

MODEL AIRPLANE NEWS

presents

PRICE
\$2.00

the BEST of

W W Y L A M

WORLD WAR 1
ENGINES
BEECH FAMILY
OLD FAVORITES
GUNS

BOOK 1



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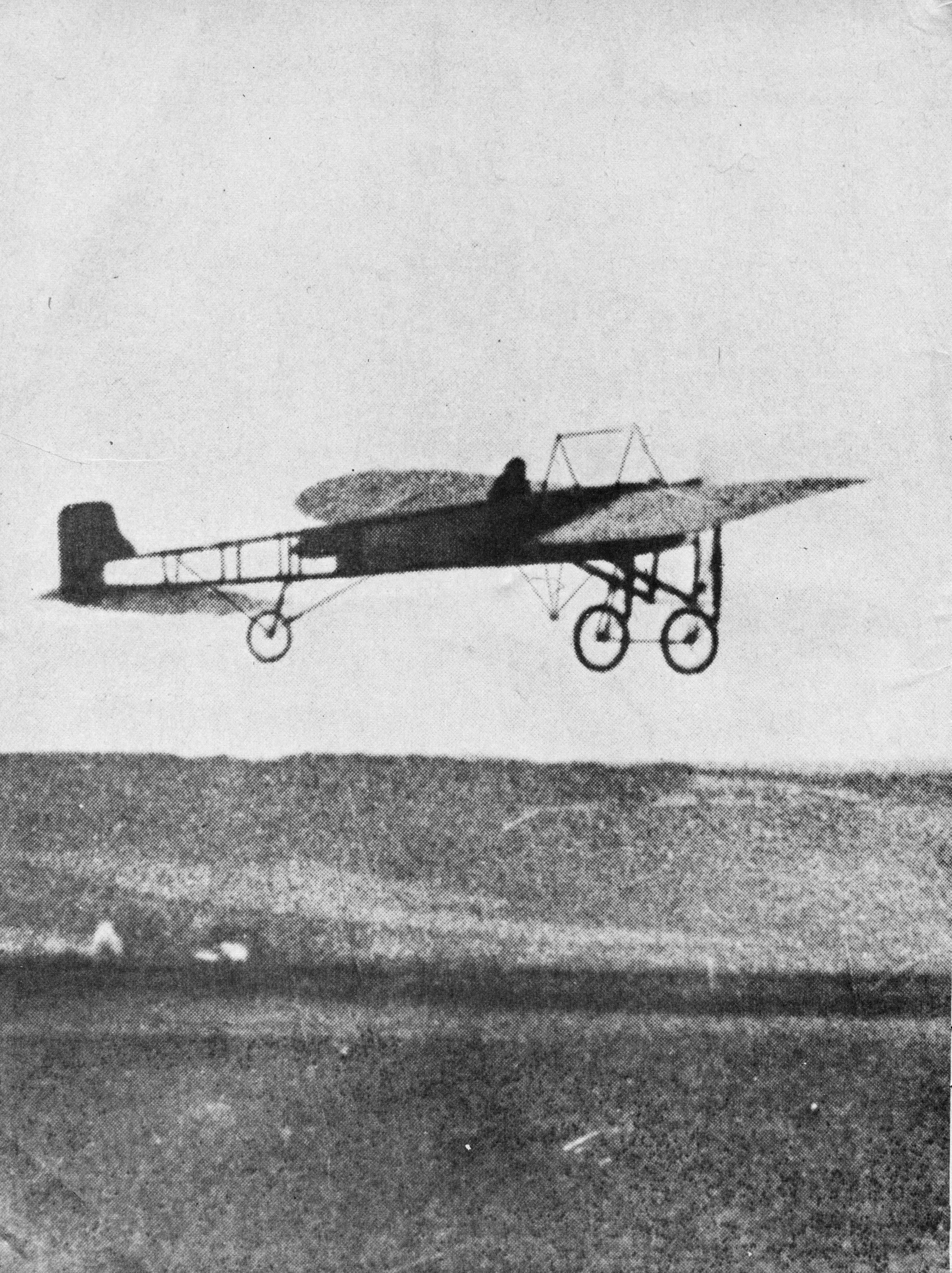
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CREDITS

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FOREWORD

What can one possibly say about the Wylam drawings—or their creator—that does them justice? It was in the mid-thirties that Bill Wylam inauspiciously launched in *Model Airplane News* what was to become a unique 30-year (so far) author-magazine relationship which by far outdates perhaps all aeronautical series-published material. In fact, his work pre-dates most aviation magazines! Other people have prepared excellent scale drawings, but for sustained quality, details and sheer numbers, the aptly named Master-plans are in a class by themselves. Considering the many hundreds—individual plates run into four figures—of subjects, Wylam's work, covering well over a quarter century of research and drawing, runs into many years of time. And over the full range of this entire output, probably only his first subject—an air-cooled-engined Polish fighter, we believe done at what must have been a tender age—might be termed crude by Wylam's quickly established and assiduously maintained standards. In this fantastic output, a nitpicking critic might find a very occasional mathematical (not drafting) error in an accumulation of many measurements, but this is mentioned, and should be mentioned, only to reassure ourselves that the man is human. As the exception proves the rule, so does such a hard-to-find instance verify the awe-inspiring values of what is a comprehensive history of the airplane, "written" with a drawing pen.

No book can be called "the Wylam book." It can be called a Wylam book. Many books such as this would be required to present the complete Wylam—and a volume that could be accurately designated "the complete Wylam" would be a treasure we probably never will find. In compiling a Wylam

book, therefore, one is faced with a monumental selection problem. Wylam's SE-5's—if you include the sheets on markings—would permit only four such-sized subjects (not sections!) in a book of this size, hardly typical of Wylam's far-ranging coverage. The tour de force that is his Stinson family, would fill more than half a book.

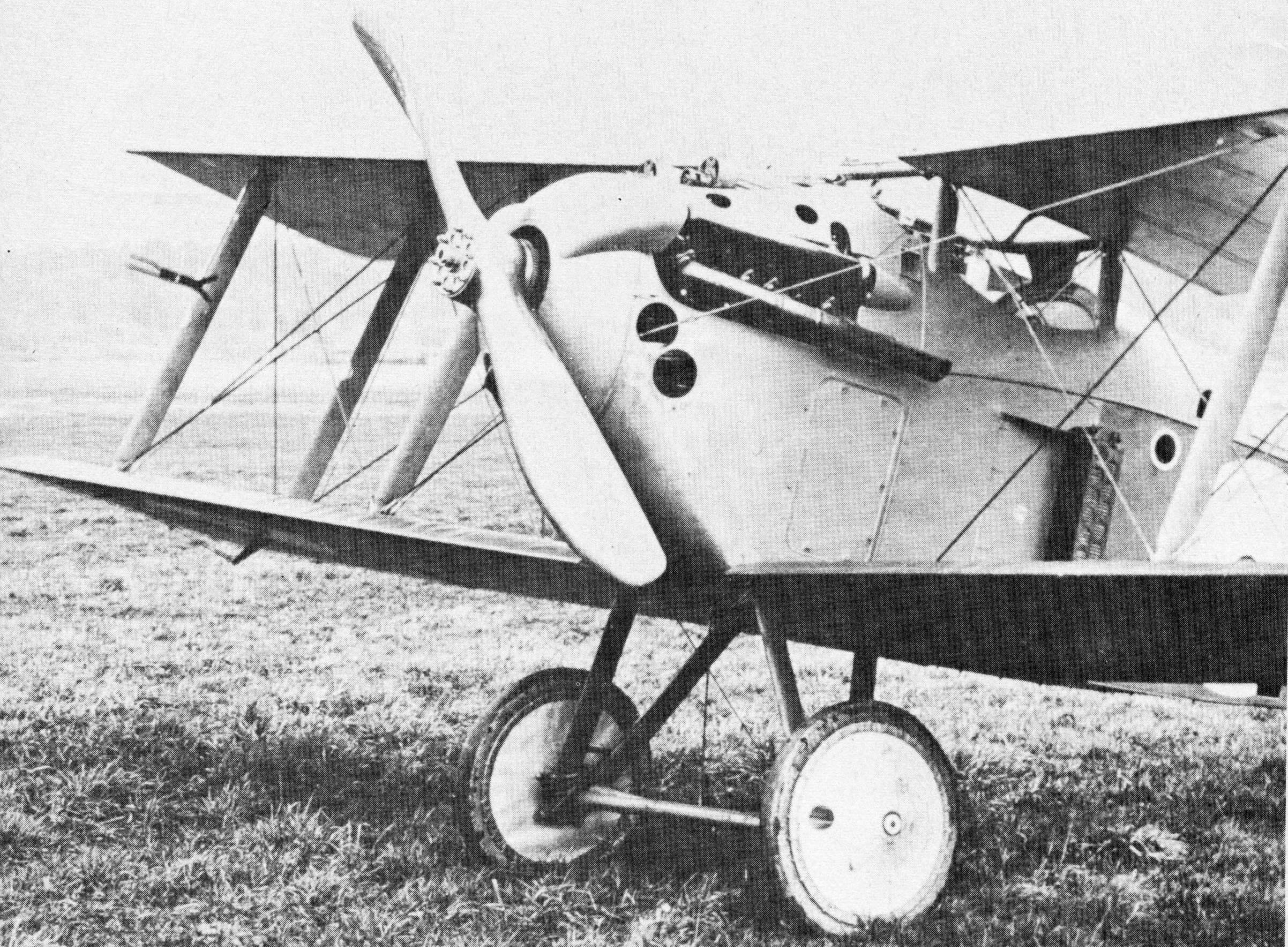
So what we have done is to pick out some of "the best of Wylam." That word "some" means only representative. You will find convenient sections, each section, again, including only some of the numerous, typical subjects in the few categories compacted between these covers. Covering the sweep of aircraft types and vintages, you will find a rewarding collection of World War I types, of World War II, and interesting types from between the wars. Hardly anyone realizes, we suppose, that Wylam turned out many valuable drawings of aeronautical history's famous engines—their being collected here no doubt will delight the collector and the historian, as well as any modeler who takes seriously his scale jobs. And there are other surprises!

Wylam Number 1—for we hope that a Number 2, and a Number 3, and . . . will be demanded—is, even only hot off the press, a rare volume in that there is nothing quite like it in the world. It is with a sense of humility that we presume to collect this small bit of Wylam and to call it "The Best of Wylam."

In reality, there is no best of Wylam. The priceless file of Wylam originals is proof that, what we could not include in this volume, is every bit as good as the fine items we did select. We take comfort from the fact, however, that there is nothing better than the collection of plates in this book, by Wylam—or anyone else!

