

LAIRD LC-DW-500
"SUPER SOLUTION"
WINNER 1931 BENDIX TROPHY RACE

SCALE - ORIGINAL	1:24
REPRO.	1:48
DRAWN BY: PAUL R. MATT	

© HISTORICAL AVIATION ALBUM 1970
P.O. BOX 33
TEMPLE CITY, CALIF. 91780

GENERAL SPECIFICATIONS

WEIGHT EMPTY (WHEN AIRCRAFT ORIGINALLY LEFT THE LAIRD FACTORY) 3,195 lbs.
 WEIGHT EMPTY (IN LATER MODIFICATIONS) 3,300 lbs.
 GROSS WEIGHT, LIGHT LOAD 3,765 lbs.
 GROSS WEIGHT, FULL LOAD (LAIRD CONSTRUCTION LIMITS) 3,765 lbs.
 GROSS WEIGHT, OVERLOAD (TURNER'S FIGURE) 4,923 lbs.
 WING AREA 95 sq. ft.
 WING LOADING, FULL LOAD COND. lbs./sq. ft.
 POWER LOADING 4.92 lbs./hp
 MAX. SPEED, ESTIMATED STRAIGHT AWAY FLIGHT AT S.L. (LAIRD CO. & UNITED AIRCRAFT COMPUTATIONS) 330/350 m.p.h.
 ROSCOE TURNER'S PERSONAL CLAIM 412 m.p.h. (1939)
 LANDING SPEED, WITH FLAPS 87 m.p.h.

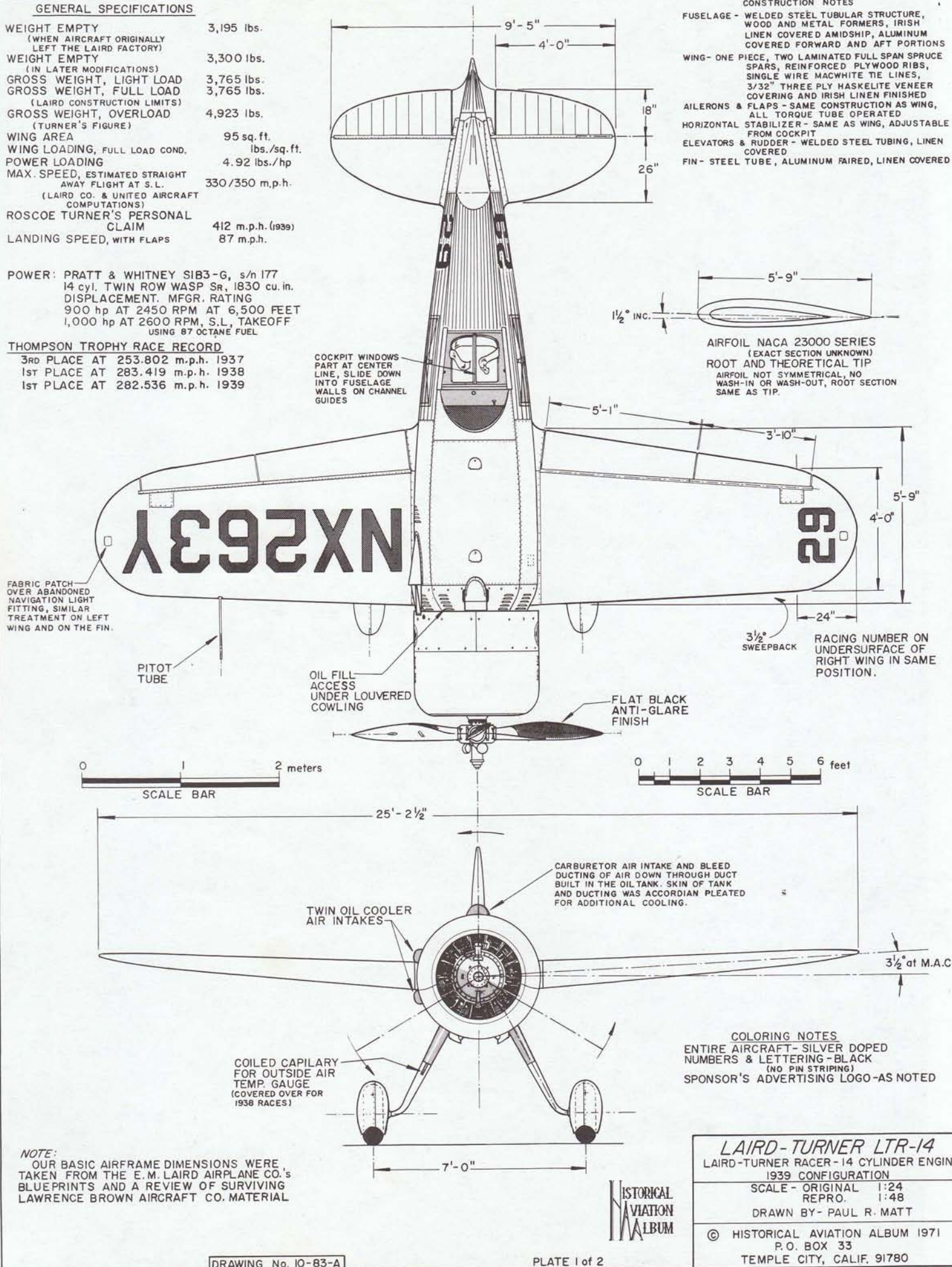
POWER: PRATT & WHITNEY SIB3-G, s/n 177
 14 cyl. TWIN ROW WASP SR, 1830 cu. in.
 DISPLACEMENT. MFR. RATING
 900 hp AT 2450 RPM AT 6,500 FEET
 1,000 hp AT 2600 RPM, S.L., TAKEOFF
 USING 87 OCTANE FUEL

THOMPSON TROPHY RACE RECORD

3RD PLACE AT 253.802 m.p.h. 1937
 1st PLACE AT 283.419 m.p.h. 1938
 1st PLACE AT 282.536 m.p.h. 1939

CONSTRUCTION NOTES

FUSELAGE - WELDED STEEL TUBULAR STRUCTURE, WOOD AND METAL FORMERS, IRISH LINEN COVERED AMIDSHIP, ALUMINUM COVERED FORWARD AND AFT PORTIONS
 WING - ONE PIECE, TWO LAMINATED FULL SPAN SPRUCE SPARS, REINFORCED PLYWOOD RIBS, SINGLE WIRE MACWHITE TIE LINES, 3/32" THREE PLY HASKELTIE VENEER COVERING AND IRISH LINEN FINISHED
 AILERONS & FLAPS - SAME CONSTRUCTION AS WING, ALL TORQUE TUBE OPERATED
 HORIZONTAL STABILIZER - SAME AS WING, ADJUSTABLE FROM COCKPIT
 ELEVATORS & RUDDER - WELDED STEEL TUBING, LINEN COVERED
 FIN - STEEL TUBE, ALUMINUM FAIRED, LINEN COVERED



FABRIC PATCH OVER ABANDONED NAVIGATION LIGHT FITTING, SIMILAR TREATMENT ON LEFT WING AND ON THE FIN.

PITOT TUBE

COCKPIT WINDOWS PART AT CENTER LINE, SLIDE DOWN INTO FUSELAGE WALLS ON CHANNEL GUIDES

OIL FILL ACCESS UNDER LOUVERED COWLING

FLAT BLACK ANTI-GLARE FINISH

3 1/2° SWEEPBACK

RACING NUMBER ON UNDERSURFACE OF RIGHT WING IN SAME POSITION.

CARBURETOR AIR INTAKE AND BLEED DUCTING OF AIR DOWN THROUGH DUCT BUILT IN THE OIL TANK. SKIN OF TANK AND DUCTING WAS ACCORDIAN PLEATED FOR ADDITIONAL COOLING.

TWIN OIL COOLER AIR INTAKES

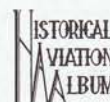
COILED CAPILARY FOR OUTSIDE AIR TEMP. GAUGE (COVERED OVER FOR 1938 RACES)

3 1/2° at M.A.C.

COLORING NOTES
 ENTIRE AIRCRAFT - SILVER DOPED
 NUMBERS & LETTERING - BLACK
 (NO PIN STRIPING)
 SPONSOR'S ADVERTISING LOGO - AS NOTED

NOTE:
 OUR BASIC AIRFRAME DIMENSIONS WERE TAKEN FROM THE E.M. LAIRD AIRPLANE CO.'S BLUEPRINTS AND A REVIEW OF SURVIVING LAWRENCE BROWN AIRCRAFT CO. MATERIAL

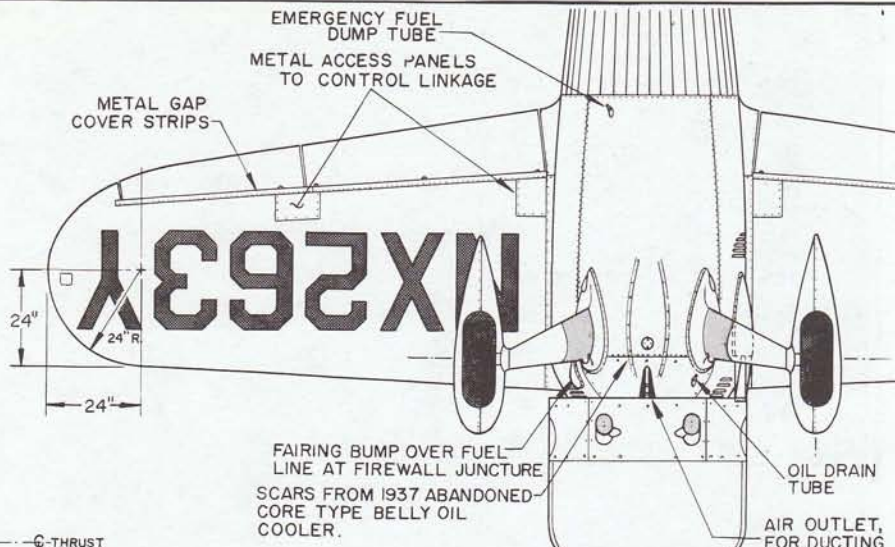
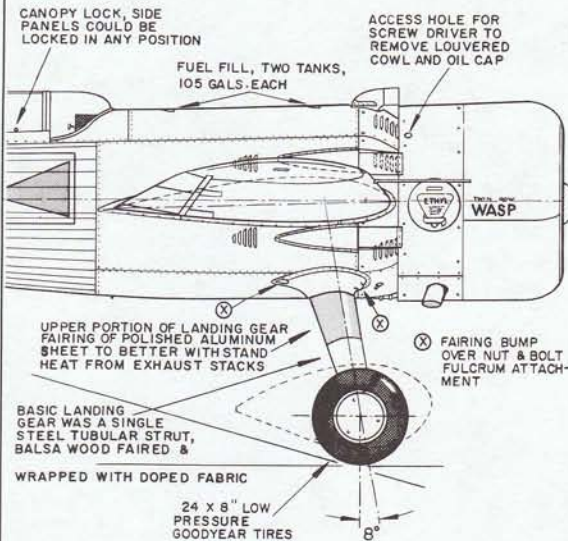
LAIRD-TURNER LTR-14
 LAIRD-TURNER RACER - 14 CYLINDER ENGINE
 1939 CONFIGURATION
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
 © HISTORICAL AVIATION ALBUM 1971
 P.O. BOX 33
 TEMPLE CITY, CALIF. 91780



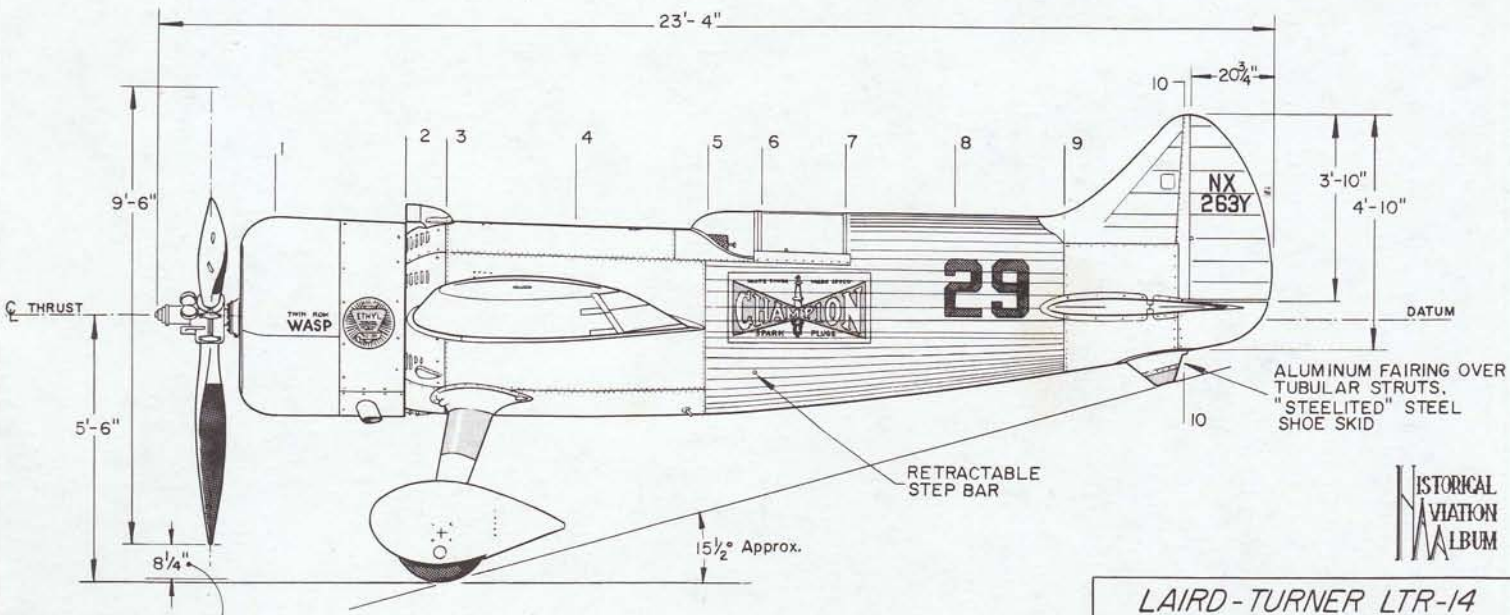
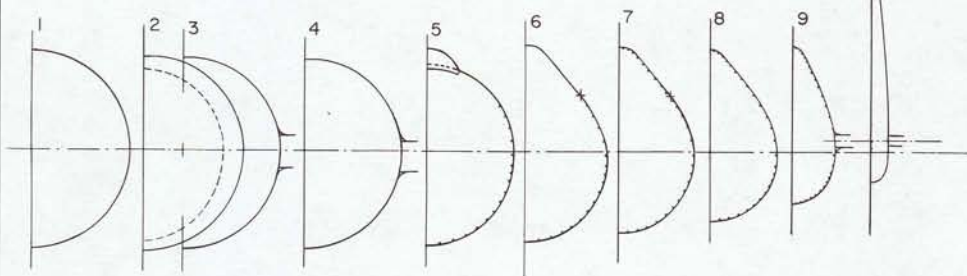
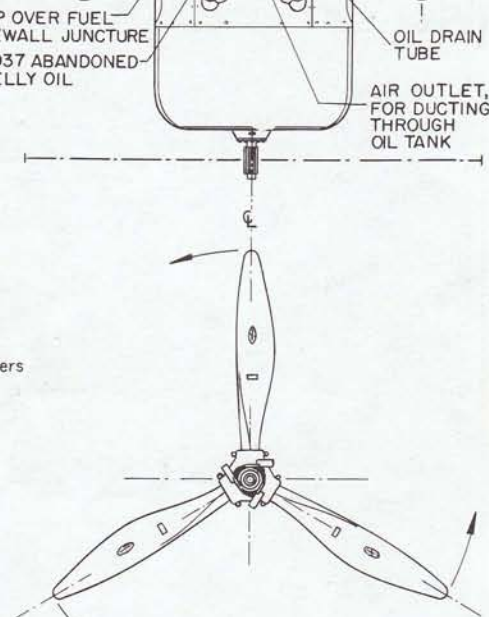
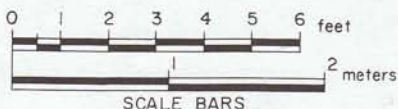


(TWICE SCALE)

CHAMPION SPARK PLUG LOGO
 YELLOW BACKGROUND, DARK BLUE PINCHED BAR, 'CHAMPION' WHITE, SPARK PLUG WHITE WITH TONE OF GRAY, BLACK & COPPER. ALL LETTERING & OUTLINES - BLACK



ETHYL CORP. LOGO
 WHITE 12" DISC, RED TRIANGLE, YELLOW 'ETHYL' & RADIATING SUN BURST, OTHER LETTERING & OUTLINING - BLACK



HISTORICAL AVIATION ALBUM

LAIRD-TURNER LTR-14
 LAIRD-TURNER RACER - 14 CYLINDER ENGINE
 1939 CONFIGURATION
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT

OUR SINCERE THANKS TO E.M. "MATTY" LAIRD AND MAJ. ROBERT HIRSCH FOR THEIR VALUABLE ASSISTANCE IN THE PREPARATION OF THESE DRAWINGS

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GENERAL SPECIFICATIONS

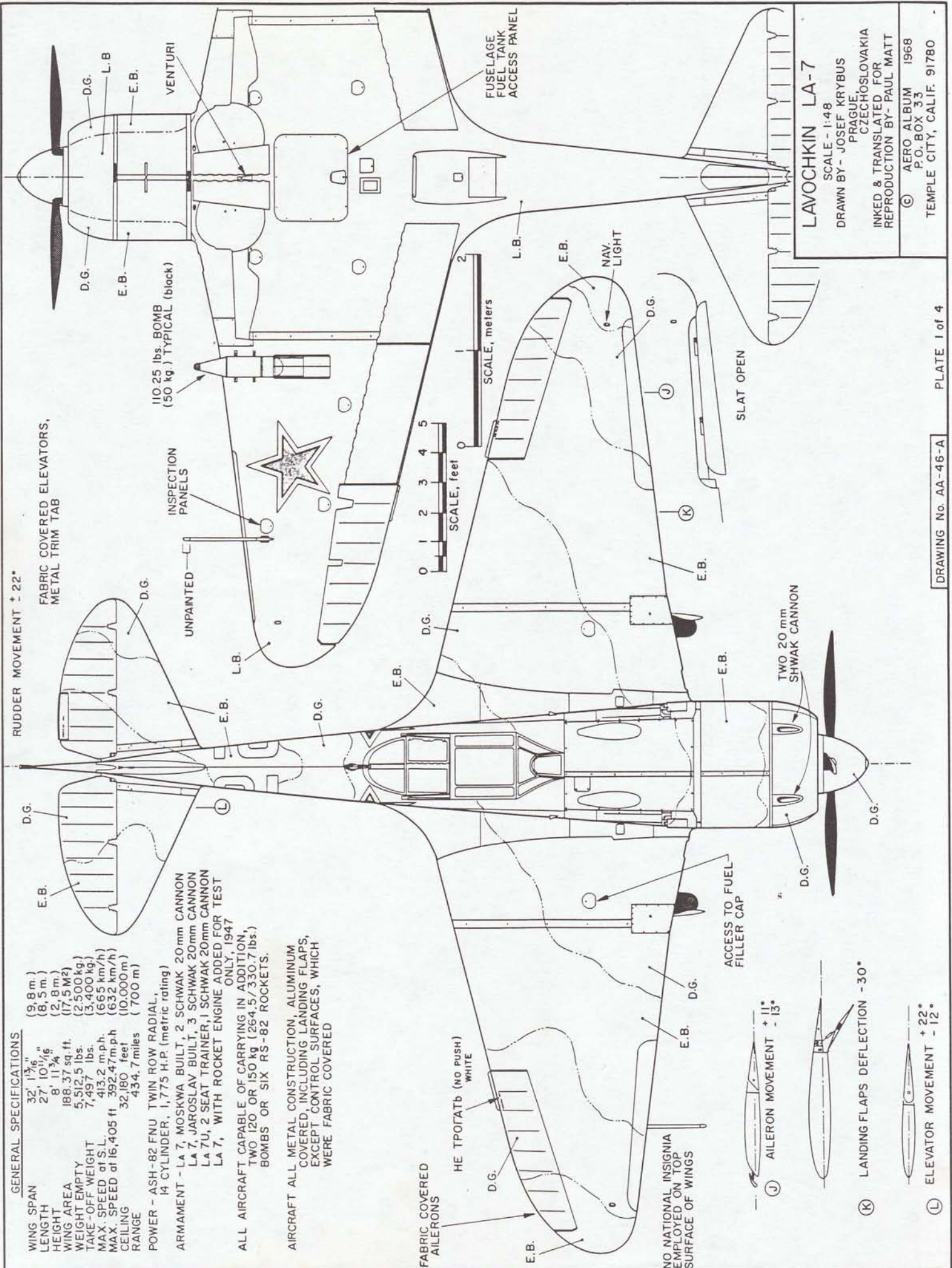
WING SPAN 32' 1³/₁₆" (9.8 m.)
 LENGTH 27' 10¹/₂" (8.5 m.)
 HEIGHT 8' 11³/₄" (2.8 m.)
 WING AREA 188.37 sq. ft. (17.5 M²)
 WEIGHT EMPTY 5,512.5 lbs. (2,500 kg.)
 TAKE-OFF WEIGHT 7,497 lbs. (3,400 kg.)
 MAX. SPEED of S.L. 413.2 m.p.h. (665 km/h)
 MAX. SPEED of 16,405 ft 392.47 m.p.h. (632 km/h)
 CEILING 32,180 feet (10,000 m)
 RANGE 434.7 miles (700 m)

POWER - ASH-82 FNU TWIN ROW RADIAL,
 14 CYLINDER, 1,775 H.P. (metric rating)

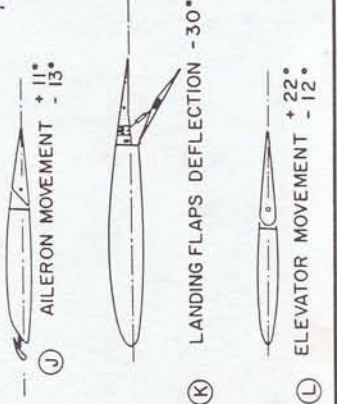
ARMAMENT - LA 7, MOSKWA BUILT, 2 SCHWAK 20mm CANNON
 LA 7, JAROSLAV BUILT, 3 SCHWAK 20mm CANNON
 LA 7U, 2 SEAT TRAINER, 1 SCHWAK 20mm CANNON
 LA 7, WITH ROCKET ENGINE ADDED FOR TEST ONLY, 1947

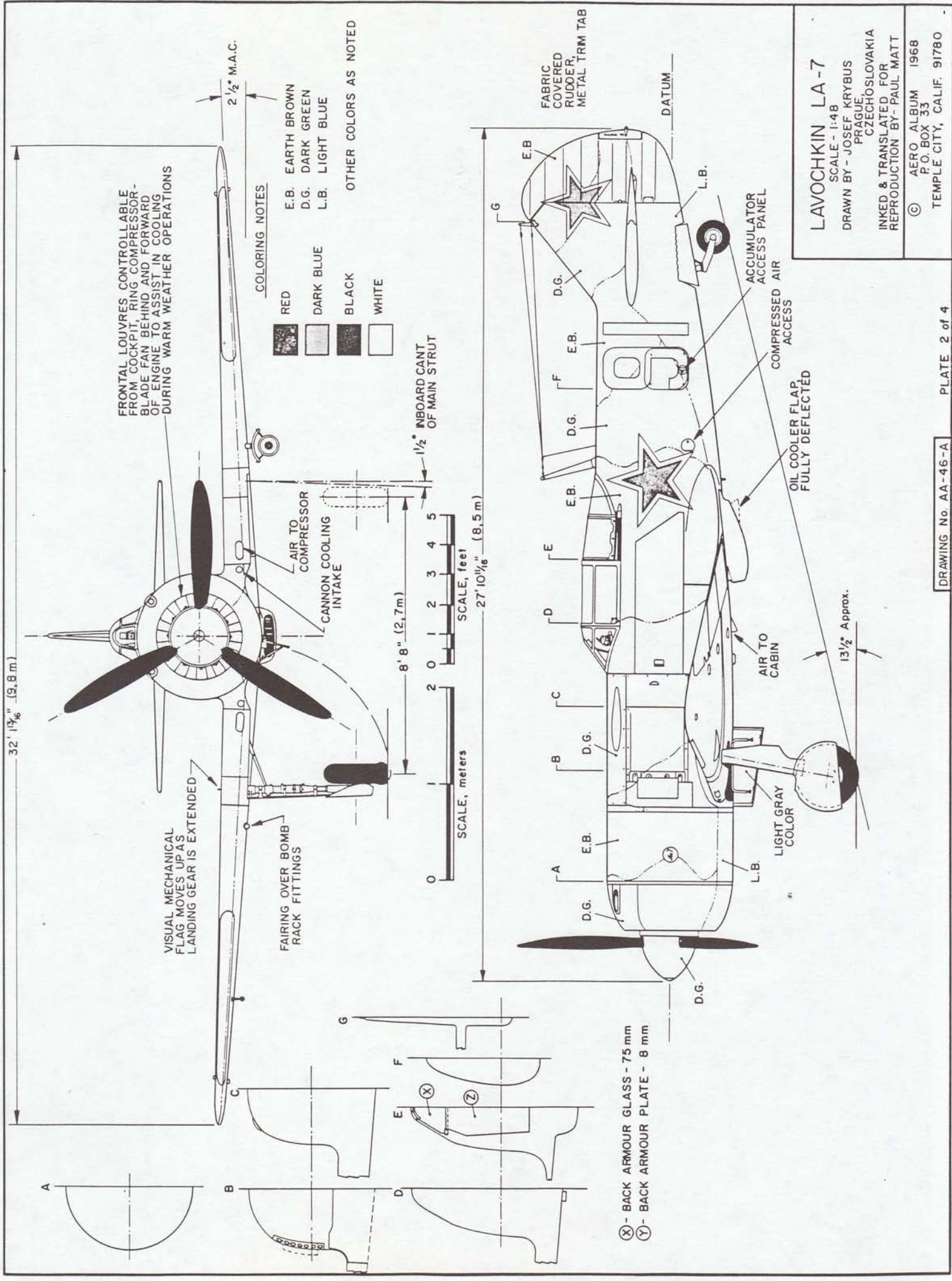
ALL AIRCRAFT CAPABLE OF CARRYING IN ADDITION,
 TWO 120 OR 150 kg (264.5/330.7 lbs.)
 BOMBS OR SIX RS-82 ROCKETS.

AIRCRAFT ALL METAL CONSTRUCTION, ALUMINUM
 COVERED, INCLUDING LANDING FLAPS,
 EXCEPT CONTROL SURFACES, WHICH
 WERE FABRIC COVERED



LAVOICHKIN LA-7
 SCALE - 1:48
 DRAWN BY - JOSEF KRYBUS
 PRAGUE, CZECHOSLOVAKIA
 INKED & TRANSLATED FOR
 REPRODUCTION BY - PAUL MATT
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32' 11 7/8" (9.8m)

2 1/2" M.A.C.

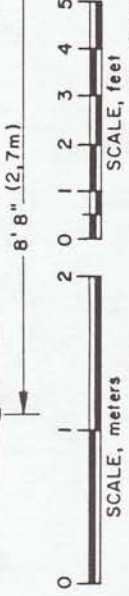
FRONTAL LOUVRES CONTROLLABLE FROM COCKPIT. RING COMPRESSOR-BLADE FAN BEHIND AND FORWARD OF ENGINE TO ASSIST IN COOLING DURING WARM WEATHER OPERATIONS

VISUAL MECHANICAL FLAG MOVES UP AS LANDING GEAR IS EXTENDED

FAIRING OVER BOMB RACK FITTINGS

AIR TO COMPRESSOR
CANNON COOLING INTAKE

1/2" INBOARD CANT OF MAIN STRUT



COLORING NOTES



FABRIC COVERED RUDDER, METAL TRM TAB

DATUM

⊗ - BACK ARMOUR GLASS - 75 mm
⊙ - BACK ARMOUR PLATE - 8 mm

ACCUMULATOR ACCESS PANEL
COMPRESSED AIR ACCESS
OIL COOLER FLAP FULLY DEFLECTED

AIR TO CABIN

LIGHT GRAY COLOR

13 1/2" Approx.

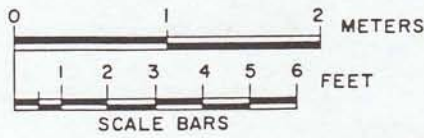
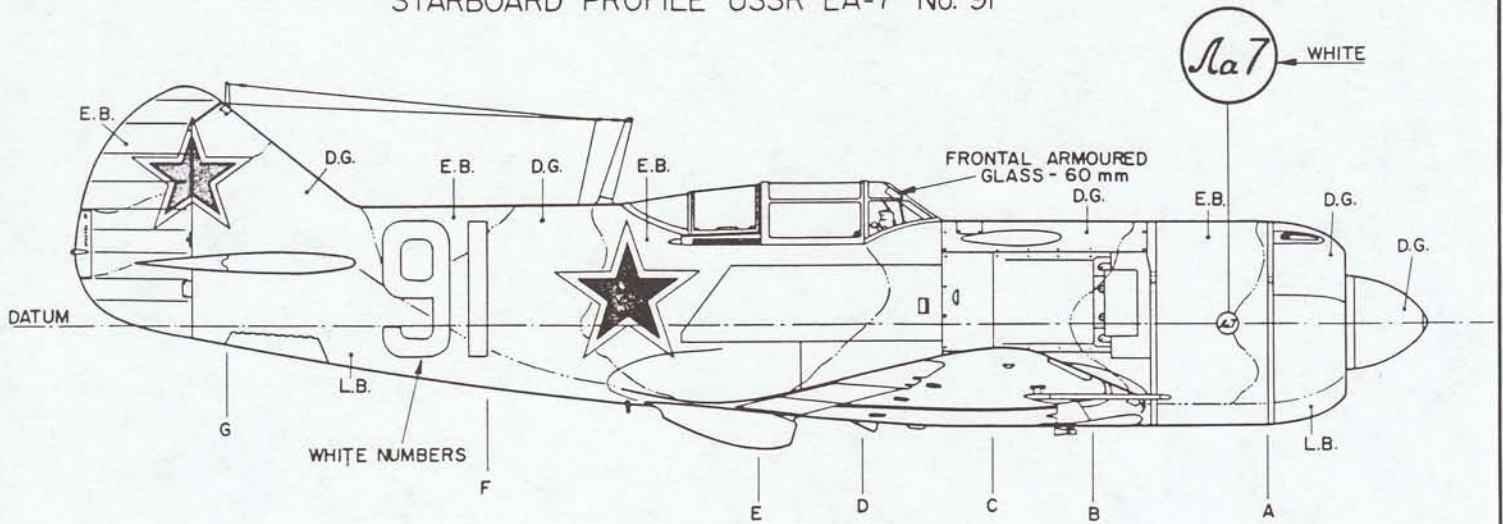
LAVOCHKIN LA-7
SCALE - 1:48

DRAWN BY - JOSEF KRYBUS
PRAGUE, CZECHOSLOVAKIA

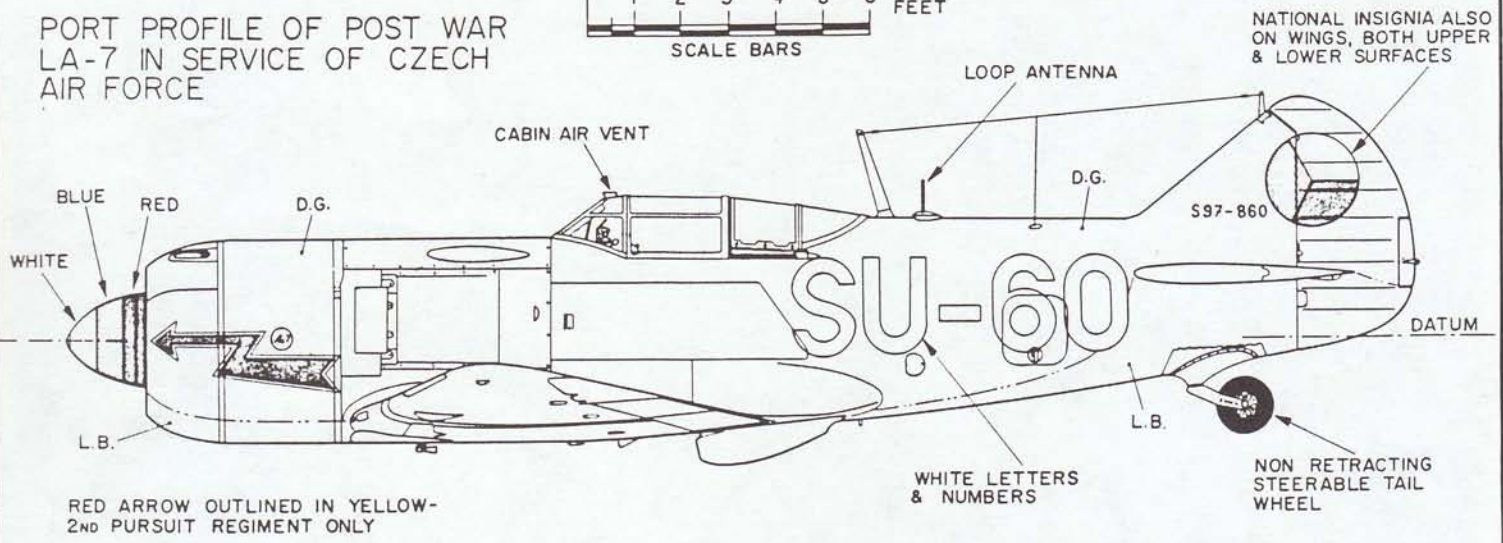
INKED & TRANSLATED FOR REPRODUCTION BY - PAUL MATT

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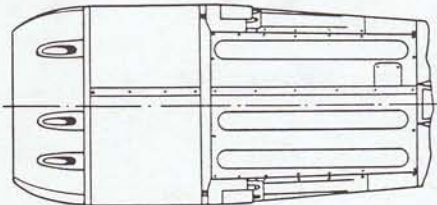
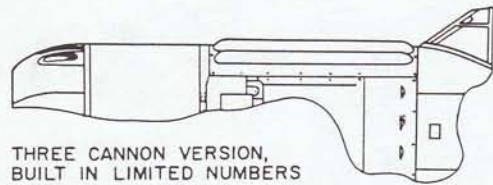
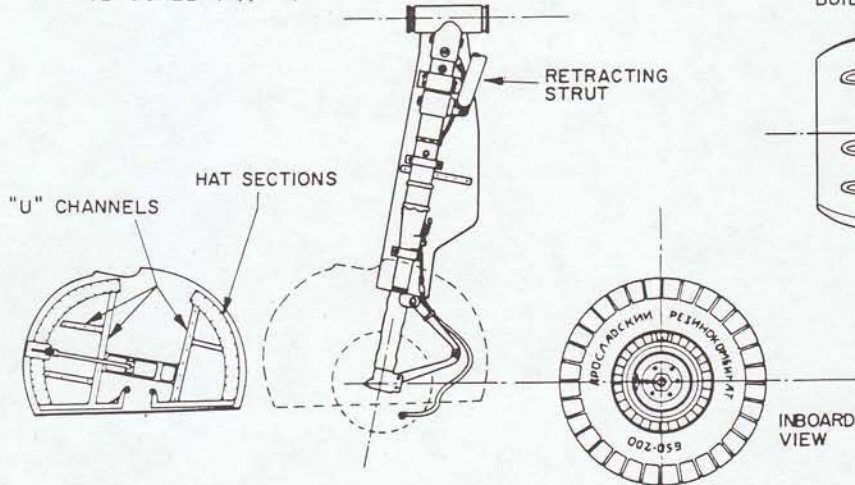
STARBOARD PROFILE USSR LA-7 No. 91



PORT PROFILE OF POST WAR LA-7 IN SERVICE OF CZECH AIR FORCE



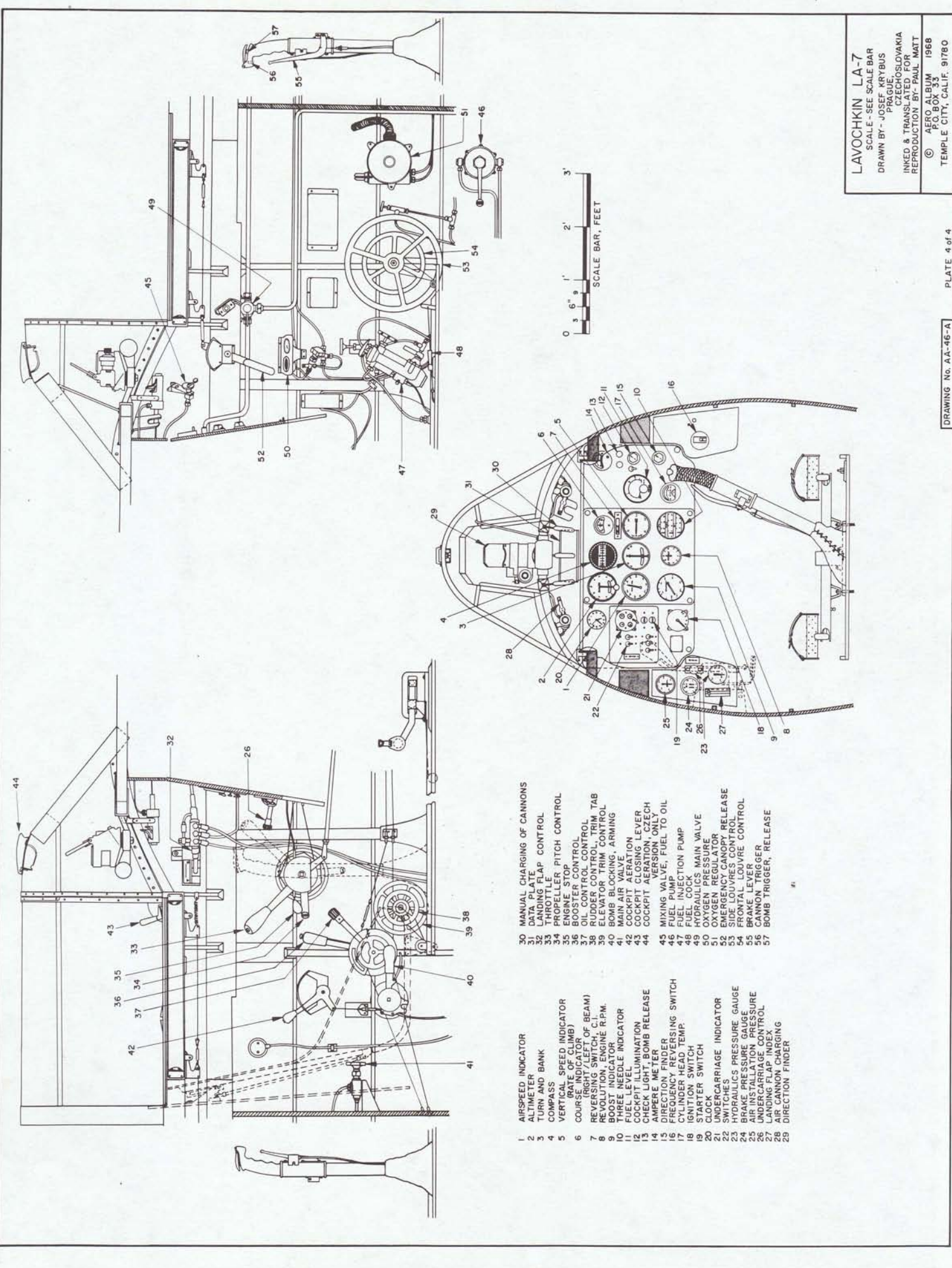
MAIN LANDING GEAR DETAILS
TWICE SCALE (Approx.)



LAVOCHKIN LA-7

SCALE - 1:48
DRAWN BY - JOSEF KRYBUS
PRAGUE,
CZECHOSLOVAKIA
INKED & TRANSLATED FOR
REPRODUCTION BY - PAUL MATT

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LAVOCHKIN LA-7
 SCALE - SEE SCALE BAR
 DRAWN BY - JOSEF KRYBUS
 PRAGUE, CZECHOSLOVAKIA
 INKED & TRANSLATED FOR
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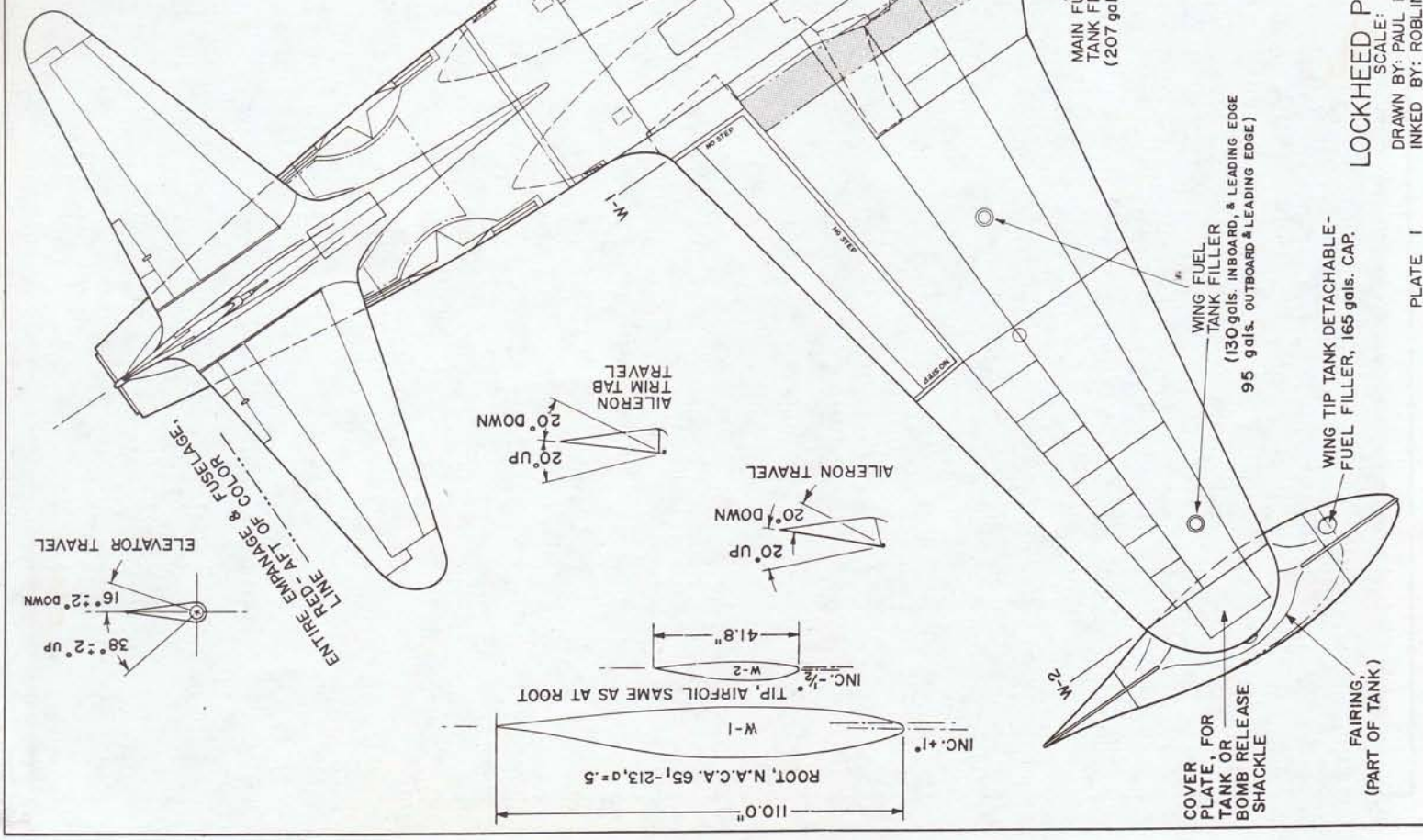
- 1 AIRSPEED INDICATOR
 2 ALTIMETER
 3 TURN AND BANK
 4 COMPASS
 5 VERTICAL SPEED INDICATOR (RATE OF CLIMB)
 6 COURSE/DIR INDICATOR (RIGHT/LEFT OF BEAM)
 7 REVERSING SWITCH, C.I.
 8 BOOST INDICATOR, ENGINE R.P.M.
 9 BOOST INDICATOR
 10 THREE NEEDLE INDICATOR
 11 COCKPIT ILLUMINATION
 12 CHECK LIGHT, BOMB RELEASE
 13 AMPERE METER
 14 DIRECTION FINDER
 15 FREQUENCY REVERSING SWITCH
 16 CYLINDER HEAD TEMP.
 17 IGNITION SWITCH
 18 STAYDOWN SWITCH
 19 UNDERCARRIAGE INDICATOR
 20 SWITCHES
 21 HYDRAULICS PRESSURE GAUGE
 22 BRAKE PRESSURE GAUGE
 23 AIR INSTALLATION PRESSURE
 24 UNDERCARRIAGE CONTROL
 25 AIR CANNON CHARGING
 26 DIRECTION FINDER
 30 MANUAL CHARGING OF CANNONS
 31 DATA PLATE
 32 LANDING FLAP CONTROL
 33 PROPELLER, PITCH CONTROL
 34 ENGINE STOP
 35 BOOSTER CONTROL
 36 OIL CONTROL CONTROL
 37 RUDDER CONTROL, TRIM TAB
 38 ELEVATOR TRIM CONTROL
 39 BOMB BLOCKING, ARMING
 40 MAIN AIR VALVE
 41 COCKPIT REVERSION LEVER
 42 COCKPIT AERATION, CZECH
 43 COCKPIT AERATION ONLY
 44 MIXING VALVE, FUEL TO OIL
 45 FUEL PUMP
 46 FUEL INJECTION PUMP
 47 FUEL INJECTOR
 48 HYDRAULICS MAIN VALVE
 49 OXYGEN PRESSURE
 50 EMERGENCY CANOPY RELEASE
 51 SIDE LOUVRES CONTROL
 52 FRONTAL LOUVRE CONTROL
 53 CANNON TRIGGER
 54 BOMB TRIGGER, RELEASE
 55
 56
 57



AIRCRAFT PORTRAYED IS ONE OF 25 ASSIGNED TO THE 94th FIGHTER SQD. BASED AT MARCH FIELD, CALIF. 1947-48. COLOR SCHEME IS ARCTIC MARKINGS, USED DURING MANEUVERS FROM LADD FIELD, ALASKA, OCT. '47 TO MARCH '48.

GENERAL SPECIFICATIONS
 WEIGHT EMPTY 8,000 lbs.
 USEFUL LOAD 7,350 lbs.
 GROSS WEIGHT 15,350 lbs.
 TOP SPEED MACH .8 - 580 mph
 CRUISING SPEED 260 kts AT 35,000 ft.
 LANDING SPEED 100/110 mph AT TOUCH DOWN
 RATE OF CLIMB 2600 fpm, FULL LOAD, 100% POWER
 FUEL CAPACITY 657 gals. int., 330 gals. tip tanks
 OIL CAPACITY 3.5 gals.
 CRUISE RANGE 1,525 miles at 40,000 ft.
 SERVICE CEILING 35,000 ft.
 WING AREA 237.6 sq. ft. (INCL. AILERONS)

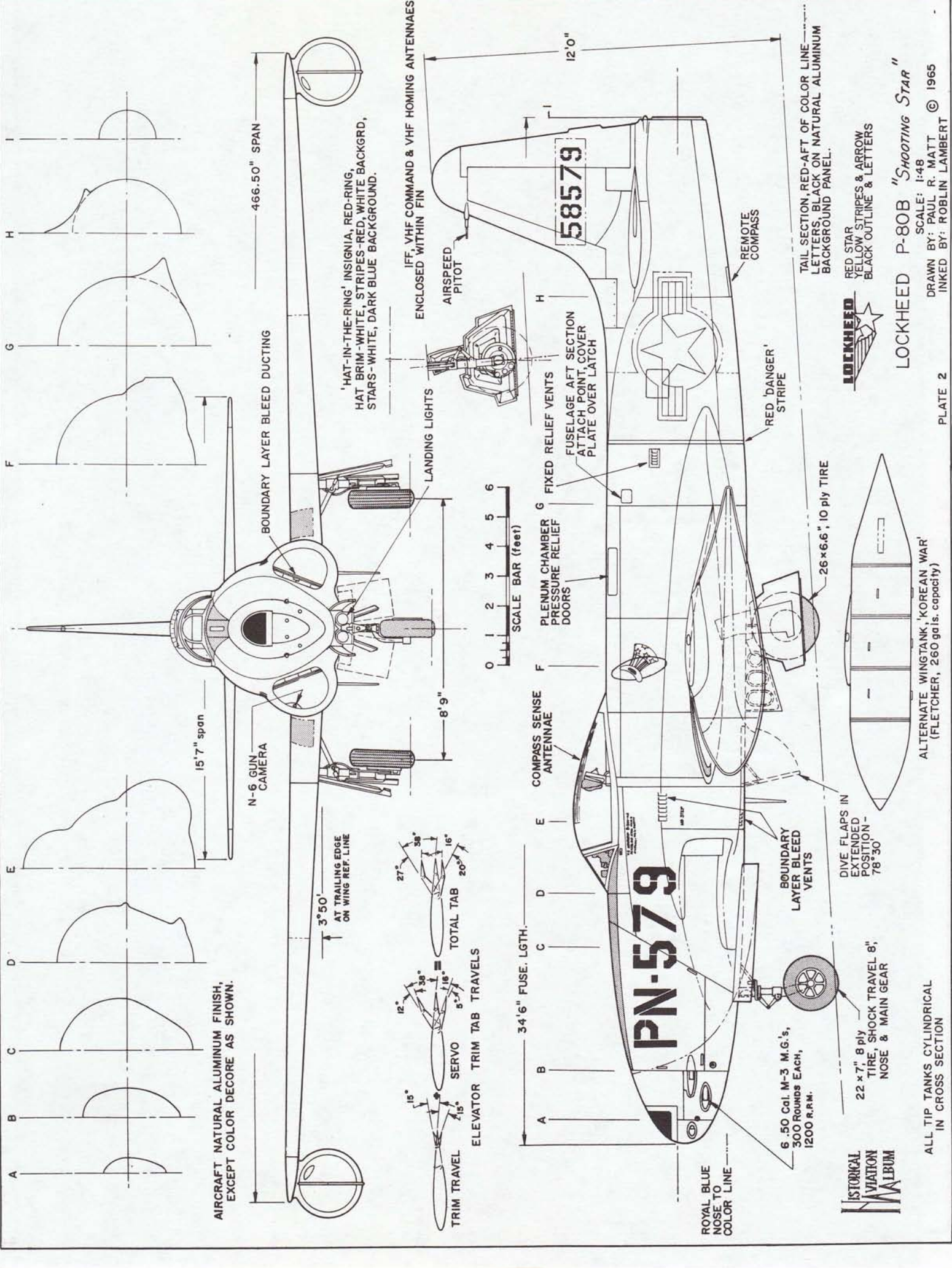
PERFORMANCE FIGURES ARE THOSE RECOMMENDED BY THE MANUFACTURERS MANUAL

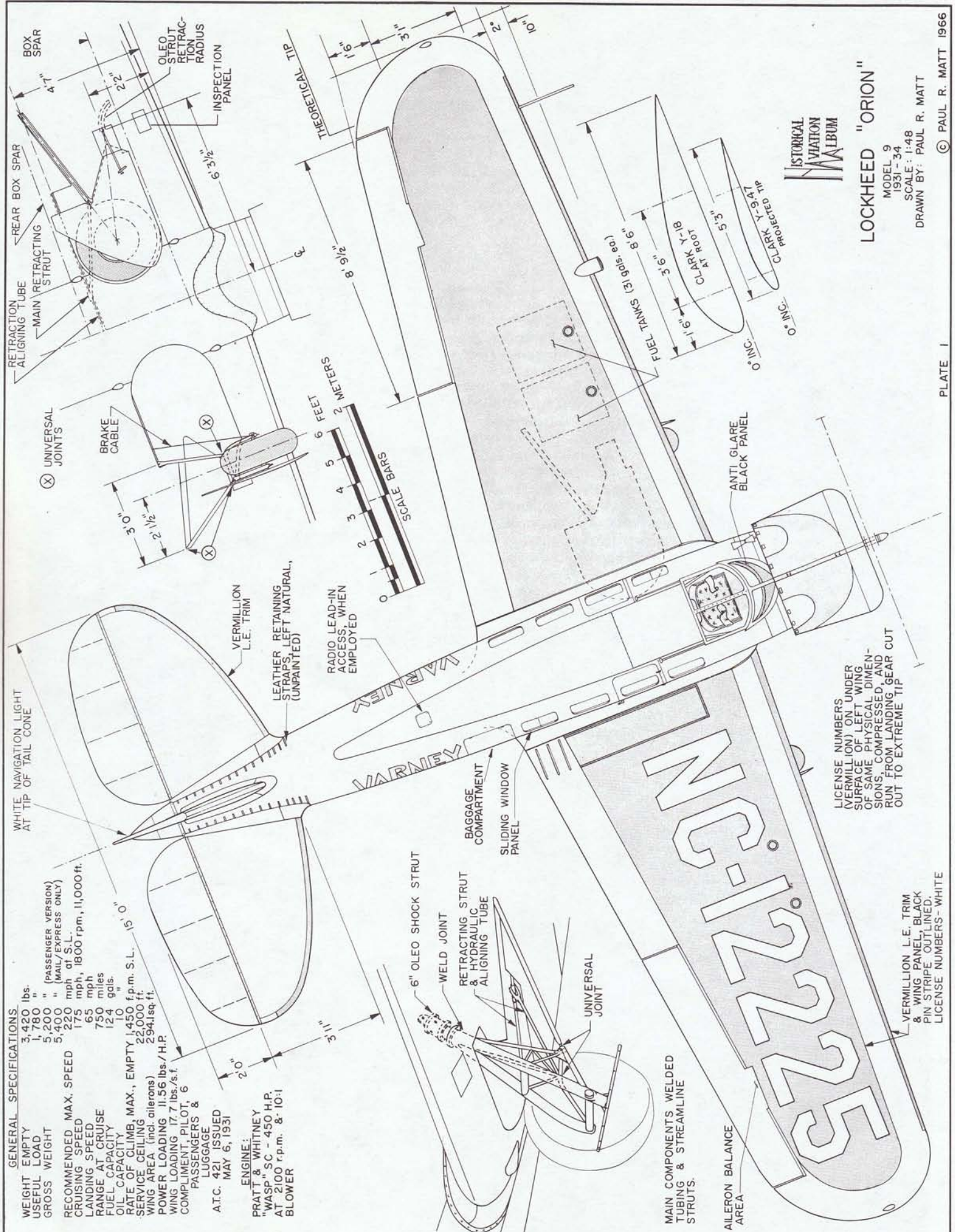


LOCKHEED P-80B "SHOOTING STAR"

SCALE: 1:48
 DRAWN BY: PAUL R. MATT
 INKED BY: ROBLIN LAMBERT







GENERAL SPECIFICATIONS

WEIGHT EMPTY 3,420 lbs.
 USEFUL LOAD 1,780 " (PASSENGER VERSION)
 GROSS WEIGHT 5,200 " (MAIL/EXPRESS ONLY)
 RECOMMENDED MAX. SPEED 5,400 mph at S.L.
 CRUISING SPEED 175 mph, 1800 rpm, 11,000 ft.
 LANDING SPEED 65 mph
 RANGE AT CRUISE 750 miles
 FUEL CAPACITY 124 gals.
 OIL CAPACITY 12.0 " (15" 0")
 RATE OF CLIMB, MAX., EMPTY 1,450 f.p.m. S.L.
 SERVICE CEILING 22,000 ft.
 WING AREA (incl. ailerons) 294.1 sq. ft.
 POWER LOADING 11.56 lbs./s.f.
 WING LOADING 17.7 lbs./s.f.
 COMPLIMENT, PILOT, 6
 PASSENGERS & LUGGAGE

A.T.C. 421 ISSUED MAY 6, 1931

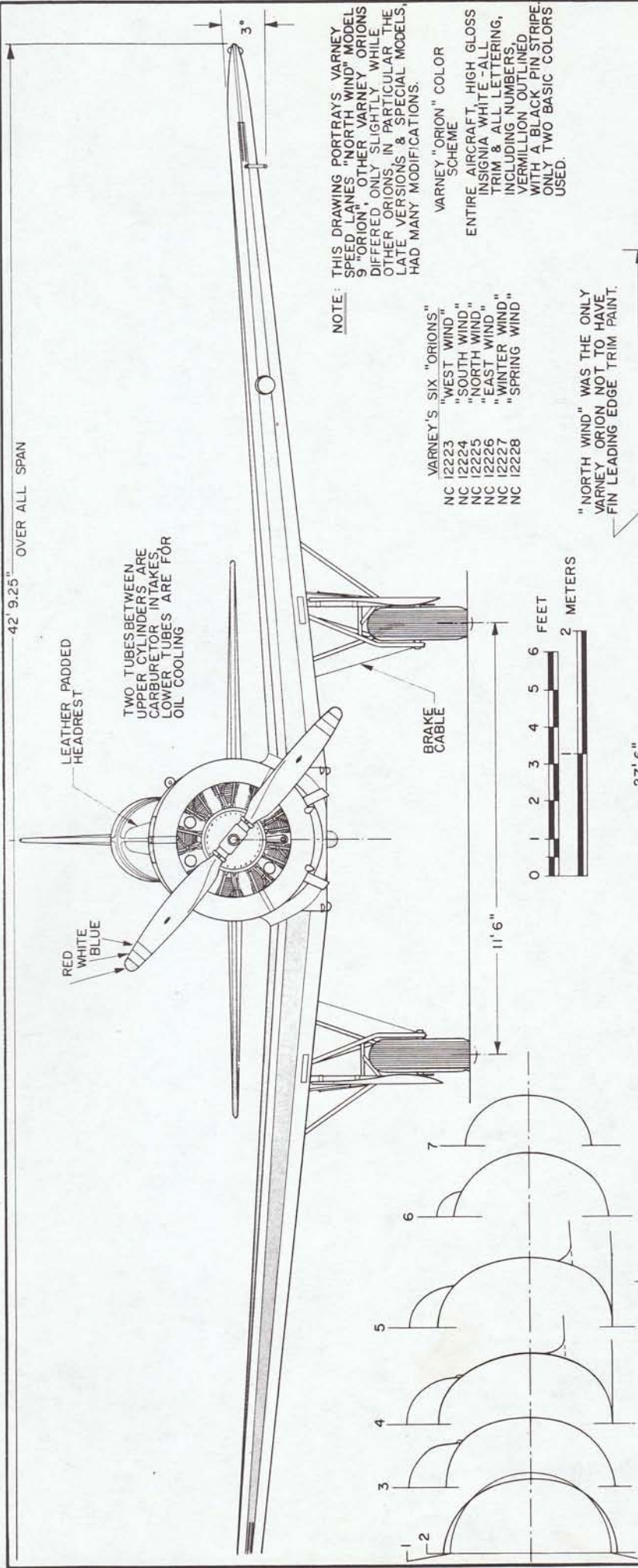
ENGINE:
 PRATT & WHITNEY
 "WASP" SC - 450 H.P.
 AT 2100 r.p.m. & 10:1
 BLOWER



LOCKHEED "ORION"

MODEL 9
 1931-34
 SCALE: 1:48
 DRAWN BY: PAUL R. MATT

42' 9.25" OVER ALL SPAN

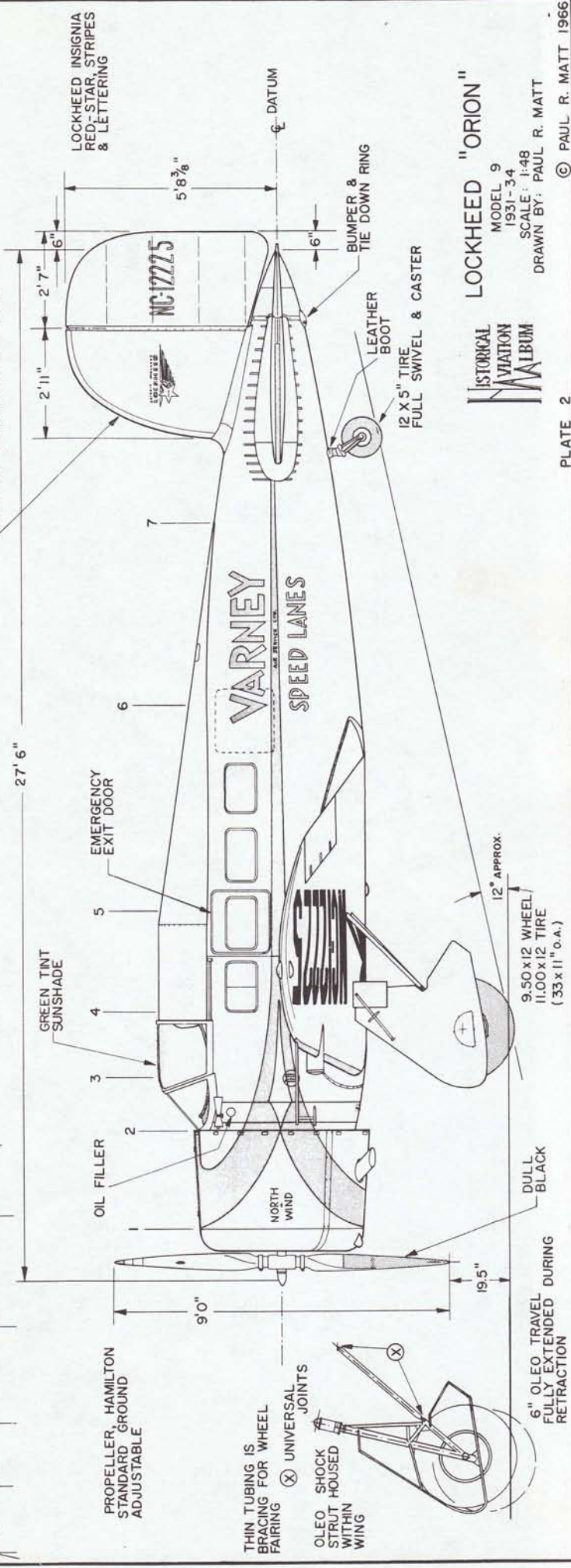


NOTE: THIS DRAWING PORTRAYS VARNEY SPEED LANES "NORTH WIND" MODEL 9 "ORION" OTHER VARNEY ORIONS DIFFERED ONLY SLIGHTLY WHILE OTHER ORIONS IN PARTICULAR THE LATE VERSIONS & SPECIAL MODELS, HAD MANY MODIFICATIONS.

- VARNEY'S SIX "ORIONS"
- "WEST WIND" NC 12223
 - "SOUTH WIND" NC 12224
 - "NORTH WIND" NC 12225
 - "EAST WIND" NC 12226
 - "WINTER WIND" NC 12227
 - "SPRING WIND" NC 12228

VARNEY "ORION" COLOR SCHEME
 ENTIRE AIRCRAFT, HIGH GLOSS INSIGNIA WHITE-ALL TRIM & ALL LETTERING, INCLUDING NUMBERS, VERMILLION OUTLINED WITH A BLACK PIN STRIPE ONLY TWO BASIC COLORS USED.



"NORTH WIND" WAS THE ONLY VARNEY ORION NOT TO HAVE FIN LEADING EDGE TRIM PAINT.

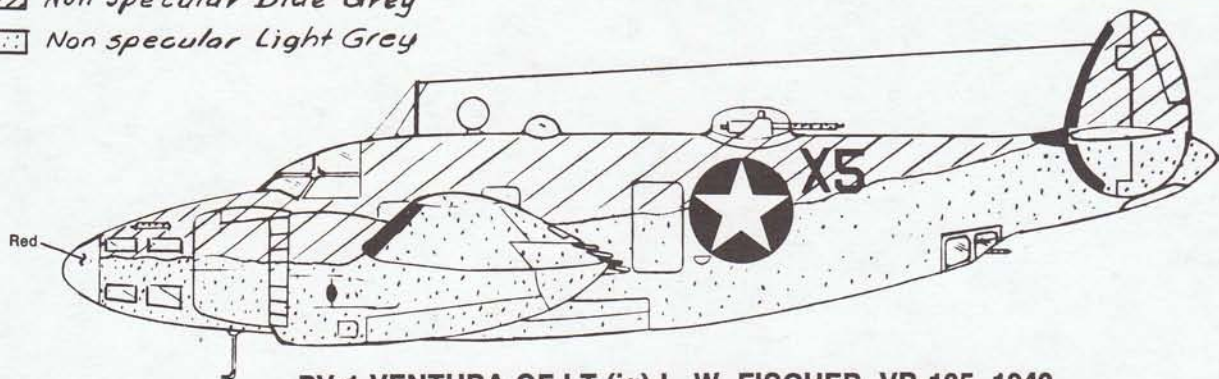


LOCKHEED "ORION"




MODEL 9
 1931-34
 SCALE: 1:48
 DRAWN BY: PAUL R. MATT

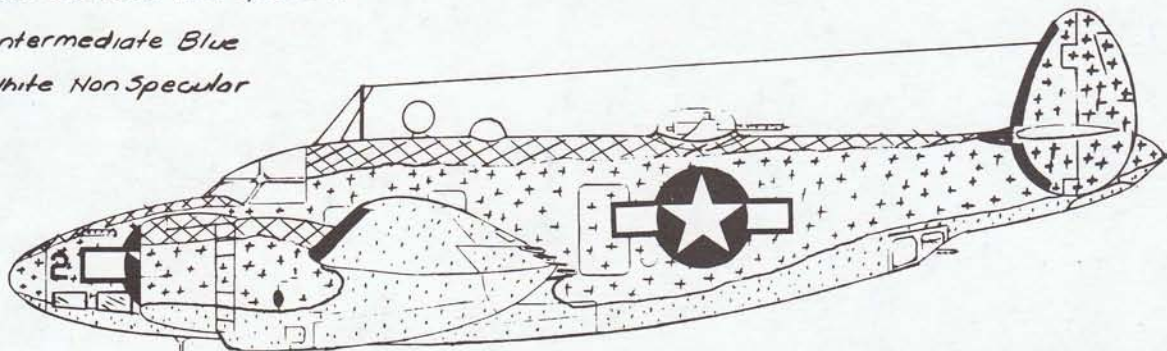
Lockheed Vega PV-1 "Ventura"

-  Non specular Blue Grey
-  Non specular Light Grey

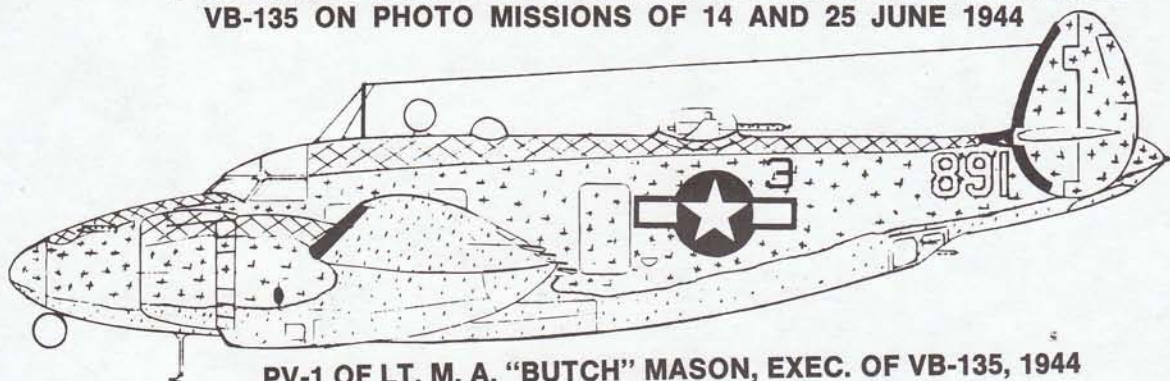


PV-1 VENTURA OF LT.(jg) L. W. FISCHER, VB-135, 1943

-  Dark Sea Blue Non Specular
-  Intermediate Blue
-  White Non Specular

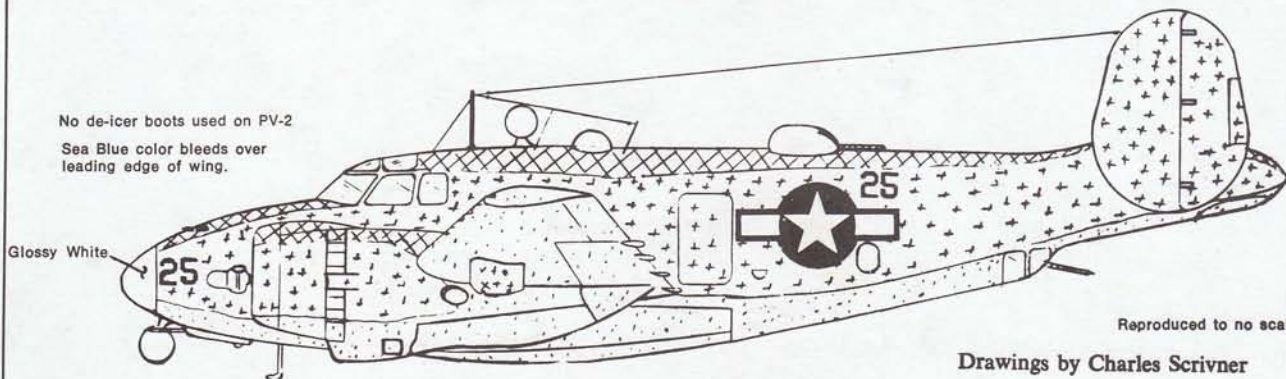


SPECIALY EQUIPPED PV-1 FLOWN BY LT. L. A. "PAT" PATTESON
VB-135 ON PHOTO MISSIONS OF 14 AND 25 JUNE 1944



PV-1 OF LT. M. A. "BUTCH" MASON, EXEC. OF VB-135, 1944

No de-icer boots used on PV-2
Sea Blue color bleeds over
leading edge of wing.

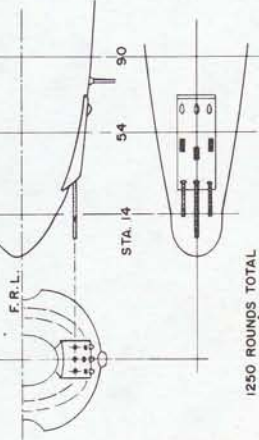


Reproduced to no scale.

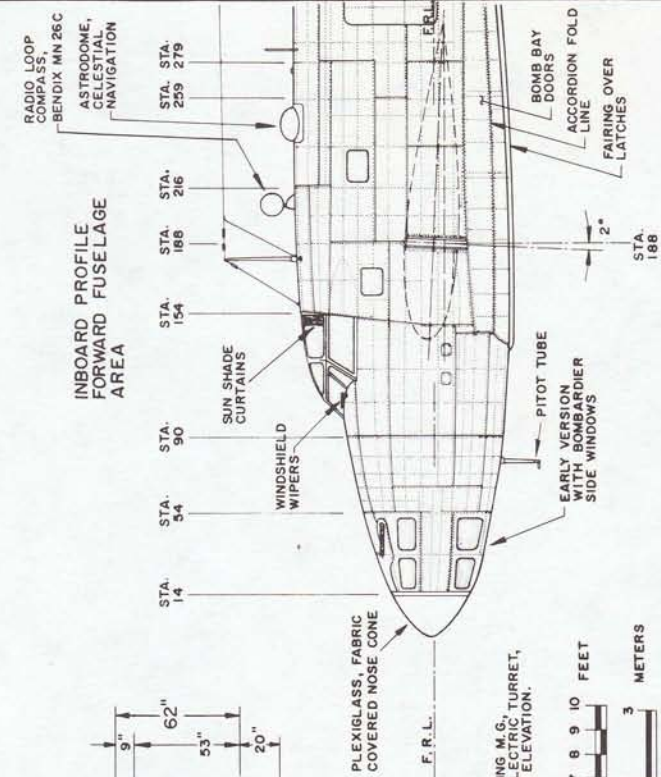
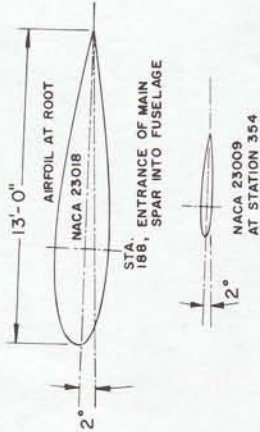
Drawings by Charles Scrivner

PV-2 HARPOON OF LCDR. GLENN DAVID, SKIPPER OF VPB-139, 1945

3 - .50 Cal. CHIN GUN PACK,
FITTED ON LATE MODELS,
MID-1943, REPLACED AND
IN SAME PLACE AS FLAT
BOMBARDIER WINDOW.



1250 ROUNDS TOTAL



INBOARD PROFILE
FORWARD FUSELAGE
AREA

RADIO LOOP
COMPASS,
BENDIX MN 26C

ASTRODOME,
CELESTIAL,
NAVIGATION

STA. 14
STA. 54
STA. 90
STA. 154
STA. 188
STA. 216
STA. 259
STA. 279

SUN SHADE
CURTAINS

WINDSHIELD
WIPERS

PLEXIGLASS, FABRIC
COVERED NOSE CONE

F.R.L.

TWIN .50 Cal. BROWNING M.G.,
MARTIN 250 CE 12 ELECTRIC TURRET,
360° ROTATION, 85° ELEVATION,
800 ROUNDS TOTAL



SCALE BARS

STARBOARD
MACHINE
MOVED FORWARD TO
CLEAR WINDOW JUST
AFT OF STA. 392

FUEL FILL
132 GAL. CAP.

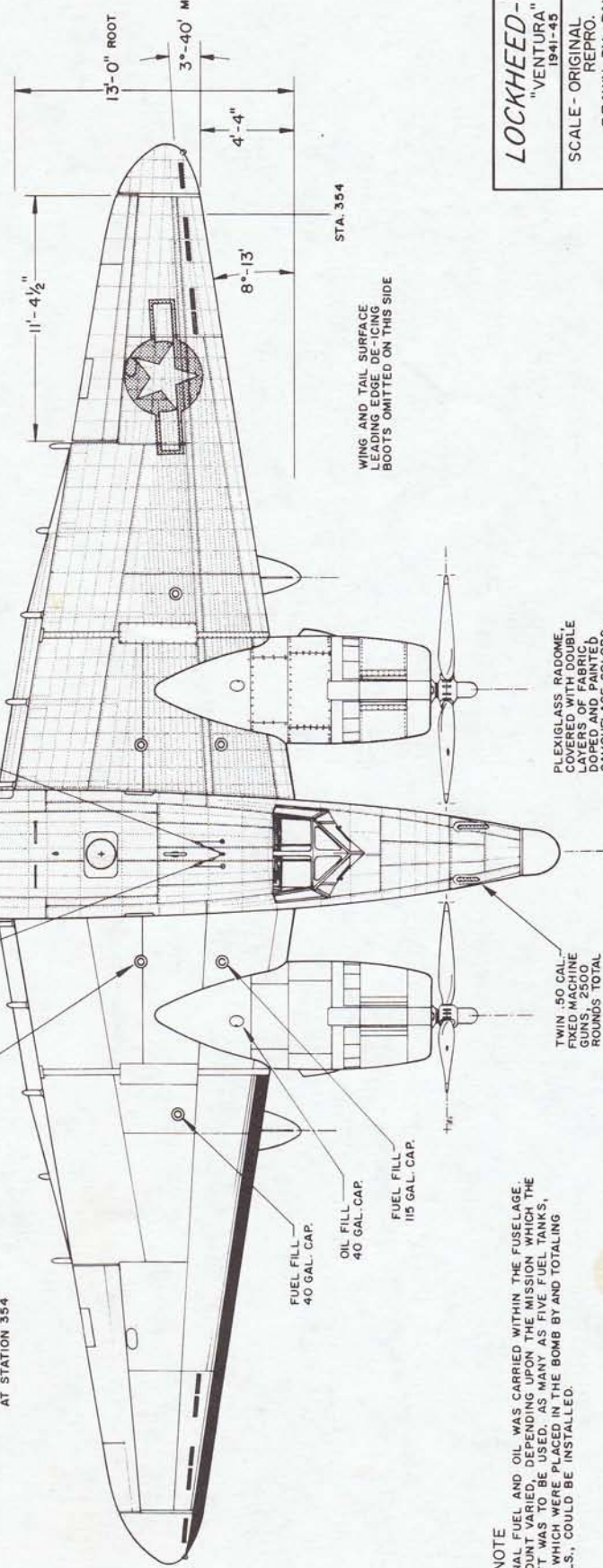
FUEL FILL
40 GAL. CAP.

OIL FILL
40 GAL. CAP.

FUEL FILL
115 GAL. CAP.

PLEXIGLASS RADOME,
COVERED WITH DOUBLE
LAYERS OF FABRIC,
DOPED AND PAINTED
CAMOUFLAGE COLORS,
OR ALTERNATIVE RED
OR WHITE

TWIN .50 CAL.
FIXED MACHINE
GUNS, 2500
ROUNDS TOTAL



WING AND TAIL SURFACE
LEADING EDGE DE-ICING
BOOTS OMITTED ON THIS SIDE

STA. 354

HISTORICAL
AVIATION
MUSEUM

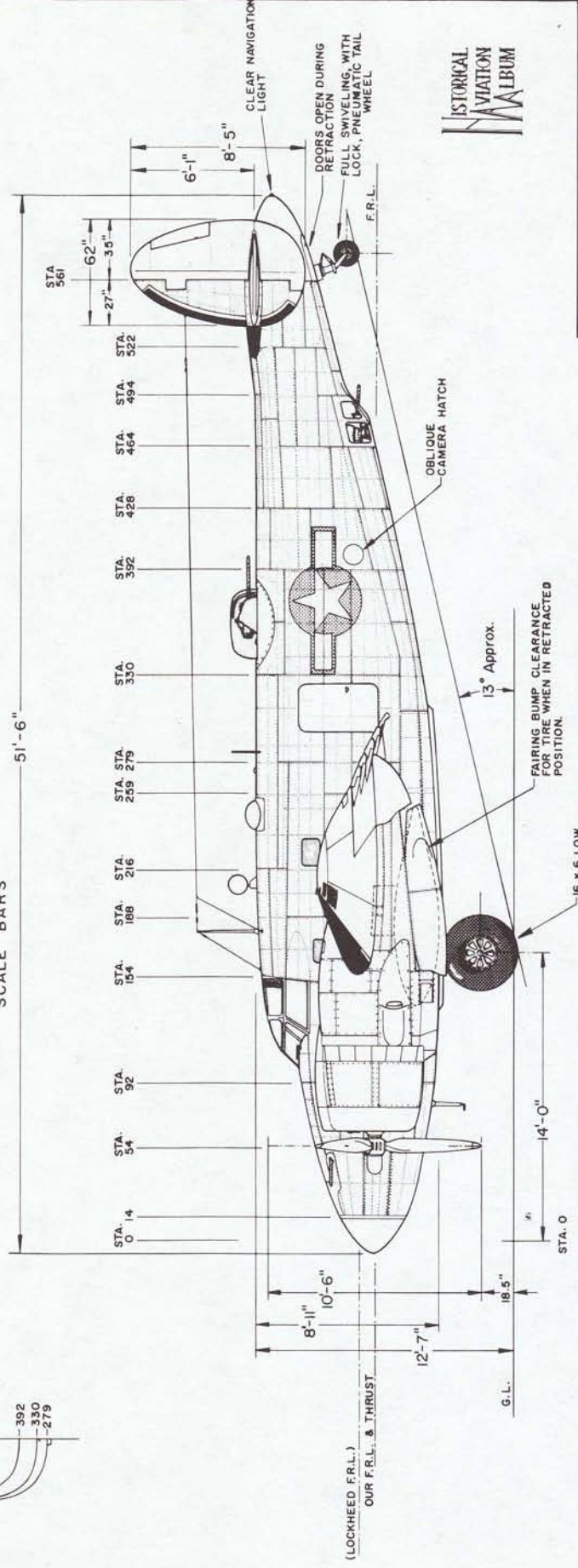
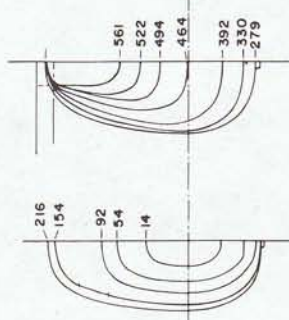
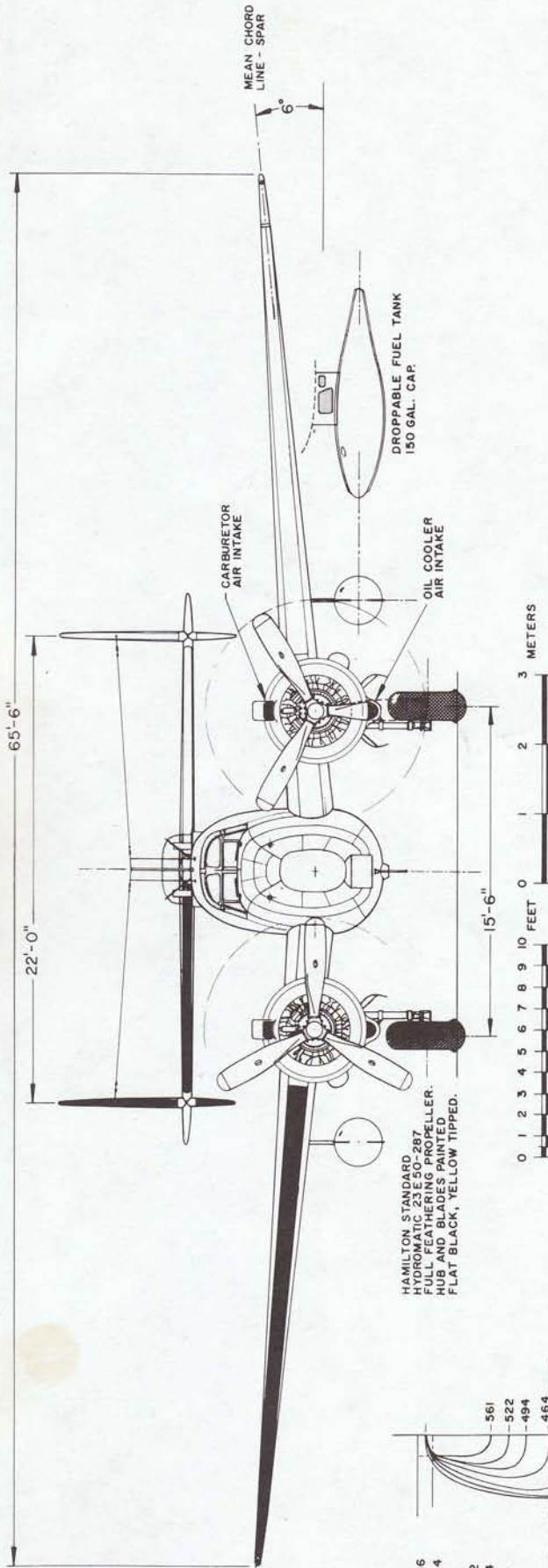
NOTE
ADDITIONAL FUEL AND OIL WAS CARRIED WITHIN THE FUSELAGE.
THE AMOUNT VARIED, DEPENDING UPON THE MISSION WHICH THE
AIRCRAFT WAS TO BE USED. AS MANY AS FIVE FUEL TANKS,
TWO OF WHICH WERE PLACED IN THE BOMB BAY AND TOTALING
896 GALS., COULD BE INSTALLED.

LOCKHEED-VEGA PV-1
"VENTURA"
1941-45

SCALE - ORIGINAL 1:48
REPRO. 1:96

DRAWN BY - PAUL R. MATT
P. O. BOX 33

© HISTORICAL AVIATION ALBUM 1976
TEMPLE CITY, CALIF. 91780



LOCKHEED-VEGA PV-1
"VENTURA"
1941-45

SCALE - ORIGINAL 1:48
REPRO. 1:96

DRAWN BY - PAUL R. MATT

© HISTORICAL AVIATION ALBUM 1976
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TEMPLE CITY, CALIF. 91780

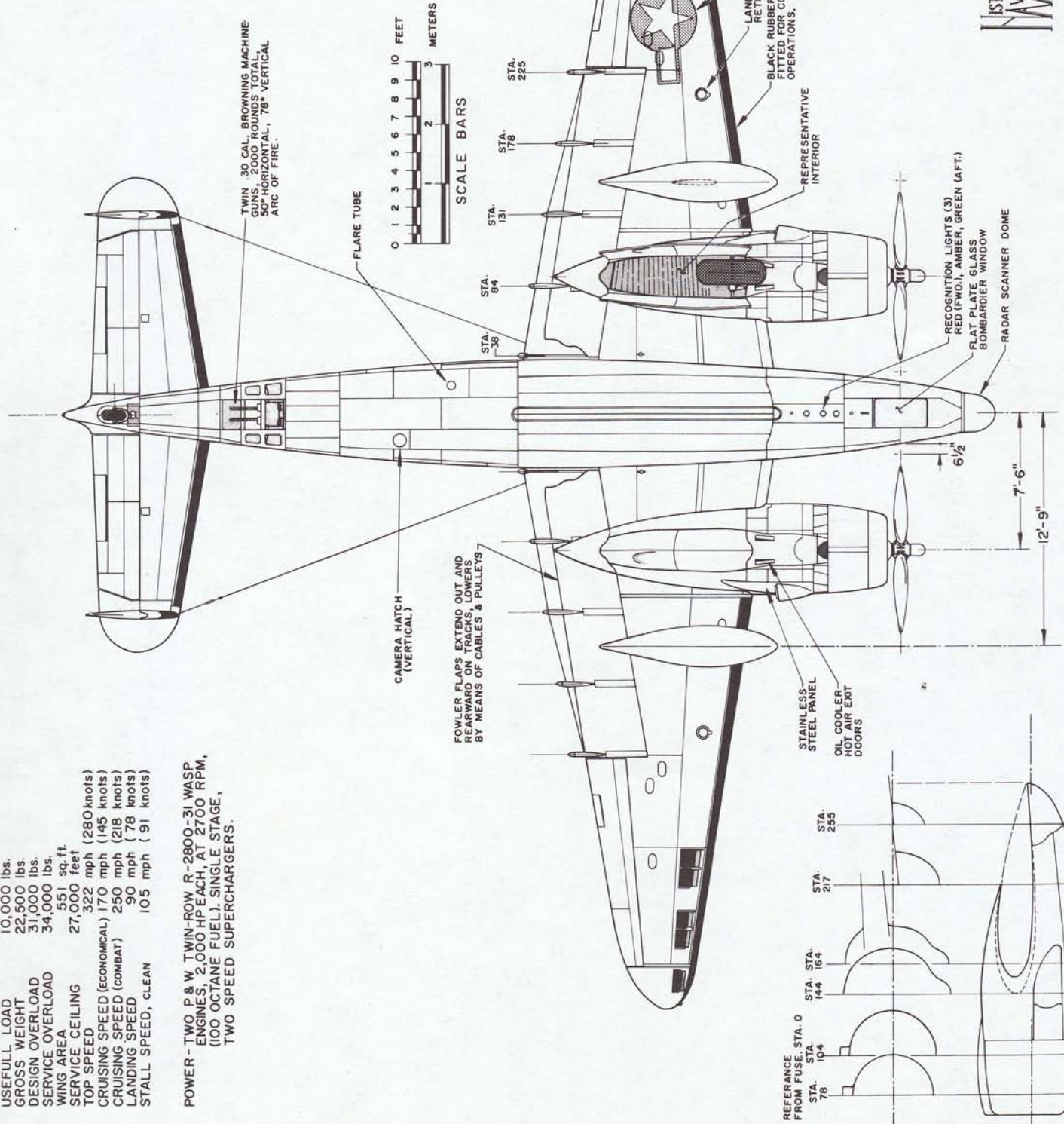
GENERAL SPECIFICATIONS

WEIGHT EMPTY 12,500 lbs.
 USEFUL LOAD 10,000 lbs.
 GROSS WEIGHT 22,500 lbs.
 DESIGN OVERLOAD 31,000 lbs.
 SERVICE OVERLOAD 34,000 lbs.
 WING AREA 551 sq. ft.
 SERVICE CEILING 27,000 feet
 TOP SPEED 322 mph (280 knots)
 CRUISING SPEED (ECONOMICAL) 170 mph (145 knots)
 CRUISING SPEED (COMBAT) 250 mph (218 knots)
 LANDING SPEED 90 mph (78 knots)
 STALL SPEED, CLEAN 105 mph (91 knots)

POWER - TWO P & W TWIN-ROW, R-2800-31, WASP ENGINES, 2,000 HP EACH, AT 2700 RPM, (100 OCTANE FUEL). SINGLE STAGE, TWO SPEED SUPERCHARGERS.

NOTE: ONLY MAJOR PANELING AND RIVET LINES ARE SHOWN ON THESE DRAWINGS. ALL SUCH DETAILING WAS NOT NECESSARILY TRANSFERRED FROM ONE VIEW TO ANOTHER.

COLORING NOTES
 U.S. NAVY PV-1 MODELS
 1942-43, BLUE GRAY-PLANVIEW AND UPPER SURFACES.
 LIGHT GRAY-UNDERSURFACES.
 1944-45, TRI-COLOR, DARK SEA BLUE UPPER AND PLANVIEW SURFACES BLENDING TO INTERMEDIATE ON SIDE VIEW SURFACES - WHITE UNDERSURFACES.
 ALL COLORS WERE NON-SPECULAR, DULL FINISH.



MY SINCERE APPRECIATION IS EXTENDED TO CHARLES SCRIVNER FOR TECHNICAL MATERIAL SUITABLE TO MAKE THESE DRAWINGS AS ACCURATE AS POSSIBLE AT THIS TIME.