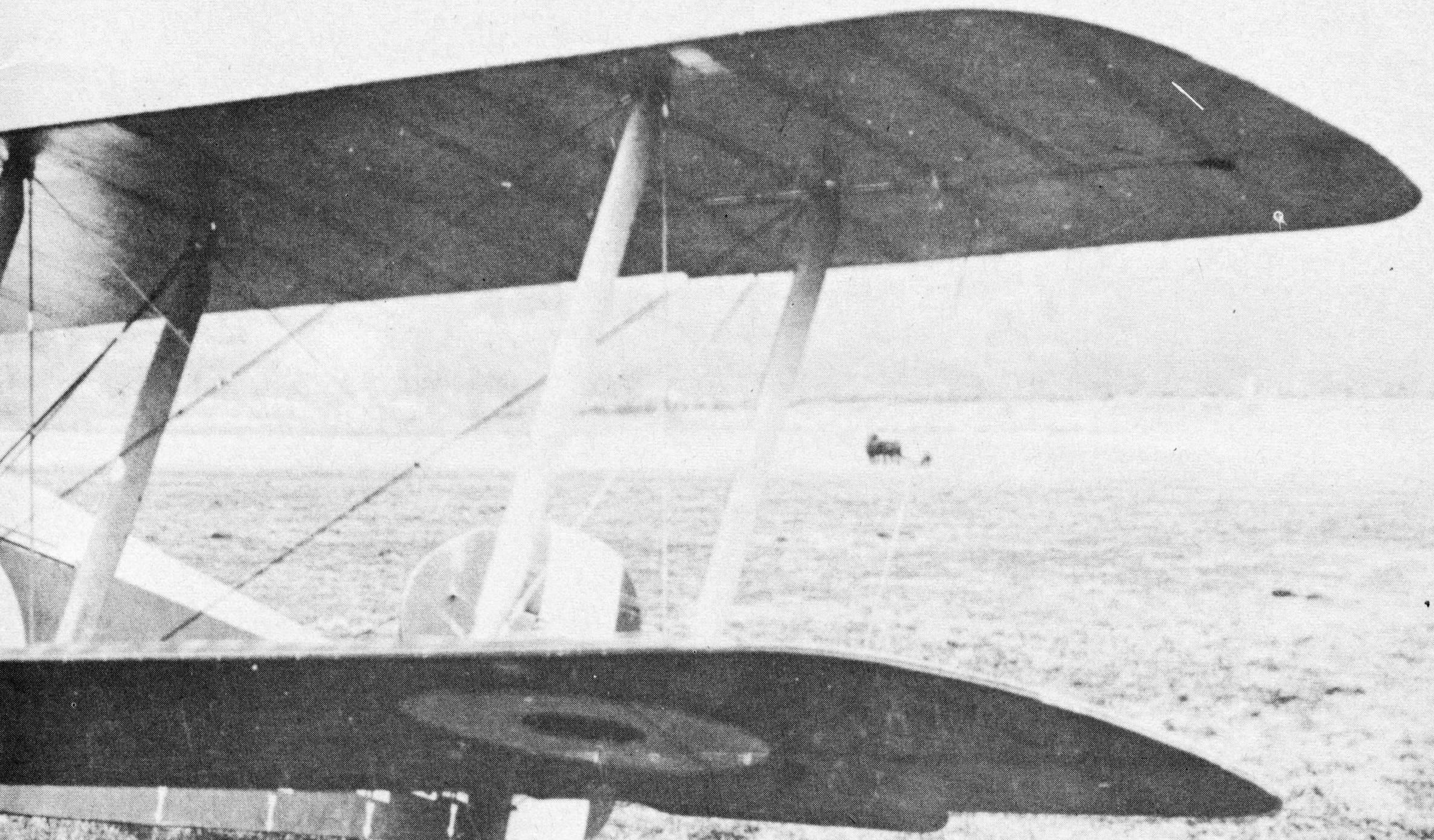
—BILL WINTER

The Bristol Fighter **WORLD**

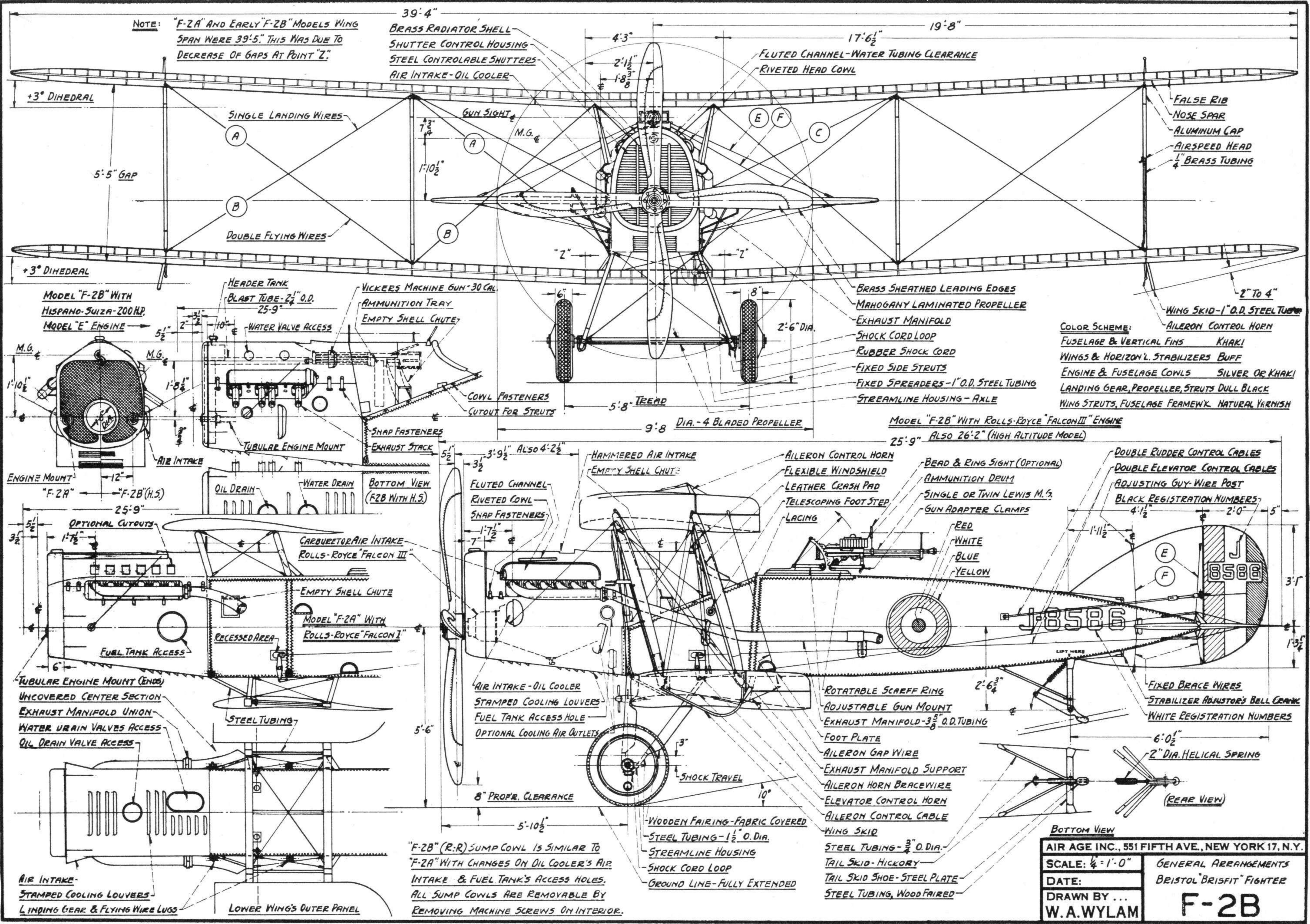


DOLPHIN — 200 H.P. HISPAN

WAR I The Sopwith Dolphin



SUZAL



BOTTOM VIEW

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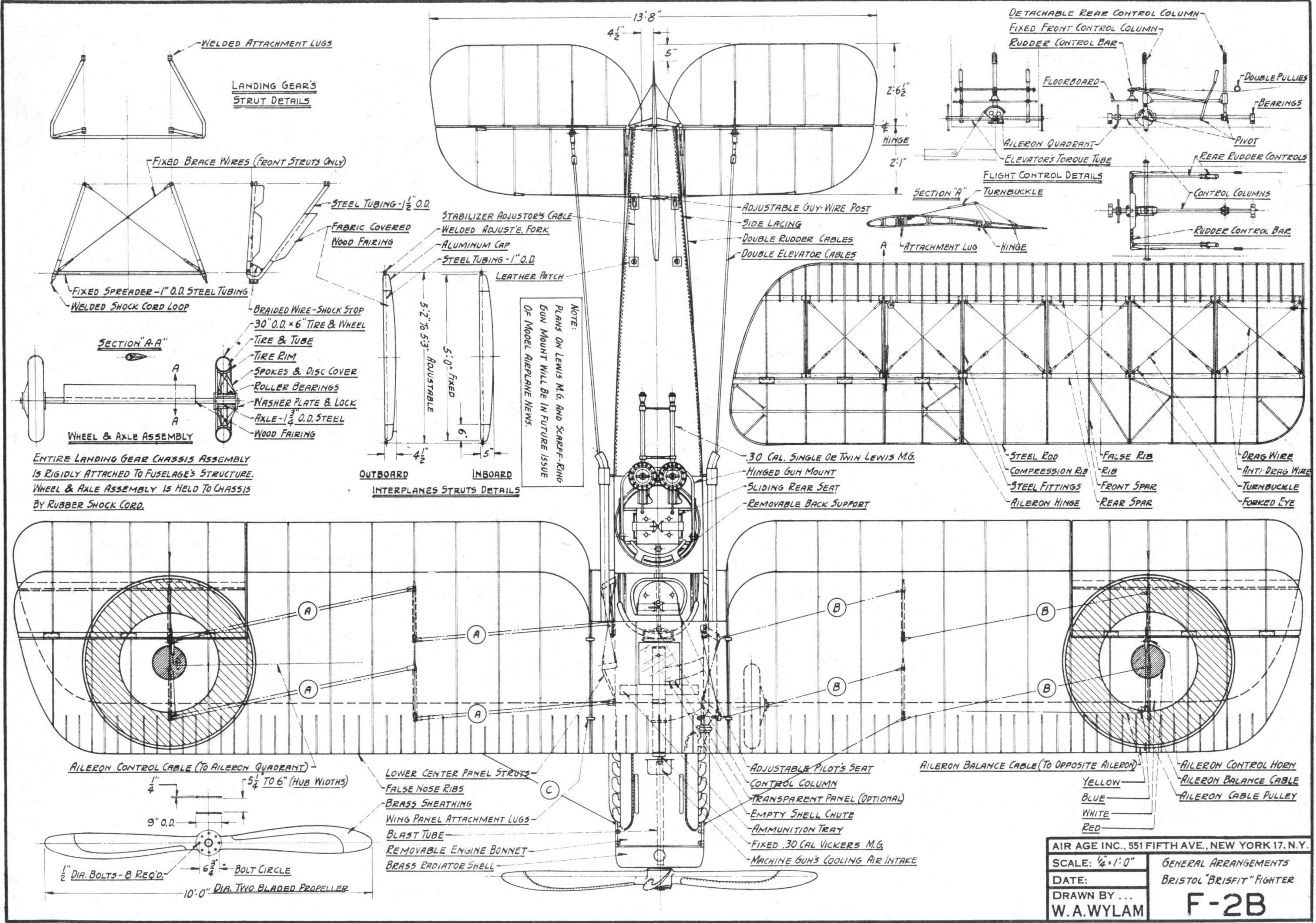
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GENERAL ARRANGEMENTS

BRISTOL "BRISFIT" FIGHTER

F-2B



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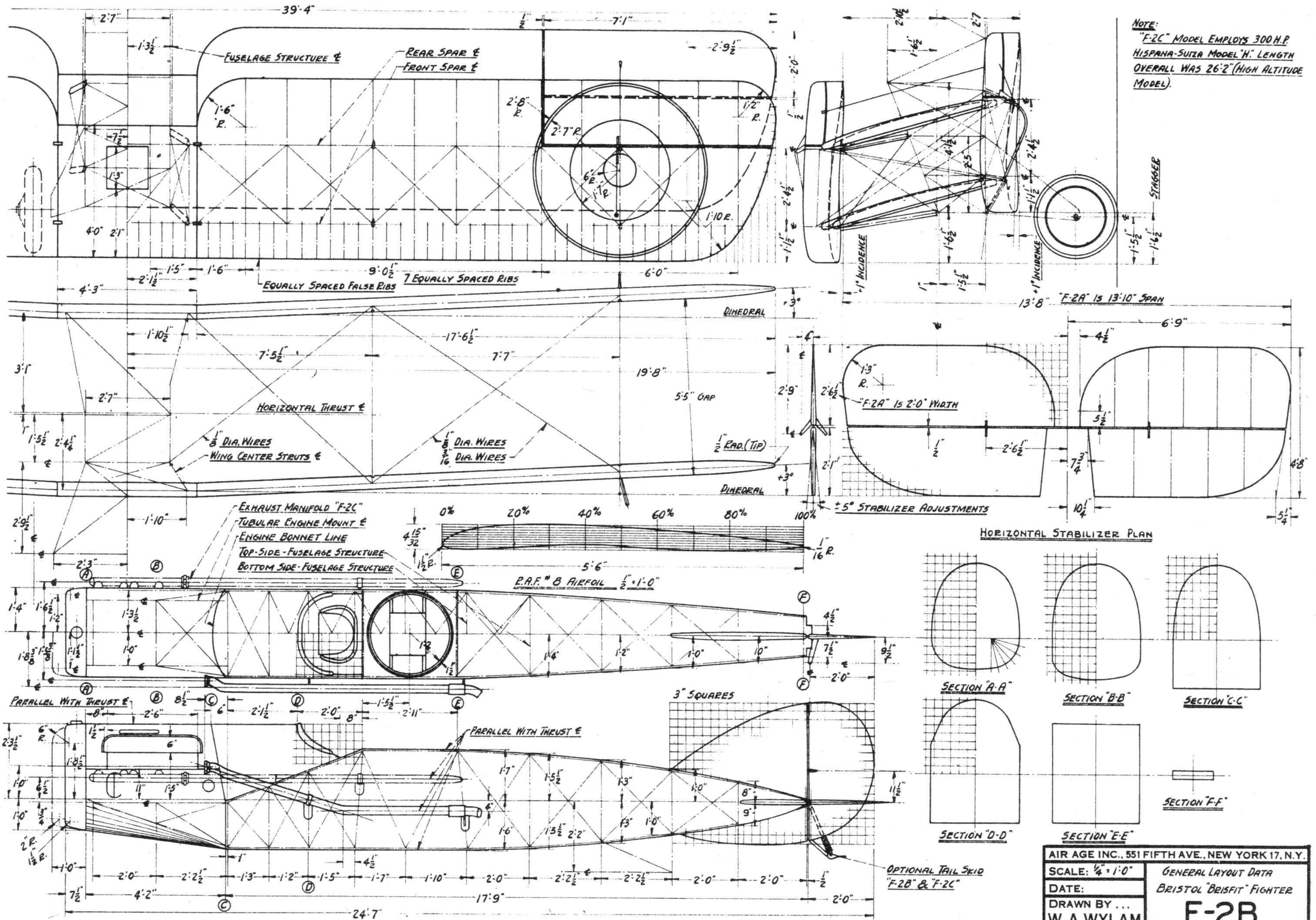
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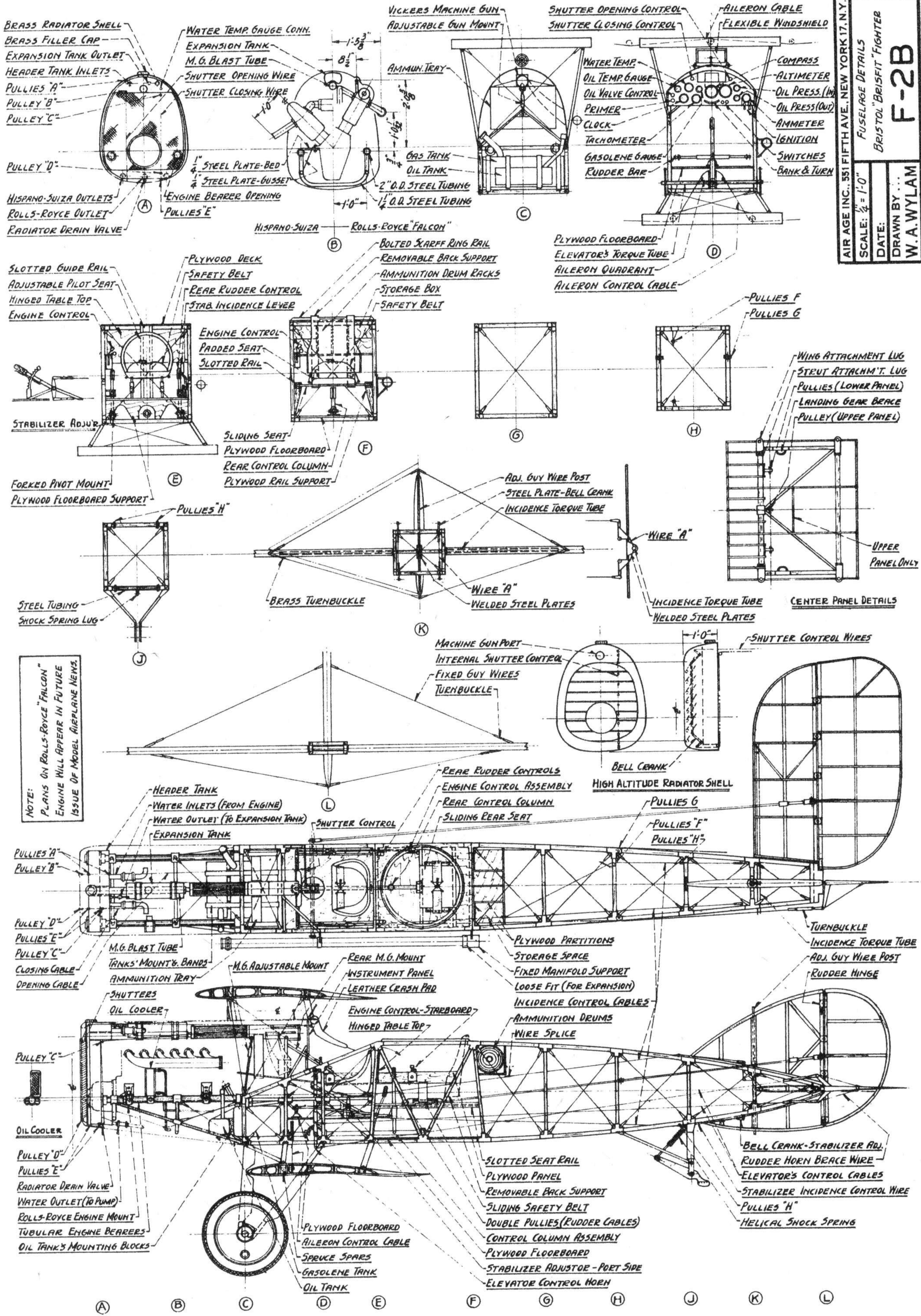
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BRISTOL "BRISFIT" FIGHTER

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 FUSELAGE DETAILS
 BRISTOL "BRISFIT" FIGHTER
 F-2B

NOTE:
 PLANS ON ROLLS-ROYCE "FALCON"
 ENGINE WILL APPEAR IN FUTURE
 ISSUE OF MODEL AIRPLANE NEWS.