Paul R. Matt

LOCKHEED-VEGA PV-1
 "VENTURA"
 1941-45

SCALE - ORIGINAL 1:48
 REPRO. 1:96
 DRAWN BY - PAUL R. MATT

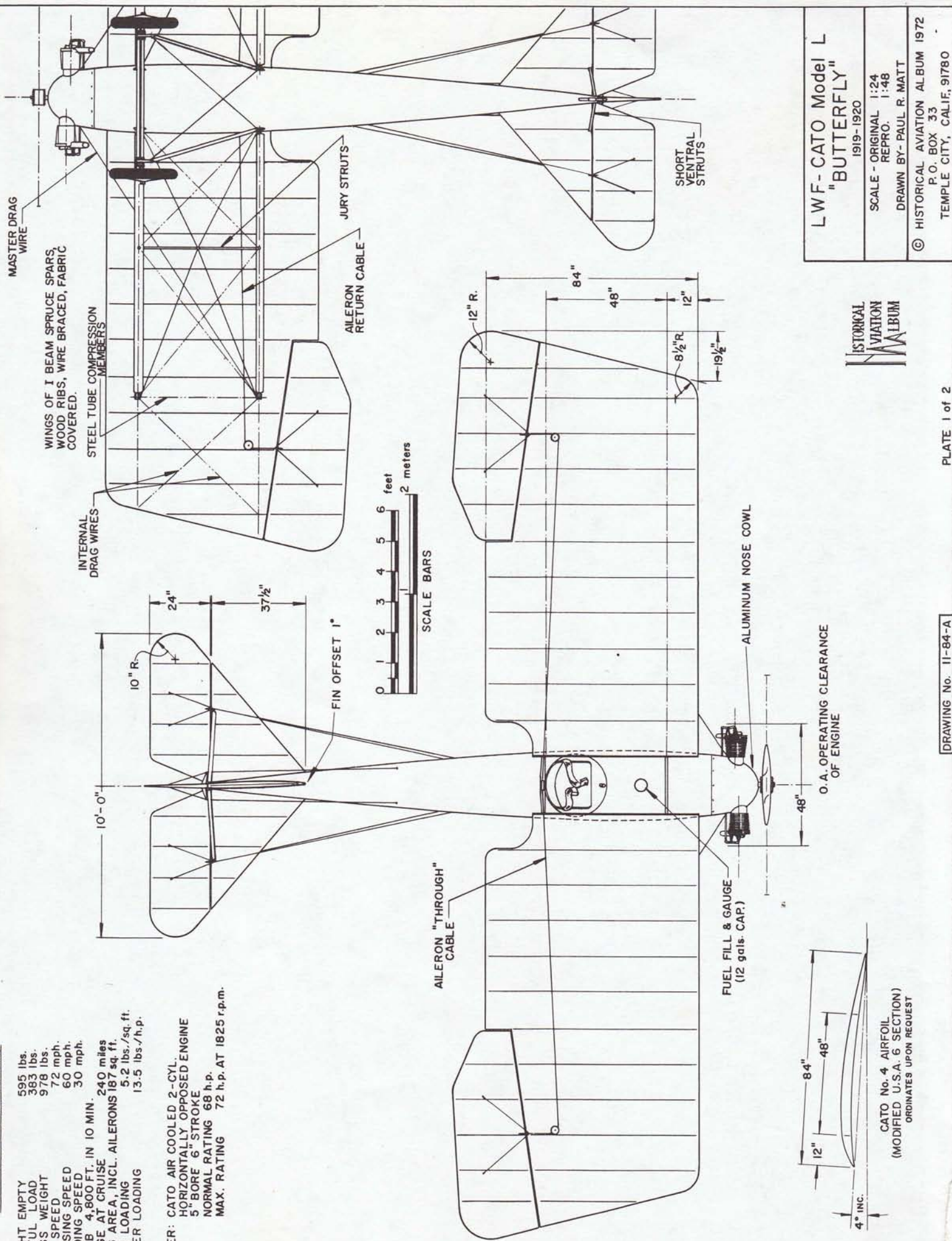
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GENERAL SPECIFICATIONS

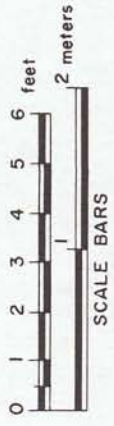
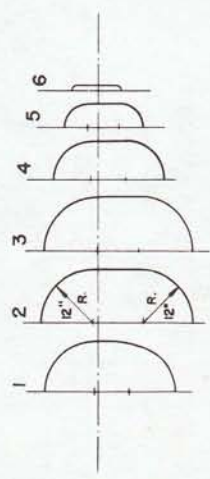
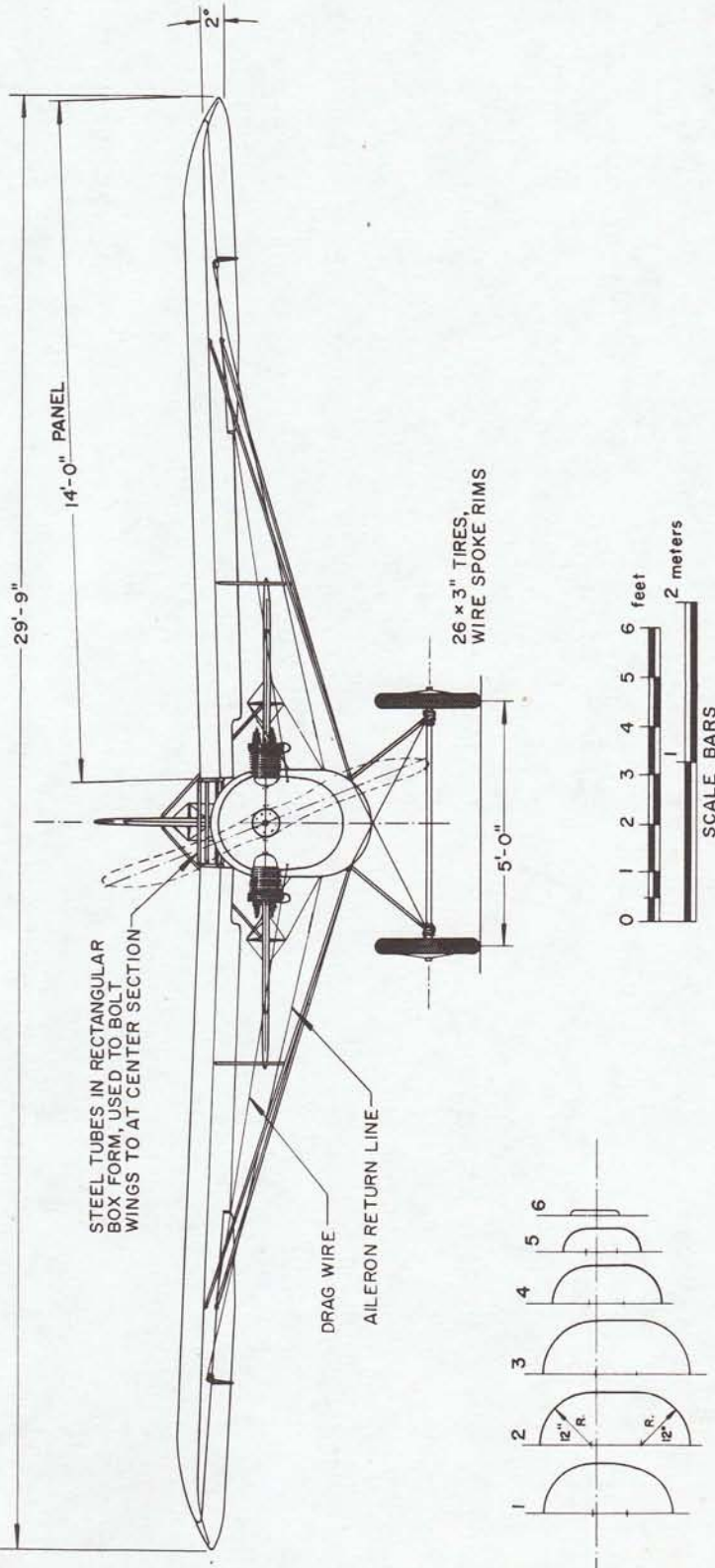
WEIGHT EMPTY 595 lbs.
 USEFUL LOAD 383 lbs.
 GROSS WEIGHT 978 lbs.
 TOP SPEED 72 mph.
 CRUISING SPEED 60 mph.
 LANDING SPEED 30 mph.
 CLIMB 4,800 FT. IN 10 MIN.
 RANGE AT CRUISE 240 miles
 WING AREA, INCL. AILERONS 187 sq. ft.
 WING LOADING 5.2 lbs./sq. ft.
 POWER LOADING 13.5 lbs./h.p.

 POWER: CATO AIR COOLED 2-CYL.
 HORIZONTALLY OPPOSED ENGINE
 5" BORE 6" STROKE
 NORMAL RATING 68 h.p.
 MAX. RATING 72 h.p. AT 1825 r.p.m.

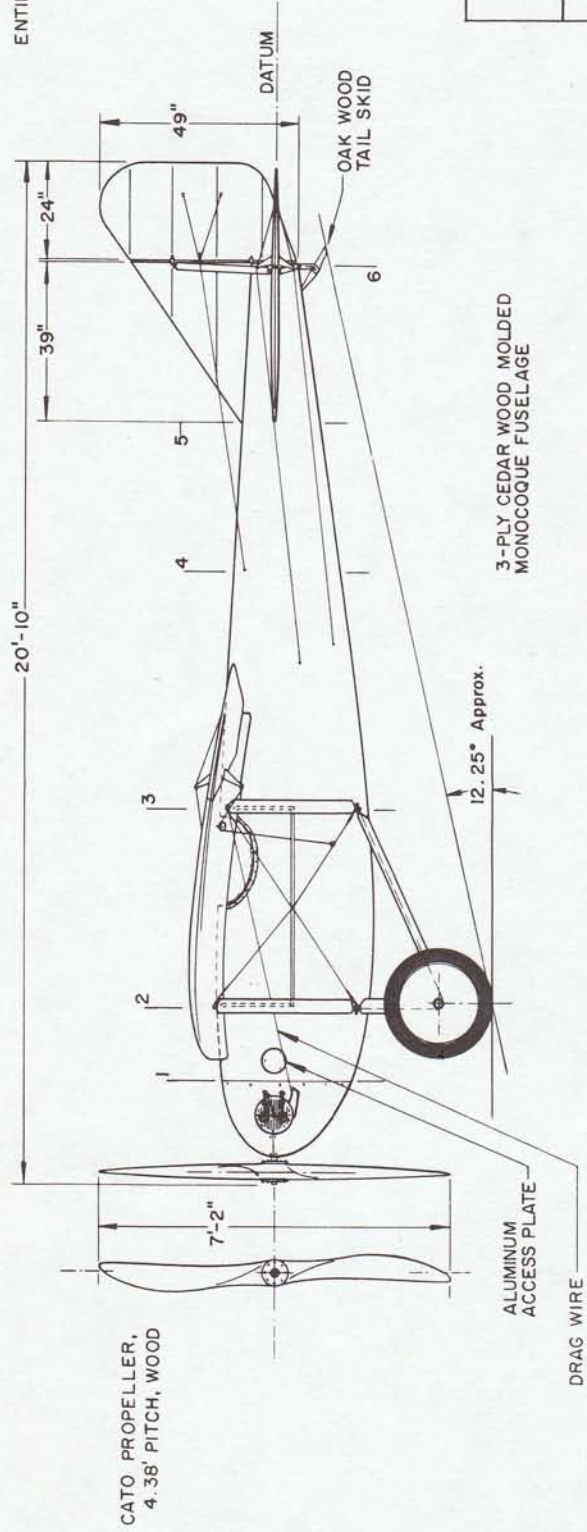


LWF-CATO Model L
"BUTTERFLY"
 1919-1920
 SCALE - ORIGINAL 1:24
 REPR. 1:48
 DRAWN BY- PAUL R. MATT
 © HISTORICAL AVIATION ALBUM 1972
 P.O. BOX 33
 TEMPLE CITY, CALIF. 91780





COLORING NOTE
ENTIRE AIRCRAFT SILVER DOPED



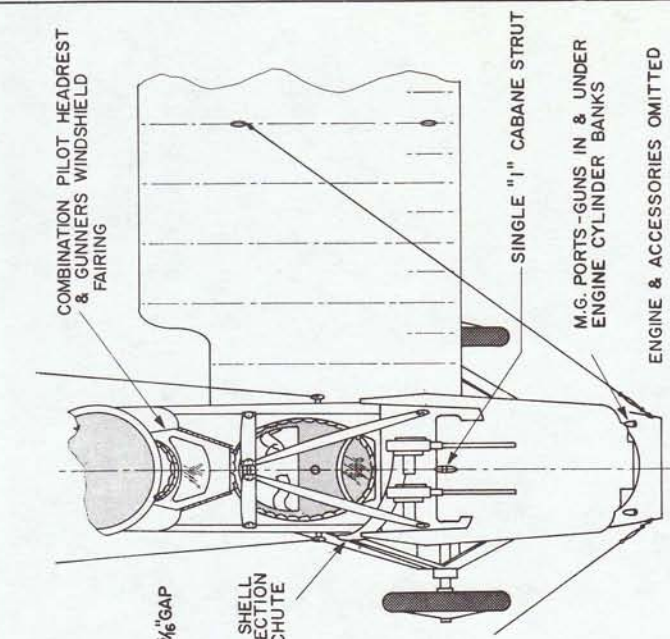
HISTORICAL AVIATION MUSEUM

LWF-CATO Model L "BUTTERFLY" 1919-1920	
SCALE - ORIGINAL	1:24
REPRO.	1:48
DRAWN BY- PAUL R. MATT	
© HISTORICAL AVIATION ALBUM 1972	
P.O. BOX 33	
TEMPLE CITY, CALIF., 91780	

GENERAL SPECIFICATIONS

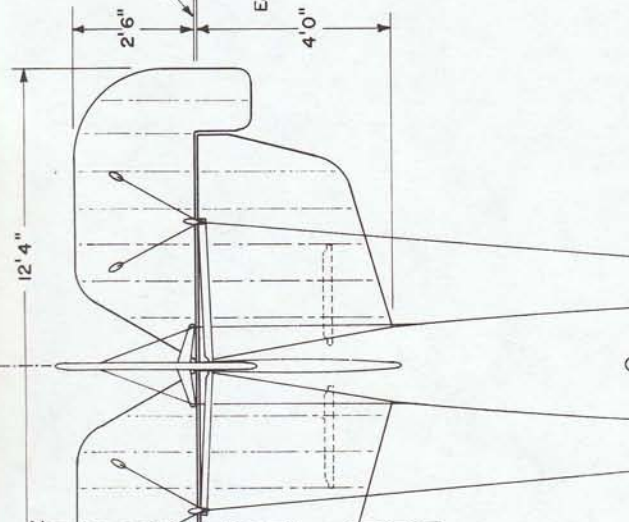
WEIGHT EMPTY 2,675 lbs.
PILOT & GUNNER 118 "
WATER (14 gals) 598 "
FUEL (90 gals) & OIL (6 gals) 302 "
ARMAMENT 7 GUNS 4,023 "
GROSS WEIGHT 134 "
TOP SPEED 24,000 ft.
SERVICE CEILING 9 min 20 sec.
CLIMB to 10,000 feet 516 sq. ft.
WING AREA 3 hrs.
ENDURANCE at FULL SPEED 90 m.p.h.
CRUISING SPEED 50 m.p.h.
LANDING SPEED 30 m.p.h.
CRUISE, as BOMBER, 90 m.p.h., - 4 hr. duration
ENGINE, LIBERTY 12 rated 435 B.H.P. at 2,100 r.p.m.
CRUISE, at 1,800 r.p.m.

PERF. FIGURES,
FULL LOAD - NO BOMBS



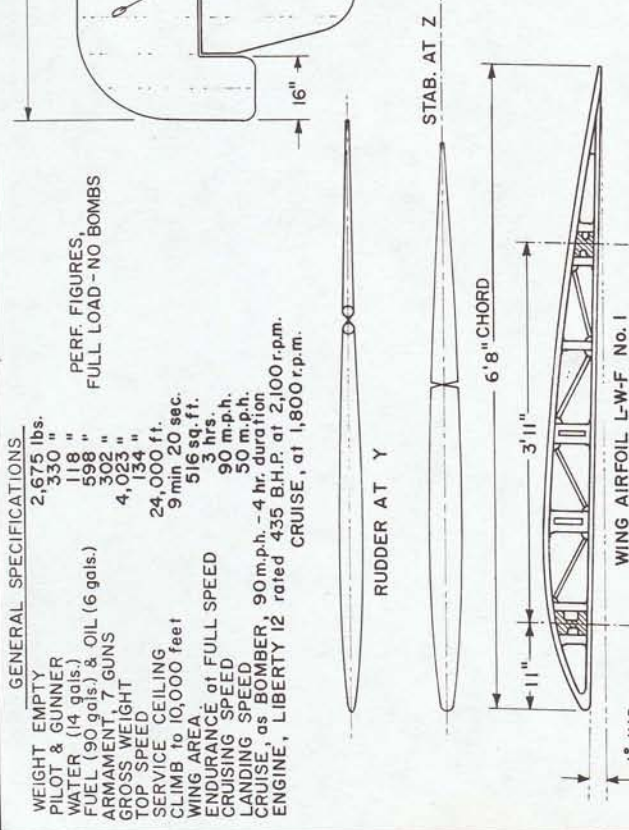
M.G. PORTS - GUNS IN & UNDER
 ENGINE CYLINDER BANKS
 ENGINE & ACCESSORIES OMITTED

COLORING NOTES
 ALL PLAN VIEW SURFACES - DARK EARTH BROWN
 (UPPER SURFACES OF WINGS, TAIL SURFACES
 & TOP OF FUSELAGE TO COLOR LINE)
 UNDER SURFACES - PALE SKY BLUE
 STRUTS - CLEAR VARNISHED

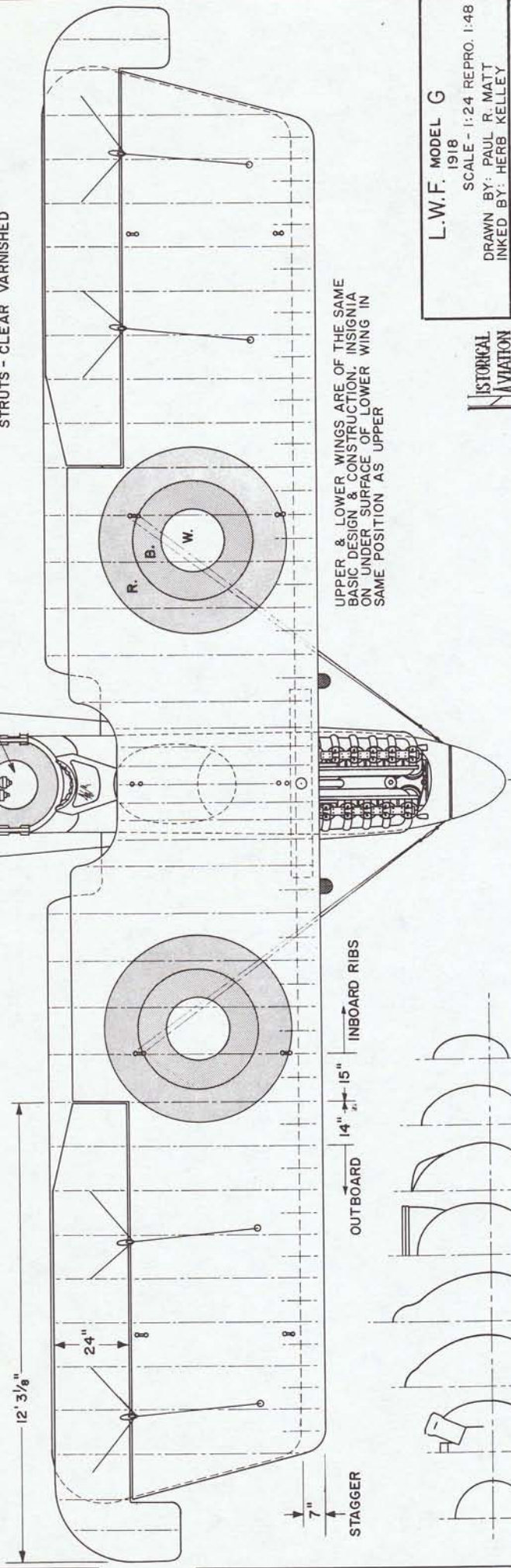
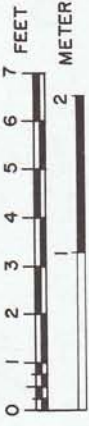


.30 BROWNING M.G.s
 (ALL GUNS SAME)

GUNNER'S STOOL



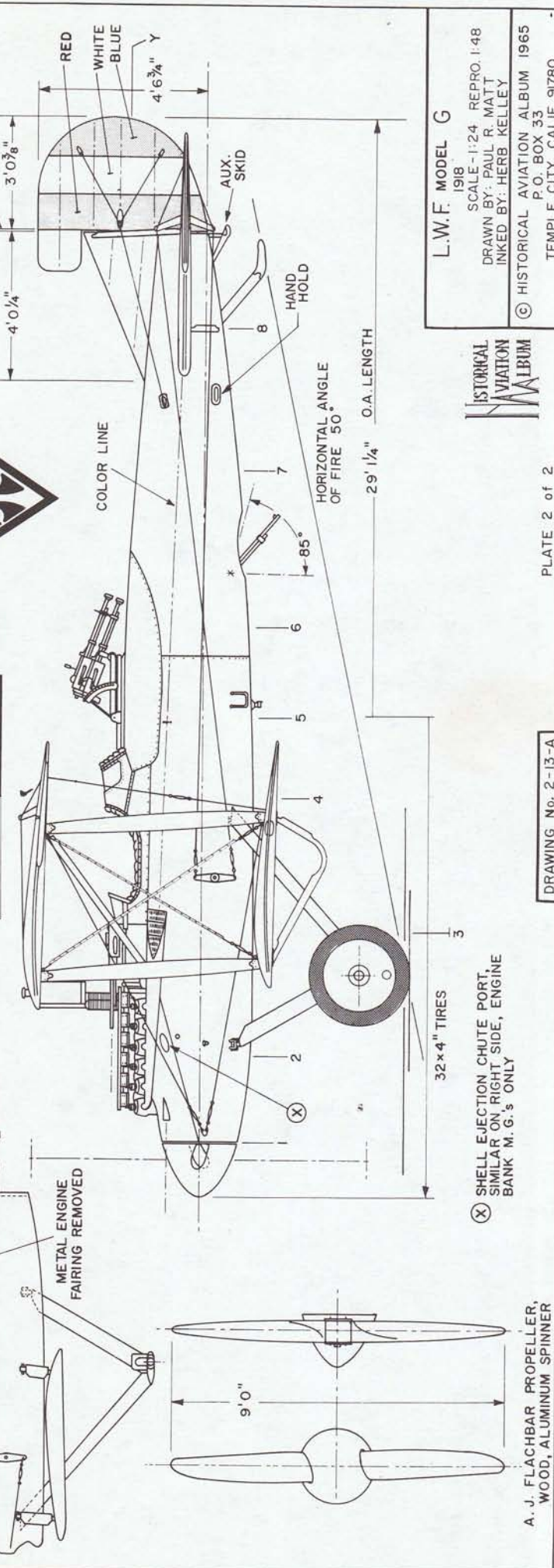
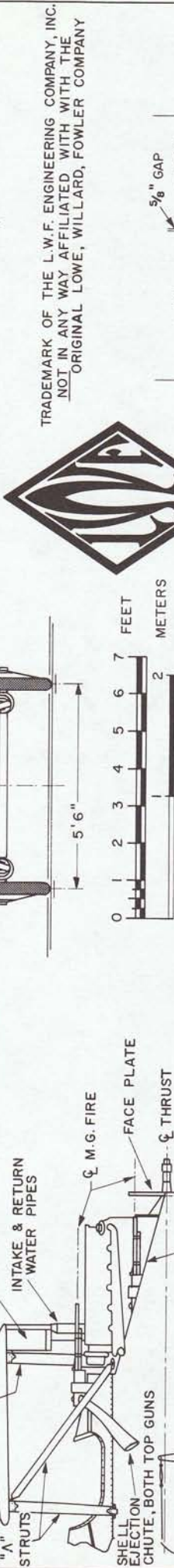
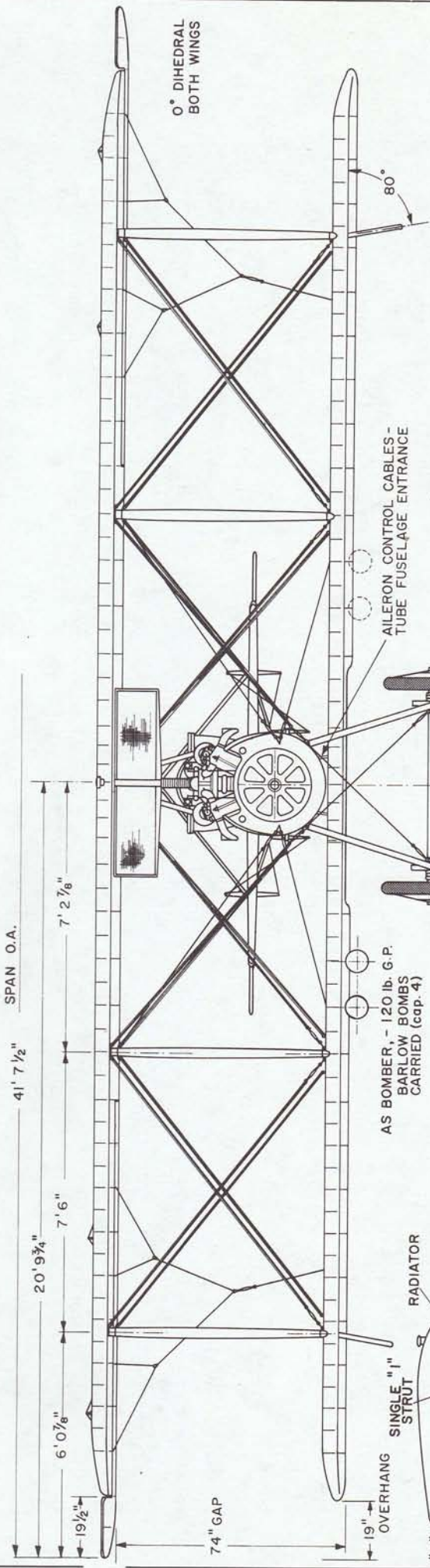
AIRFOILS TWICE SCALE



UPPER & LOWER WINGS ARE OF THE SAME
 BASIC DESIGN & CONSTRUCTION. INSIGNIA
 ON UNDER SURFACE OF LOWER WING IN
 SAME POSITION AS UPPER

L.W.F. MODEL G
 1918
 SCALE - 1:24 REPRO. 1:48
 DRAWN BY: PAUL R. MATT
 INKED BY: HERB KELLEY
 © HISTORICAL AVIATION ALBUM 1965
 P.O. BOX 33
 TEMPLE CITY, CALIF. 91780





TRADEMARK OF THE L.W.F. ENGINEERING COMPANY, INC.
 NOT IN ANY WAY AFFILIATED WITH THE
 ORIGINAL LOWE, WILLARD, FOWLER COMPANY

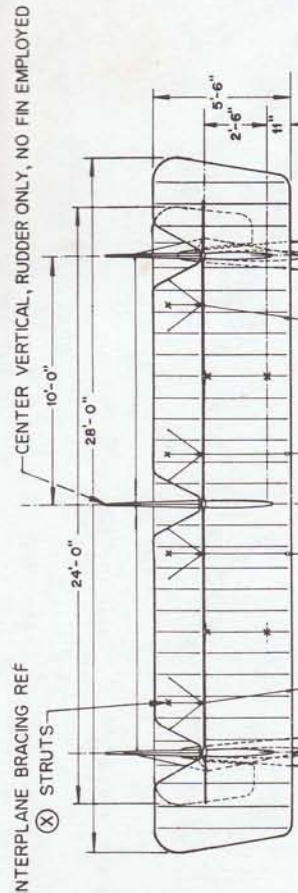
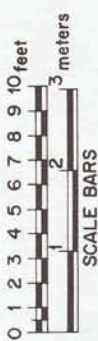
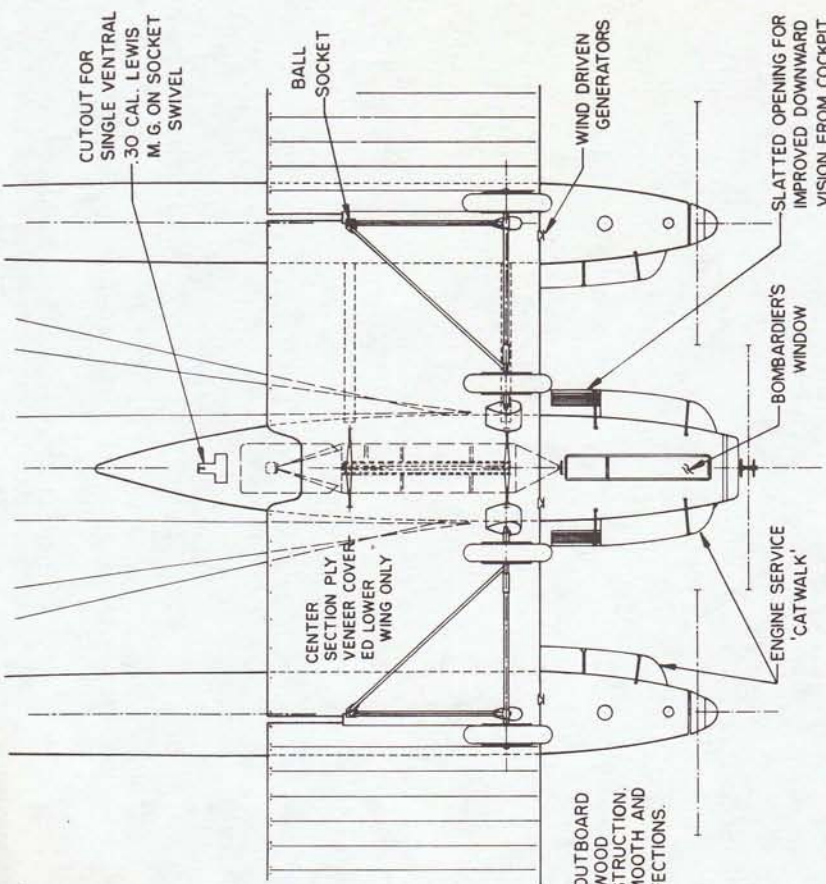


L.W.F. MODEL G
 1918
 SCALE-1:24 REPRO. 1:48
 DRAWN BY: PAUL R. MATT
 INKED BY: HERB KELLEY
 © HISTORICAL AVIATION ALBUM 1965
 P.O. BOX 33
 TEMPLE CITY, CALIF. 91780

(X) SHELL EJECTION CHUTE PORT,
 SIMILAR ON RIGHT SIDE, ENGINE
 BANK M. G.'s ONLY

A. J. FLACHBAR PROPPELLER,
 WOOD, ALUMINUM SPINNER



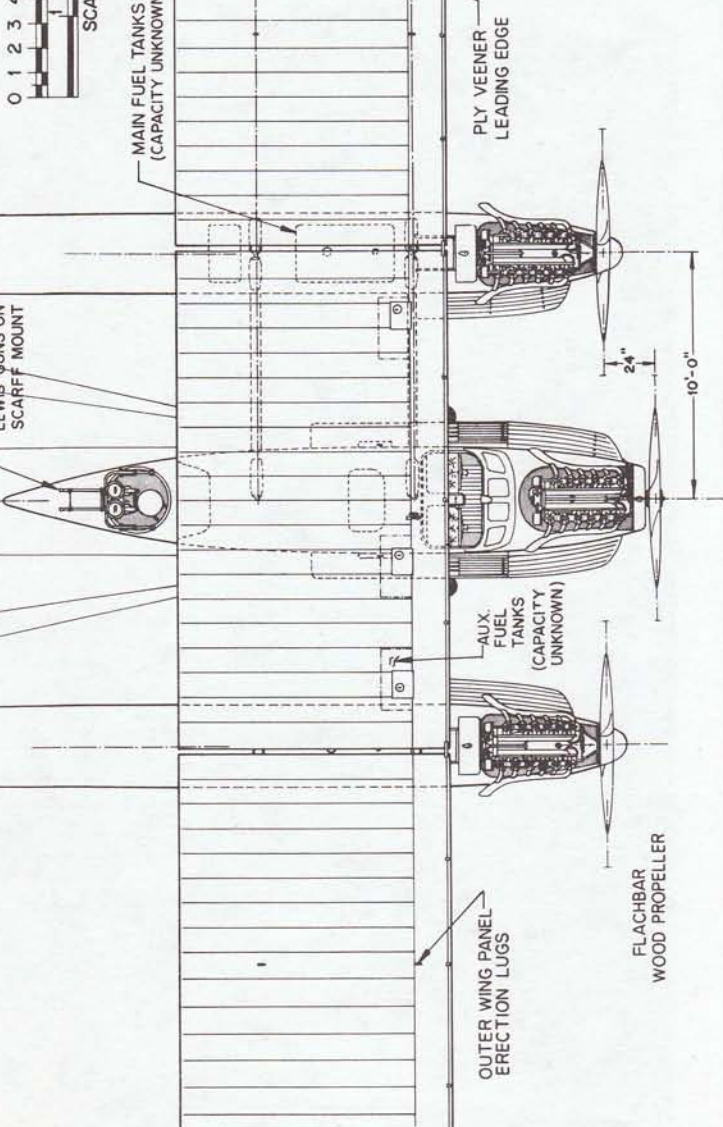


GENERAL SPECIFICATIONS

WEIGHT EMPTY 12,400 LBS.
 USEFUL LOAD 7,600 LBS.
 GROSS WEIGHT 20,000 LBS.
 WING AREA (INCL. AILERONS) 2,000 SQ.FT.
 POWER LOADING 110 M.P.H.
 TOP SPEED, S.L. CRUISE ENDURANCE, COMPUTED 10 HRS
 CLIMB, INITIAL, S.L. 650 FT./MIN
 SERVICE CEILING, COMPUTED 17,000 FT
 LANDING SPEED 55 M.P.H.
 POWER: 3 LIBERTY 12s 4,000 HP @ 1700 RPM

COLORING NOTES

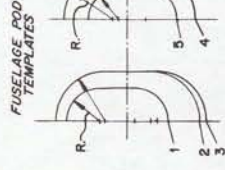
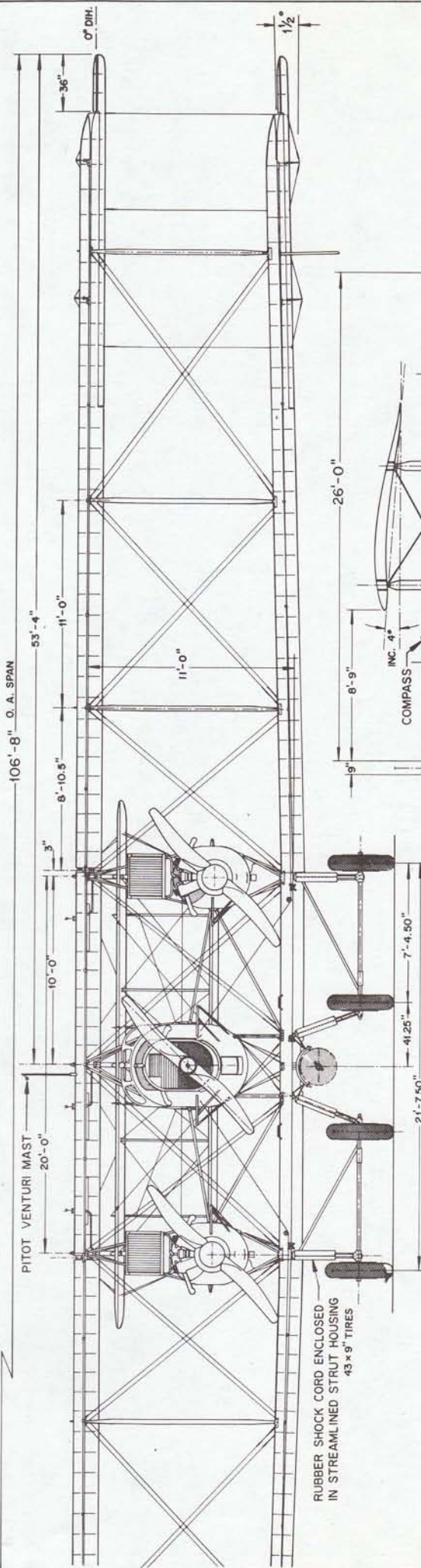
ENTIRE AIRCRAFT GLOSS OLIVE DRAB (GREEN)
 A. S. NUMBER & WHEEL COVERS - WHITE
 NATIONAL INSIGNIA, RED, WHITE & BLUE



LWF Model H-1
 "OWL"
 1919-23

SCALE - ORIGINAL 1:48
 REPRO. 1:96
 DRAWN BY - PAUL R. MATT
 © HISTORICAL AVIATION ALBUM 1972
 P. O. BOX 33
 TEMPLE CITY, CALIF., 91780

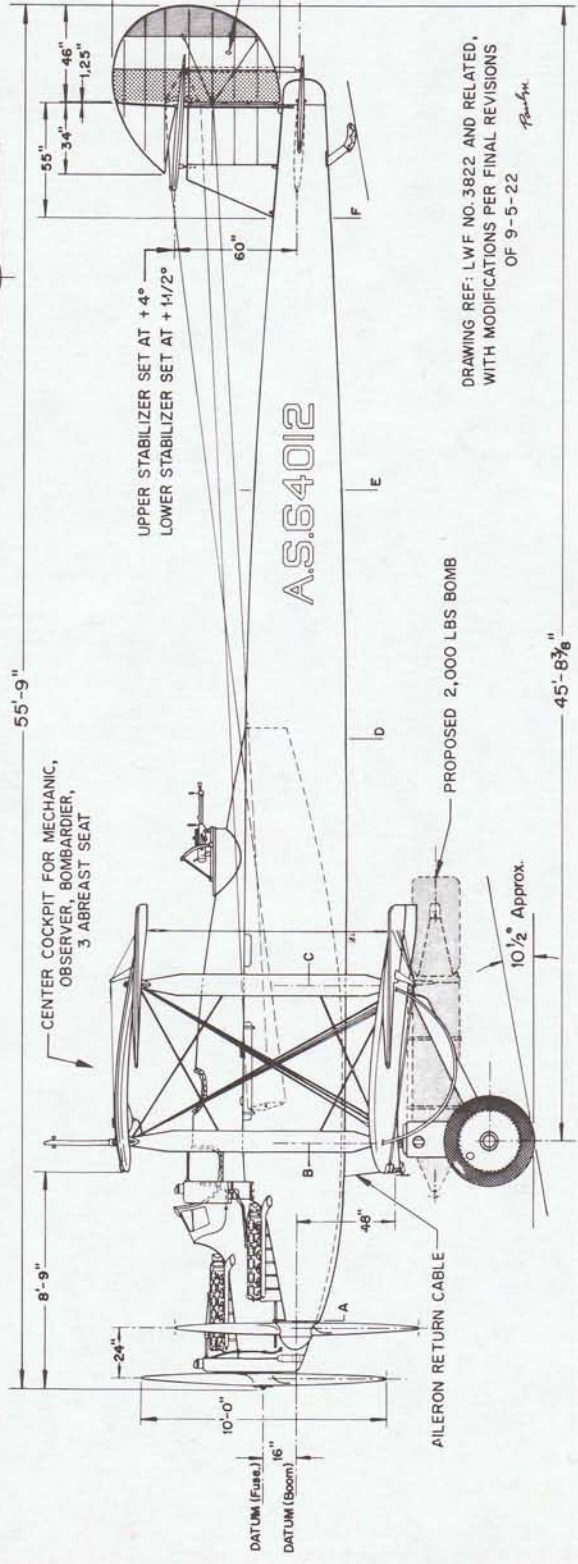




ξ THRUST 16"
ξ THRUST OUTBOARD

MAXIMUM WIDTH OF FUSELAGE 48"
MAXIMUM WIDTH OF BOOM 38"

U.S.A. 6 AIRFOIL AT 4.7%
MAXIMUM THICKNESS
SCALE: TWICE GENERAL ARRANGEMENT DWGS.
NOTE: UPPER WING SET AT +4°
LOWER WING 1/2° LESS OR +3-1/2°



LWF Model H-1
"OWL"
1919-23

SCALE - ORIGINAL 1:48
REPRO. 1:96
DRAWN BY - PAUL R. MATT
© HISTORICAL AVIATION ALBUM 1972
P.O. BOX 33
TEMPLE CITY, CALIF., 91780

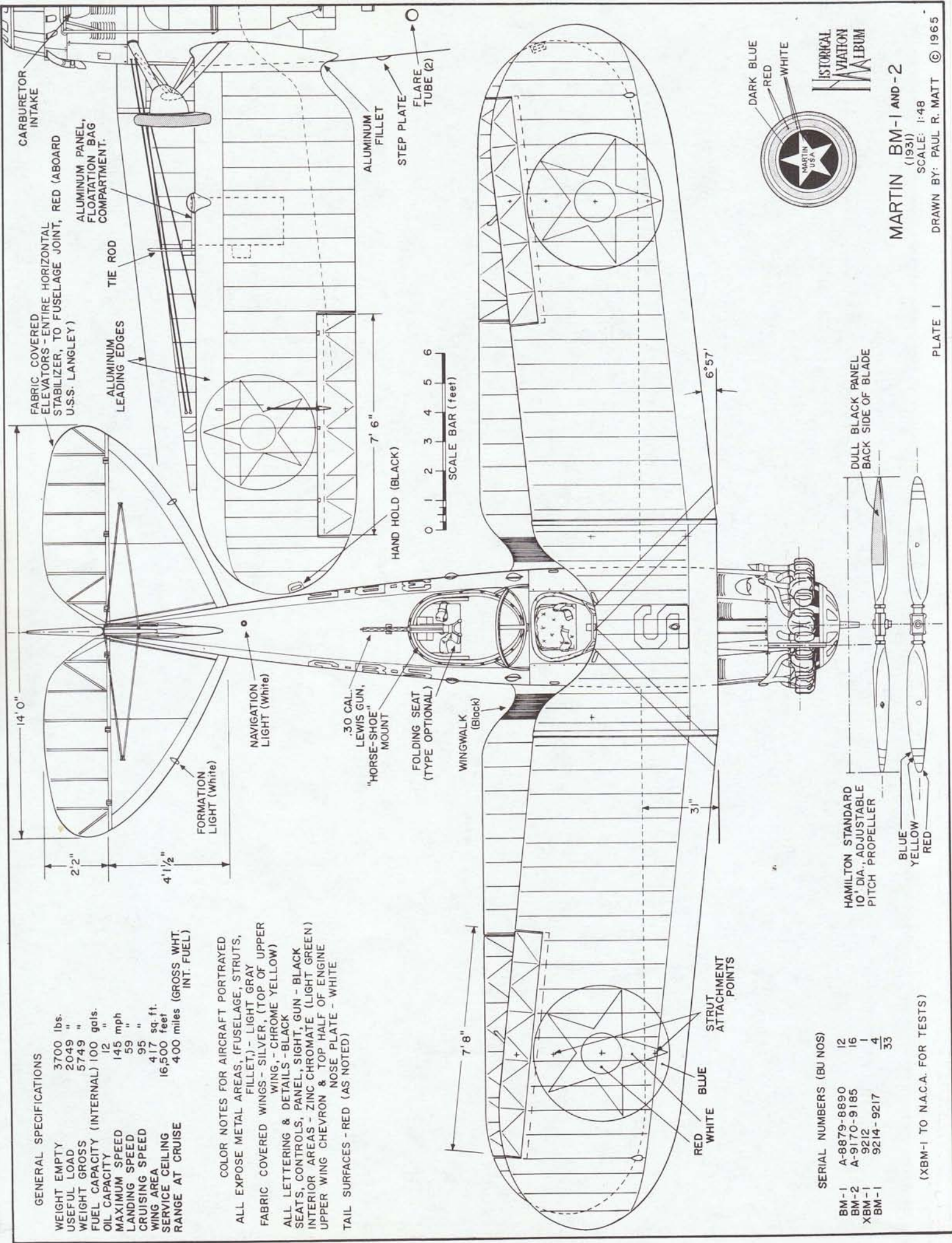
DRAWING REF: LWF NO. 3822 AND RELATED,
WITH MODIFICATIONS PER FINAL REVISIONS
OF 9-5-22
P-R-M

GENERAL SPECIFICATIONS

WEIGHT EMPTY	3700 lbs.
USEFUL LOAD	2049 "
WEIGHT GROSS	5749 "
FUEL CAPACITY (INTERNAL)	100 gals.
OIL CAPACITY	12 "
MAXIMUM SPEED	145 mph
LANDING SPEED	59 "
CRUISING SPEED	95 "
WING AREA	417 sq. ft.
SERVICE CEILING	16,500 feet
RANGE AT CRUISE	400 miles (GROSS WHT. INT. FUEL)

COLOR NOTES FOR AIRCRAFT PORTRAYED

ALL EXPOSE METAL AREAS, (FUSELAGE, STRUTS, FILLET) - LIGHT GRAY
 FABRIC COVERED WINGS - SILVER, (TOP OF UPPER WING, - CHROME YELLOW)
 ALL LETTERING & DETAILS - BLACK
 SEATS, CONTROLS, PANEL, SIGHT, GUN - BLACK
 INTERIOR AREAS - ZINC CHROMATE (LIGHT GREEN)
 UPPER WING CHEVRON & TOP HALF OF ENGINE NOSE PLATE - WHITE
 TAIL SURFACES - RED (AS NOTED)



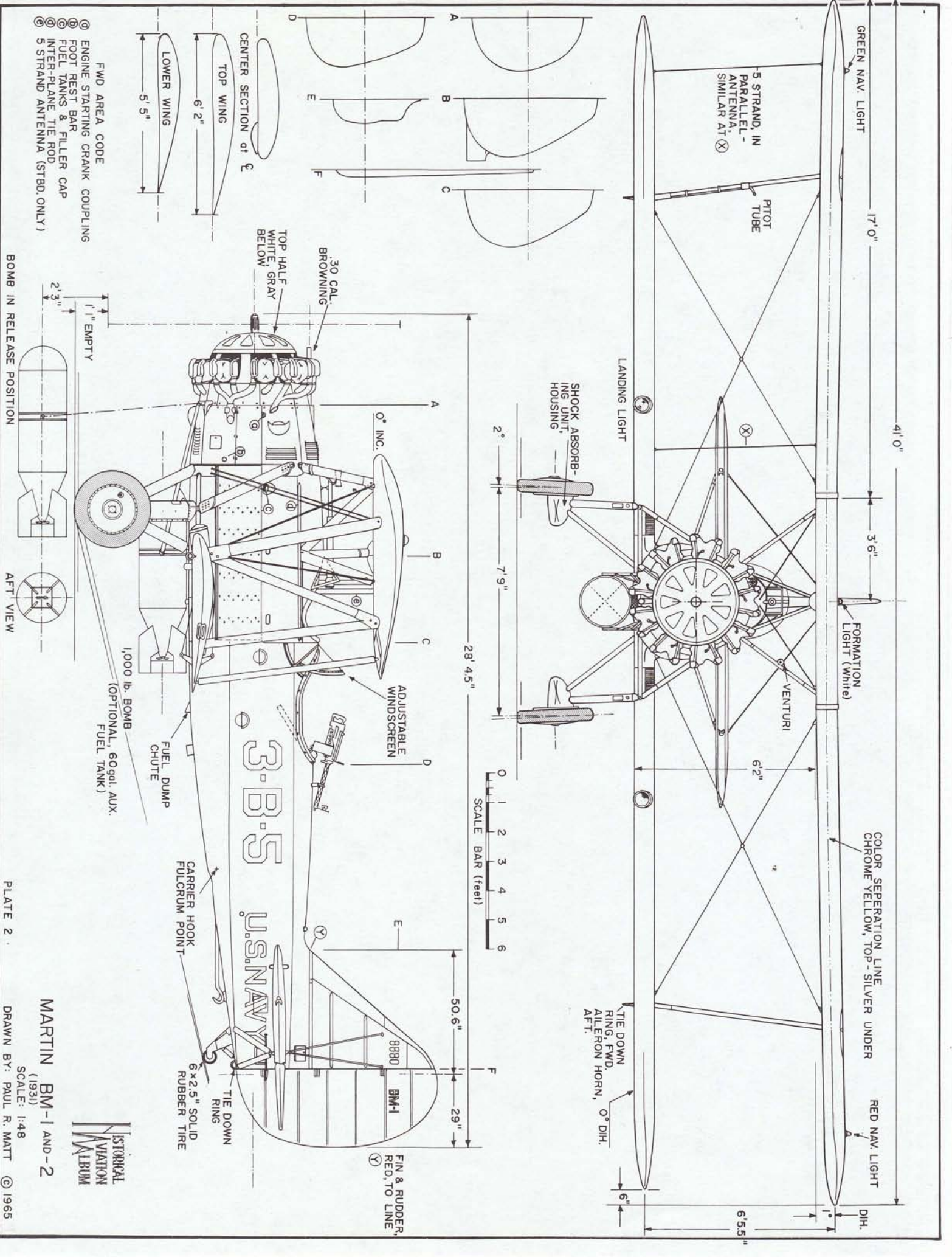
SERIAL NUMBERS (BU NOS)

BM-1	A-8879-8890	12
BM-2	A-9170-9185	16
XBM-1	9212	1
BM-1	9214-9217	4
		33

(XBM-1 TO NACA. FOR TESTS)

MARTIN BM-1 AND -2
 (1931)

SCALE: 1:48
 DRAWN BY: PAUL R. MATT © 1965

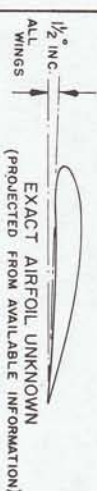
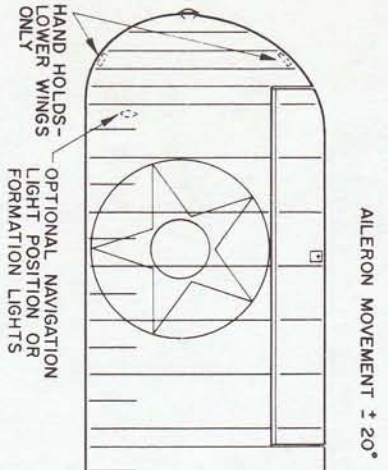


GENERAL SPECIFICATIONS
 LANDPLANE TYPE, MARTIN SPECS R-47600

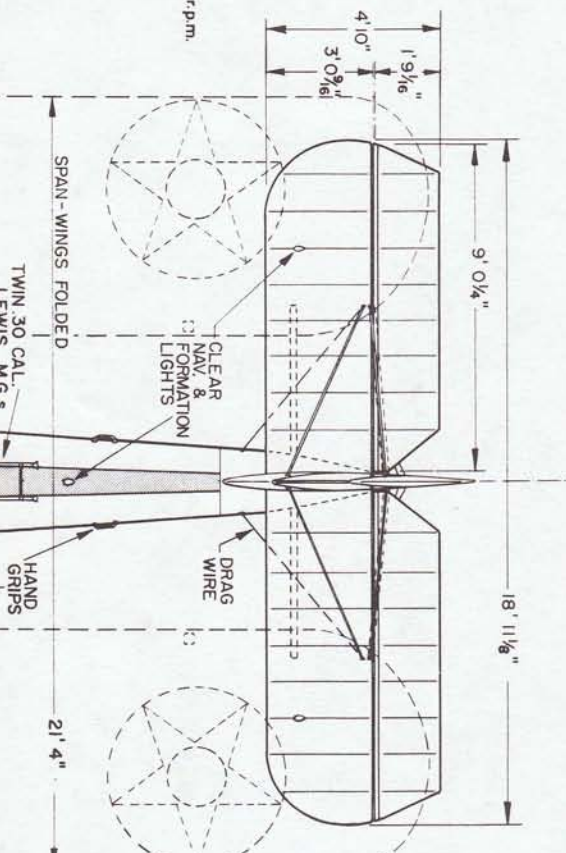
WEIGHT EMPTY	3890 lbs.
USEFUL LOAD	347 lbs.
CREW	400 lbs.
EQUIPMENT	308 lbs.
ORDNANCE	2079 lbs.
FUEL (104 gals normal)	624 lbs.
OIL (8 gals)	60 lbs.
GROSS WEIGHT (Scout)	6547 lbs.
GROSS WEIGHT (With Torpedo)	7309 lbs.
WING LOADING (Full Load)	110 lbs./sq ft.
POWER LOADING (Full Load)	140 lbs./H.P.
CLIMB IN 10 min.	3850 ft.
SERVICE CEILING	10,150 ft.
ENDURANCE (Full Power)	7.5 hrs.
ENDURANCE (Cruise)	7.5 hrs.
RANGE (Full Power)	435 miles
RANGE (Cruise)	650 miles
MAXIMUM SPEED (Military load)	113.2 m.p.h. S.L.
CRUISING SPEED	98 m.p.h.
LANDING SPEED (Light Condition)	56 m.p.h.
FUEL CAPACITY (Normal)	104 gals.
FUEL CAPACITY (Maximum)	200 gals.
POWER, PRATT & WHITNEY	R-1690 HORNET
	525 H.P. at 1900 r.p.m.

BU. NO. ASSIGNMENTS

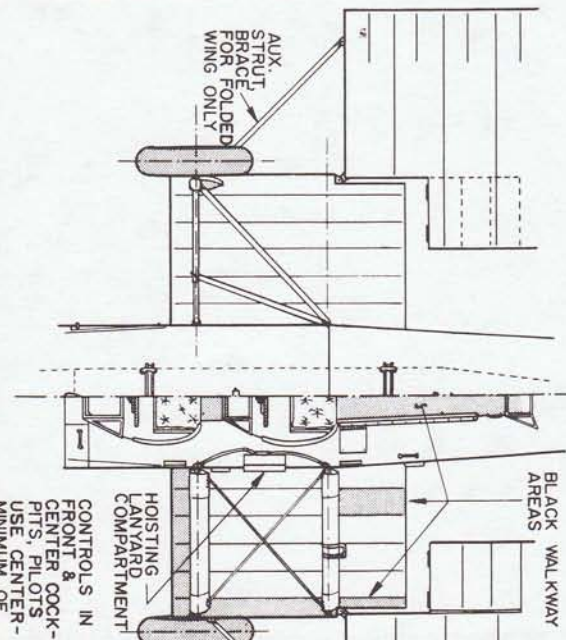
T4M-1 (XT4M-1)	A 7566	1
T4M-1	A 7596-7649	54
T4M-1	A 7852-7899	48
TWIN SISTER VERSIONS		
BUILT BY GREAT LAKES AS		
THE TG SERIES		
TG-1	A 8458-8475	18
TG-2	A 8697-8728	32
TOTAL		153



ELEVATOR MOVEMENT +30°



UNDERSURFACE VIEW



HATCH FOR HOISTING SLING LOWERED THROUGH WING TO HOOK ON LANYARDS AT ATTACHED STRUT FITTINGS & CARRIED WITH AIRCRAFT.

HINGE LINE - SMALL WING PANEL FLIPS OVER ON TOP OF OUTER MAIN PANEL DURING WING FOLD PROCEDURES.

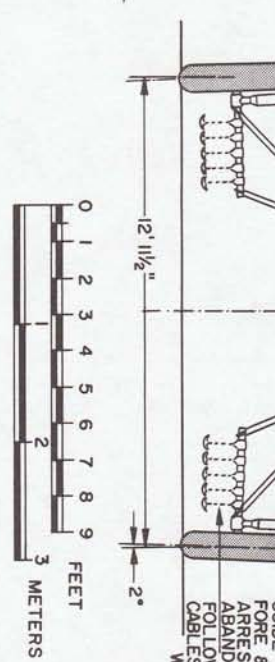
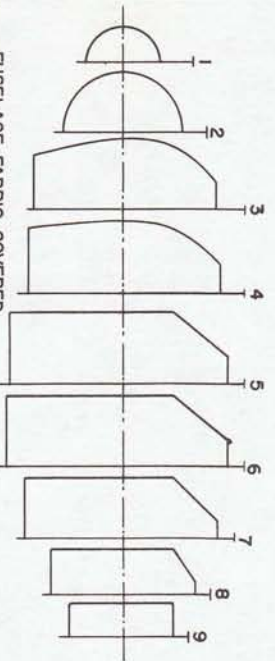
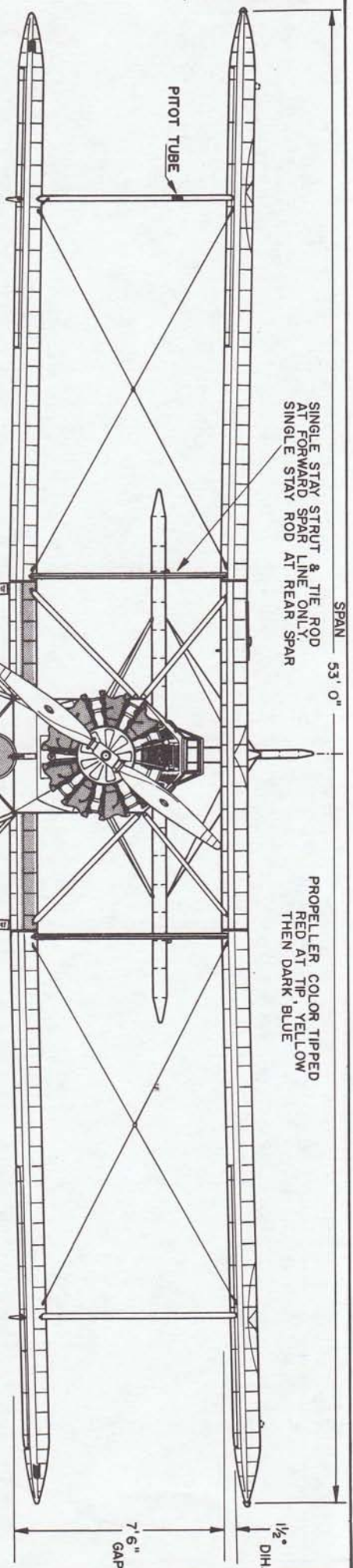
AILERON MOVEMENT +/- 20°

DRAWINGS COMPLETED FROM THE GLENN L. MARTIN CO., CLEVELAND, OHIO. PRINTS R-47600 No. 2200, R-47601 No. 2065 AND 4340 OF 9/0/28



MARTIN T4M-1

1928-31
 SCALE: 1:64
 DRAWN BY: PAUL R. MATT



FUSELAGE FABRIC COVERED
AFT OF TEMPLATE 4, ALUMINUM
FORWARD AS WELL AS FAIRINGS
AND INSPECTION PLATES.
HAMILTON STANDARD GROUND
ADJUSTABLE PROPELLER

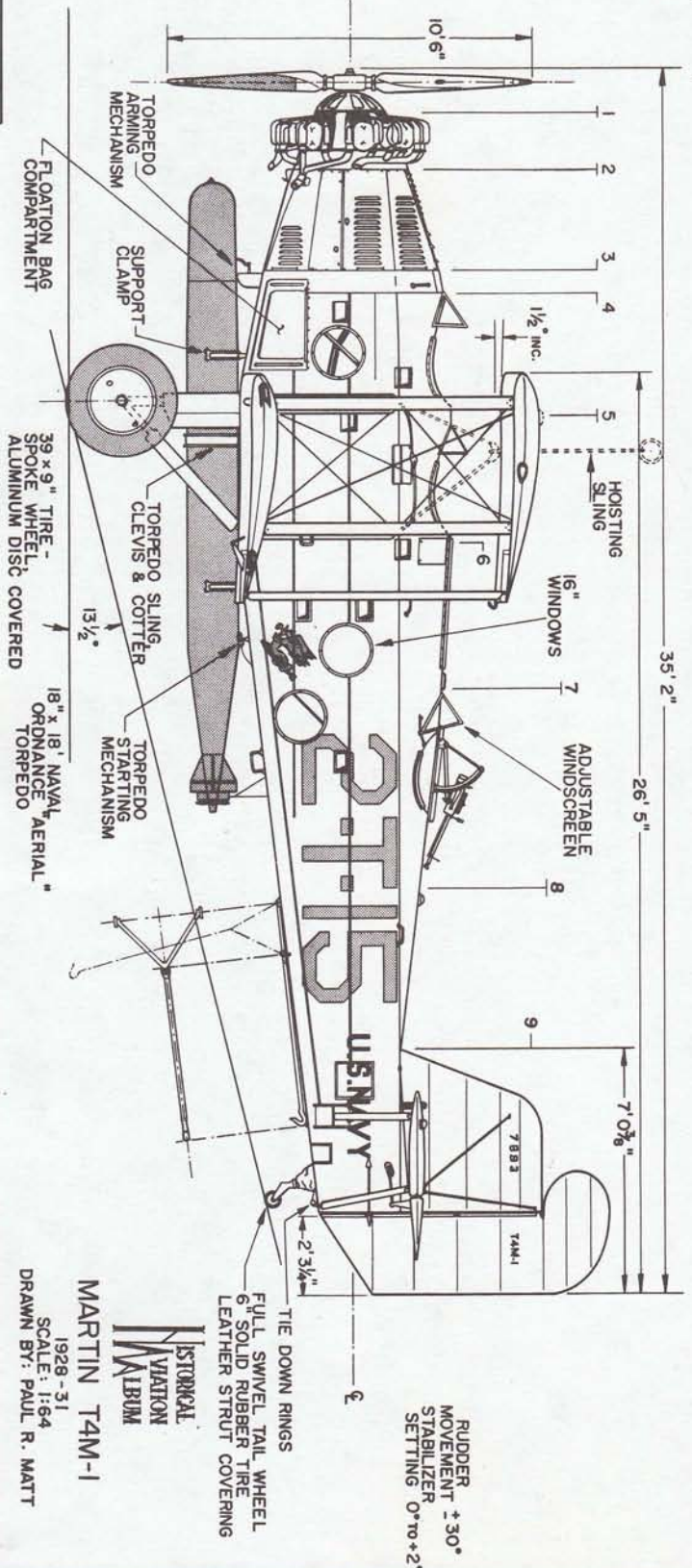
VT-28
(TORPEDO SQUADRON TWO)
FIRE BREATHING FLYING DRAGON
DRAGON - RED
SPINE - GREEN
CLAWS & TAIL TIP - YELLOW
TORPEDO - BLACK

REF. U.S. NAVY AIRCRAFT, 1921-1941
by W.T. LARKINS &
artist W. MCINTYRE



GUIDE HOOKS FOR
FORE & AFT CARRIER
ARRESTING CABLES
ABANDONED IN 1929
FOLLOWING TESTS WITH SUCH
CABLES ABOARD THE U.S.S. LANGLEY
WITH A TAM, 5/8/29

COLOR SCHEME
(AIRCRAFT PORTRAYED)
ALL FABRIC AREAS, SILVER
ALUMINUM AREAS, LIGHT GRAY
TOP SURFACE OF UPPER WING, RED
WING, CHROME YELLOW
LOWER HALF OF WING, GREEN
ENGINE NOSE PLATE, BRIGHT MED. GREEN
ALL LETTERING & DETAILS, BLACK
INTERIOR: METAL, ZINC CHROMATE GREEN
FABRIC, SILVER
FIXTURES, BLACK



HISTORICAL
AVIATION
MUSEUM

MARTIN TAM-1

1928-31

SCALE: 1:64

DRAWN BY: PAUL R. MATT

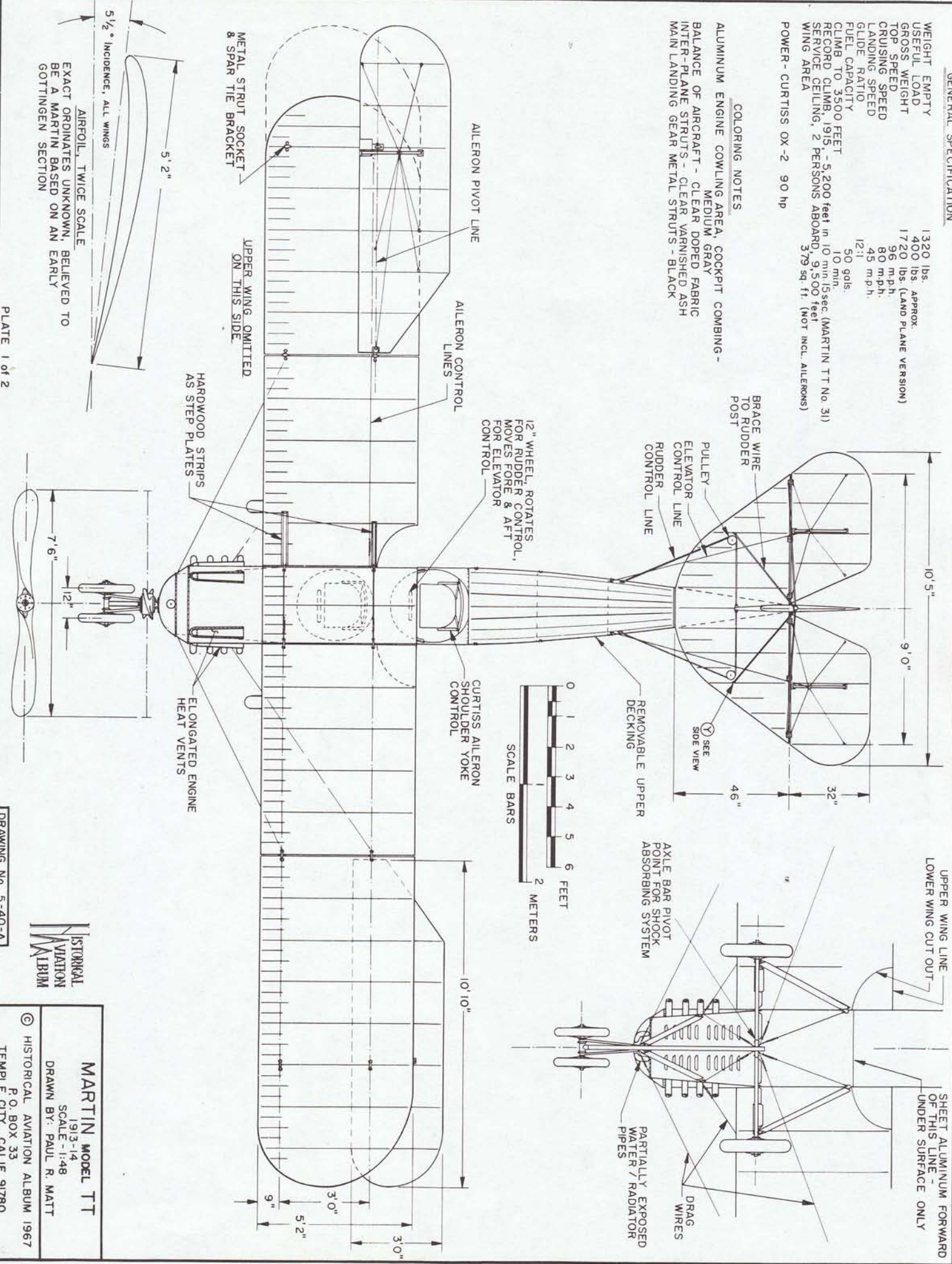
134

GENERAL SPECIFICATION

WEIGHT EMPTY 1320 lbs. APPROX.
 USEFUL LOAD 400 lbs. APPROX.
 GROSS WEIGHT 1720 lbs. (LAND PLANE VERSION)
 TOP SPEED 96 m.p.h.
 CRUISING SPEED 80 m.p.h.
 LANDING SPEED 45 m.p.h.
 GLIDE RATIO 12:1
 FUEL CAPACITY 50 gals.
 CLIMB TO 3500 FEET 10 min.
 RECORD CLIMB, 1915 - 5,200 feet in 10 min. 13 sec. (MARTIN TT No. 31)
 SERVICE CEILING, 2 PERSONS ABOARD, 9,500 feet
 WING AREA 379 sq ft. (NOT INCL. ALERONS)
 POWER - CURTISS OX-2 90 hp

COLORING NOTES

ALUMINUM ENGINE COWLING AREA COCKPIT COMBING - MEDIUM GRAY
 BALANCE OF AIRCRAFT - CLEAR DOPED FABRIC
 INTER-PLANE STRUTS - CLEAR VARNISHED ASH
 MAIN LANDING GEAR METAL STRUTS - BLACK

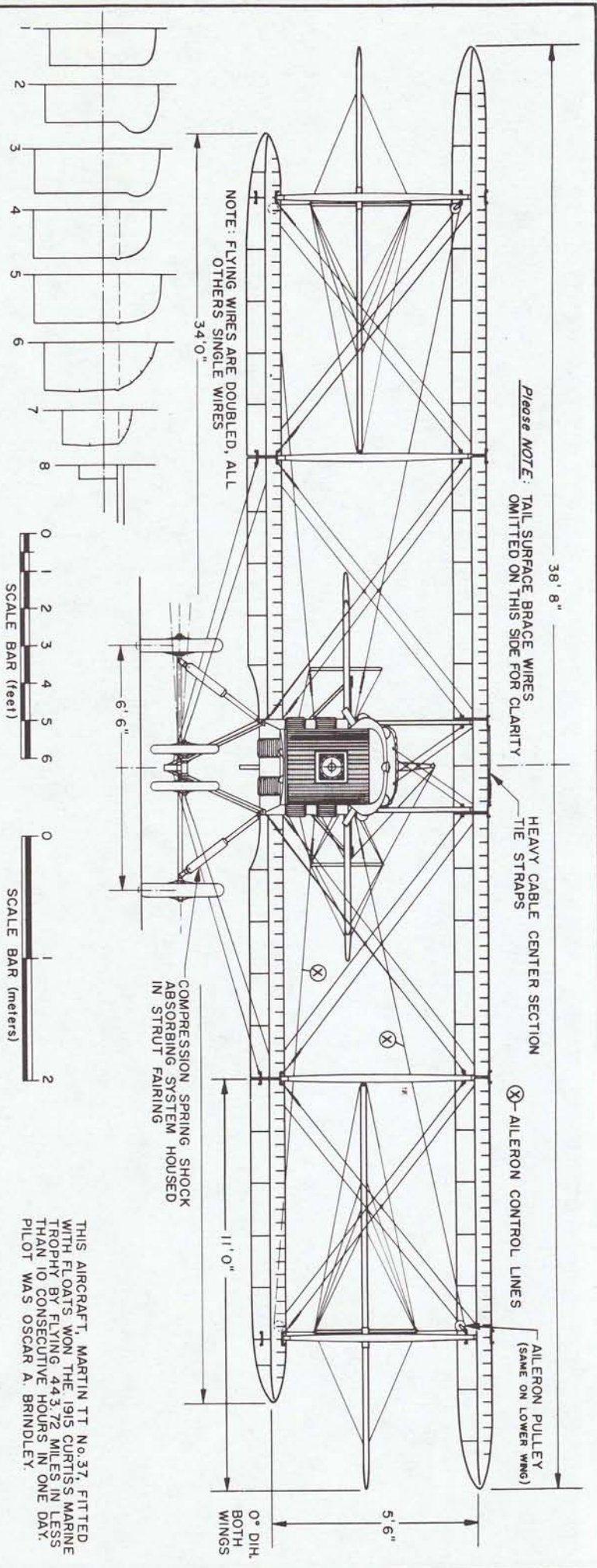


MARTIN MODEL TT

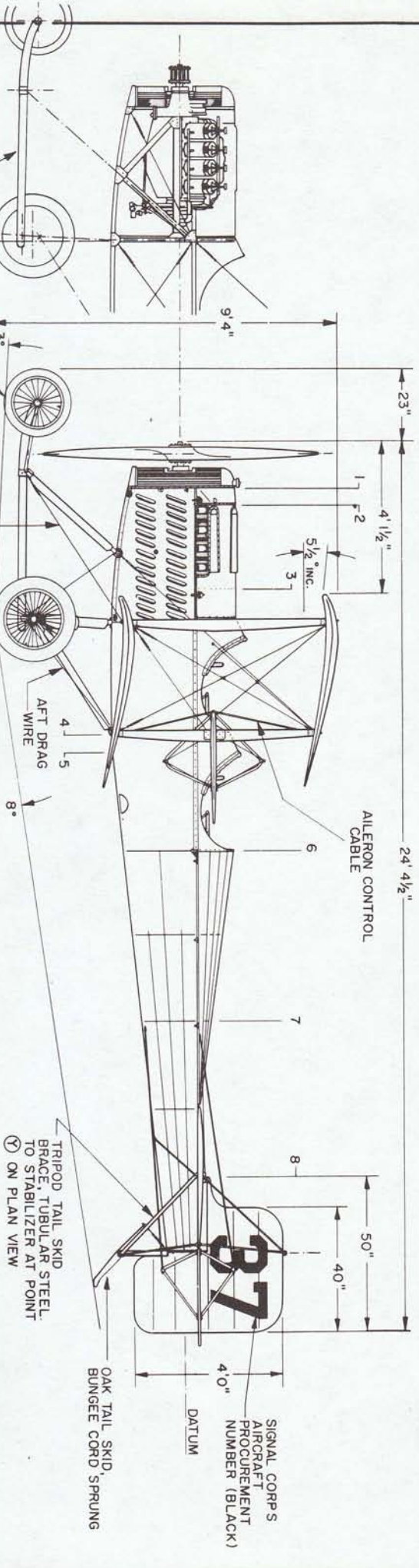
1913-14
 SCALE - 1:48

DRAWN BY: PAUL R. MATT

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THIS AIRCRAFT, MARTIN TT No. 37, FITTED WITH FLOATS WON THE 1915 CURTIS'S MARINE TROPHY BY FLYING 433.72 MILES IN LESS THAN 10 CONSECUTIVE HOURS IN ONE DAY. PILOT WAS OSCAR A. BRINDLEY.



CLEAR VARNISHED ASH STUT 3"

23"

4' 1/2"

5 1/2" INC.

3"

1"

F 2

FORWARD DRAG WIRE

22 x 2.5" - "WHITE RUBBER" TIRES. 20 SPOKES.

27 x 4" - "WHITE RUBBER" TIRES. 36 SPOKES.

AFT DRAG WIRE

4

5

8"

24' 4 1/2"

AILERON CONTROL CABLE

6

7

8

50"

40"

4' 0"

DATUM

SIGNAL CORPS AIRCRAFT PROCUREMENT NUMBER (BLACK)

OAK TAIL SKID BUNGEE CORD SPRUNG

TRIPOD TAIL SKID BRACE, TUBULAR STEEL TO STABILIZER AT POINT (Y) ON PLAN VIEW

0° DIH, BOTH WINGS

5' 6"

11' 0"

6' 6"

34' 0"

NOTE: FLYING WIRES ARE DOUBLED, ALL OTHERS SINGLE WIRES

38' 8"

AILERON PULLEY (SAME ON LOWER WING)

AILERON CONTROL LINES

HEAVY CABLE CENTER SECTION TIE STRAPS

Please NOTE: TAIL SURFACE BRACE WIRES OMITTED ON THIS SIDE FOR CLARITY

"WHITE RUBBER" WAS LIGHT GRAY IN COLOR ALL SPOKES WERE STRAIGHT, UNCROSSED AT RIMS OR HUBS

DRAWING No. 5-40-A

PLATE 2 of 2



MARTIN MODEL TT
1913-14
SCALE - 1:48
DRAWN BY: PAUL R. MATT
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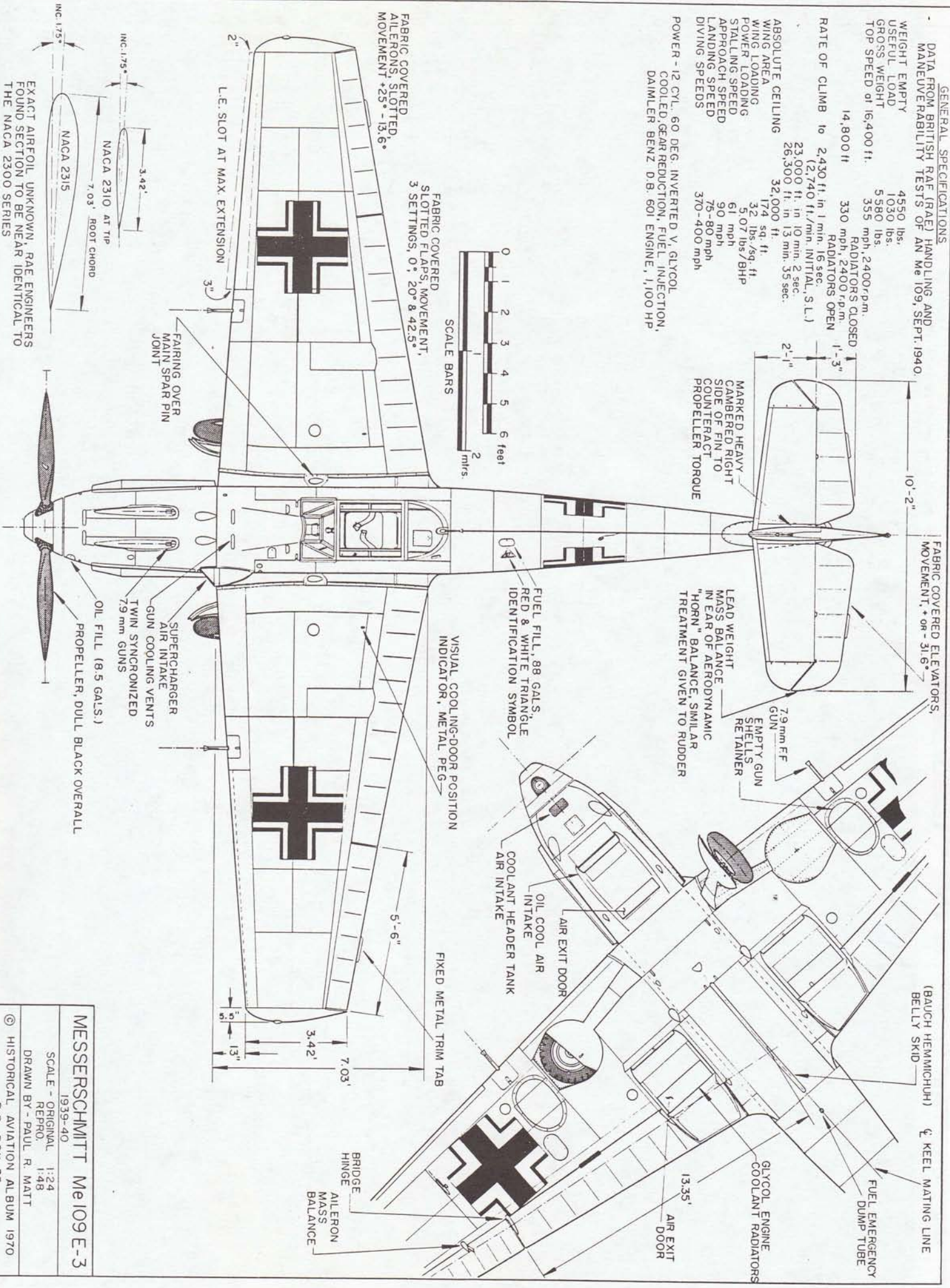
GENERAL SPECIFICATIONS

DATA FROM BRITISH RAF (RAE) HANDLING AND MANUEVRABILITY TESTS OF AN Me 109, SEPT. 1940.

WEIGHT EMPTY 4550 lbs.
 USEFUL LOAD 1030 lbs.
 GROSS WEIGHT 5580 lbs.
 TOP SPEED of 16,400 ft. 14,800 ft.
 RATE OF CLIMB to 2,430 ft. in 1 min. 16 sec.
 (2,740 ft./min. INITIAL, S.L.)
 23,000 ft. in 10 min. 2 sec.
 26,300 ft. in 13 min. 35 sec.

ABSOLUTE CEILING 32,000 ft.
 WING AREA 174 sq. ft.
 POWER LOADING 32 lbs./sq. ft.
 STALLING SPEED 5.07 lbs/BHP
 APPROACH SPEED 61 mph
 LANDING SPEED 90 mph
 DIVING SPEEDS 75-80 mph
 370-400 mph

POWER - 12 CYL. 60 DEG. INVERTED V, GLYCOL COOLED, GEAR REDUCTION, FUEL INJECTION, DAIMLER BENZ D.B. 601 ENGINE, 1,100 HP

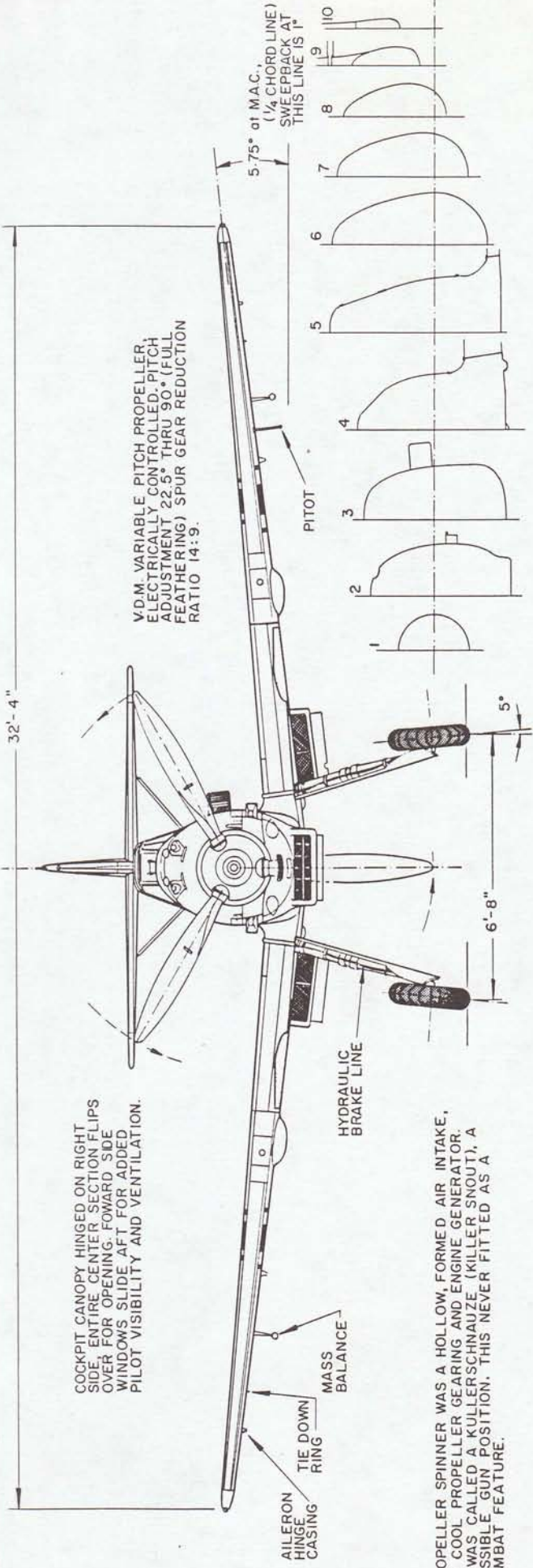


EXACT AIRFOIL UNKNOWN, RAE ENGINEERS FOUND SECTION TO BE NEAR IDENTICAL TO THE NACA 2300 SERIES

DRAWING No. AA-75-A

PLATE 1 of 2

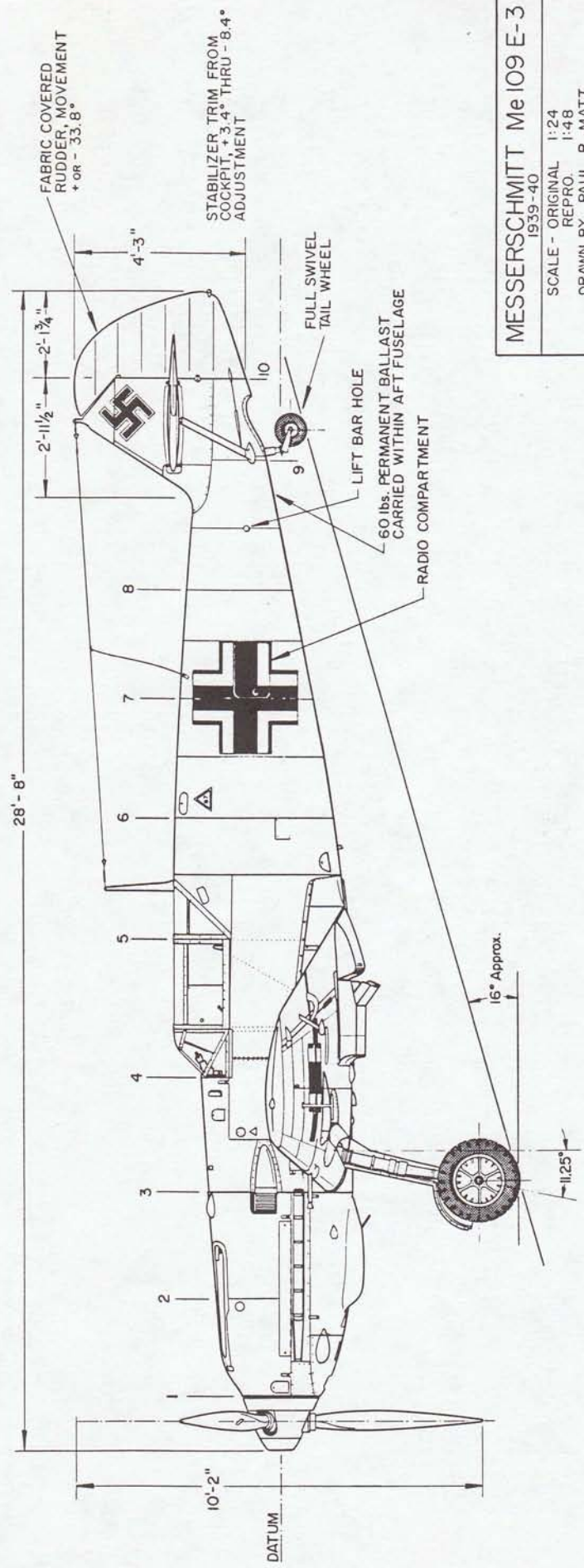
MESSERSCHMITT Me 109 E-3
 1939-40
 SCALE - ORIGINAL 1:24
 REPRD. 1:48
 DRAWN BY - PAUL R. MATT
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COCKPIT CANOPY HINGED ON RIGHT SIDE, ENTIRE CENTER SECTION FLIPS OVER FOR OPENING. FORWARD SIDE WINDOWS SLIDE AFT FOR ADDED PILOT VISIBILITY AND VENTILATION.

AILERON HINGE CASING
TIE DOWN RING
MASS BALANCE

PROPELLER SPINNER WAS A HOLLOW, FORMED AIR INTAKE, TO COOL PROPELLER GEARING AND ENGINE GENERATOR. IT WAS CALLED A KULLERSCHNAUZE (KILLER SNOOT), A POSSIBLE GUN POSITION. THIS NEVER FITTED AS A COMBAT FEATURE.



MESSERSCHMITT Me 109 E-3
1939-40

SCALE - ORIGINAL 1:24
REPRO. 1:48

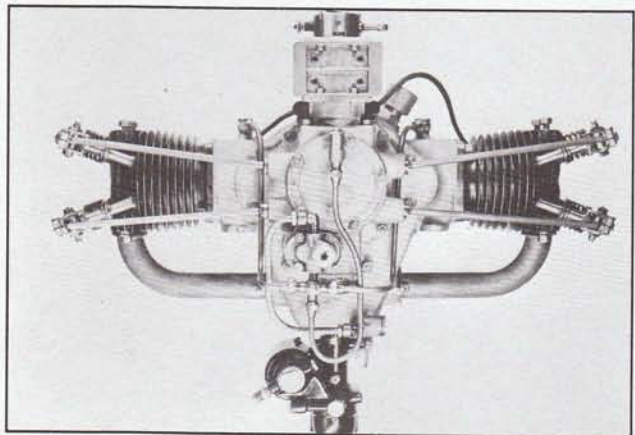
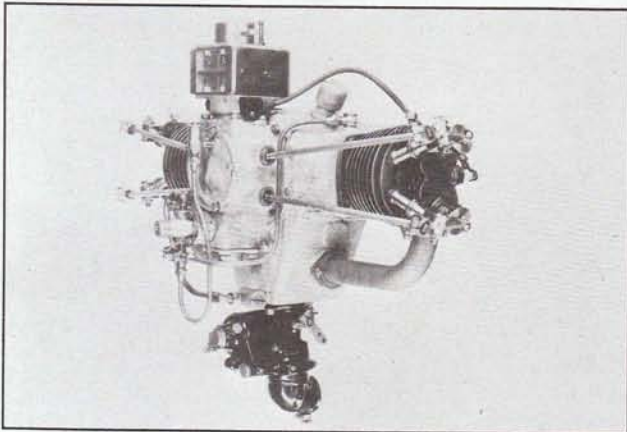
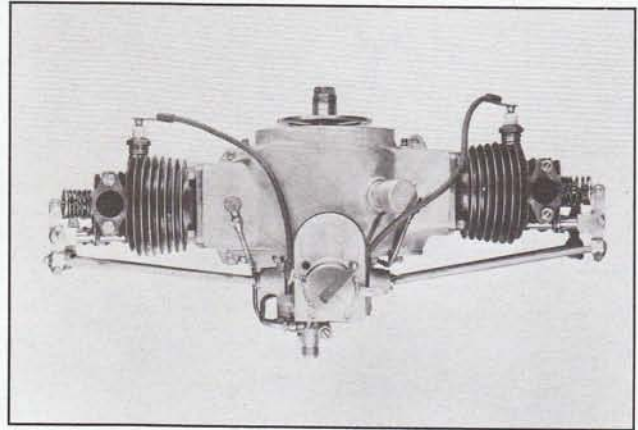
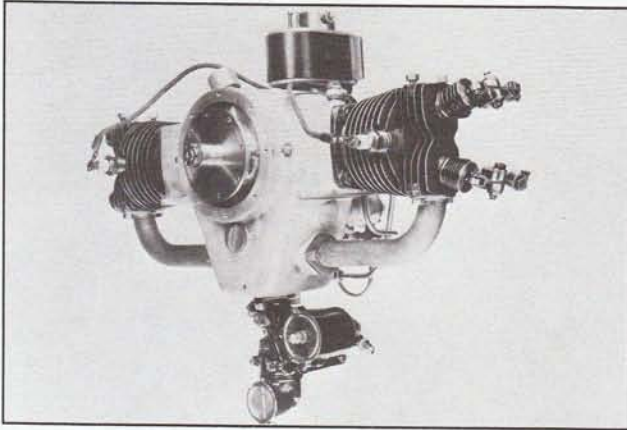
DRAWN BY PAUL R. MATT

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Morehouse 29.IH.P. Aircraft Engine

1925



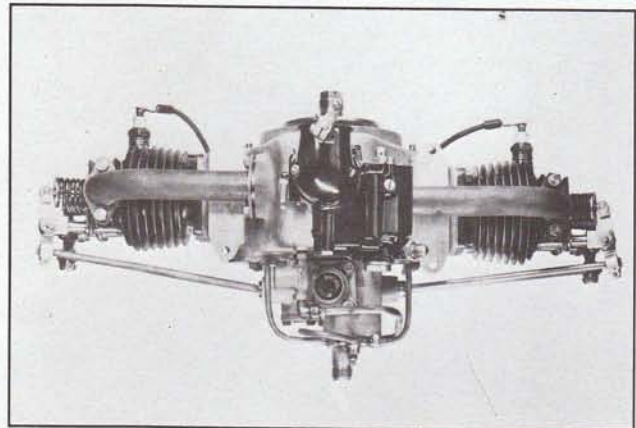
Top left: Front view

Top right: Top view

Middle left: Right rear view

Middle right: Direct rear view

Bottom right: Bottom view



- SPECIFICATIONS -

THE FOLLOWING DATA & PERFORMANCE FIGURES ARE AS REPORTED BY THE POWER PLANT SECTION, MCCOOK FIELD, ENGINEERING DIVISION, JUNE 15, 1925.

BORE : 3.750
 STROKE : 3.625
 DISPLACEMENT : 80.10 CU. IN.
 COMPRESSION RATIO : 5.10 : 1
 RATED H. P. : 29.1 AT 2500 RPM AT SEA LEVEL
 WEIGHT DRY : 89.50 LBS.
 OIL PRESSURE AT CRUISE R.P.M. : 12.16 LB./SQ. IN.
 FUEL CONSUMPTION : .513 LBS./H.P./HR.
 THE FOLLOWING H.P. RATINGS ARE AT SEA LEVEL:

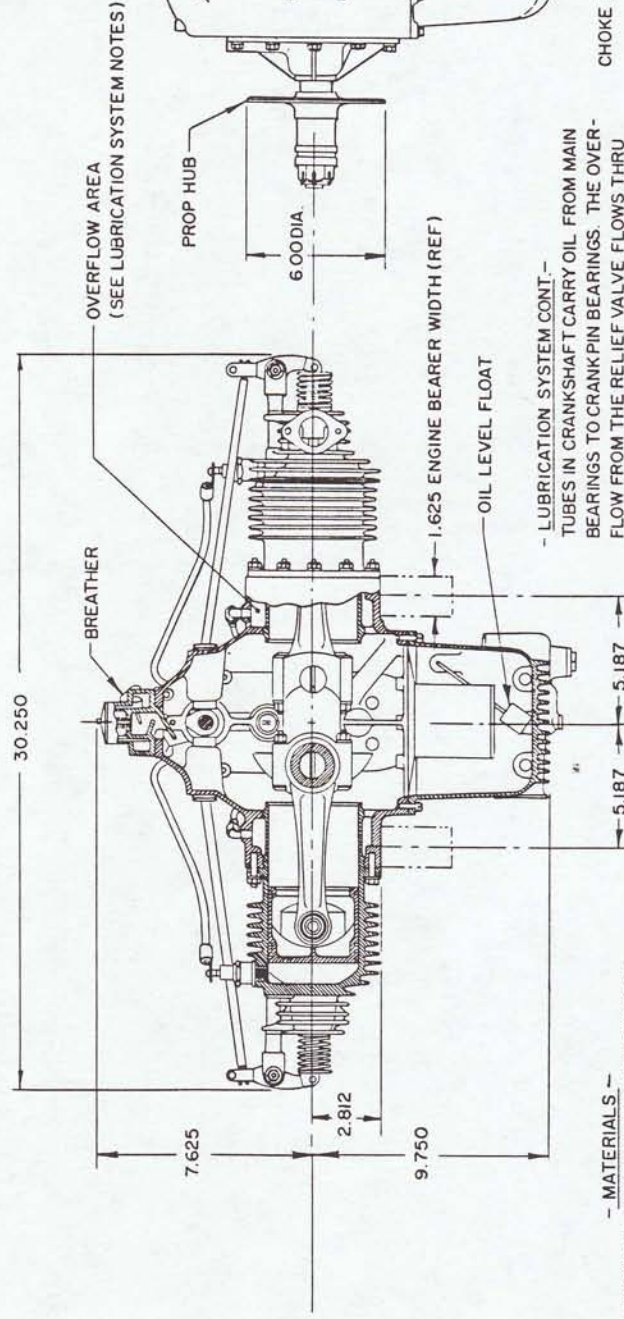
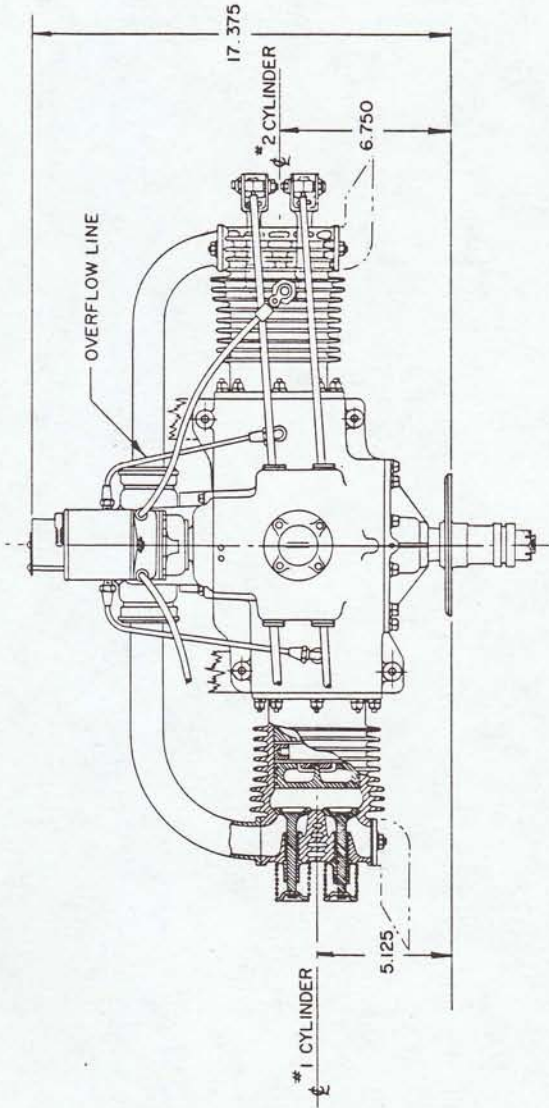
- 24.0 H.P. • 2,050 R.P.M.
- 24.8 H.P. • 2,100 R.P.M.
- 26.0 H.P. • 2,200 R.P.M.
- 27.2 H.P. • 2,300 R.P.M.
- 28.3 H.P. • 2,400 R.P.M.
- 29.1 H.P. • 2,500 R.P.M.
- 29.6 H.P. • 2,600 R.P.M.
- 29.8 H.P. • 2,650 R.P.M.

CARBURETION: STROMBERG MODEL OX-2

IGNITION: SCINTILLA MAGNETO, DELCO SYSTEM & CHAMPION SPARK PLUGS.

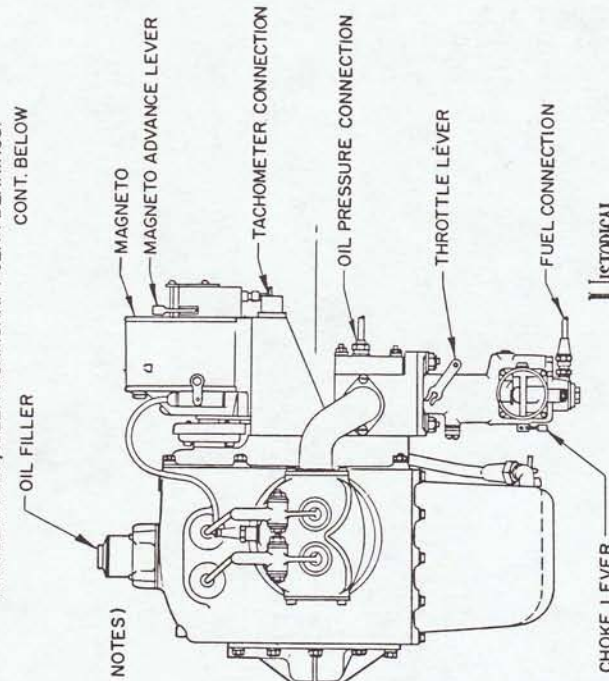
LUBRICATION SYSTEM: SINGLE GEAR PUMP IN REAR COVER SUPPLIES OIL THRU DRILLED CRANKSHAFT PASSAGES TO MAIN BEARINGS, IDLER & CAMSHAFT GEAR BEARINGS.

CONT. BELOW



- LUBRICATION SYSTEM CONT. -
 TUBES IN CRANKSHAFT CARRY OIL FROM MAIN BEARINGS TO CRANKPIN BEARINGS. THE OVERFLOW FROM THE RELIEF VALVE FLOWS THRU THE COMPARTMENTS AROUND THE CYLINDERS SKIRTS.
 THE OIL SUMP IS PROVIDED WITH AN OIL LEVEL INDICATOR, FILTERS & A THERMOMETER FITTING.

- MATERIALS -
 CRANKCASE : ALUMINUM ALLOY CASTING
 CRANKSHAFT : S. A. E. 3240 STEEL FORGING
 CONNECTING RODS : FORGED DURALUMINUM WITH BRONZE PISTON PIN BUSHINGS.
 PISTONS : MACHINED ALUM. WITH 4.125 TEE TOR RINGS.
 CYLINDERS : CAST IRON WITH INTEGRAL FINS & VALVE SEATS.
 VALVES : COBALT CHROME.
 CAMSHAFT & VALVE GEARS : S. A. E. 6120 STEEL.



MOREHOUSE 29.1 H.P. AIRCRAFT ENGINE

1925

SCALE: 1:16 (3/4" = 1")

DRAWN BY: ROB LAMBERT

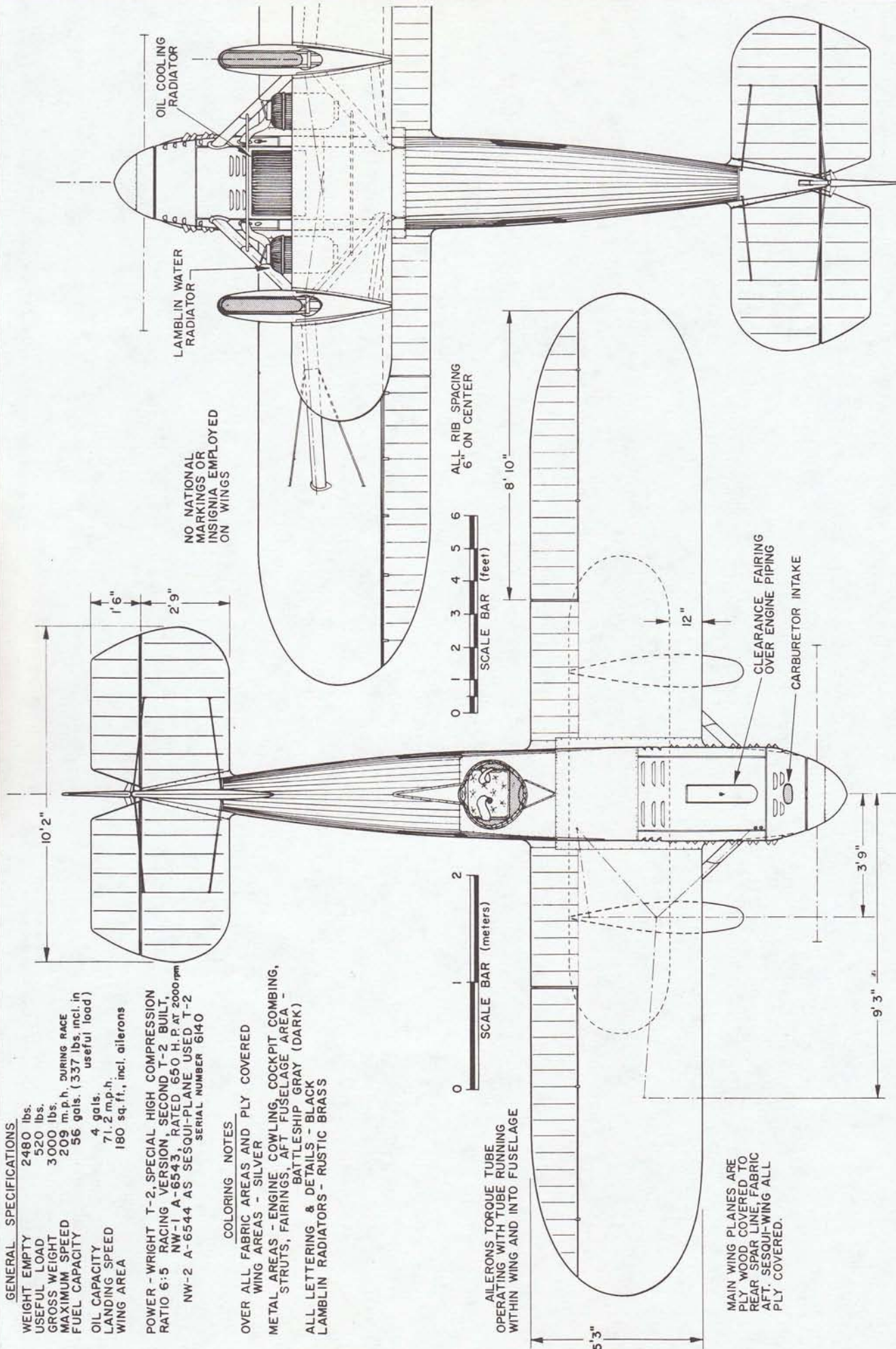
GENERAL SPECIFICATIONS

WEIGHT EMPTY 2480 lbs.
 USEFUL LOAD 520 lbs.
 GROSS WEIGHT 3000 lbs.
 MAXIMUM SPEED 209 m.p.h. DURING RACE
 FUEL CAPACITY 56 gals. (337 lbs. incl. in useful load)
 OIL CAPACITY 4 gals.
 LANDING SPEED 71.2 m.p.h.
 WING AREA 180 sq. ft., incl. ailerons

POWER - WRIGHT T-2, SPECIAL HIGH COMPRESSION
 RATIO 6:5 RACING VERSION, SECOND T-2 BUILT
 NW-1 A-6543, RATED 650 H.P. AT 2000 rpm
 NW-2 A-6544 AS SESQUI-PLANE USED T-2
 SERIAL NUMBER 6140

COLORING NOTES

OVER ALL FABRIC AREAS AND PLY COVERED
 WING AREAS - SILVER
 METAL AREAS - ENGINE COWLING, COCKPIT COMBING,
 STRUTS, FAIRINGS, AFT FUSELAGE AREA -
 BATTLESHIP GRAY (DARK)
 ALL LETTERING & DETAILS - BLACK
 LAMBLIN RADIATORS - RUSTIC BRASS



NAVY WRIGHT NW-1

1922

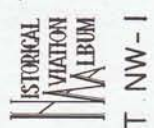
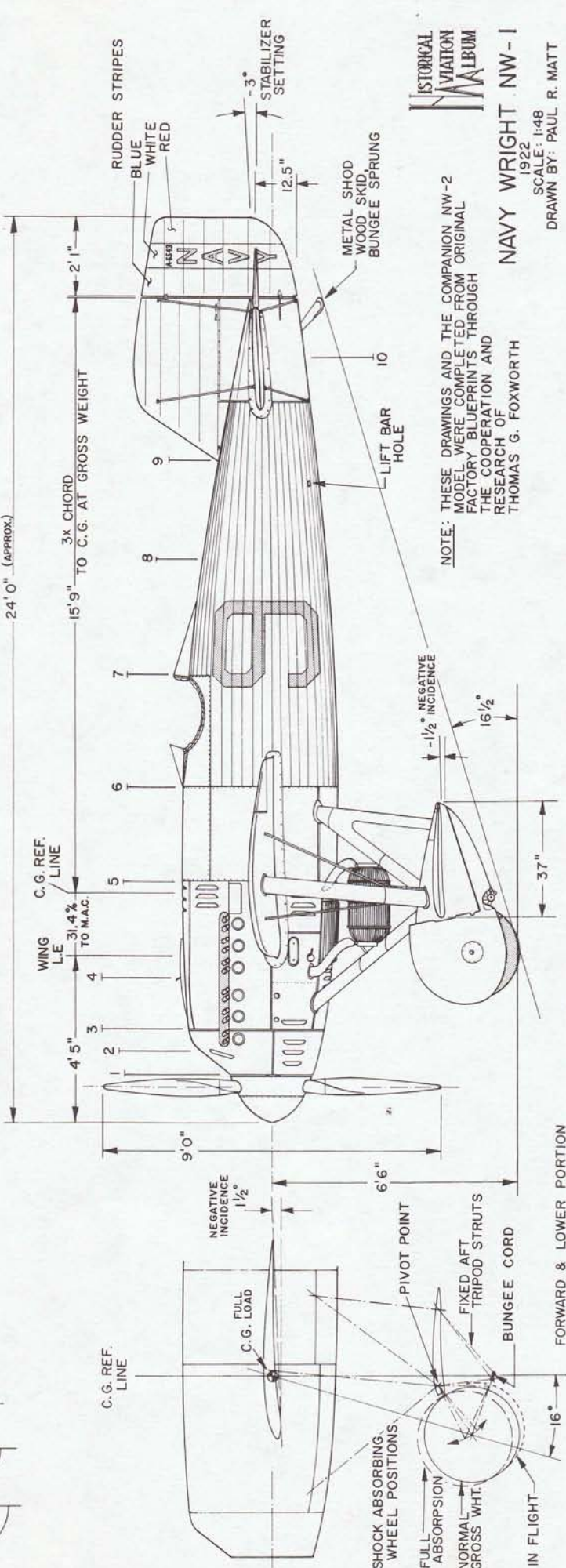
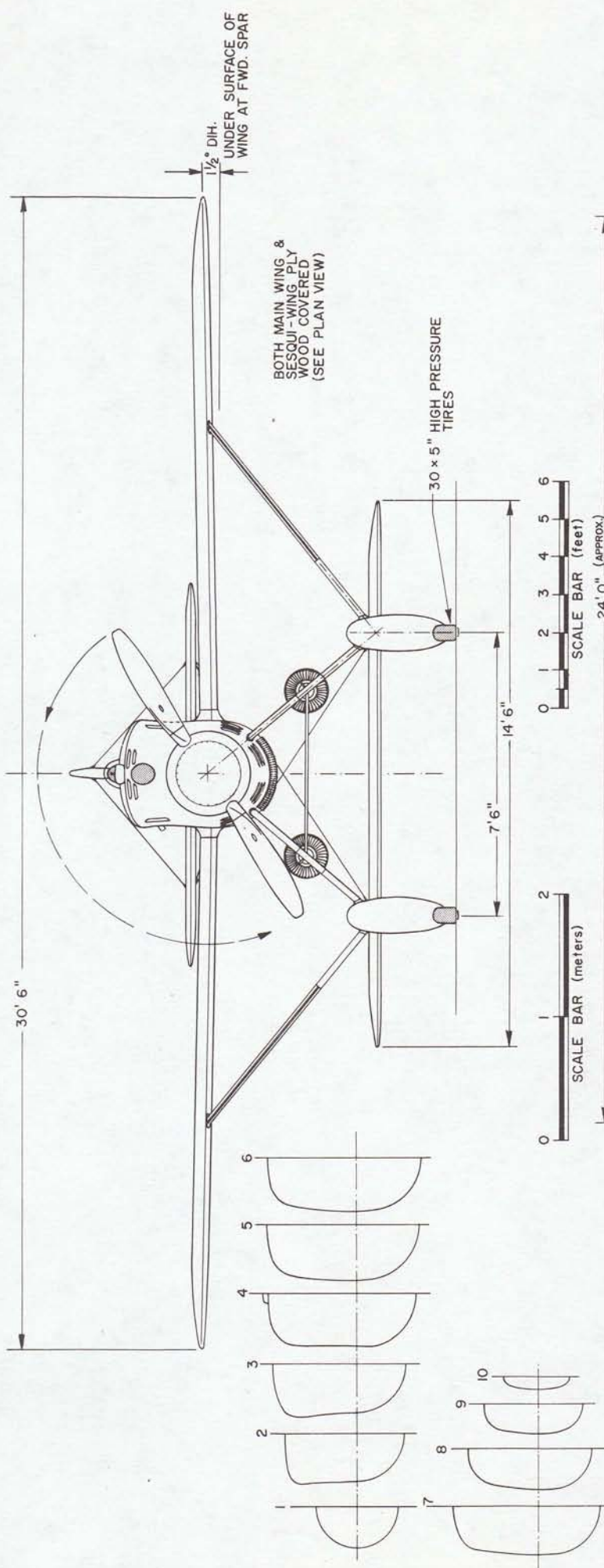
SCALE: 1:48

DRAWN BY: PAUL R. MATT

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PLATE 1 of 2

DRAWING No. 4-31-A



NOTE: THESE DRAWINGS AND THE COMPANION NW-2
MODEL WERE COMPLETED FROM ORIGINAL
FACTORY BLUEPRINTS THROUGH THE
RESEARCH OF THE COOPERATION AND
RESEARCH OF
THOMAS G. FOXWORTH

NAVY WRIGHT NW-1
1922

SCALE: 1:48
DRAWN BY: PAUL R. MATT

FORWARD & LOWER PORTION
OF WHEEL PANTS MOVE WITH SHOCK SYSTEM

DRAWING NO. 4-31-A

PLATE 2 of 2

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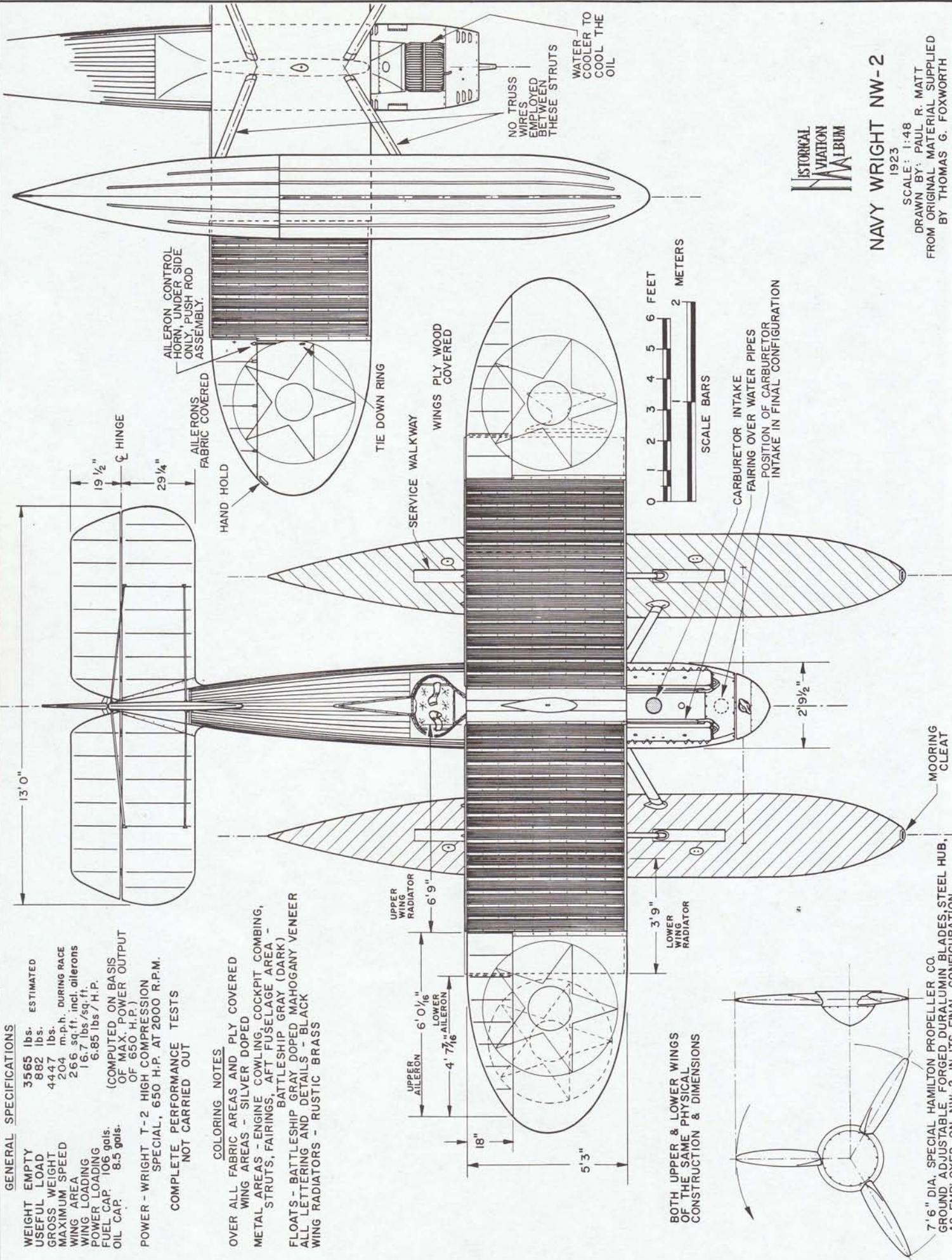
GENERAL SPECIFICATIONS

WEIGHT EMPTY 3565 lbs. ESTIMATED
 USEFUL LOAD 882 lbs.
 GROSS WEIGHT 4447 lbs.
 MAXIMUM SPEED 204 m.p.h. DURING RACE
 WING AREA 266 sq. ft. incl. ailerons
 WING LOADING 16.7 lbs/sq. ft.
 POWER LOADING 6.85 lbs / H.P.
 FUEL CAP. 106 gals.
 OIL CAP. 8.5 gals.
 (COMPUTED ON BASIS OF MAX. POWER OUTPUT OF 650 H.P.)

POWER - WRIGHT T-2 HIGH COMPRESSION SPECIAL, 650 H.P. AT 2000 R.P.M.
 COMPLETE PERFORMANCE TESTS NOT CARRIED OUT

COLORING NOTES

OVER ALL FABRIC AREAS AND PLY COVERED WING AREAS - SILVER DOPED
 METAL AREAS - ENGINE COWLING, COCKPIT COMBING, STRUTS, FAIRINGS, AFT FUSELAGE AREA - BATTLESHIP GRAY (DARK)
 FLOATS - BATTLESHIP GRAY DOPED MAHOGANY VENEER
 ALL LETTERING AND DETAILS - BLACK
 WING RADIATORS - RUSTIC BRASS



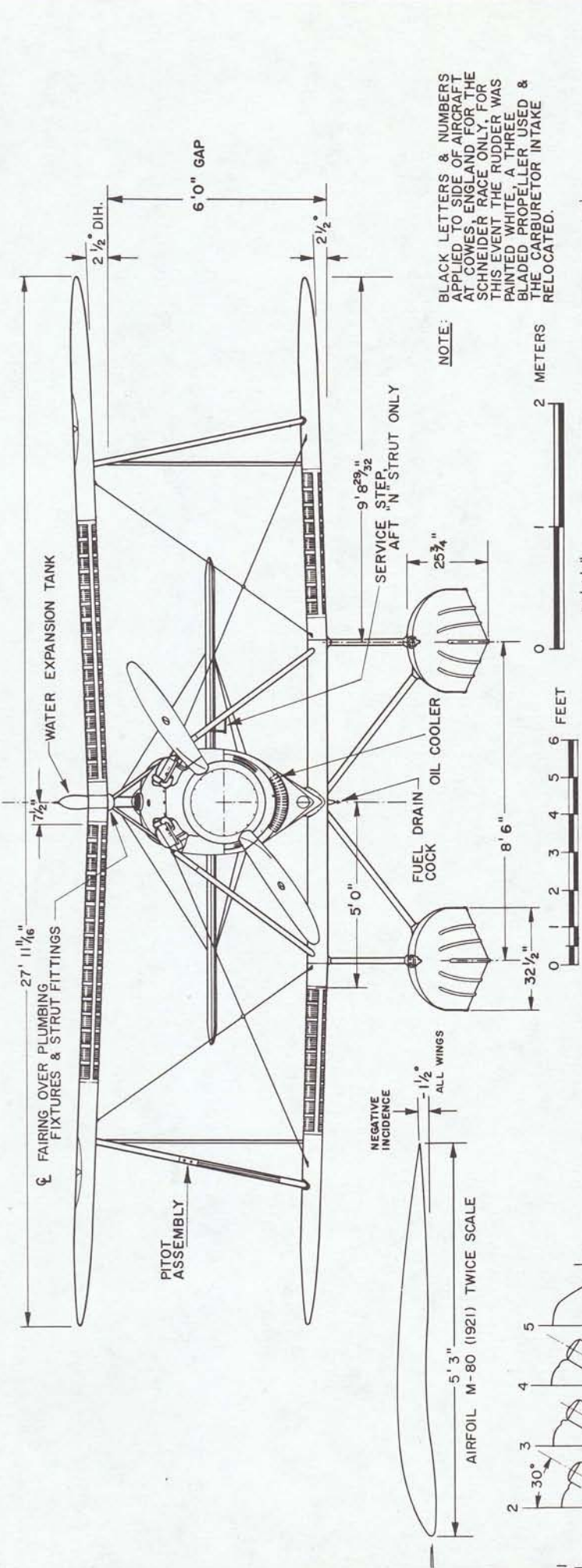
BOTH UPPER & LOWER WINGS OF THE SAME PHYSICAL CONSTRUCTION & DIMENSIONS



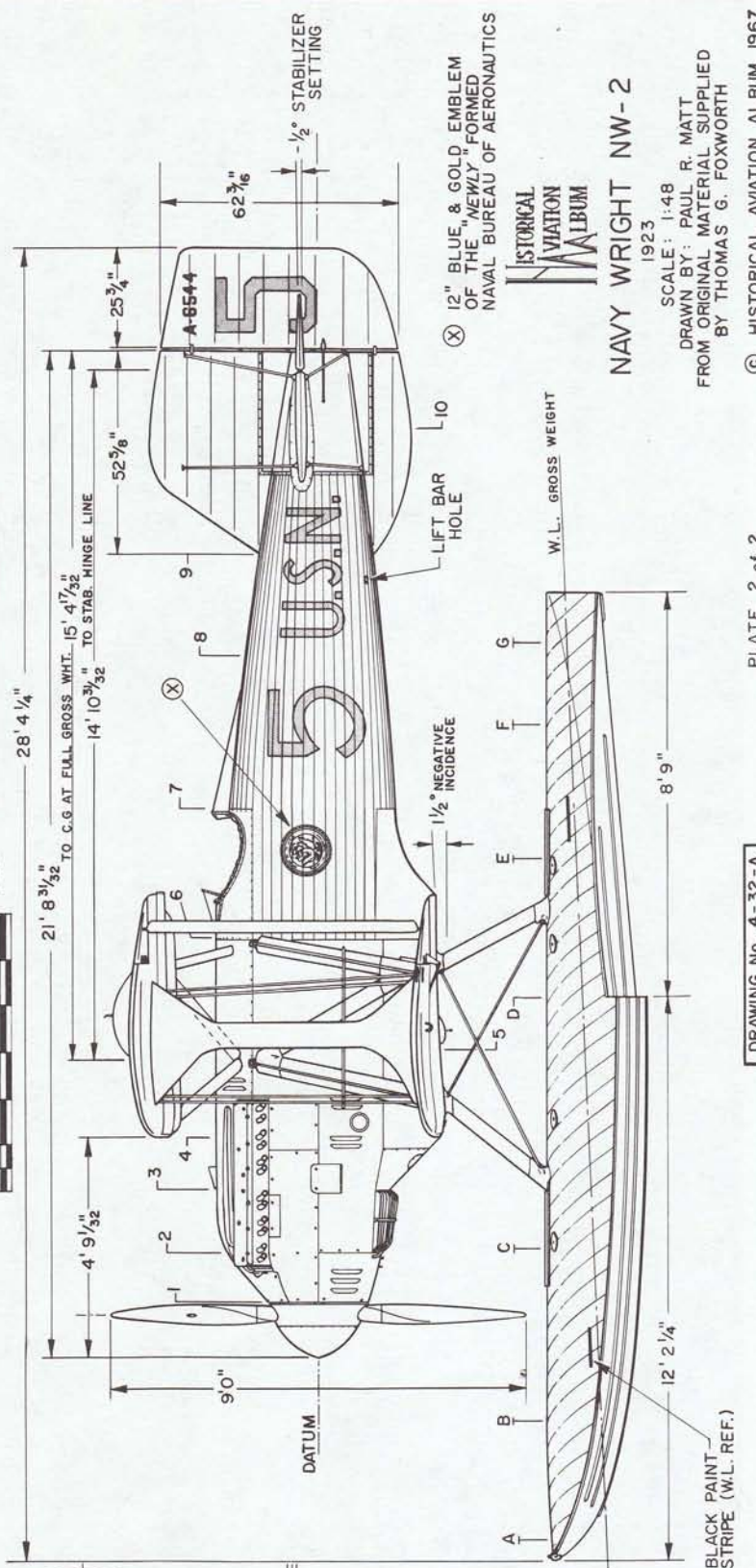
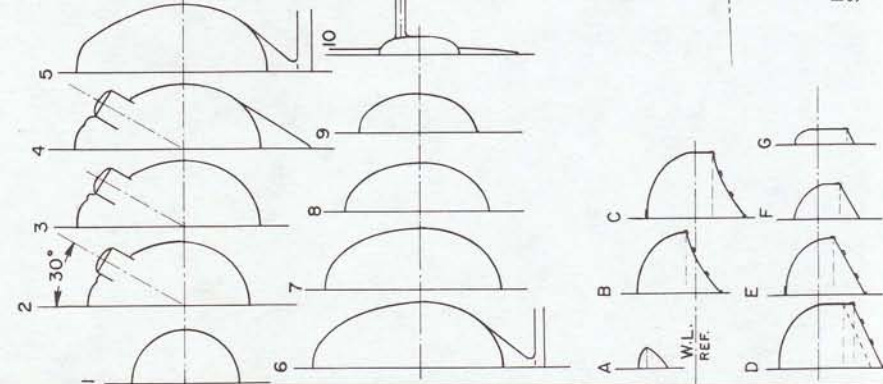
NAVY WRIGHT NW-2

1923

SCALE: 1:48
 DRAWN BY: PAUL R. MATT
 FROM ORIGINAL MATERIAL SUPPLIED BY THOMAS G. FOXWORTH



NOTE:
 BLACK LETTERS & NUMBERS APPLIED TO SIDE OF AIRCRAFT AT COMES ENGLAND FOR THE SCHNEIDER RACE ONLY. FOR THIS EVENT THE RUDDER WAS PAINTED WHITE, A THREE BLADED PROPELLER USED & THE CARBURETOR INTAKE RELOCATED.



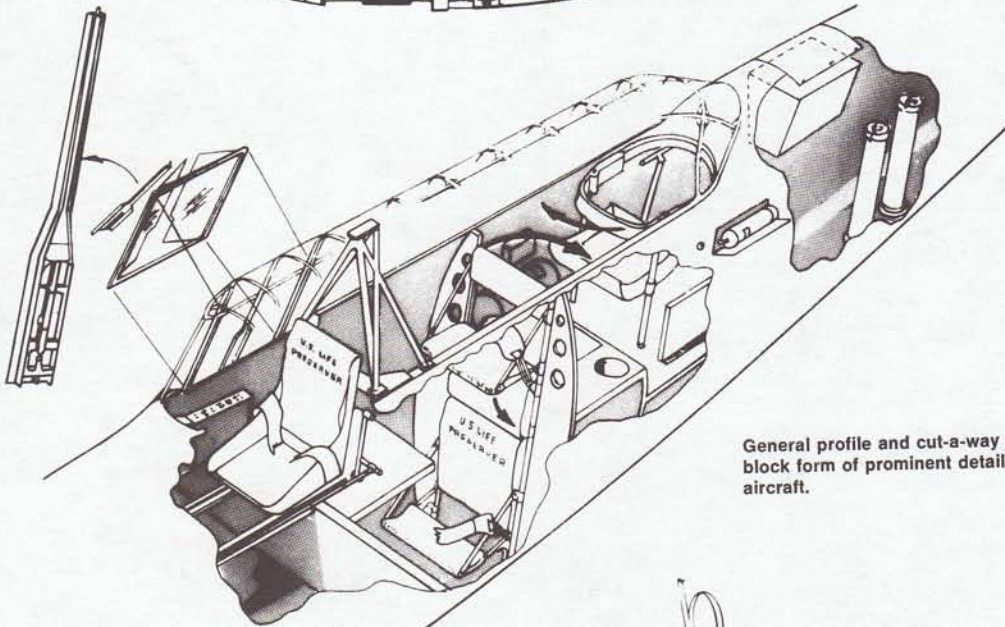
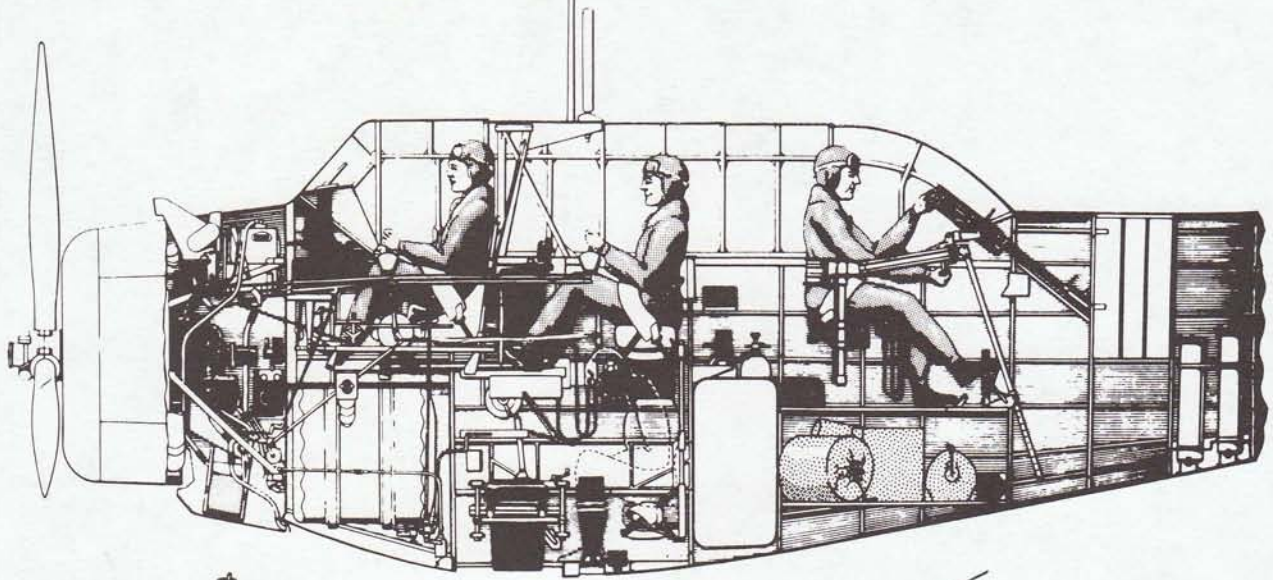
(X) 12" BLUE & GOLD EMBLEM OF THE "NEWLY" FORMED NAVAL BUREAU OF AERONAUTICS



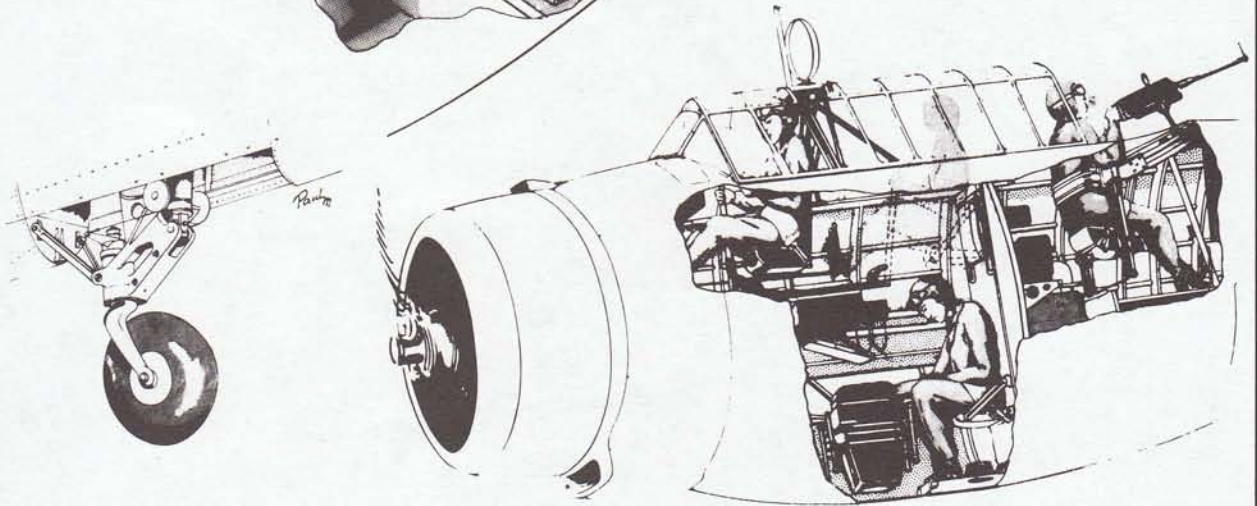
NAVY WRIGHT NW-2
 1923

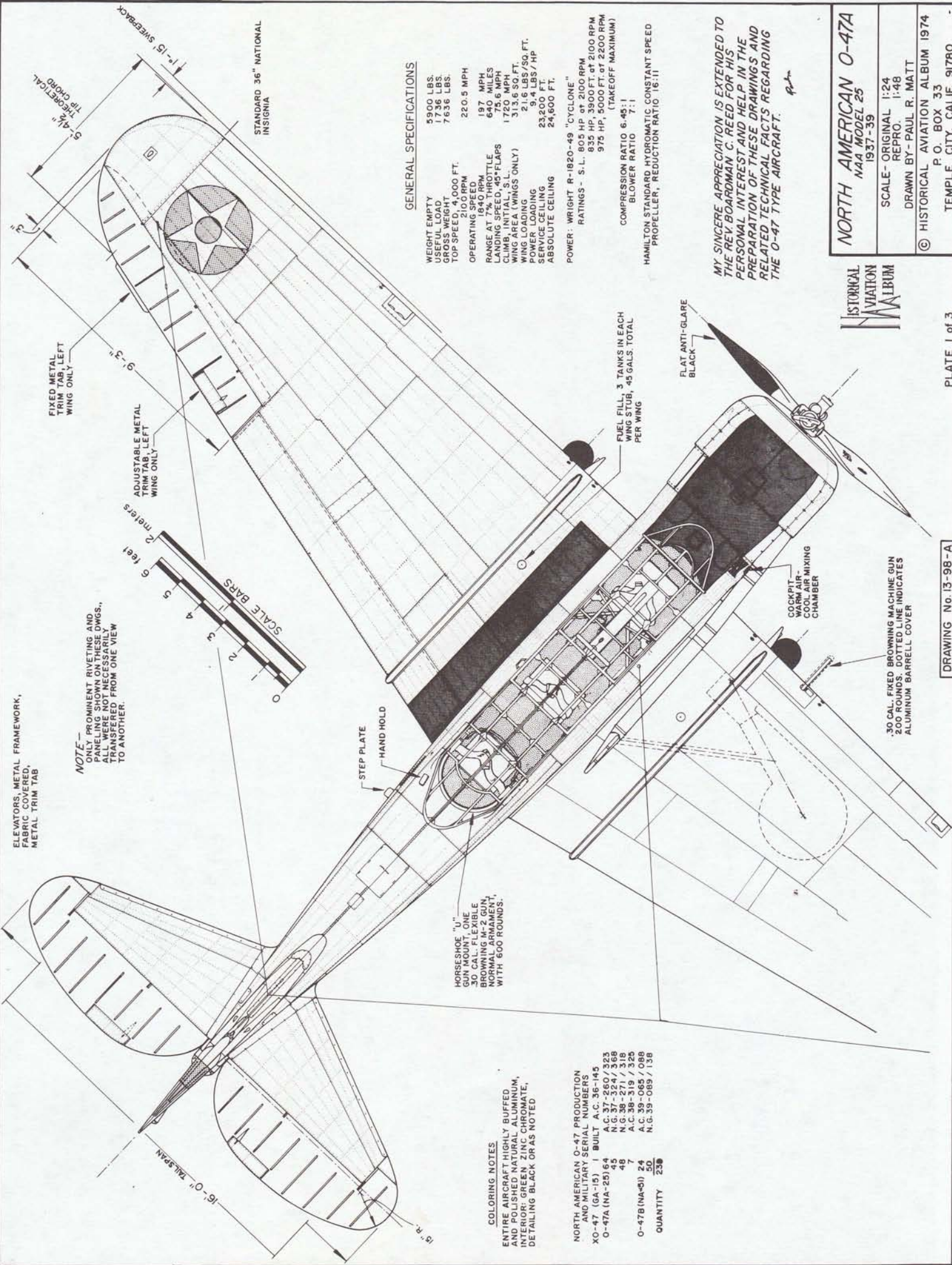
SCALE: 1:48
 DRAWN BY: PAUL R. MATT
 FROM ORIGINAL MATERIAL SUPPLIED BY THOMAS G. FOXWORTH

North American O-47A



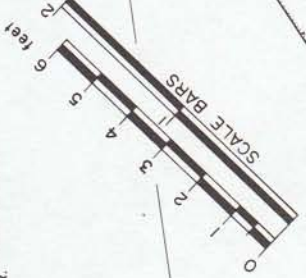
General profile and cut-a-way sketches in block form of prominent details. NAA O-47 aircraft.





ELEVATORS, METAL FRAMEWORK, FABRIC COVERED, METAL TRIM TAB

NOTE— ONLY PROMINENT RIVETING AND PANELING SHOWN ON THESE DWGS., ALL OTHERS BEING TRANSFERRED FROM ONE VIEW TO ANOTHER.



GENERAL SPECIFICATIONS

WEIGHT EMPTY 5900 LBS.
 USEFUL LOAD 1736 LBS.
 MAXIMUM TAKEOFF WEIGHT 7636 LBS.
 TOP SPEED 4,000 FT. 2100 RPM
 OPERATING SPEED 1840 RPM
 RANGE AT 7% THROTTLE 197 MPH
 LANDING SPEED, 45-FLAPS 640 MILES
 CLIMBING SPEED, 45-FLAPS 175.6 MPH
 WING AREA (WINGS ONLY) 313.6 SQ. FT.
 WING LOADING 21.6 LBS./SQ. FT.
 POWER LOADING 9.4 LBS./HP
 SERVICE CEILING 23,200 FT.
 ABSOLUTE CEILING 24,600 FT.
 POWER: WRIGHT R-1820-49 "CYCLONE"
 RATINGS - S.L. 805 HP at 2100 RPM
 835 HP, 3900 FT. at 2100 RPM
 975 HP, 5000 FT. at 2200 RPM
 (TAKEOFF MAXIMUM)
 COMPRESSION RATIO 6.48:1
 BLOWER RATIO 7:1
 HAMILTON STANDARD HYDROMATIC CONSTANT SPEED
 PROPELLER, REDUCTION RATIO 16:11

MY SINCERE APPRECIATION IS EXTENDED TO THE REV. BOARDMAN C. REED FOR HIS PERSONAL INTEREST AND HELP IN THE PREPARATION OF THESE DRAWINGS AND RELATED TECHNICAL FACTS REGARDING THE O-47 TYPE AIRCRAFT.

HISTORICAL AVIATION ALBUM

NORTH AMERICAN O-47A
 NAA MODEL 25
 1937-39

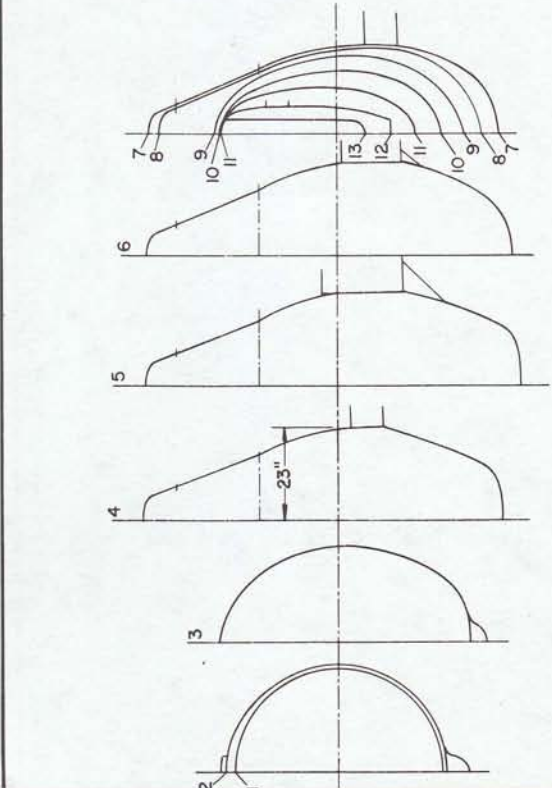
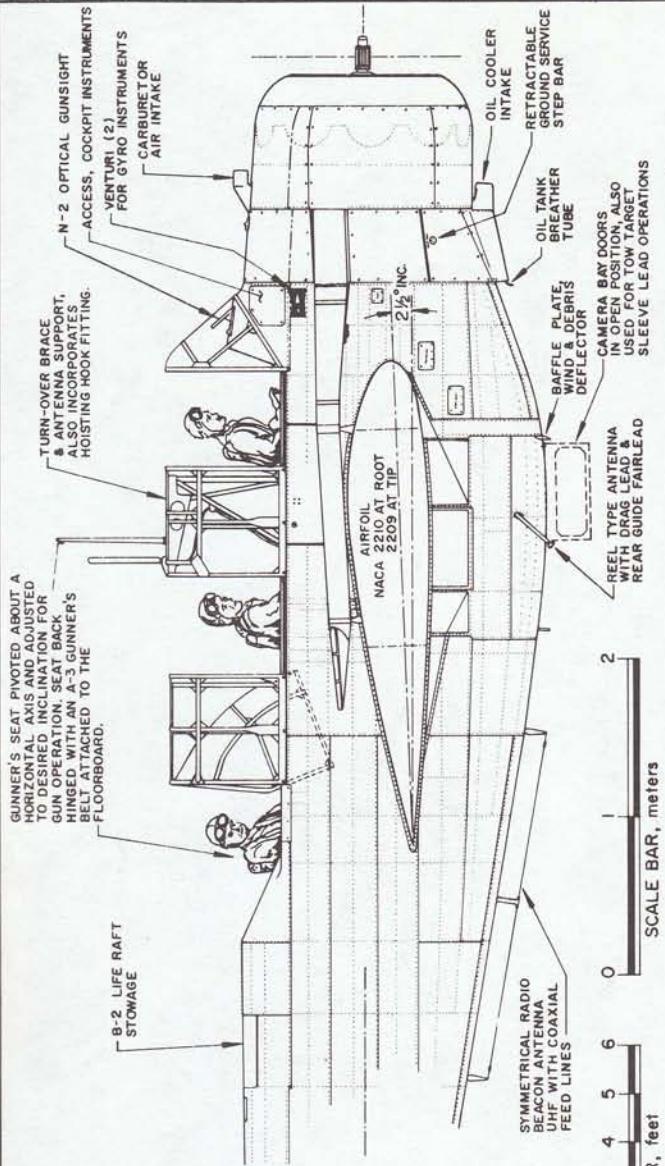
SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
 © HISTORICAL AVIATION ALBUM 1974
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 TEMPLE CITY, CALIF. 91780

COLORING NOTES

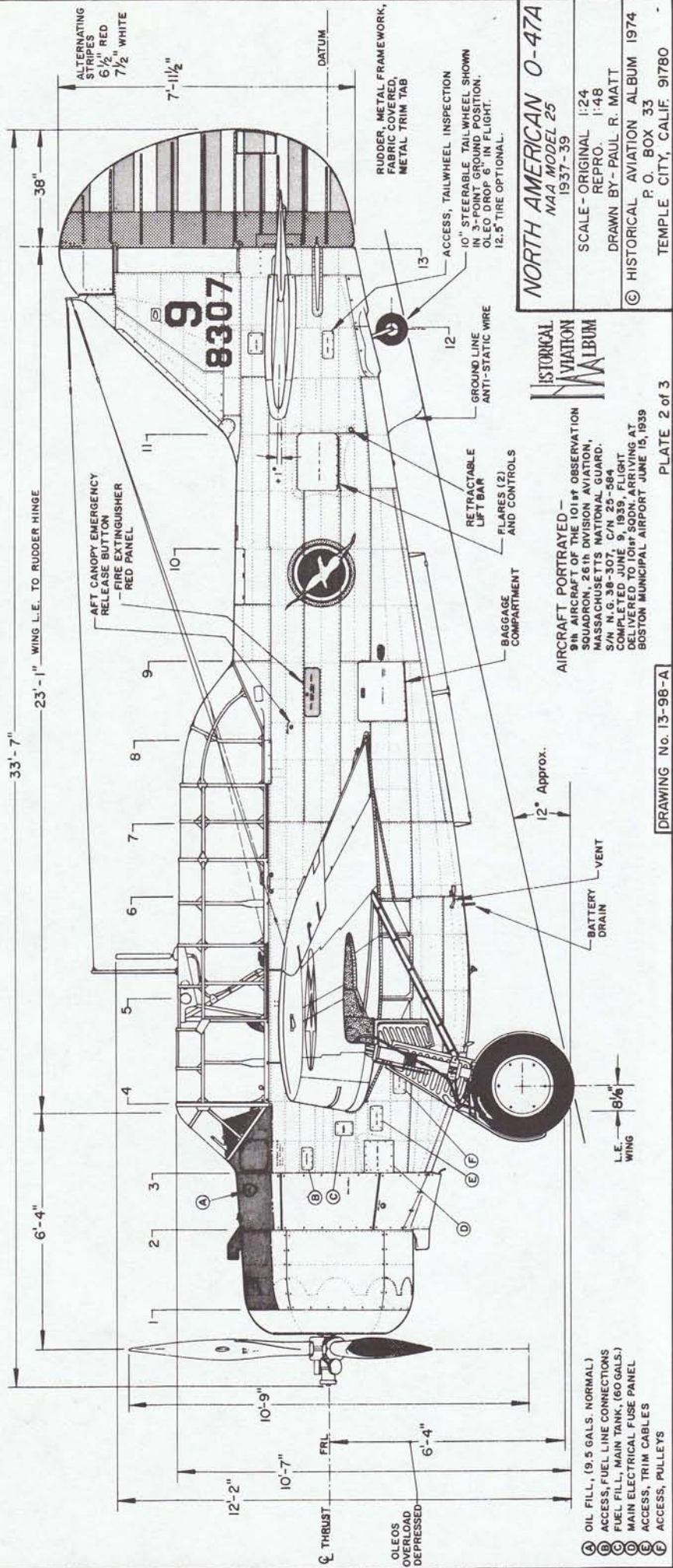
ENTIRE AIRCRAFT HIGHLY BUFFED AND POLISHED NATURAL ALUMINUM, INTERIOR: GREEN ZINC CHROMATE, DETAILING BLACK OR AS NOTED

NORTH AMERICAN O-47 PRODUCTION AND MILITARY SERIAL NUMBERS

XO-47 (GA-15)	1	BUILT	A.C. 36-145
O-47A (NA-25)	64		A.C. 37-260 / 323
	45		N.G. 37-524 / 368
	48		N.G. 38-271 / 318
	7		A.C. 38-319 / 325
O-47B (NA-51)	24		A.C. 39-065 / 088
	50		N.G. 39-089 / 138
QUANTITY	238		



101st OBSERVATION SQUADRON INSIGNIA
 WHITE GULL, MED. BLUE SKY BACKGROUND,
 ENCIRCLED IN A WHITE BAND AND OUTER
 RING OF LEMON YELLOW.



NORTH AMERICAN O-47A
 NAA MODEL 25
 1937-39
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
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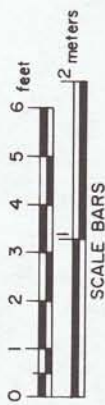
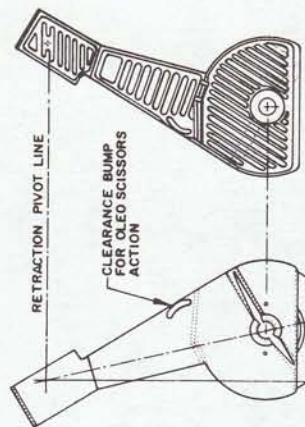
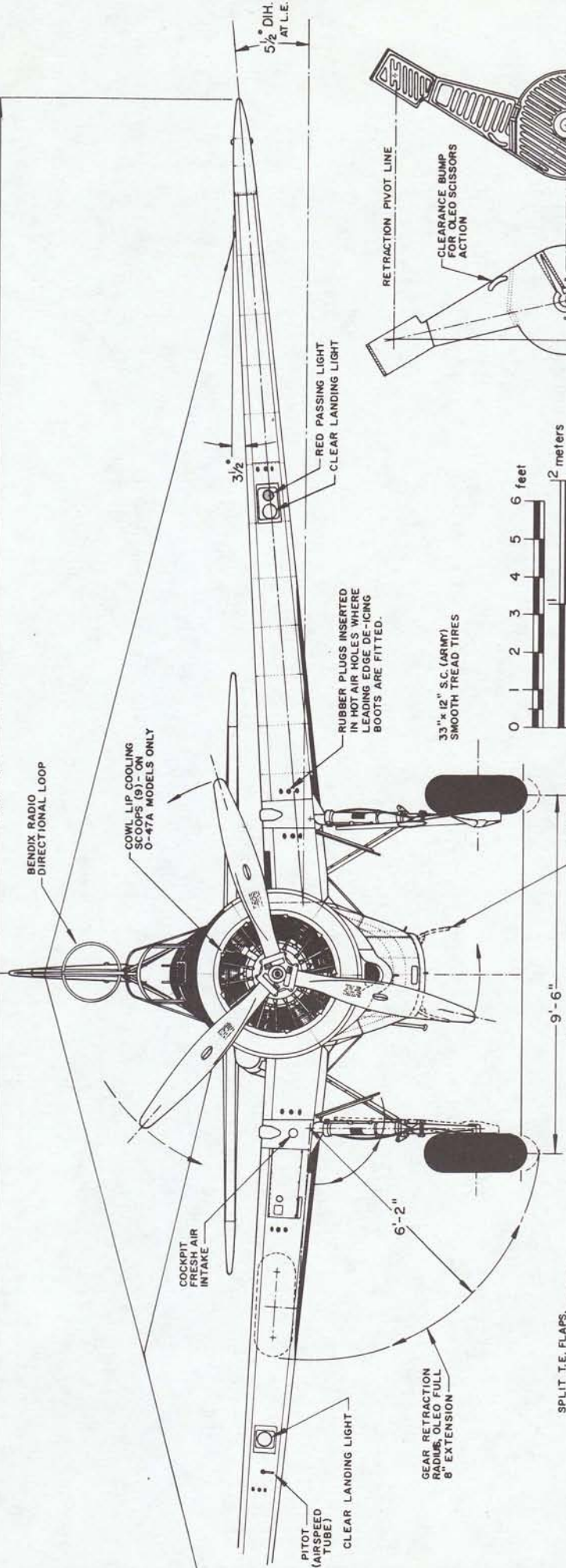
HISTORICAL AVIATION ALBUM
 AIRCRAFT PORTRAYED -
 9th AIRCRAFT OF THE 101st OBSERVATION
 SQUADRON, 26th DIVISION AVIATION,
 MASSACHUSETTS NATIONAL GUARD,
 S/N N.G. 38-307, C/N 25-584
 COMPLETED JUNE 9, 1939. FLIGHT
 DELIVERED TO 101st SQDN. ARRIVING AT
 BOSTON MUNICIPAL AIRPORT JUNE 15, 1939
 PLATE 2 of 3

DRAWING No. 13-98-A

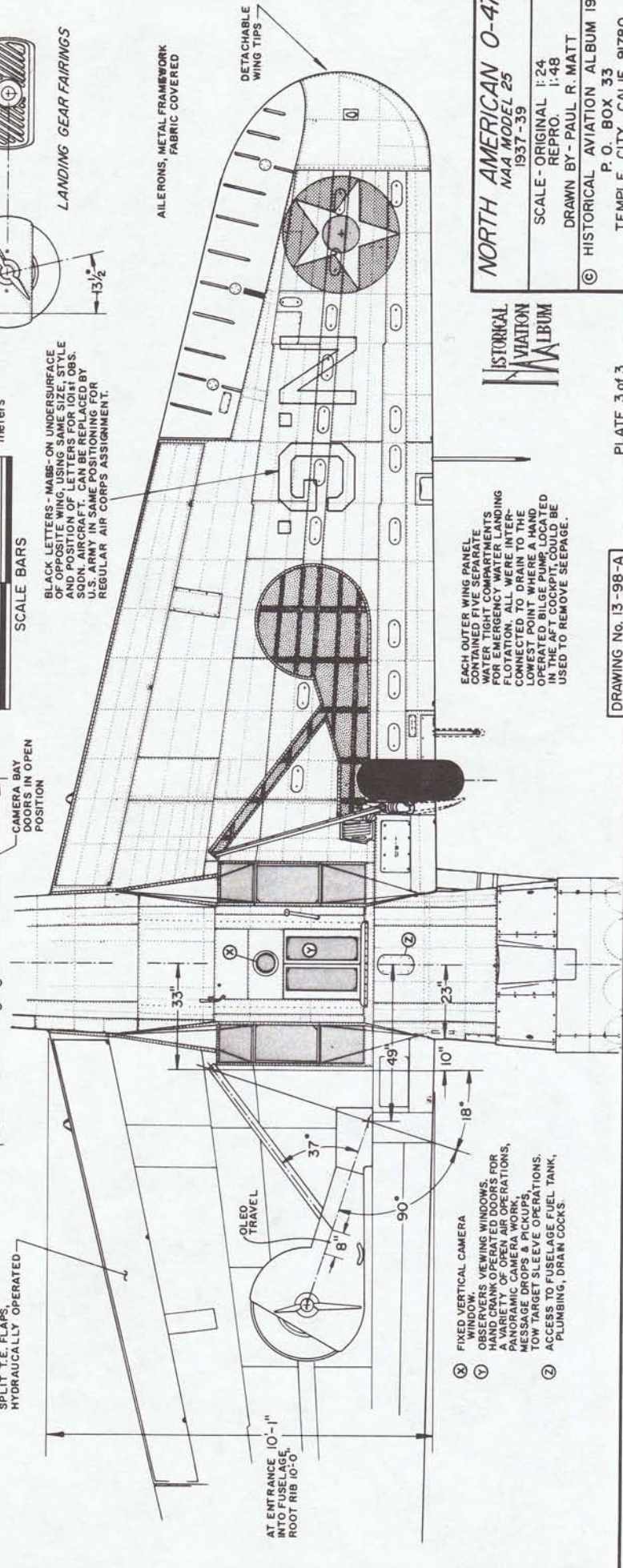
- (A) OIL FILL, (9.5 GALS. NORMAL)
- (B) ACCESS, FUEL LINE CONNECTORS
- (C) FUEL FILL, MAIN TANK, (60 GALS.)
- (D) MAIN ELECTRICAL FUSE PANEL
- (E) ACCESS, TRIM CABLES
- (F) ACCESS, PULLEYS

46'-4" WINGSPAN

5 1/2° DIH. AT L.E.



BLACK LETTERS - MABS-ON UNDERSURFACE OF WING, USING SAME SIZE, STYLE AND POSITION AS ON OTHER OBS. SODN. AIRCRAFT. CAN BE REPLACED BY U.S. ARMY IN SAME POSITIONING FOR REGULAR AIR CORPS ASSIGNMENT.



EACH OUTER WING PANEL CONTAINED FIVE SEPARATE WATER TIGHT COMPARTMENTS FOR EMERGENCY WATER LANDING. ALL WERE INTER-CONNECTED. ALL WERE IN LOWEST POINT WHERE A HANG OPERATED BILGE PUMP LOCATED IN THE AFT COCKPIT, COULD BE USED TO REMOVE SEEPAGE.

- ⊗ FIXED VERTICAL CAMERA WINDOW, VIEWING WINDOWS
- ⊙ HAND CRANK OPERATED DOORS FOR A VARIETY OF OPEN AIR OPERATIONS, PANORAMIC CAMERA WORK, MESSAGE DROPS & PICKUPS, TOW TARGET SLEEVE OPERATIONS.
- ⊙ ACCESS TO FUSELAGE FUEL TANK, PLUMBING, DRAIN COCKS

HISTORICAL AVIATION ALBUM

NORTH AMERICAN O-47A
 NAA MODEL 25
 1937-39

SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT

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DRAWING No. 13-98-A

PLATE 3 of 3

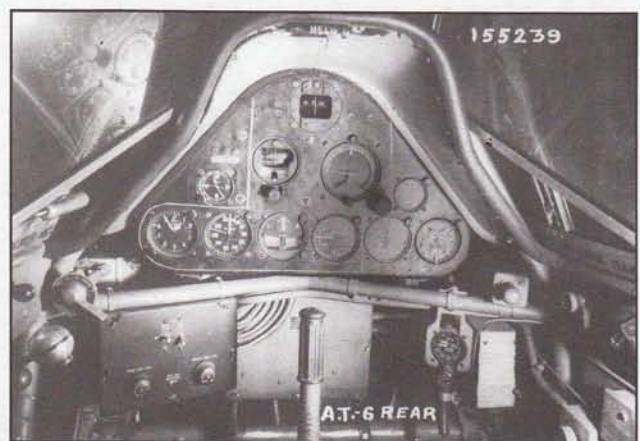
North American AT-6D "Texan"



North American AT-6D, September 6, 1948.



North American BT-9C. Front cockpit.

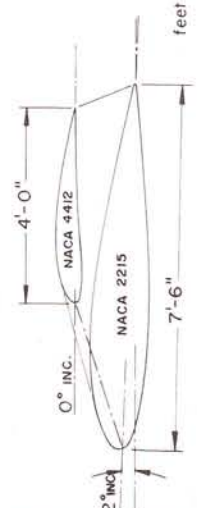


North American AT-6. Rear cockpit.

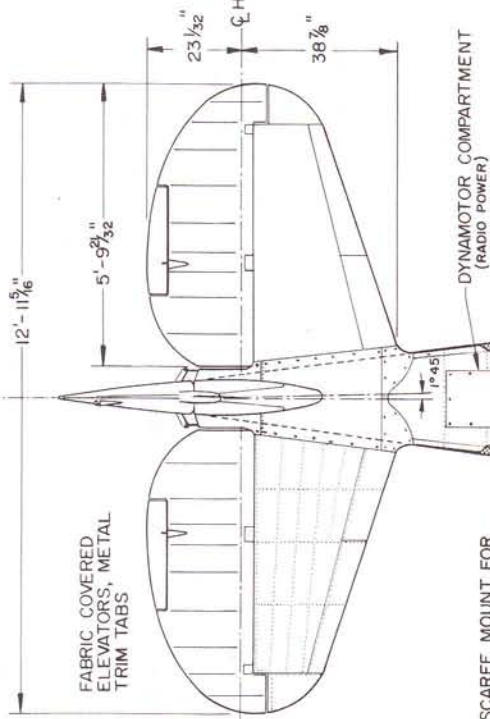
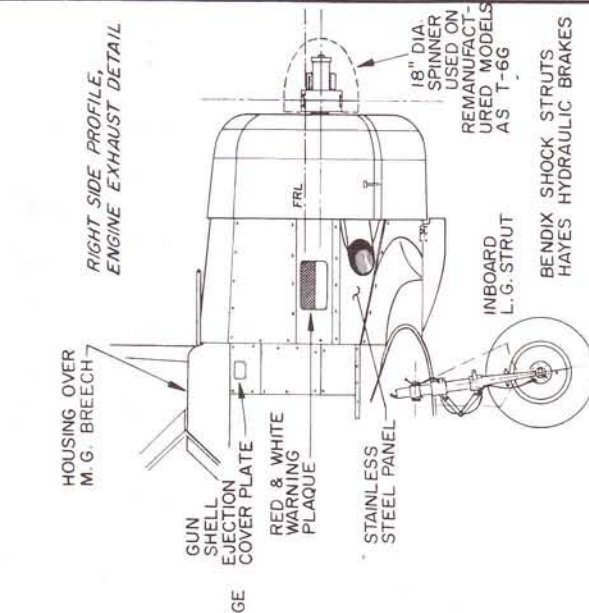
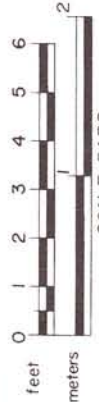
GENERAL SPECIFICATIONS

- WEIGHT EMPTY 4250 lbs.
- USEFUL LOAD 905 lbs.
- GROSS WEIGHT 5155 lbs.
- TOP SPEED 210 mph
- CRUISING SPEED 146 mph
- LANDING SPEED (WITH FLAPS) 67 mph
- RANGE (AT 70% POWER) 623 miles
- WING AREA (INCL. AILERONS) 253.73 sq. ft.
- WING LOADING 22.2 lbs./sq. ft.
- POWER/LOADING 9.37 lbs/HP
- SERVICE CEILING 24,700 ft.
- FUEL CAPACITY (2 WING TANKS) 110 U.S. GALS.
- OIL CAPACITY (INCL. EXPANSION SPACE - 2 GAL.) 12.2 U.S. GALS.

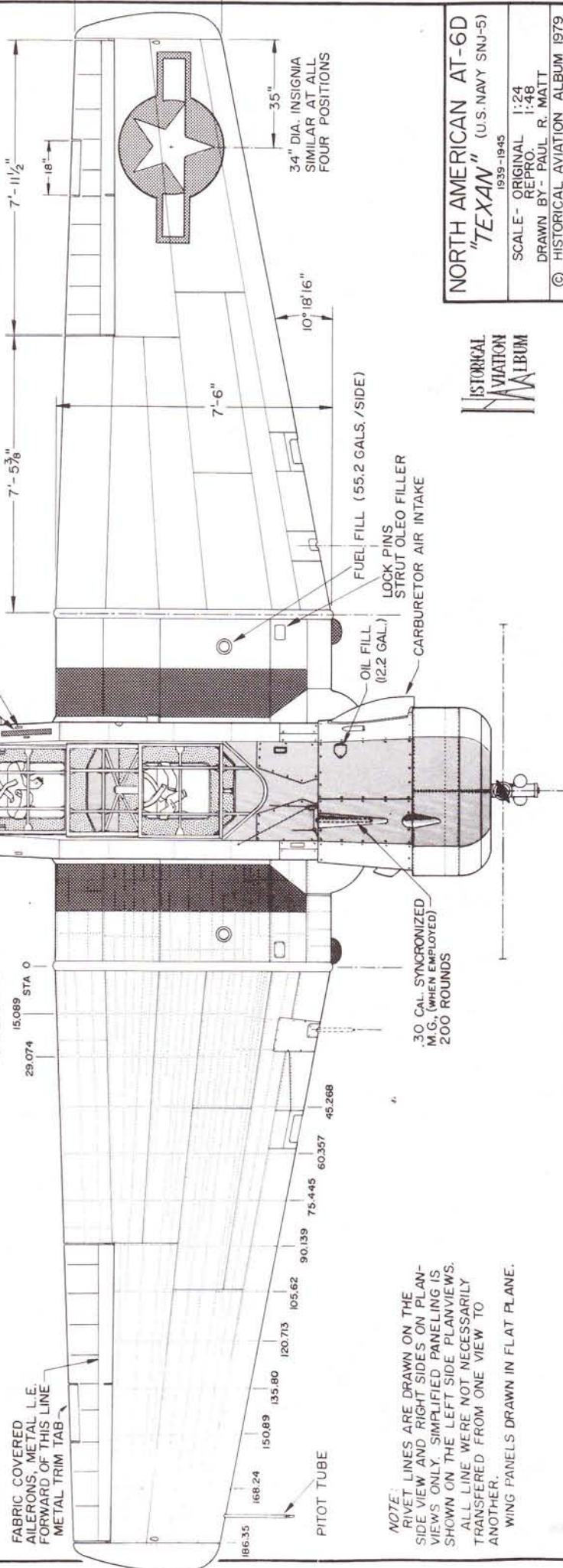
POWER - PRATT & WHITNEY R-1340-AN-1
 RATED - 600 HP at 2250 RPM at S.L.
 550 HP at 2200 RPM at 5,000 ft.
 USING 91 OCTANE FUEL



FABRIC COVERED
 AILERONS, METAL L.E.
 FORWARD OF THIS LINE
 METAL TRIM TAB



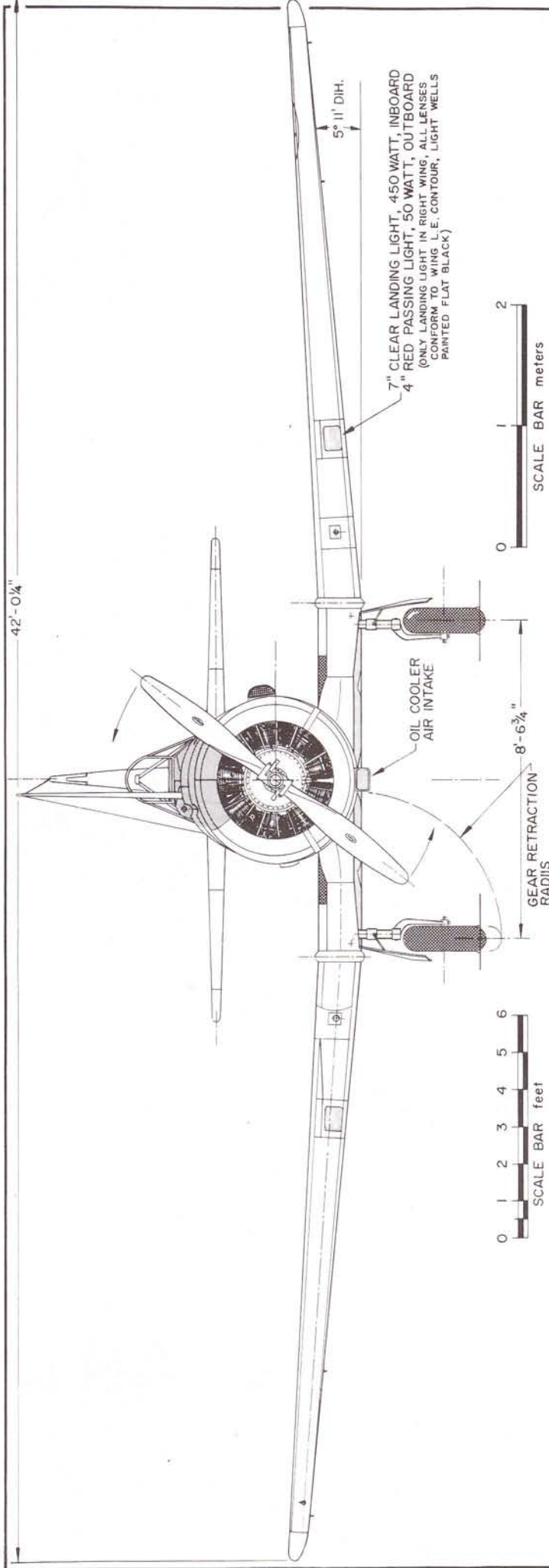
SCARFF MOUNT FOR
 .30 CAL. M-2 BROWNING
 FLEXIBLE M.G., 500 Rds.
 (WHEN EMPLOYED)



NOTE:
 RIVET LINES ARE DRAWN ON THE
 SIDE VIEW AND RIGHT SIDES ON PLAN-
 SIDE VIEWS ONLY. SIMPLIFIED PANELING IS
 SHOWN ON THE LEFT SIDE PLANVIEWS.
 ALL LINES WERE NOT NECESSARILY
 TRANSFERRED FROM ONE VIEW TO
 ANOTHER.
 WING PANELS DRAWN IN FLAT PLANE.



NORTH AMERICAN AT-6D
 "TEXAN" (U.S. NAVY SNJ-5)
 1939-1945
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
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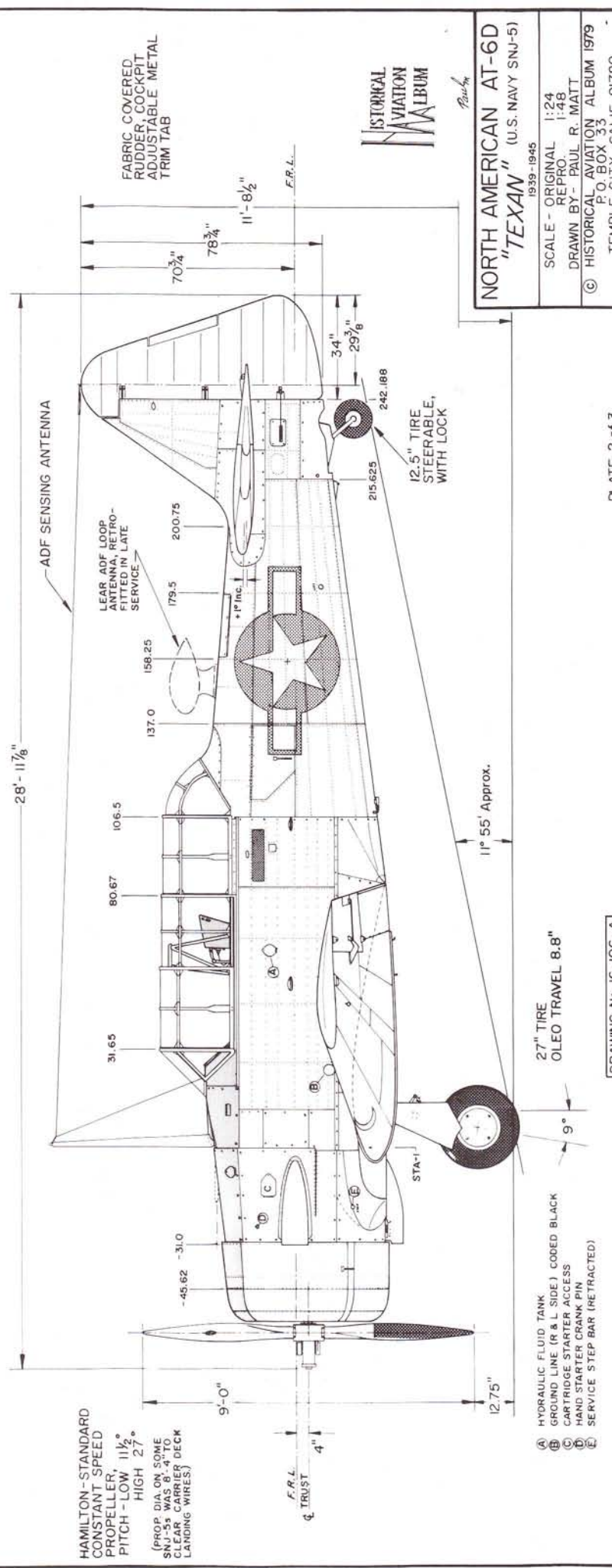


SCALE BAR meters

SCALE BAR feet

7" CLEAR LANDING LIGHT, 450 WATT, INBOARD
 4" RED PASSING LIGHT, 50 WATT, OUTBOARD
 (ONLY LANDING LIGHT IN RIGHT WING, ALL LENSES
 CONFORM TO WING L.E. CONTOUR, LIGHT WELLS
 PAINTED FLAT BLACK)

GEAR RETRACTION
 RADII 8'-6 3/4"



HAMILTON-STANDARD
 CONSTANT SPEED
 PROPELLER
 PITCH -LOW 11 1/2°
 HIGH 27°
 (PROP DIA. ON SOME
 SNJ-5s WAS 8'-4" TO
 CLEAR CARRIER DECK
 LANDING WIRES)

- (A) HYDRAULIC FLUID TANK
- (B) GROUND LINE (R & L SIDE) CODED BLACK
- (C) CARTRIDGE STARTER ACCESS
- (D) HAND STARTER CRANK PIN
- (E) SERVICE STEP BAR (RETRACTED)

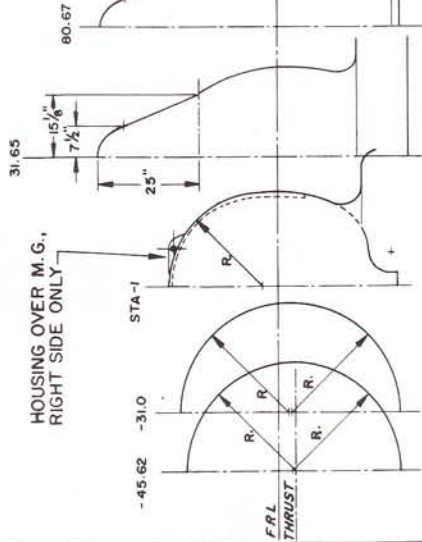
27" TIRE
 OLEO TRAVEL 8.8"

12.5" TIRE
 STEERABLE,
 WITH LOCK

HISTORICAL
 AVIATION
 ALBUM

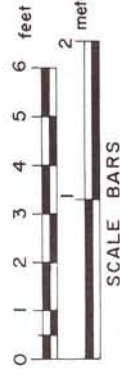
NORTH AMERICAN AT-6D
 "TEXAN" (U.S. NAVY SNUJ-5)
 1939-1945
 SCALE - ORIGINAL 1:24
 REPRO 1:48
 DRAWN BY - PAUL R. MATT
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HOUSING OVER M.G.,
RIGHT SIDE ONLY

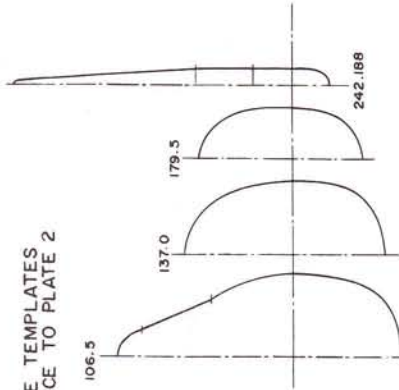


COLORING NOTES

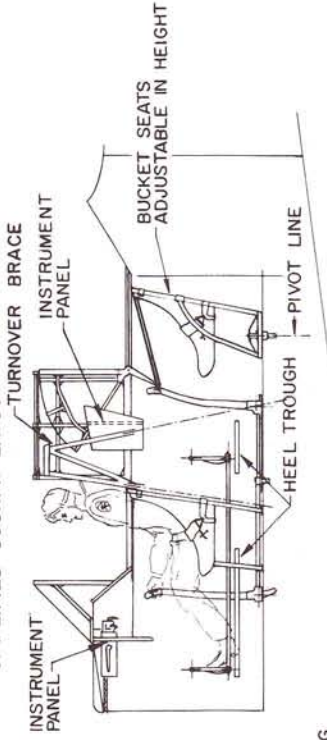
ENTIRE AIRCRAFT NATURAL ALUMINUM
 FABRIC COVERED CONTROL SURFACES - SILVER DOPED
 ANTI-GLARE FUSELAGE DECKING - EARLY, FLAT BRONZE-GREEN
 LATE, FLAT BLACK
 INTERIOR - ZINC-CHROMATE YELLOW-GREEN PRIMER
 INSTRUMENT PANELS - BLACK CRINKLE FINISH
 SEATS & DETAILING - EARLY, FLAT BRONZE-GREEN
 LATE, FLAT BLACK



FUSELAGE TEMPLATES
 REFERENCE TO PLATE 2



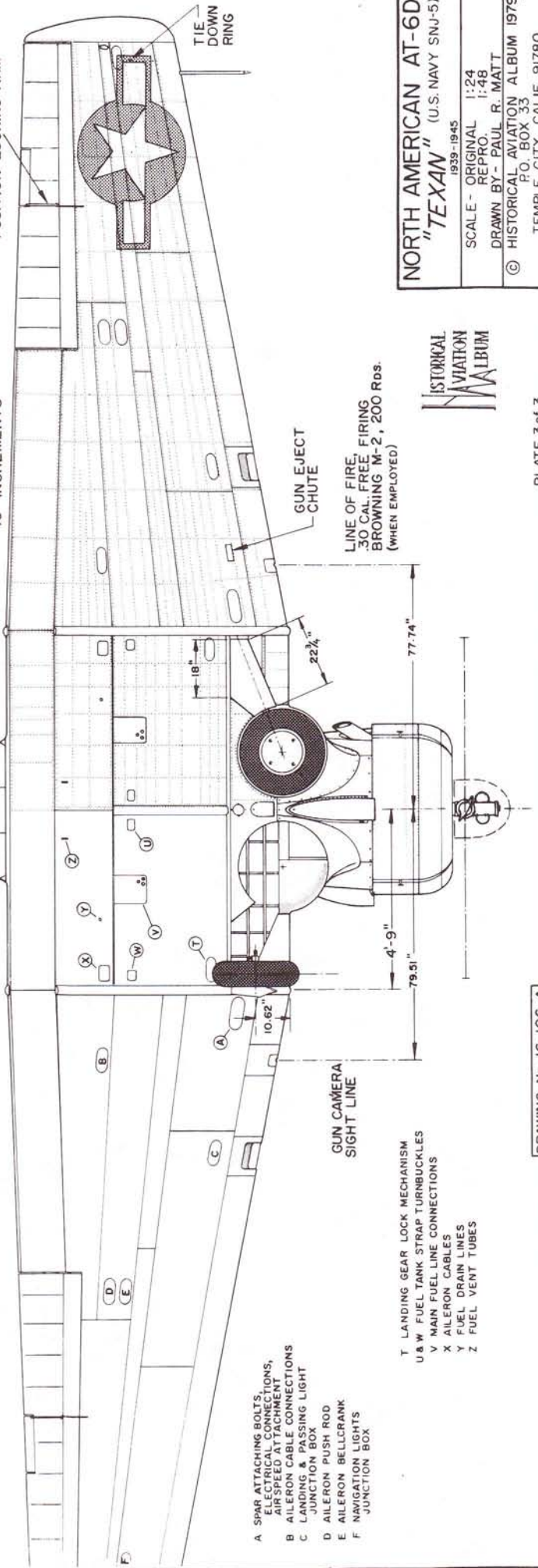
SIMPLIFIED COCKPIT LAYOUT



RECOGNITION
 LIGHTS
 AMBER
 GREEN
 RED

CAMER DOORS
 CAMERA VIEWING
 WINDOW

LANDING FLAPS
 45° MAX. DEFLECTION, IN
 10° INCREMENTS



A SPAR ATTACHING BOLTS
 ELECTRICAL CONNECTIONS,
 AIRSPEED ATTACHMENT
 B AILERON CABLE CONNECTIONS
 C LANDING & PASSING LIGHT
 JUNCTION BOX
 D AILERON PUSH ROD
 E AILERON BELLCRANK
 F NAVIGATION LIGHTS
 JUNCTION BOX

T LANDING GEAR LOCK MECHANISM
 U & W FUEL TANK STRAP TURNBUCKLES
 V MAIN FUEL LINE CONNECTIONS
 X AILERON CABLES
 Y FUEL DRAIN LINES
 Z FUEL VENT TUBES



NORTH AMERICAN AT-6D
"TEXAN" (U.S. NAVY SNJ-5)

1939-1945
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
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GENERAL SPECIFICATIONS AND DATA

MAXIMUM GROSS WEIGHT - 550,000 lbs.
 TOP SPEED - MACH 3 (2,000 m.p.h.) AT 70,000 FEET
 POWER - SIX GENERAL ELECTRIC YJ-93 TURBO JETS, 30,000 lbs. THRUST EACH
 FUEL - 11 TANKS, 47,000 gals. TOTAL CAPACITY
 TAKEOFF AT 500,000 lbs., 200 knots IN 7,000 feet
 AT 400,000 lbs., 180 knots IN 4,000 feet
 LANDING APPROACH SPEED - 270 knots

COLORING NOTES

ENTIRE AIRCRAFT - GLOSS WHITE
 ENGINE BAYS AREA - NATURAL STEEL FINISH
 TIRES - ALUMINUM PAINTED
 ANTI-GLARE PANEL - FLAT BLACK
 TURBO JET ENGINES - BLACK
 ALL LETTERING - BLACK
 WING TIP FOLD FAIRING - GLOSS BLACK
 NATIONAL INSIGNIA - RED, WHITE & BLUE

TOTAL WING (INCLUDES 2,482.34 sq. ft. COVERED BY FUSELAGE BUT NOT 33.53 sq. ft. OF WING RAMP AREA) - 6,297.15 sq. ft.