- BRASS RADIATOR SHELL
- BRASS FILLER CAP
- EXPANSION TANK OUTLET
- HEADER TANK INLETS
- PULLIES "A"
- PULLEY "B"
- PULLEY "C"
- PULLEY "D"
- HISPANO-SUIZA OUTLETS
- ROLLS-ROYCE OUTLET
- RADIATOR DRAIN VALVE

- WATER TEMP. GAUGE CONN.
- EXPANSION TANK
- M.G. BLAST TUBE
- SHUTTER OPENING WIRE
- SHUTTER CLOSING WIRE
- 1" STEEL PLATE-BED
- 1" STEEL PLATE-GUSSET
- ENGINE BEARER OPENING
- PULLIES "E"
- HISPANO-SUIZA
- ROLLS-ROYCE "FALCON"

- VICKERS MACHINE GUN
- ADJUSTABLE GUN MOUNT
- SHUTTER OPENING CONTROL
- SHUTTER CLOSING CONTROL
- AILERON CABLE
- FLEXIBLE WINDSHIELD
- WATER TEMP.
- OIL TEMP. GAUGE
- OIL VALVE CONTROL
- PRIMER
- CLOCK
- TACHOMETER
- GASOLINE GAUGE
- RUDER BAR
- COMPASS
- ALTIMETER
- OIL PRESS. (IN)
- OIL PRESS. (OUT)
- AMMETER
- IGNITION
- SWITCHES
- BANK & TURN

- SLOTTED GUIDE RAIL
- ADJUSTABLE PILOT SEAT
- HINGED TABLE TOP
- ENGINE CONTROL
- STABILIZER ADJUR.
- PLYWOOD DECK
- SAFETY BELT
- REAR RUDER CONTROL
- STAB. INCIDENCE LEVER
- ENGINE CONTROL
- PADDED SEAT
- SLOTTED RAIL

- BOLTED SCARFF RING RAIL
- REMOVABLE BACK SUPPORT
- AMMUNITION DRUM RACKS
- STORAGE BOX
- SAFETY BELT
- SLIDING SEAT
- PLYWOOD FLOORBOARD
- REAR CONTROL COLUMN
- PLYWOOD RAIL SUPPORT

- PLYWOOD FLOORBOARD
- ELEVATOR'S TORQUE TUBE
- AILERON QUADRANT
- AILERON CONTROL CABLE
- PULLIES "F"
- PULLIES "G"
- WING ATTACHMENT LUG
- STRUT ATTACHM'T. LUG
- PULLIES (LOWER PANEL)
- LANDING GEAR BRACE
- PULLEY (UPPER PANEL)

- FORKED PIVOT MOUNT
- PLYWOOD FLOORBOARD SUPPORT
- PULLIES "H"
- STEEL TUBING
- SHOCK SPRING LUG

- BRASS TURNBUCKLE
- WIRE "A"
- WELDED STEEL PLATES

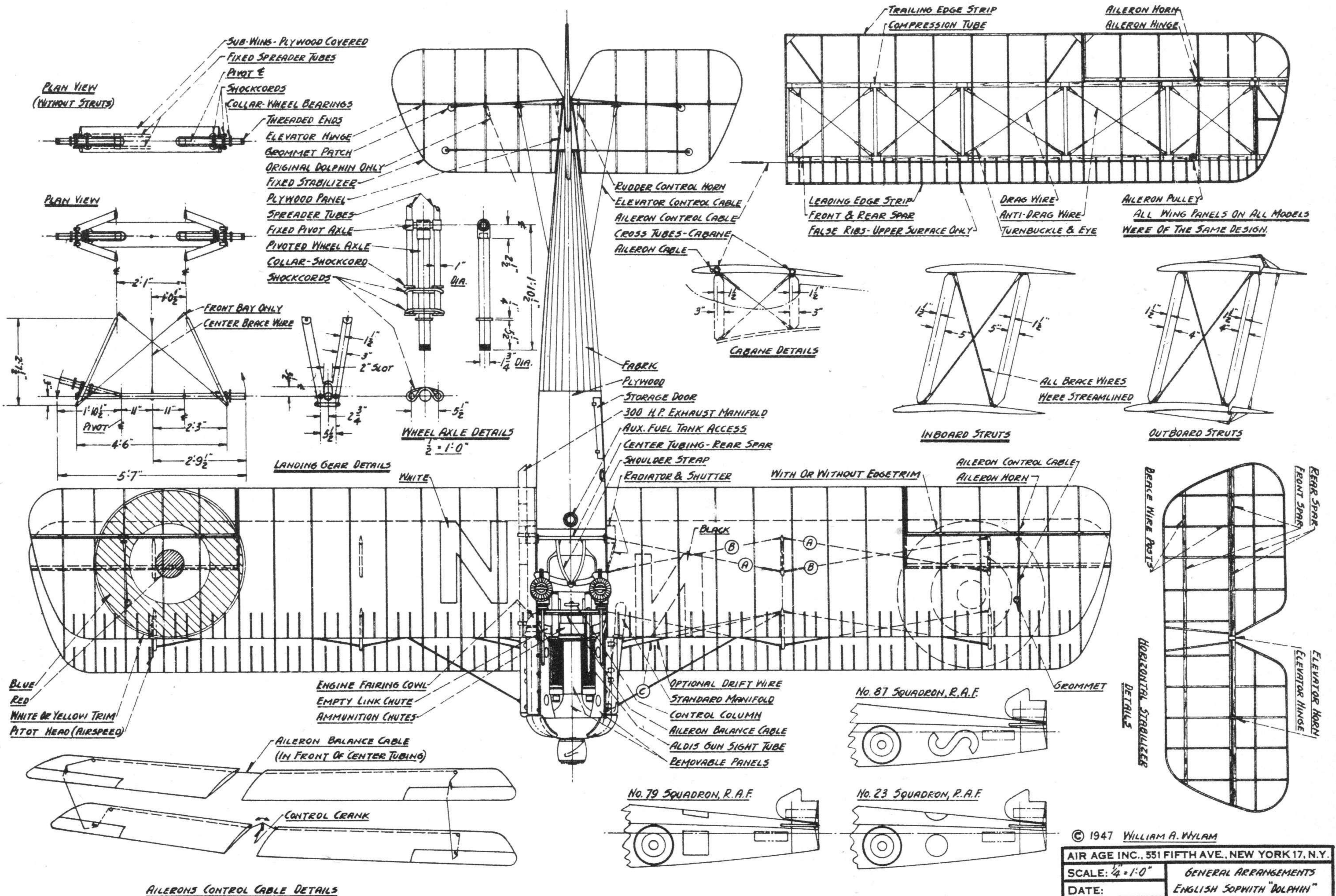
- ADJ. GUY WIRE POST
- STEEL PLATE-BELL CRANK
- INCIDENCE TORQUE TUBE
- WIRE "A"
- WELDED STEEL PLATES
- INCIDENCE TORQUE TUBE
- WELDED STEEL PLATES

- PULLIES "A"
- PULLEY "B"
- PULLEY "D"
- PULLIES "E"
- PULLEY "C"
- CLOSING CABLE
- OPENING CABLE
- PULLEY "C"
- OIL COOLER
- PULLEY "D"
- PULLIES "E"
- RADIATOR DRAIN VALVE
- WATER OUTLET (TO PUMP)
- ROLLS-ROYCE ENGINE MOUNT
- TUBULAR ENGINE BEARERS
- OIL TANK'S MOUNTING BLOCKS

- HEADER TANK
- WATER INLETS (FROM ENGINE)
- WATER OUTLET (TO EXPANSION TANK)
- EXPANSION TANK
- M.G. BLAST TUBE
- TANKS' MOUNT & BANDS
- AMMUNITION TRAY
- SHUTTERS
- OIL COOLER
- REAR M.G. MOUNT
- INSTRUMENT PANEL
- LEATHER CRASH PAD
- ENGINE CONTROL-STARBOARD
- HINGED TABLE TOP
- PLYWOOD FLOORBOARD
- AILERON CONTROL CABLE
- SPRUCE SPARS
- GASOLINE TANK
- OIL TANK

- MACHINE GUN PORT
- INTERNAL SHUTTER CONTROL
- FIXED GUY WIRES
- TURNBUCKLE
- BELL CRANK
- HIGH ALTITUDE RADIATOR SHELL
- PULLIES "G"
- PULLIES "F"
- PULLIES "H"
- REAR RUDER CONTROLS
- ENGINE CONTROL ASSEMBLY
- REAR CONTROL COLUMN
- SLIDING REAR SEAT
- SHUTTER CONTROL
- PLYWOOD PARTITIONS
- STORAGE SPACE
- FIXED MANIFOLD SUPPORT
- LOOSE FIT (FOR EXPANSION)
- INCIDENCE CONTROL CABLES
- AMMUNITION DRUMS
- WIRE SPLICE
- SLOTTED SEAT RAIL
- PLYWOOD PANEL
- REMOVABLE BACK SUPPORT
- SLIDING SAFETY BELT
- DOUBLE PULLIES (RUDER CABLES)
- CONTROL COLUMN ASSEMBLY
- PLYWOOD FLOORBOARD
- STABILIZER ADJUSTOR - PORT SIDE
- ELEVATOR CONTROL HOEN

- TURNBUCKLE
- INCIDENCE TORQUE TUBE
- ADJ. GUY WIRE POST
- RUDER HINGE
- BELL CRANK-STABILIZER ADJ.
- RUDER HORN BRACE WIRE
- ELEVATOR'S CONTROL CABLES
- STABILIZER INCIDENCE CONTROL WIRE
- PULLIES "H"
- HELICAL SHOCK SPRING



SUB-WINGS - PLYWOOD COVERED
 FIXED SPREADER TUBES
 PIVOT &
 SHOCKCORDS
 COLLAR - WHEEL BEARINGS
 THREADED ENDS
 ELEVATOR HINGE
 GROMMET PATCH
 ORIGINAL DOLPHIN ONLY
 FIXED STABILIZER
 PLYWOOD PANEL
 SPREADER TUBES
 FIXED PIVOT AXLE
 PIVOTED WHEEL AXLE
 COLLAR - SHOCKCORD
 SHOCKCORDS

FRONT BAY ONLY
 CENTER BRACE WIRE
 2" SLOT
 1" DIA.
 3/2"
 20:1
 1 1/4" DIA.
 5 1/2"
 2 3/4"
 1 1/2"
 3"
 2 3/4"
 5 1/2"
 2 1"
 10 1/2"
 1 1/2"
 4"
 11"
 2 3/4"
 4'6"
 2'9 1/2"
 5'7"
 WHEEL AXLE DETAILS
 2" = 1'0"

BLUE
 RED
 WHITE OR YELLOW TRIM
 PITOT HEAD (AIRSPEED)
 ENGINE FAIRING COWL
 EMPTY LINK CHUTE
 AMMUNITION CHUTES
 AILERON BALANCE CABLE
 (IN FRONT OF CENTER TUBING)
 CONTROL CRANK

AILERONS CONTROL CABLE DETAILS

RUDDER CONTROL HORN
 ELEVATOR CONTROL CABLE
 AILERON CONTROL CABLE
 CROSS TUBES - CABANE
 AILERON CABLE

FARRK
 PLYWOOD
 STORAGE DOOR
 300 H.P. EXHAUST MANIFOLD
 AUX. FUEL TANK ACCESS
 CENTER TUBING - REAR SPAR
 SHOULDER STRAP
 RADIATOR & SHUTTER

WITH OR WITHOUT EDGE TRIM
 AILERON CONTROL CABLE
 AILERON HORN
 GROMMET
 OPTIONAL DRIFT WIRE
 STANDARD MANIFOLD
 CONTROL COLUMN
 AILERON BALANCE CABLE
 ALDIS GUN SIGHT TUBE
 REMOVABLE PANELS

No. 79 SQUADRON, R.A.F.
 No. 23 SQUADRON, R.A.F.

TRAILING EDGE STRIP
 COMPRESSION TUBE
 AILERON HORN
 AILERON HINGE
 LEADING EDGE STRIP
 FRONT & REAR SPAR
 FALSE RIBS - UPPER SURFACE ONLY
 DRAG WIRE
 ANTI-DRAG WIRE
 TURNBUCKLE & EYE
 AILERON PULLEY
 ALL WING PANELS ON ALL MODELS
 WERE OF THE SAME DESIGN.