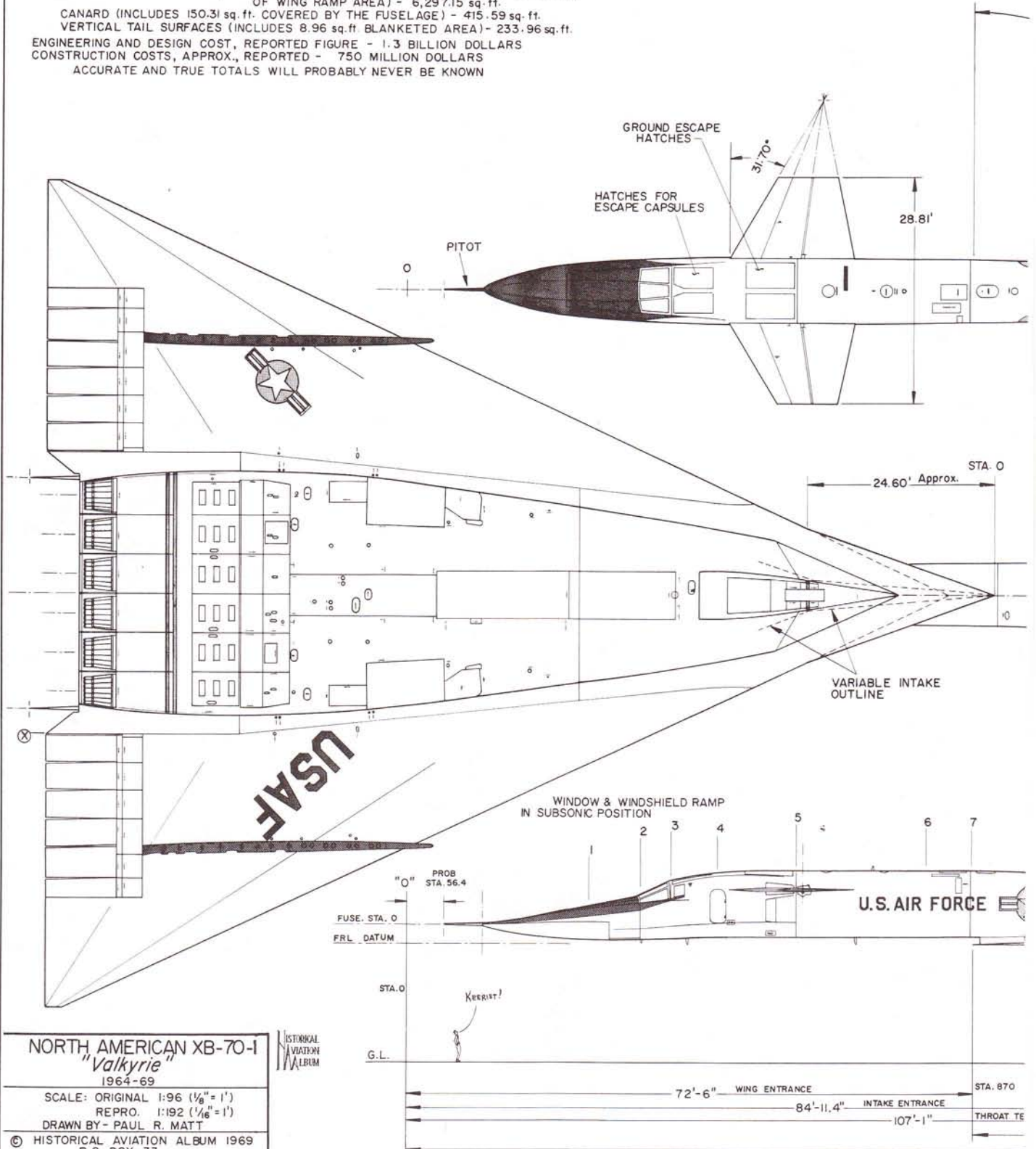
CANARD (INCLUDES 150.31 sq. ft. COVERED BY THE FUSELAGE) - 415.59 sq. ft.

VERTICAL TAIL SURFACES (INCLUDES 8.96 sq. ft. BLANKETED AREA) - 233.96 sq. ft.

ENGINEERING AND DESIGN COST, REPORTED FIGURE - 1.3 BILLION DOLLARS

CONSTRUCTION COSTS, APPROX., REPORTED - 750 MILLION DOLLARS

ACCURATE AND TRUE TOTALS WILL PROBABLY NEVER BE KNOWN

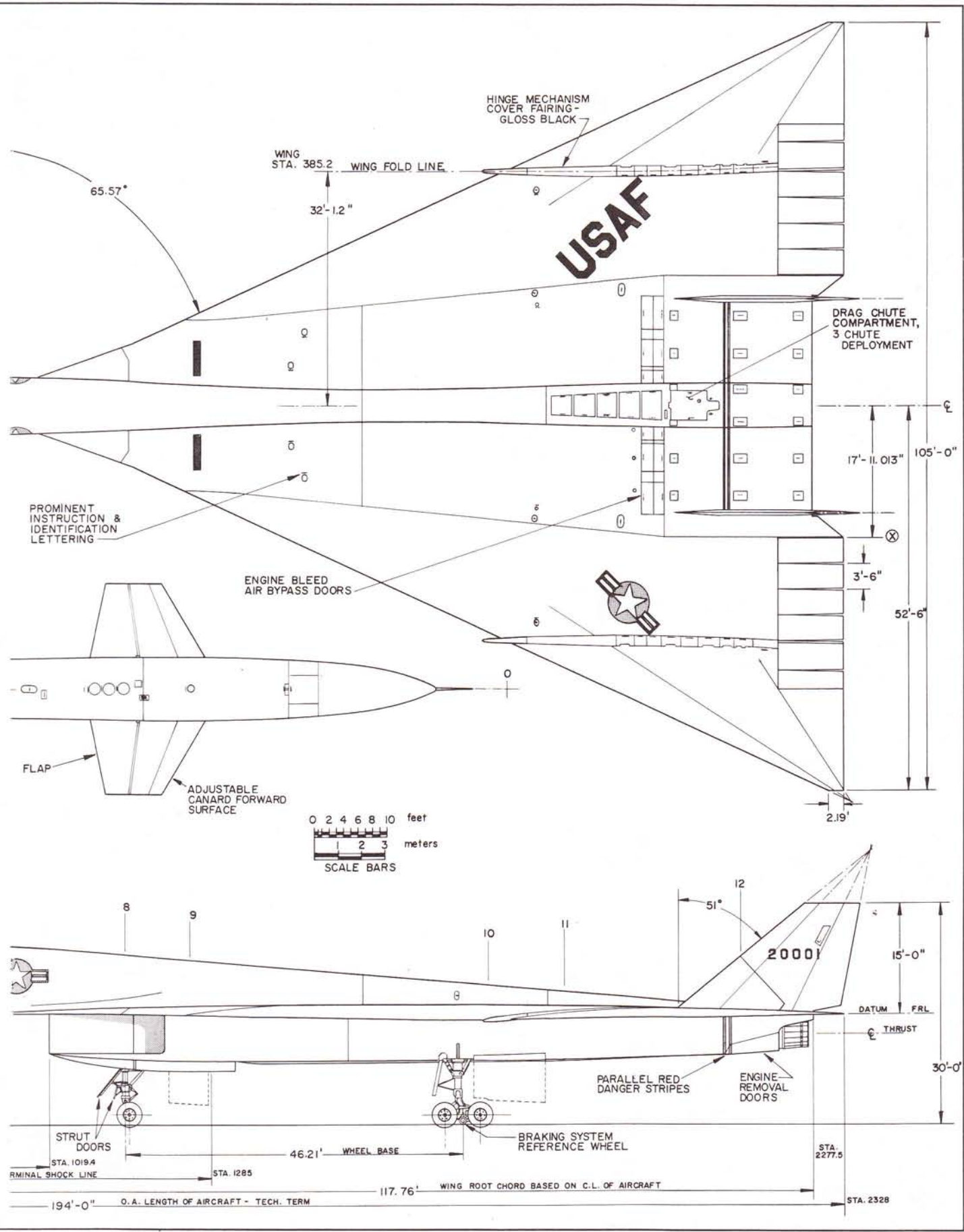


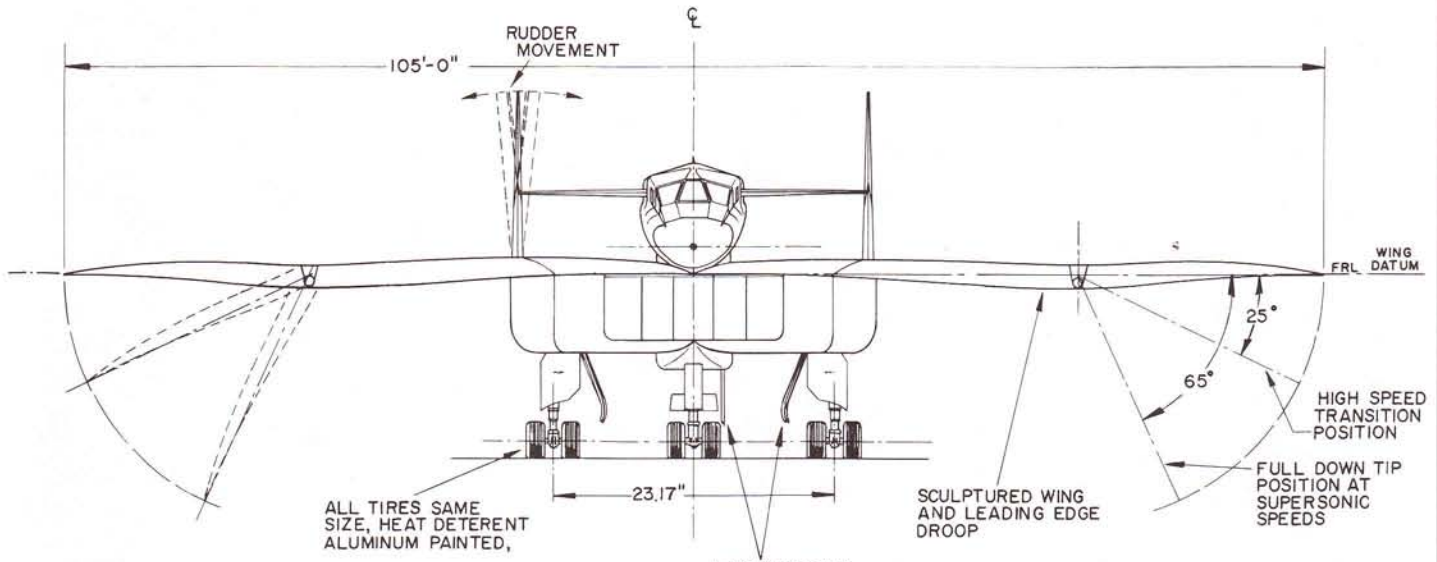
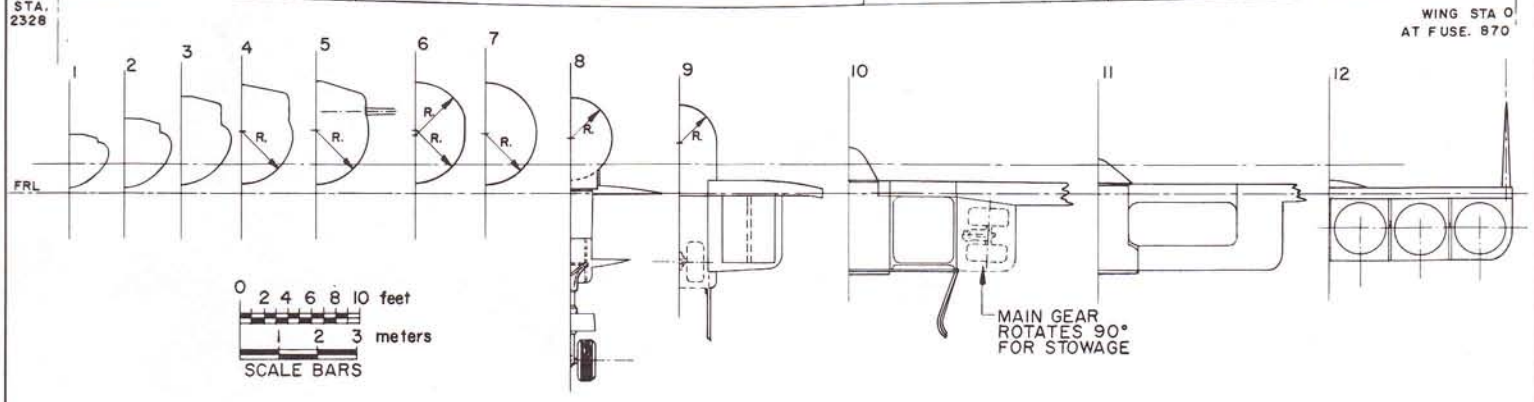
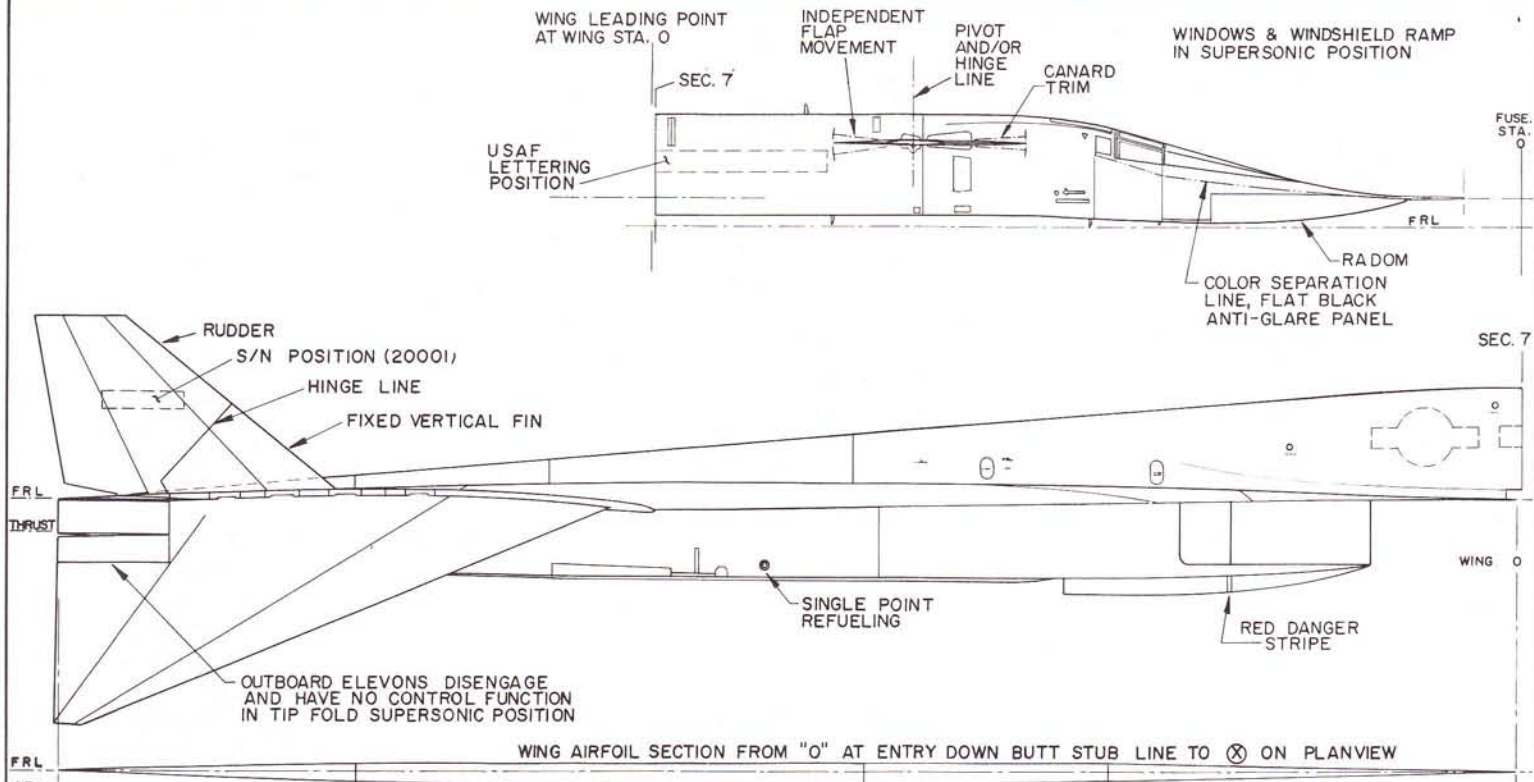
NORTH AMERICAN XB-70-1
"Valkyrie"
 1964-69

SCALE: ORIGINAL 1:96 (1/8" = 1')
 REPRO. 1:192 (1/16" = 1')
 DRAWN BY - PAUL R. MATT

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HISTORICAL AVIATION ALBUM

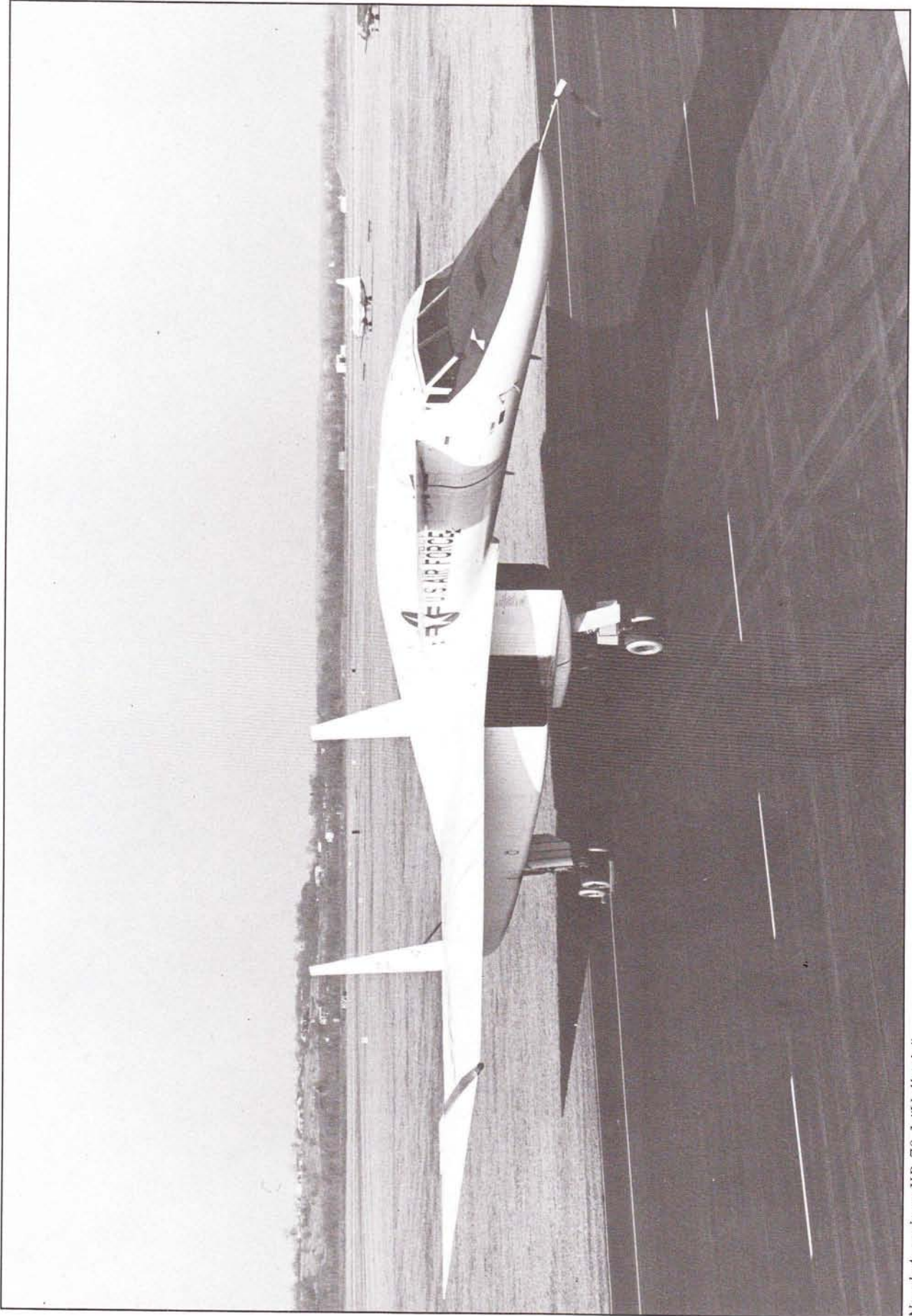




LANDING GEAR DOORS NORMALLY OPEN ONLY DURING BRIEF EXTENSION OR RETRACTION SEQUENCE

NORTH AMERICAN XB-70-1
 "Valkyrie"
 1964-69
 SCALE: ORIGINAL 1:96 (1/8" = 1')
 REPRO. 1:192 (1/16" = 1')
 DRAWN BY - PAUL R. MATT

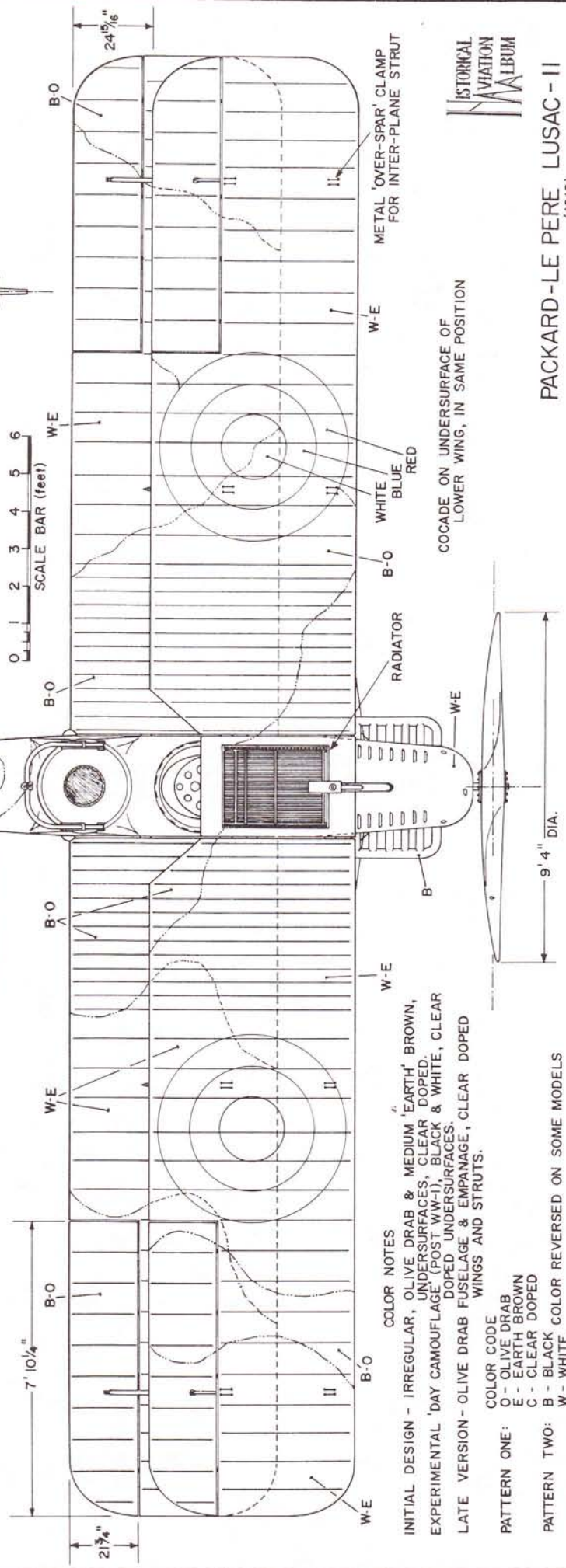
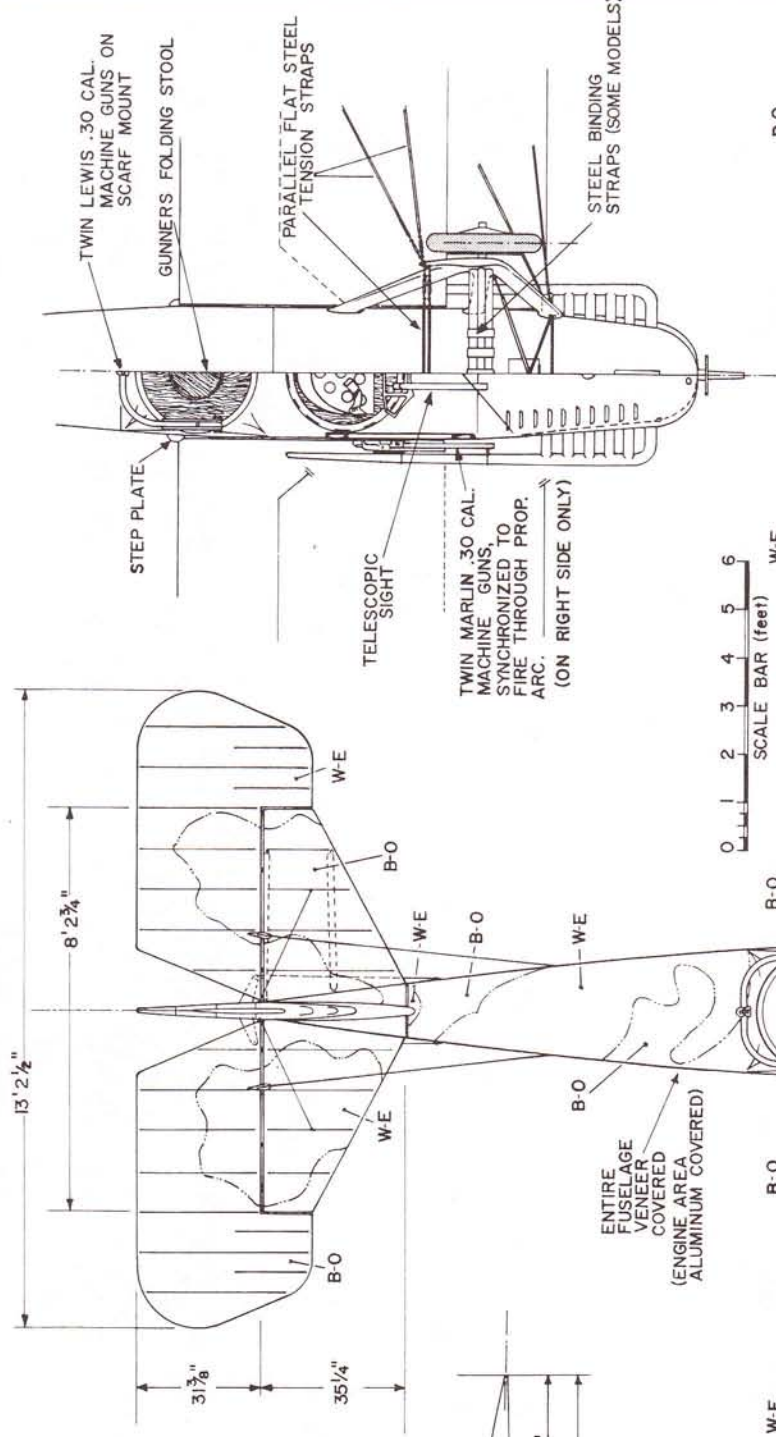
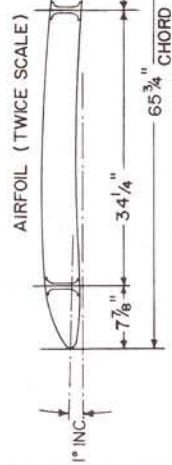




North American XB-70-1 "Valkyrie"

GENERAL SPECIFICATIONS

WEIGHT EMPTY 2468 lbs.
 PILOT & GUNNER 360 "
 FUEL & OIL 475 "
 ARMAMENT 352 "
 GROSS WEIGHT 3655 "
 TOP SPEED at SEA LEVEL (136) 132 mph
 10,000 ft. 127 "
 20,000 ft. 102 "
 SERVICE CEILING 23,000 ft.
 WING AREA (INCL. AILERONS) 415.6 sq. ft.
 WING LOADING 84 lbs./sq. ft.
 ENDURANCE, CRUISE at 10,000 ft. 5 hrs.
 CRUISING SPEED 112 mph
 LANDING SPEED 50 "



COLOR NOTES

INITIAL DESIGN - IRREGULAR, OLIVE DRAB & MEDIUM 'EARTH' BROWN, UNDERSURFACES, CLEAR DOPED.
 EXPERIMENTAL 'DAY CAMOUFLAGE' (POST WW-1), BLACK & WHITE, CLEAR DOPED UNDERSURFACES.
 LATE VERSION - OLIVE DRAB FUSELAGE & EMPANAGE, CLEAR DOPED WINGS AND STRUTS.

COLOR CODE

O - OLIVE DRAB
 E - 'EARTH' BROWN
 C - CLEAR DOPED
 B - BLACK COLOR REVERSED ON SOME MODELS
 W - WHITE PATTERN AND OUTLINE DID NOT CHANGE

PATTERN ONE: O - OLIVE DRAB
E - 'EARTH' BROWN
C - CLEAR DOPED

PATTERN TWO: B - BLACK COLOR REVERSED ON SOME MODELS
W - WHITE PATTERN AND OUTLINE DID NOT CHANGE

BASIC CAMOUFLAGE PATTERN AND OUTLINE DID NOT CHANGE

COLOR LINE - - - - -



PACKARD-LE PERE LUSAC - II

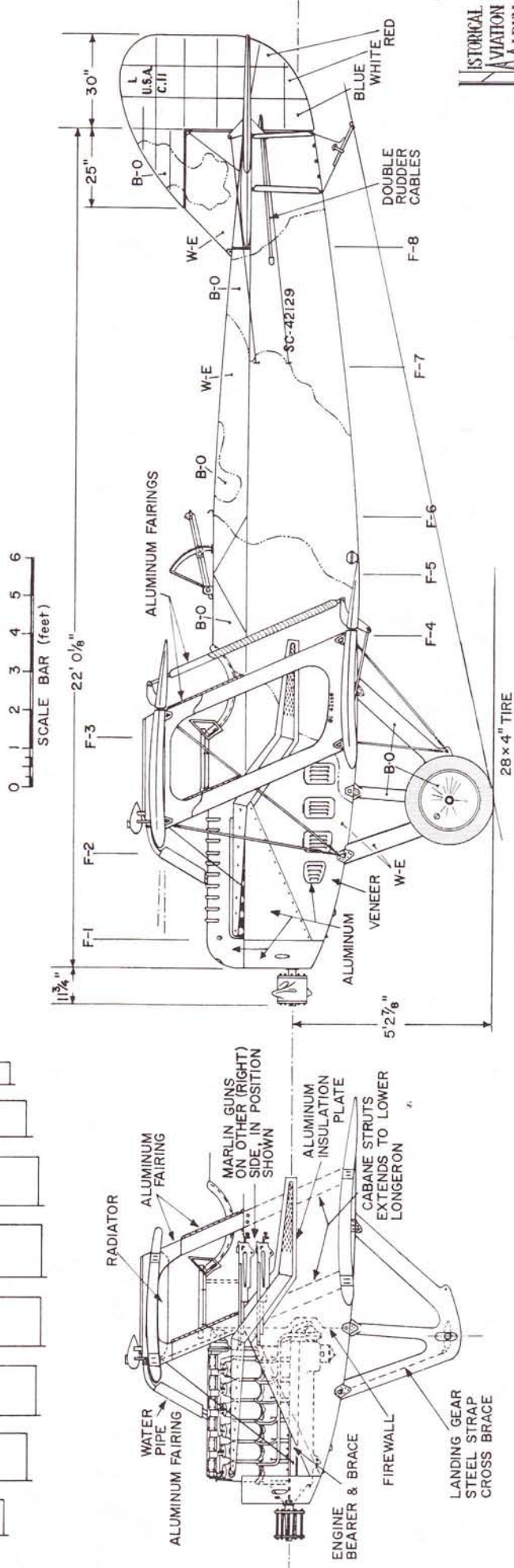
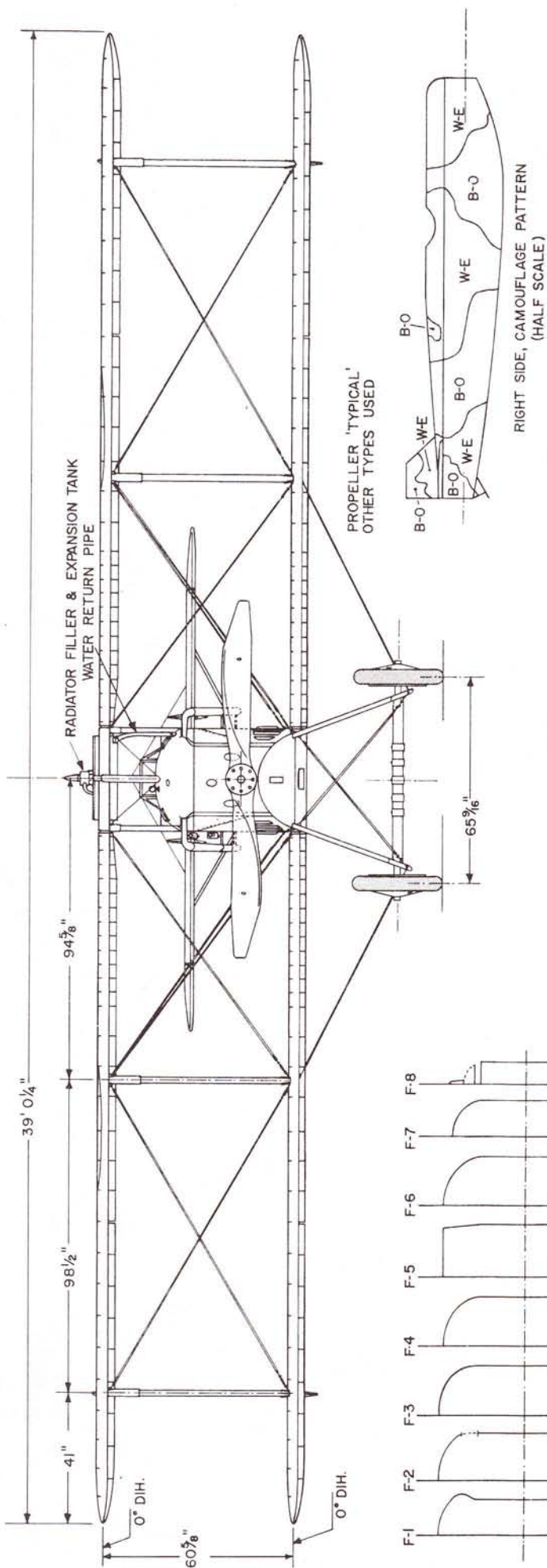
(1918)

SCALE: 1:48

DRAWN BY: PAUL R. MATT

PLATE I

© 1965



INTERPLANE STRUTS SAME COLOR AS CONTACT AREA OF LOWER WING, FOLLOWING CAMOUFLAGE PATTERN. ALUMINUM FAIRINGS LEFT NATURAL.

SERIAL NUMBER ASSIGNMENT
40013-40029
42129-42141
(42130-42133 TO FRANCE, A.E.F.)

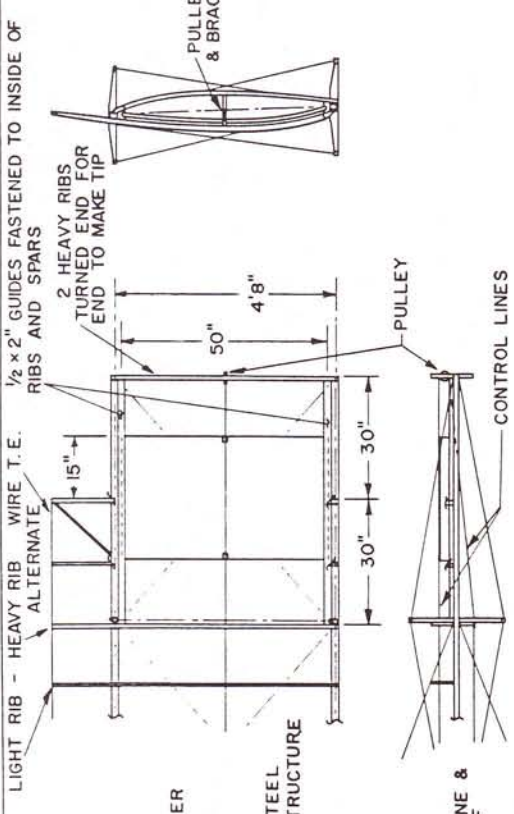
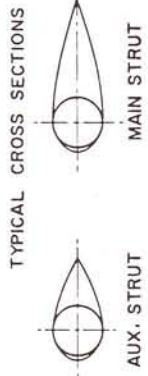


PACKARD-LE PERE LUSAC - II

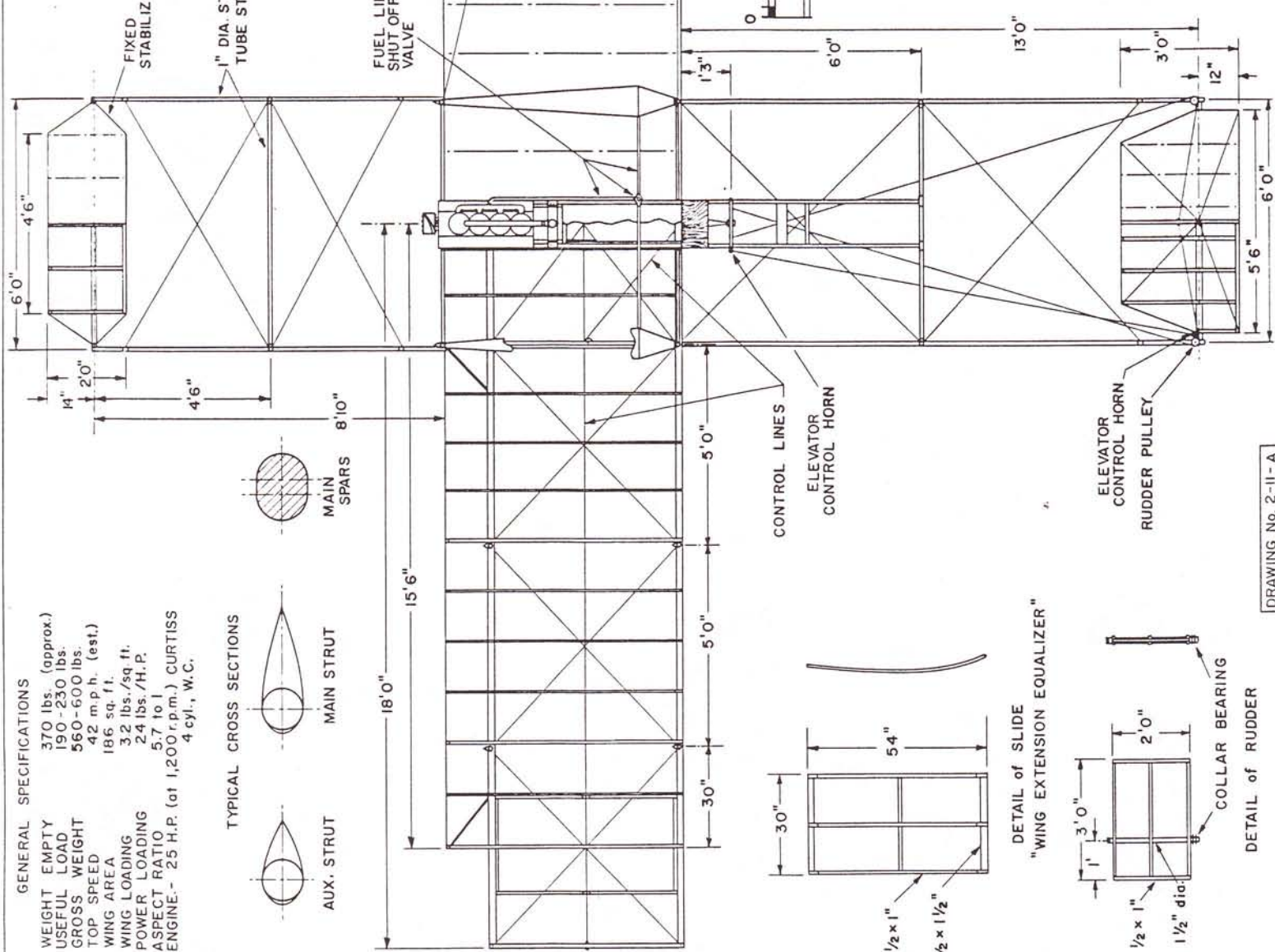
(1918)

GENERAL SPECIFICATIONS

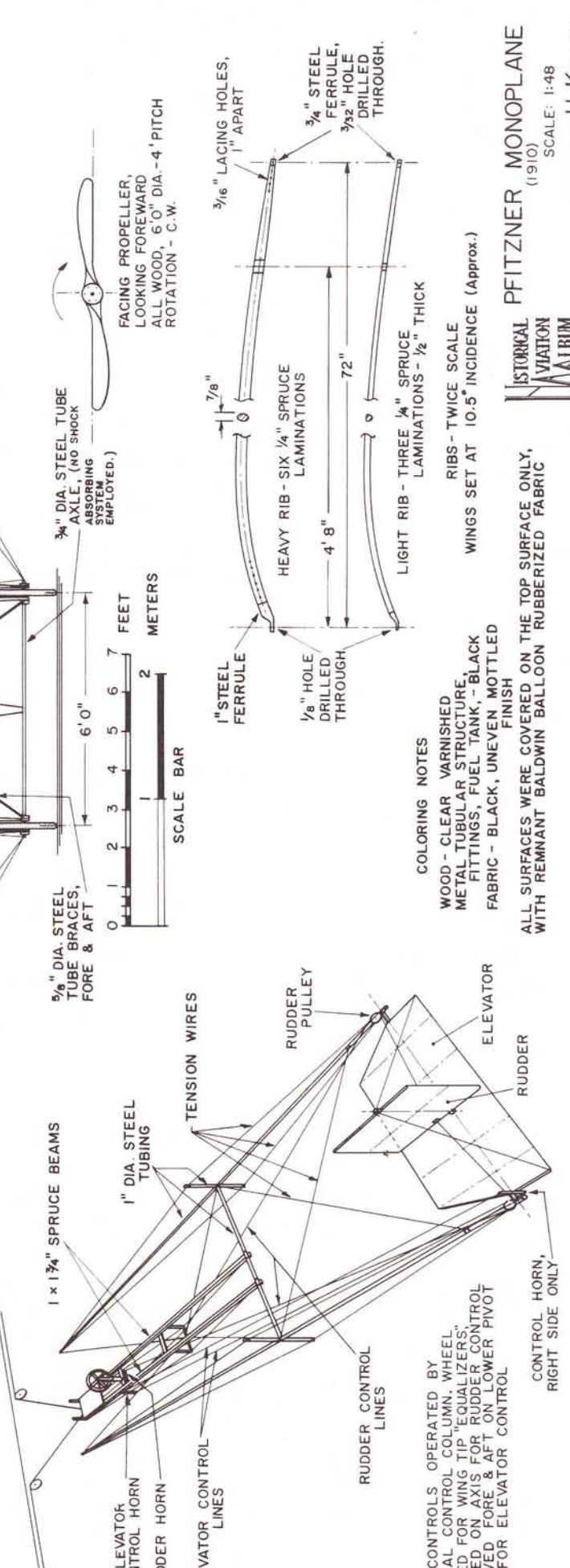
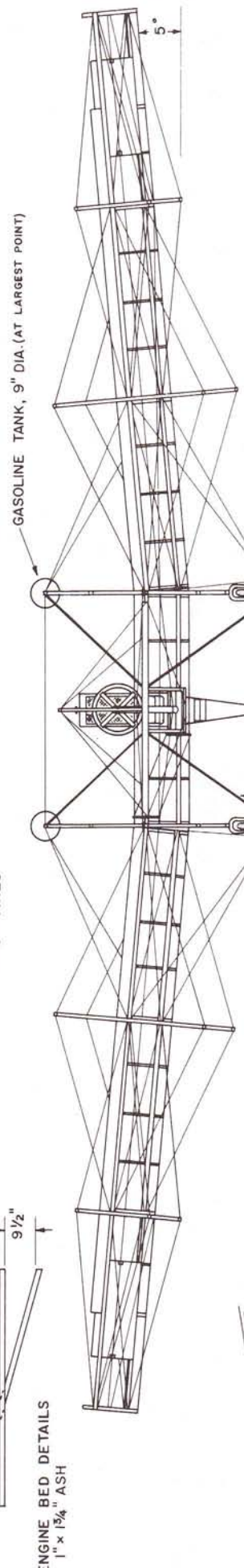
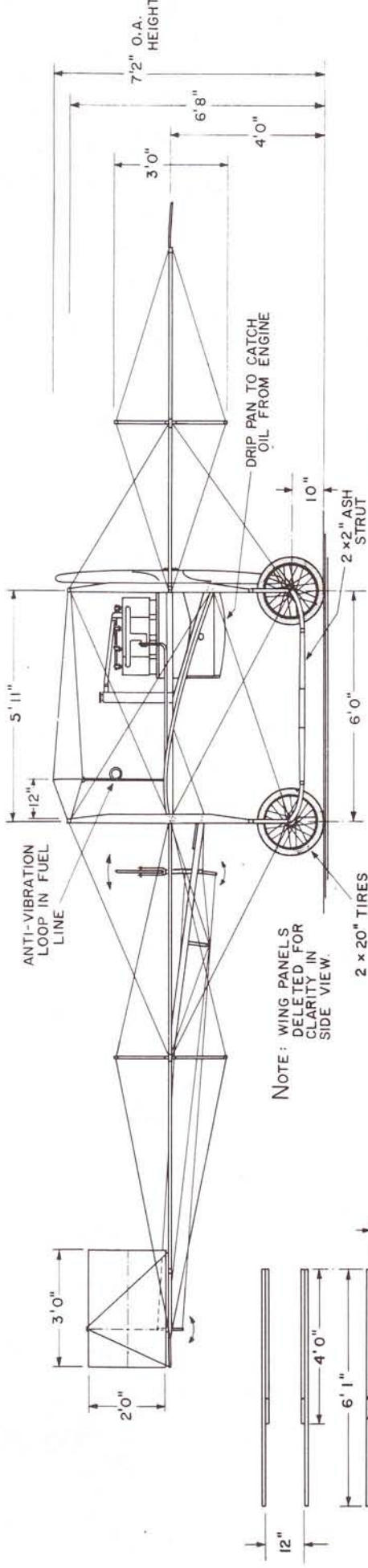
WEIGHT EMPTY 370 lbs. (approx.)
 USEFUL LOAD 190 - 230 lbs.
 GROSS WEIGHT 560 - 600 lbs.
 TOP SPEED 42 m.p.h. (est.)
 WING AREA 186 sq. ft.
 WING LOADING 3.2 lbs./sq. ft.
 POWER LOADING 24 lbs./H.P.
 ASPECT RATIO 5.7 to 1
 ENGINE - 25 H.P. (at 1,200 r.p.m.) CURTISS
 4 cyl., W.C.



**NOTE: WINGS
 DRAWN IN TRUE
 PLATFORM NOT
 AS 5° DIHEDRAL
 PROJECTION**



PfITZNER 1910 MONOPLANE
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY: HERB KELLEY
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COLORING NOTES

WOOD - CLEAR VARNISHED

METAL TUBULAR STRUCTURE, FITTINGS, FUEL TANK, - BLACK

FABRIC - BLACK, UNEVEN MOTTLED FINISH

ALL SURFACES WERE COVERED ON THE TOP SURFACE ONLY, WITH REMNANT BALDWIN BALLOON RUBBERIZED FABRIC

PFITZNER MONOPLANE
(1910)

HISTORICAL AVIATION MUSEUM

SCALE: 1:48

DRAWN BY: H. KELLEY

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GENERAL SPECIFICATION

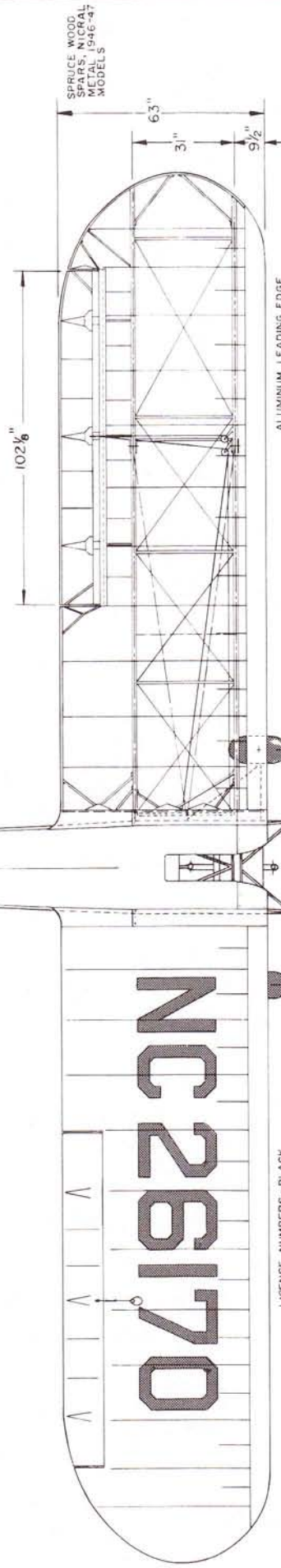
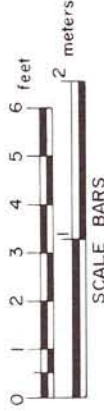
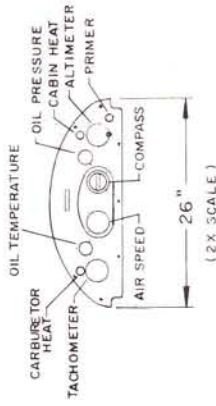
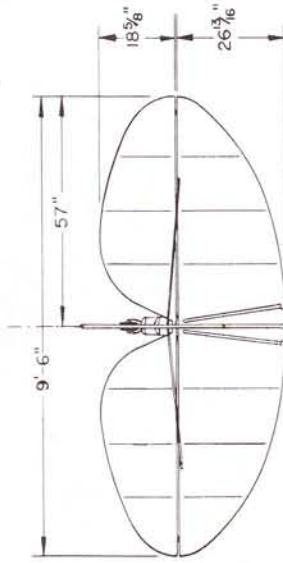
WEIGHT EMPTY 680 lbs
 USEFUL LOAD 540 lbs
 GROSS WEIGHT 1100 lbs
 WING AREA 178.5 sq.ft.
 POWER LOADING 6.16 lbs/sq.ft.
 TOP SPEED 22.0 lbs/Hp
 CRUISING SPEED 87 mph
 LANDING SPEED 38 mph
 RANGE AT CRUISE 220 miles
 MAXIMUM CEILING 12,000 feet
 FUEL CAPACITY 12 gal.
 OIL CAPACITY 1 gal.
 FUEL CONSUMPTION 4.46 gals/hr

POWER: CONTINENTAL A-65-8
 LYCOMING O-145
 FRANKLIN 4AC-65

ALL 65 HP AT 2500/2550rpm

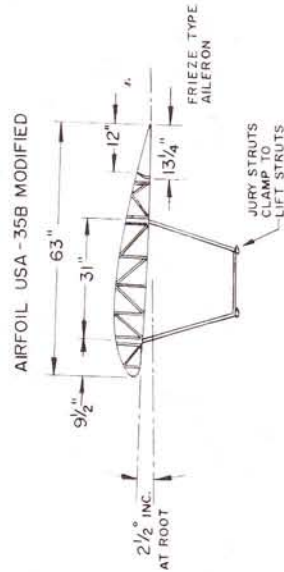
COLORING NOTES

STANDARD FACTORY ISSUE - OVERALL CUB YELLOW
 (DEEP RED-YELLOW), BLACK TRIM
 OTHER COLORS AT CUSTOMERS REQUEST



LOGO CENTERED ON FIN
 FIGURE APPROX 10" HIGH

COLORING
 CUB - LIGHT BROWN
 EYES & MUZZLE - WHITE
 TONGUE - RED
 DETAILING IN BLACK
 SIGN: MAROON-RED, "PIPER CUB"
 WHITE, OUTLINED IN BLACK.
 LETTERING - BLACK



ESTABLISHED
 1925
 WILMINGTON

PIPER J-3 "CUB"
 1937-47

SCALE: ORIGINAL - 1:24

REPRO. - 1:48

DRAWN BY: PAUL R. MATT

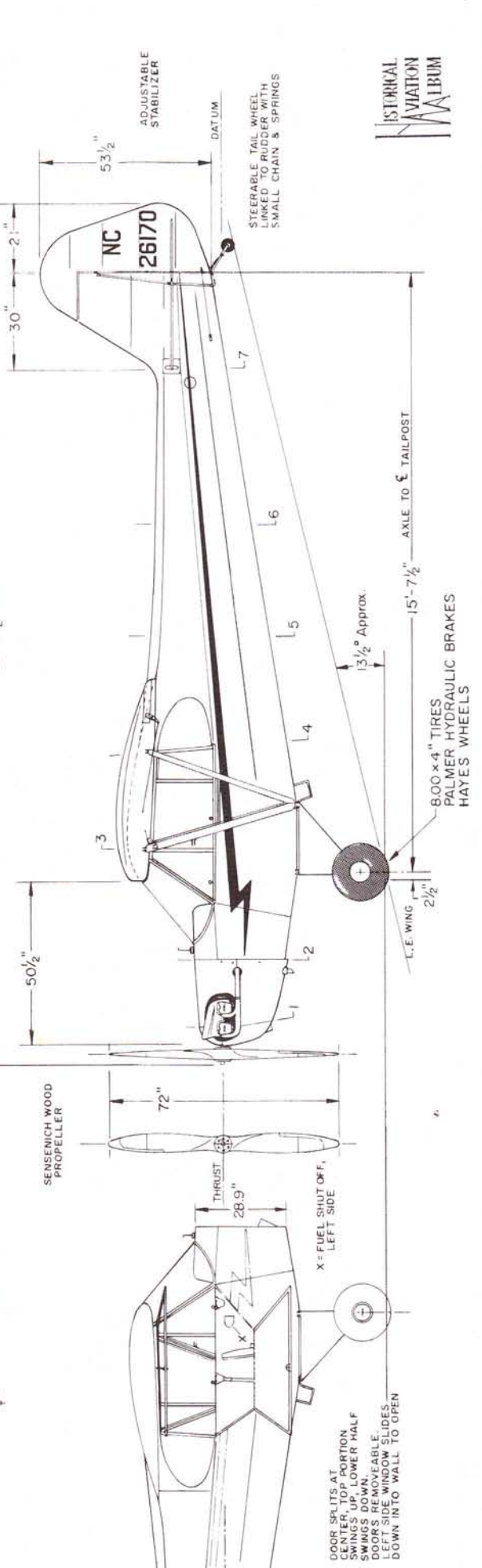
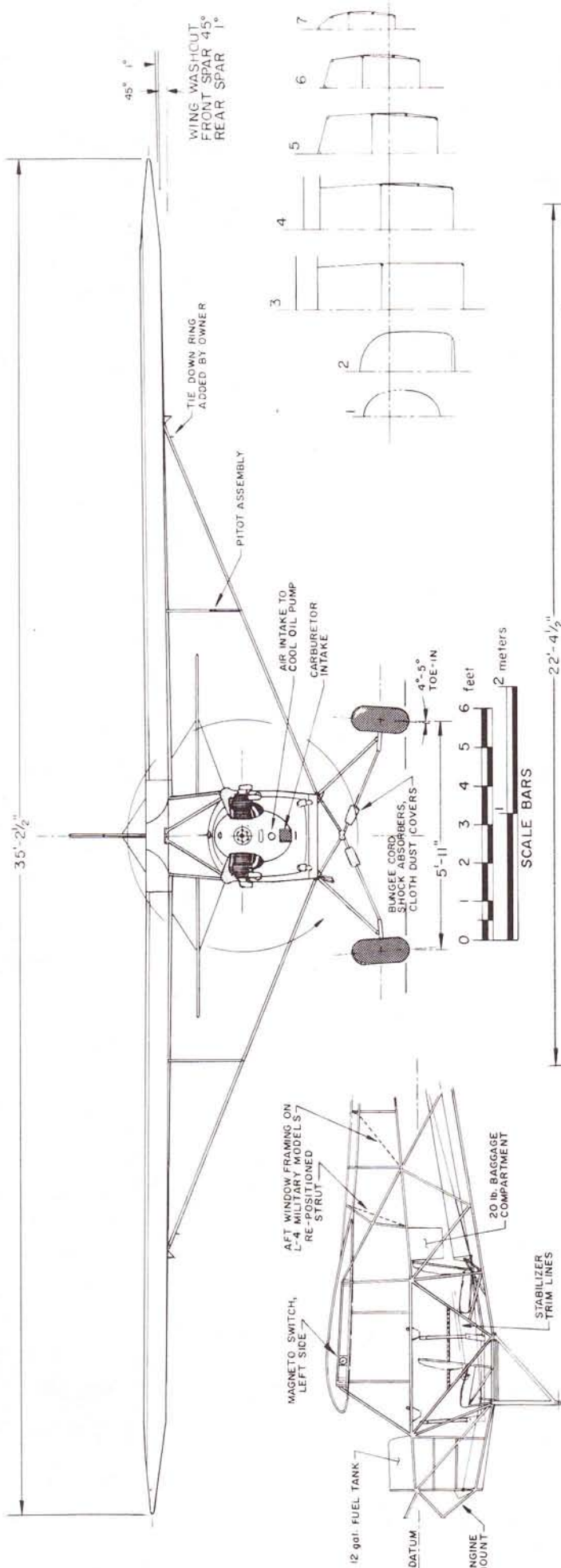
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PLATE 1 of 2

DRAWING No. 18-121-A



PIPER J-3 "CUB"
1937-47

SCALE: ORIGINAL - 1:24
REPRO. - 1:48

DRAWN BY: PAUL R. MATT

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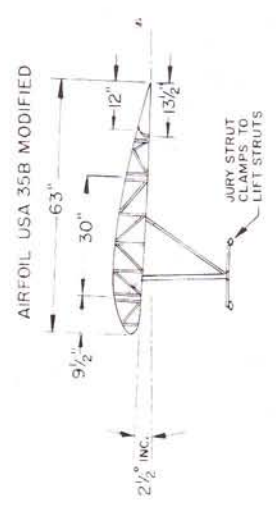
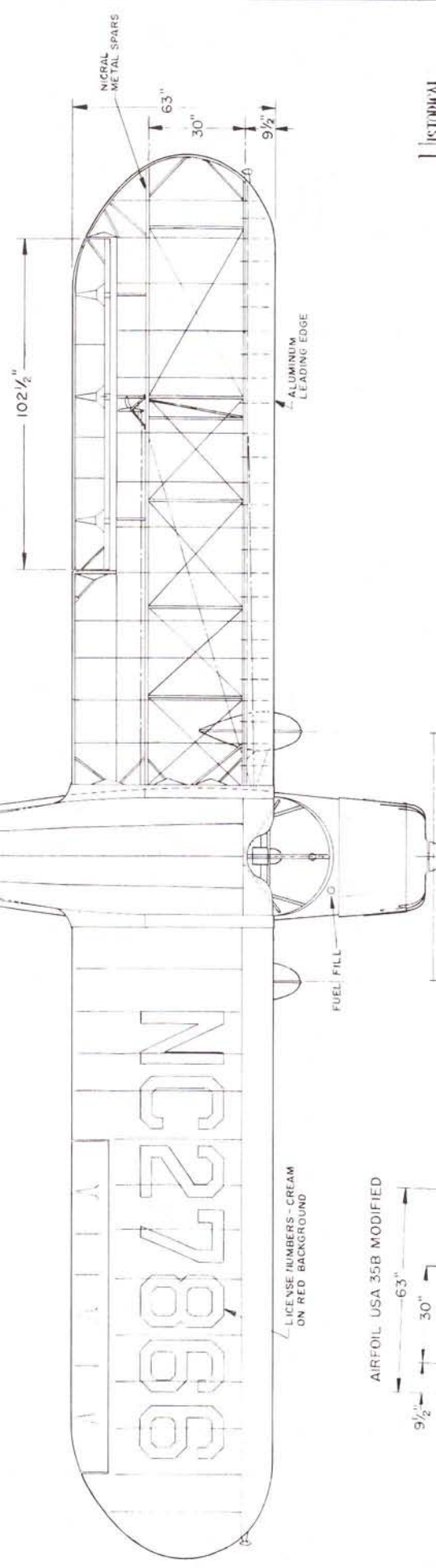
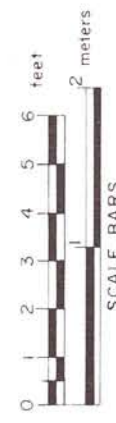
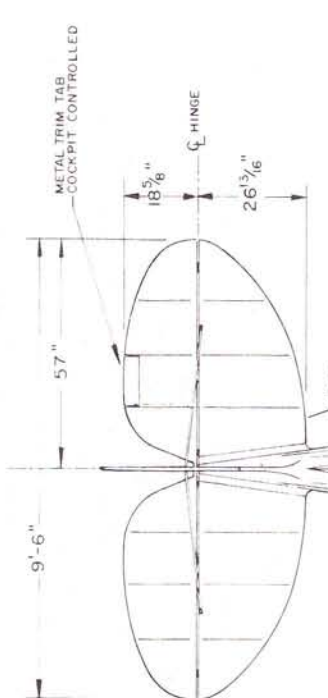
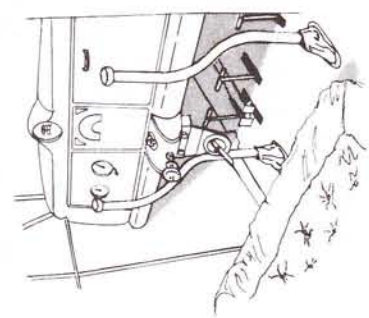
GENERAL SPECIFICATIONS

CONTINENTAL A-75-B, 75 HP
 LYCOMING O-145, 65 HP

WEIGHT EMPTY 880 lbs.
 USEFUL LOAD 401 lbs.
 GROSS WEIGHT 1301 lbs.
 WING AREA 183 sq. ft.
 WING LOADING 7.1 lbs./sq. ft.
 POWER LOADING 18.66 lbs./Hp
 TOP SPEED 96 mph
 CRUISING SPEED 83 mph
 LANDING SPEED 38 mph
 SERVICE CEILING 12,000 feet
 RANGE AT CRUISE 382 miles
 FUEL CAPACITY 16 gals.
 OIL CAPACITY 1.25 gals.
 FUEL CONSUMPTION 5 gal. at S.L.
 4 gals. at S.L.

POWER: CONTINENTAL A-75-B,
 75 HP AT S.L. AT 2600 rpm
 OR LYCOMING O-145,
 65 HP AT S.L. AT 2550 rpm
 MAXIMUM POWER, TAKE OFF & EMERGENCY

COLORING NOTES
 STANDARD FACTORY SCHEME - FUSELAGE, VERTICAL
 TAIL SURFACES & LANDING GEAR - CREAM.
 HORIZONTAL TAIL SURFACES, WINGS & PROFILE
 TRIM - RED... OR REVERSE COLORS.
 OTHER COLORS USED - BLUE & CREAM AS WELL AS
 SOLID COLORS OVERALL

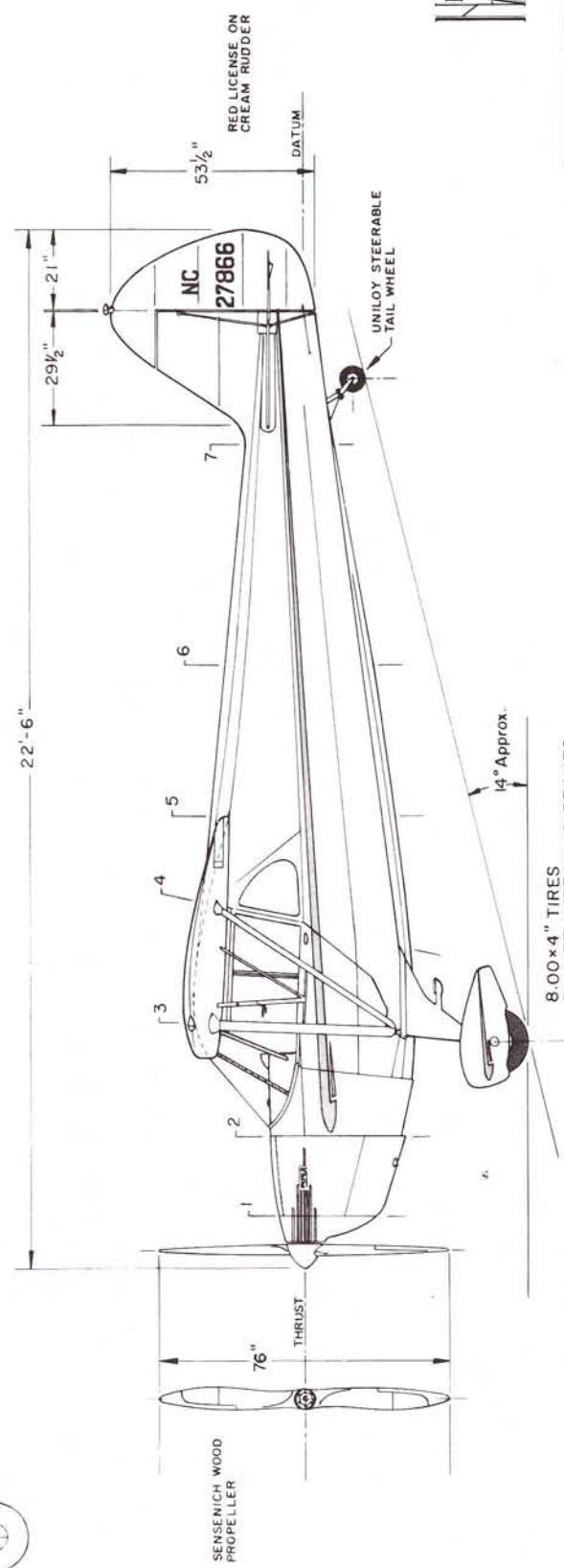
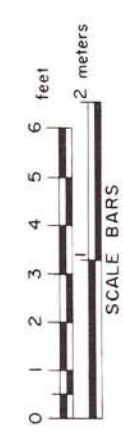
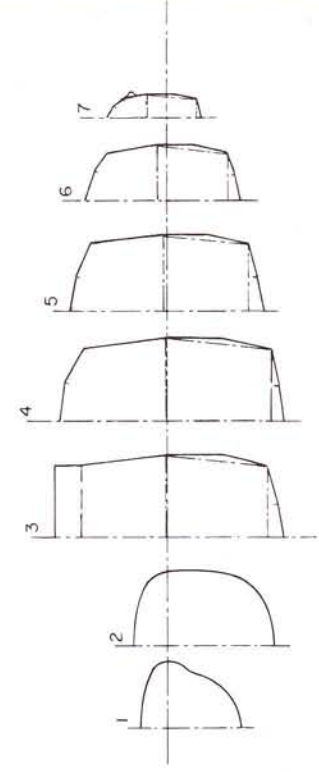
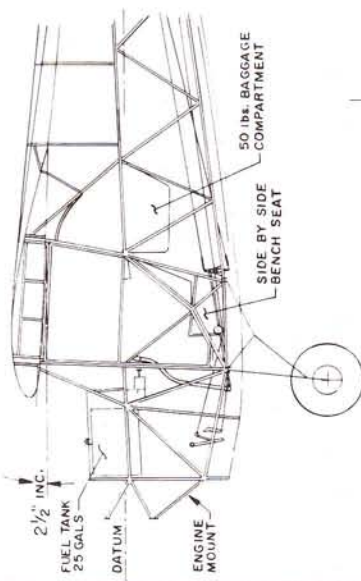
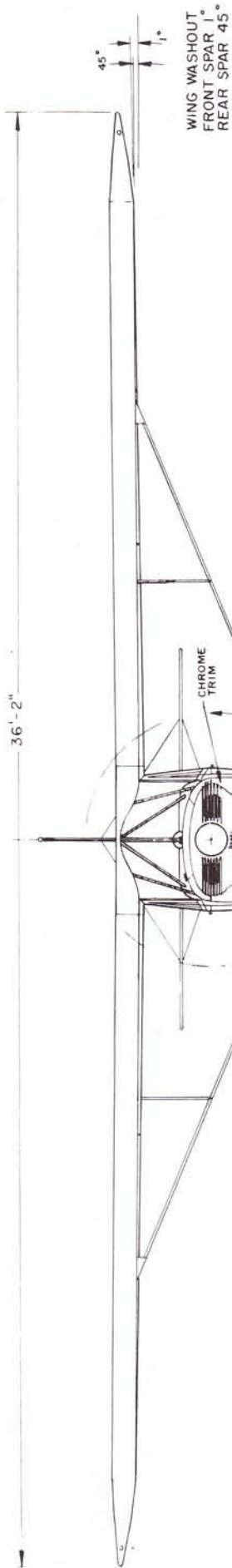


SINCERE THANKS TO PAUL
 McDaniel, JOHN UNDERWOOD
 AND PIPER AIRCRAFT FOR
 THEIR HELP IN THE PREPARA-
 TIONS OF THESE DRAWINGS.

HISTORICAL
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PIPER J-4E "CUB COUPE"
 1941 MODEL
 SCALE - ORIGINAL - 1:24
 REPRO - 1:48
 DRAWN BY: PAUL R. MATT

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PIPER J-4E "CUB COUPE"
1941 MODEL

SCALE: ORIGINAL - 1:24
REPRO. - 1:48
DRAWN BY: PAUL R. MATT

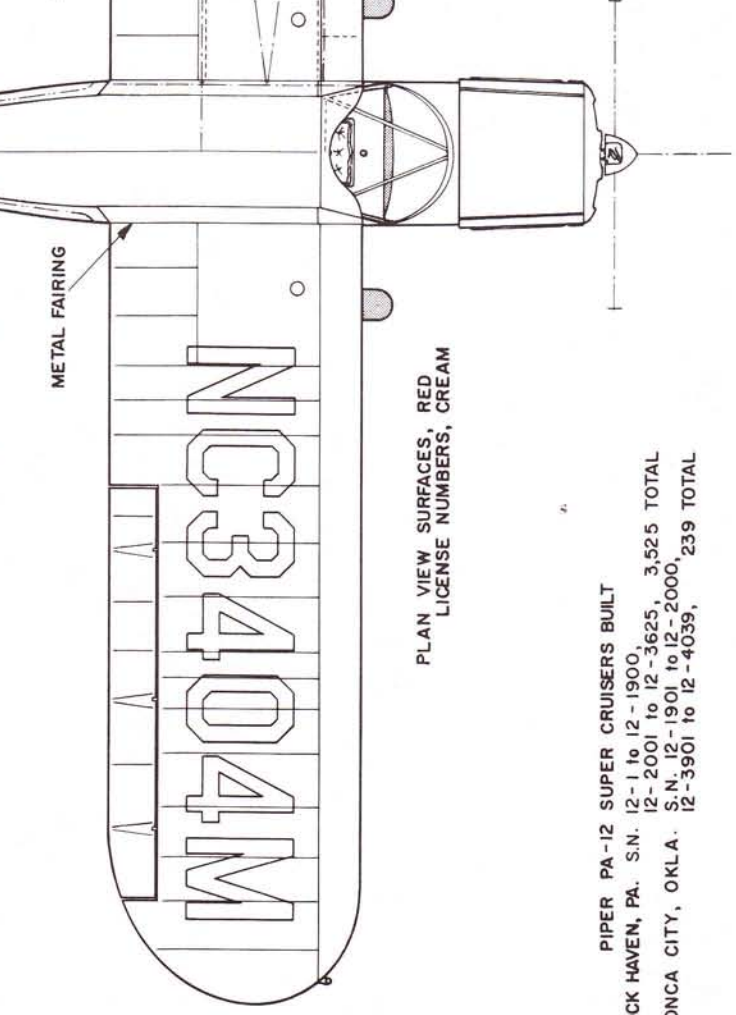
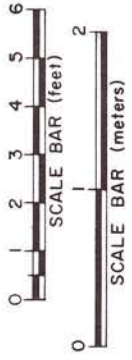
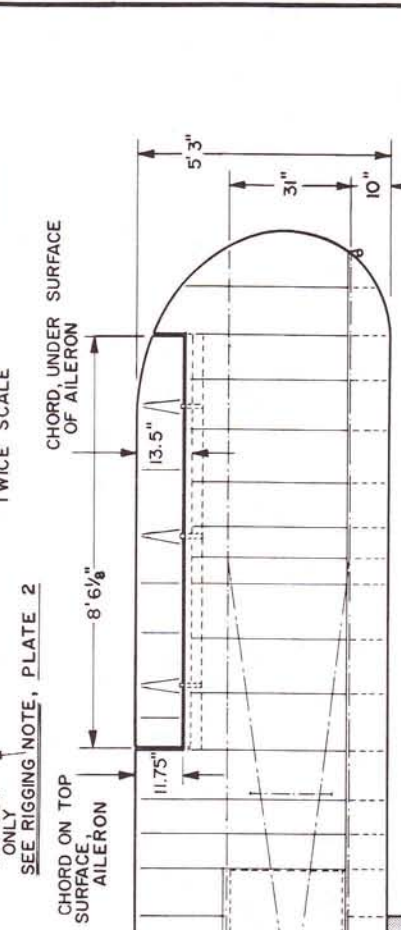
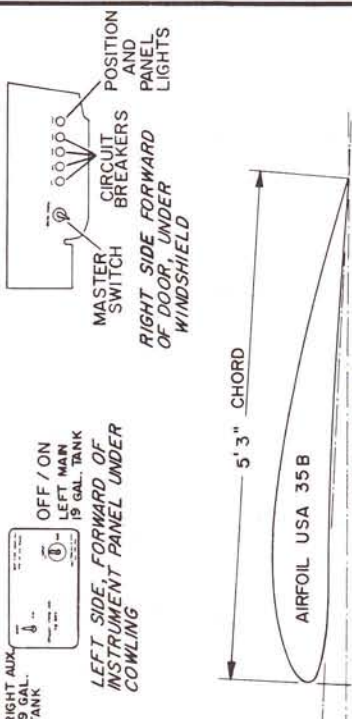
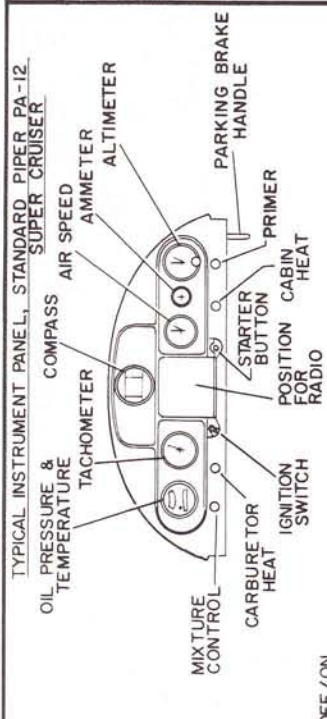
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TEMPLE CITY, CALIF. 91780

GENERAL SPECIFICATIONS

	NORMAL	UTILITY
WEIGHT EMPTY	950 lbs.	950 lbs.
GROSS WEIGHT	1750 lbs.	1500 lbs.
POWER LOADING	17.5 lbs./H.P.	15 lbs./H.P.
WING LOADING	9.6 lbs./sq. ft.	8.36 lbs./sq. ft.
BAGGAGE CAPACITY	41 lbs.	103 m.p.h.
CRUISING SPEED	110 m.p.h.	138 m.p.h.
LIMITED TOP SPEED	138 m.p.h.	148 m.p.h.
RED LINE DIVING SPEED	49 m.p.h.	---
STALLING SPEED	600 ft./min.	750 ft./min.
RATE OF CLIMB, S.L.	75 m.p.h.	70 m.p.h.
BEST CLIMB SPEED	600 miles	600 miles
CRUISING RANGE	12,600 feet	15,700 feet
SERVICE CEILING	15,500 feet	18,000 feet
ABSOLUTE CEILING	11:1	11:1
GLIDING RATIO	38 gals.	38 gals.
FUEL CAPACITY (73/80 OCTANE)	6 quarts	6 quarts
OIL CAPACITY		

POWER- LYCOMING O-235-C 100 H.P. at 2600 r.p.m.
 OR LATER
 LYCOMING O-235-C1 108 H.P. at 2600 r.p.m.

THE -C1 ENGINE BOOSTED CRUISING SPEED
 TO 105 m.p.h.



AIRCRAFT PORTRAYED IS ONE OF THREE PIPER PA-12s USED BY THE GAME WARDENS, STATE OF MAIN, 1946-50. AIRCRAFT WERE ALSO EQUIPPED WITH SKIS AND PONTOONS. NOSE SPINNERS WERE REMOVED WHEN KOPPERS AEROMATIC PROPELLERS WERE INSTALLED IN 1947.

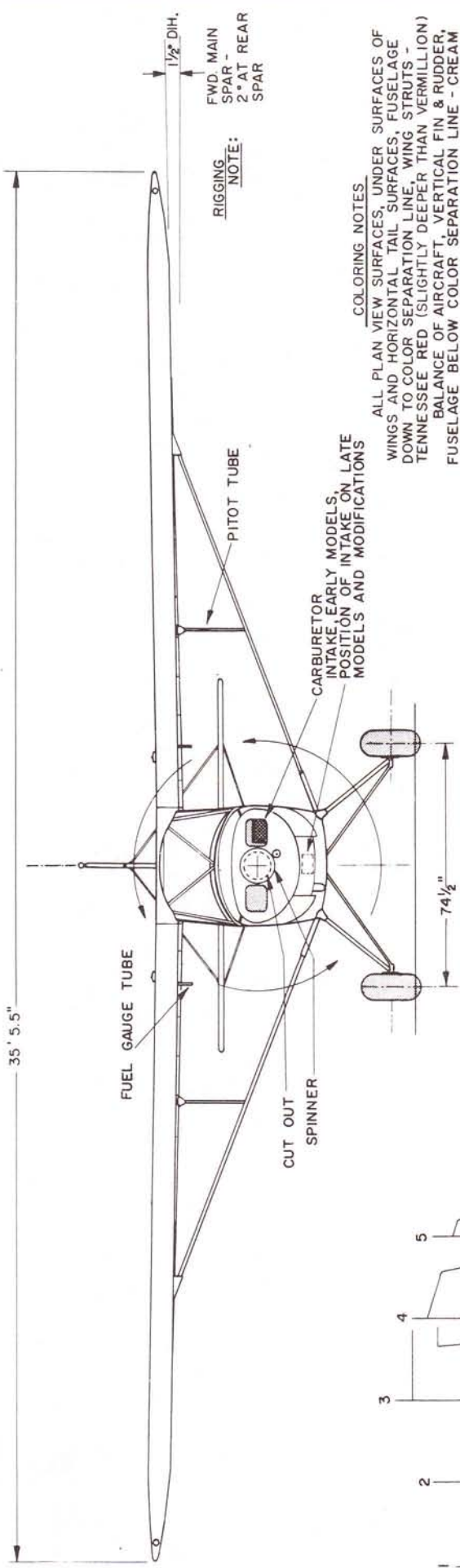
PIPER PA-12 SUPER CRUISERS BUILT
 LOCK HAVEN, PA. S.N. 12-1 to 12-1900,
 12-2001 to 12-3625, 3,525 TOTAL
 PONCA CITY, OKLA. S.N. 12-1901 to 12-2000,
 12-3901 to 12-4039, 239 TOTAL



PIPER PA-12 SUPER CRUISER

1946-48
 SCALE - 1:48

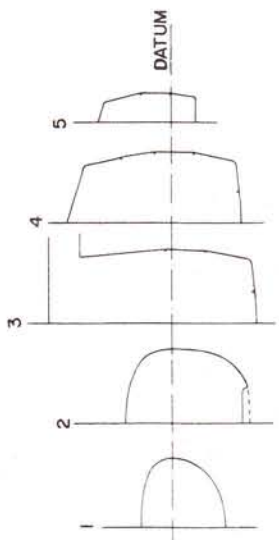
DRAWN BY: PAUL R. MATT



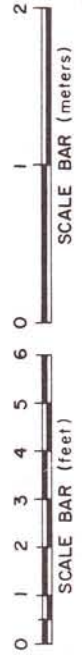
RIGGING NOTE:

COLORING NOTES

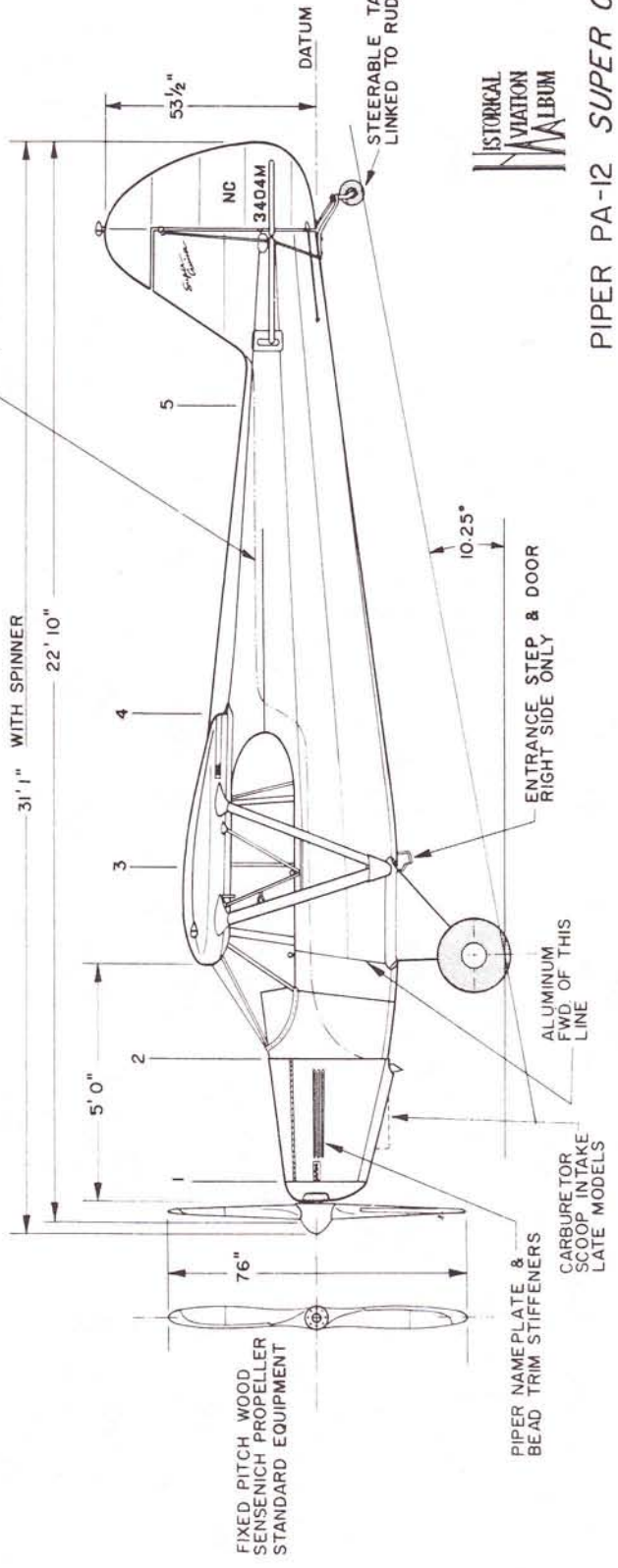
ALL PLAN VIEW SURFACES, UNDER SURFACES OF WINGS AND HORIZONTAL TAIL SURFACES, FUSELAGE DOWN TO COLOR SEPARATION LINE, WING STRUTS - TENNESSEE RED (SLIGHTLY DEEPER THAN VERMILLION) BALANCE OF AIRCRAFT, VERTICAL FIN & RUDDER, FUSELAGE BELOW COLOR SEPARATION LINE - CREAM, LICENSE NUMBERS - BLACK ON RUDDER, CREAM ON WINGS



DATUM



COLOR SEPARATION LINE
RED ABOVE, CREAM BELOW



PIPER PA-12 SUPER CRUISER

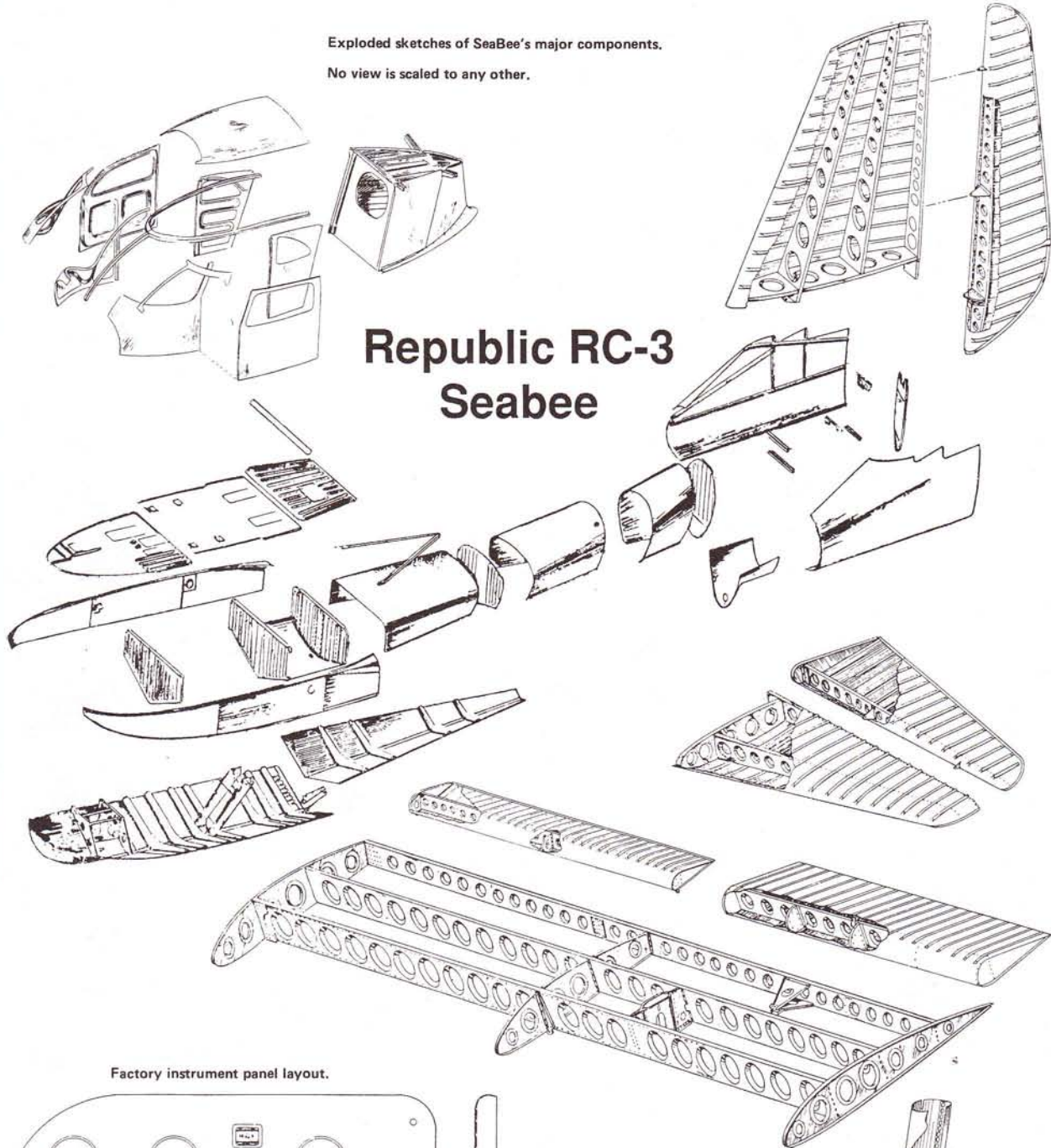
1946-48
SCALE: 1:48

DRAWN BY: PAUL R. MATT

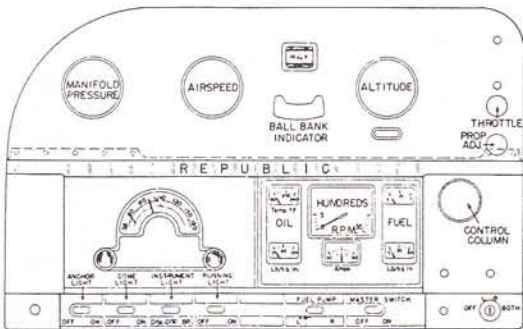
Exploded sketches of SeaBee's major components.

No view is scaled to any other.

Republic RC-3 Seabee



Factory instrument panel layout.



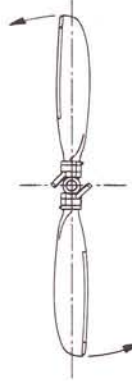
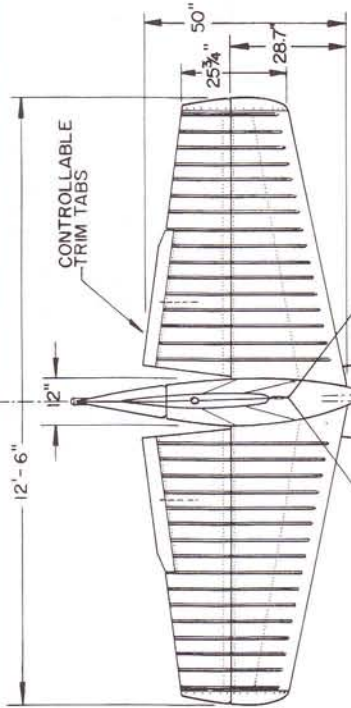
GENERAL SPECIFICATIONS

- WEIGHT EMPTY 2,100 lbs.
- USEFUL LOAD 1,050 lbs.
- GROSS WEIGHT 3,150 lbs.
- WING AREA 196 sq. ft.
- WING LOADING 15.3 lbs./sq. ft.
- POWER LOADING 14.2 lbs./H.P.
- TOP SPEED 120 mph
- CRUISING SPEED 103 mph
- LANDING SPEED 58 mph
- CRUISING RANGE 520 miles
- RATE OF CLIMB, INITIAL, S.L. 700 ft./min.
- SERVICE CEILING 12,000 ft.
- FUEL CAPACITY 75 gals.
- OIL CAPACITY 13 qts.

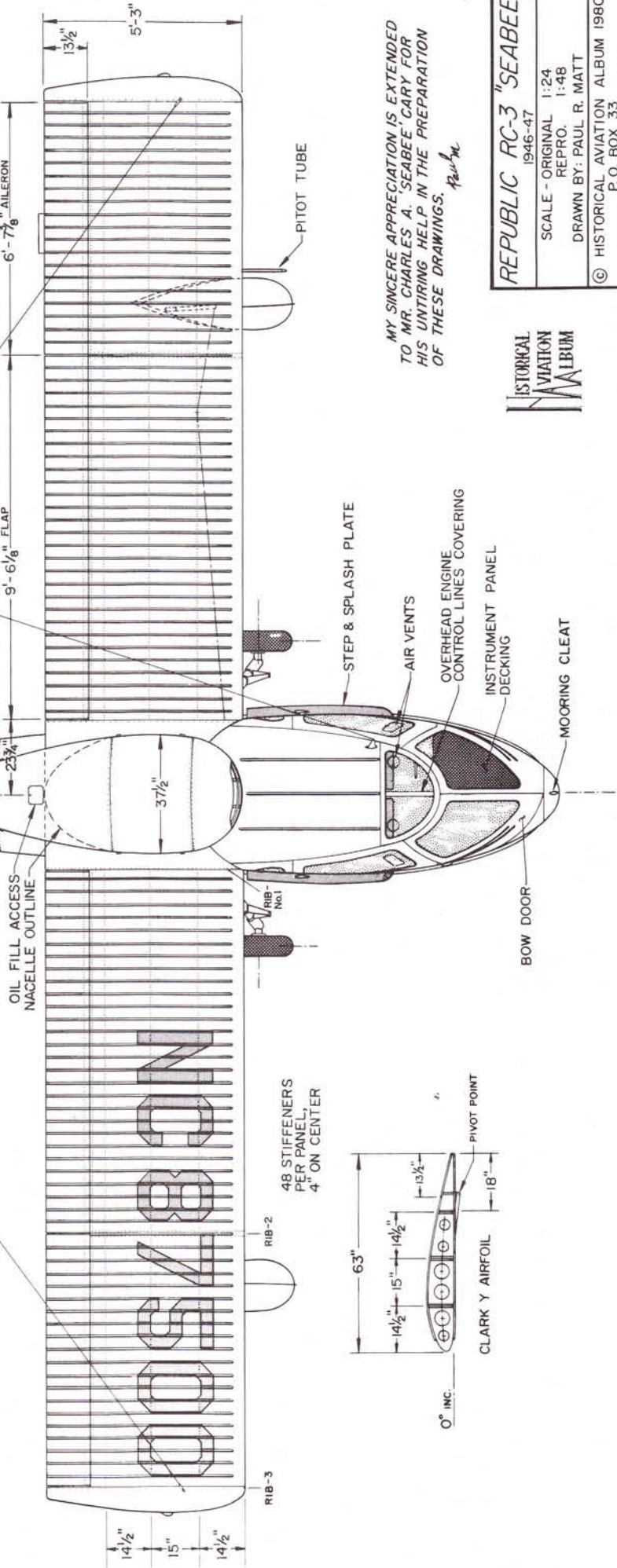
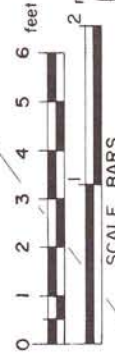
POWER: FRANKLIN "500", 6-CYLINDER,
215 HP at 2500 r.p.m.,
MODEL 6A8-215-B9F

COLORING NOTES
ENTIRE AIRCRAFT PAINTED SILVER
TRIM, AS MARKED, FOREST GREEN

CUSTOMIZED, \$200 EXTRA
ENTIRE AIRCRAFT PAINTED CREAM
TRIM, AS MARKED, RED



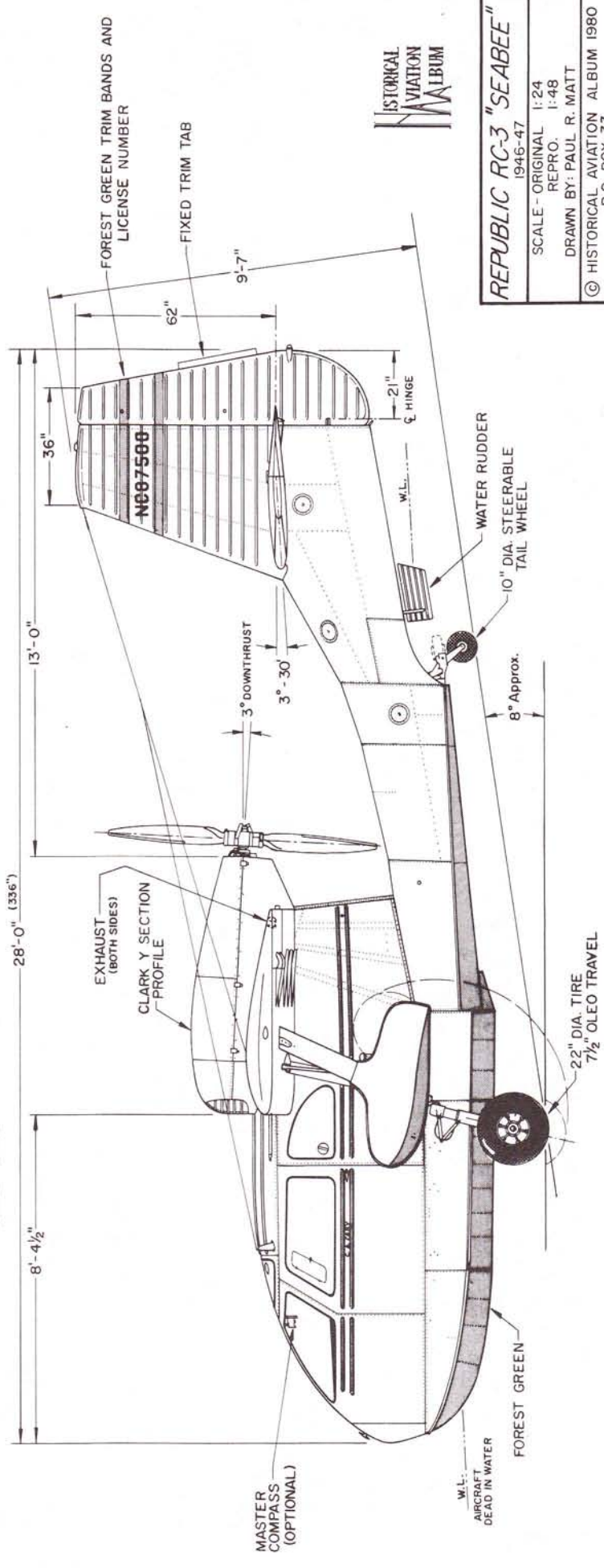
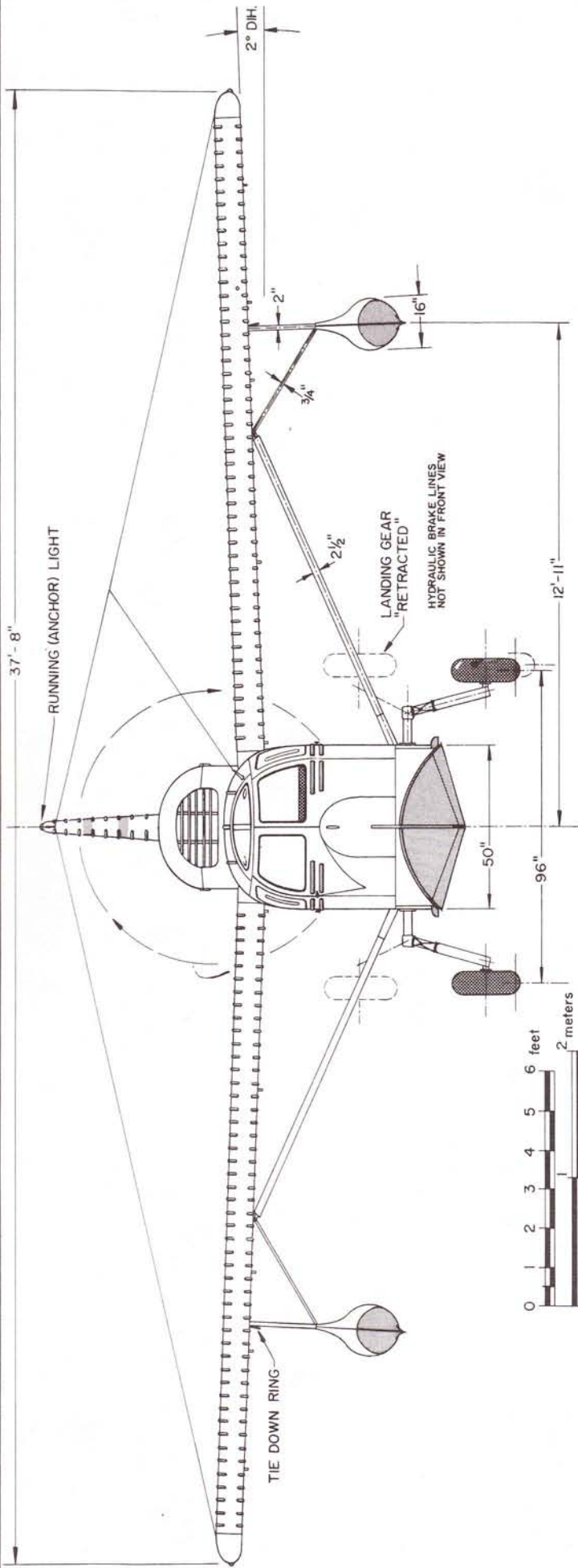
KOPPERS "AEROMATIC", GROUND ADJUSTABLE
PROPELLER, 84" DIA.
(HARTZELL HYDRO-SELECTIVE HC-12X20, 84" DIA.,
VARIABLE & REVERSIBLE - OPTIONAL)



MY SINCERE APPRECIATION IS EXTENDED
TO MR. CHARLES A. SEABEE, CAREY FOR
HIS UNTRING HELP IN THE PREPARATION
OF THESE DRAWINGS. *Paul R. Matt*

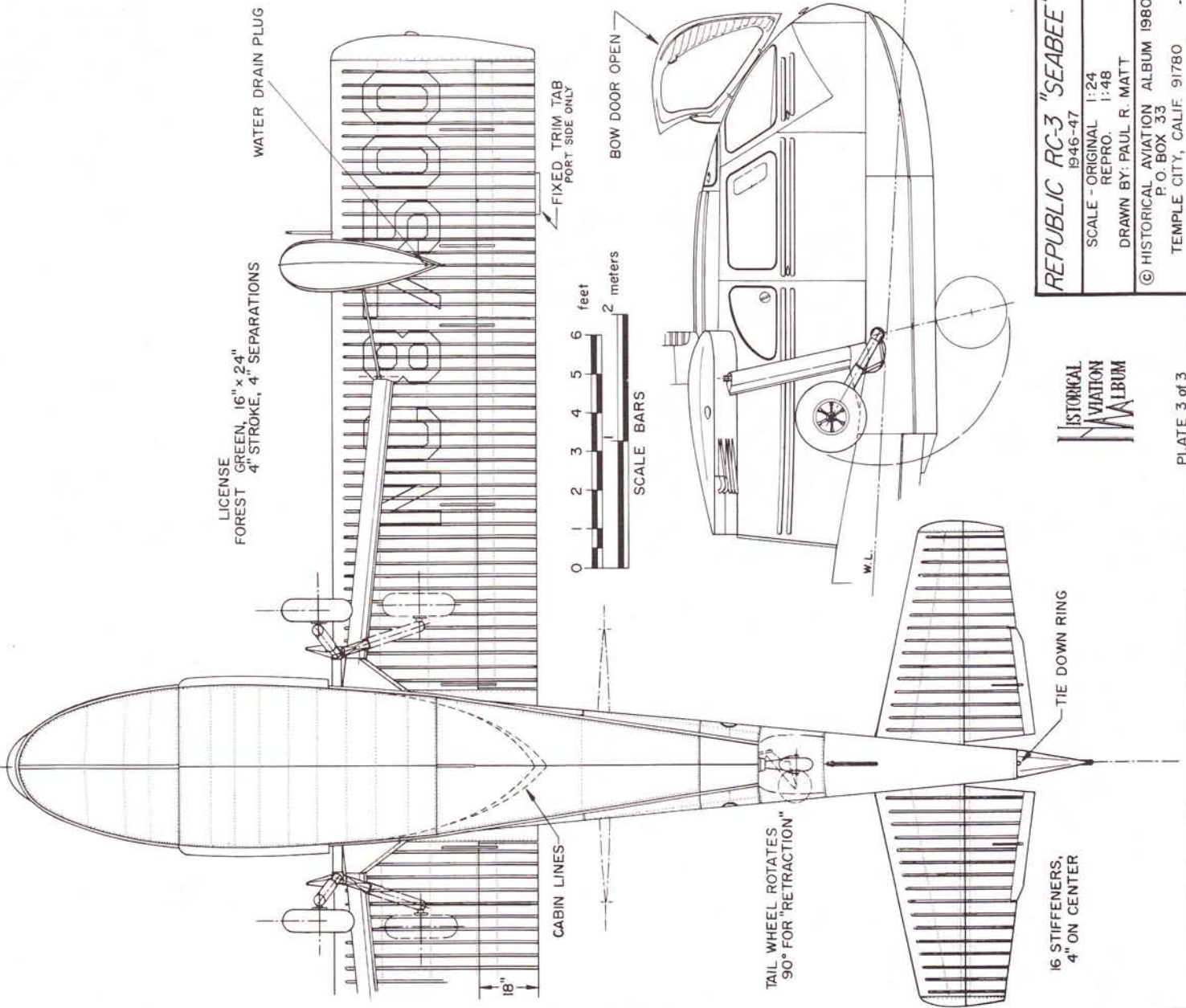


REPUBLIC RC-3 "SEABEE"
1946-47
SCALE - ORIGINAL 1:24
REPRO. 1:48
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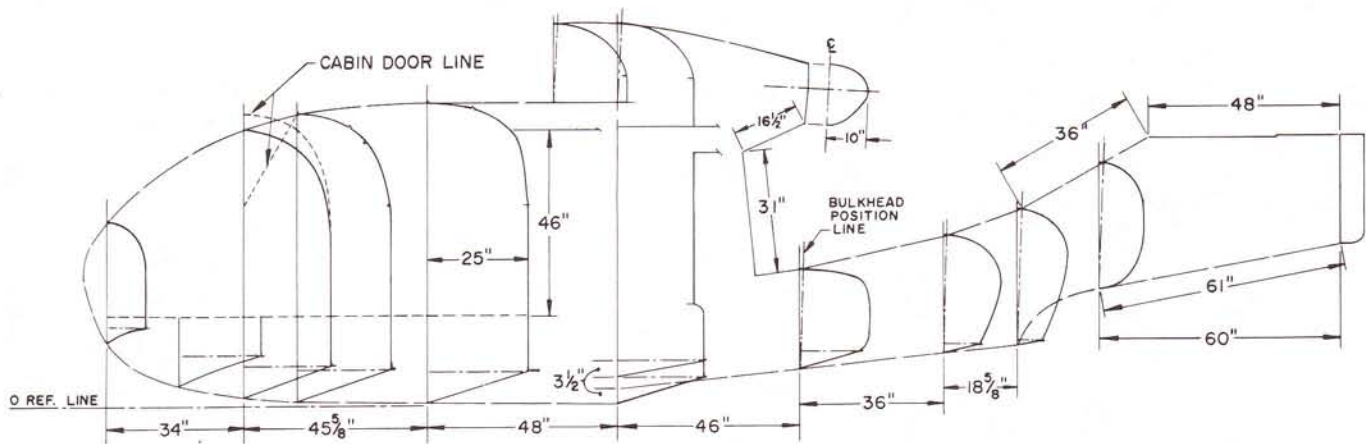
REPUBLIC RC-3 "SEABEE"
 1946-47
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
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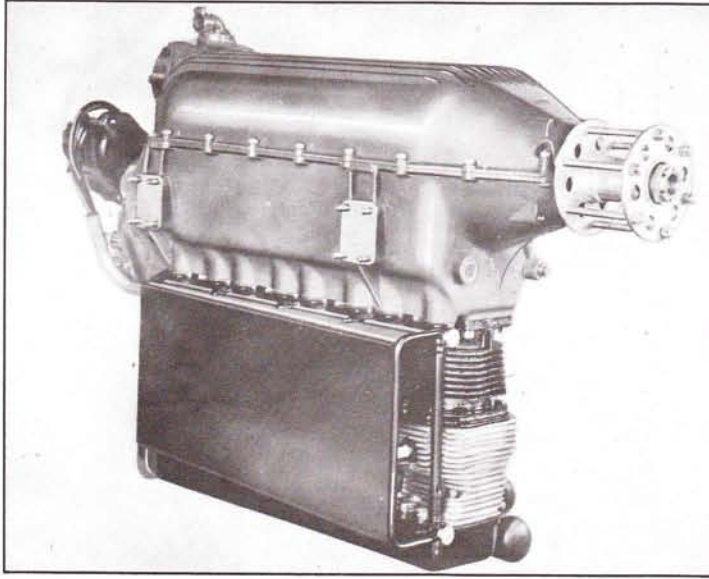
REPUBLIC RC-3 "SEABEE"
 1946-47
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY: PAUL R. MATT
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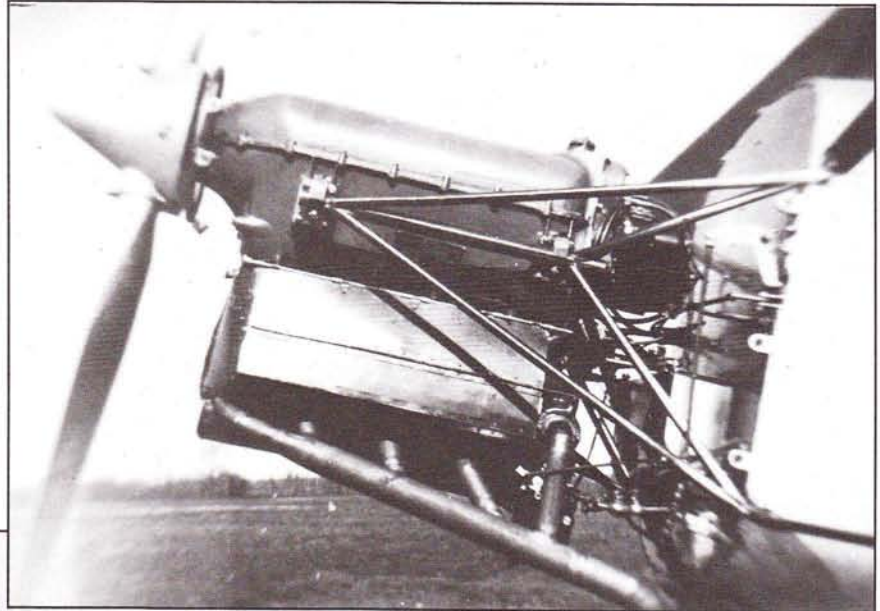
KEEL LINE TEMPLATES



Rover Aviation Engine



*Rover
Aviation
Engine*



*Rover engine
installation in
Driggs "Skylark".*



*Fairchild 22
with Rover
engine.*

GENERAL SPECIFICATIONS

TYPE - FOUR CYLINDER IN-LINE, INVERTED AIR COOLED 4-CYCLE
 BORE - 4.125"
 STROKE - 5.000"
 DISPLACEMENT - 267.28 cu. in. TOTAL
 COMPRESSION RATIO - 5.1:1
 WEIGHT DRY - 240 lbs.
 FUEL CONSUMPTION - .55 - .58 lbs./H.P. HOUR
 OIL CONSUMPTION - .010 - .015 lbs./H.P. HOUR
 RATED H.P., NORMAL - 75 H.P. at 1975 r.p.m.
 DEPT. OF COMMERCE APPROVED TYPE CERTIFICATE No. 37
 RATINGS FROM BUREAU OF STANDARDS
 POWER CURVE GRAPH
 71 H.P. at 1800 r.p.m.
 67 H.P. at 1700 r.p.m.
 63 H.P. at 1600 r.p.m.
 58 H.P. at 1500 r.p.m.

CARBURETION - STROMBERG NA-R-3
 IGNITION - SCINTILLA MAGNETOS, DUAL IGNITION
 LUBRICATION - OIL DRAWN BY CONVENTIONAL
 TWO GEAR PRESSURE PUMP

MATERIAL

CRANKCASE - DEEP WELL RIBBED ALUMINUM ALLOY CASTING
 CRANKSHAFT - 4 THROW, 5 BEARING, HOLLOW BORED,
 MACHINED ALLOY STEEL
 CONNECTING RODS - H SECTION, FORGED DURALUMIN,
 BABBITT LINED, SHRUNK BRONZE
 PISTON PIN BUSHINGS
 PISTONS - FULL TRUNK RIBBED TYPE DIE CAST
 ALUMINUM ALLOY
 CYLINDERS - ALUMINUM ALLOY HEADS, BOLTED TO CAST
 NICKLE IRON CYLINDERS
 VALVES - STEEL, BRONZE VALVE SEATS
 CAMSHAFT - SINGLE FIVE BEARING, MACHINED STEEL
 VALVE GEAR - BRONZE BUSHED CAM FOLLOWERS,
 ALEMITE LUBRICATED

WE EXTEND OUR SINCERE APPRECIATION
 TO MR. HAROLD MOREHOUSE FOR HIS
 ASSISTANCE, INTEREST AND PATIENCE IN
 THE PREPARATION OF THIS DRAWING
 AND ACCOMPANYING ARTICLE.

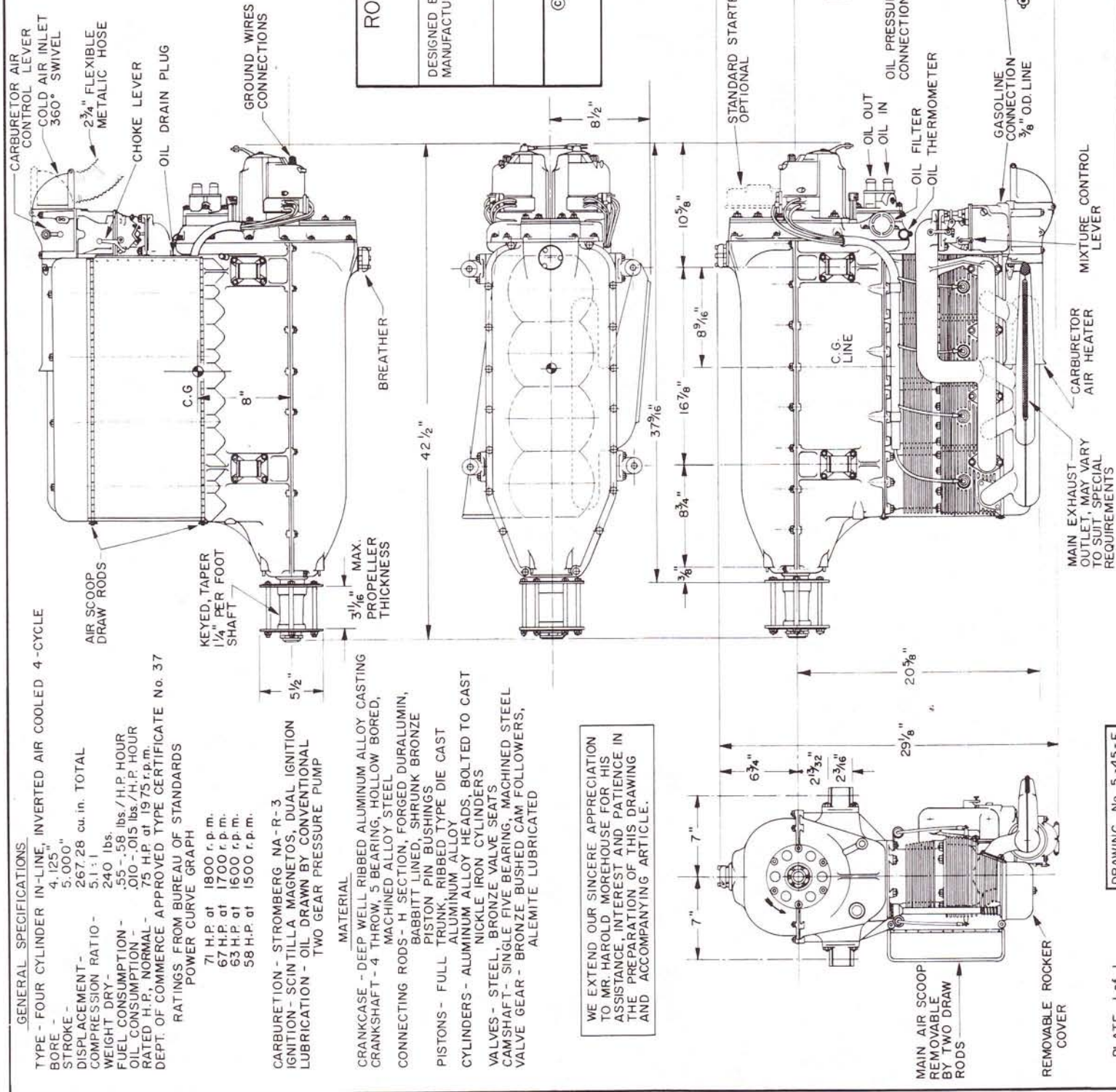


ROVER AVIATION ENGINE
Model L-267
 CIRCA 1929 - 32

DESIGNED BY - HAROLD E. MOREHOUSE
 MANUFACTURED BY - MICHIGAN AERO-ENGINE CORP.
 DIVISION OF MICHIGAN SCREW
 PRODUCTS CORP.
 LANSING, MICH.

SCALE, ORIGINAL 1:6 (2" = 1")
 REPRO. 1:12 (1" = 1")
 DRAWN BY - PAUL R. MATT

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COLORING NOTES

OVERALL SILVER DOPED,
 DETAILING BLACK.
 ALUMINUM NOSE AREA, BURNISHED
 CABIN WINDOWS AND DOORS,
 STAMPED ALUMINUM SHEET

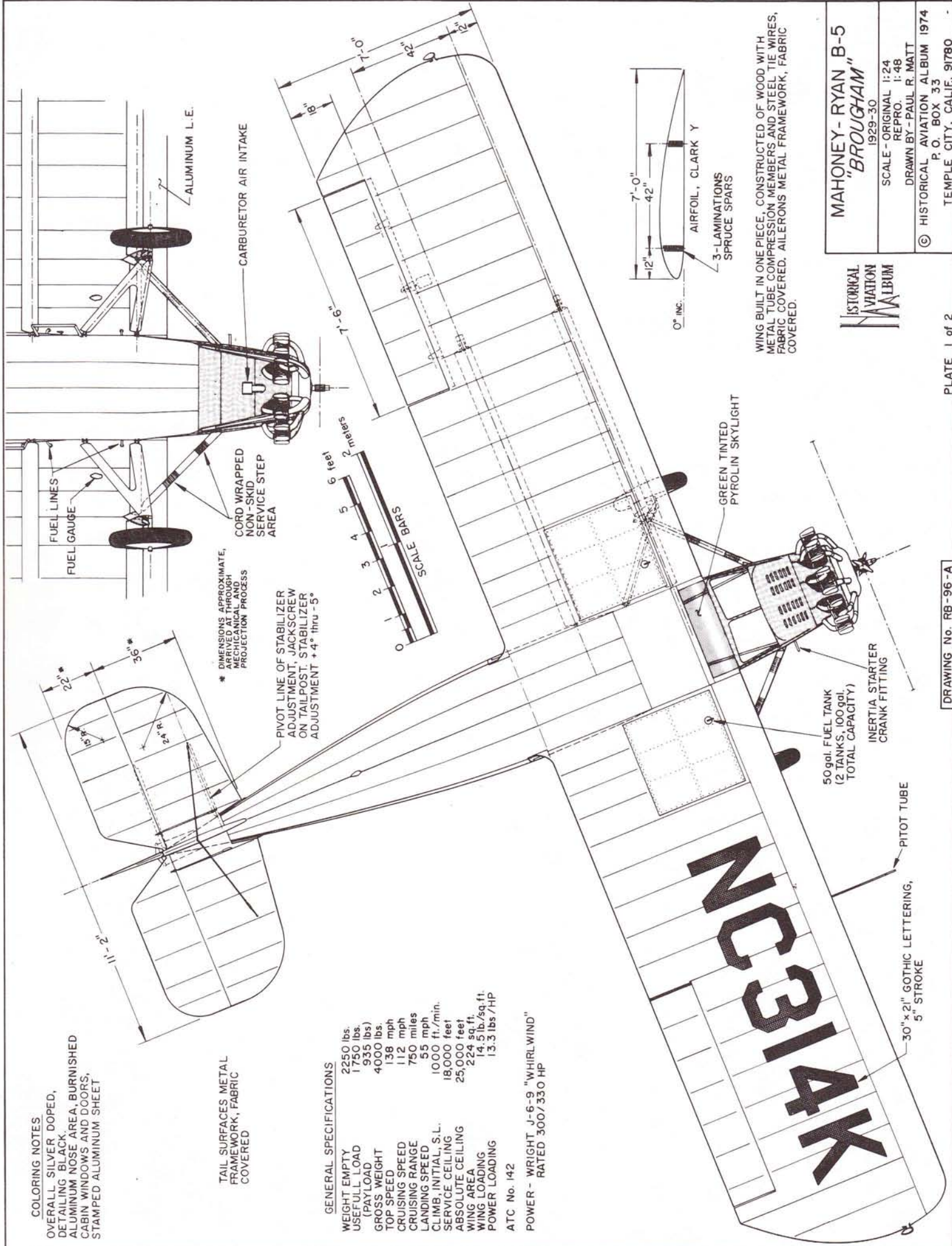
TAIL SURFACES METAL
 FRAMEWORK, FABRIC
 COVERED

GENERAL SPECIFICATIONS

WEIGHT EMPTY 2250 lbs
 USEFUL LOAD 1750 lbs
 (PAYLOAD) 935 lbs
 GROSS WEIGHT 4000 lbs
 TOP SPEED 138 mph
 CRUISING SPEED 112 mph
 CRUISING RANGE 750 miles
 LANDING SPEED 55 mph
 CLIMB, INITIAL, S.L. 1000 ft./min.
 SERVICE CEILING 18,000 feet
 ABSOLUTE CEILING 25,000 feet
 WING AREA 224 sq.ft.
 WING LOADING 14.5 lb./sq.ft.
 POWER LOADING 13.3 lbs/HP

ATC No. 142

POWER - WRIGHT J-6-9 "WHIRLWIND"
 RATED 300/330 HP



MAHONEY- RYAN B-5
 "BROUGHAM"
 1929-30

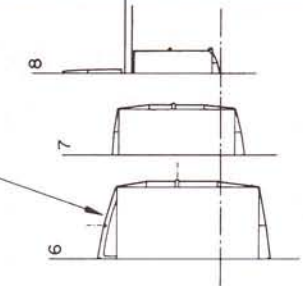
SCALE - ORIGINAL 1:24
 REPRO. 1:48
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WING BUILT IN ONE PIECE, CONSTRUCTED OF WOOD WITH METAL TUBE COMPRESSION MEMBERS AND STEEL TIE WIRES, FABRIC COVERED. AILERONS METAL FRAMEWORK, FABRIC COVERED.

42'-4" WINGSPAN

0° DIH.

TYPICAL PLYWOOD FORMER



ENCASED OLEO SHOCK ABSORBERS

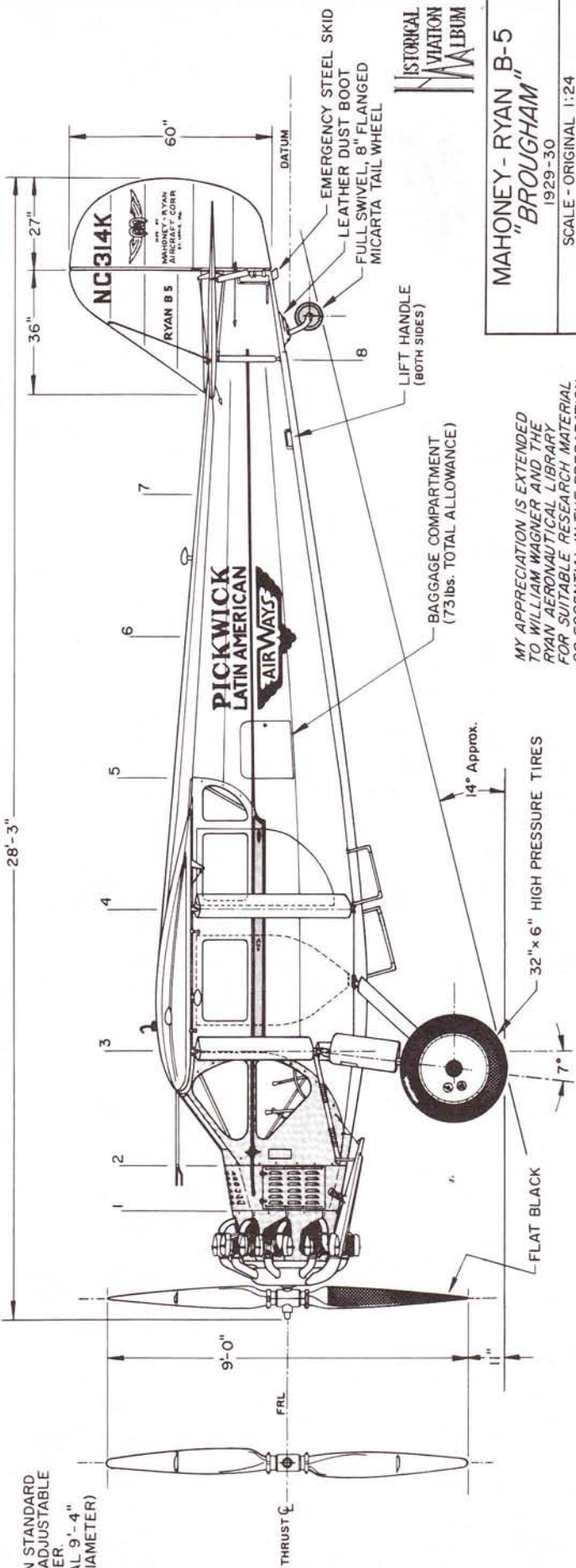
2° STATIC GROUND LINE NORMAL LOAD ABOARD

FUSELAGE OF WELDED STEEL TUBING, WOOD FORMERS AND STRINGERS, FABRIC COVERED



28'-3"

HAMILTON STANDARD GROUND ADJUSTABLE PROPELLER, (OPTIONAL 9'-4" MAX. DIAMETER)



HISTORICAL AVIATION MUSEUM

MAHONEY - RYAN B-5 "BROUGHAM"
 1929-30
 SCALE - ORIGINAL 1:24
 REPRO 1:48
 DRAWN BY - PAUL R. MATT
 P. O. BOX 33
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 TEMPLE CITY, CALIF., 91780

MY APPRECIATION IS EXTENDED TO WILLIAM WAGNER AND THE RYAN AERONAUTICAL LIBRARY FOR SUITABLE RESEARCH MATERIAL SO ESSENTIAL IN THE PREPARATION OF THESE DRAWINGS

GENERAL SPECIFICATIONS -

PERFORMANCE DATA

- MAX SPEED (BOTH ENGINES) @ 18,000 FT. — 425 MPH
 - MAX SPEED (BOTH ENGINES) @ SEA LEVEL — 399 MPH
 - MAX SPEED (PISTON ENGINE ONLY) — 320 MPH
 - CRUISE SPEED (PISTON ENGINE ONLY) — 153 MPH
 - MAX SPEED (JET ENGINE ONLY) — 300 MPH
 - CLIMB TO 20,000 FT. (BOTH ENGINES) — 5.6 MIN
 - INITIAL CLIMB RATE (BOTH ENGINES) — 4,800 F.P.M.
 - SERVICE CEILING — 40,000 FT. +
 - RANGE (PISTON ENGINE ONLY @ 153 MPH) — 1,030 MILES
- WEIGHTS
- EMPTY — 7,635 LBS.
 - NORMAL LOADED — 9,958 LBS.
 - MAX. GROSS A.U.W. — 10,595 LBS.

POWER PLANT

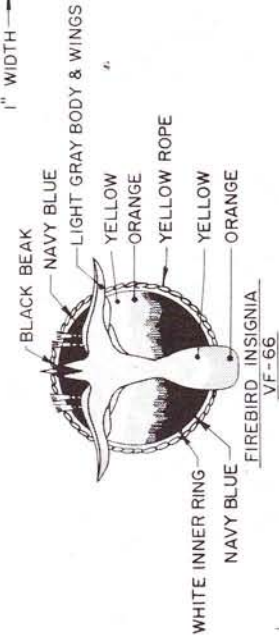
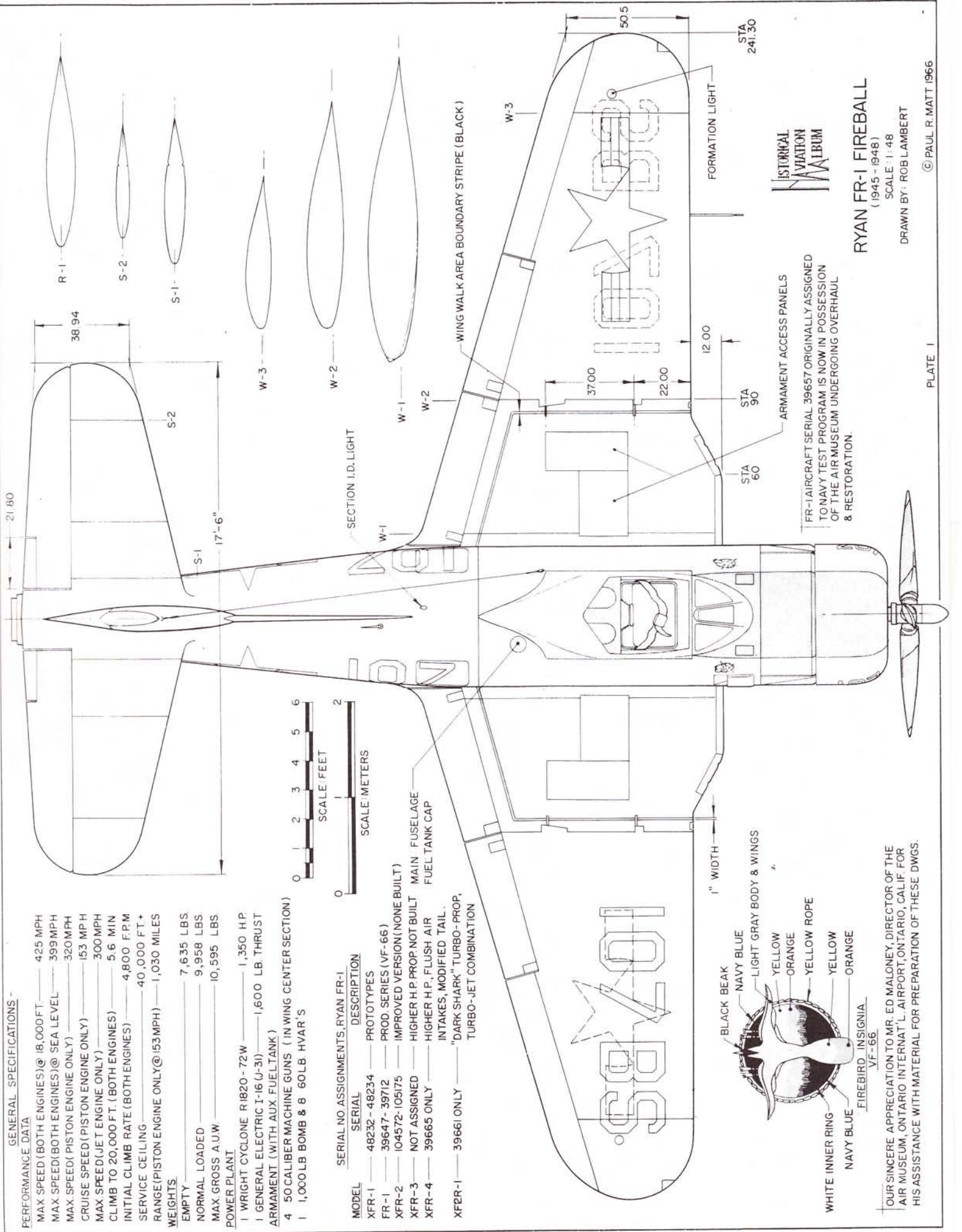
- 1 WRIGHT CYCLONE R1820-72W — 1,350 HP
- 1 GENERAL ELECTRIC I-16 (J-31) — 1,600 LB. THRUST

ARMAMENT (WITH AUX. FUELTANK)

- 4 50 CALIBER MACHINE GUNS (IN WING CENTER SECTION)
- 1 1,000 LB BOMB & 8 60 LB HVAR'S

SERIAL NO ASSIGNMENTS, RYAN FR-1

MODEL	SERIAL	DESCRIPTION
XFR-1	48232 - 48234	PROTOTYPES
FR-1	39647 - 39712	PROD. SERIES (VF-66)
XFR-2	104572 - 105175	IMPROVED VERSION (NONE BUILT)
XFR-3	NOT ASSIGNED	HIGHER H.P. PROP. NOT BUILT
XFR-4	39665 ONLY	HIGHER H.P. FLUSH AIR INTAKES, MODIFIED TAIL.
XFR-1	396661 ONLY	"DARK SHARK" TURBO-PROP, TURBO-JET COMBINATION



FR-1 AIRCRAFT SERIAL 39657 ORIGINALLY ASSIGNED TO NAVY TEST PROGRAM IS NOW IN POSSESSION OF THE AIR MUSEUM UNDERGOING OVERHAUL & RESTORATION.



RYAN FR-1 FIREBALL
(1945 - 1948)

SCALE: 1:48

DRAWN BY: ROB LAMBERT

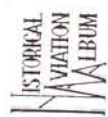
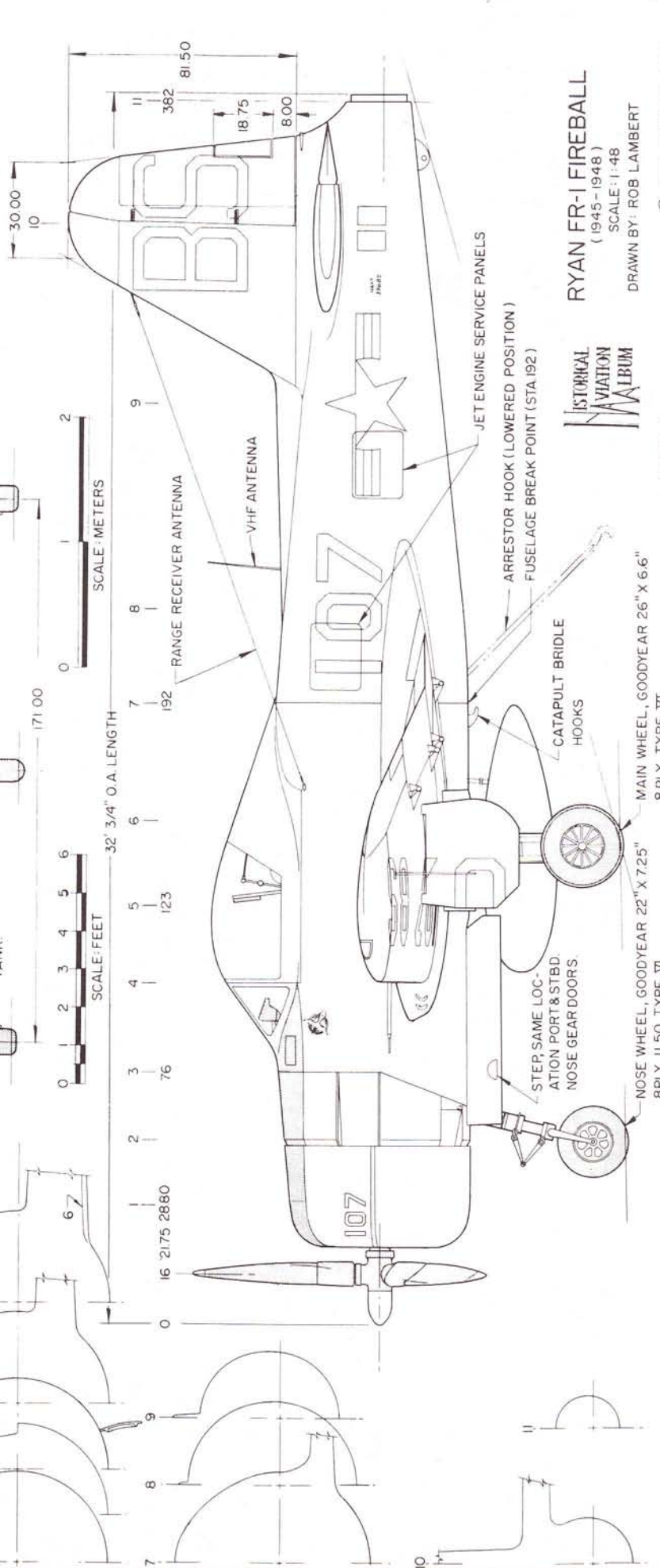
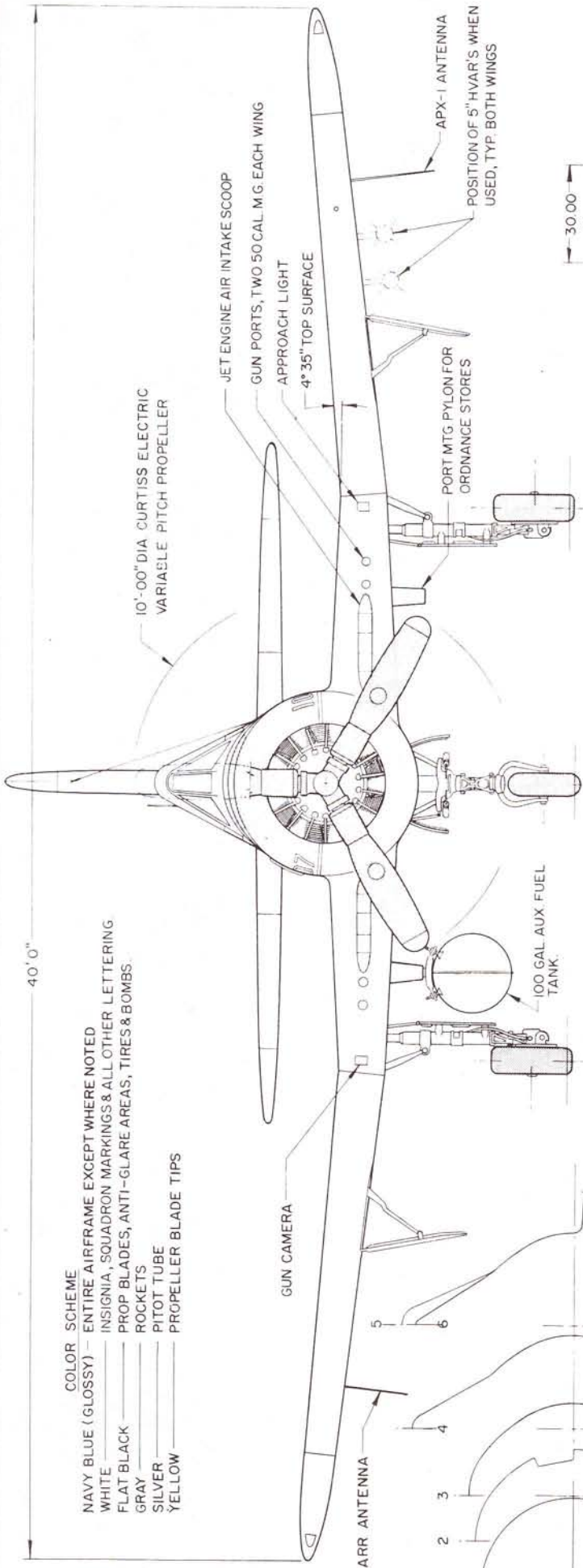
© PAUL R. MATT 1966

OUR SINCERE APPRECIATION TO MR. ED MALONEY, DIRECTOR OF THE AIR MUSEUM, ONTARIO INTERNATIONAL AIRPORT, ONTARIO, CALIF. FOR HIS ASSISTANCE WITH MATERIAL FOR PREPARATION OF THESE DWGS.

40' 0"

COLOR SCHEME

- NAVY BLUE (GLOSSY) — ENTIRE AIRFRAME EXCEPT WHERE NOTED
- WHITE — INSIGNIA, SQUADRON MARKINGS & ALL OTHER LETTERING
- FLAT BLACK — PROP BLADES, ANTI-GLARE AREAS, TIRES & BOMBS
- GRAY — ROCKETS
- SILVER — PITOT TUBE
- YELLOW — PROPELLER BLADE TIPS



RYAN FR-1 FIREBALL
(1945-1948)

SCALE: 1:48

DRAWN BY: ROB LAMBERT

© PAUL R. MATT 1966

PLATE 2

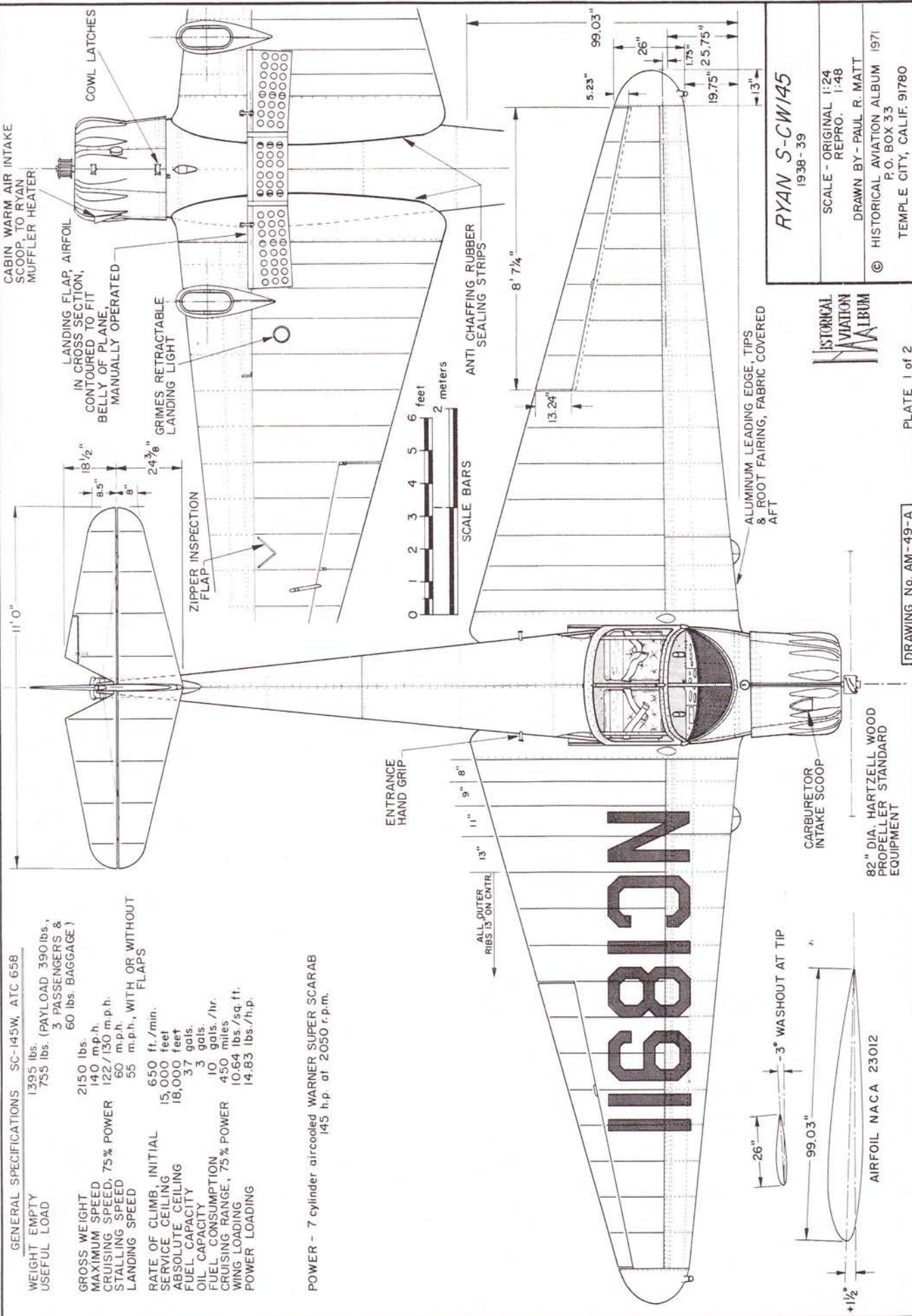
GENERAL SPECIFICATIONS SC-145W, ATC 658

WEIGHT EMPTY 1395 lbs.
 USEFUL LOAD 755 lbs. (PAYLOAD 390 lbs., 3 PASSENGERS & 60 lbs. BAGGAGE)

GROSS WEIGHT 2150 lbs.
 MAXIMUM SPEED 140 m.p.h.
 CRUISING SPEED, 75% POWER 122/130 m.p.h.
 STALLING SPEED 60 m.p.h.
 LANDING SPEED 55 m.p.h., WITH OR WITHOUT FLAPS

RATE OF CLIMB, INITIAL 650 ft./min.
 SERVICE CEILING 15,000 feet
 ABSOLUTE CEILING 18,000 feet
 FUEL CAPACITY 3.7 gals.
 OIL CAPACITY 3 gals.
 FUEL CONSUMPTION 10 gals./hr.
 CRUISING RANGE, 75% POWER 450 miles
 WING LOADING 10.64 lbs./sq. ft.
 POWER LOADING 14.83 lbs./h.p.

POWER - 7 cylinder aircooled WARNER SUPER SCARAB
 145 h.p. at 2050 r.p.m.

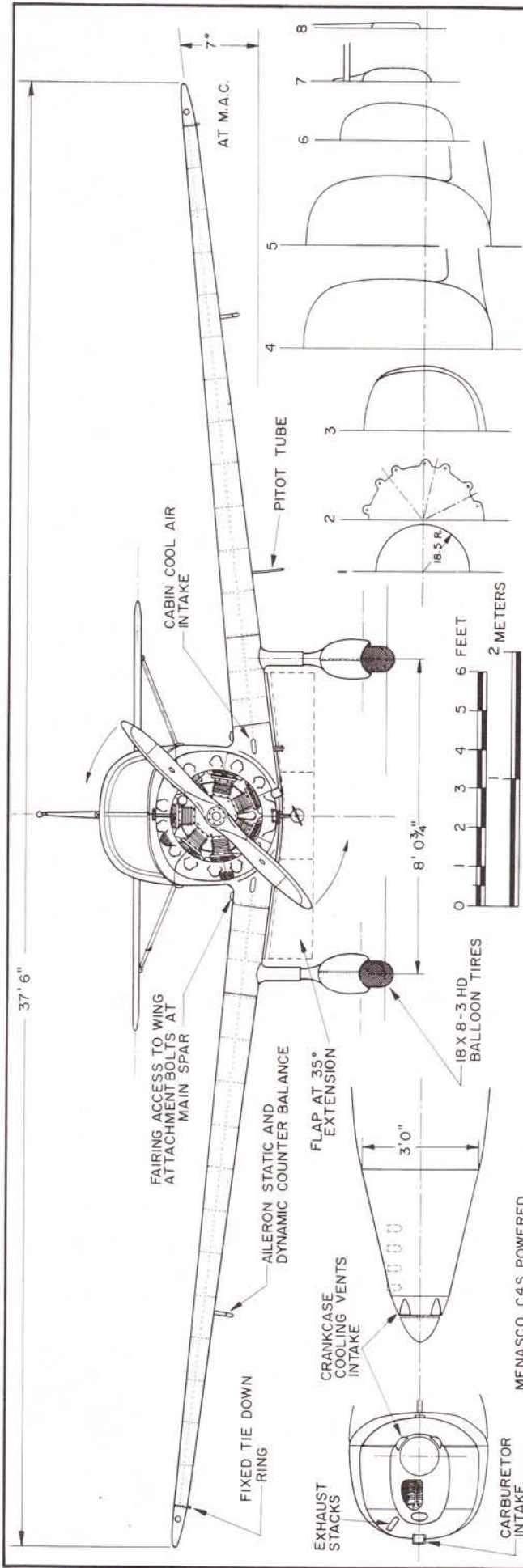


RYAN S-CW145
 1938-39

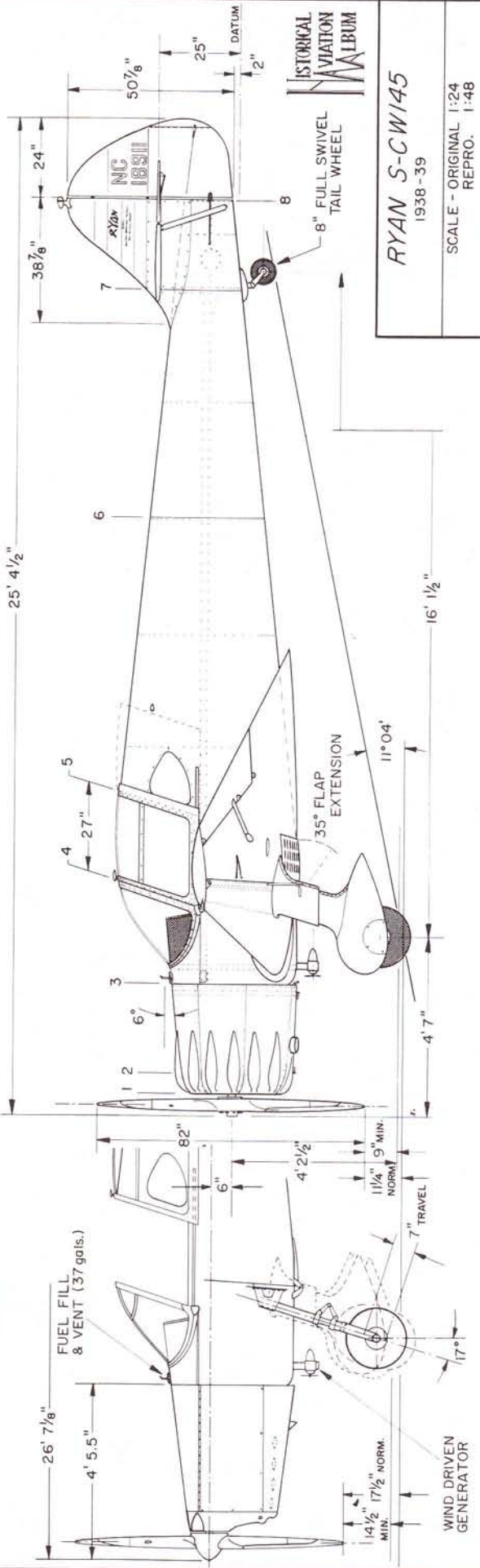
SCALE - ORIGINAL 1:24
 REPRO. 1:48

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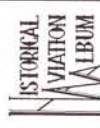


MENASCO C4S POWERED PROTOTYPE



MENASCO POWERED PROTOTYPE ONLY
 ONLY ONE BUILT, NX17372, CONVERTED TO WARNER RADIAL
 NO MENASCO S-Cs SOLD TO CUSTOMERS

RYAN S-CW145 1938-39	
SCALE - ORIGINAL	1:24
REPRO.	1:48
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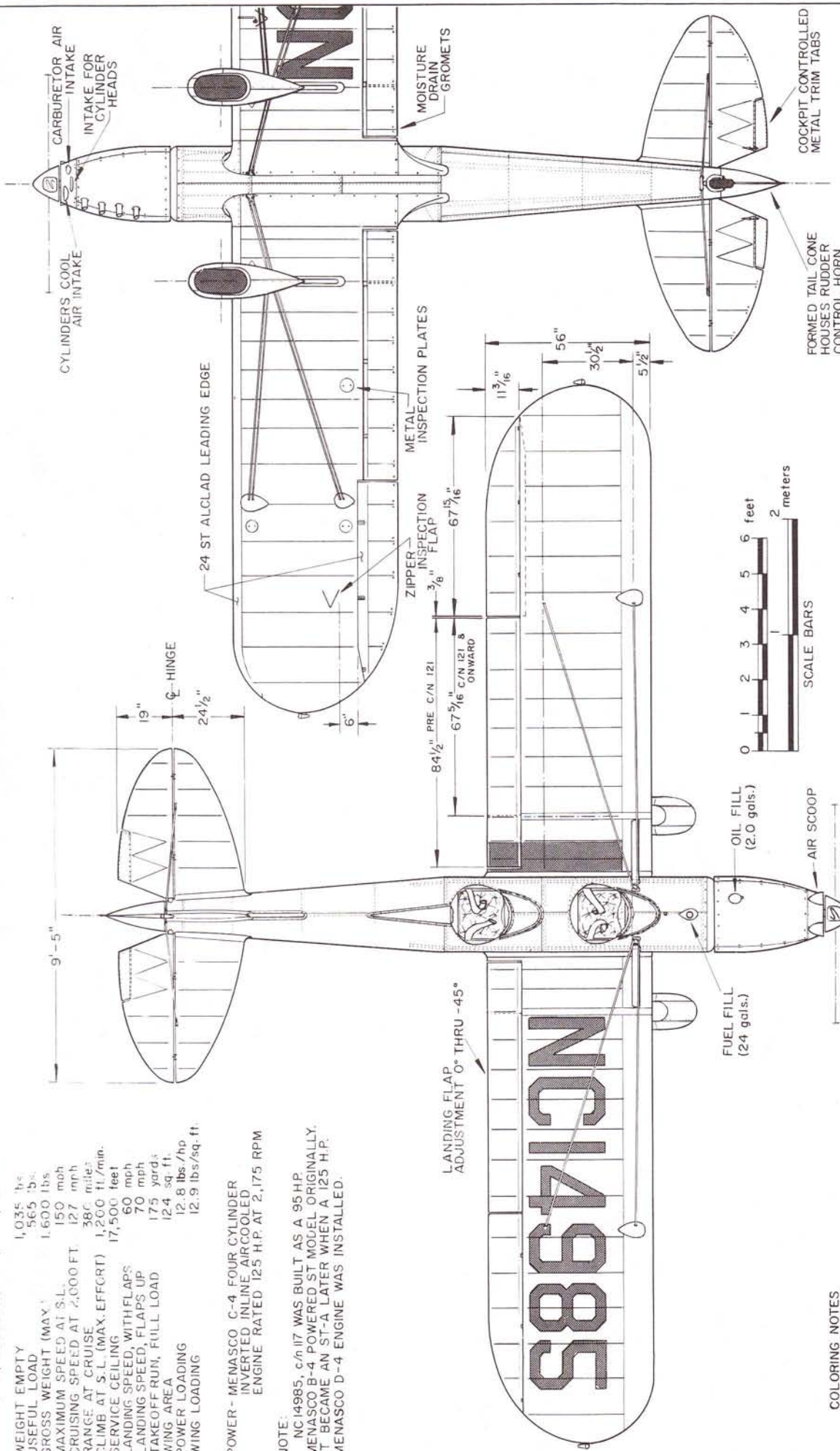


GENERAL SPECIFICATIONS
ST-A, MENASCO C-4, 125 hp ENGINE

WEIGHT EMPTY 1,035 lbs.
USEFUL LOAD 565 lbs.
GROSS WEIGHT (MAX.) 1,600 lbs.
MAXIMUM SPEED AT S.L. 150 mph
CRUISING SPEED AT 2,000 FT. 127 mph
RANGE AT CRUISE 386 miles
CLIMB AT S.L. (MAX. EFFORT) 1,200 ft./min.
SERVICE CEILING 17,500 feet
LANDING SPEED, WITH FLAPS 60 mph
LANDING SPEED, FLAPS UP 70 mph
TAKEOFF RUN, FULL LOAD 175 yards
WING AREA 124 sq. ft.
POWER LOADING 12.8 lbs./hp
WING LOADING 12.9 lbs./sq. ft.

POWER - MENASCO C-4 FOUR CYLINDER
INVERTED INLINE AIRCOOLED
ENGINE RATED 125 H.P. AT 2,175 RPM

NOTE:
NC 14985, c/n 117 WAS BUILT AS A 95HP
MENASCO B-4 POWERED ST MODEL ORIGINALLY.
IT BECAME AN ST-A LATER WHEN A 125 H.P.
MENASCO D-4 ENGINE WAS INSTALLED.



COLORING NOTES

ENTIRE AIRCRAFT NATURAL ALUMINUM
FABRIC COVERED AREA, MATCHING SILVER DOPE
LICENSE NUMBERS & DETAILS, BLACK
INTERIOR OF COCKPIT AREA UPHOLSTERED IN
RED OR BLACK LEATHERETTE, INSTRUMENT
PANEL BLACK "CRINKLE" FINISH, CONTROL
STICK AND WING FLAP CONTROL LEVER
CHROME PLATED.

CONSTRUCTION NOTES

FUSELAGE - ALL METAL, MONOCOQUE, ALCLAD 24 ST SKIN.
WINGS - SPRUCE SPARS, STAMPED ALUMINUM ALLOY RIBS,
STEEL TUBE COMPRESSION MEMBERS, STEEL
CABLE TIE LINES, FABRIC COVERED.
AILERONS & WING FLAPS - STEEL TUBE SPAR, ALUMINUM
ALLOY RIBS, FABRIC COVERED.
TAIL SURFACES - RIVETED 24 ST ALUMINUM TUBING AND
ALLOY RIBS, FABRIC COVERED.

MY SINCERE APPRECIATION IS EXTENDED TO
MESSRS. T. CLAUDE RYAN, WILLIAM WAGNER,
AND MAC CATRELL OF THE RYAN AERONAUTICAL
CORP., EV. CASSAGNERES AND FLOYD CARTER
FOR THEIR VALUABLE AND UNSELFISH HELP
IN THE PREPARATION OF THESE DRAWINGS

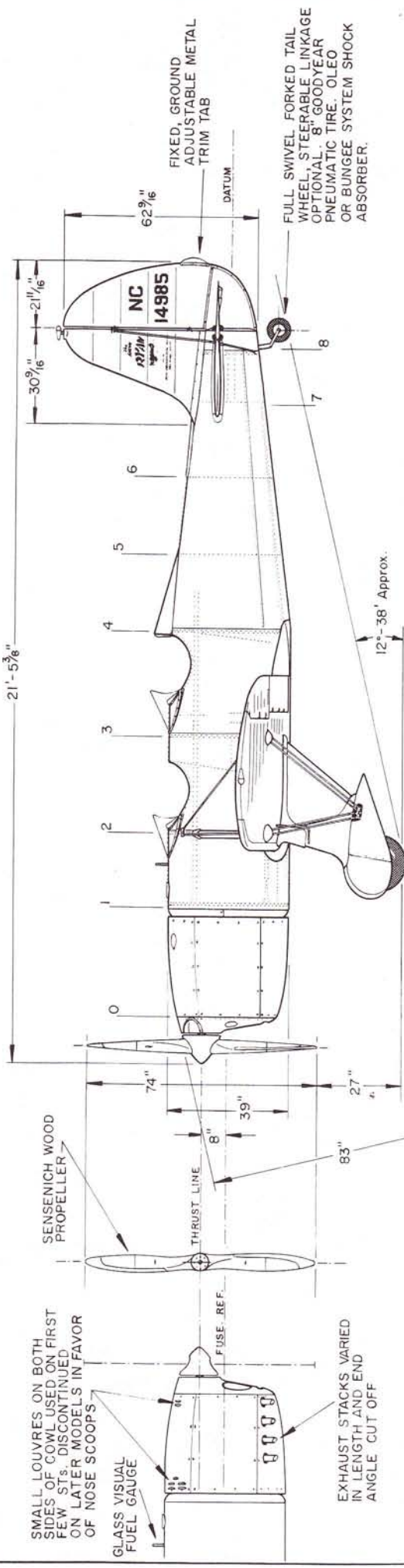
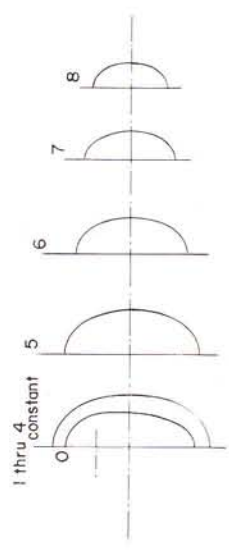
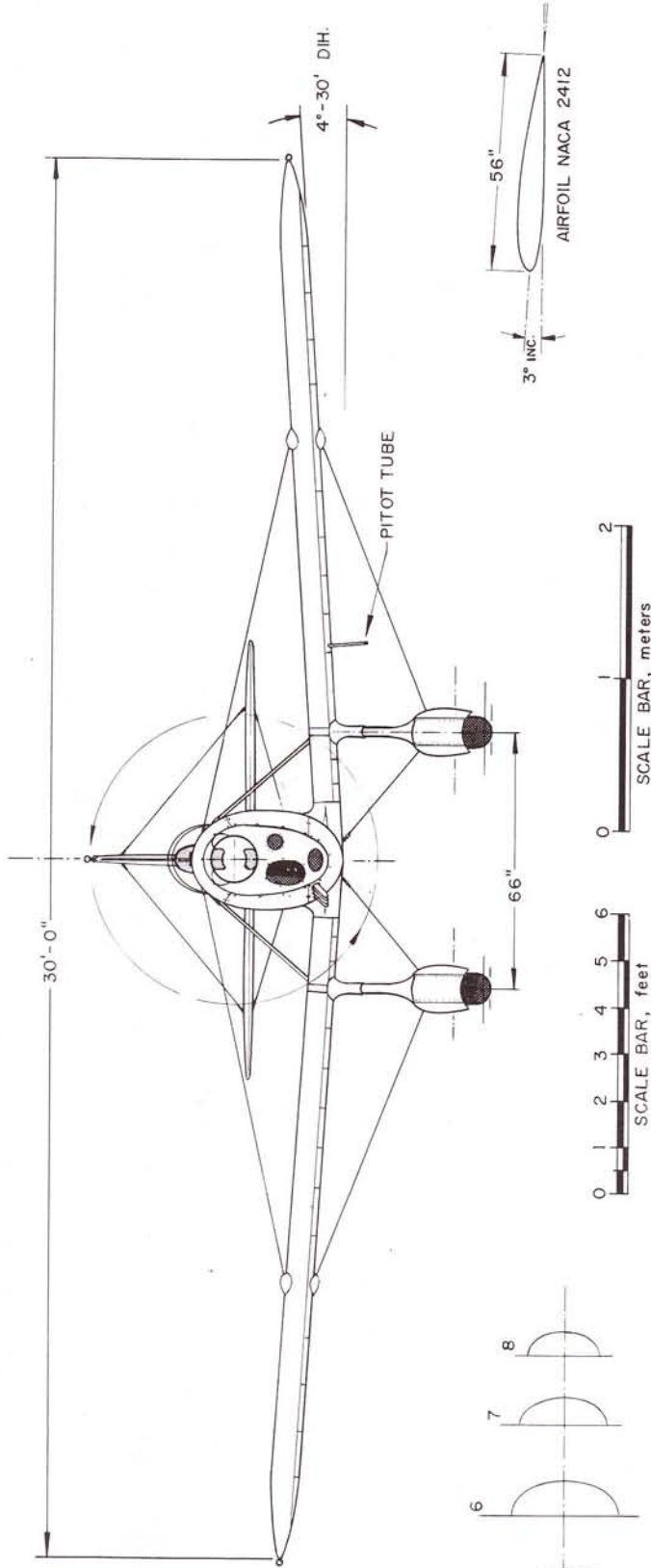
HISTORICAL
AVIATION
MUSEUM

RYAN ST-A
c/n 117 NC 14985
1936

SCALE - ORIGINAL 1:24
REPRO. 1:48

DRAWN BY - PAUL R. MATT

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RYAN ST-A
 c/n 117 NC 14985
 1936

SCALE - ORIGINAL 1:24
 REPRO. 1:48

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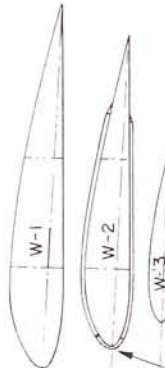
GENERAL SPECIFICATIONS

WEIGHT EMPTY 2730 lbs.
 USEFUL LOAD 1320 "
 GROSS WEIGHT 4050 "
 TOP SPEED 168 mph
 CRUISING SPEED 120 "
 LANDING SPEED, WITH FLAPS 60 ft./min.
 RATE OF CLIMB 650 ft./min.
 FUEL CAPACITY 200 gals.
 OIL CAPACITY 12 "
 SERVICE CEILING 15,000 ft.
 WING AREA, INCL. AILERONS 220 sq. ft.

PERFORMANCE FIGURES APPROXIMATE
 BASED UPON PILOT'S EXPERIENCES,
 EXACT DATA NOT AVAILABLE

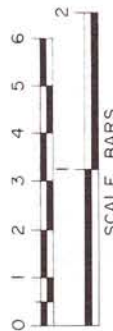
POWER - PRATT & WHITNEY R-985-11
 400 H.P. AT 2,200 rpm at 5,000 ft.
 450 H.P. AT 2,300 rpm - MILITARY RATING

AIRFOILS FULL SCALE

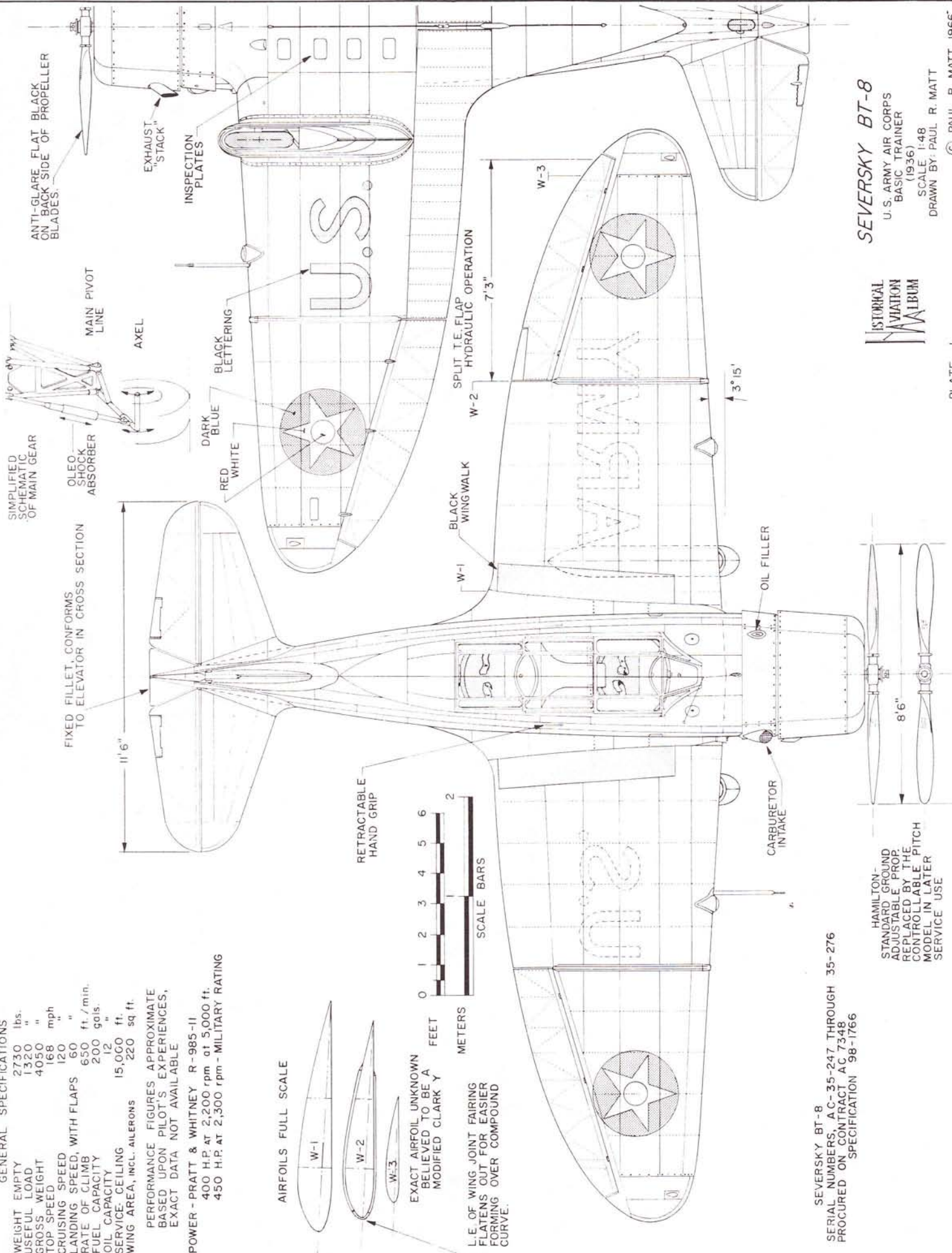


EXACT AIRFOIL UNKNOWN
 BELIEVED TO BE A
 MODIFIED CLARK Y

L.E. OF WING JOINT FAIRING
 FLATENS OUT FOR EASIER
 FORMING OVER COMPOUND
 CURVE.



RETRACTABLE
 HAND GRIP



SEVERSKY BT-8
 U.S. ARMY AIR CORPS
 BASIC TRAINER
 (1936)
 SCALE 1:48
 DRAWN BY: PAUL R. MATT



HAMILTON-
 STANDARD GROUND
 ADJUSTABLE PROP.
 REPLACED BY THE
 CONTROLLABLE PITCH
 MODEL IN LATER
 SERVICE USE

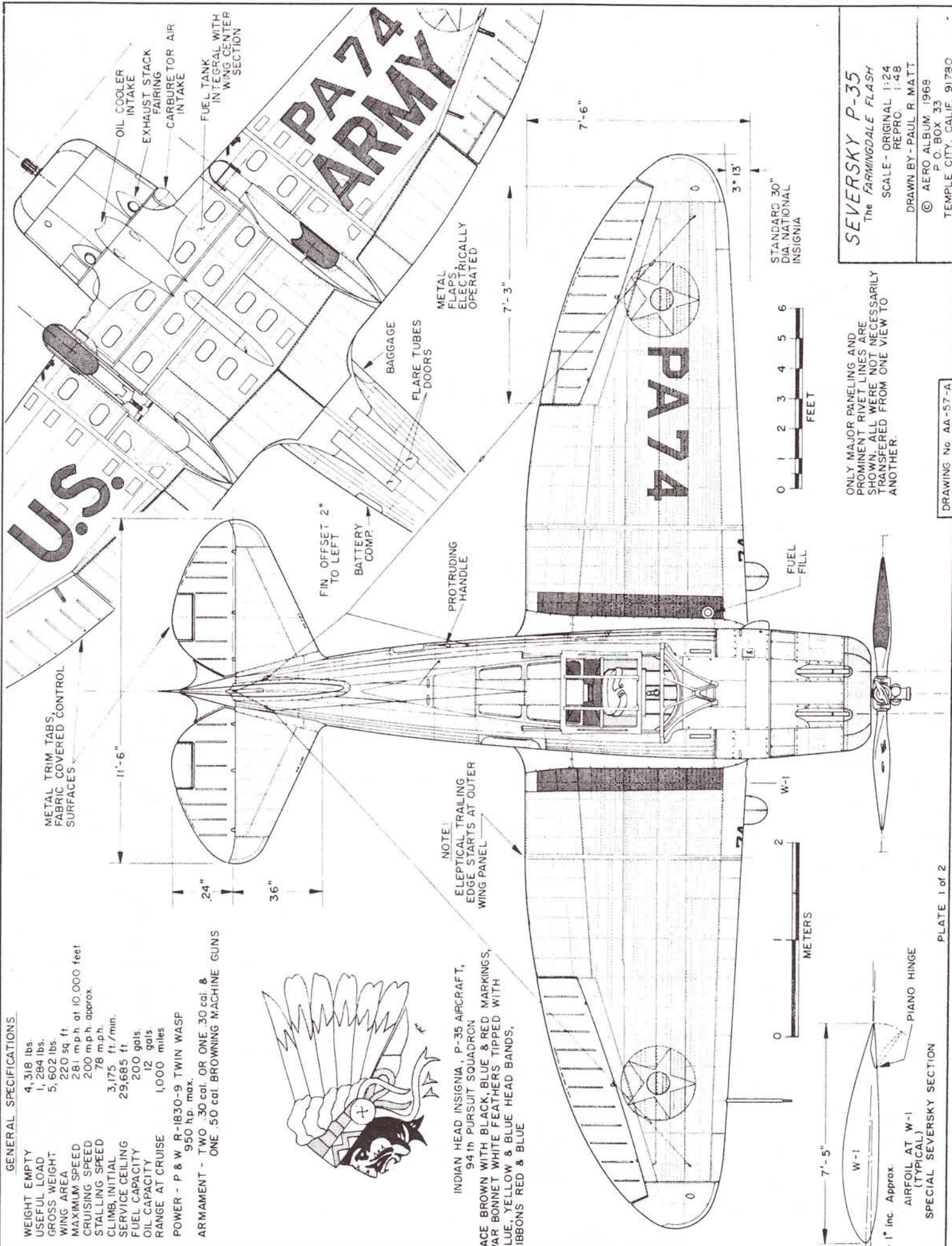
SEVERSKY BT-8
 SERIAL NUMBERS, A C-35-247 THROUGH 35-276
 PROCURED ON CONTRACT AC 7348
 SPECIFICATION 98-1766

GENERAL SPECIFICATIONS

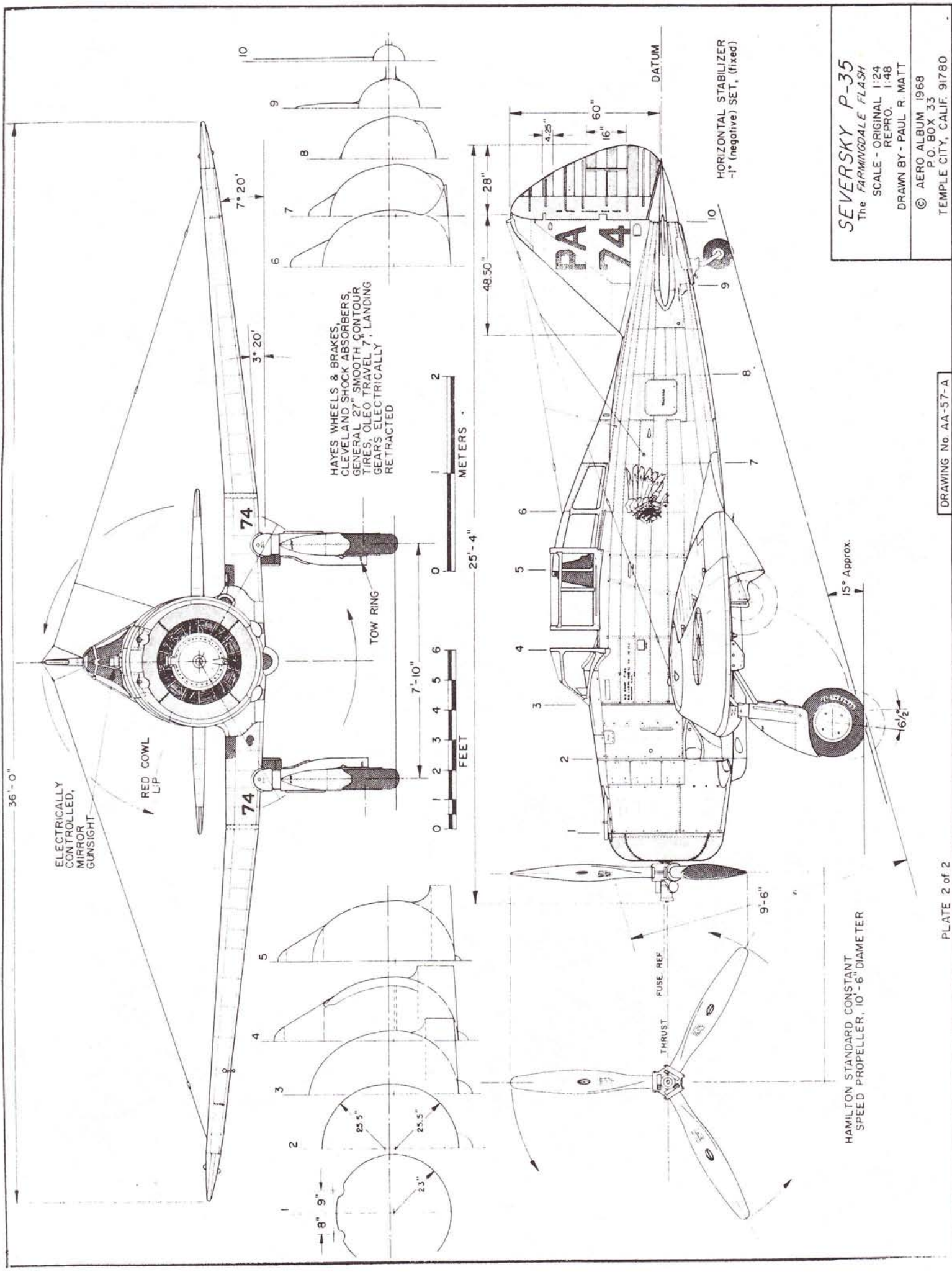
- WEIGHT EMPTY 4,318 lbs.
- USEFUL LOAD 1,284 lbs.
- GROSS WEIGHT 5,602 lbs.
- WING AREA 220 sq ft
- MAXIMUM SPEED 281 m.p.h. at 10,000 feet
- CRUISING SPEED 200 m.p.h. approx.
- STALLING SPEED 78 m.p.h.
- CLIMB, INITIAL 3,175 ft./min.
- SERVICE CEILING 29,685 ft.
- FUEL CAPACITY 200 gals
- OIL CAPACITY 12 gals
- RANGE AT CRUISE 1,000 miles
- POWER - P & W R-1830-9 TWIN WASP 950 hp. max.
- ARMAMENT - TWO .30 cal. OR ONE .30 cal. & ONE .50 cal. BROWNING MACHINE GUNS



INDIAN HEAD INSIGNIA, P-35 AIRCRAFT,
94th PURSUIT SQUADRON
FACE BROWN WITH BLACK, BLUE & RED MARKINGS,
WAR BONNET WHITE FEATHERS TIPPED WITH
BLUE, YELLOW & BLUE HEAD BANDS,
RIBBONS RED & BLUE



SEVERSKY P-35
The FARMINGDALE FLASH
SCALE - ORIGINAL 1:24
REPROC. 1:48
DRAWN BY - PAUL R. MATT
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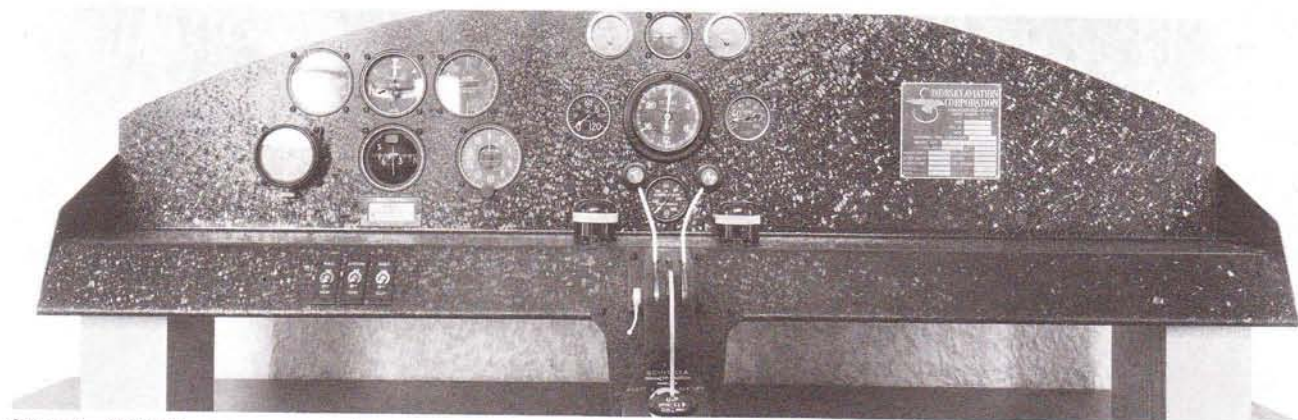


SEVERSKY P-35
 The FARMINGDALE FLASH
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
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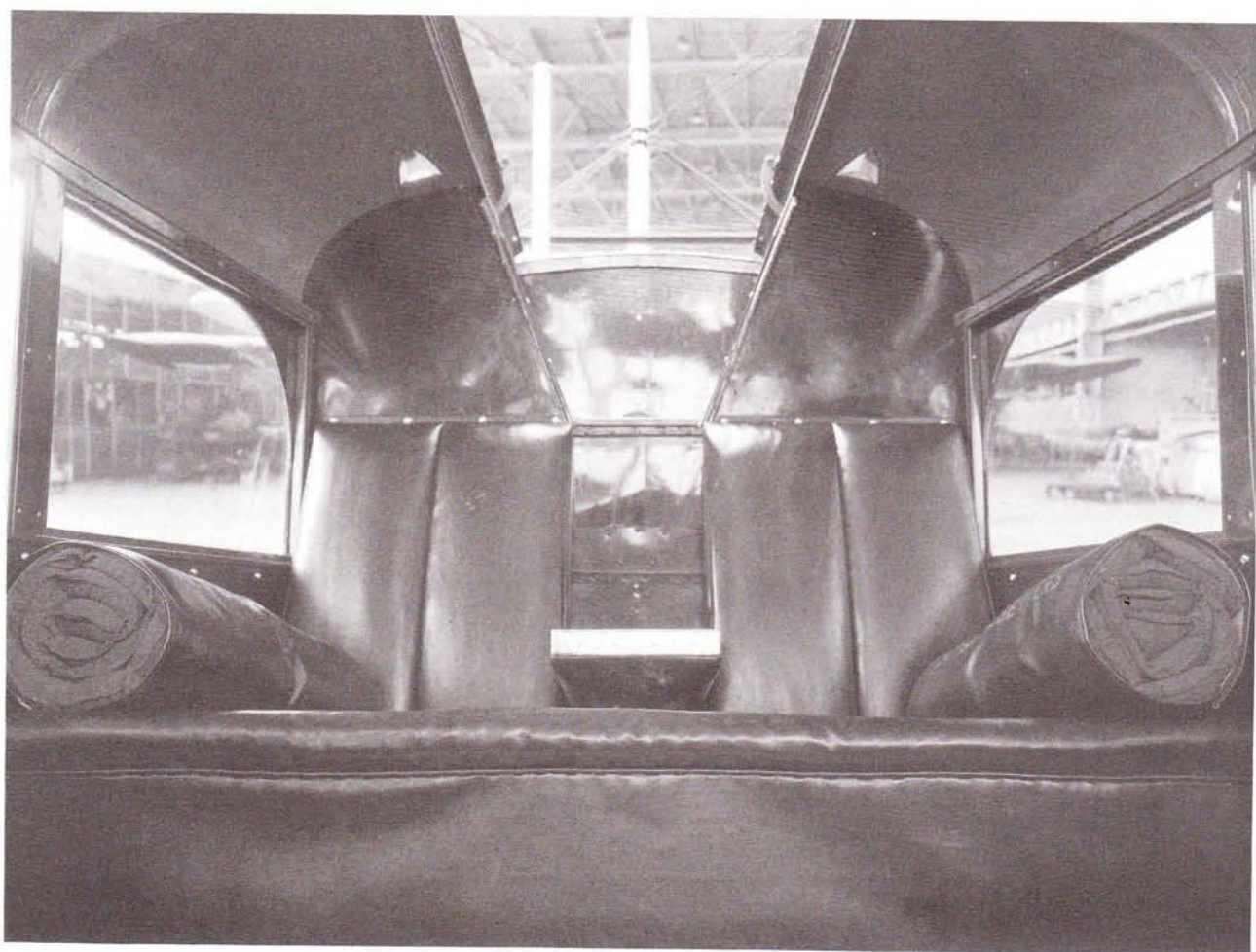
DRAWING No. AA-57-A

PLATE 2 of 2

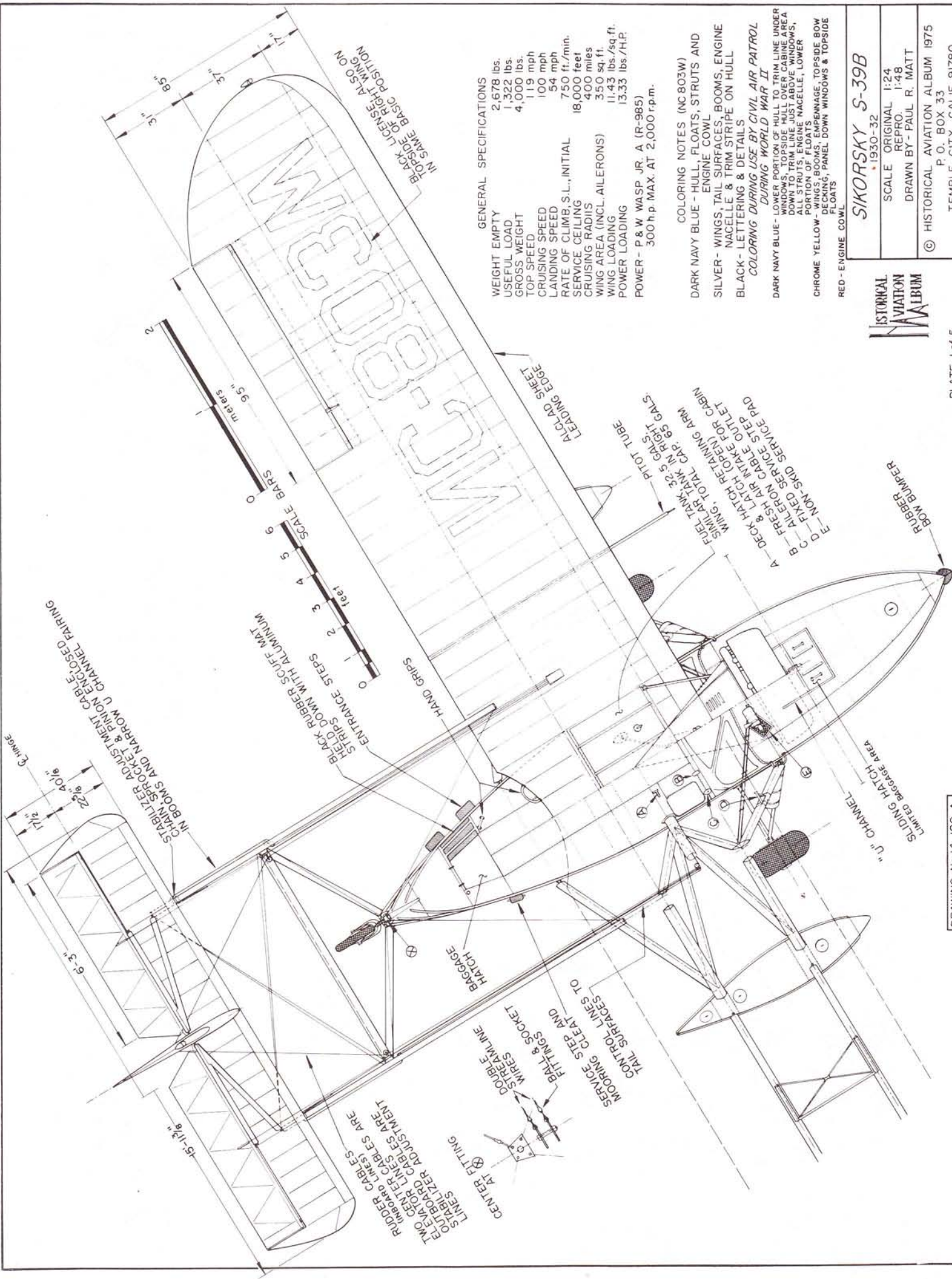
Sikorsky S-39B



Sikorsky S-39B instrument panel.