CABANE DETAILS
 ALL BRACE WIRES
 WERE STREAMLINED
 INBOARD STRUTS
 OUTBOARD STRUTS

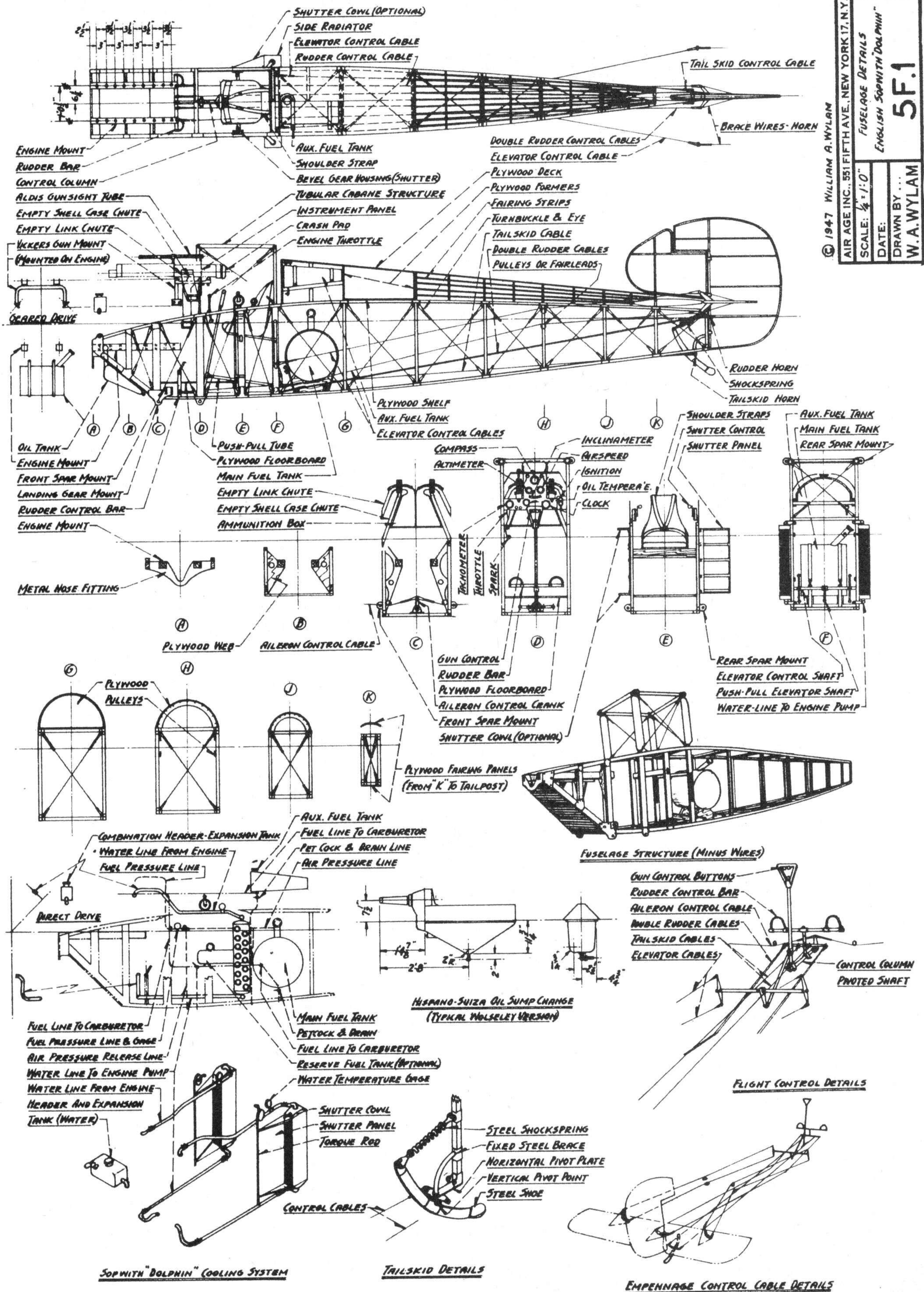
REAR SPAR
 FRONT SPAR
 BRACE WIRE POSTS
 HORIZONTAL STABILIZER
 ELEVATOR HORN
 ELEVATOR HINGE

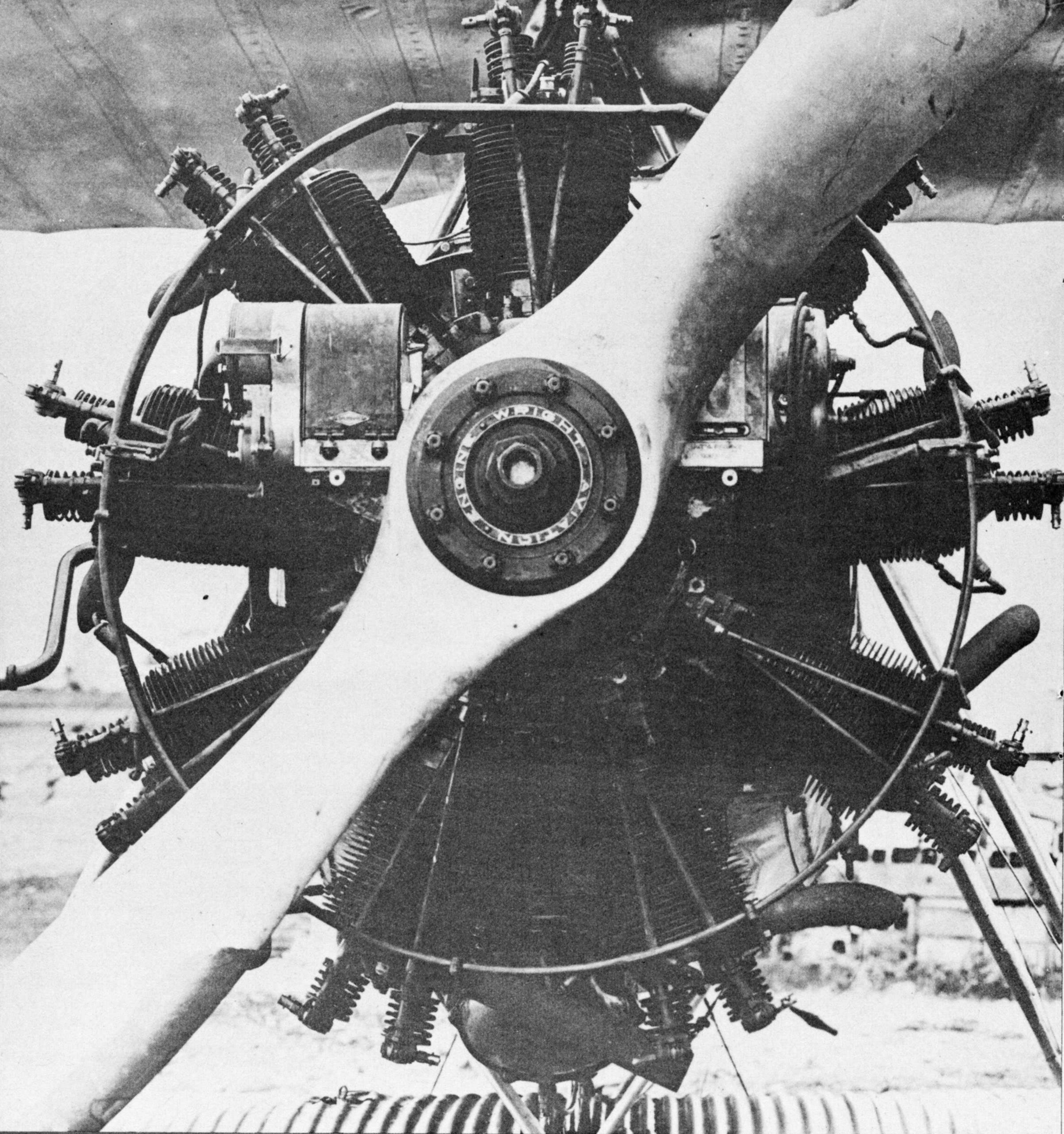
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 GENERAL ARRANGEMENTS
 ENGLISH SOPWITH "DOLPHIN"
 5F.1

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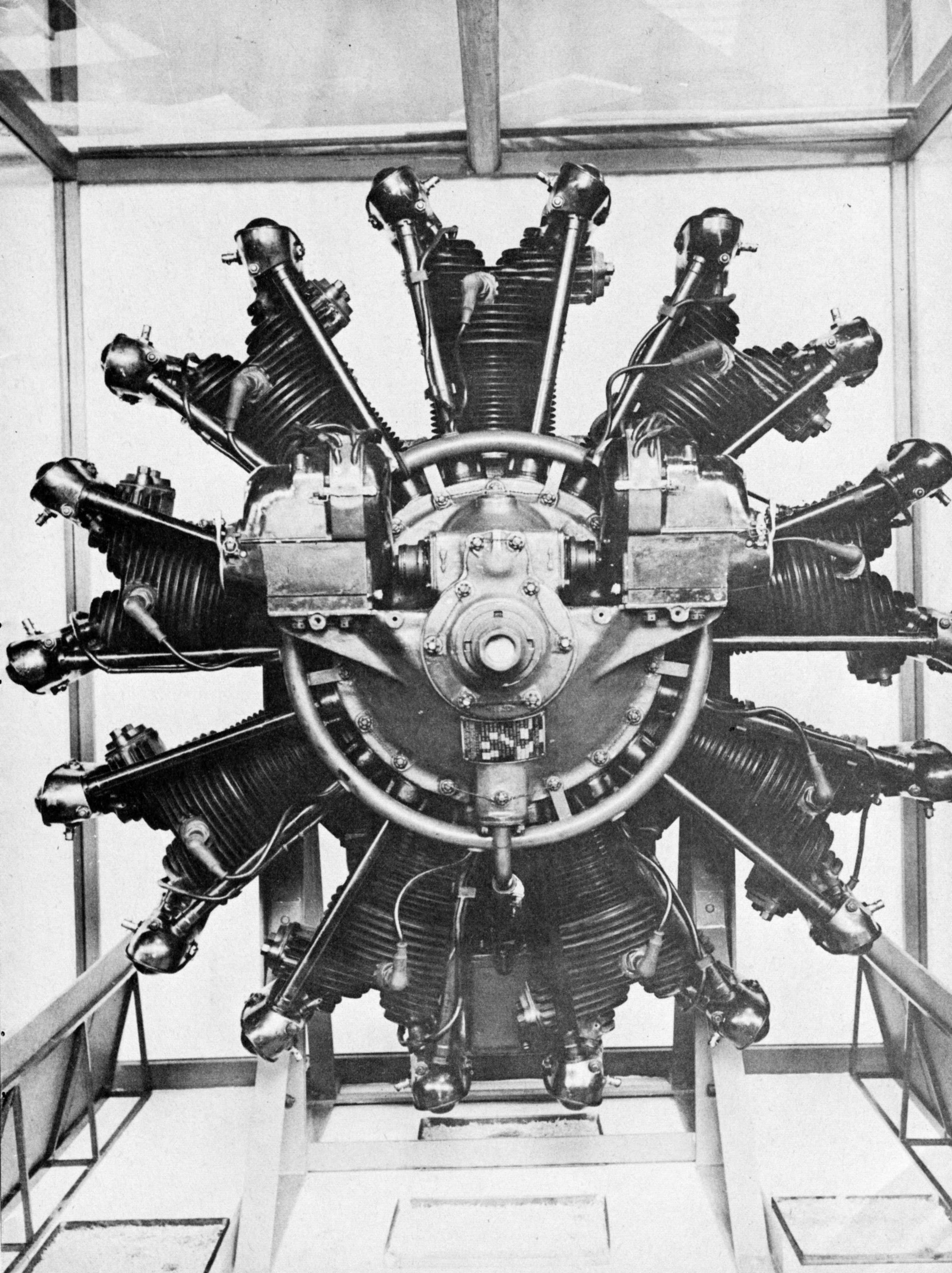
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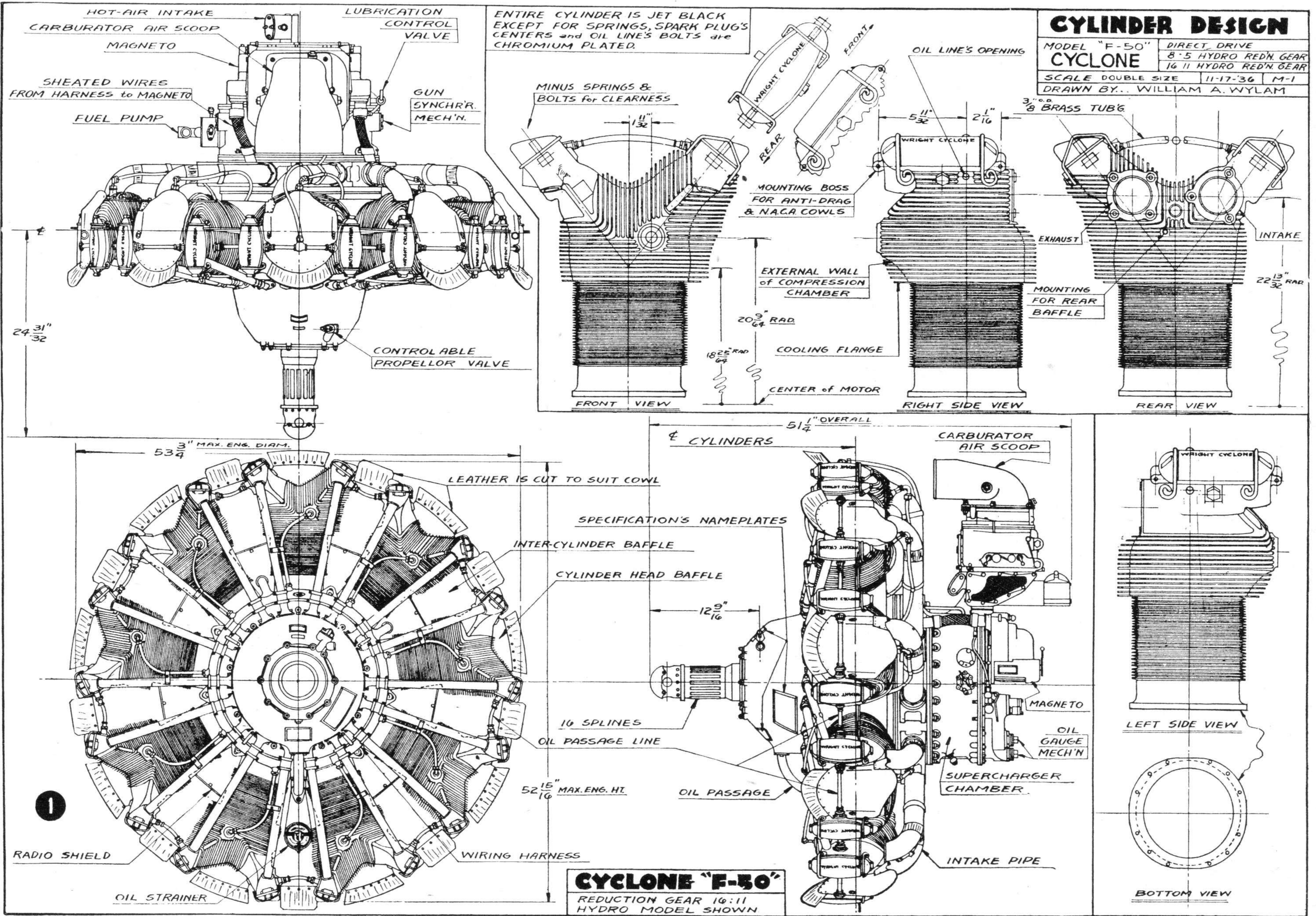