Sikorsky S-39B interior.



GENERAL SPECIFICATIONS

WEIGHT EMPTY	2,678 lbs.
USEFUL LOAD	1,322 lbs.
GROSS WEIGHT	4,000 lbs.
TOP SPEED	119 mph
CRUISING SPEED	100 mph
LANDING SPEED	54 mph
RATE OF CLIMB, S.L., INITIAL	750 ft./min.
SERVICE CEILING	18,000 feet
CRUISING RADII	400 miles
WING AREA (INCL.AILERONS)	350 sq.ft.
POWER LOADING	11.43 lbs./sq.ft.
POWER - P & W WASP JR. A (R-985)	13.33 lbs./HP.
	300 h.p. MAX. AT 2,000 r.p.m.

COLORING NOTES (NC803W)

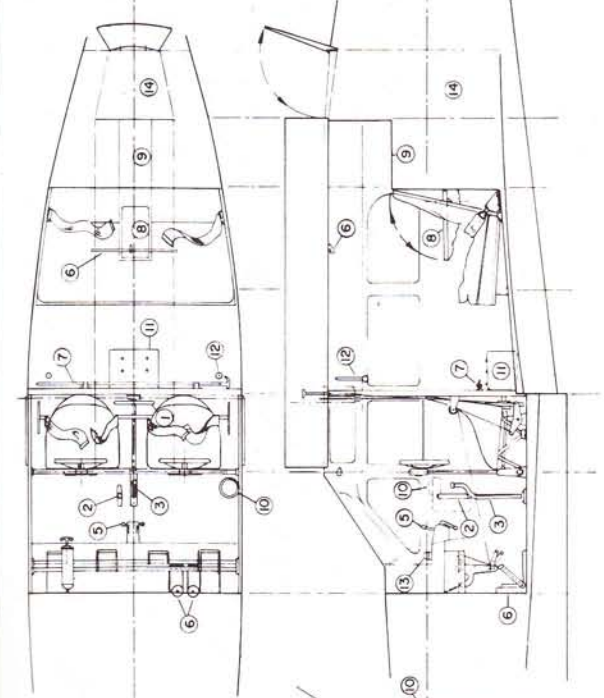
DARK NAVY BLUE - HULL, FLOATS, STRUTS AND ENGINE COWL
 SILVER - WINGS, TAIL SURFACES, BOOMS, ENGINE NACELLE & TRIM STRIPE ON HULL
 BLACK - LETTERING & DETAILS
COLORING DURING USE BY CIVIL AIR PATROL DURING WORLD WAR II
 DARK NAVY BLUE - LOWER PORTION OF HULL TO TRIM LINE UNDER WINGS, FROM SIDE JUST ABOVE CABIN AREA TO ALL STRUTS, ENGINE NACELLE, LOWER PORTION OF FLOATS
 CHROME YELLOW - WINGS, BOOMS, EMPENNAGE, TOPSIDE BOW DECKING, PANEL DOWN WINDOWS & TOPSIDE FLOATS
 RED - ENGINE COWL

SIKORSKY S-39B
 * 1930-32

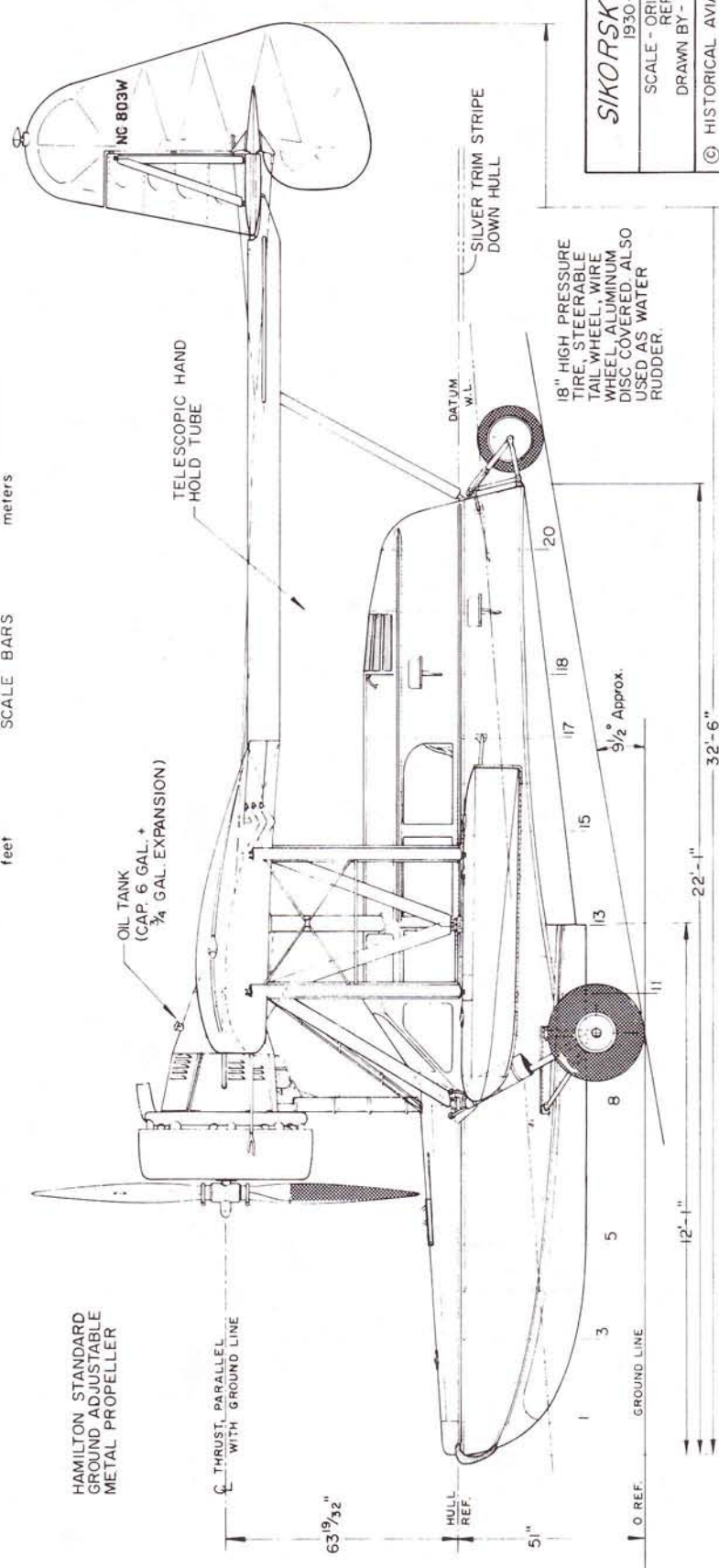
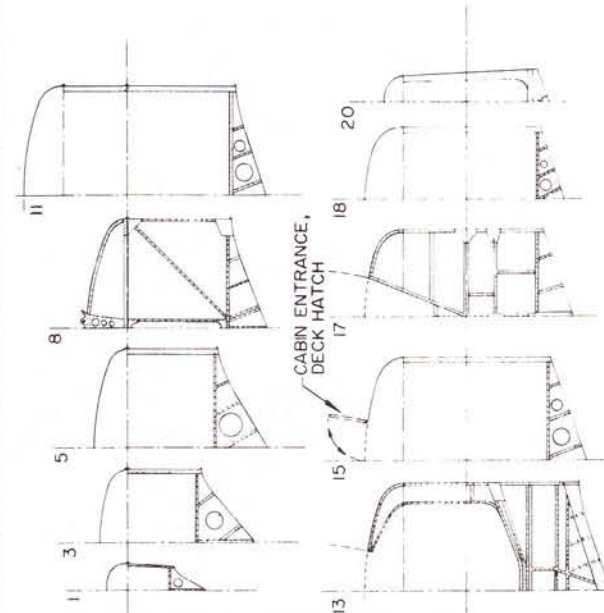
SCALE ORIGINAL 1:24
 REPRO. 1:48
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INTERIOR FINISH -
NATURAL MAHOGANY
VENEER, LEATHER
COVERED REAR BENCH
SEAT, INSTRUMENT
PANEL, CONTROLS, FRONT
BUCKET SEATS - BLACK



- 1. STABILIZER ADJUSTMENT WHEEL
- 2. STANDING GEAR PUMP
- 3. PARKING BRAKE
- 4. WHEEL BRAKES
- 5. ENGINE CONTROLS
- 6. HATCH LOCK BAR & CATCH
- 7. BOAT HOOK
- 8. FOLDING STEP
- 9. COMPASS
- 10. BATTERY BOX
- 11. HANDHOLD
- 12. LANDING GEAR VALVES
- 13. BAGGAGE COMPARTMENT
- 14. FIXED HATCH LOCK ARMS
- 15. FIXED HATCH LOCK ARMS



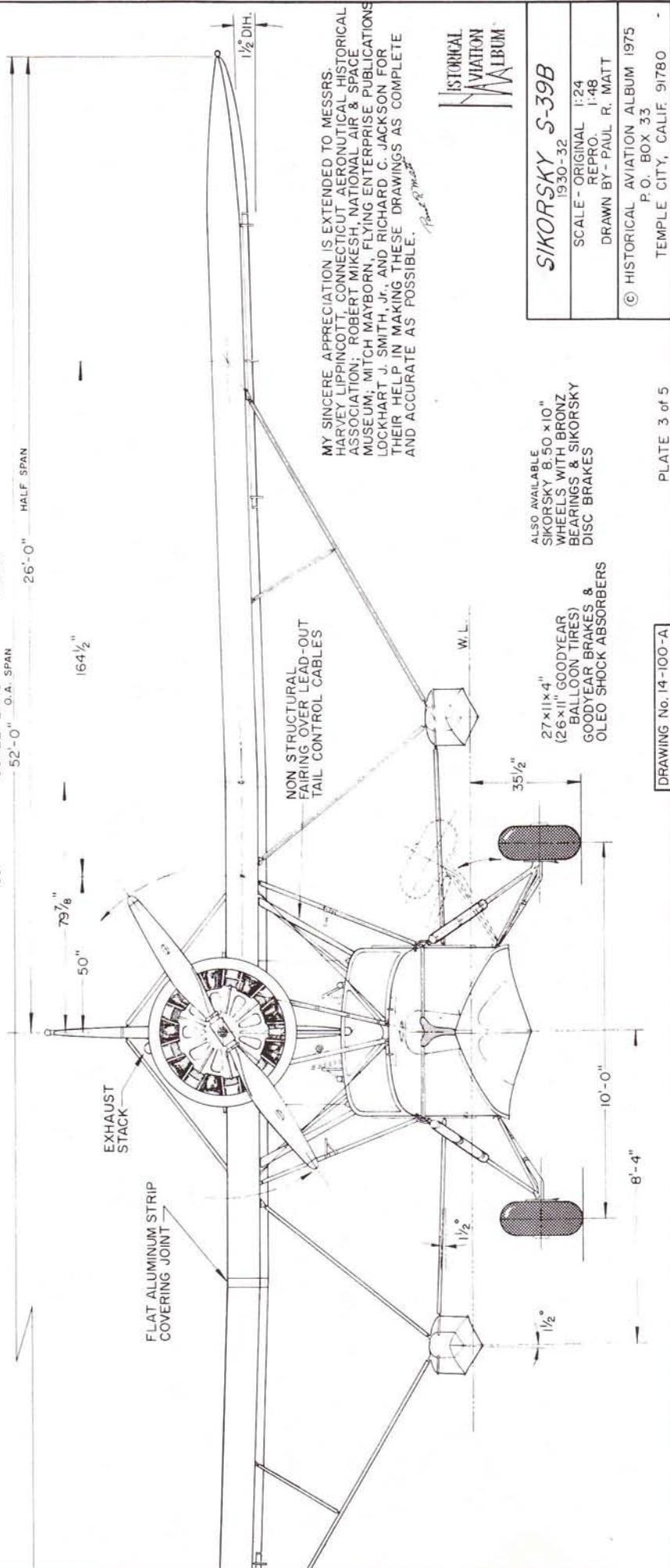
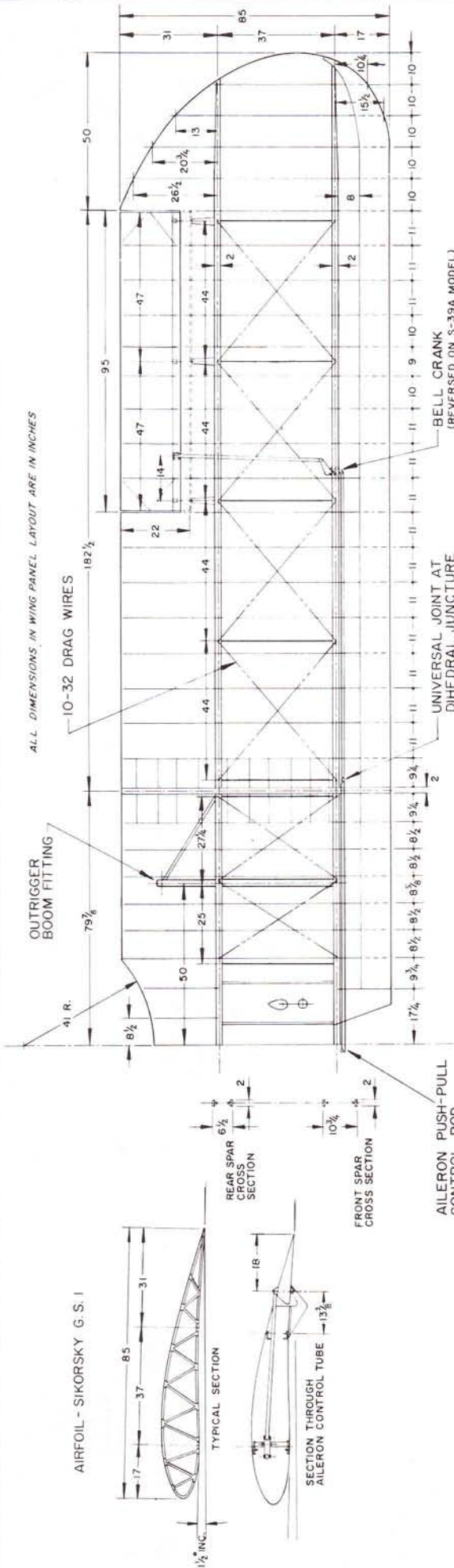
HISTORICAL
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SIKORSKY S-39B
1930-32

SCALE - ORIGINAL 1:24
REPRO. 1:48
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ALL DIMENSIONS IN WING PANEL LAYOUT ARE IN INCHES



MY SINCERE APPRECIATION IS EXTENDED TO MESSRS. HARVEY LIPPINCOTT, CONNECTICUT AERONAUTICAL HISTORICAL ASSOCIATION; ROBERT MIKESH, NATIONAL AIR & SPACE MUSEUM; MITCH MAYBORN, FLYING ENTERPRISE PUBLICATIONS; LOCKHART J. SMITH, JR., AND RICHARD C. JACKSON FOR THEIR HELP IN MAKING THESE DRAWINGS AS COMPLETE AND ACCURATE AS POSSIBLE.



SIKORSKY S-39B
1930-32

SCALE - ORIGINAL 1:24
REPRO. 1:48

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ALSO AVAILABLE
SIKORSKY 8.50 x 10" WHEELS WITH BRONZ BEARINGS & SIKORSKY DISC BRAKES

GENERAL SPECIFICATION
 1,874 lbs.
 INCL. WATER, OIL BUT
 NOT FUEL
 426 lbs.
 USEFUL LOAD
 2,300 lbs.
 GROSS WEIGHT
 429 sq. ft.
 WING AREA (INCL. ALERONS)
 21 sq. ft.
 ALERON AREA, EACH
 85 mph
 HIGH SPEED
 68 mph
 NORMAL CRUISE
 37 mph
 LANDING SPEED
 30 gals.
 FUEL CAPACITY
 3 gals.
 OIL CAPACITY

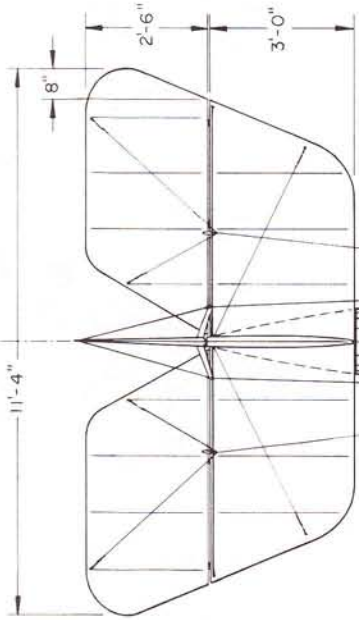
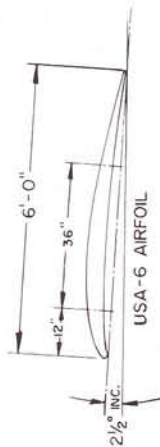
POWER: VIRTUALLY ANY IN-LINE ENGINE
 OF THE ERA 90hp TO 180hp

COMMON ENGINES USED:

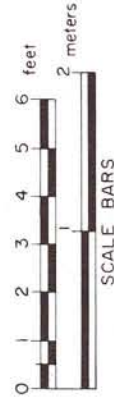
CURTISS OX-5 90 hp
 HALL-SCOTT A-7 90 hp
 A-7A 100 hp
 A-5 125 hp
 HISPANO-SUIZA-A 150 hp
 -B 180 hp
 ROBERTS 100 hp

COLORING NOTES

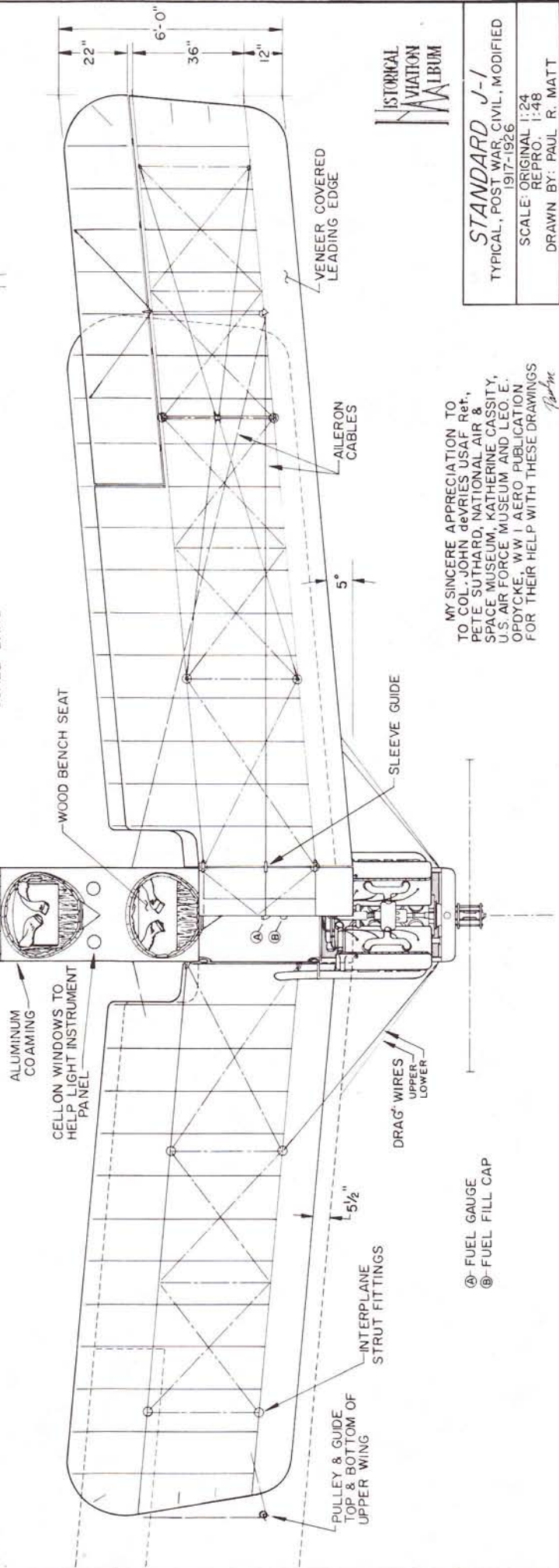
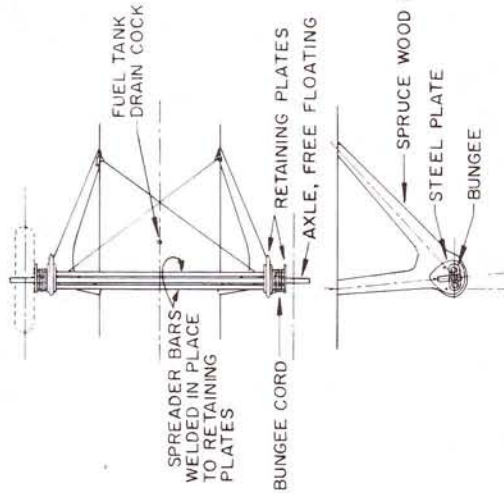
ENTIRE AIRCRAFT CLEAR DOPED OR SILVER PIGMENTED,
 METAL DECKING AND COWLING - COLOR OF OWNERS CHOICE



NOTE
 ALL TRAILING EDGES OF
 WINGS AND TAIL SURFACES
 ARE FORMED WITH SPRUCE WOOD



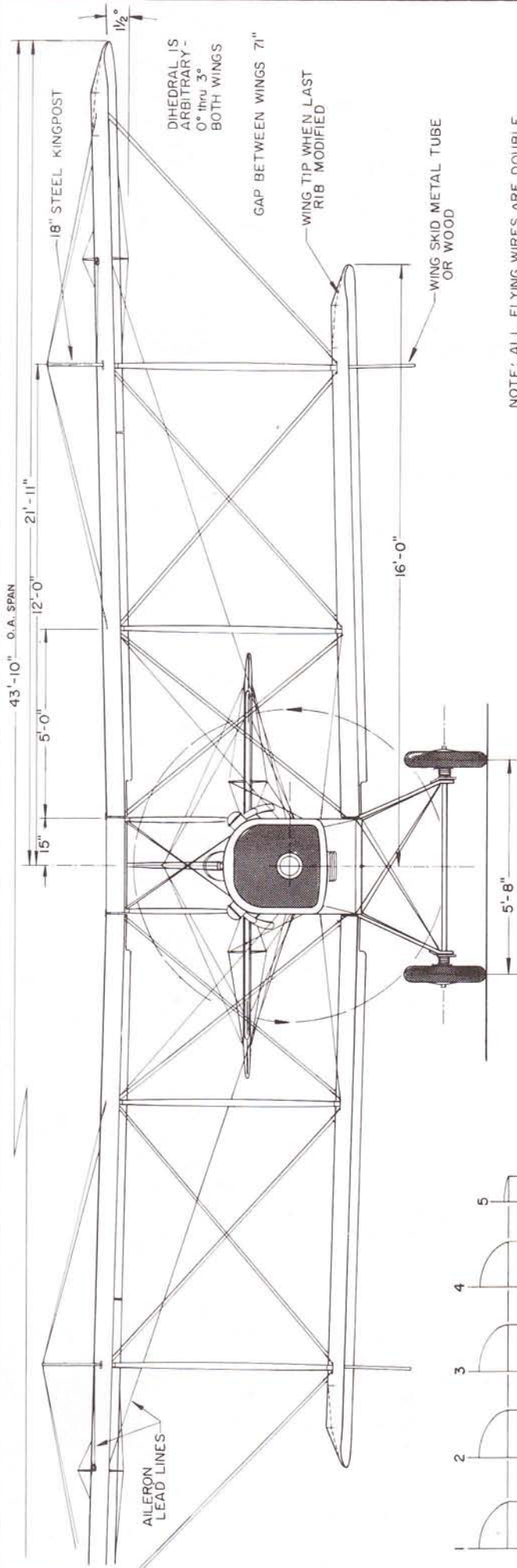
TYPICAL LANDING GEAR



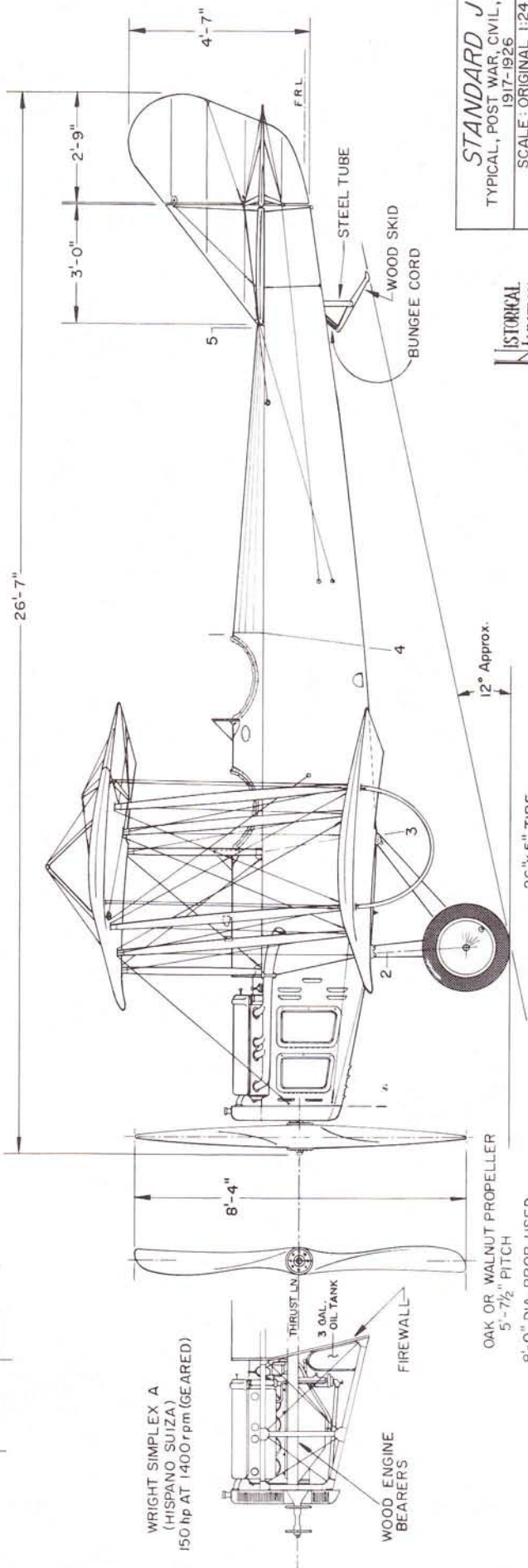
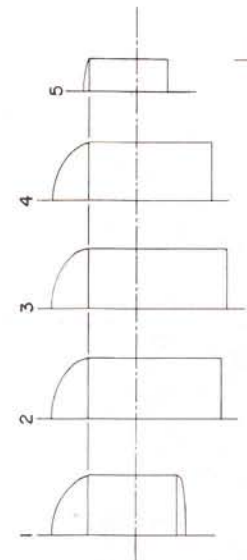
MY SINCERE APPRECIATION TO
 COL. JOHN DEVRIES USAF Ret.,
 PETE SUTTHARD, NATIONAL AIR &
 SPACE MUSEUM, KATHERINE CASSITY,
 U.S. AIR FORCE MUSEUM AND LEO E.
 OPDYCKE, WW I AERO PUBLICATION
 FOR THEIR HELP WITH THESE DRAWINGS
Paul R. Matt

HISTORICAL
 AVIATION
 MUSEUM

STANDARD J-1
 TYPICAL, POST WAR, CIVIL, MODIFIED
 1917-1926
 SCALE: ORIGINAL 1:24
 REPRO. 1:48
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NOTE: ALL FLYING WIRES ARE DOUBLE, IN CLOSE PARALLEL. THIS IS NOT SHOWN ON DRAWINGS TO SAVE CONFUSION.



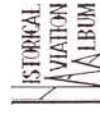
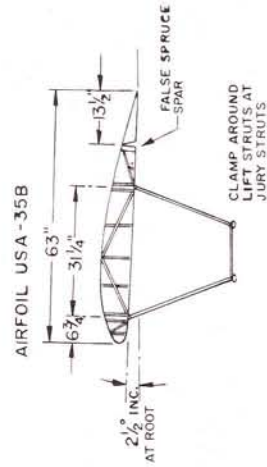
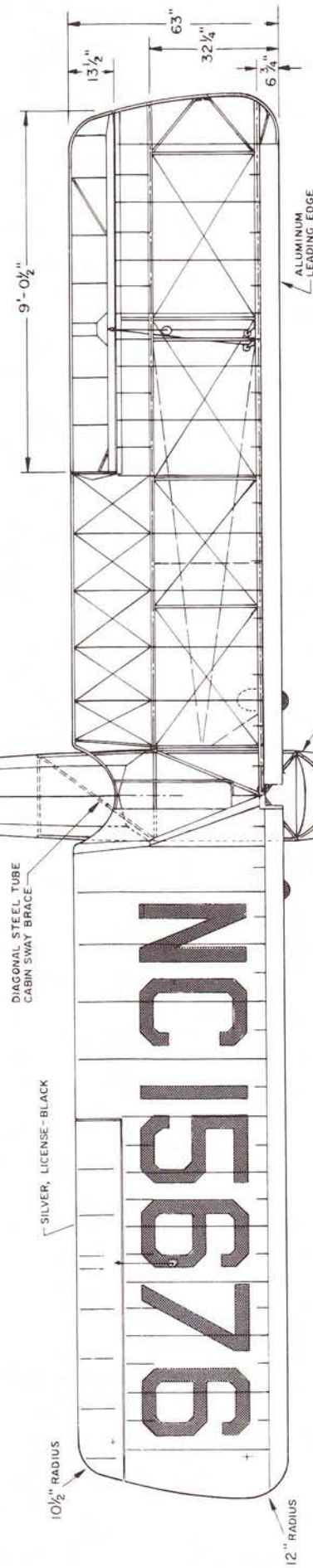
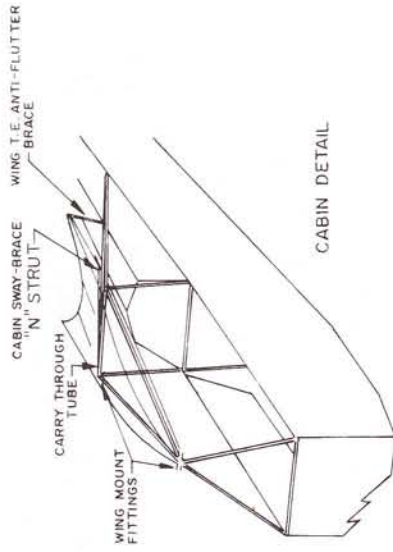
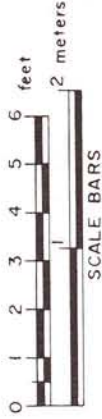
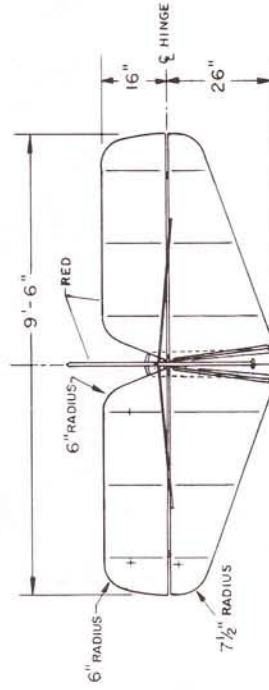
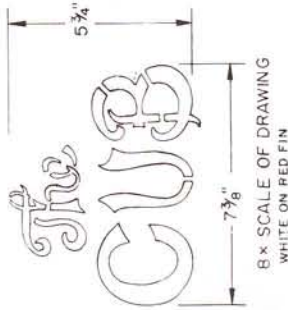
STANDARD J-1
 TYPICAL, POST WAR, CIVIL, MODIFIED
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 SCALE: ORIGINAL 1:24
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GENERAL SPECIFICATIONS

WEIGHT EMPTY 525 lbs.
 USEFUL LOAD 400 lbs.
 GROSS WEIGHT 925 lbs.
 WING AREA 184 lbs.
 POWER LOADING 6 lbs./sq.ft.
 WING LOADING 22 lbs./HP
 MAXIMUM SPEED 50 mph at 3000 feet
 CRUISING SPEED 58 mph
 LANDING SPEED 28 mph
 RANGE AT CRUISE 204 miles
 SERVICE CEILING 12,000 feet
 FUEL CAPACITY 9 gals.
 OIL CAPACITY 4 quarts
 FUEL CONSUMPTION 3 gal/hr.

POWER: CONTINENTAL A-40-2,
 35-37 HP at 2,550 rpm.



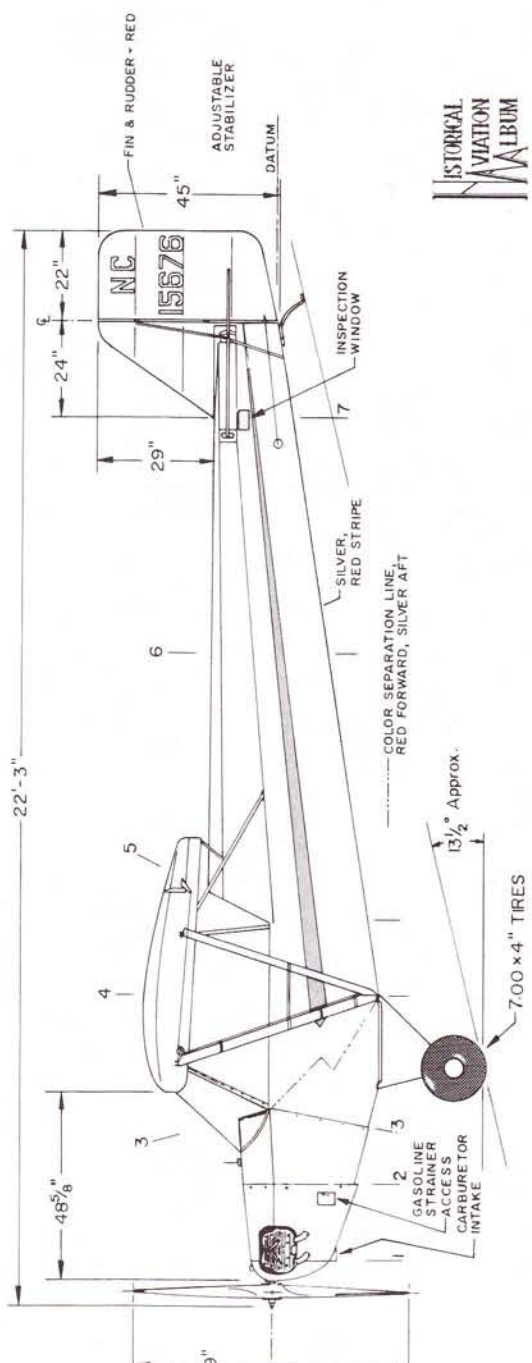
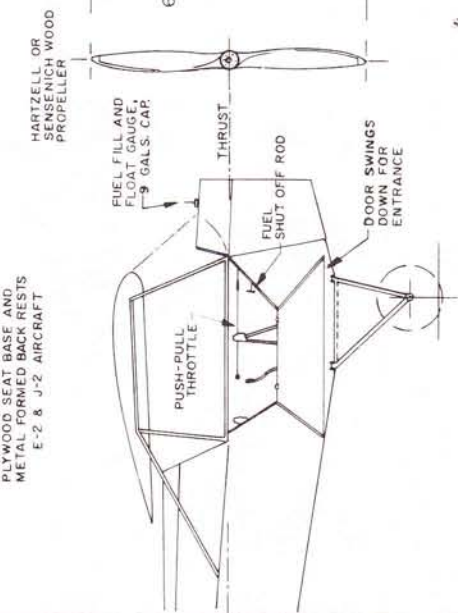
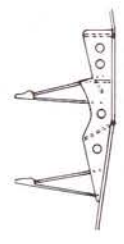
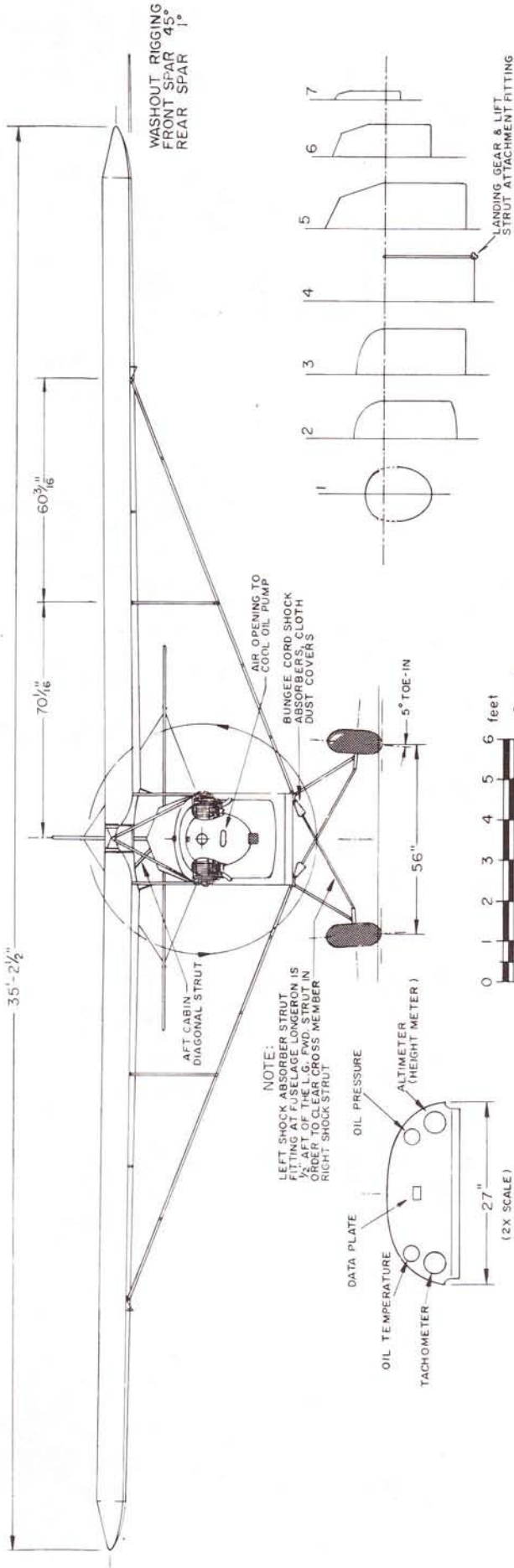
TAYLOR E-2 "CUB"
 1931-36

SCALE: ORIGINAL - 1:24
 REPRO. - 1:48

DRAWN BY: PAUL R. MATT

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 BILL KNEPP FOR THEIR HELP IN
 THE PREPARATION OF THESE
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TAYLOR E-2 "CUB"
1931-36

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REPRO. - 1:48

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GENERAL SPECIFICATIONS

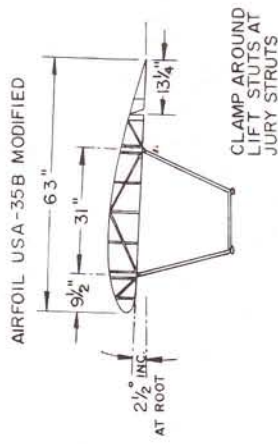
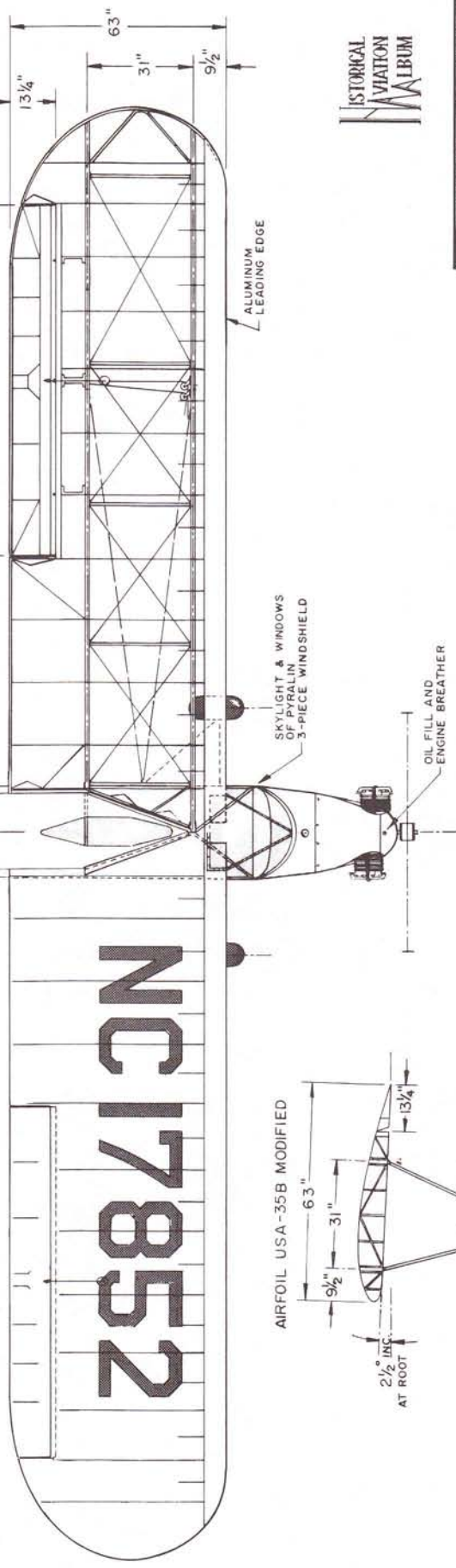
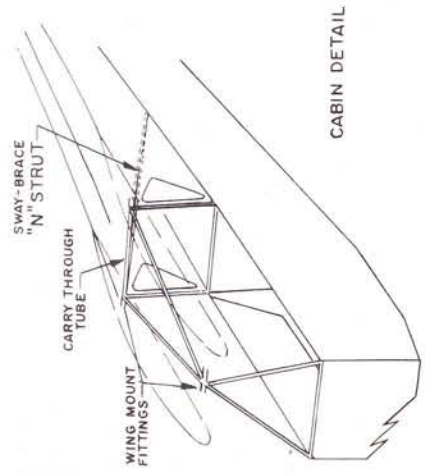
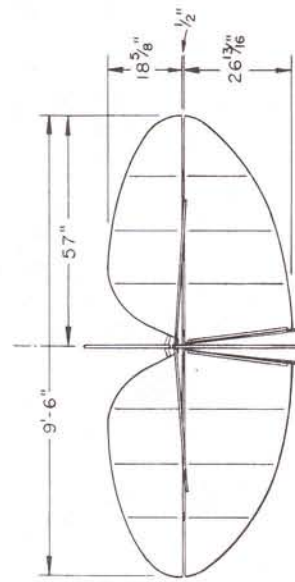
- WEIGHT EMPTY 563 lbs.
- USEFUL LOAD 407 lbs.
- GROSS WEIGHT 970 lbs.
- WING AREA 178 sq. ft.
- WING LOADING 5.44 lbs./sq. ft.
- POWER 37 HP at 2550 rpm
- MAXIMUM SPEED 85 mph
- CRUISING SPEED 70 mph
- LANDING SPEED 29 mph
- RANGE AT CRUISE 200 miles
- SERVICE CEILING 12,000 feet
- FUEL CAPACITY 9 gals.
- OIL CAPACITY 4 quarts
- FUEL CONSUMPTION 3 gal./hr.

POWER: CONTINENTAL A-40-4,
37 HP at 2550 rpm
40 HP at 2575 rpm LIMITED

COLORING NOTES

OVERALL SILVER WITH THREE DARK BLUE
OR RED FUSELAGE STRIPES
OPTIONAL-RED, BLUE OR GREEN FUSELAGE,
VERTICAL, STRUTS & LANDING GEAR WITH
SILVER OR YELLOW WINGS & HORIZONTAL
TAIL SURFACES

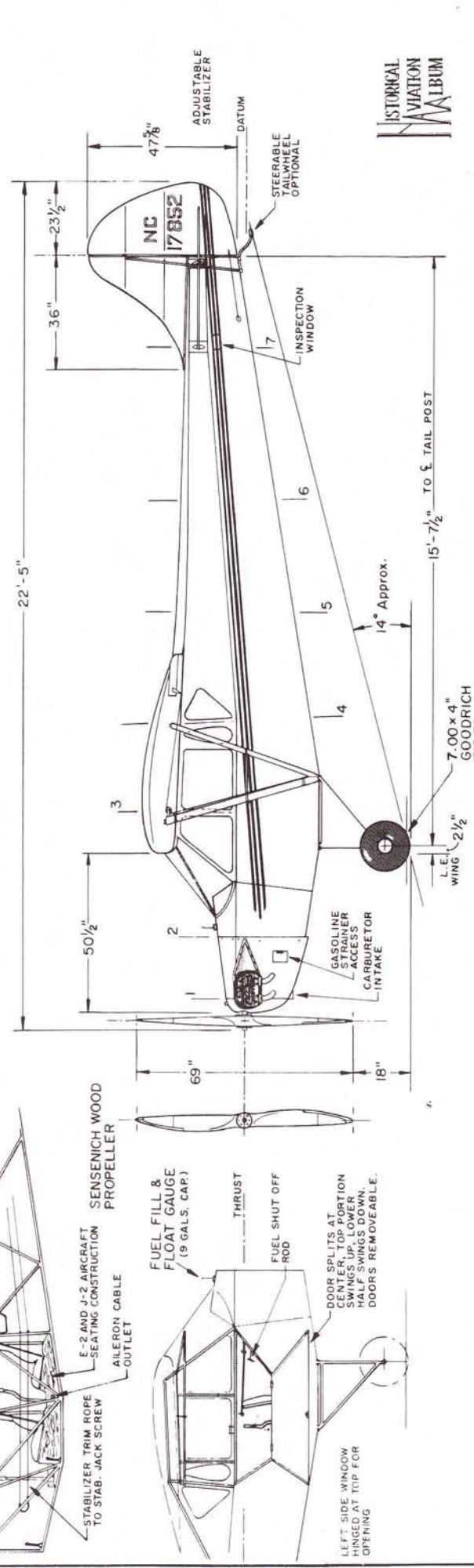
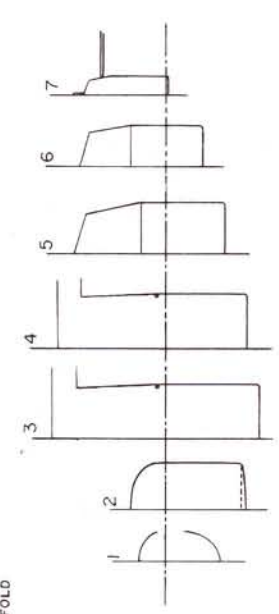
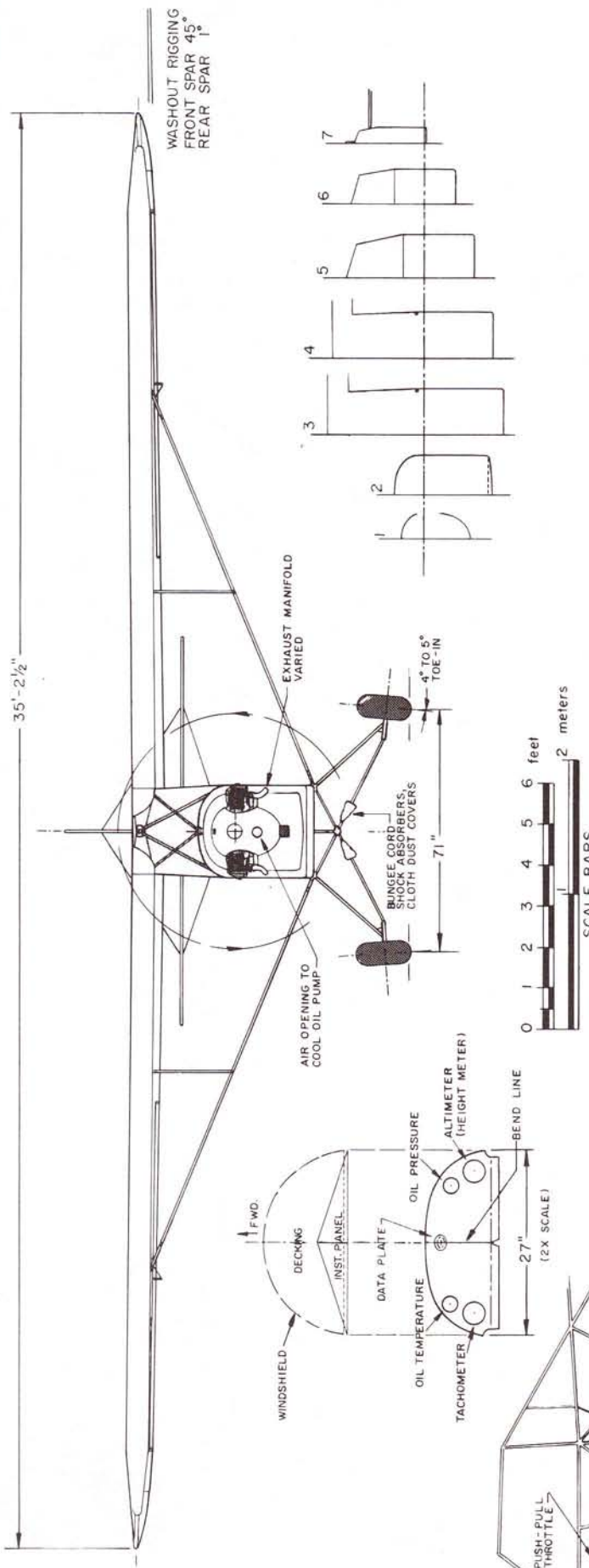
CUSTOM COLORS AVAILABLE INCLUDING
OVERALL METALLIC BRONZE-GOLD
WITH RED TRIM



HISTORICAL AVIATION ALBUM

TAYLOR J-2 "CUB"
"THE SILVER CUB" 1937
SCALE: ORIGINAL - 1:24
REPRO. - 1:48
DRAWN BY: PAUL R. MATT
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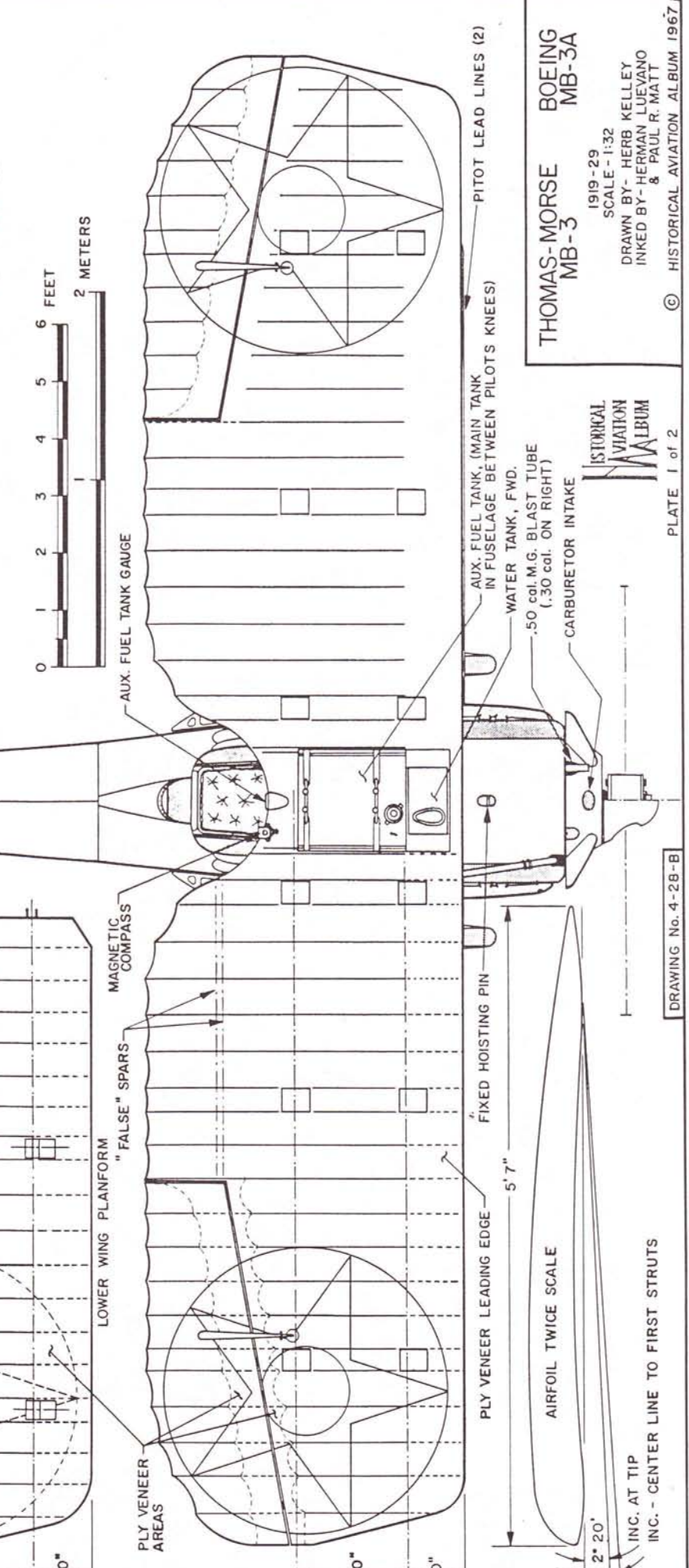
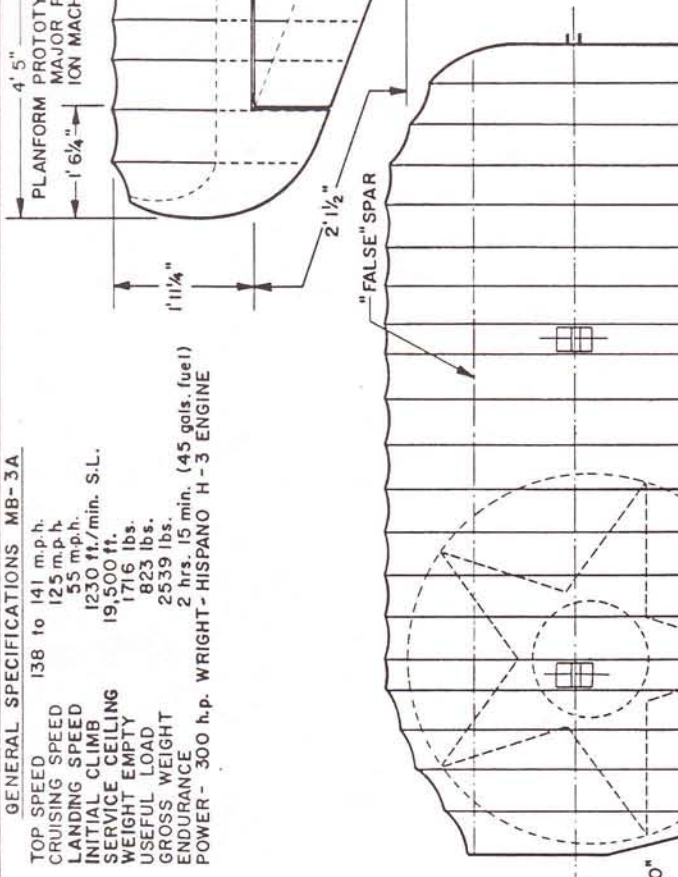
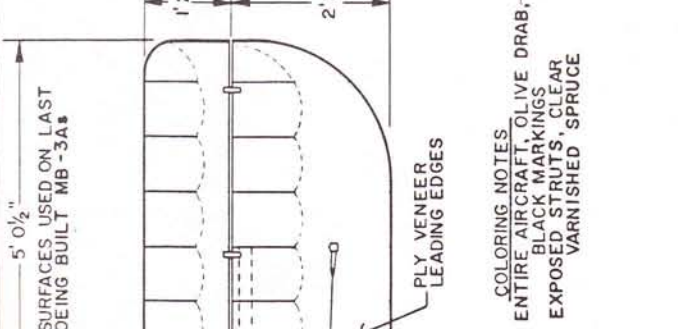
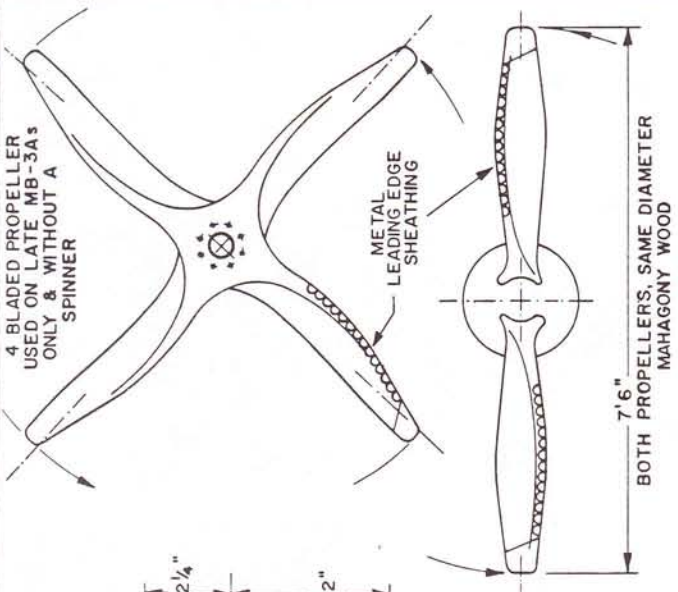
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DRAWINGS.



TAYLOR J-2 "CUB"
"THE SILVER CUB" 1937
SCALE: ORIGINAL - 1:24
REPRO. - 1:48
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GENERAL SPECIFICATIONS MB-3A

TOP SPEED 138 to 141 m.p.h.
 CRUISING SPEED 125 m.p.h.
 LANDING SPEED 55 m.p.h.
 INITIAL CLIMB 1230 ft./min. S.L.
 SERVICE CEILING 19,500 ft.
 WEIGHT EMPTY 1716 lbs.
 USEFUL LOAD 823 lbs.
 GROSS WEIGHT 2539 lbs.
 ENDURANCE 2 hrs. 15 min. (45 gals. fuel)
 POWER - 300 h.p. WRIGHT - HISPANO H-3 ENGINE



COLORING NOTES
 ENTIRE AIRCRAFT, OLIVE DRAB,
 BLACK MARKINGS
 EXPOSED STRUTS, CLEAR
 VARNISHED, SPRUCE

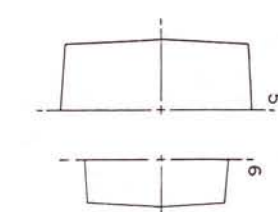
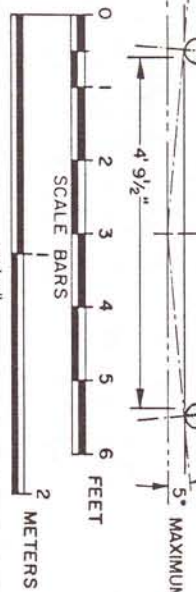
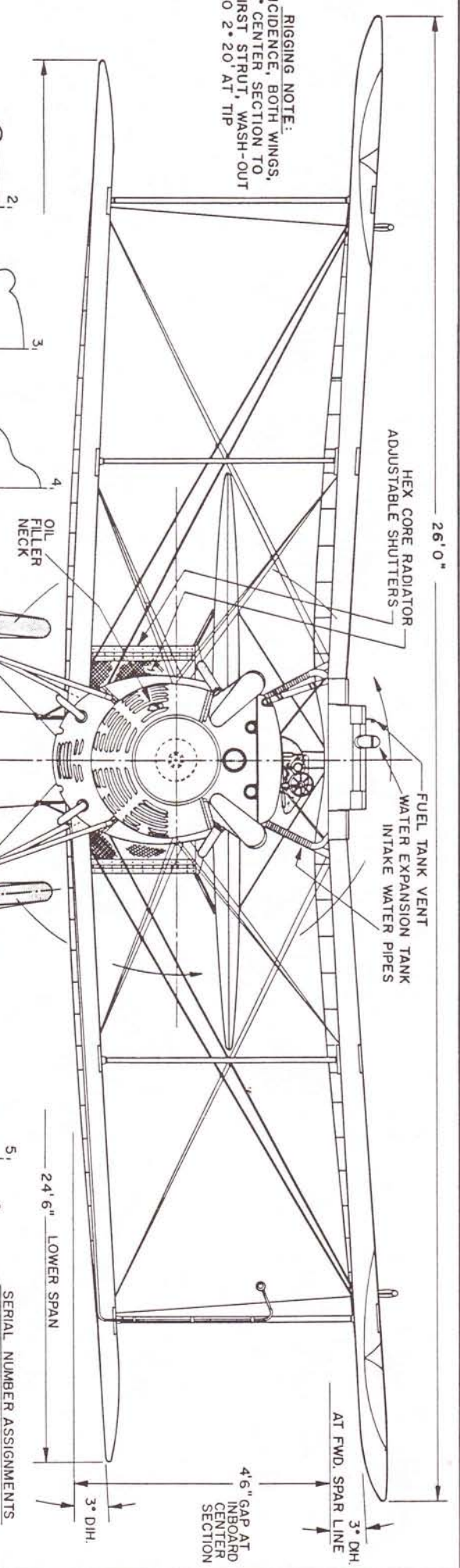
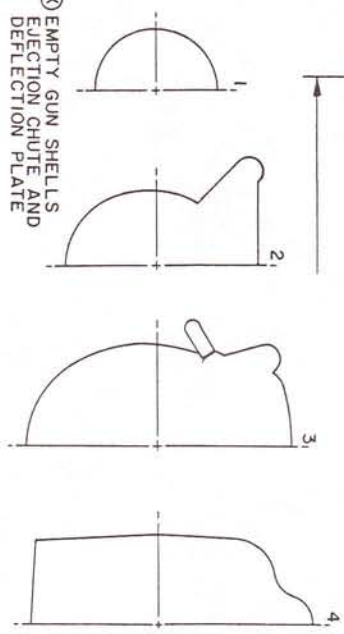
THOMAS-MORSE
 MB-3
 BOEING
 MB-3A

1919-29
 SCALE - 1:32
 DRAWN BY - HERB KELLEY
 INKED BY - HERMAN LUEVANO
 & PAUL R. MATT



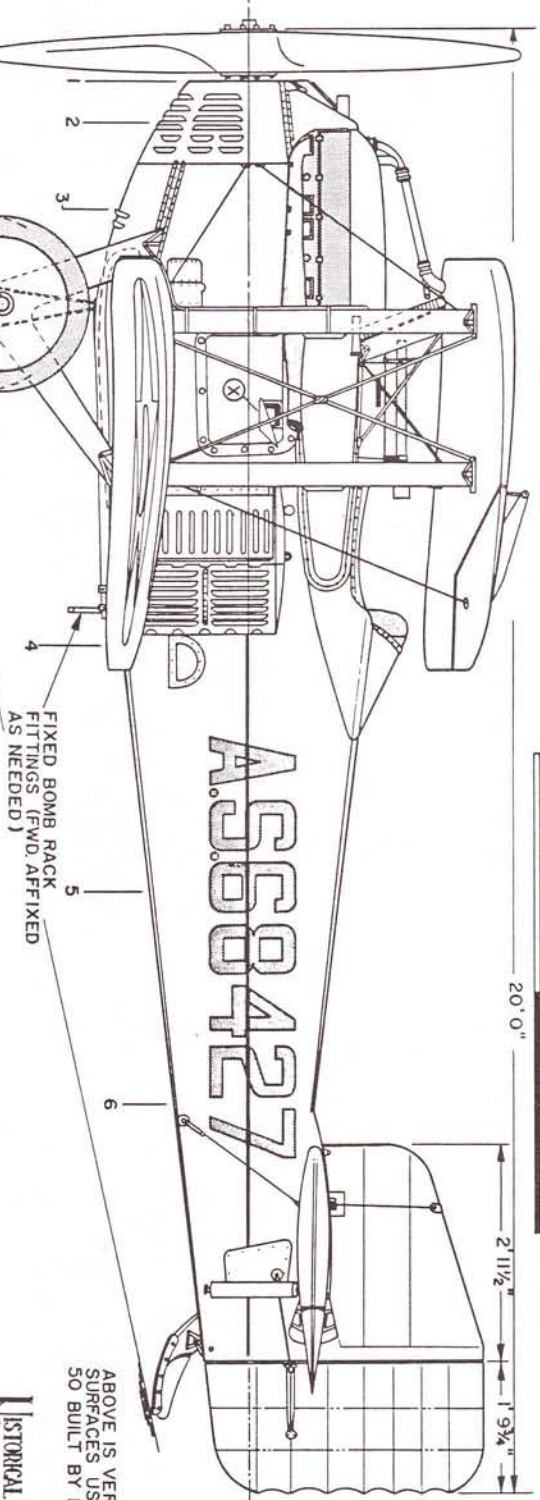
RIGGING NOTE:
INCIDENCE, BOTH WINGS,
3° CENTER SECTION TO
FIRST STRUT, WASH-OUT
TO 2° 20' AT TIP

⊗ EMPTY GUN SHELLS
EJECTION CHUTE AND
DEFLECTION PLATE



SERIAL NUMBER ASSIGNMENTS

40092 - 40095	4	Thomas Morse PROTOTYPES
63331 - 63365	35	T.M. PRODUCTION
64124 - 64138	15	"
68237 - 68436	200	BOEING "
	254	



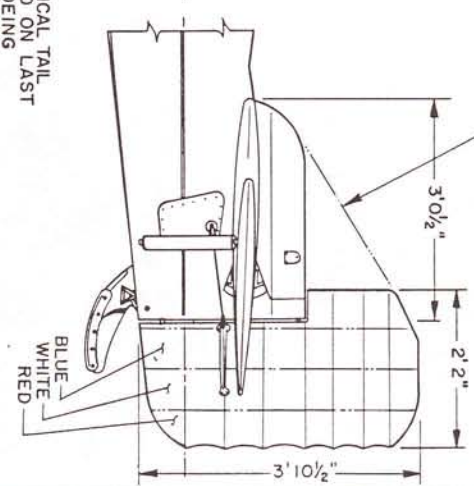
WHEEL IN GROSS WEIGHT
GROUND POSITION

DRAWING No. 4-28-B

PLATE 2 of 2



ABOVE IS VERTICAL TAIL SURFACES USED ON LAST 50 BUILT BY BOEING



THOMAS-MORSE
MB-3

BOEING
MB-3A

1919-29
SCALE - 1:32
DRAWN BY - HERB KELLEY
INKED BY - HERMAN LUEVANO & PAUL R. MAITT
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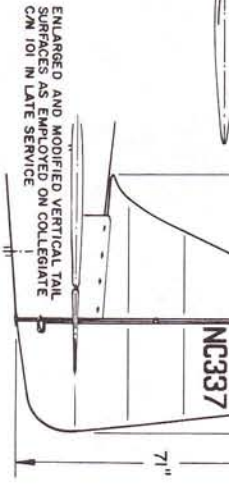
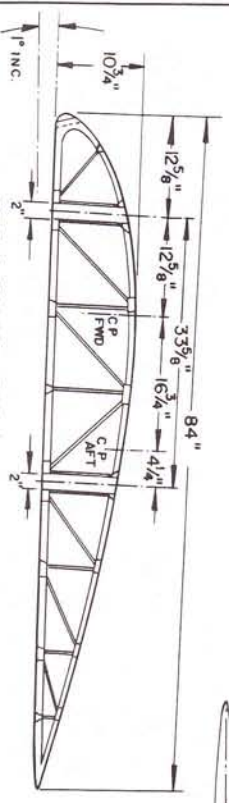
GENERAL SPECIFICATIONS

WEIGHT EMPTY 1663 lbs. (Model C-185)
 USEFUL LOAD 702 lbs.
 GROSS WEIGHT 2365 lbs.
 TOP SPEED 118 mph (100 hp Kinner powered)
 CRUISING SPEED 92 mph
 LANDING SPEED 35 mph
 RATE OF CLIMB, INITIAL 640 ft./min. at S.L.
 SERVICE CEILING 18,000 feet
 CRUISE RANGE 500 miles
 WING AREA (incl. ailerons) 236 sq. ft.

COLLEGIATE NC 887E, PORTRAYED,
 WAS COMPLETED MARCH 12, 1929
 POWER - CURTISS R-600 CHALLENGER
 6-CYL. RADIAL, 170 hp at 1800 rpm
 185 hp at 2000 rpm

COLORING NOTES
 EXACT COLORING OF NC 987E IS NO LONGER
 REMEMBERED, BUT BELIEVED TO HAVE BEEN
 SILVER WINGS & TAIL SURFACES, DARK BLUE
 FUSELAGE AND BLACK DETAILS.

OUR SINCERE APPRECIATION IS
 EXTENDED TO MR. OTTO TIMM FOR HIS
 PERSONAL HELP AND INTEREST IN
 MAKING THESE DRAWINGS POSSIBLE.
 A SPECIAL THANKS ALSO TO REVEREND
 BOARDMAN C. REED FOR HIS UNTRIRING
 PERSONAL INTEREST IN THE TIMM
 COLLEGIATE PROJECT.



WINGS - WOOD SPARS & RIBS, STEEL TUBE
 COMPRESSION MEMBERS, CABLE TIE BRACING,
 FABRIC COVERED. ALL FULL RIBS 12" ON
 CENTER, FALSE NOSE RIBS 6".

LANDING GEAR
 STRUT

FUEL TANK, 39 gals.
 OIL TANK, 4 gals.

TIE CABLES
 COMPRESSION
 TUBE MEMBERS

END RIB SLANTED OUTBOARD
 TO FORM CONTOURED TIP

BOW TIP TO
 MATCH EDGE
 RADIUS

SCALE BARS



PRODUCTION STAB,
 RETRO-FITTED TO
 PROTOTYPE AFTER
 SMALLER AREA WAS
 FOUND UNSATISFACTORY

INTERNAL STRUCTURE,
 ENTIRE HORIZONTAL
 SURFACES OF WELDED
 STEEL TUBING, FABRIC
 COVERED.

AILERON BELL CRANK
 INSPECTION HATCH

FWD CYLINDER BANKS
 AFT CYLINDER BANKS
 CARBURETOR INTAKE
 OIL COOLING INTAKE VENT

STEP PLATE, CAST ALUMINUM
 STEEL STRIPRUP



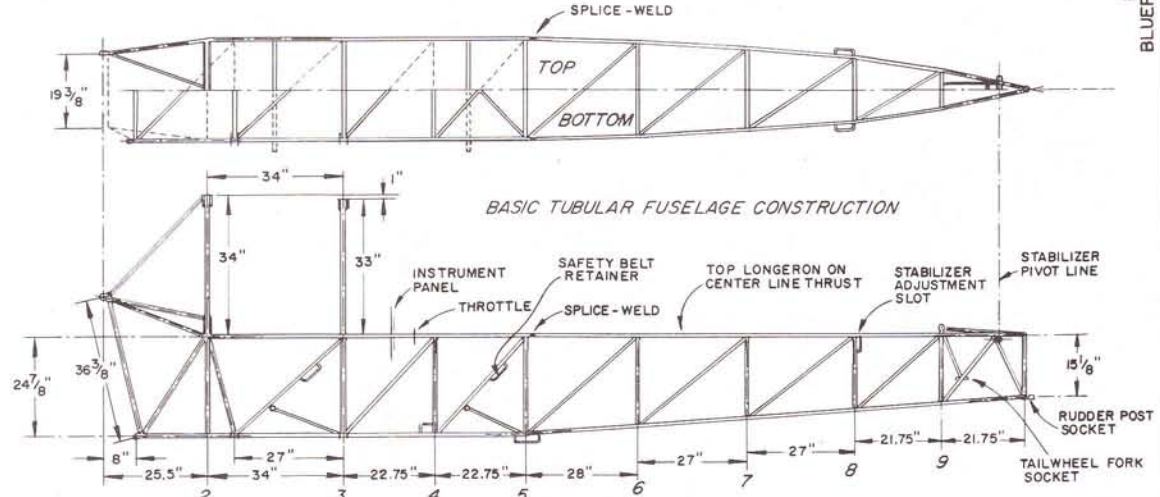
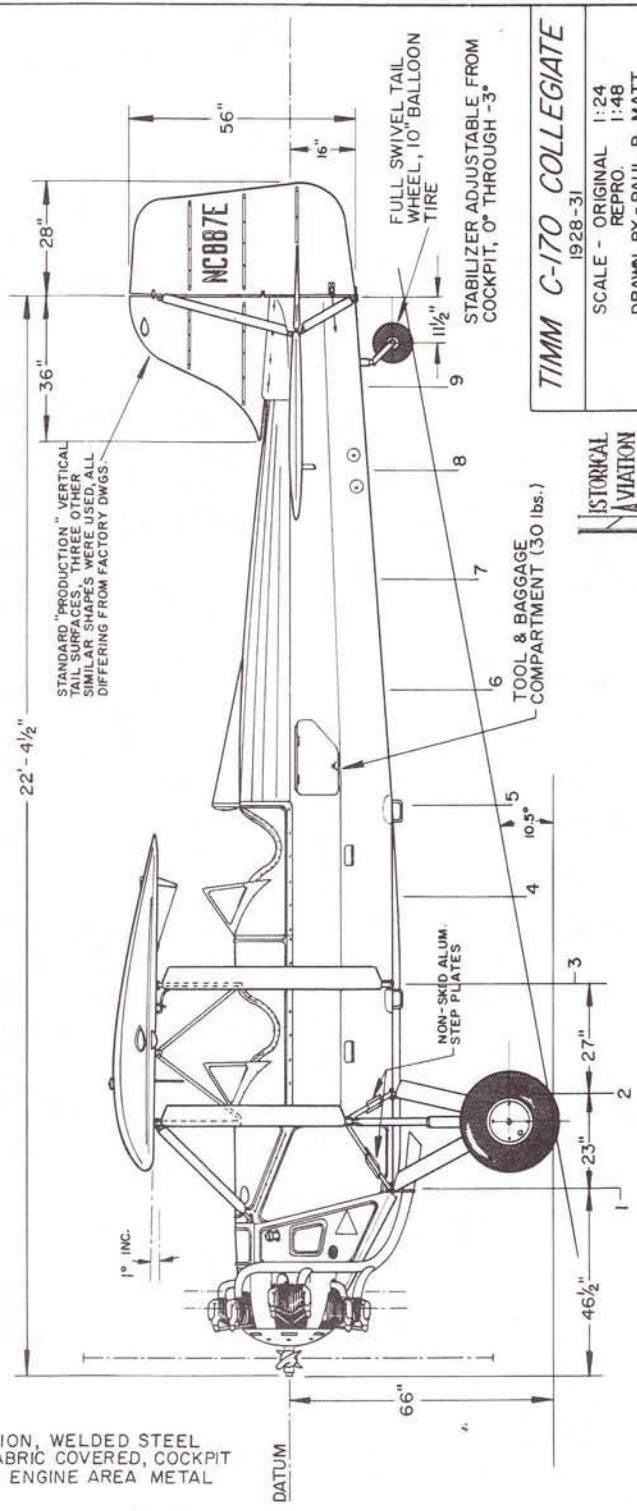
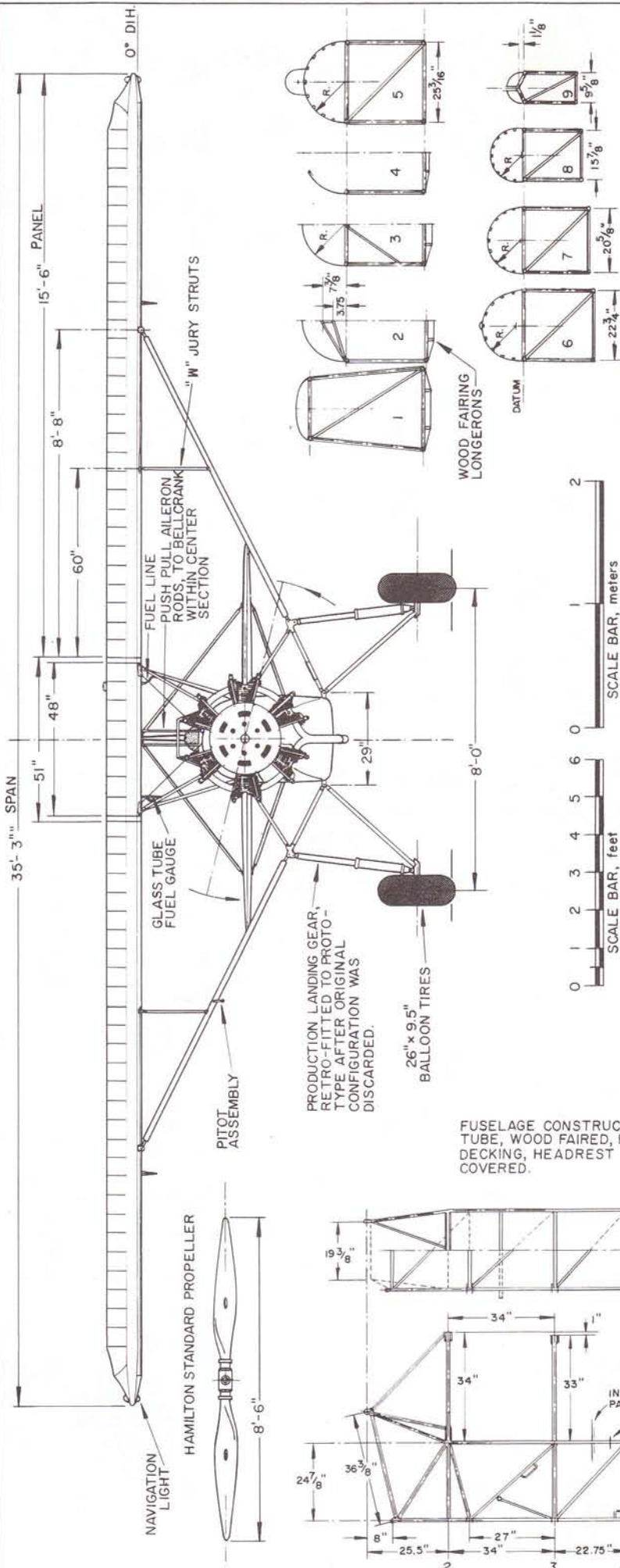
TIMM C-170 COLLEGIATE
 1928-31

SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT

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 TEMPLE CITY, CALIF. 91780

DRAWING No. 8-72-A

PLATE 1 of 2



FUSELAGE CONSTRUCTION, WELDED STEEL TUBE, WOOD FAIRED, FABRIC COVERED, COCKPIT DECKING, HEADREST & ENGINE AREA METAL COVERED.

TIMM C-170 COLLEGIATE
1928-31

SCALE - ORIGINAL 1:24
REPRO. 1:48

DRAWN BY - PAUL R. MATT

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GENERAL SPECIFICATIONS
R-3 IN FINAL CONFIGURATION

WEIGHT EMPTY 2032 lbs. WITH WATER 471 lbs. INCLUDING 271 lbs. OF USEFUL LOAD DISPOSABLE WEIGHT
 GROSS WEIGHT 2503 lbs.
 MAXIMUM SPEED 219 m.p.h. I.A.S. at 2400 r.p.m. OVER MEASURED TRIANGLE COURSE (I.A.S. 235mph)
 LANDING SPEED 73.2 m.p.h.
 STALLING SPEED 78 m.p.h.
 FUEL CAPACITY 40 gals.
 OIL CAPACITY 4 gals.
 WING AREA 146.5 sq. ft.
 POWER - CURTISS D-12 500 h.p. at 2200 r.p.m. (NOT HIGH COMPRESSION ENGINE)
 507 h.p. at 2380 r.p.m.

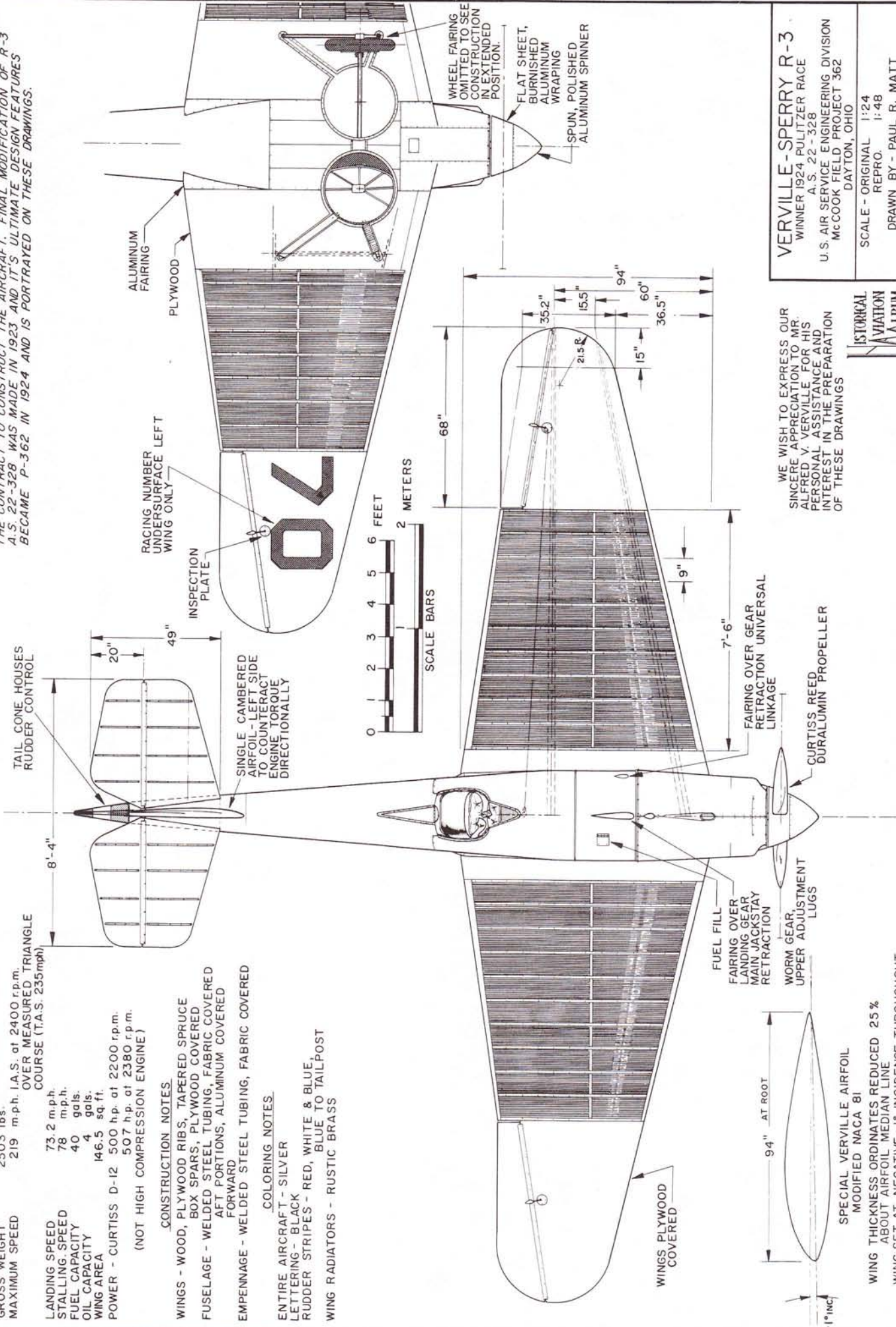
CONSTRUCTION NOTES

WINGS - WOOD, PLYWOOD RIBS, TAPERED SPRUCE BOX SPARS, PLYWOOD COVERED
 FUSELAGE - WELDED STEEL TUBING, FABRIC COVERED AFT PORTIONS, ALUMINUM COVERED FORWARD
 EMPENNAGE - WELDED STEEL TUBING, FABRIC COVERED

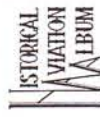
COLORING NOTES

ENTIRE AIRCRAFT - SILVER
 LETTERING - BLACK
 RUDDER STRIPES - RED, WHITE & BLUE.
 WING RADIATORS - RUSTIC BRASS

THREE R-3s WERE BUILT, A.S. 22-326, 22-327 AND 22-328 (1922). DESIGNED BY ALFRED V. VERVILLE, CHIEF OF PURSUIT AND RACING PLANE DESIGN PROJECTS, USAS ENGINEERING DIVISION, MCCOOK FIELD, DAYTON, OHIO BY DIRECTION OF BRIG. GEN. WILLIAM MITCHELL, ASST. CHIEF, U.S. ARMY AIR SERVICE. LAWRENCE SPERRY AIRCRAFT CO., FARMINGDALE, LONG ISLAND WAS AWARDED THE CONTRACT TO CONSTRUCT THE AIRCRAFT. FINAL MODIFICATION OF R-3 A.S. 22-328 WAS MADE IN 1923 AND IT'S ULTIMATE DESIGN FEATURES BECAME P-362 IN 1924 AND IS PORTRAYED ON THESE DRAWINGS.