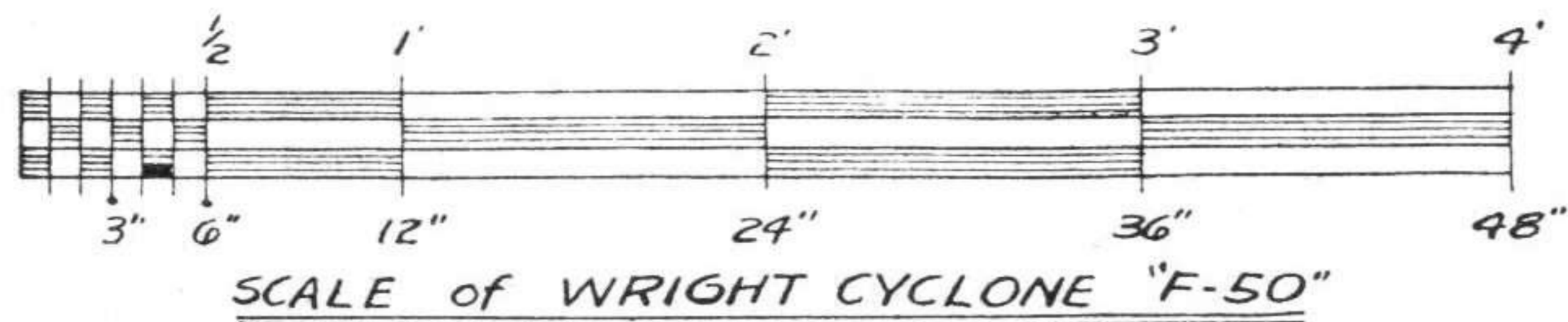


ENGINES THAT HAVE MADE HISTORY

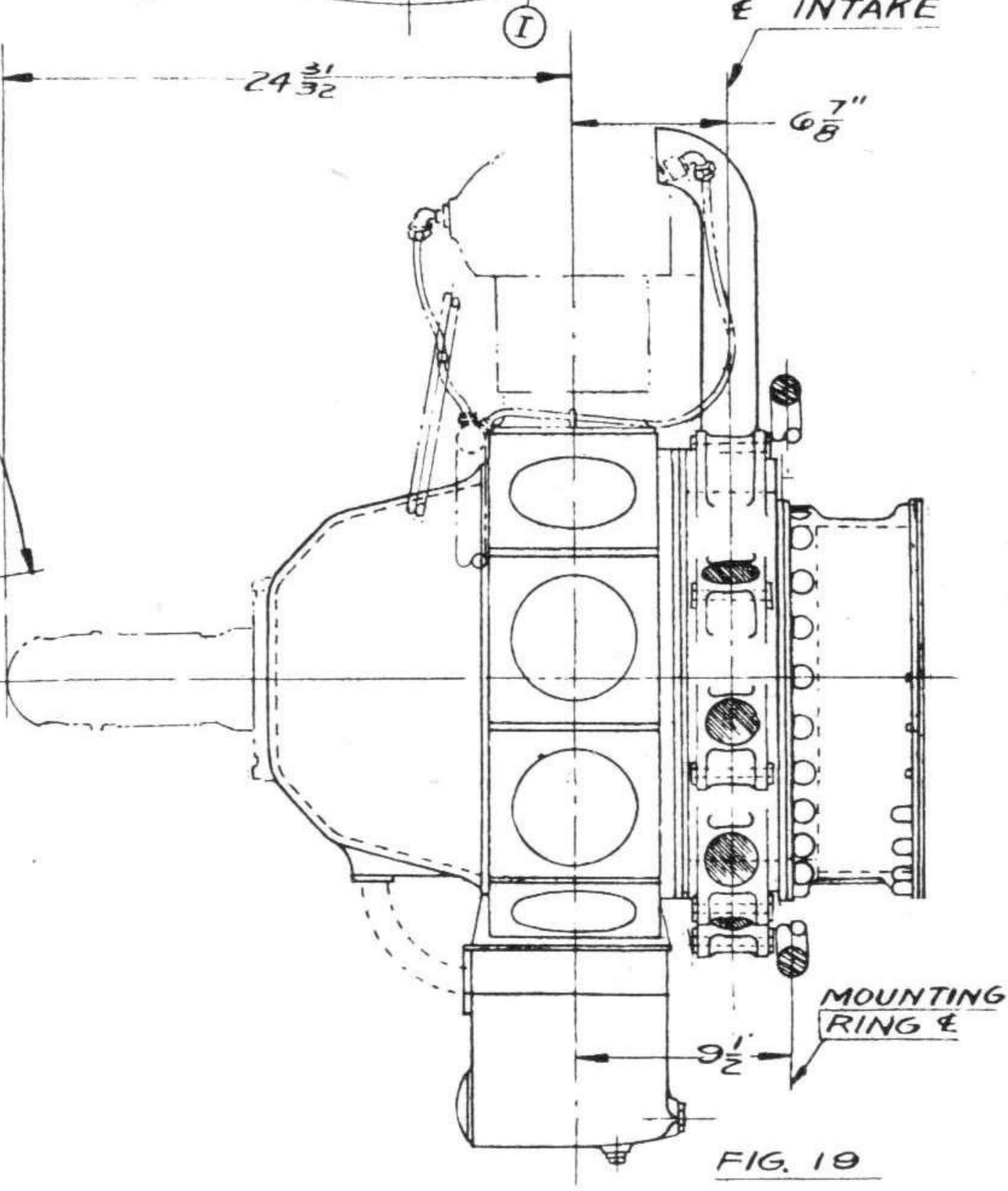
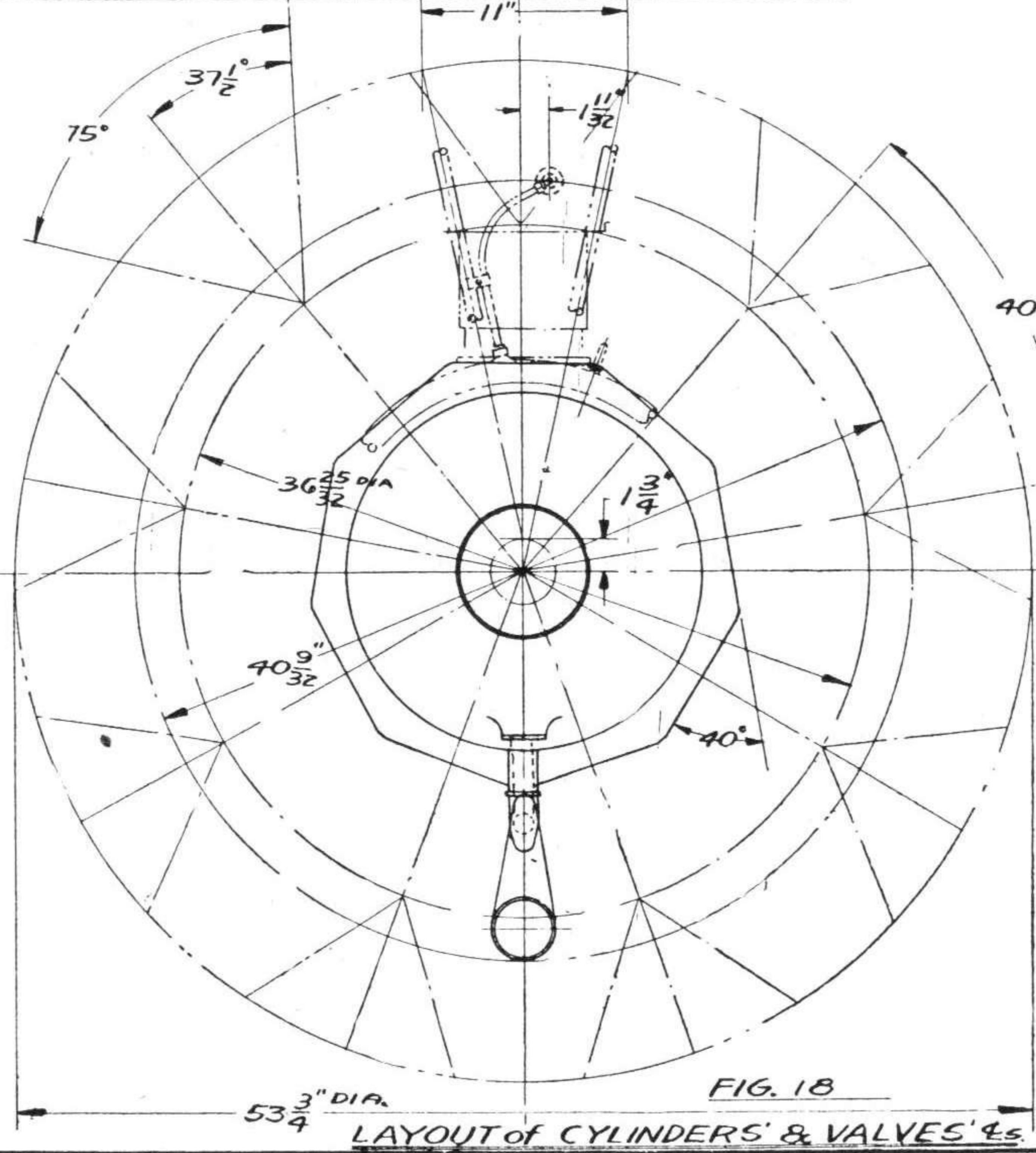
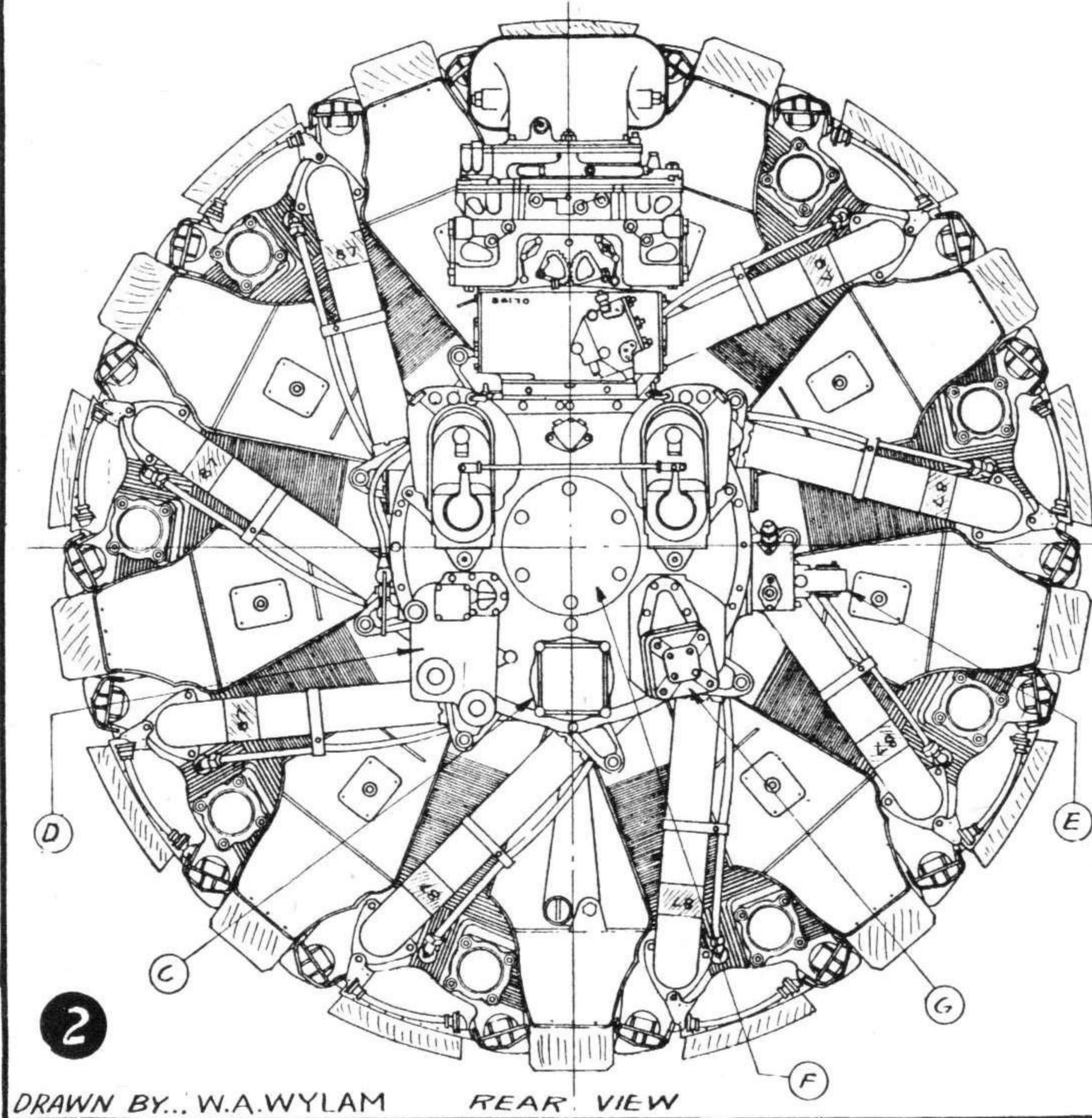