WE WISH TO EXPRESS OUR SINCERE APPRECIATION TO MR. ALFRED V. VERVILLE FOR HIS PERSONAL ASSISTANCE AND INTEREST IN THE PREPARATION OF THESE DRAWINGS



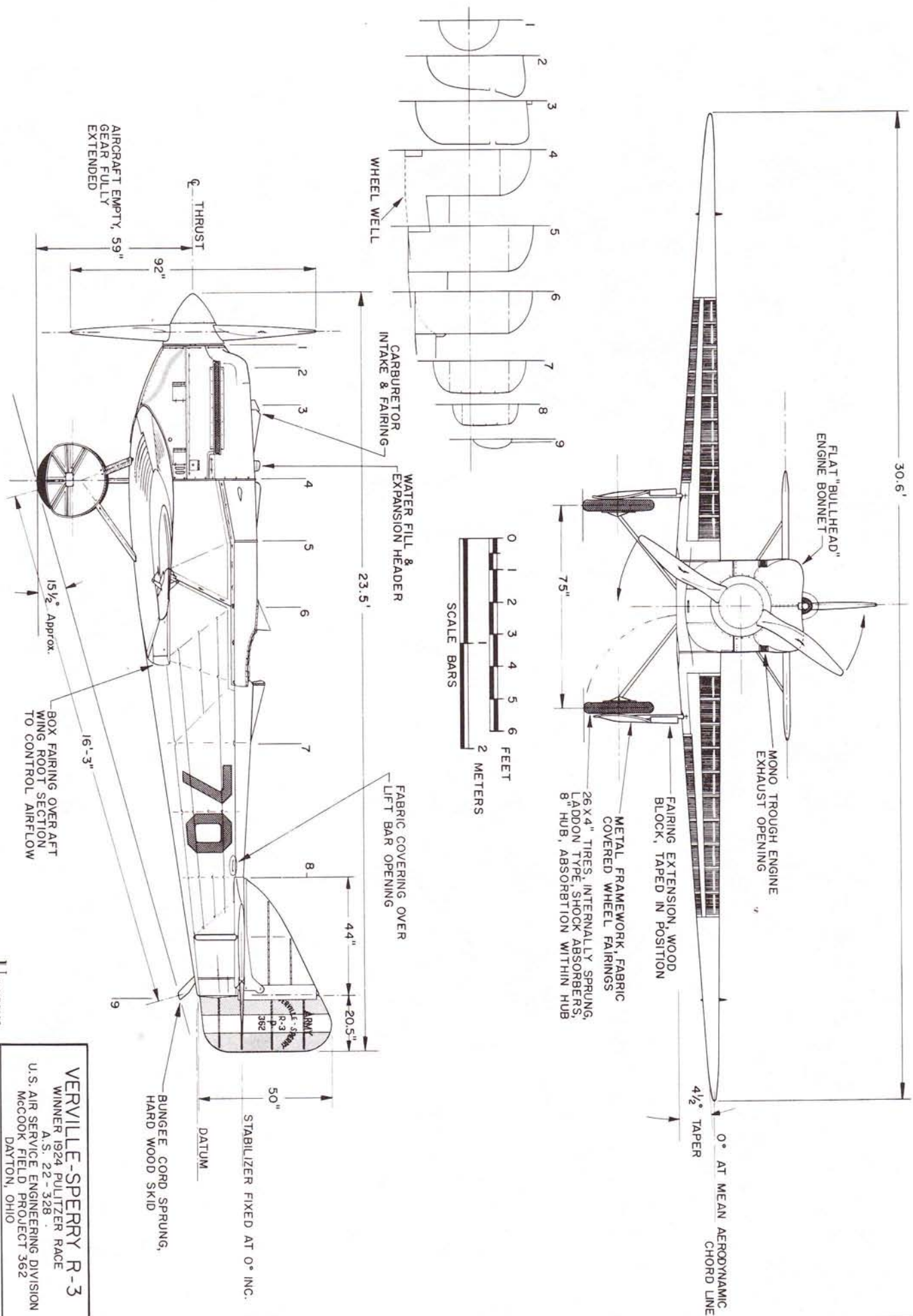
DRAWING No. 6-58-A PLATE 1 of 2

VERVILLE-SPERRY R-3
 WINNER 1924 PULITZER RACE
 A.S. 22-328
 U.S. AIR SERVICE ENGINEERING DIVISION
 MCCOOK FIELD PROJECT 362
 DAYTON, OHIO

SCALE - ORIGINAL 1:24
 REPRO. 1:48

DRAWN BY - PAUL R. MATT

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DRAWING No. 6-58-A

PLATE 2 of 2



VERVILLE-SPERRY R-3

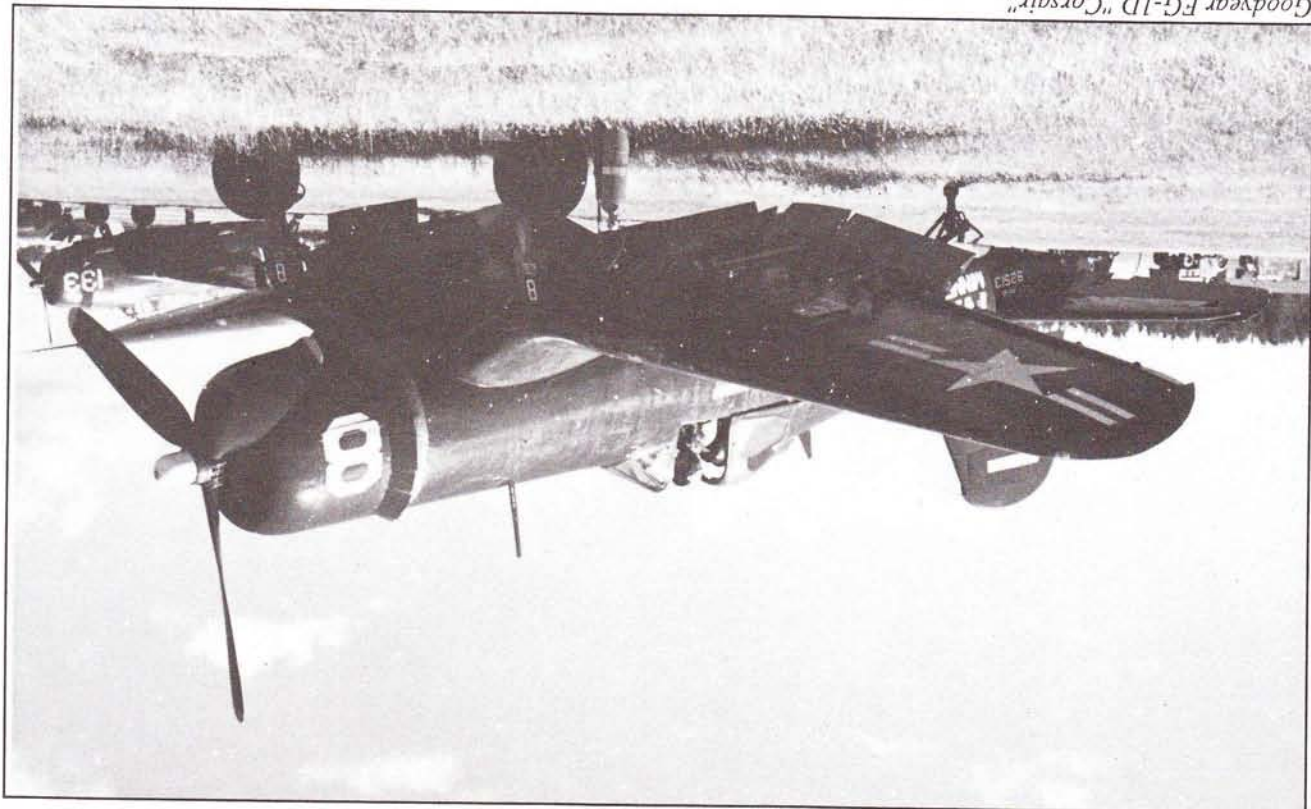
WINNER 1924 PULITZER RACE
 A.S. 22-328
 U.S. AIR SERVICE ENGINEERING DIVISION
 MCCOOK FIELD PROJECT 362
 DAYTON, OHIO

SCALE - ORIGINAL 1:24
 REPR. 1:48

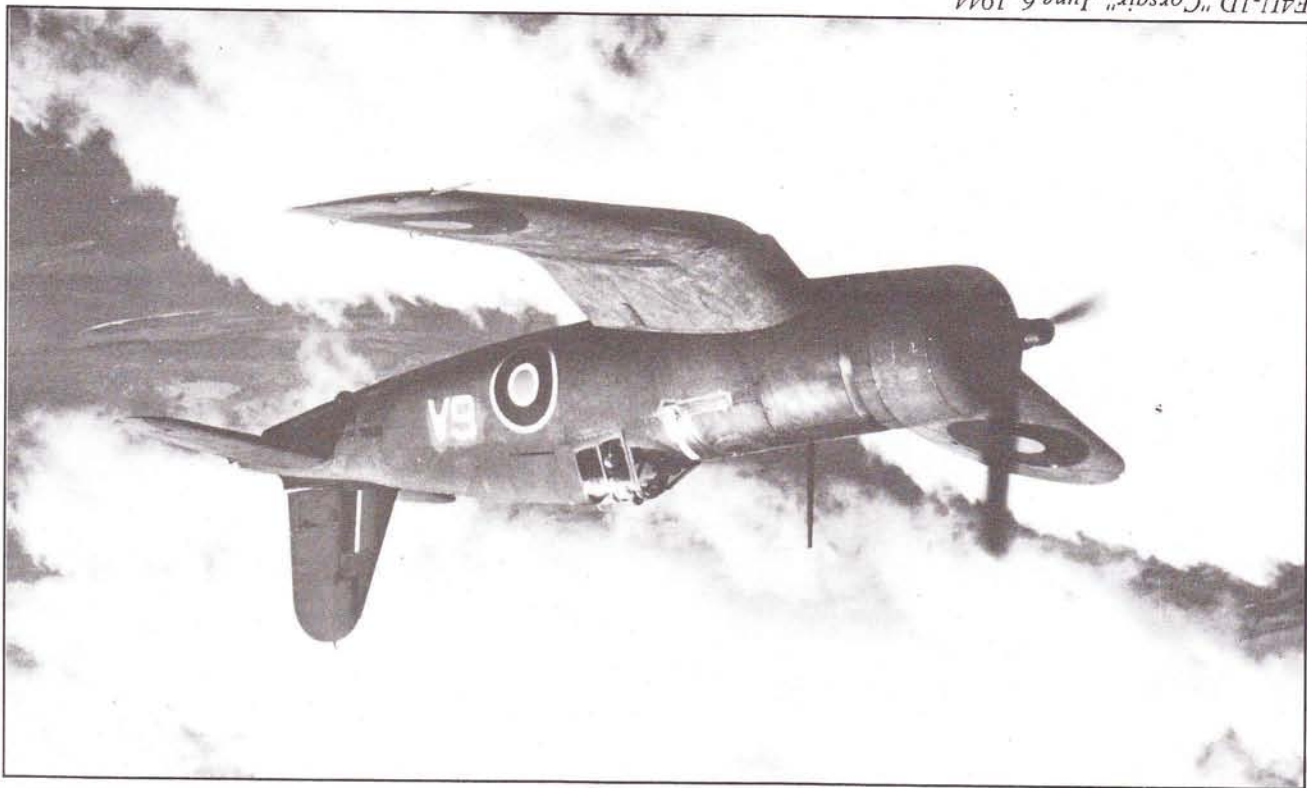
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Goodyear FG-1D "Corsair".

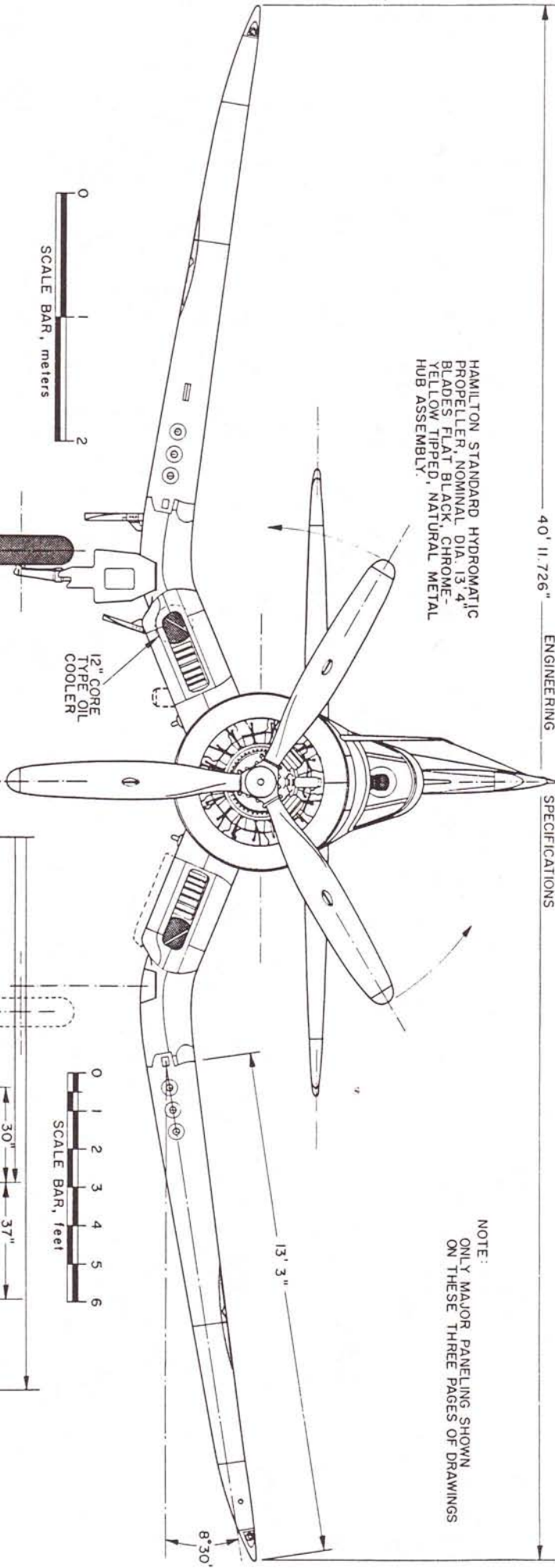


F4U-1D "Corsair", June 6, 1944.

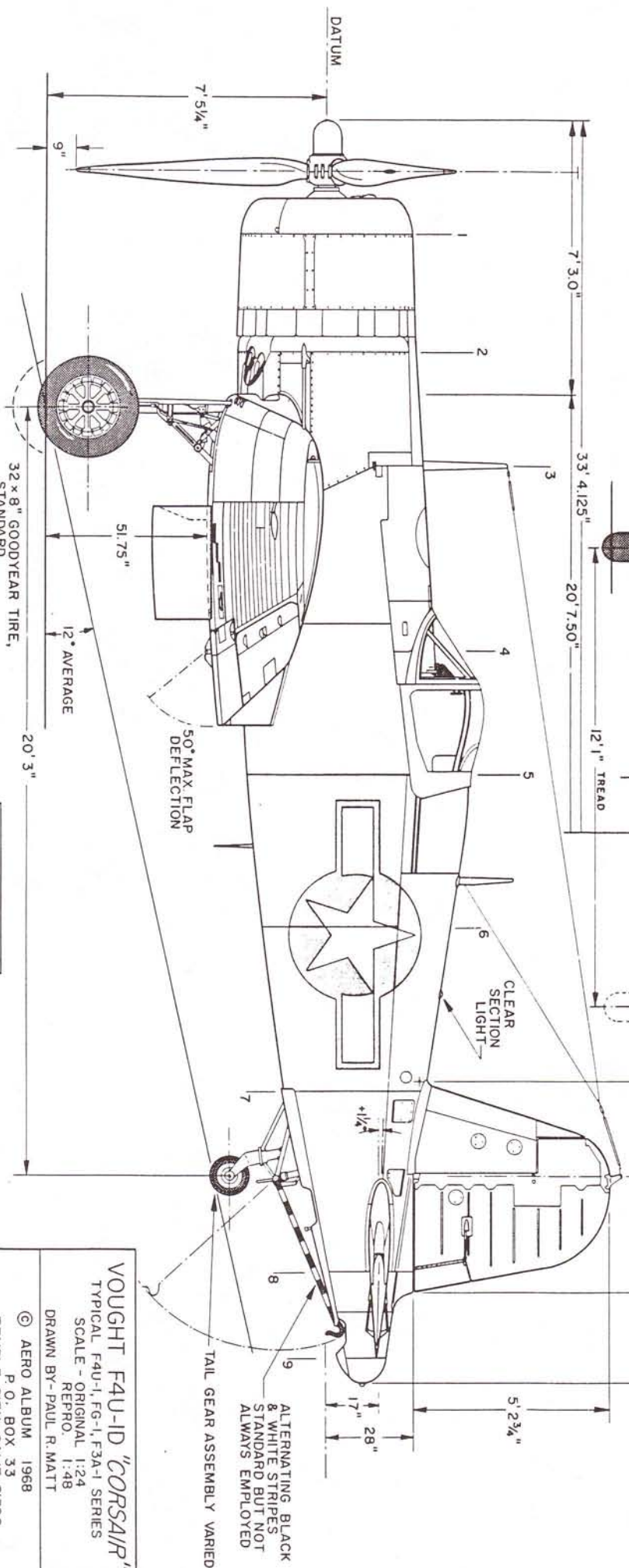


**Vought F4U-1
"Corsair"**

HAMILTON STANDARD HYDROMATIC
 PROPELLER, NOMINAL DIA. 13' 4"
 BLADES FLAT BLACK, CHROME-
 YELLOW TIPPED, NATURAL METAL
 HUB ASSEMBLY.



NOTE:
 ONLY MAJOR PANELING SHOWN
 ON THESE THREE PAGES OF DRAWINGS



32 x 8" GOODYEAR TIRE,
 STANDARD

DRAWING No. AA-SI-A

PLATE 1 of 3

VOUGHT F4U-ID "CORSAIR"
 TYPICAL F4U-1, FG-1, F3A-1 SERIES
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT
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ALTERNATING BLACK
 & WHITE STRIPES
 STANDARD BUT NOT
 ALWAYS EMPLOYED

TAIL GEAR ASSEMBLY VARIED

CLEAR SECTION LIGHT

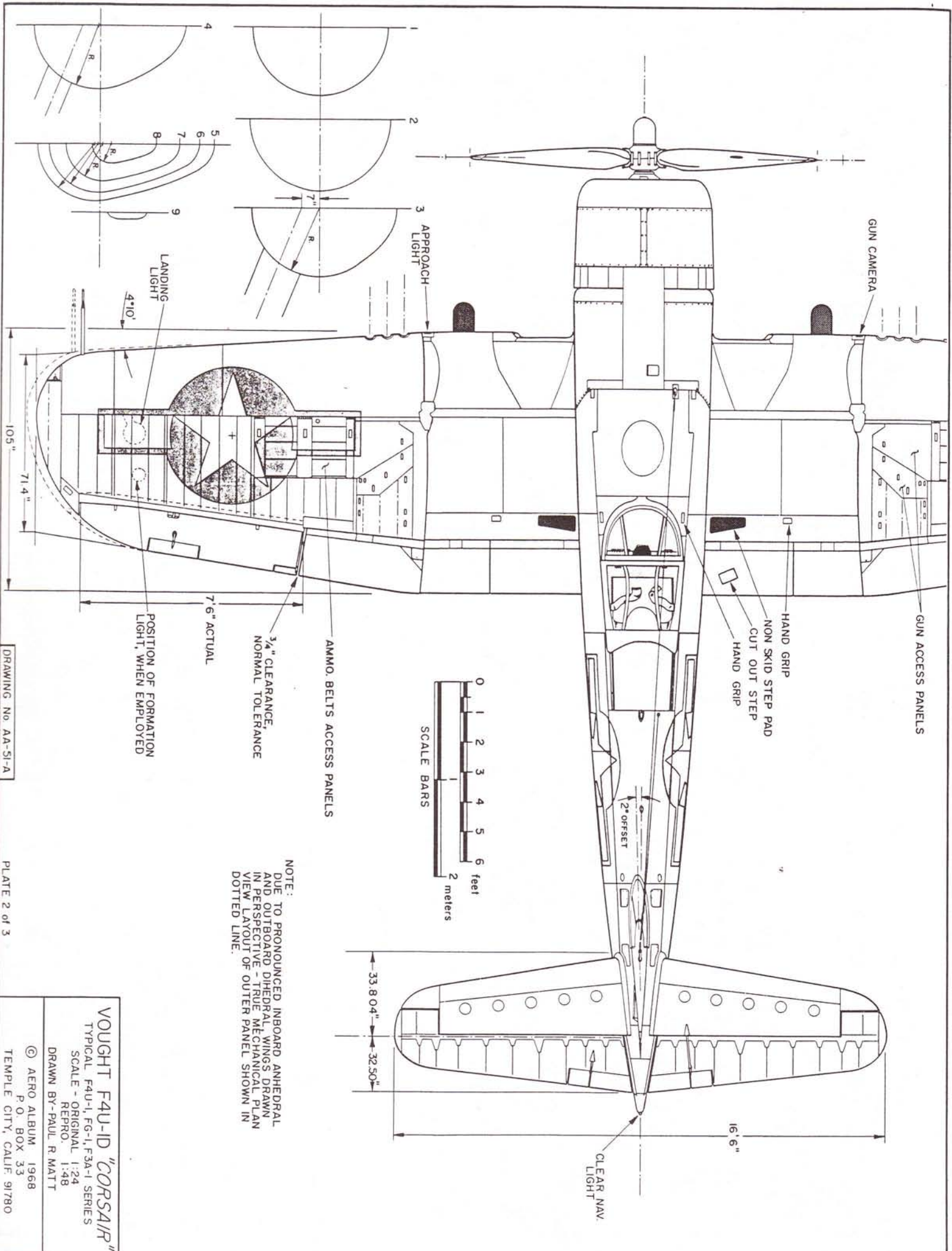
50° MAX FLAP DEFLECTION

51.75"

9"

7' 5 1/4"

DATUM



DRAWING No. AA-51-A

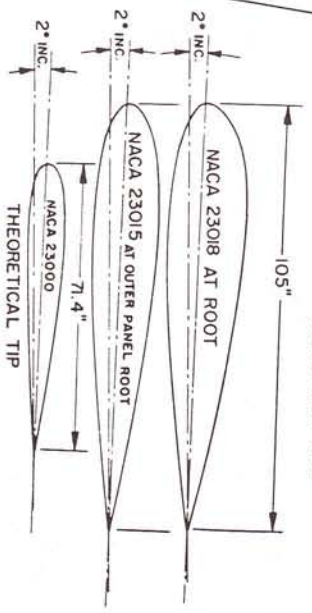
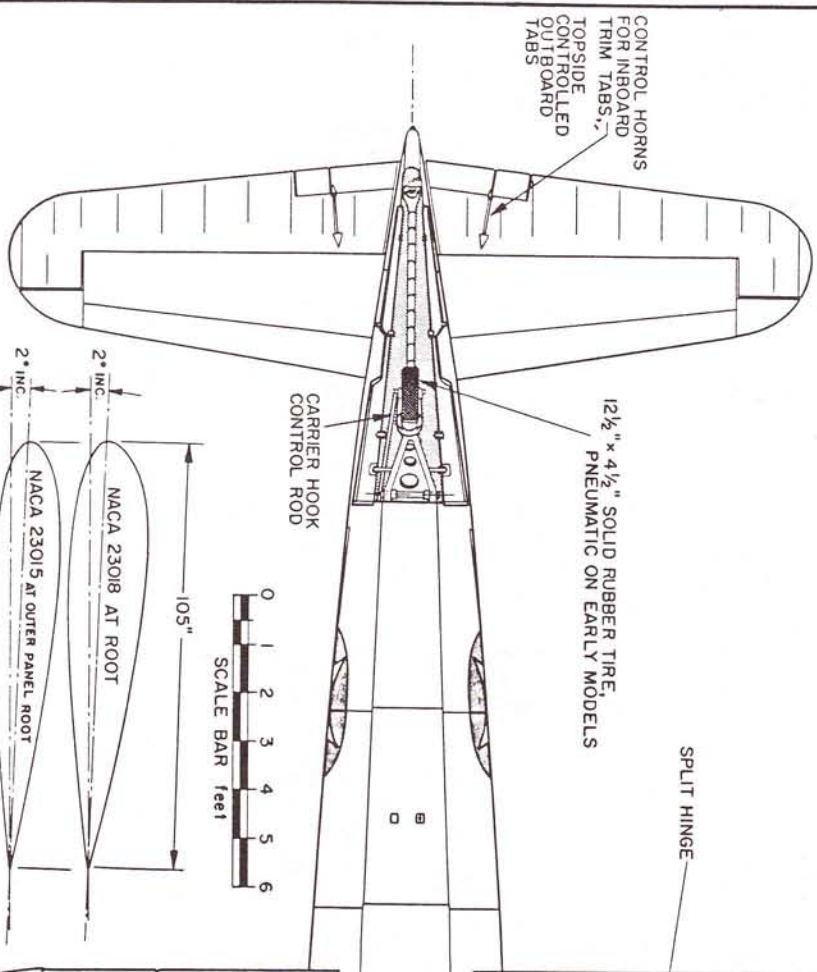
PLATE 2 of 3

NOTE: TO PRONOUNCED INBOARD ANHEDRAL
 AND OUTBOARD DIHEDRAL WINGS DRAWN
 IN PERSPECTIVE - TRUE MECHANICAL PLAN
 VIEW LAYOUT OF OUTER PANEL SHOWN IN
 DOTTED LINE.

VOUGHT F4U-ID "CORSAIR"

TYPICAL F4U-1, FG-1, F3A-1 SERIES
 SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY-PAUL R. MATT

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GENERAL SPECIFICATIONS

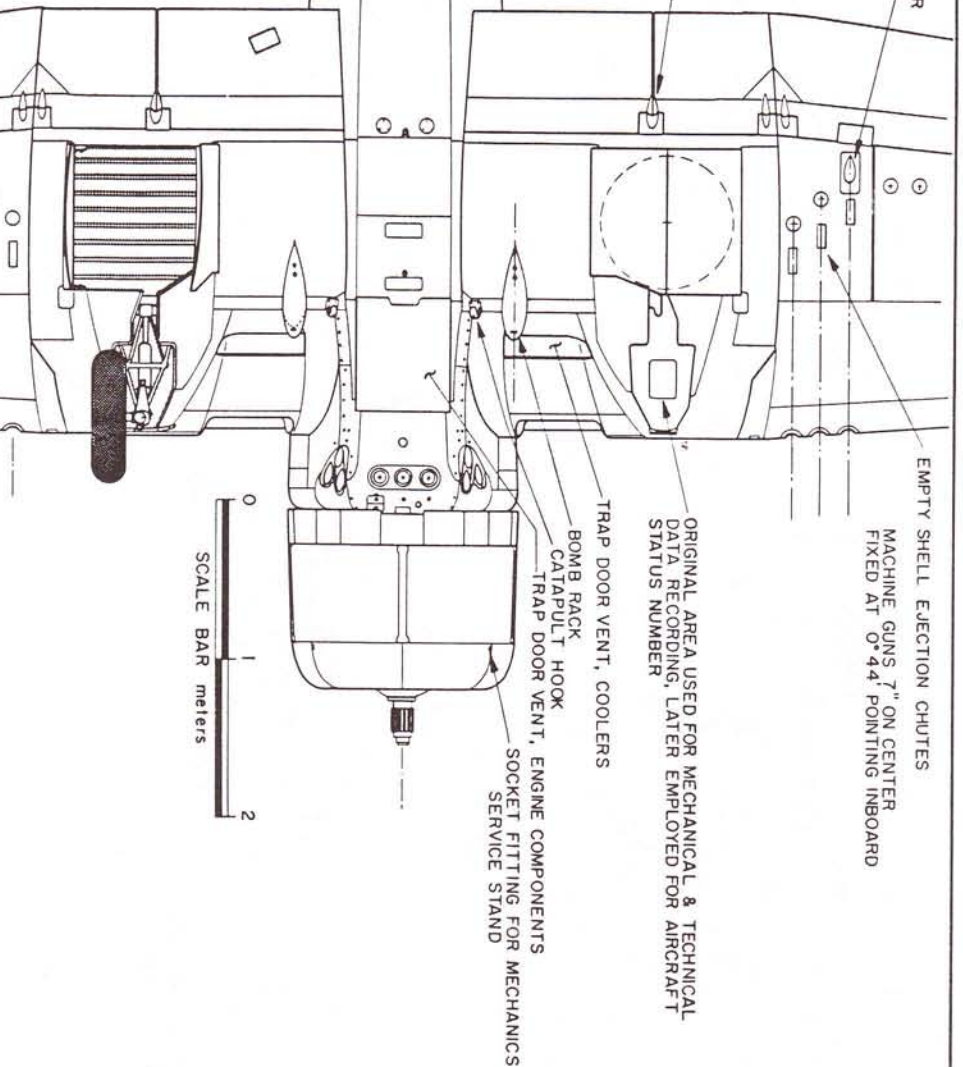
WEIGHT EMPTY 8,982 lbs.
 USEFUL LOAD, NORMAL 3,057 lbs.
 GROSS WEIGHT, NORMAL 12,039 lbs.
 OVERLOAD 14,009 lbs.
 WING AREA 314 sq.ft.
 MAXIMUM SPEED AT 23,000 feet 395/417 m.p.h.
 CRUISING SPEED 180/185 m.p.h.
 STALLING SPEED 87 m.p.h.
 CLIMB, INITIAL 5 L. 2,890 feet/min.
 SERVICE CEILING, NORMAL 36,800 feet
 FUEL CAPACITY, NORMAL 229 gals.
 RANGE - AT CRUISE, INTERNAL FUEL 1,015 miles
 POWER - PRATT & WHITNEY R-2800-8 2,000 h.p. at TAKEOFF
 1,800 h.p. at 15,500 feet
 R-2800-BW (water injection), 2,100 h.p.

AIRFOIL SECTION - CENTER SECTION NACA 23018 AT ROOT TO 23015 OUTER PANEL NACA 23015 AT ROOT TO 23000 AT TIP TAIL SURFACES C.V. SPECIAL, SYMMETRICAL

DRAWING No. AA-51-A

PLATE 3 of 3

VOUGHT F4U-ID "CORSAIR"
 TYPICAL F4U-1, FG-1, F3A-1 SERIES
 SCALE - ORIGINAL 1:24
 REPRO 1:48
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ARMAMENT - 6 .50 CALIBRE BROWNING, 391 r.p.g.
 2000 lb. BOMB LOAD OR EQUIVALENT

GENERAL SPECIFICATIONS

WEIGHT EMPTY	3600 lbs.
USEFUL LOAD	1920 "
GROSS WEIGHT	5520 "
MAXIMUM SPEED (EMPTY)	200 mph
MAXIMUM SPEED (MILITARY LOAD)	165 mph
CRUISING SPEED (EMPTY)	169 mph
CRUISING SPEED (MILITARY LOAD)	130 mph

LANDING SPEED (CARRIER, FULL FLAPS) 65/75 knts
 SERVICE CEILING 23,700 ft.
 ENDURANCE AT CRUISE 5.5 hrs. - 750 nautical mi.
 NORMAL SCOUTING MISSION 3 hrs. ENDURANCE
 RED LINE DIVE SPEED (FULL LOAD, FULL FLAPS, PROP IN HIGH PITCH) - 200 knts.
 CAPABLE OF 275 knts IN DIVE BUT NOT NORMAL PROCEDURE
 ENGINE, PRATT & WHITNEY R-1535-80, 600 H.P. (700 H.P. MAX. MILITARY POWER)

SBU-2 WAS BASICALLY SAME AS -1 MODEL, INCORPORATED REFINEMENTS AND IMPROVED R-1535-98 ENGINE OF APPROXIMATELY SAME POWER RATING.

BU. NO. ASSIGNMENT - No. BUILT
 XSBU-1 9222 1
 SBU-1 9750-9833 - 84
 SBU-2 0802-0841 - 40

VERTICAL TAIL AIRFOIL
 75% NAVY N-69

ELEVATORS FABRIC COVERED
 ALUMINUM TRIM TABS & INSPECTION PLATES

OIL COOLER INTAKE

CARBURETOR INTAKE

ALUMINUM LEADING EDGE, FABRIC COVERED WINGS & AILERONS

INSPECTION PLATES

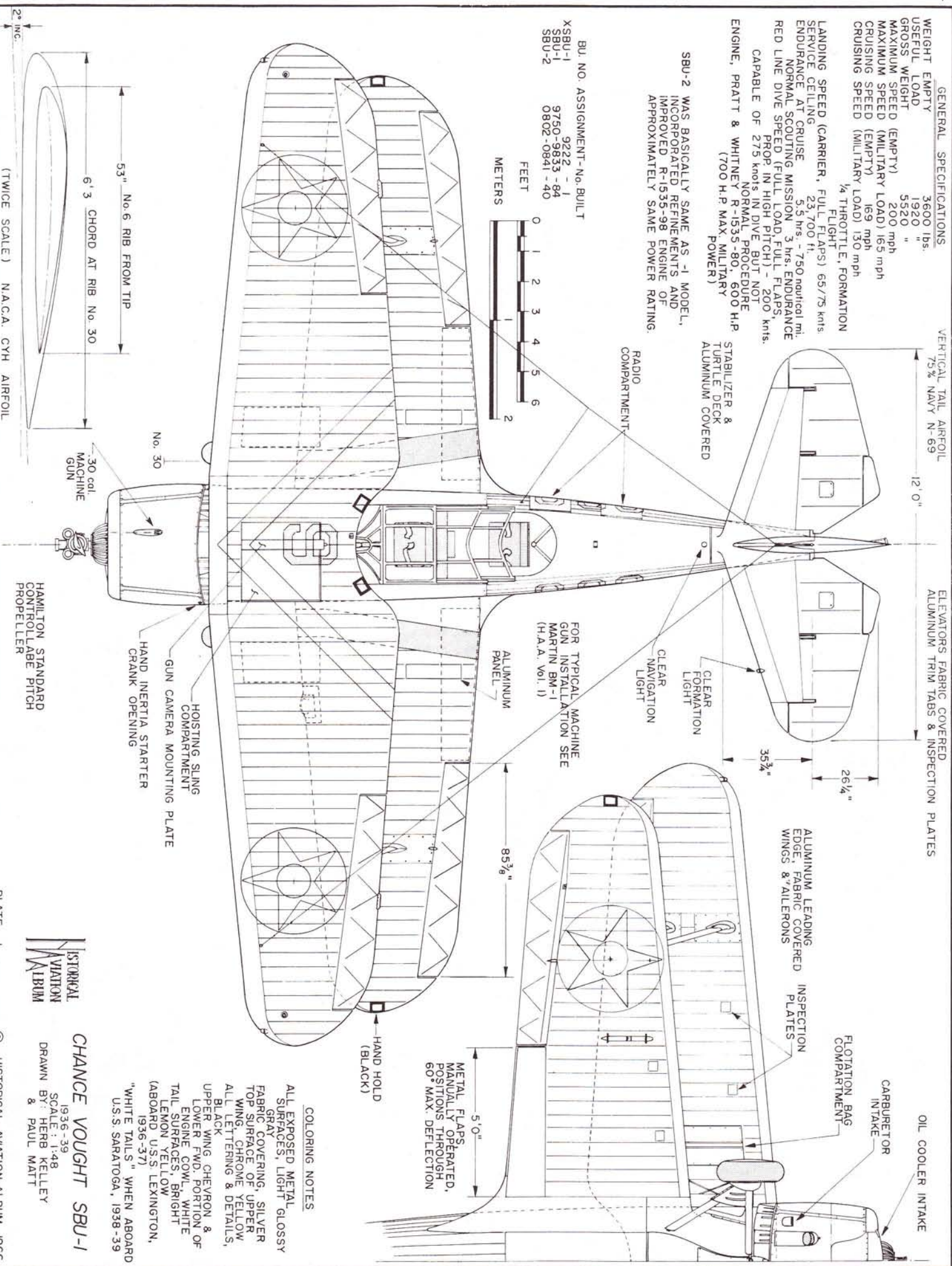
STABILIZER & TURTLE DECK ALUMINUM COVERED

RADIO COMPARTMENT

CLEAR NAVIGATION LIGHT

CLEAR FORMATION LIGHT

FOR TYPICAL MACHINE GUN INSTALLATION SEE (H.A.A. Vol. I)



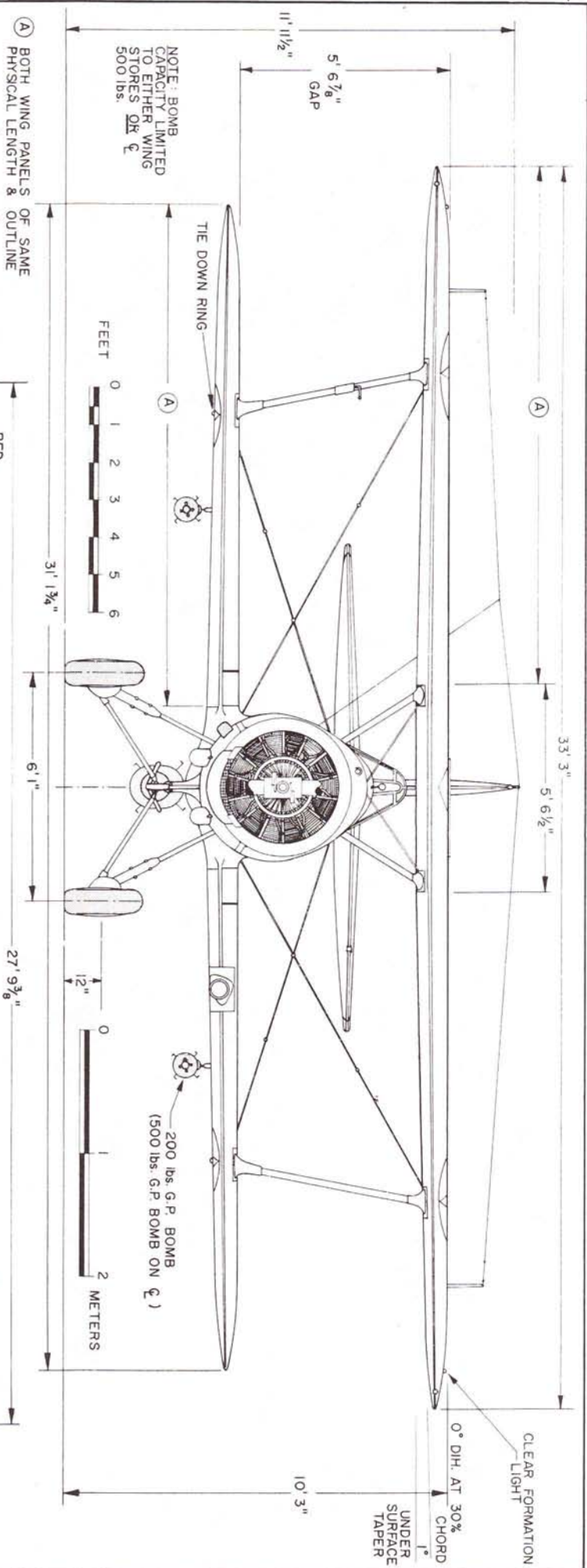
COLORING NOTES

ALL EXPOSED METAL SURFACES, LIGHT GLOSSY GRAY
 FABRIC COVERING, SILVER
 TOP SURFACE OF UPPER WING, CHROME YELLOW
 ALL LETTERING & DETAILS, BLACK
 UPPER WING CHEVRON & LOWER WING PORTION OF ENGINE COWL, WHITE
 TAIL SURFACES, BRIGHT LEMON YELLOW
 (ABOARD U.S.S. LEXINGTON, 1936-37)
 "WHITE TAILS" WHEN ABOARD U.S.S. SARATOGA, 1938-39

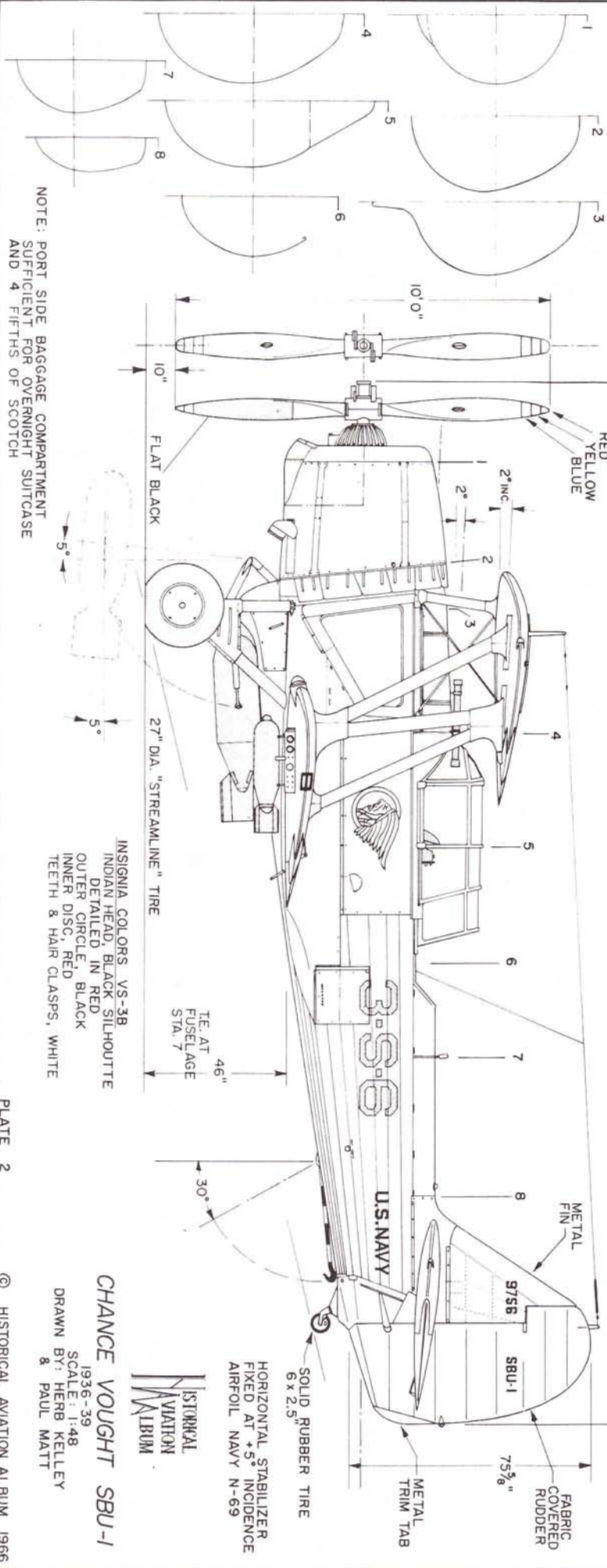
CHANCE VUGHT SBU-1



1936-39
 SCALE: 1:48
 DRAWN BY: HERB KELLEY & PAUL MATT



(A) BOTH WING PANELS OF SAME PHYSICAL LENGTH & OUTLINE



NOTE: PORT SIDE BAGGAGE COMPARTMENT SUFFICIENT FOR OVERNIGHT SUITCASE AND 4 FIFTHS OF SCOTCH

INSIGNIA COLORS: VS-38
 INDIAN HEAD, BLACK SILHOUTTE
 DETAILED IN RED
 OUTER CIRCLE, BLACK
 INNER DISC, RED
 TEETH & HAIR CLASPS, WHITE

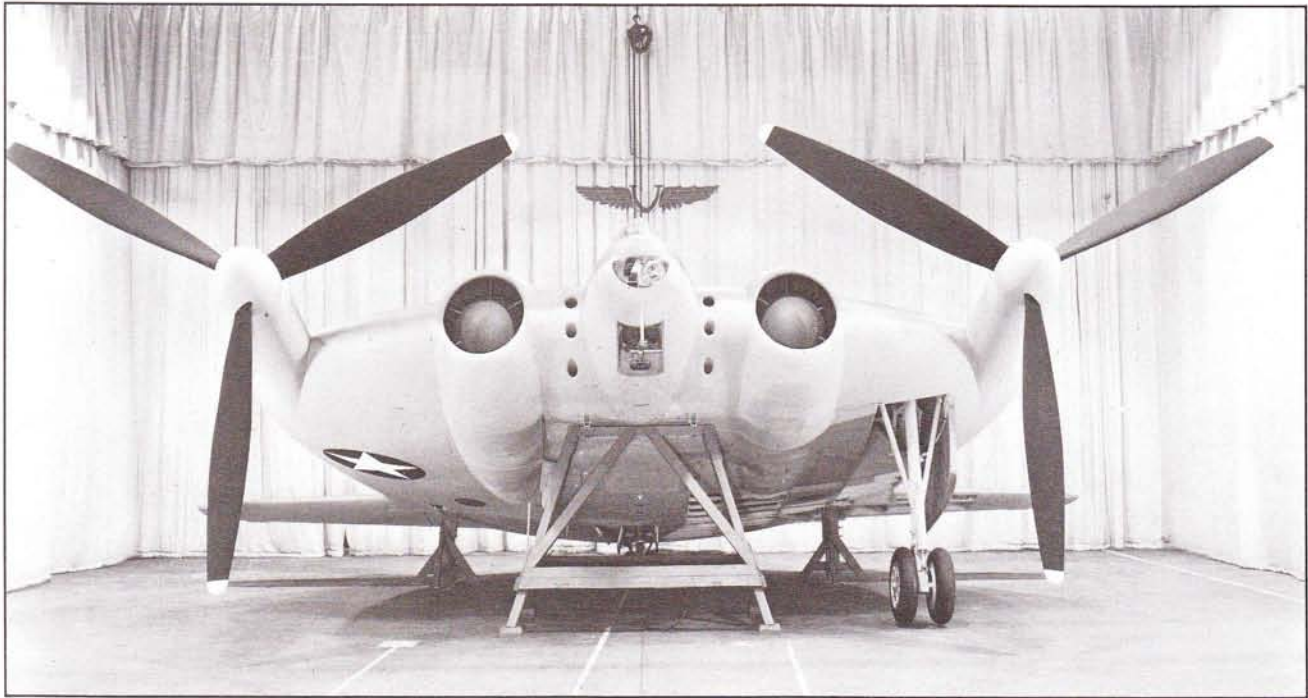


HORIZONTAL STABILIZER
 FIXED AT +5° INCIDENCE
 AIRFOIL: NAVY N-69
 6 x 2.5"

CHANCE VUGHT SBU-1

1936-39
 SCALE: 1:48
 DRAWN BY: HERB KELLEY
 & PAUL MATT

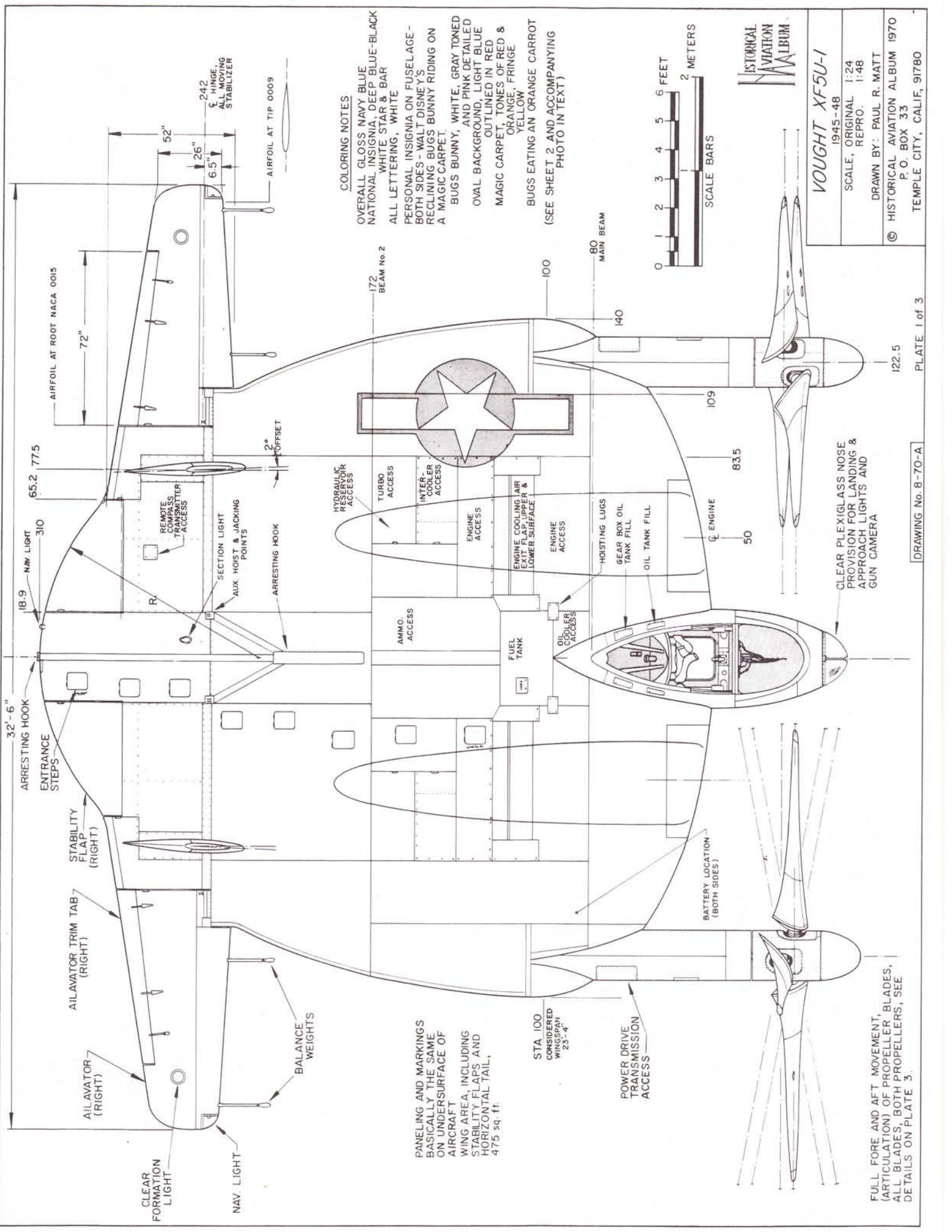
Vought XF5U-1



Vought XF5U-1, mock up completed.



Vought XF5U-1 airplane under ground run conditions, August 21, 1947.



COLORING NOTES

OVERALL GLOSS NAVY BLUE
 NATIONAL INSIGNIA, DEEP BLUE-BLACK
 WHITE STAR & BAR
 ALL LETTERING, WHITE

PERSONAL INSIGNIA ON FUSELAGE -
 BOTH SIDES - WALT DISNEY'S
 RECLINING BUGS BUNNY RIDING ON
 A MAGIC CARPET.
 BUGS BUNNY, WHITE, GRAY TONED
 OVAL BACKGROUND, LIGHT BLUE
 OUTLINED IN RED
 MAGIC CARPET, TONES OF RED &
 ORANGE, FRINGE
 YELLOW
 BUGS EATING AN ORANGE CARROT
 (SEE SHEET 2 AND ACCOMPANYING
 PHOTO IN TEXT)



VOUGHT XF5U-1
 1945-48
 SCALE, ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY: PAUL R. MATT
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32'-6" ARRESTING HOOK
 18.9 NAV. LIGHT
 65.2 77.5 AIRFOIL AT ROOT NACA 0015
 72" AIRFOIL AT TIP 0009
 52" 26" 6.5" AIRFOIL AT TIP 0009
 242 HINGE, ALL MOVING STABILIZER
 2° OFFSET
 310 REMOTE COMPASS LETTER ACCESS
 SECTION LIGHT
 AUX. HOIST & JACKING POINTS
 ARRESTING HOOK
 32'-6" ARRESTING HOOK
 ENTRANCE STEPS
 STABILITY FLAP (RIGHT)
 AILAVATOR TRIM TAB (RIGHT)
 AILAVATOR (RIGHT)
 CLEAR FORMATION LIGHT
 NAV. LIGHT
 BALANCE WEIGHTS

172 BEAM No. 2
 100 80 MAIN BEAM
 140
 109
 83.5
 50
 ENGINE
 CLEAR PLEXIGLASS NOSE PROVISION FOR LANDING & APPROACH LIGHTS AND GUN CAMERA
 122.5

HYDRAULIC RECEIVER ACCESS
 TURBO ACCESS
 INTER-COOLER ACCESS
 ENGINE ACCESS
 ENGINE COOLING AIR LOWER SURFACE
 ENGINE ACCESS
 HOISTING LUGS
 GEAR BOX OIL TANK FILL
 OIL TANK FILL
 AMMO. ACCESS
 FUEL TANK
 OIL COOLER ACCESS
 BATTERY LOCATION (BOTH SIDES)
 STA 100 CONSIDERED WINGSPAN 23'-4"
 POWER DRIVE TRANSMISSION ACCESS

PANELING AND MARKINGS BASICALLY THE SAME ON UNDERSURFACE OF AIRCRAFT
 WING AREA, INCLUDING STABILITY FLAPS AND HORIZONTAL TAIL, 47.5 sq. ft.

FULL FORE AND AFT MOVEMENT, (ARTICULATION) OF PROPELLER BLADES, ALL BLADES, BOTH PROPELLERS, SEE DETAILS ON PLATE 3.

GENERAL SPECIFICATIONS.

BASED ON ENGINEERING AND GROUND EVALUATION
ACTUAL FLIGHT TESTS CANCELLED BY U. S. NAVY

WEIGHT, BASIC (Approx.) 14,500 lbs.
WEIGHT, NORMAL 16,500 lbs.
WEIGHT, MAX. LOADED 18,635 lbs.
TAKEOFF DISTANCE, NO WIND 710 feet
17 KNOT HEADWIND 490 feet
CLIMB, AT 14,550 lbs. 3,000 ft./min S.L.
TO 5,000 feet
GRADUATING DOWN TO 1,000 ft./min.
AT 12,000 feet

MAXIMUM SPEED, CONTINUOUS 388 mph at 15,000 feet
368 mph at 20,000 feet
RANGE, MAX. (INTERNAL FUEL) 740 miles
AT CRUISE OF 280 mph at 10,000 feet

PERFORMANCE BASED ON USE OF TWO P & W R-2000-7
AIR COOLED RADIAL ENGINES OF
1,350 h.p. at 2,700 r.p.m.
1,100 h.p. at 2,550 r.p.m. (NORMAL)

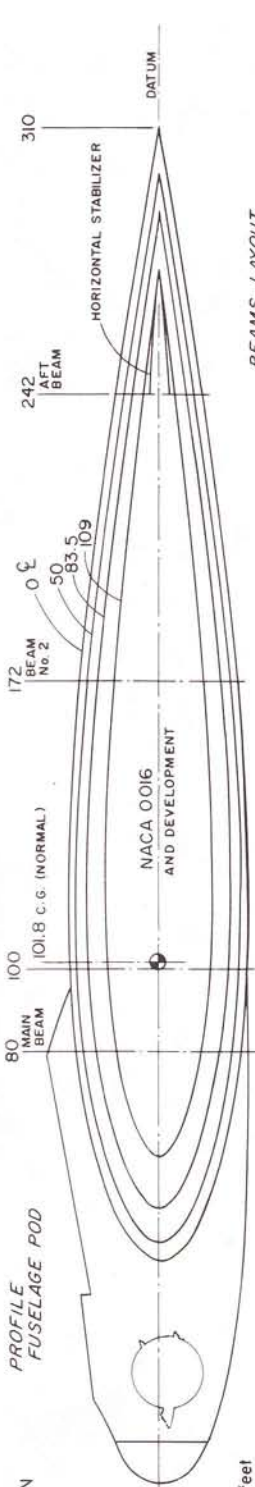
PROPOSED ARMAMENT (NEVER FITTED)

SIX 50 CAL. COLT BROWNING M.G.s. 400 R.P.G. INTERCHANGABLE
WITH FOUR 20mm CANNON AND/OR TWO 1,000 lb. BOMBS OR
TWO 125 gal. LONG RANGE EXTERNAL FUEL TANKS.

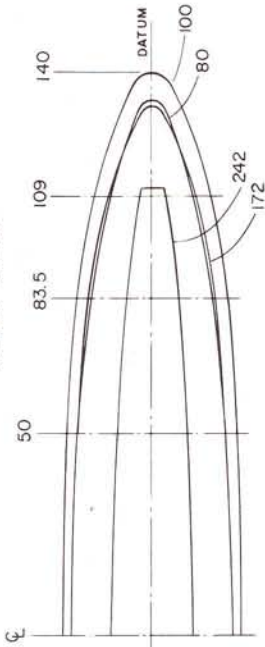
EXTERIOR CONSTRUCTION - CHANCE VOUGHT DEVELOPED METALITE
ALUMINUM SHEETS BONDED OVER A CORE (SANDWICH) OF Balsa
WOOD. CONSTRUCTION WAS EXCEPTIONALLY STRONG, FINISH
EXTREMELY SMOOTH.



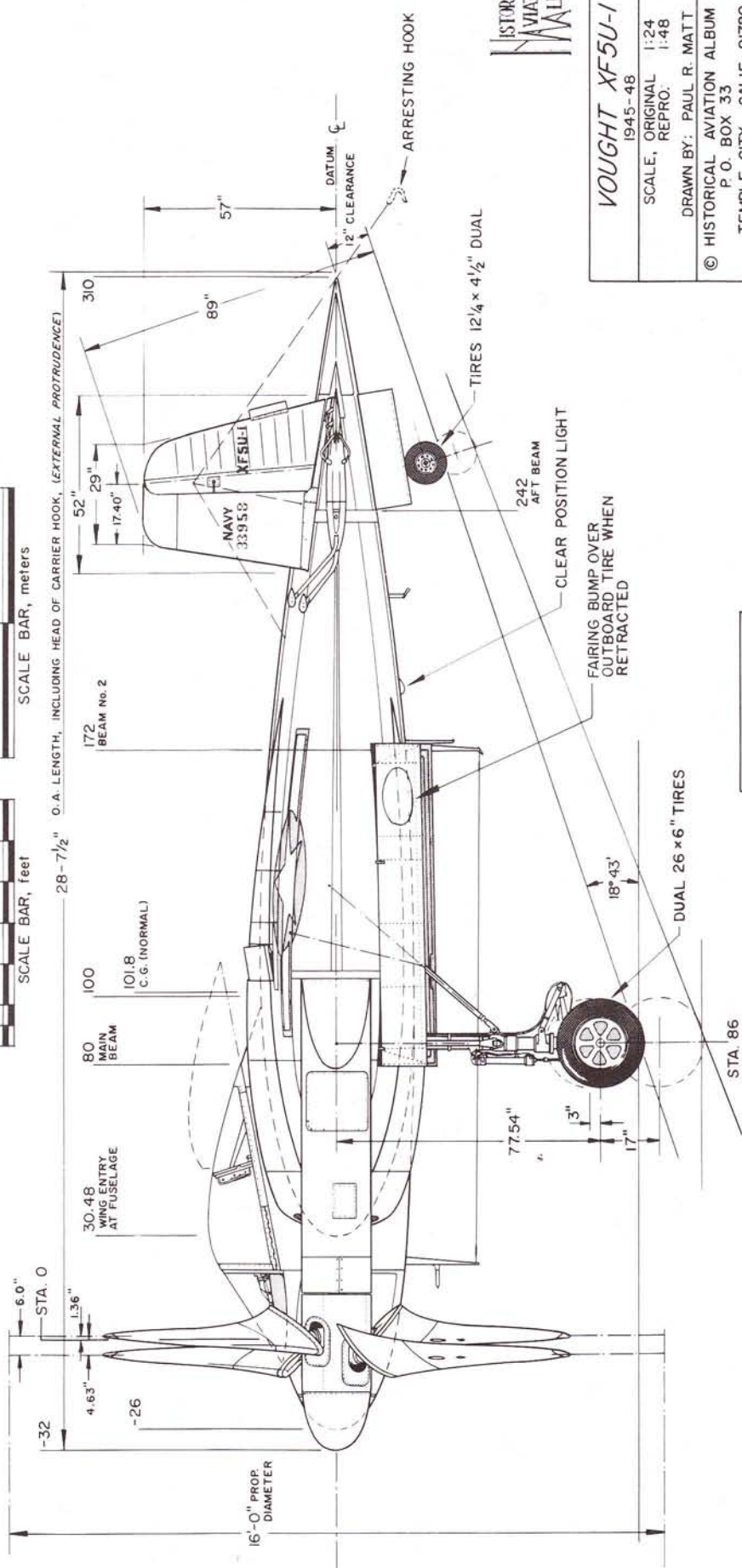
PERSONA INSIGNIA
DISC 18" DIA.
3 x SCALE APPROX.
FOR DETAILS SEE
SHEET-1.



BEAMS LAYOUT



28-7/2" O.A. LENGTH, INCLUDING HEAD OF CARRIER HOOK, (EXTERNAL PROTRUDENCE)



HISTORICAL AVIATION MUSEUM

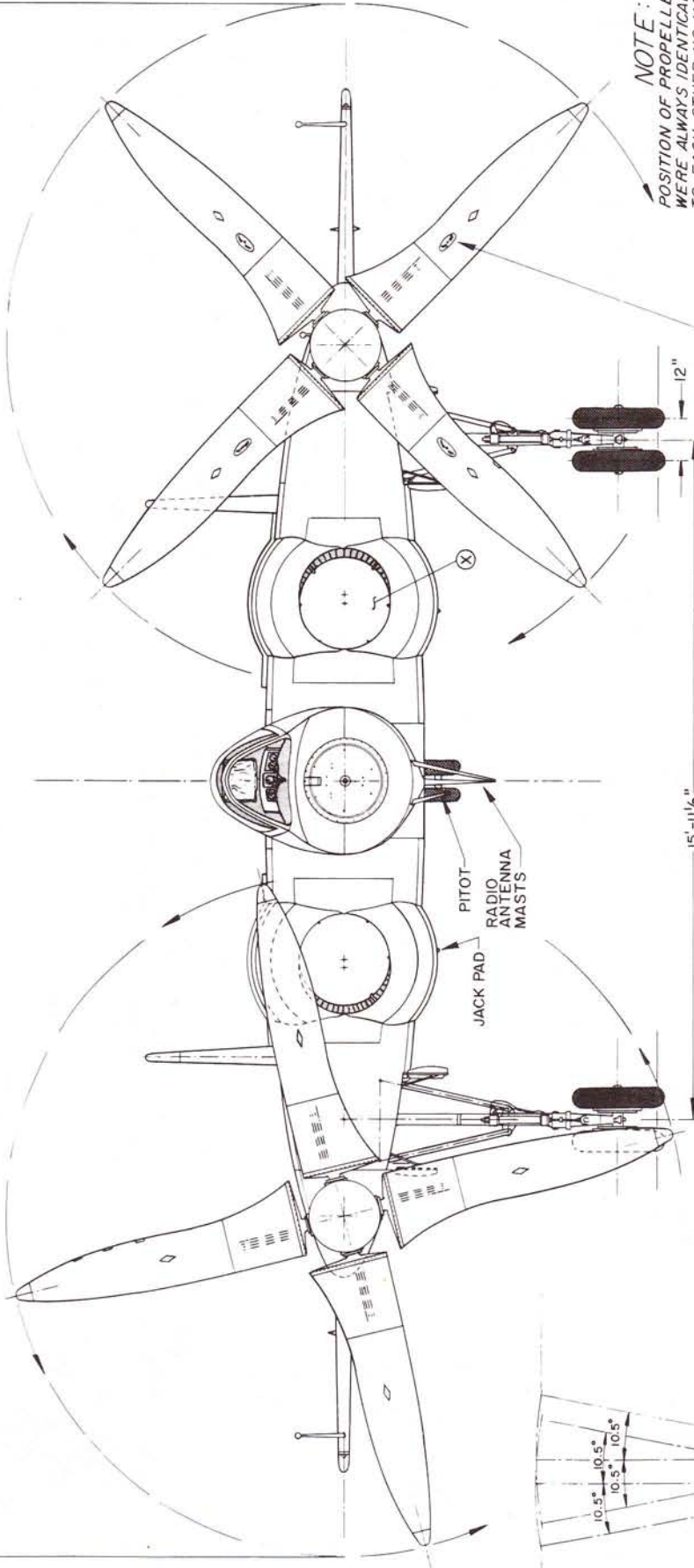
VOUGHT XF5U-1
1945-48

SCALE, ORIGINAL 1:24
REPRO. 1:48

DRAWN BY: PAUL R. MATT
P. O. BOX 33

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TEMPLE CITY, CALIF., 91780

36'-5"

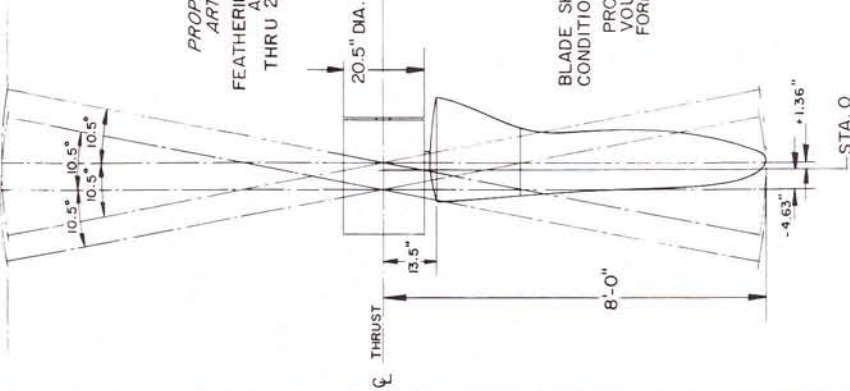


NOTE:
 POSITION OF PROPELLER BLADES WERE ALWAYS IDENTICAL OR RELATED TO EACH OTHER NO MATTER WHAT POSITION THEY WERE TURNING IN STOPPED OR STARTED. THEY WERE GEARED TO HARMONIZE AIR FLOW AND TORQUE EVENLY AND THE SAME ON BOTH SIDES OF THE AIRCRAFT AT ALL TIMES. WE HAVE MOVED THEM INTO UNRELATED POSITIONS SO THAT OTHER AFT DETAILS SHOW MORE CLEARLY.

PROPELLER ARTICULATION & FEATHERING
 FEATHERING ADJUSTABLE FROM COCKPIT. ARTICULATION WAS SELF-ADJUSTING IN A MANNER SIMILAR TO THE HELICOPTER ROTOR BLADES. EACH PROPELLER SYSTEM GEARED TO OPERATE IN HARMONY WITH EACH OTHER AT ALL TIMES.

HAMILTON-STANDARD PROPELLER TRADEMARK ON PORT SIDE BLADES ONLY. WHITE TRACKING DIAMONDS ON ALL BLADES, YELLOW TIPPED

⊗ MASTER AIR INTAKE ENGINE, OIL COOLING AND CARBURETOR AIR



BLADE SHOWN IN FULL FEATHERED CONDITION AND FLAT LAYOUT PROFILE
 PROPELLERS SPECIALLY DEVELOPED BY VOUGHT AND HAMILTON STANDARD ENGINEERS. FORMICA IMPREGNATED WOOD CONSTRUCTION.

OUR SINCERE APPRECIATION IS EXTENDED TO MR. CHARLES ZIMMERMAN, INVENTOR - BOON GUYTON, CHIEF TEST PILOT - WILLIAM Z. MILLER, CHIEF DRAFTSMAN - WILLIAM SCHOOLFIELD, CHIEF AERODYNAMICIST ON THE XF5U-1 PROJECT FOR THEIR TIME EFFORT AND INTEREST IN REVIEWING, CORRECTING AND COMMENTING ON THESE DRAWINGS AND THE ACCOMPANYING ARTICLE BY ARTHUR L. SCHOENI. A SPECIAL THANKS TO MR. SCHOENI FOR MAKING IT COME ABOUT. THE ASSISTANCE OF THESE MEN IS HIGHLY VALUED, MAKING THIS A JOINT EFFORT AND THE VIEWS HEREWITH AS ACCURATE AS POSSIBLE.

HISTORICAL AVIATION ALBUM

VOUGHT XF5U-1

1945-48
 SCALE, ORIGINAL 1:24
 REPRO. 1:48

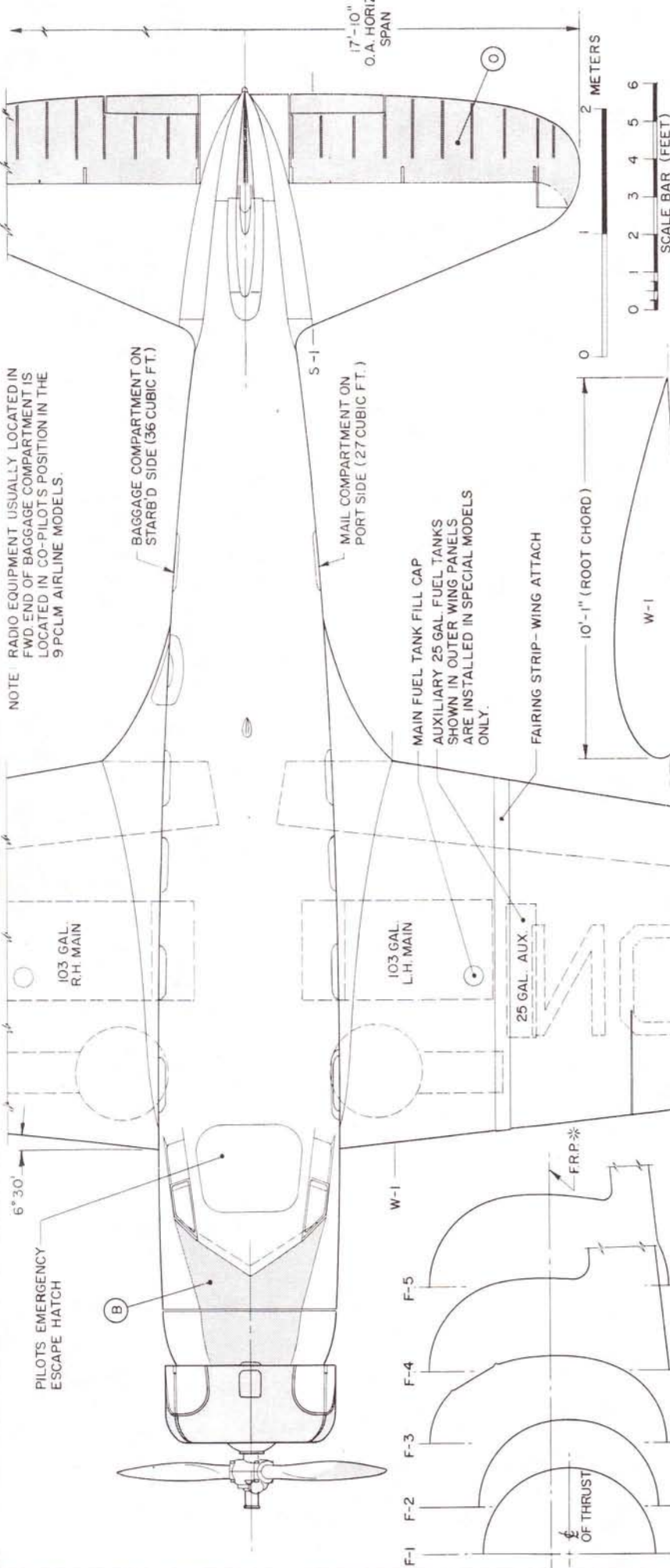
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 TEMPLE CITY, CALIF., 91780

DRAWINGS PREPARED FROM CV 401000 PRINTS AND RELATED AND PERSONAL CHECKING BY WILLIAM Z. MILLER - XF5U-1 CHIEF DRAFTSMAN

DRAWING No. 8-70-A

PLATE 3 of 3



NOTE: RADIO EQUIPMENT USUALLY LOCATED IN FWD END OF BAGGAGE COMPARTMENT IS LOCATED IN CO-PILOT'S POSITION IN THE 9PCLM AIRLINE MODELS.

103 GAL. R.H. MAIN

103 GAL. L.H. MAIN

25 GAL. AUX.

BAGGAGE COMPARTMENT ON STARB'D SIDE (36 CUBIC FT.)

MAIL COMPARTMENT ON PORT SIDE (27 CUBIC FT.)

MAIN FUEL TANK FILL CAP
AUXILIARY 25 GAL FUEL TANKS
SHOWN IN OUTER WING PANELS
ARE INSTALLED IN SPECIAL MODELS
ONLY.

FAIRING STRIP - WING ATTACH

10'-1" (ROOT CHORD)

W-1

MODIFIED CLARK Y AIRFOIL

4'-11" (TIP CHORD)

W-2

6'-2" (STAB ROOT CHORD)

S-1

LICENSE NUMBER AS VIEWED ON UNDERSURFACE OF WING, SIMILAR PLACEMENT ON TOP SIDE RIGHT WING

W-1

F-5

F-4

F-3

F-2

F-1

FRP*

LINE OF THRUST

F-9

F-8

F-7

F-6

FRP*

PITOT TUBE B

* FUSELAGE REFERENCE PLANE

W-2

PORT SIDE R

STBD. SIDE G

GENERAL SPECIFICATIONS

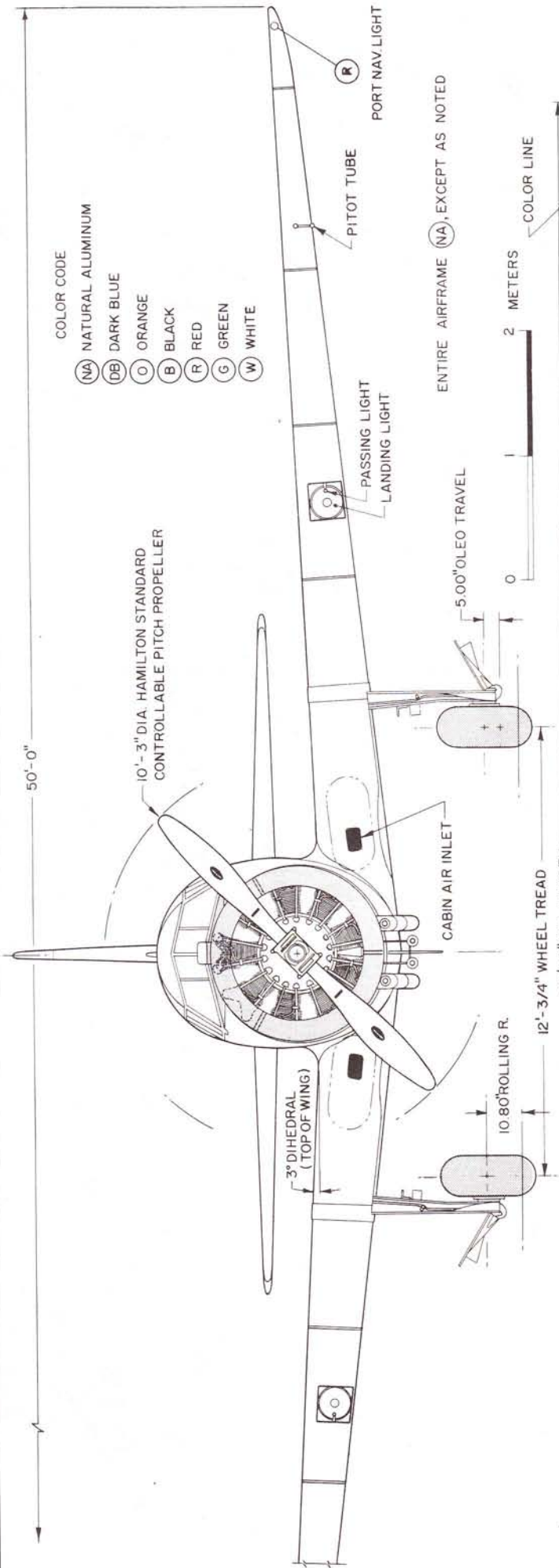
PERFORMANCE DATA	
TOP SPEED	235 MPH
CRUISING SPEED (AT 7000 FT & 65% PWR)	215 MPH
STALLING SPEED	60 MPH
RATE OF CLIMB AT SEA LEVEL	1,000 FT/ MIN
CRUISING RANGE	900 MILES
SERVICE CEILING	20,000 FT
ABSOLUTE CEILING (AT 8,500 LB AUV)	22,000 FT
WEIGHTS (FULL FUEL LOAD & ONE PILOT)	
EMPTY	5,307 LBS
FUEL (206 GALLONS)	1,236 LBS
OIL (15 GALLONS)	113 LBS
PILOT	170 LBS
PAYLOAD	1,575 LBS
GROSS WEIGHT (AUW)	8,500 LBS
POWER PLANT	
WRIGHT CYCLONE MODEL R 1820-F2	735 H.P.
AT 1,950 RPM. AT 4,100 FT.	



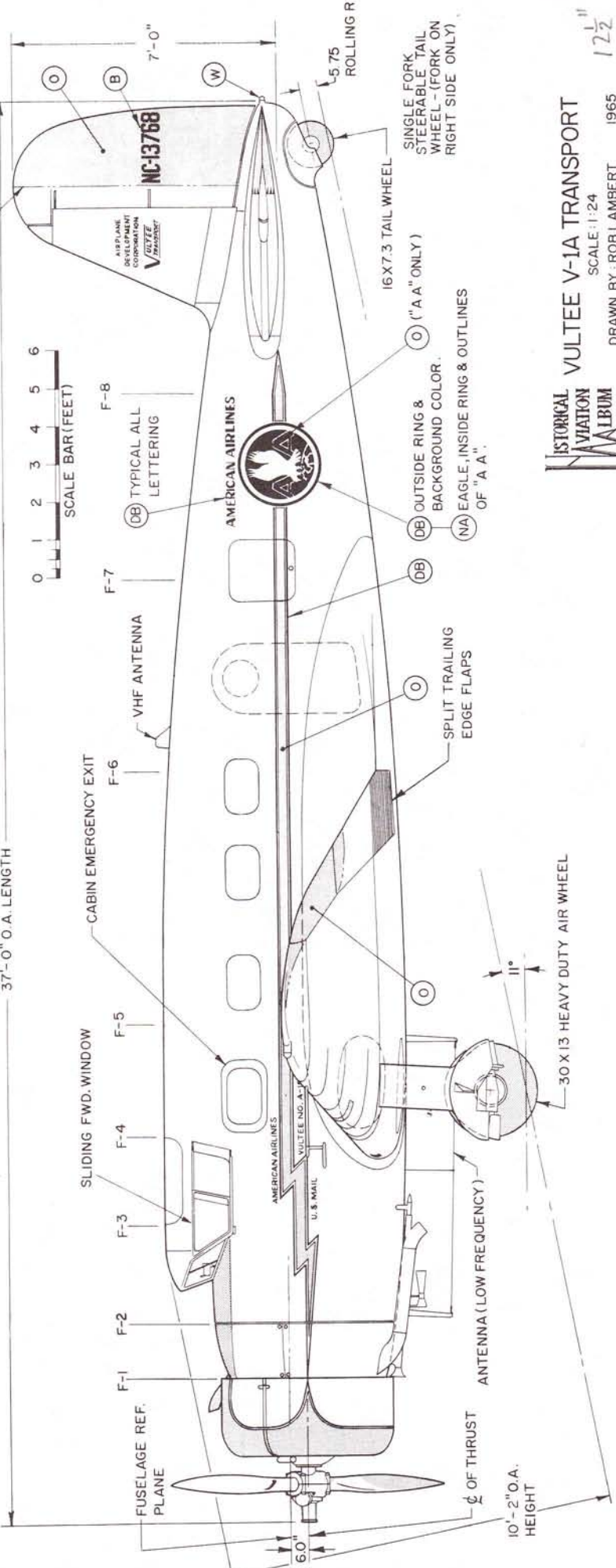
VULTEE V-1A TRANSPORT

SCALE 1:24

DRAWN BY ROB LAMBERT 1965



- COLOR CODE
- (NA) NATURAL ALUMINUM
 - (DB) DARK BLUE
 - (O) ORANGE
 - (B) BLACK
 - (R) RED
 - (G) GREEN
 - (W) WHITE



HISTORICAL AVIATION MUSEUM

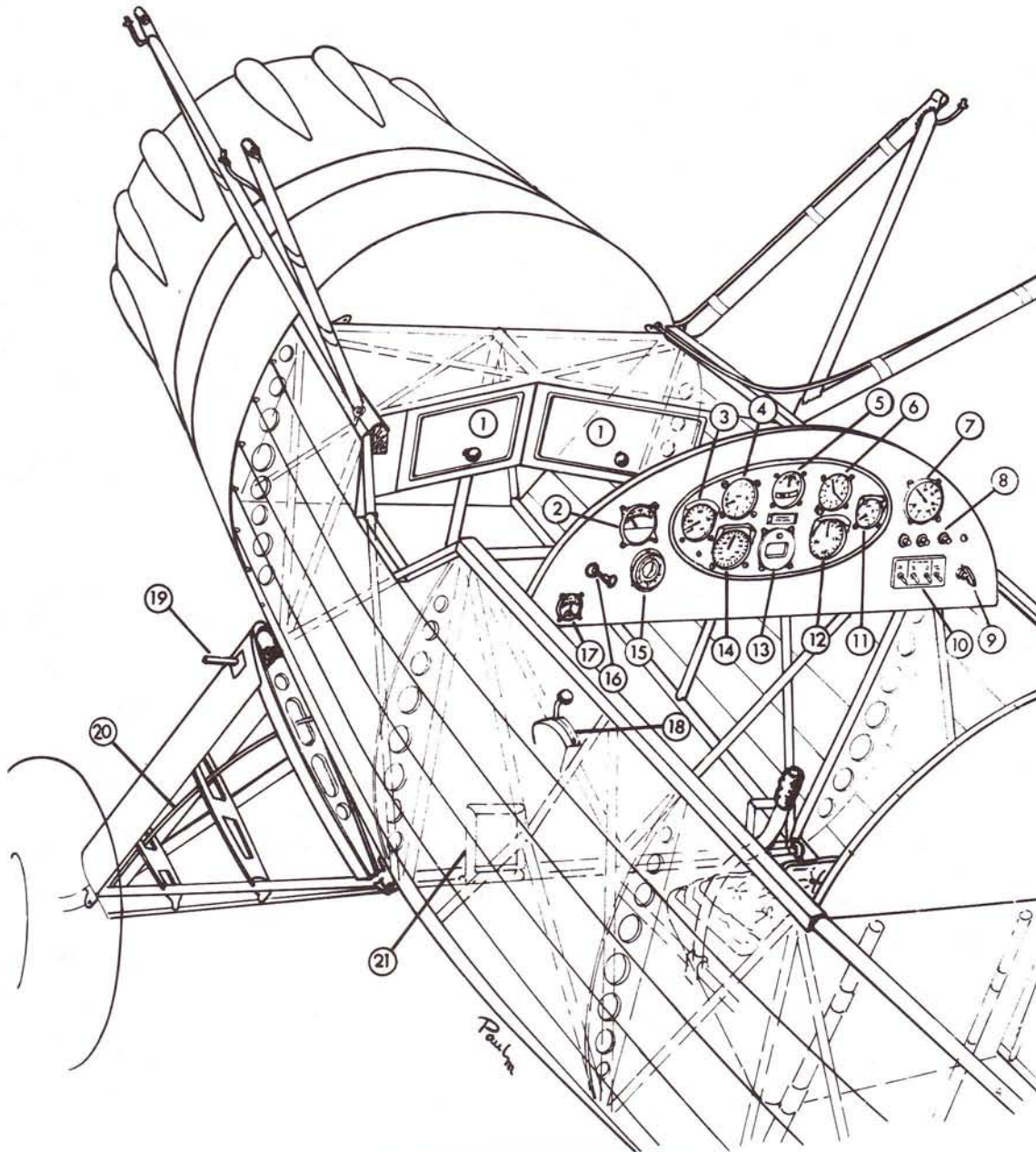
VULTEE V-1A TRANSPORT

SCALE: 1:24

DRAWN BY: ROB LAMBERT 1965

122

Waco YMF-5



- | | | | |
|----|---------------------|----|---------------------------------|
| 1 | Glove Compartment | 12 | Tachometer |
| 2 | Cylinder Head Temp. | 13 | Compass |
| 3 | Oil Temp. | 14 | Airspeed |
| 4 | Climb Indicator | 15 | Clock |
| 5 | Turn & Bank | 16 | Engine Primer |
| 6 | Altimeter | 17 | Throttle and
Mixture Control |
| 7 | Manifold Pressure | 18 | Service Step |
| 8 | Electrical Fuses | 19 | Brake Line |
| 9 | Parking Brake Lock | 20 | Rudder Pedal |
| 10 | Ignition Switches | | |
| 11 | Oil Pressure | | |

GENERAL SPECIFICATIONS

	MODEL UMF	MODEL YMF
WEIGHT EMPTY	1485 lbs.	1540 lbs.
USEFULL LOAD	1015 lbs.	960 lbs.
GROSS WEIGHT	2500 lbs.	2500 lbs.
TOP SPEED	143 mph	147 mph
CRUISING SPEED	128 mph	129 mph
LANDING SPEED	47 mph	47 mph
RATE OF CLIMB, INITIAL	1100 ft/min	1250 ft/min
FUEL CAPACITY	50 gals.	50 gals.
OIL CAPACITY	5 gals.	5 gals.
CRUISING RANGE	450 miles	430 miles
SERVICE CEILING	14,500 ft.	16,000 ft.
WING AREA	233.5 sq. ft.	233.5 sq. ft.
WING LOADING	10.7 lbs./sq. ft.	10.7 lbs./sq. ft.
POWER LOADING	11.9 lbs./h.p.	11.1 lbs./h.p.

POWER: UMF-3/5 7 Cylinder 210 HP CONTINENTAL W-670
 YMF-3/5 7 Cylinder 225 HP JACOBS L-4

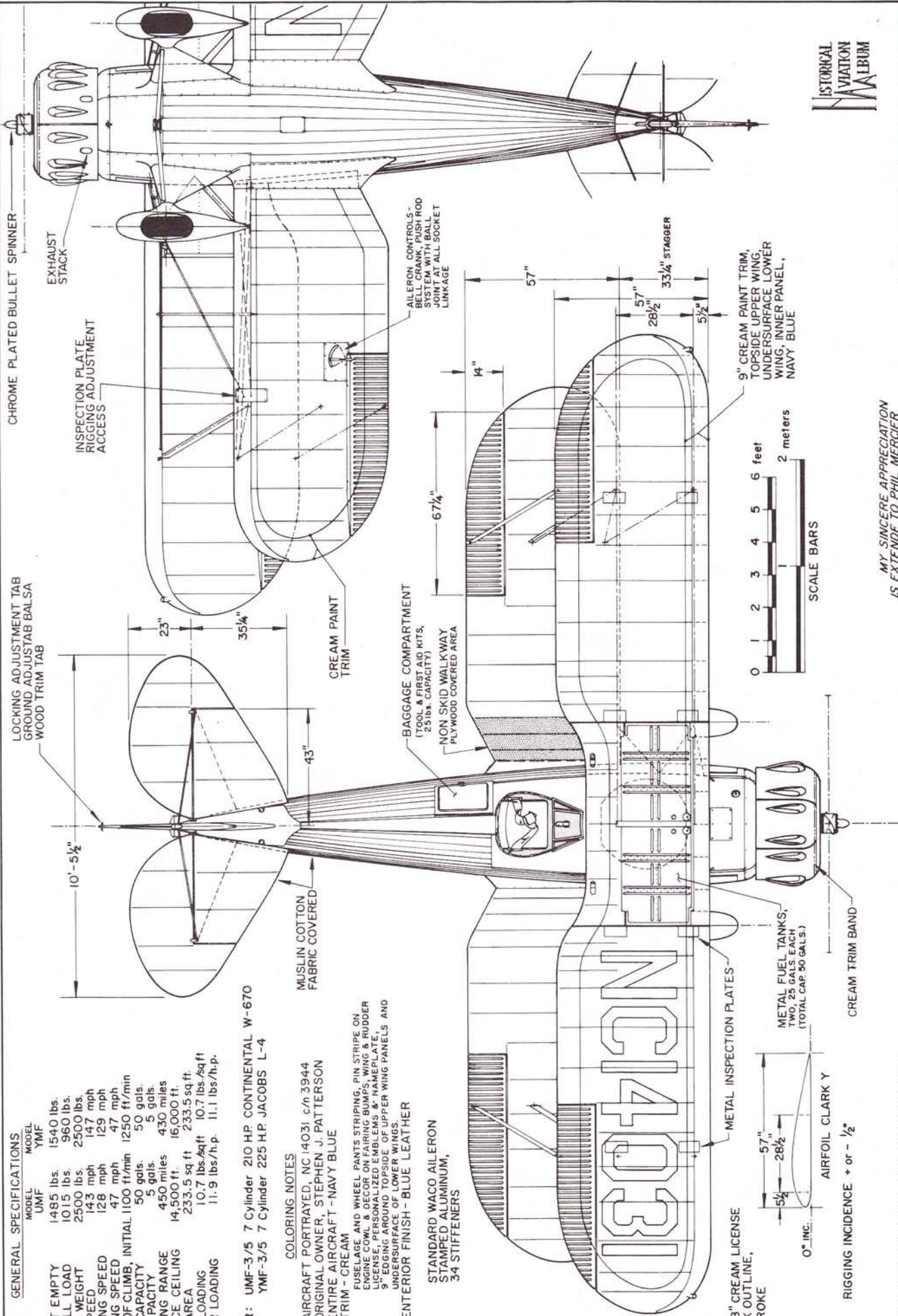
COLORING NOTES

AIRCRAFT PORTRAYED, NC 14031 c/n 3944
 ORIGINAL OWNER, STEPHEN J. PATTERSON
 ENTIRE AIRCRAFT - NAVY BLUE
 TRIM - CREAM

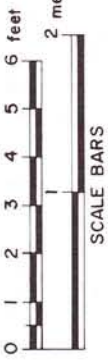
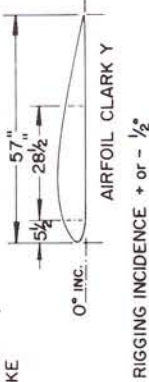
FUSELAGE AND WHEEL PANTS STRIPING, PIN STRIPE ON
 ENGINE COVERS, DECORATIVE BUMPERS, BUMPER AT REAR
 5" EDGING AROUND TOPSIDE OF UPPER WING PANELS AND
 UNDERSURFACE OF LOWER WINGS.