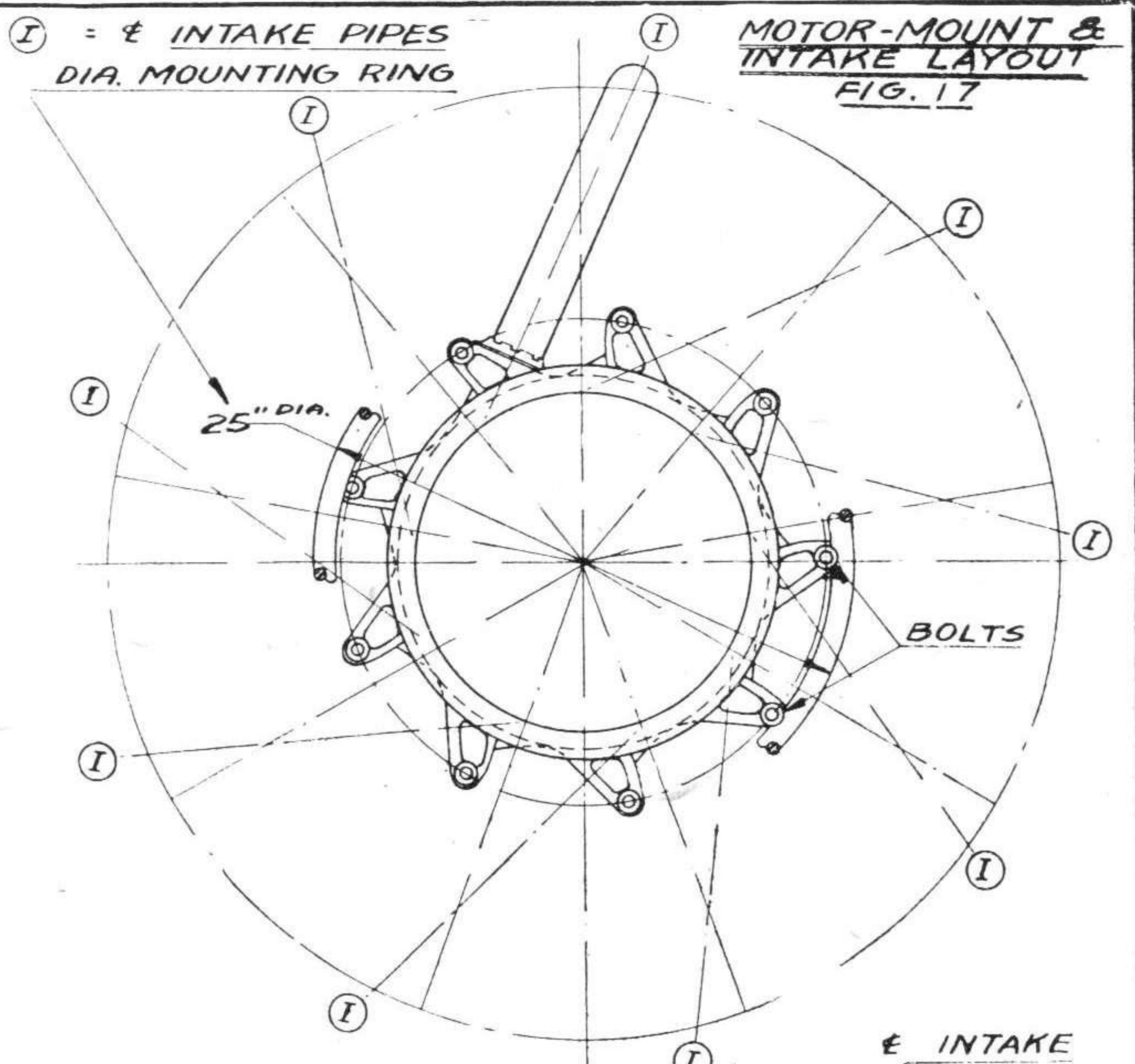
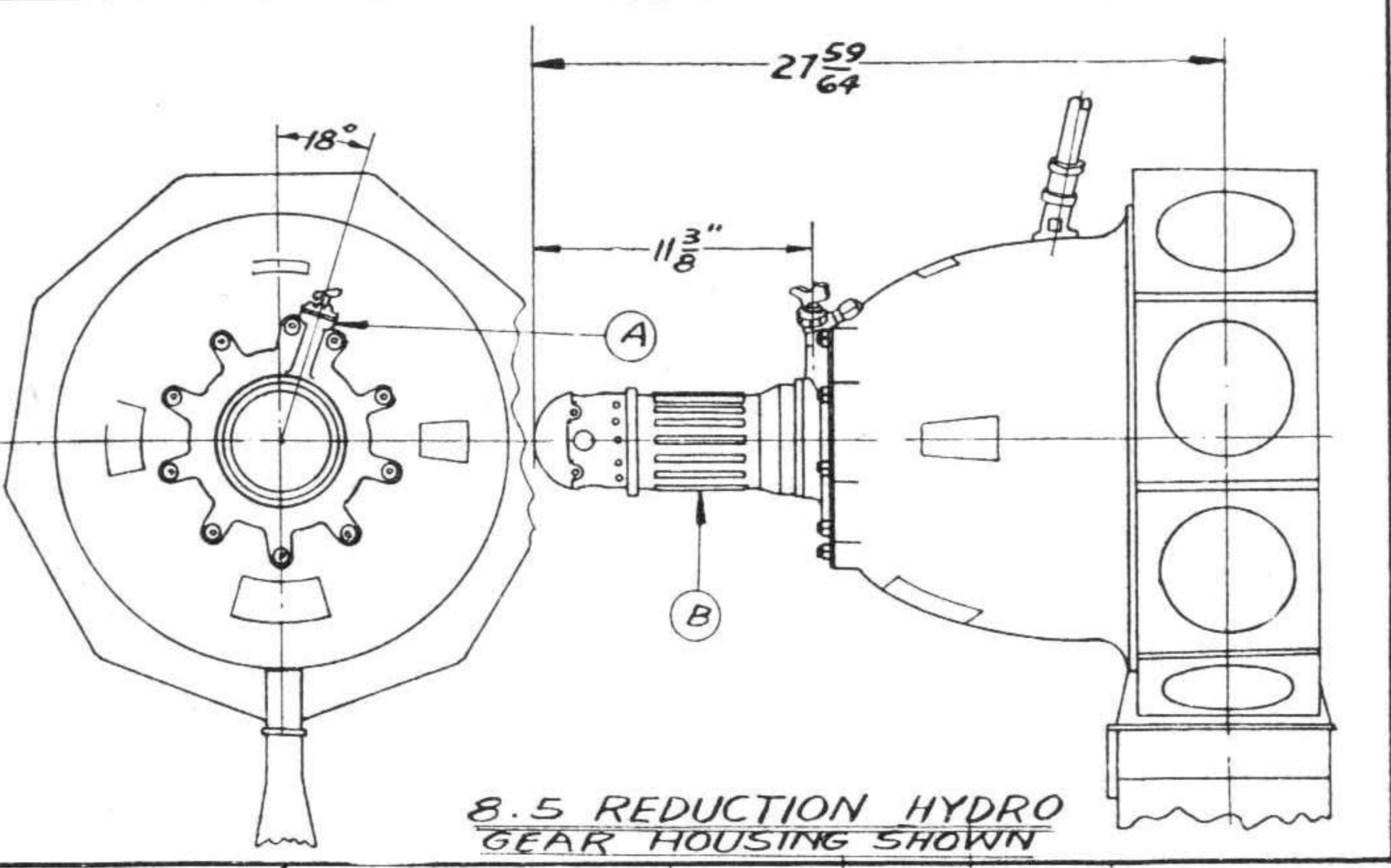
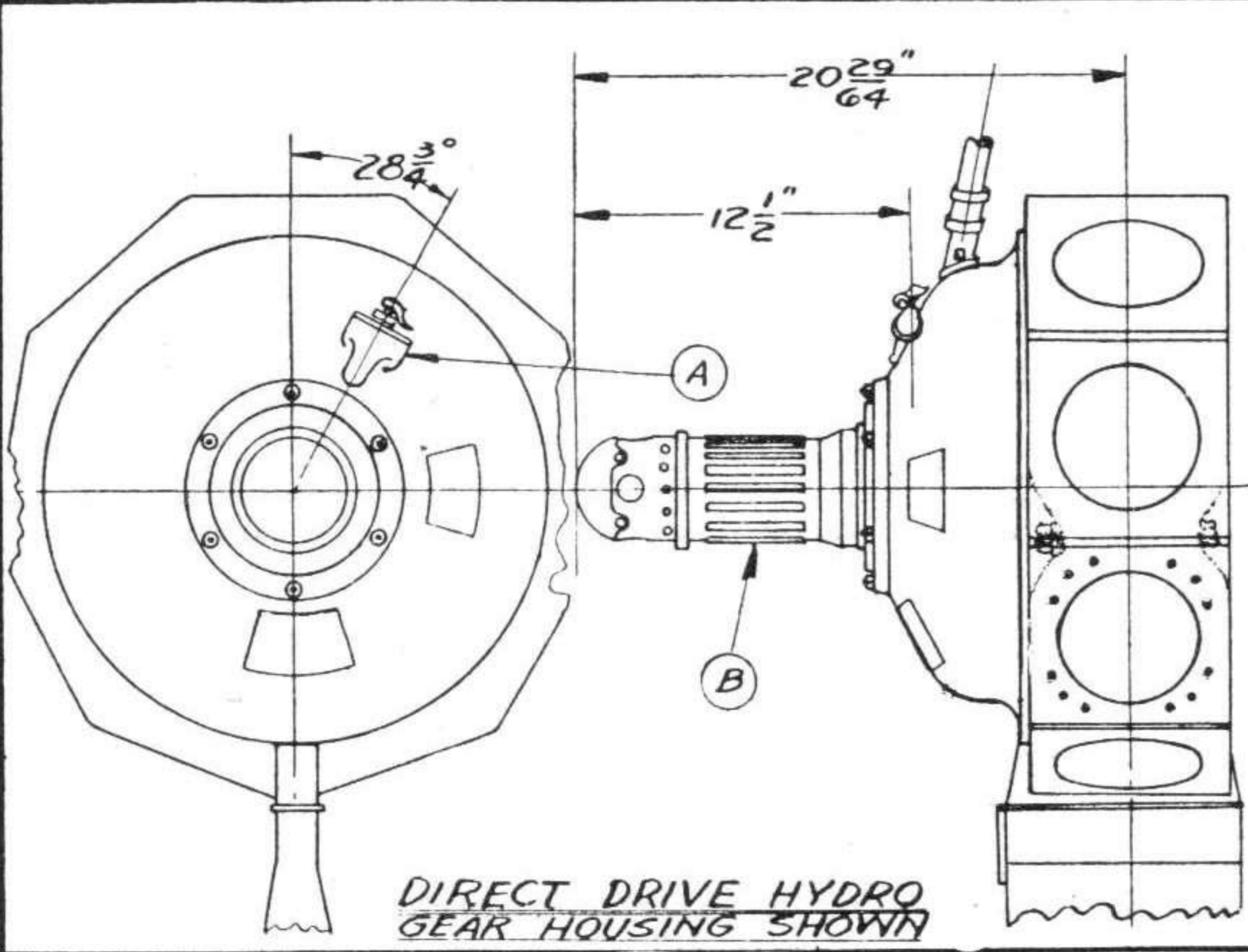
- Cyclone • Whirlwind • Twin Wasp
- Clerget • Mercedes • Hisso







A	CONTROLLABLE PROPELLOR VALVE
B	16 SPLINES
C	GENERATOR'S STATION
D	OIL GAUGE MECHANISM
E	FUEL PUMP
F	SPARE DRIVE SHAFT
G	VACUUM PUMP



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2

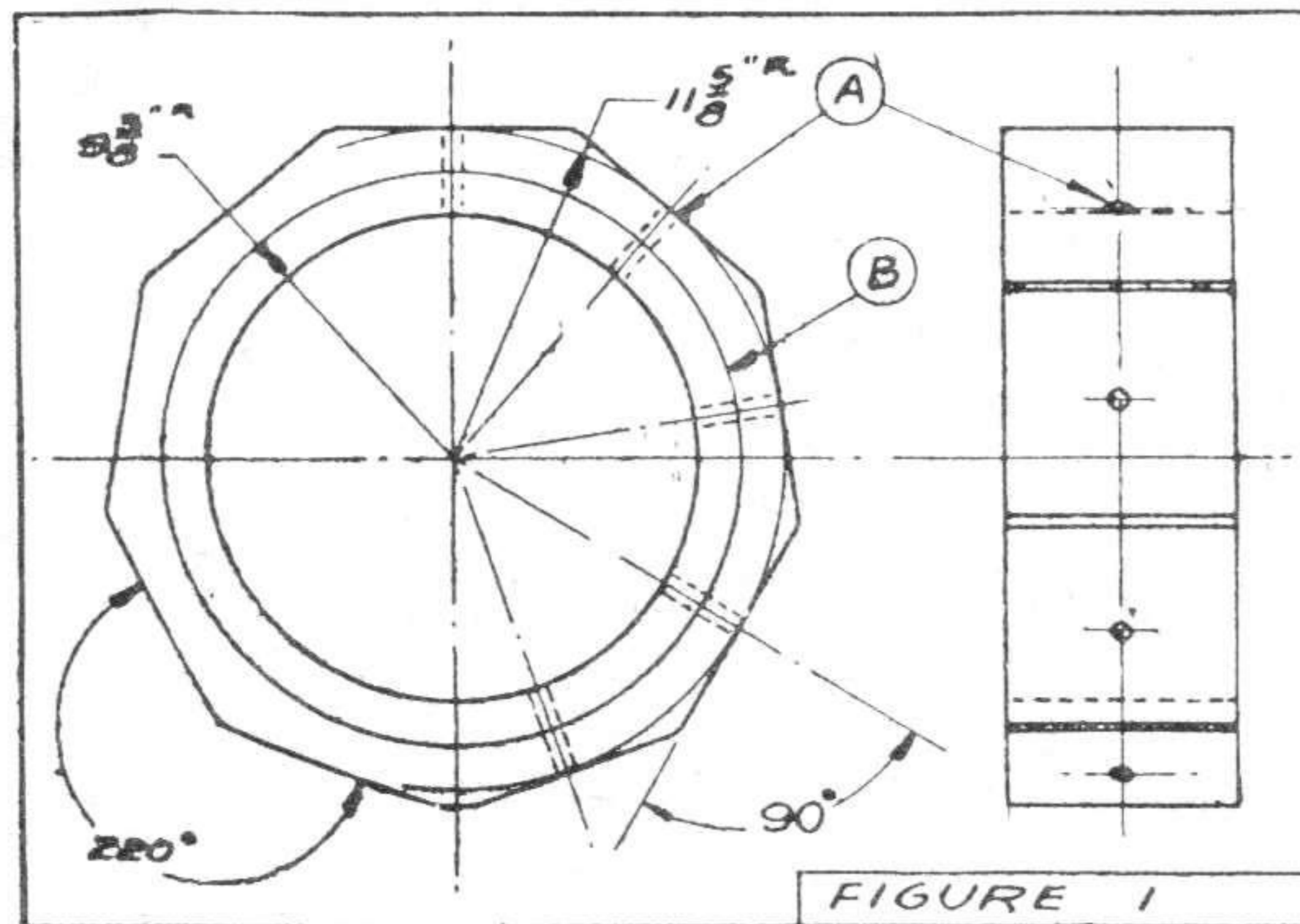


FIGURE 1

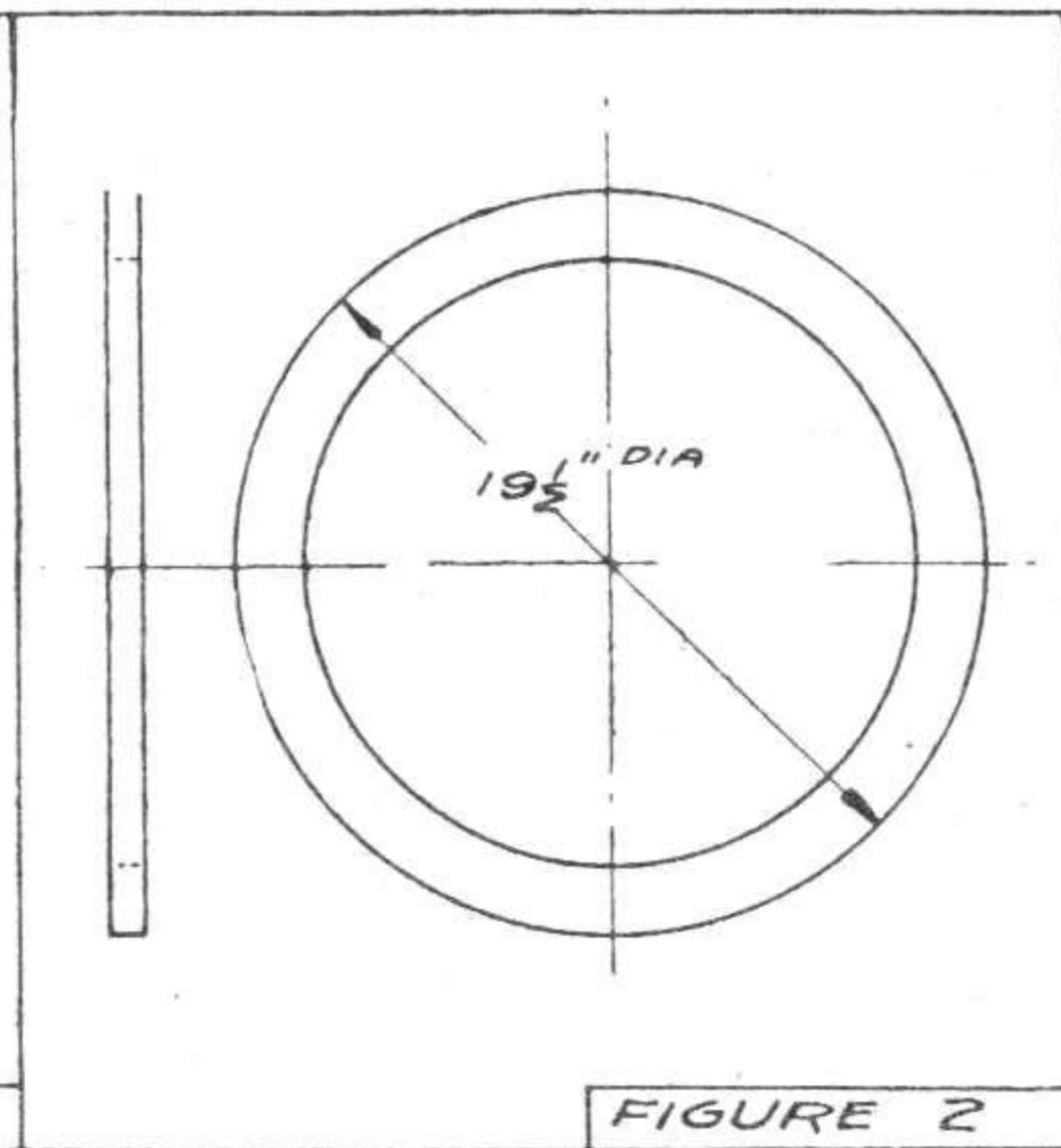


FIGURE 2

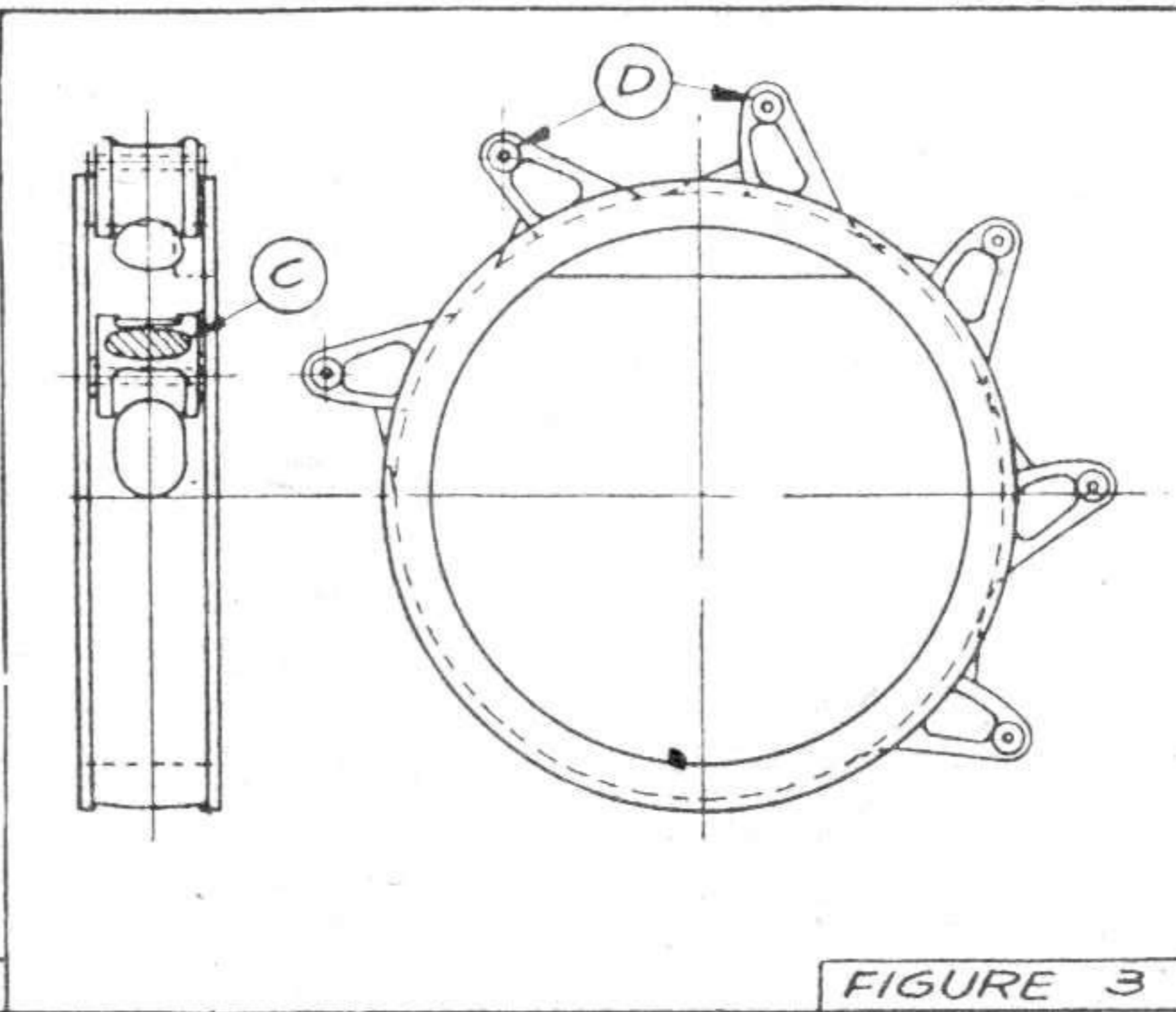


FIGURE 3

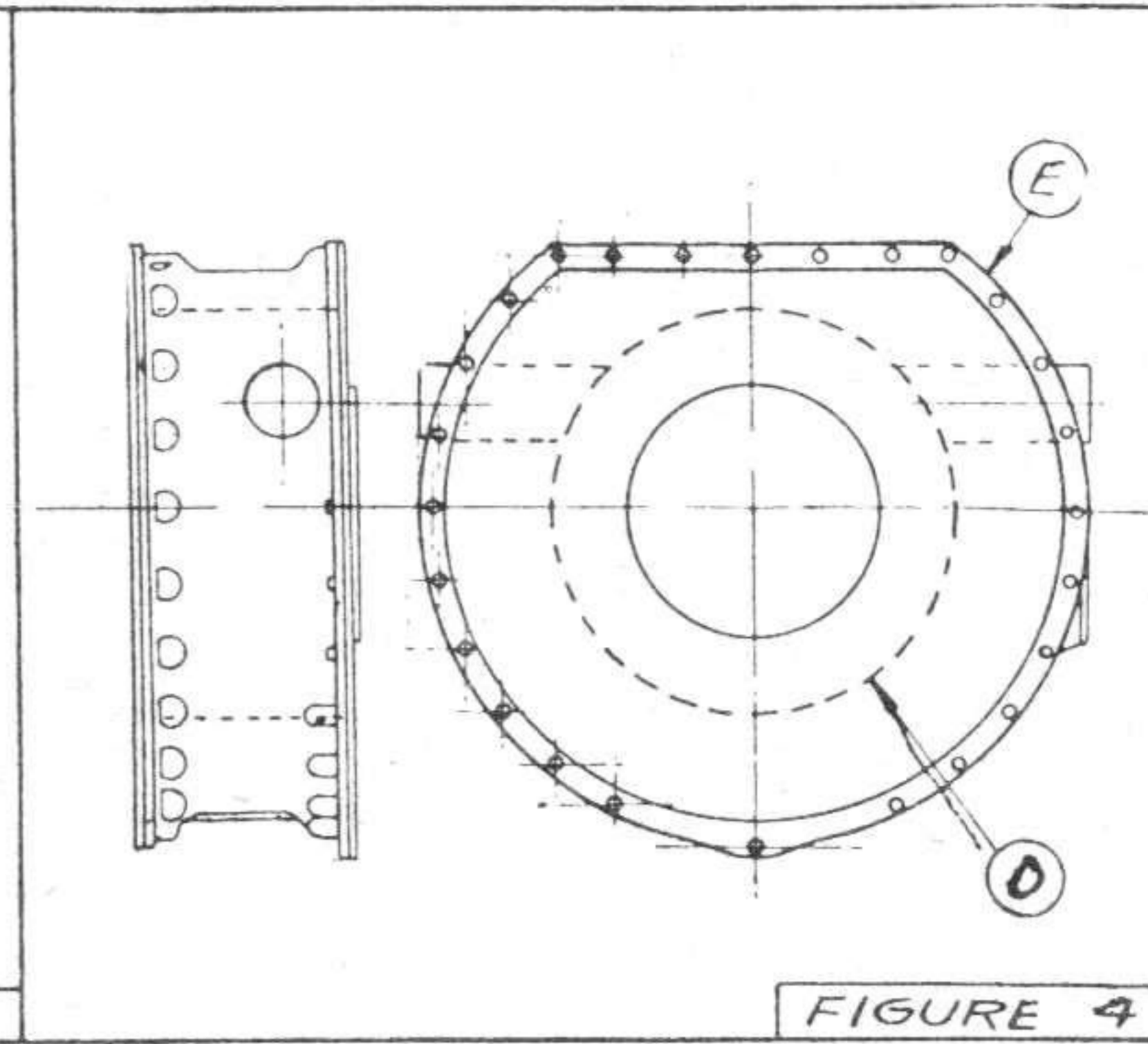


FIGURE 4

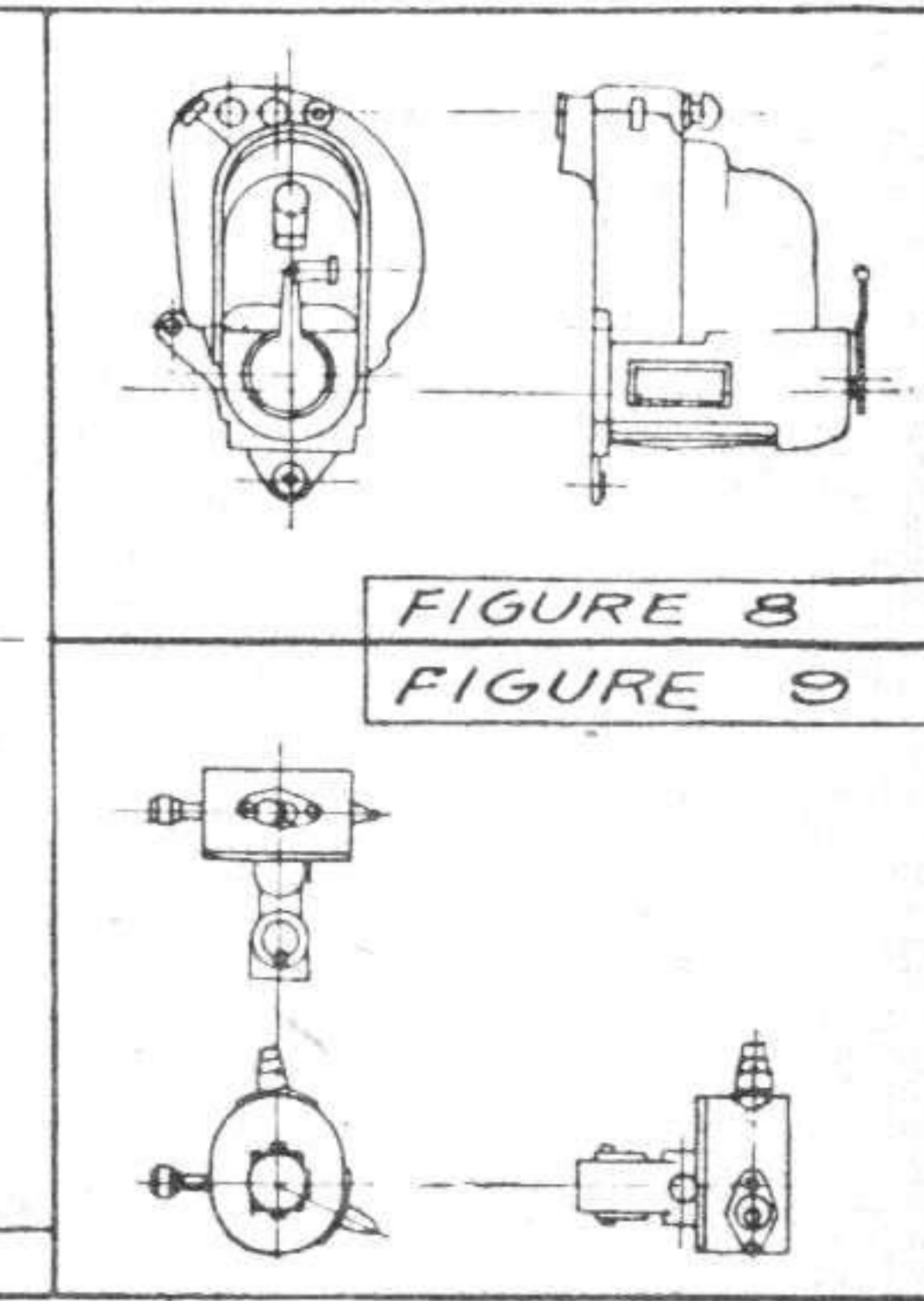