EXTERIOR FINISH - BLUE LEATHER

STANDARD WACO AILERON
 STAMPED ALUMINUM,
 34 STIFFENERS



15" x 28" CREAM LICENSE
 BLACK OUTLINE,
 4" STROKE



MY SINCERE APPRECIATION
 IS EXTENDED TO PHIL MERCIER
 FOR HIS ENTHUSIASTIC AND
 UNTIRING INTEREST AND HELP
 IN THE PREPARATION OF THESE
 DRAWINGS

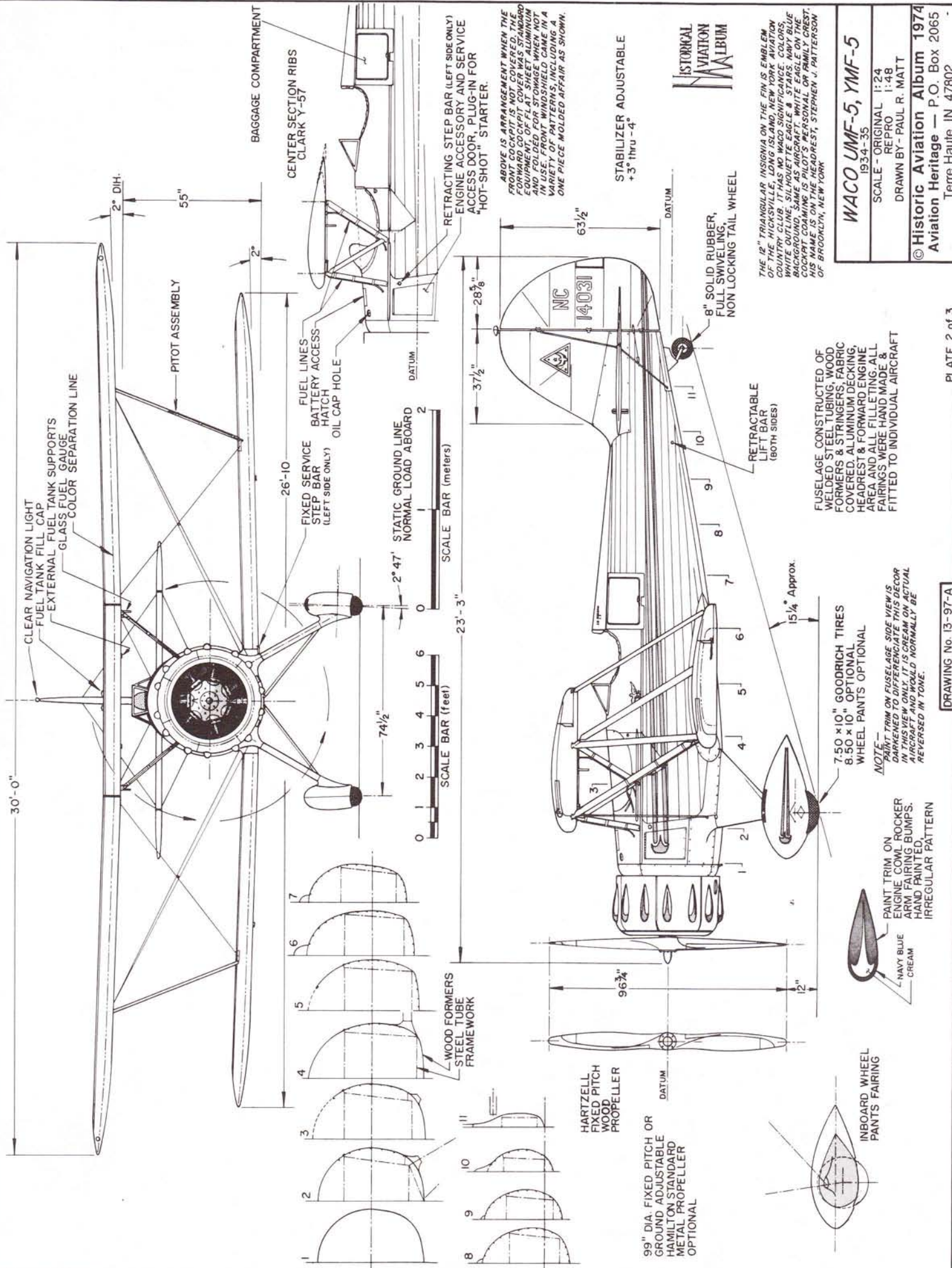
WING CONSTRUCTION, SPRUCE SPARS WITH
 SPRUCE & MAHOGANY RIBS, ALUMINUM SHEET
 LEADING EDGES, LINEN COVERED.

HISTORICAL
 AVIATION
 ALBUM

WACO UMF-5, YMF-5
 1934-35

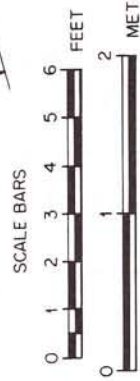
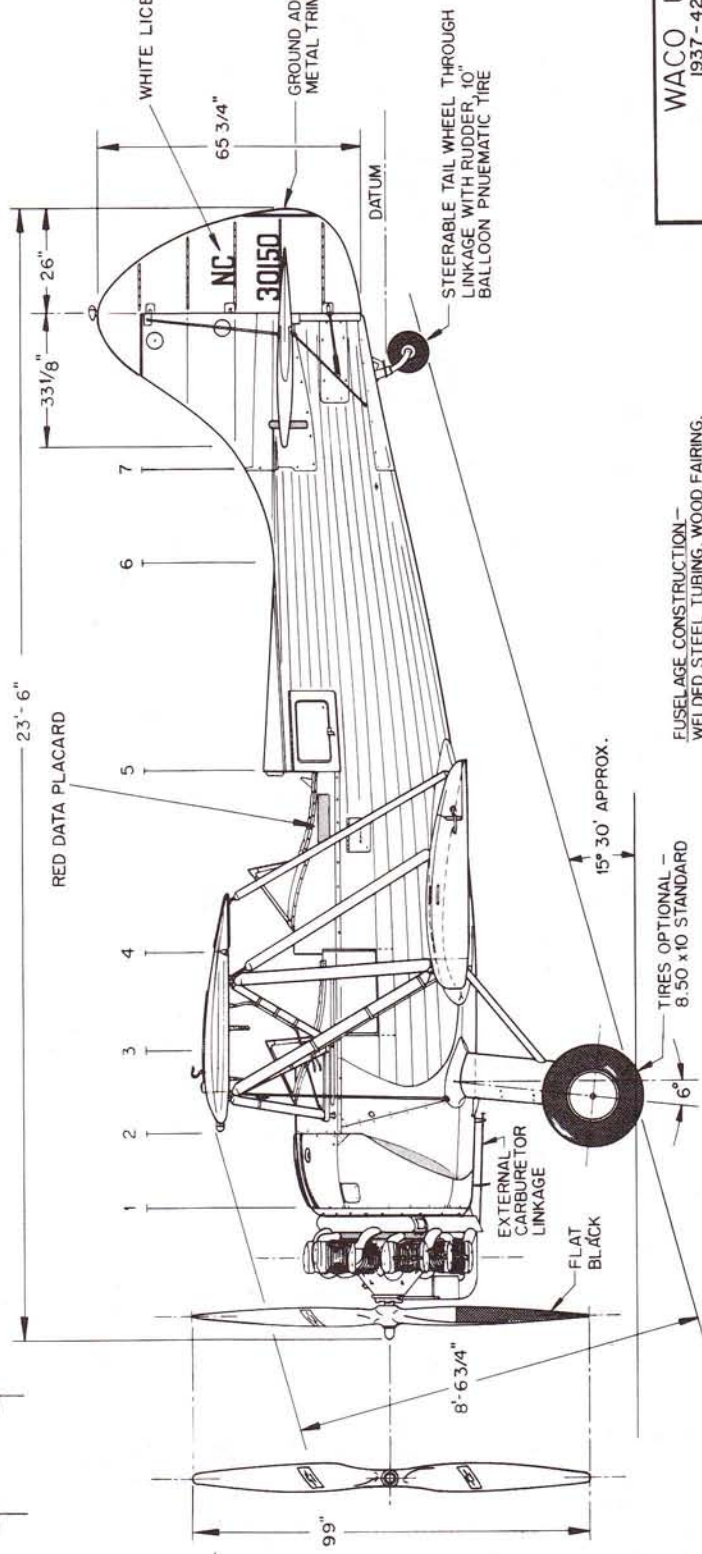
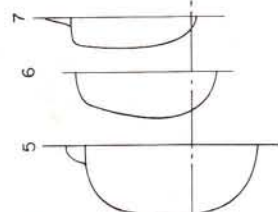
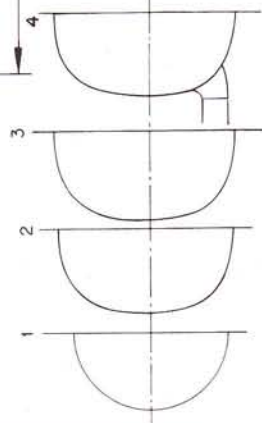
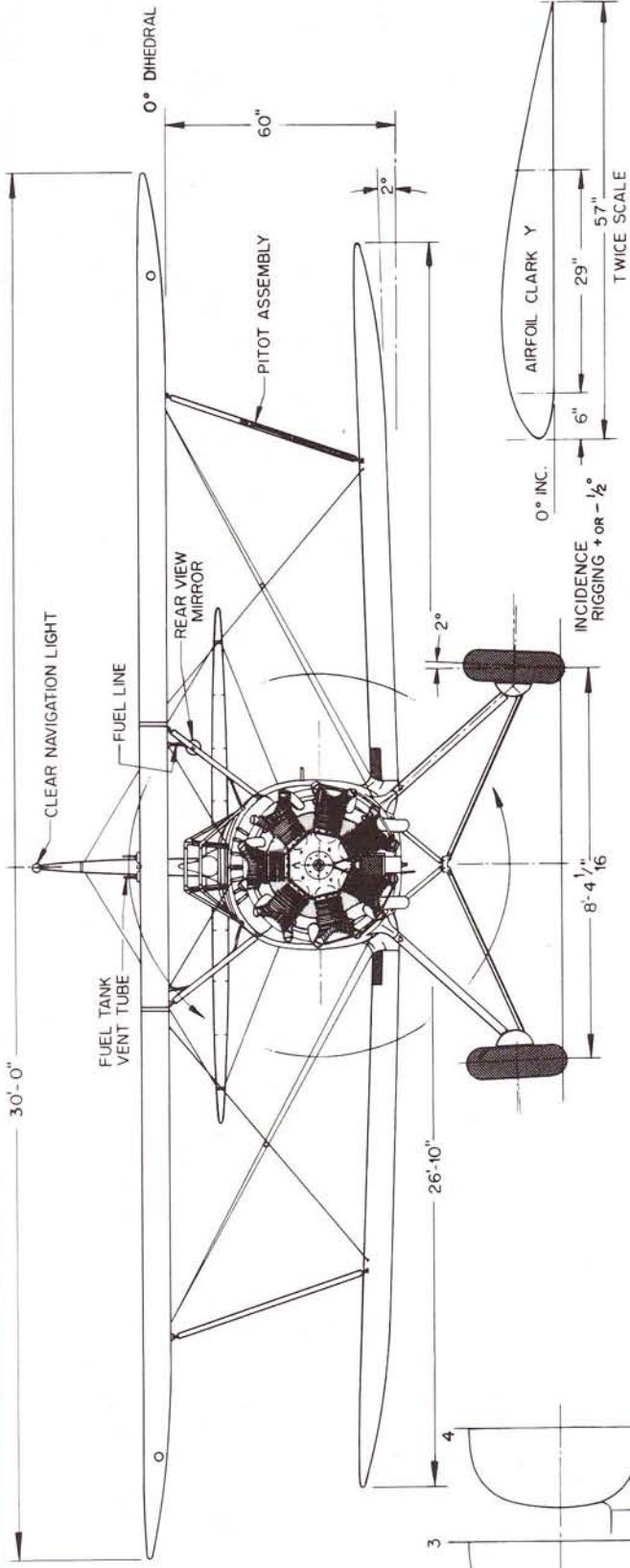
SCALE - ORIGINAL 1:24
 REPRO. 1:48
 DRAWN BY - PAUL R. MATT

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WACO UMF-5, YMF-5
 1934-35
 SCALE - ORIGINAL 1:24
 REPRO 1:48
 DRAWN BY - PAUL R. MATT

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 Terre Haute, IN 47802



FUSELAGE CONSTRUCTION -
 WELDED STEEL TUBING, WOOD FAIRING,
 FABRIC/AFT COVERED, ALUMINUM DECKING,
 HEADREST, FORWARD ENGINE AREA AND
 ALL FILLETING



WACO UPF-7	
1937-42	
SCALE - ORIGINAL	1: 24
REPRO.	1: 48
DRAWN BY: PAUL R. MATT	
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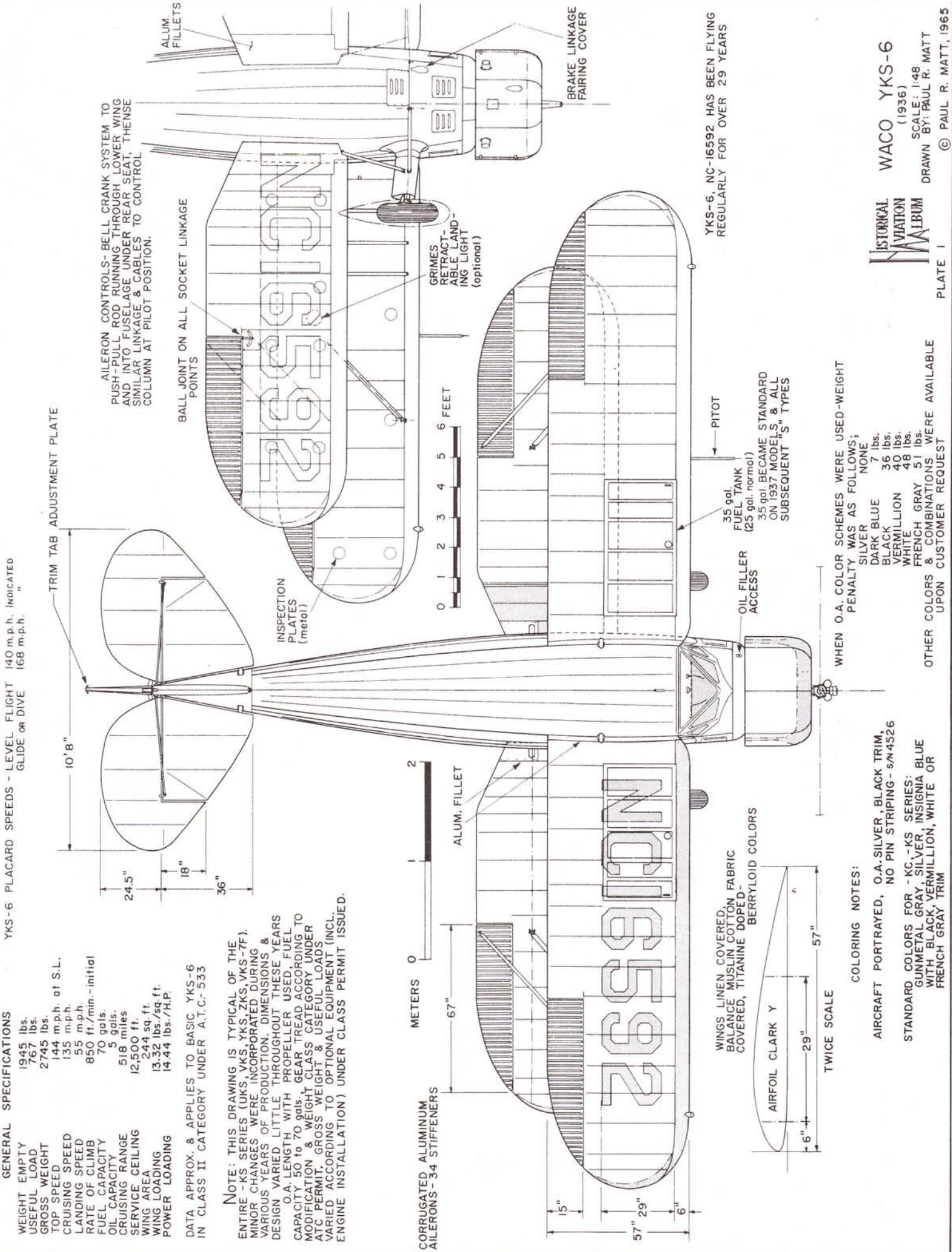
YKS-6 PLACARD SPEEDS - LEVEL FLIGHT 140 m.p.h. INDICATED
GLIDE OR DIVE 168 m.p.h.

GENERAL SPECIFICATIONS

- WEIGHT EMPTY 1945 lbs.
- USEFUL LOAD 767 lbs.
- GROSS WEIGHT 2745 lbs.
- TOP SPEED 144 m.p.h. at S.L.
- CRUISING SPEED 135 m.p.h.
- LANDING SPEED 55 m.p.h.
- RATE OF CLIMB 850 ft./min. - initial
- FUEL CAPACITY 70 gals.
- OIL CAPACITY 5 gals.
- CRUISING RANGE 518 miles
- SERVICE CEILING 12,500 ft.
- WING AREA 244 sq. ft.
- WING LOADING 13.32 lbs./sq. ft.
- POWER LOADING 14.44 lbs./H.P.

DATA APPROX. & APPLIES TO BASIC YKS-6
IN CLASS II CATEGORY UNDER A.T.C.-533

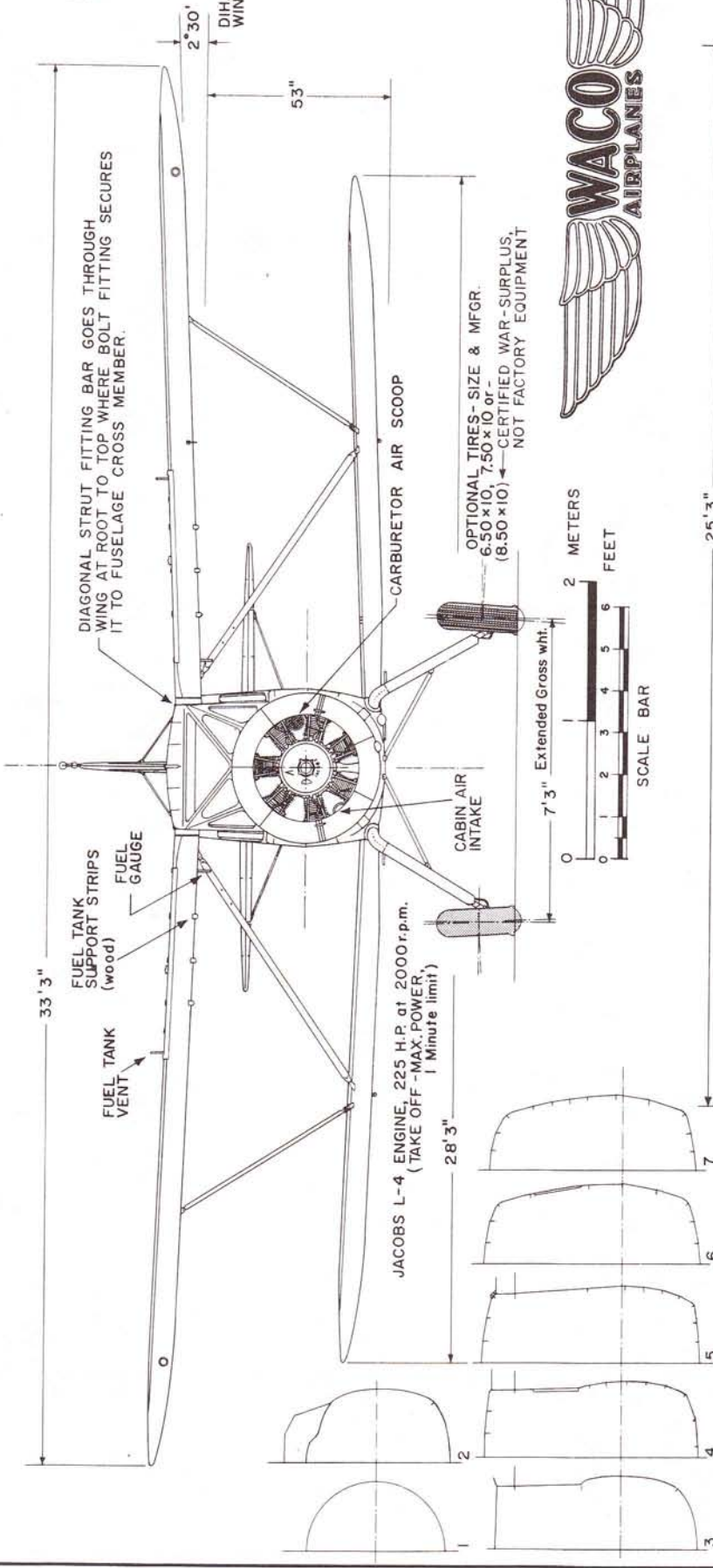
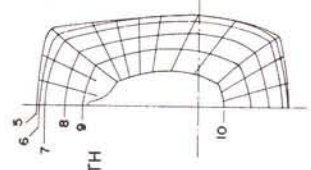
NOTE: THIS DRAWING IS TYPICAL OF THE ENTIRE -KS SERIES (UKS, YKS, ZKS, YKS-7F). MINOR CHANGES WERE INCORPORATED DURING VARIOUS YEARS OF PRODUCTION. DIMENSIONS & DESIGN VARIED LITTLE THROUGHOUT THESE YEARS O.A. LENGTH WITH PROPELLER USED, FUEL CAPACITY 50 to 70 gals. GEAR TREAD ACCORDING TO MODIFICATION & WEIGHT CLASS CATEGORY UNDER ATC PERMIT. GROSS WEIGHT & USEFUL LOADS VARIED ACCORDING TO OPTIONAL EQUIPMENT (INCL. ENGINE INSTALLATION) UNDER CLASS PERMIT ISSUED.



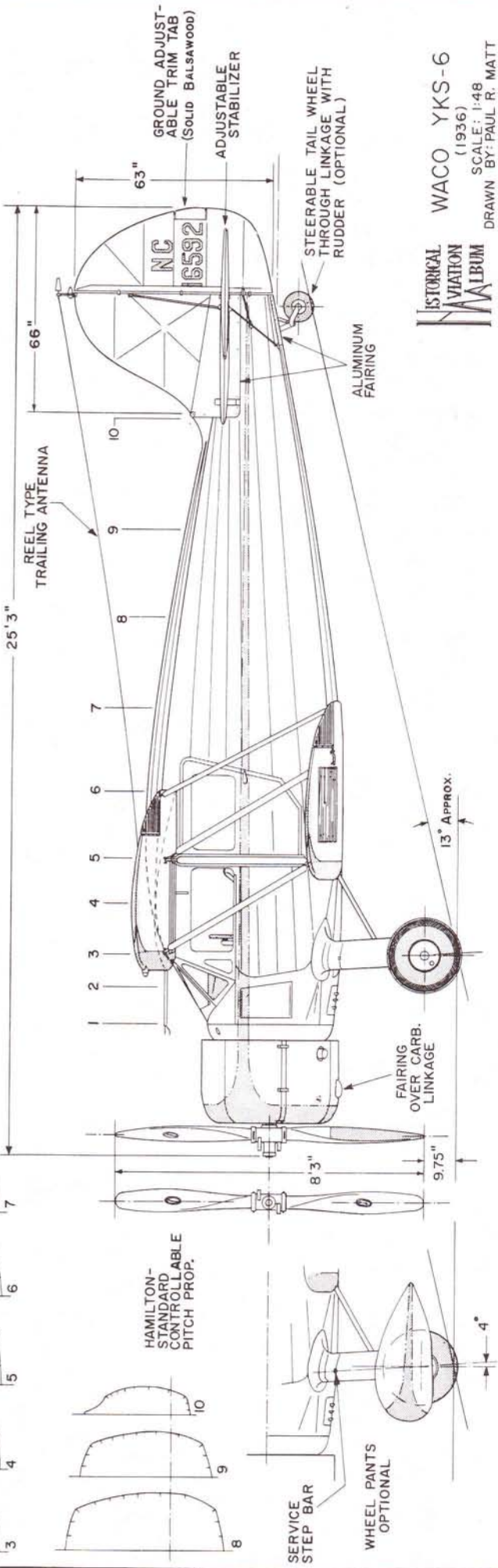
WACO YKS-6
(1936)

SCALE: 1:48
DRAWN BY: PAUL R. MATT
© PAUL R. MATT, 1965

PROGRESSIVE DEVELOPMENT OF AFT FUSELAGE

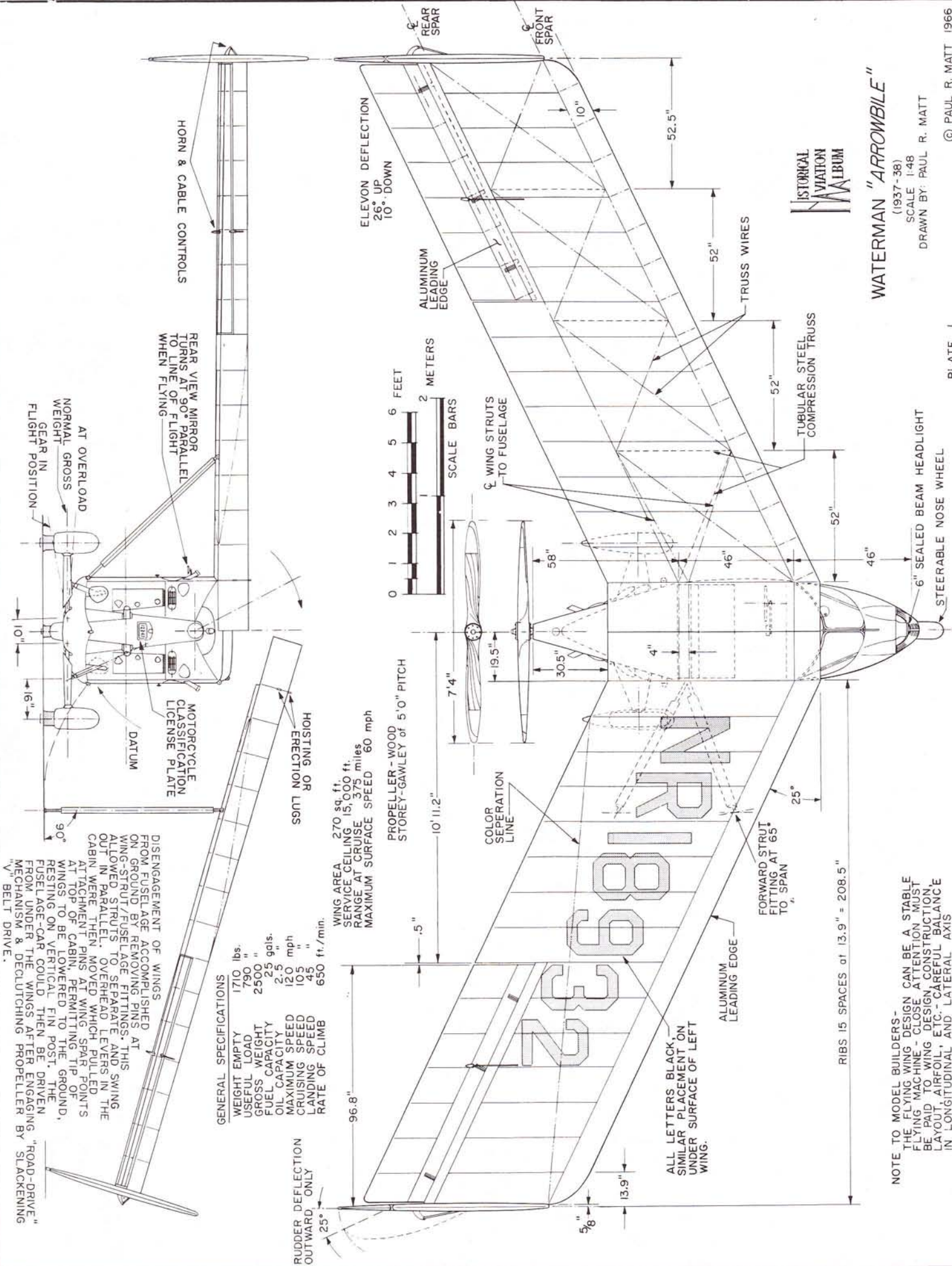


OPTIONAL TIRES - SIZE & MFGR.
6.50 x 10, 7.50 x 10 or
(8.50 x 10) ← CERTIFIED WAR-SURPLUS,
NOT FACTORY EQUIPMENT



WACO YKS-6
(1936)

SCALE: 1:48
DRAWN BY: PAUL R. MATT
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DISENAGEMENT OF WINGS FROM FUSELAGE ACCOMPLISHED ON GROUND BY REMOVING PINS AT WING-STRUT/FUSELAGE FITTINGS. THIS ALLOWED STRUTS TO SEPARATE AND SWING OUT IN PARALLEL. OVERHEAD LEVERS IN THE CABIN WERE THEN MOVED WHICH PULLED AT ATTACHMENT PINS AT WING SPAR POINTS AT TOP OF CABIN, PERMITTING TIP OF WINGS TO BE LOWERED TO THE GROUND. THE RESTING ON VERTICAL FIN POST. THE FUSELAGE-CAR COULD THEN BE DRIVEN FROM UNDER THE WINGS AFTER ENGAGING BY SLACKENING MECHANISM & DECLUTCHING PROPELLER BY "ROAD-DRIVE" BELT DRIVE.

GENERAL SPECIFICATIONS

WEIGHT EMPTY	1710 lbs.
USEFUL LOAD	790 "
GROSS WEIGHT	2500 "
FUEL CAPACITY	2.5 gals.
OIL CAPACITY	2.5 "
MAXIMUM SPEED	120 mph
CRUISING SPEED	105 "
LANDING SPEED	45 "
RATE OF CLIMB	650 ft./min.

WING AREA 270 sq. ft.
 SERVICE CEILING 15,000 ft.
 RANGE AT CRUISE 15,375 miles
 MAXIMUM SURFACE SPEED 60 mph

PROPELLER - WOOD
 STOREY-GAWLEY of 5'0" PITCH

WATERMAN "ARROWBILE"

(1937-38)
 SCALE 1:48

DRAWN BY: PAUL R. MATT

© PAUL R. MATT 1966



PLATE 1

NOTE TO MODEL BUILDERS - THE FLYING WING DESIGN CAN BE A STABLE FLYING MACHINE - CLOSE ATTENTION MUST BE PAID TO WING DESIGN, CONSTRUCTION, LAYOUT, AIRFOIL, ETC. - CAREFUL BALANCE IN LONGITUDINAL AND LATERAL AXIS

38'0"

ALUMINUM COVERED CENTER SECTION

WINGS TWISTED, SPARS REMAIN PERPENDICULAR TO CHORD LINE

4° WASHOUT AT CHORD LINE TRAILING EDGE

PROGRESSIVE DEVELOPMENT OF FUSELAGE

FWD. OF 6 AFT OF 7

THRUST LINE

DATUM

OVERHEAD CONTROL COLUMN - STEERING WHEEL (AIR & SURFACE MANEUVERS), OPERATED INTERCONNECTED ELEVONS, RUDDERS & NOSE WHEEL

DATUM

WHEEL-PANTS AS "FENDERS" REQUIRED FOR SURFACE TRAVEL

5'10"

COLORING NOTES

"ARROWBIBLE" No.1 - X 262Y - ORIGINALLY ALL SILVER (PROTO.) AS NR 262Y, DARK GRAY & WHITE No.2 - NR 16332 - DARK "BUICK" BLUE & WHITE No.3 - NR 18932 - RED & WHITE No.4 - NR 18933 - } ASSIGNED MACHINES NOT COMPLETED TO POINT WHERE APPLICATION WAS USED No.5 - NR 18934 -

"AEROBIBLE" No.6 - N54P - DARK BLUE & WHITE (LATE POST WAR II DEVELOPMENT)

FEET 0 1 2 3 4 5 6

METERS 0 1 2 3 4 5 6

SCALE BARS

INC. +1° at tip

AIRFOIL NACA 23012

INC. +1° at tip

30°

CARBURETOR INTAKE

FUEL FILLER NECK

FAIRINGS OVER WING FITTINGS

EXHAUST WHEN MUFFLER IS CUT IN FOR ROAD OPERATION

THRUST

CLEARANCE FAIRINGS

DATUM LINE

ENGINE EXHAUST

BATTERY CAP VENT

AIR INTAKE FOR COOLING

OIL PAN

BENDIX BRAKES

AIR EXHAUST FROM RADIATOR 9' 2.5"

DASH & FLOOR BOARD OUTLINE

STEERING CONTROL RODS

TRADE MARK

WATERMAN
ARROWBIBLE

WATERMAN "ARROWBIBLE"

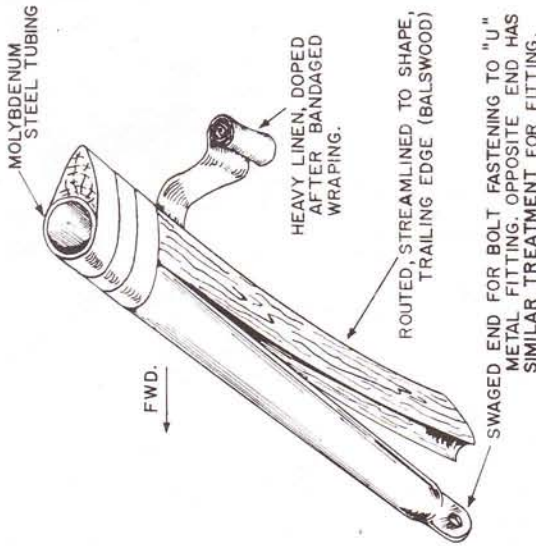
(1937-38)

SCALE 1:48

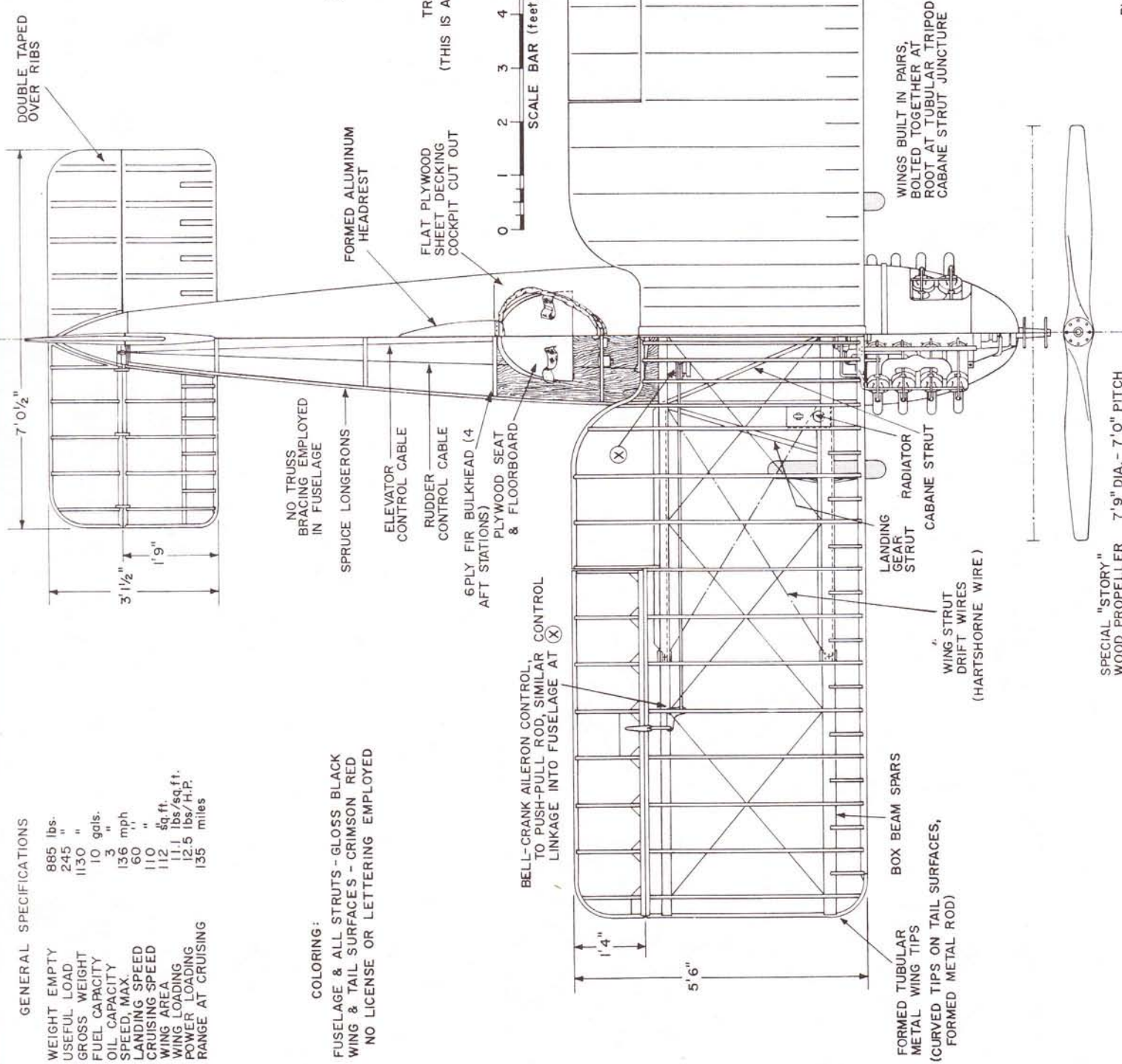
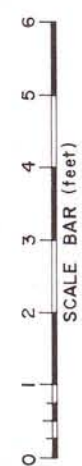
DRAWN BY: PAUL R. MATT

PLATE 2

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TREATMENT OF ALL EXPOSED STRUTS (THIS IS A TYPICAL METHOD EMPLOYED ON MANY AIRCRAFT THROUGHOUT HISTORY)



GENERAL SPECIFICATIONS

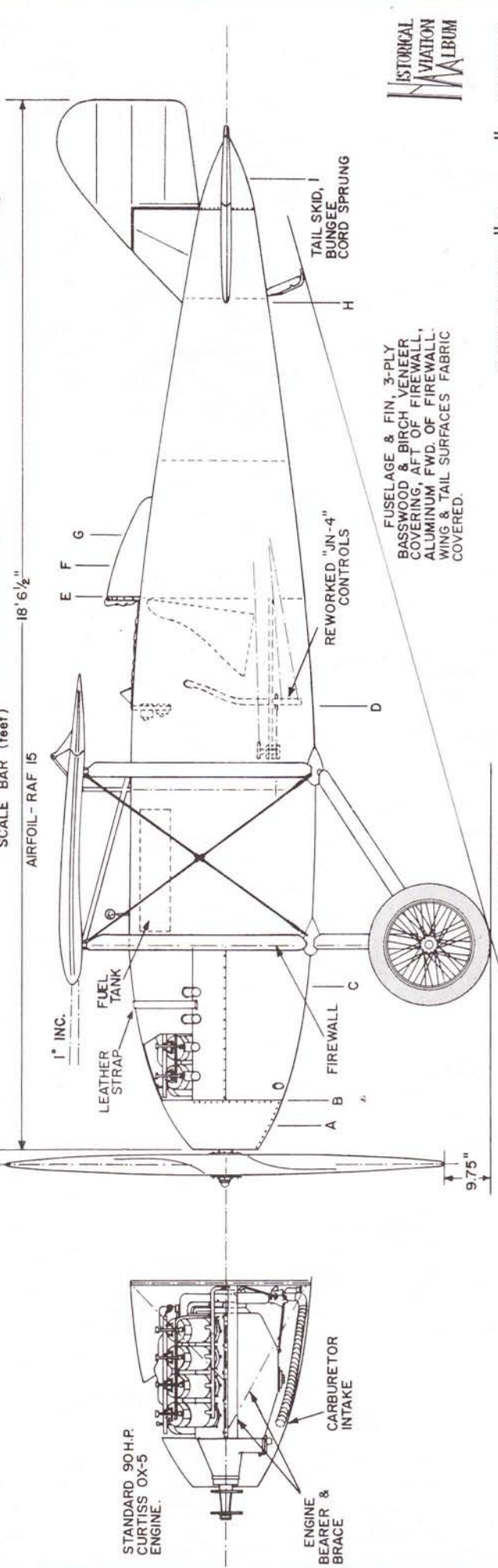
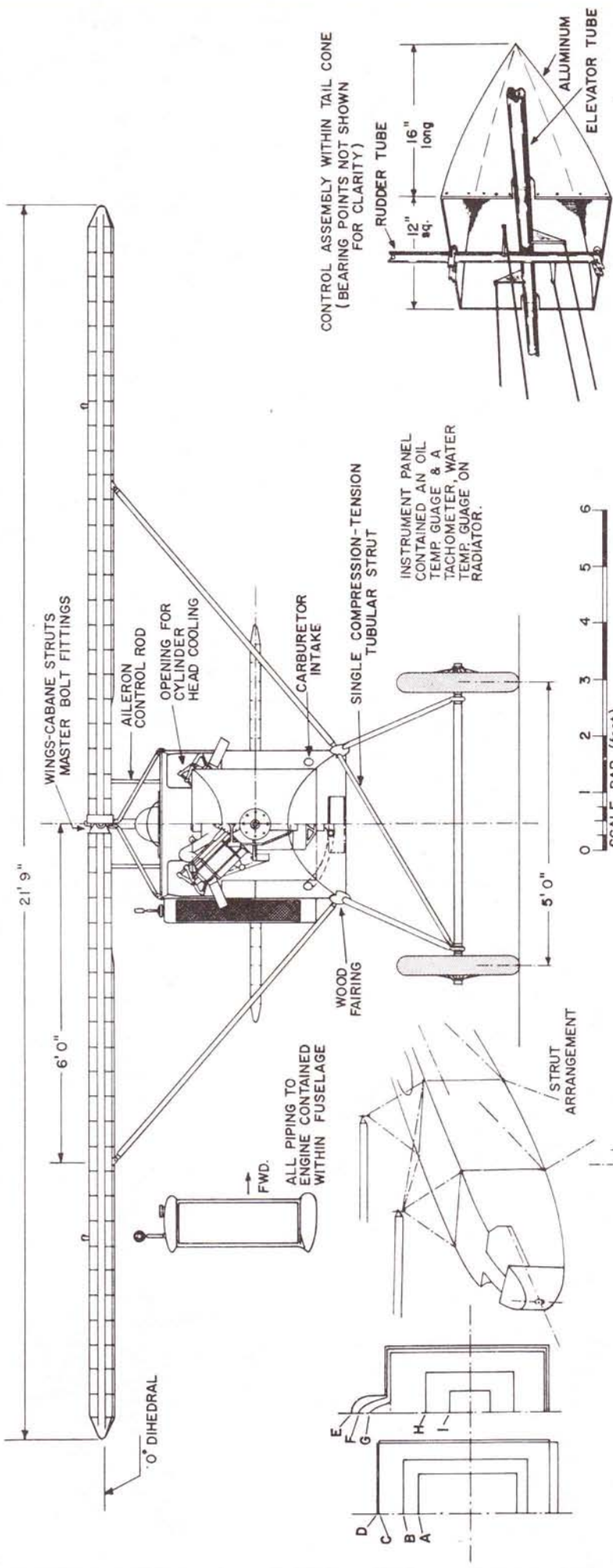
WEIGHT EMPTY	885 lbs.
USEFUL LOAD	245 "
GROSS WEIGHT	1130 "
FUEL CAPACITY	10 gals.
OIL CAPACITY	3 "
SPEED, MAX.	136 mph
LANDING SPEED	60 "
CRUISING SPEED	110 "
WING AREA	112 sq. ft.
WING LOADING	11 lbs./sq. ft.
POWER LOADING	12.5 lbs./H.P.
RANGE AT CRUISING	135 miles

COLORING:
 FUSELAGE & ALL STRUTS - GLOSS BLACK
 WING & TAIL SURFACES - CRIMSON RED
 NO LICENSE OR LETTERING EMPLOYED



WATERMAN "GOSLING" RACER
 (1921)
 SCALE: 1:32
 DRAWN BY: PAUL R. MATT © 1965

PLATE I



FUSELAGE & FIN, 3-PLY BASSWOOD & BIRCH VENEER COVERING, AFT OF FIREWALL, ALUMINUM FWD. OF FIREWALL. WING & TAIL SURFACES FABRIC COVERED.

40 SPOKE
26 x 3" TIRE
NO SHOCK ABSORBING
SYSTEM USED ON MAIN
LANDING GEAR



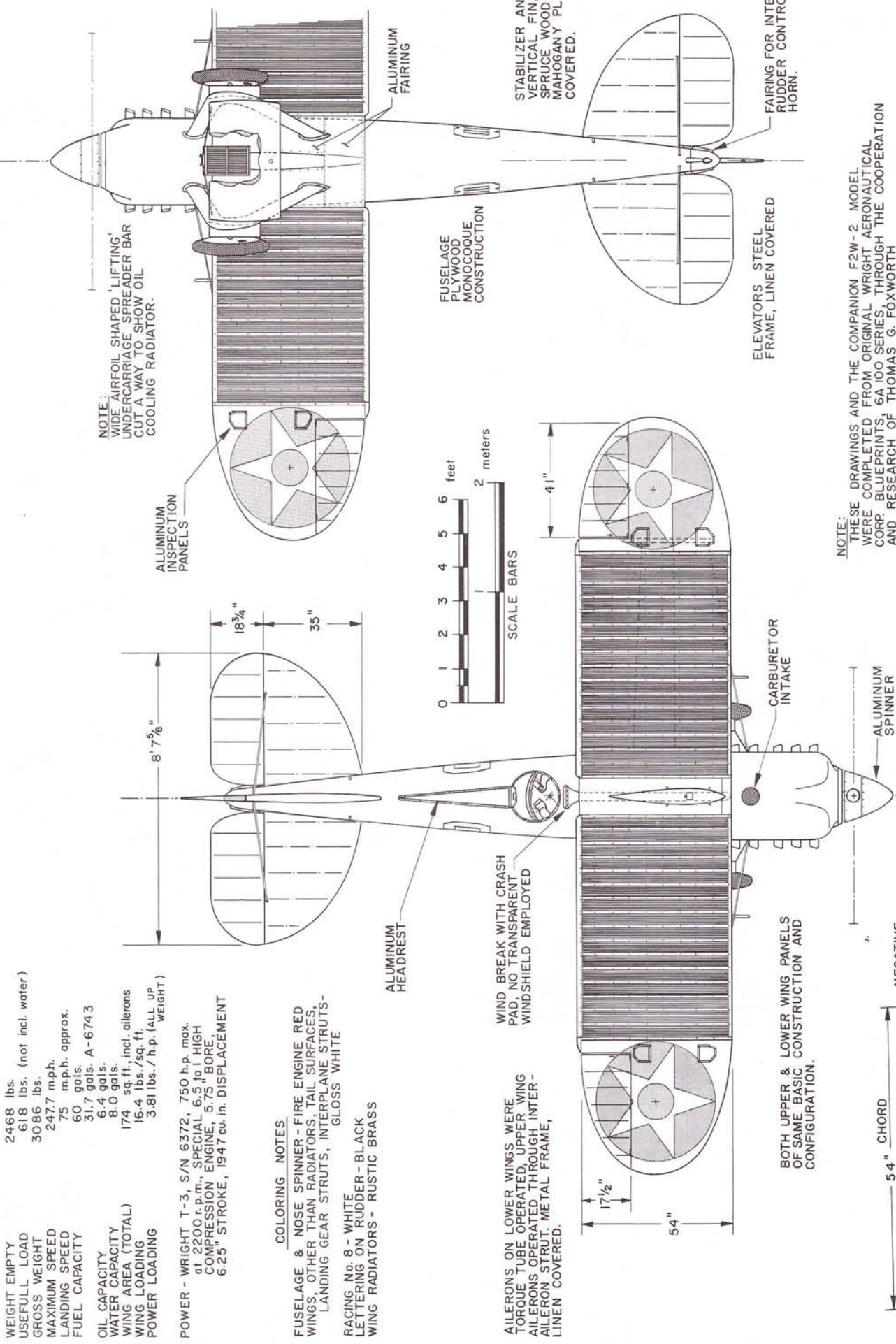
WATERMAN "Gosling" RACER
(1921)

GENERAL SPECIFICATIONS, F2W-1 A-6744

- WEIGHT EMPTY 2468 lbs.
- USEFUL LOAD 618 lbs. (not incl. water)
- GROSS WEIGHT 3086 lbs.
- MAXIMUM SPEED 247.7 m.p.h.
- FUEL CAPACITY 75 m.p.h. approx.
- 75 gals.
- 31.7 gals. A-6743
- 6.4 gals.
- 8.0 gals.
- 174 sq. ft. incl. ailerons
- WING AREA (TOTAL) 16.4 lbs./sq. ft.
- WING LOADING 3.81 lbs./h.p. (ALL UP WEIGHT)
- POWER - WRIGHT T-3, S/N 6372, 750 h.p. max. at 2200 r.p.m., SPECIAL 6.5" x 11" HIGH COMPRESSION ENGINE, 5.75" BORE 6.25" STROKE, 1947 cu. in. DISPLACEMENT

COLORING NOTES

- FUSELAGE & NOSE SPINNER - FIRE ENGINE RED
- WINGS, OTHER THAN RADIATORS, TAIL SURFACES, LANDING GEAR STRUTS, INTERPLANE STRUTS - GLOSS WHITE
- RACING No. 8 - WHITE
- LETTERING ON RUDDER - BLACK
- WING RADIATORS - RUSTIC BRASS



NOTE: WIDE AIRFOIL SHAPED 'LIFTING' UNDERCARRIAGE SPREADER BAR CUT A WAY TO SHOW OIL COOLING RADIATOR.

ALUMINUM INSPECTION PANELS

ALUMINUM HEADREST

FUSELAGE PLYWOOD MONOCOQUE CONSTRUCTION

AILERONS ON LOWER WINGS WERE TORQUE TUBE OPERATED, UPPER WING AILERONS OPERATED THROUGH INTERAILERON STRUT. METAL FRAME, LINEN COVERED.

WIND BREAK WITH CRASH PAD, NO TRANSPARENT WINDSHIELD EMPLOYED

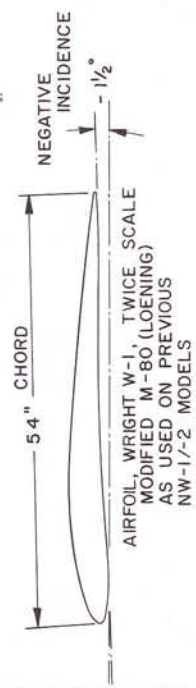
STABILIZER AND VERTICAL FIN, SPRUCE WOOD FRAME, MAHOGANY PLY COVERED.

ELEVATORS - STEEL FRAME, LINEN COVERED

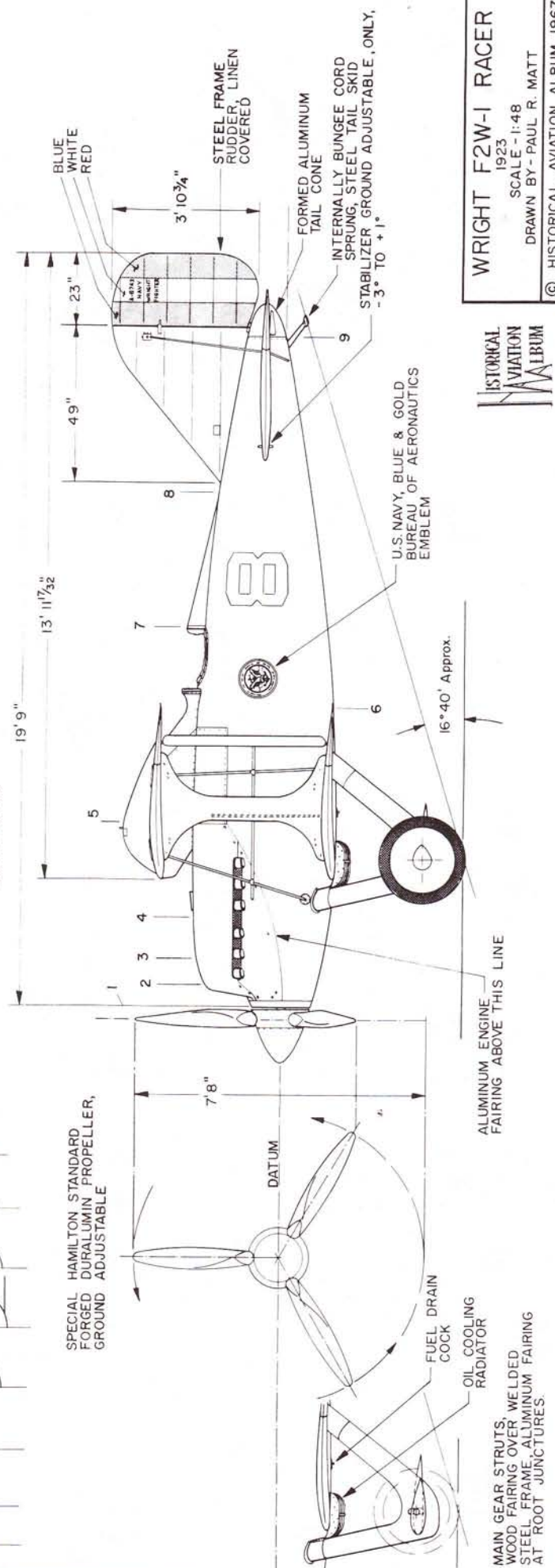
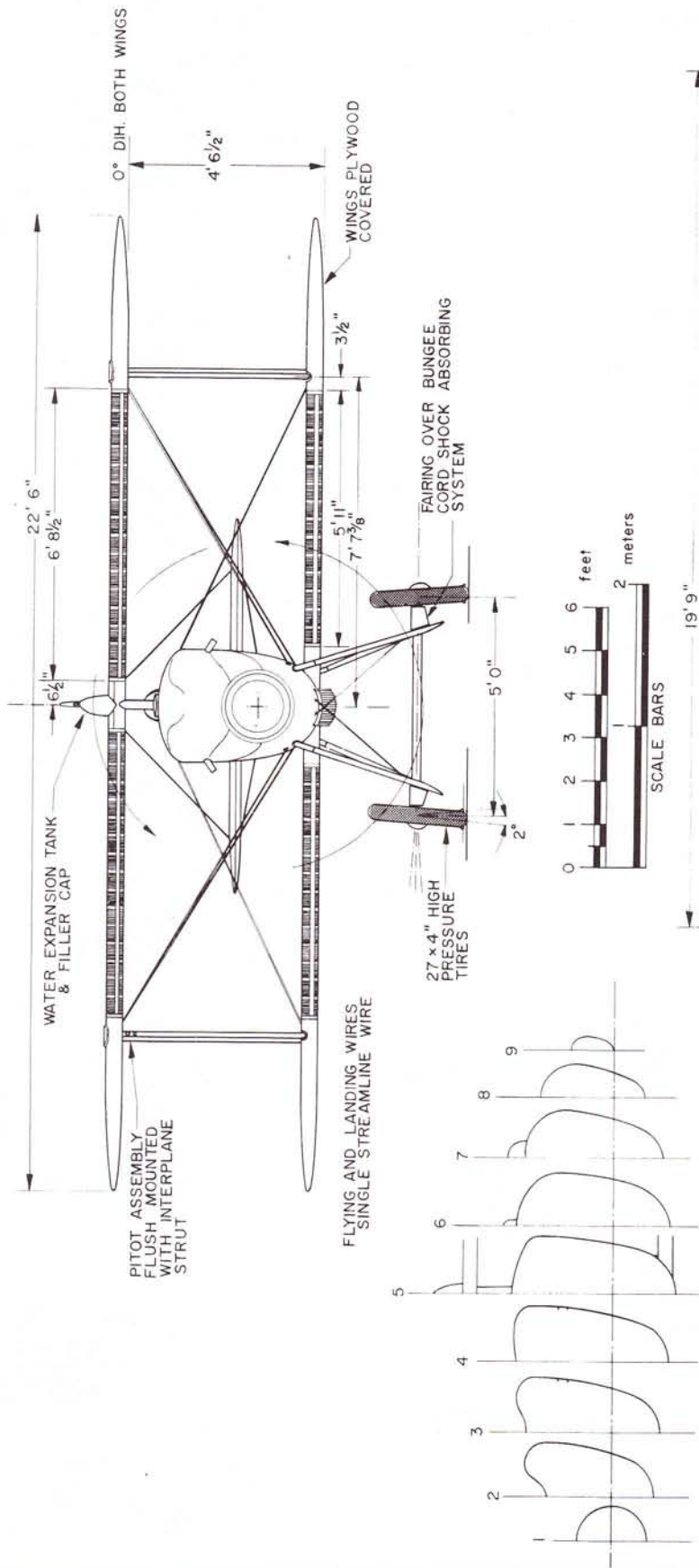
FAIRING FOR INTERNAL RUDDER CONTROL HORN.

BOTH UPPER & LOWER WING PANELS OF SAME BASIC CONSTRUCTION AND CONFIGURATION.

NOTE: THESE DRAWINGS AND THE COMPANION F2W-2 MODEL WERE COMPLETED FROM ORIGINAL WRIGHT AERONAUTICAL CORP. BLUEPRINTS, 6A 100 SERIES, THROUGH THE COOPERATION AND RESEARCH OF THOMAS G. FOXWORTH



WRIGHT F2W-1 RACER
1923
SCALE - 1:24
DRAWN BY - PAUL R. MATT
© HISTORICAL AVIATION ALBUM 1967
P.O. BOX 33
TEMPLE CITY, CALIF., 91780



WRIGHT F2W-1 RACER
 1923
 SCALE - 1:48
 DRAWN BY - PAUL R. MATT
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 P.O. BOX 33
 TEMPLE CITY, CALIF., 91780

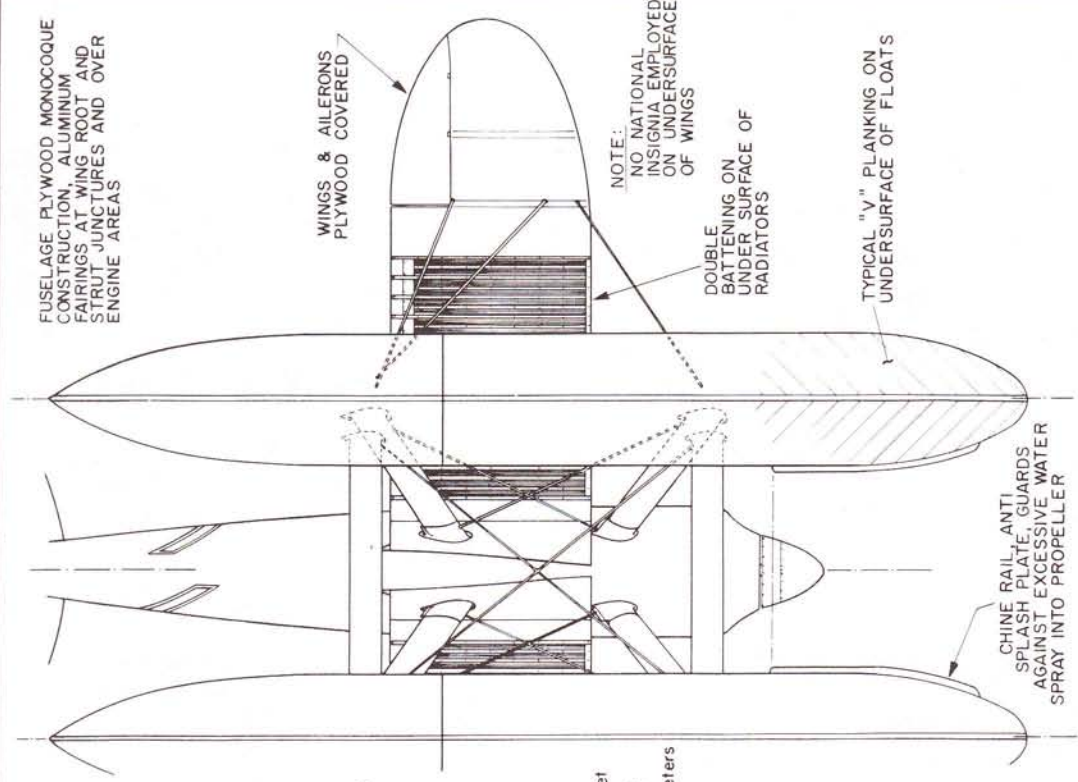
GENERAL SPECIFICATIONS

WRIGHT F2W-2, A-6744
 WEIGHT EMPTY 3296 lbs.
 USEFUL LOAD 865 lbs.
 GROSS WEIGHT 4161 lbs.
 MAXIMUM SPEED 235 m.p.h. (estimated)
 LANDING SPEED 110 m.p.h. (estimated)
 FUEL CAPACITY 95 gals.
 OIL CAPACITY 9 gals.
 WATER CAPACITY 8 gals.
 WING AREA 170 sq. ft. (incl. ailerons)

POWER - WRIGHT T-3, 750 h.p. max.
 AT 2200 r.p.m., SPECIAL
 6.5 to 1 HIGH COMPRESSION
 RATIO. - 5.75 BORE, 6.25 STROKE

AILERONS TORQUE TUBE OPERATED THROUGH LOWER WING PANELS TO BELL-CRANK AND CABLE SYSTEM UP WITHIN INTERPLANE STRUTS TO BELL-CRANK OPERATION OF UPPER AILERONS.

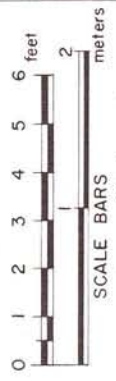
3-PLY MAHOAGANY VENEER WRAPPED ON CRISS CROSS BASIS AT APPROXIMATELY 45° ANGLES



CHINE RAIL, ANTI SPLASH PLATE, GUARDS AGAINST EXCESSIVE WATER SPRAY INTO PROPELLER

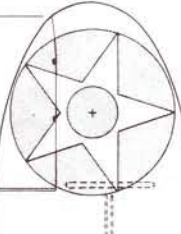
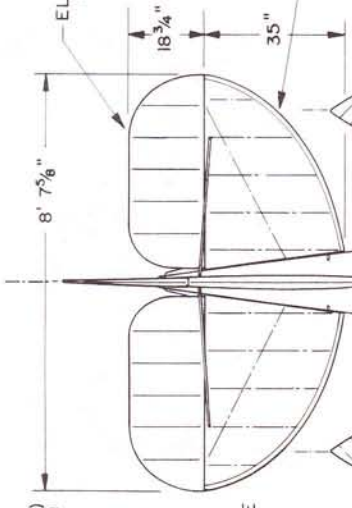
ELEVATORS, METAL FRAME, FABRIC COVERED

STABILIZER, SPRUCE FRAME, PLYWOOD COVERED



COLORING NOTES.

ENTIRE AIRCRAFT, INCLUDING FLOATS AND STRUTS - MEDIUM BLUE
 NOSE SPINNER - NATURAL ALUMINIUM
 RUDDER - CLEAR DOPED
 RACING No. 7 - WHITE, OUTLINED IN BLACK

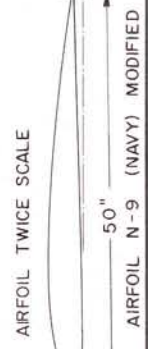


CARBURETOR INTAKE

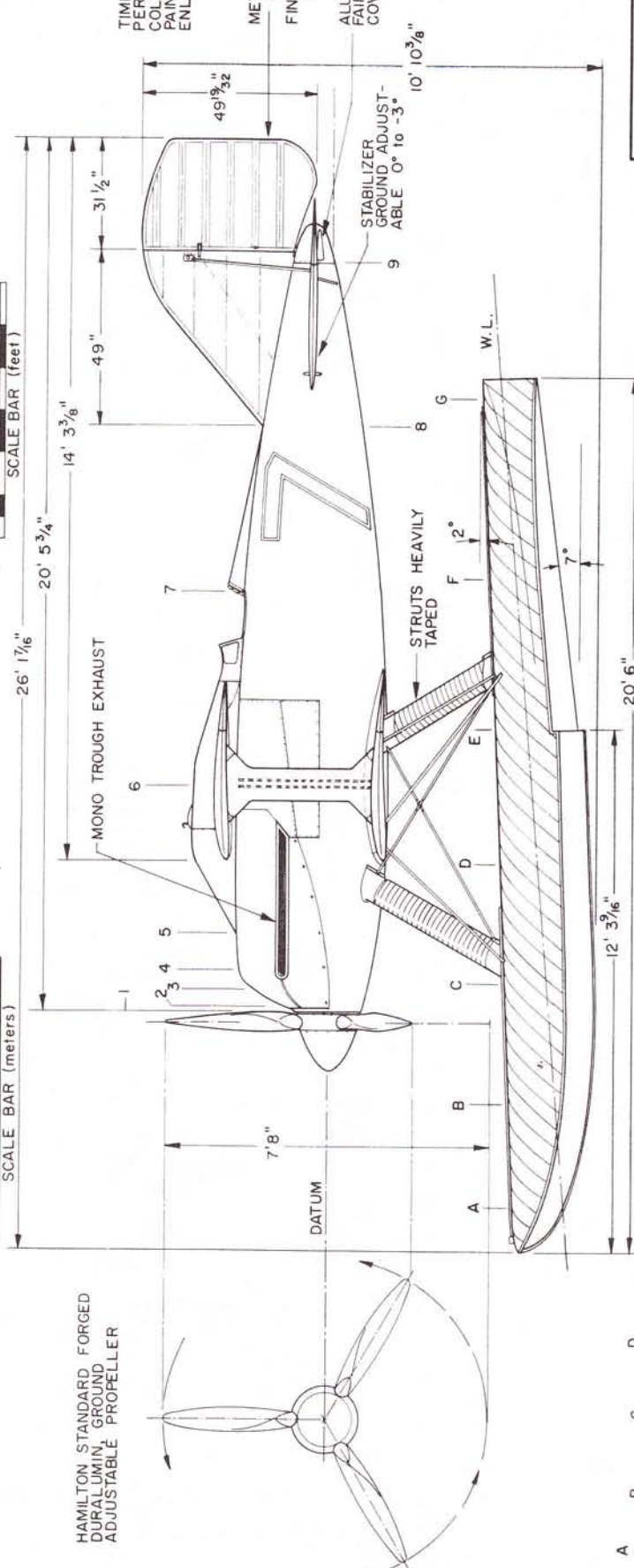
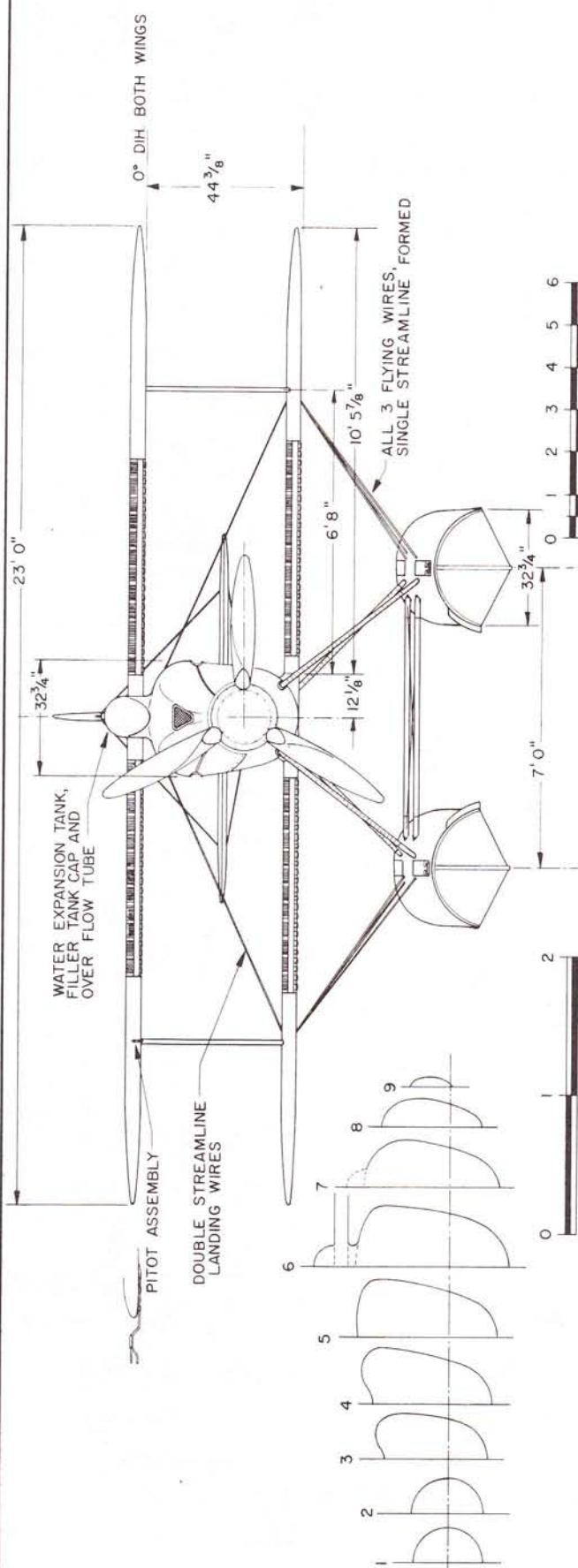
MOORING CLEAT

PITOT TUBE

SERVICE WALKWAY



WRIGHT F2W-2 RACER
 1924
 SCALE - 1:48
 DRAWN BY - PAUL R. MATT
 © HISTORICAL AVIATION ALBUM 1967
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 TEMPLE CITY, CALIF. 91780



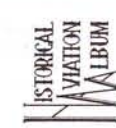
TIME LIMIT DID NOT PERMIT SERVICE TRI-COLOR STRIPES TO BE PAINTED ON SECOND ENLARGED RUDDER

METAL FRAME RUDDER, FABRIC COVERED, FIN SPRUCE FRAME, PLYWOOD COVERED

ALUMINUM TAIL CONE FAIRING EXTENDED TO COVER RUDDER CONTROL HORN

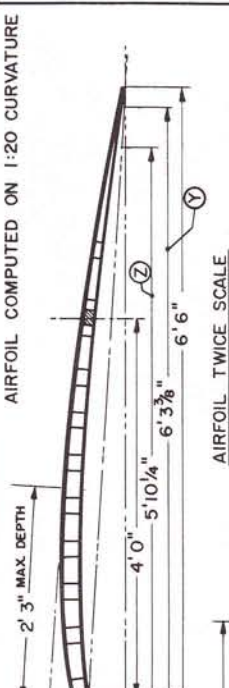
HAMILTON STANDARD FORGED DURALUMIN, GROUND ADJUSTABLE PROPELLER

SUBMERGED DISPLACEMENT, BOTH FLOATS - 7100 lbs.



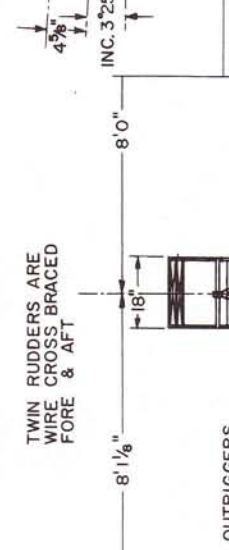
WRIGHT F2W-2 RACER
 1924
 SCALE - 1:48
 DRAWN BY - PAUL R. MATT
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AIRFOIL COMPUTED ON 1:20 CURVATURE



SPARS - SPRUCE
RIBS - ASH CAPSTRIPS
SPRUCE SPACERS
BLOCKS

AIRFOIL TWICE SCALE



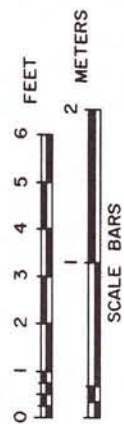
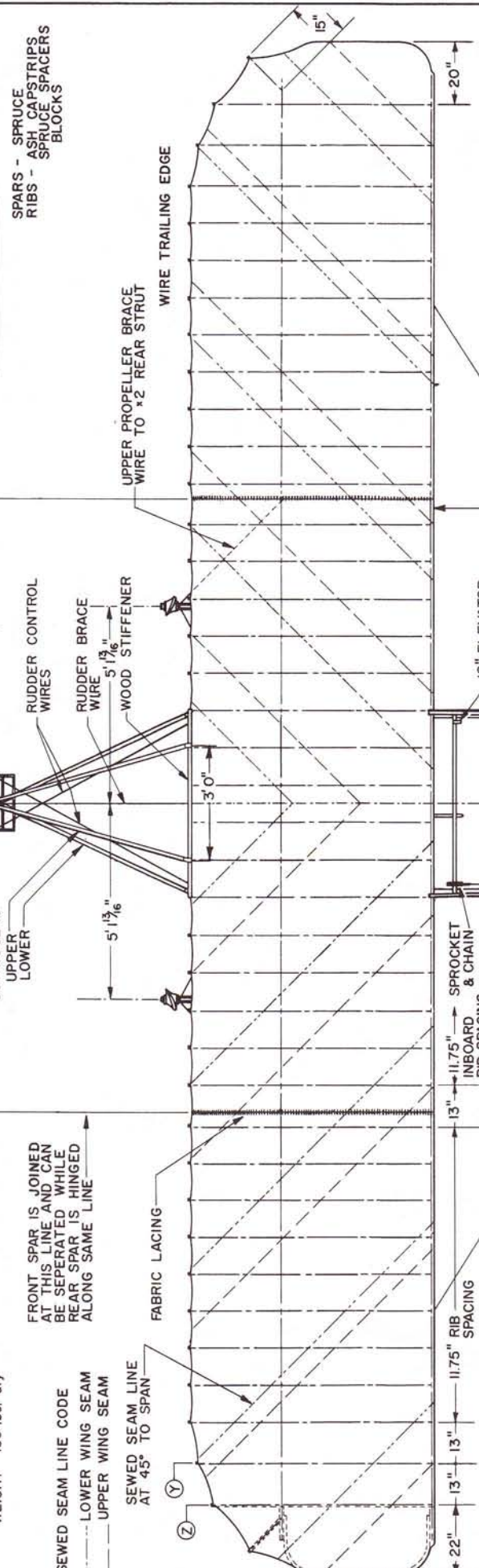
GENERAL SPECIFICATIONS
WINGSPAN 40' 4"
LENGTH 21' 1"
WING AREA 510 sq. ft.
GROSS WEIGHT 750 lbs.
WING LOADING 1.47 lbs./sq. ft.

WRIGHT 4 CYLINDER WATER COOLED ENGINE
BORE 4"
STROKE 4"
POWER, INITIAL 12 H.P.
WEIGHT, 160 lbs. dry

FRONT SPAR IS JOINED AT THIS LINE AND CAN BE SEPARATED WHILE REAR SPAR IS HINGED ALONG SAME LINE

SEWED SEAM LINE CODE
--- LOWER WING SEAM
- - - UPPER WING SEAM

SEWED SEAM LINE AT 45° TO SPAN



1903 FLIGHT TABULATION

W. WRIGHT	DEC. 14	3.5 sec.	LITTLE WIND
O. WRIGHT	DEC. 17	12 sec.	27 mi wind
W. WRIGHT	195	13 sec.	" not measured
O. WRIGHT	200	15 sec.	" "
W. WRIGHT	852	59 sec.	20 mi wind

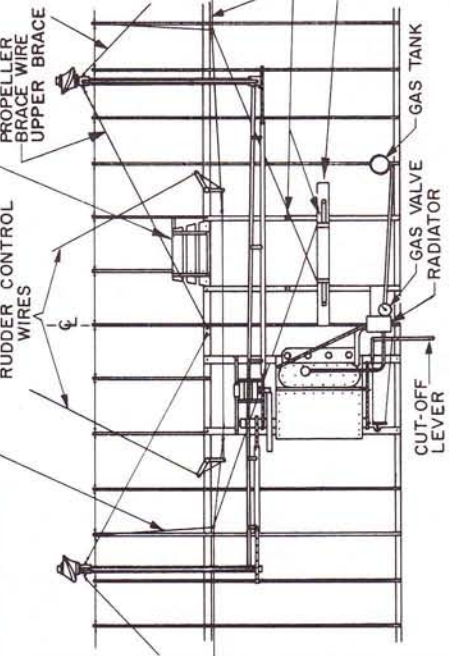
1903
WRIGHT BROTHERS
"FLYER"

SCALE: 1:48
DRAWN & RESEARCHED BY:
HERB. KELLEY

© PAUL R. MATT 1966
HISTORICAL AVIATION ALBUM

RIB SPACING SAME ON LEFT WING EXCEPT AT TIP (AS NOTED) - UPPER & LOWER PANELS IDENTICAL EXCEPT AT CENTER SECTION AS SHOWN BELOW

THIS WIRE RUNS FROM WING WARP WIRES TO END OF RIB. TO ACT AS A KEEPER. - SAVES USE OF A PULLEY.



CENTER SECTION LOWER WING (FABRIC REMOVED)

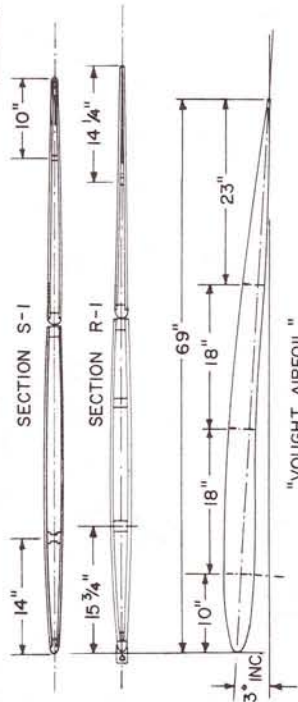
CENTER RIB OFFSET 1" TO PORT ON ELEVATORS
FORWARD ELEVATORS COVERED ON UPPER SURFACE ONLY. FABRIC WRAPPED AROUND & UNDER, THEN SEWED.

GENERAL SPECIFICATIONS

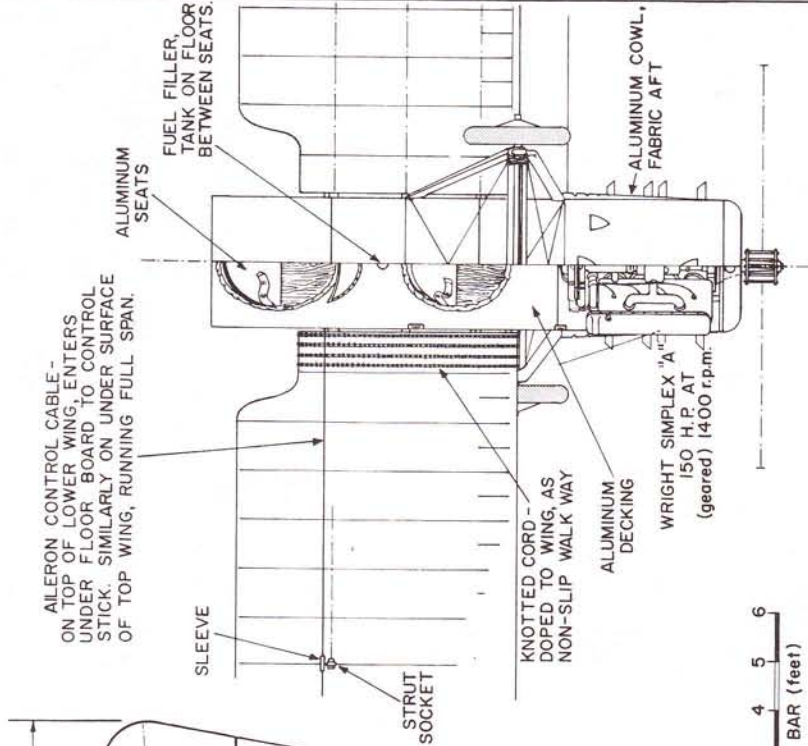
WEIGHT EMPTY 1725 lbs
 USEFUL LOAD 595 "
 GROSS WEIGHT 2320 "
 ENDURANCE AT CRUISE 63mph 6 hrs
 WING AREA (AILERONS EXCLUDED) 430 sq. ft.
 AREA OF AILERONS (4) 5.86 sq. ft.
 WING LOADING 5.46 lbs/sq. ft.
 POWER LOADING 16.86 " " "
 TOP SPEED 90 mph

MAIN CONSTRUCTION,
 ASH, SPRUCE & POPLAR,
 LINEN COVERED & DOPED

SECTIONS BELOW, TWICE SCALE



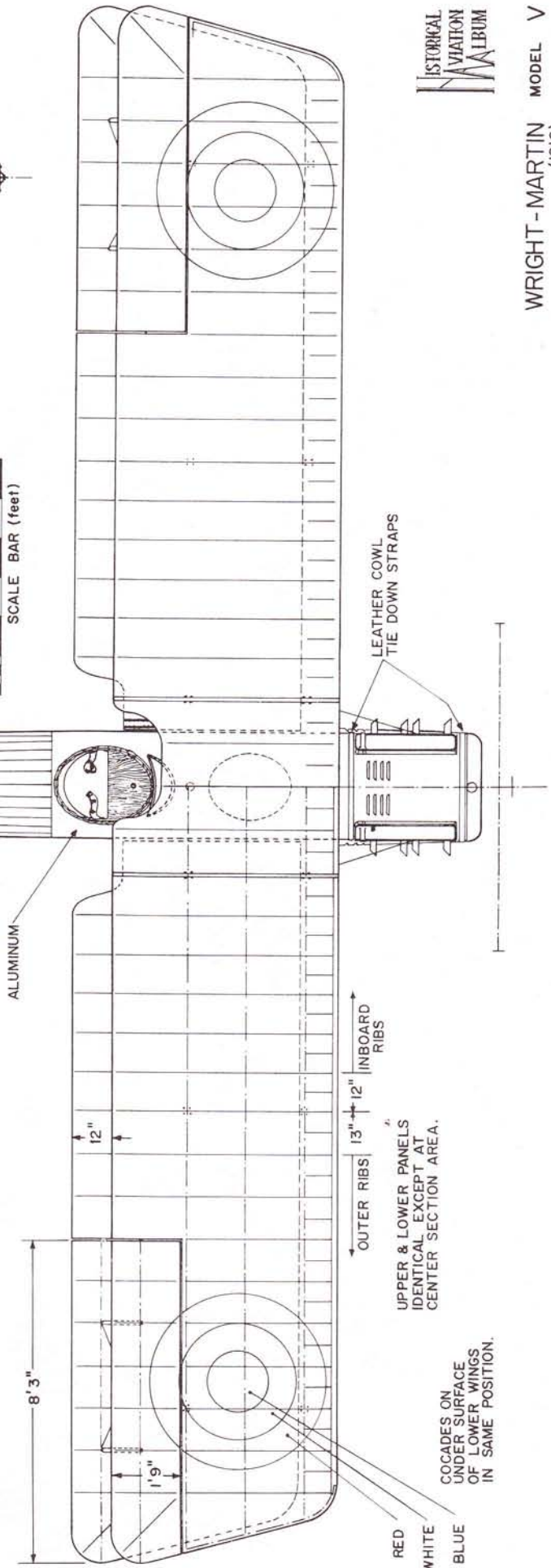
"VOUGHT AIRFOIL"
 (MODIFIED R.A.F.-15)
 3-SPAR WING CELLULE, CENTER SPAR (FALSE) NON-BEARING



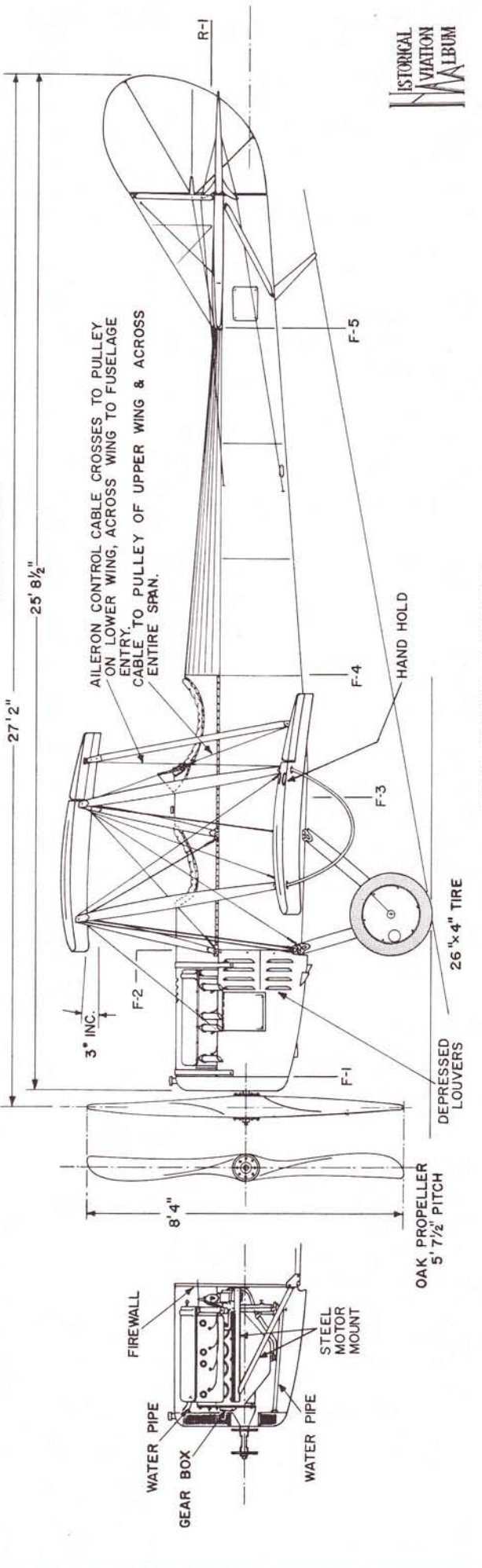
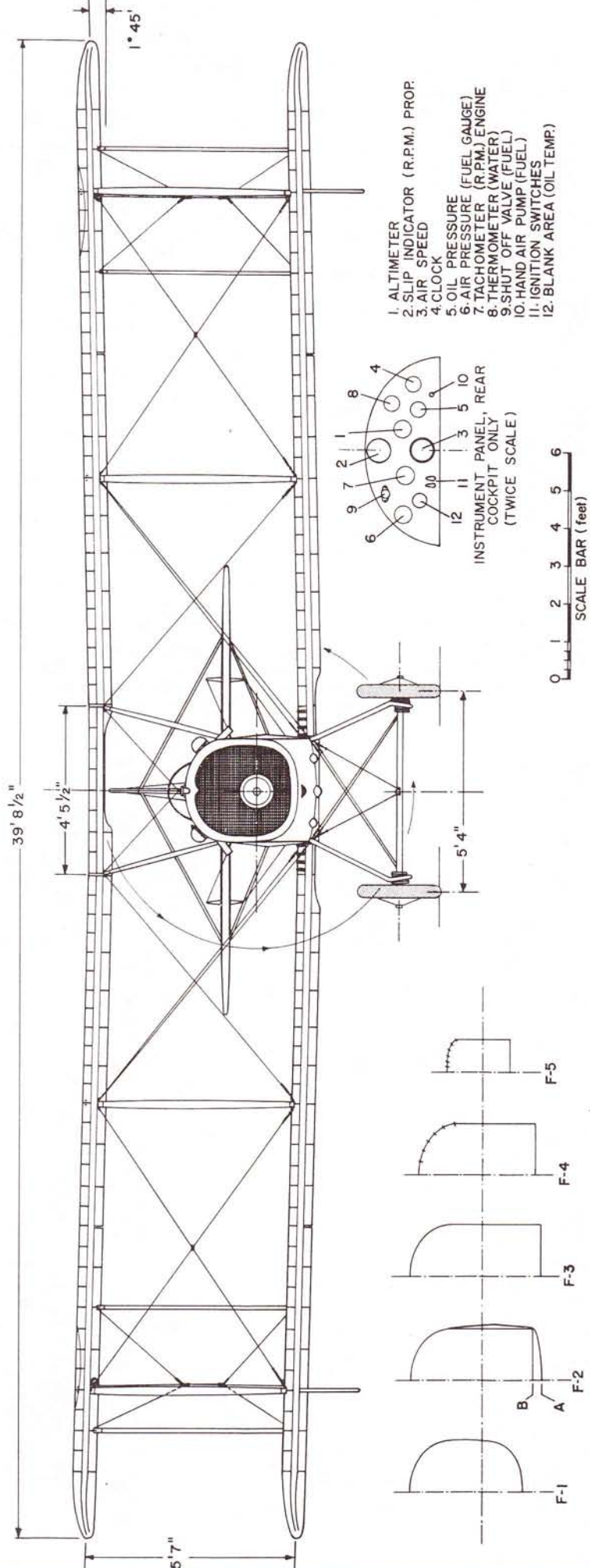
AILERON CONTROL CABLE - ON TOP OF LOWER WING, ENTERS UNDER FLOOR BOARD TO CONTROL STICK. SIMILARLY ON UNDER SURFACE OF TOP WING, RUNNING FULL SPAN.

REMOVABLE AFT DECKING FOR ACCESS TO FUSELAGE INTERIOR.

SCALE BAR (feet)



WRIGHT-MARTIN MODEL V
 (1916)



WRIGHT-MARTIN MODEL V
(1916)

SCALE: 1:48
DRAWN BY: PAUL R. MATT © 1965

ENTIRE AIRCRAFT - CLEAR DOPED
ALUMINUM AREAS - NATURAL

3-View Scale Drawings by Paul Matt

Volume 1 contains all airplanes listed from A through G. Volume 2 contains all airplanes listed from H through W. If you would like individual, large sheets of any of the below listed scale drawings, send request, catalog #, appropriate fee, and shipping charge of \$3.95. If you want your drawing rolled in a tube — add \$4.00. Clear, concise, uncluttered 3- and 4- view engineering presentations, in large (17" x 22"), easy to work with standard scales. Drawing is highly detailed and is an accurate working print with all dimensions, specifications, airfoils, cross sections, templates, and color scheme included. These drawings are part of the collection of the internationally acclaimed and highly honored *Historical Aviation Album*. All orders are folded unless a tube is ordered. Each has 2 to 6 large sheets. Rolled in tube — add \$4.00 plus \$3.95 postage. Send to: Aviation Heritage, P.O. Box 665, Destin, FL 32540.

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C = 1:48 ...	1/4" = 1'
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E = 1:8 ...	1 1/2" = 1'
F = 1:6 ...	2" = 1'
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A TRIBUTE TO PAUL MATT

Paul R. Matt accomplished much during his life. His talents permitted him to be a Photographer, Model Builder, Technical Writer, Historical Writer, Technical Illustrator, Draftsman and Publisher.

He served in the U.S. Navy and was trained in commercial photography. Early in his career, he was a self-employed photographer.

Paul illustrated hundreds of aircraft. Matt's 3- and 4-view drawings won him international acclaim for their clarity, accuracy and beauty.

He hand-carved numerous scale models of airplanes and won several trophies and ribbons during competition. Some of his models are on display throughout the United States, including Smithsonian's National Air & Space Museum. Paul's personal collection is on display in Destin, Florida, at the Aviation Heritage Research Library.

Paul spent a life of researching airplanes and recording the history of various aircraft manufacturers. He authored several articles which were published by many aviation magazines for decades. He wrote and published numerous books in the areas of military and civil aviation. Paul's eighteen volumes of the Historical Aviation Albums were purchased by aviation enthusiasts from virtually every continent in the world.

Paul Matt's contributions toward the recording of aviation history will be long remembered and long lived!

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