FIGURE 8
FIGURE 9

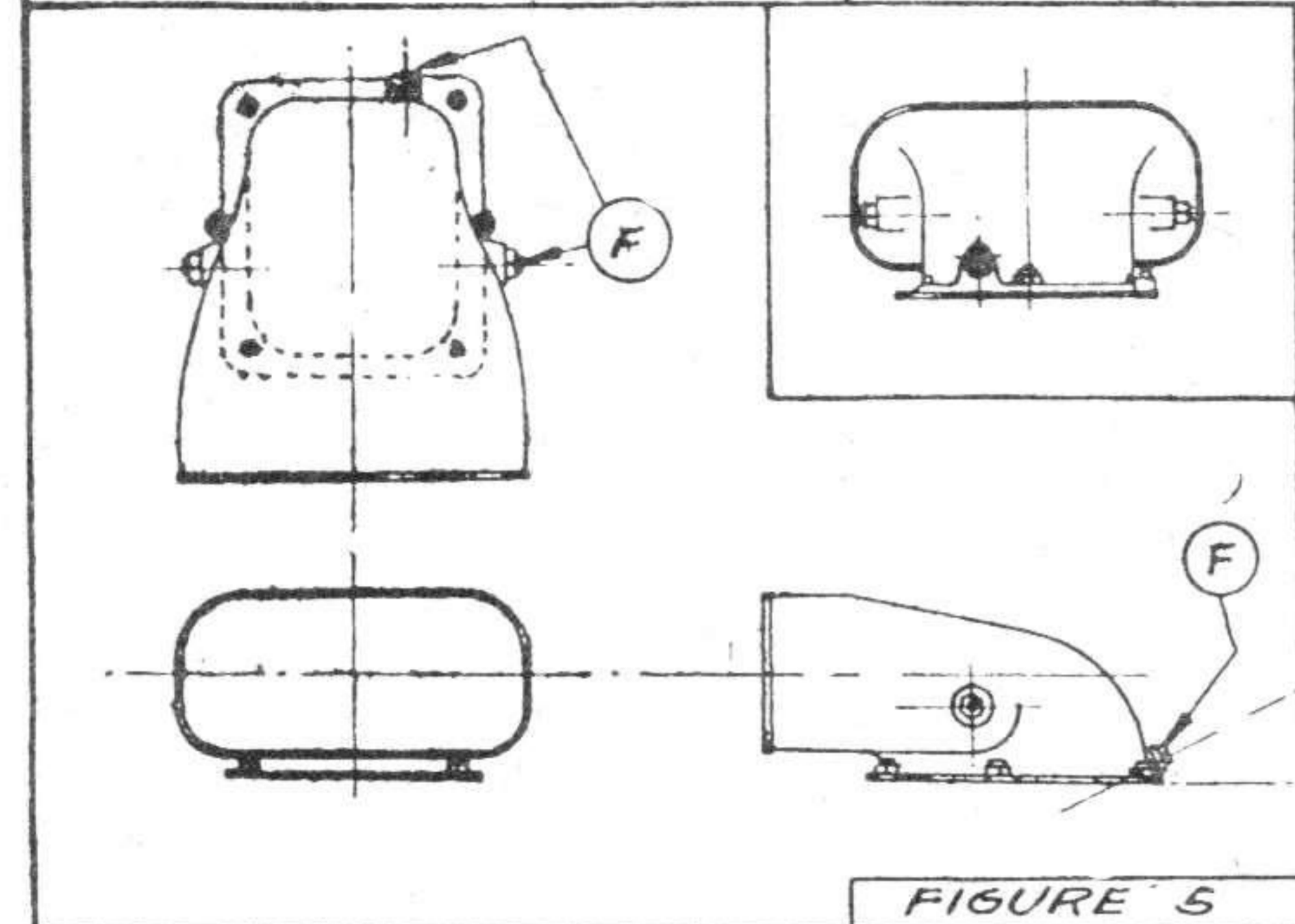


FIGURE 5

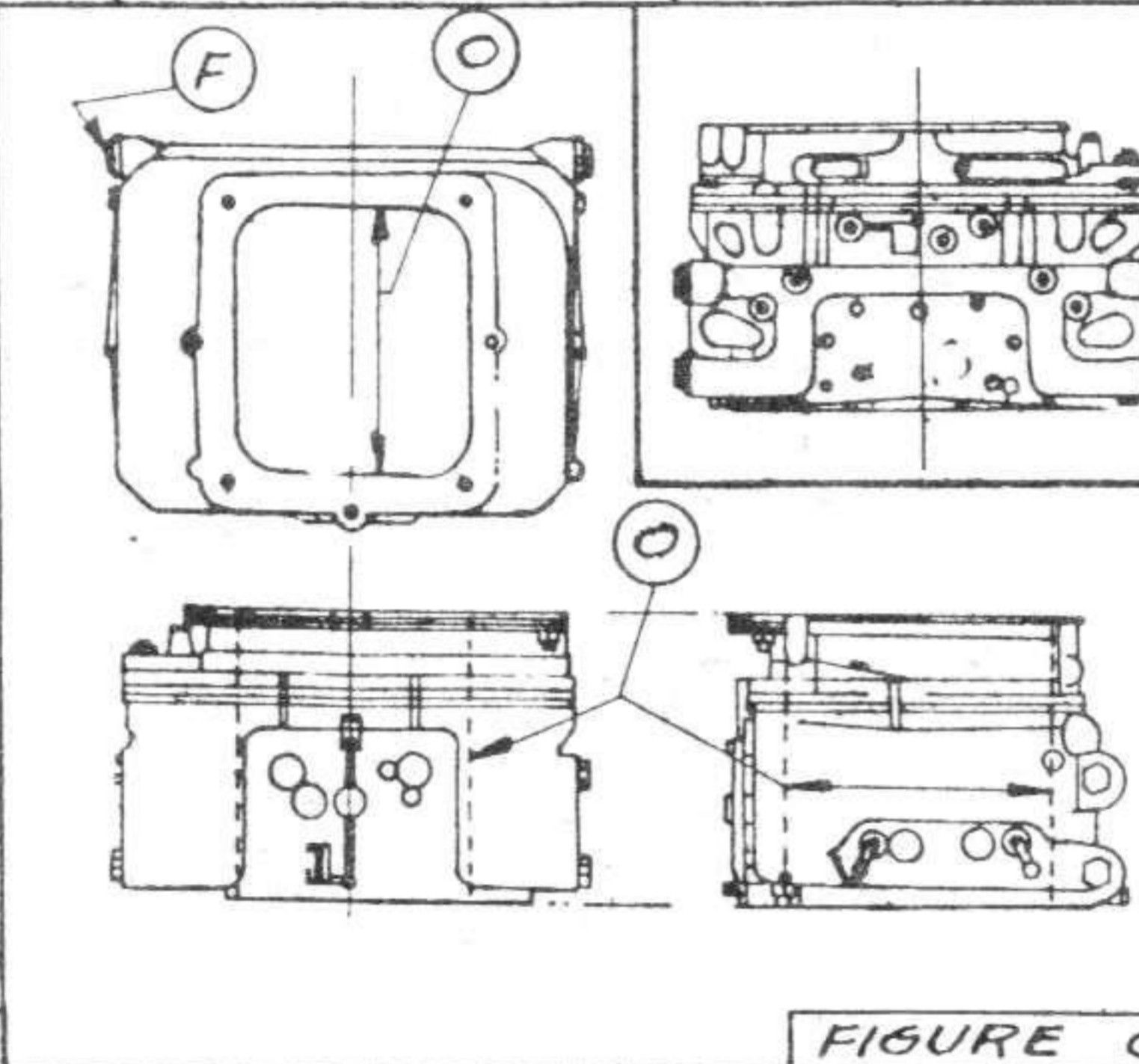


FIGURE 6

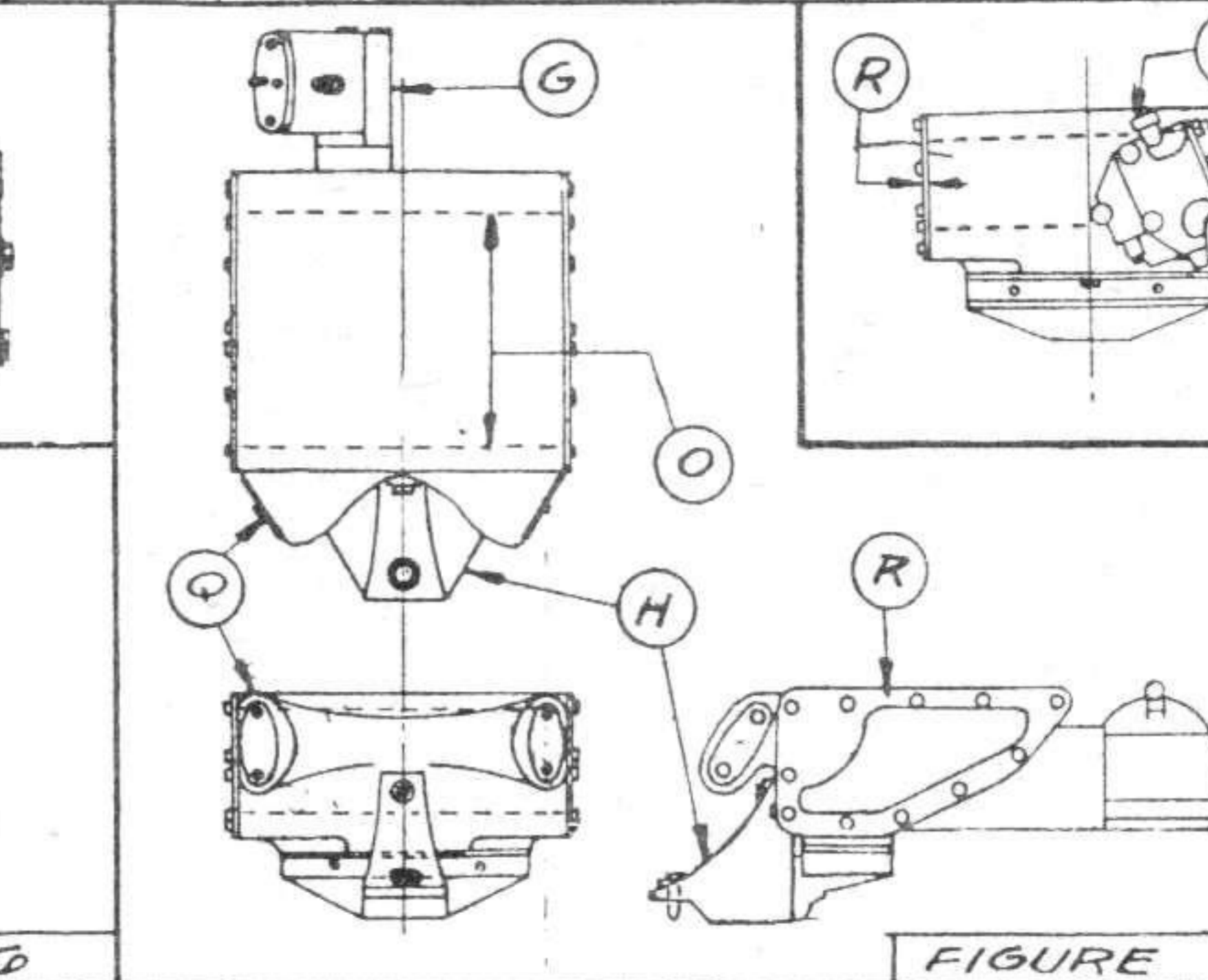


FIGURE 7

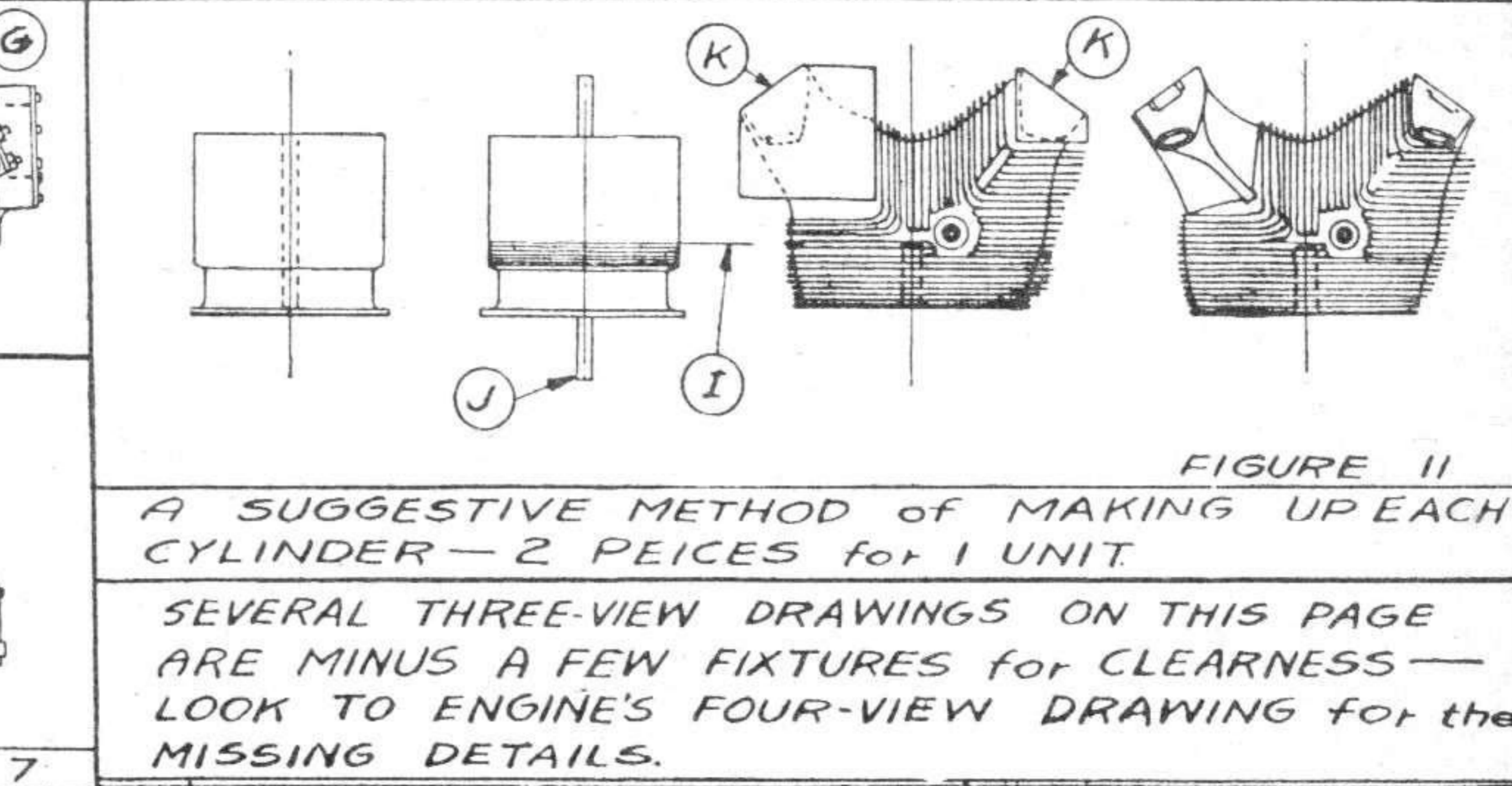


FIGURE 11
A SUGGESTIVE METHOD OF MAKING UP EACH CYLINDER—2 PICES for 1 UNIT.
SEVERAL THREE-VIEW DRAWINGS ON THIS PAGE ARE MINUS A FEW FIXTURES for CLEARNESS—LOOK TO ENGINE'S FOUR-VIEW DRAWING for the MISSING DETAILS.

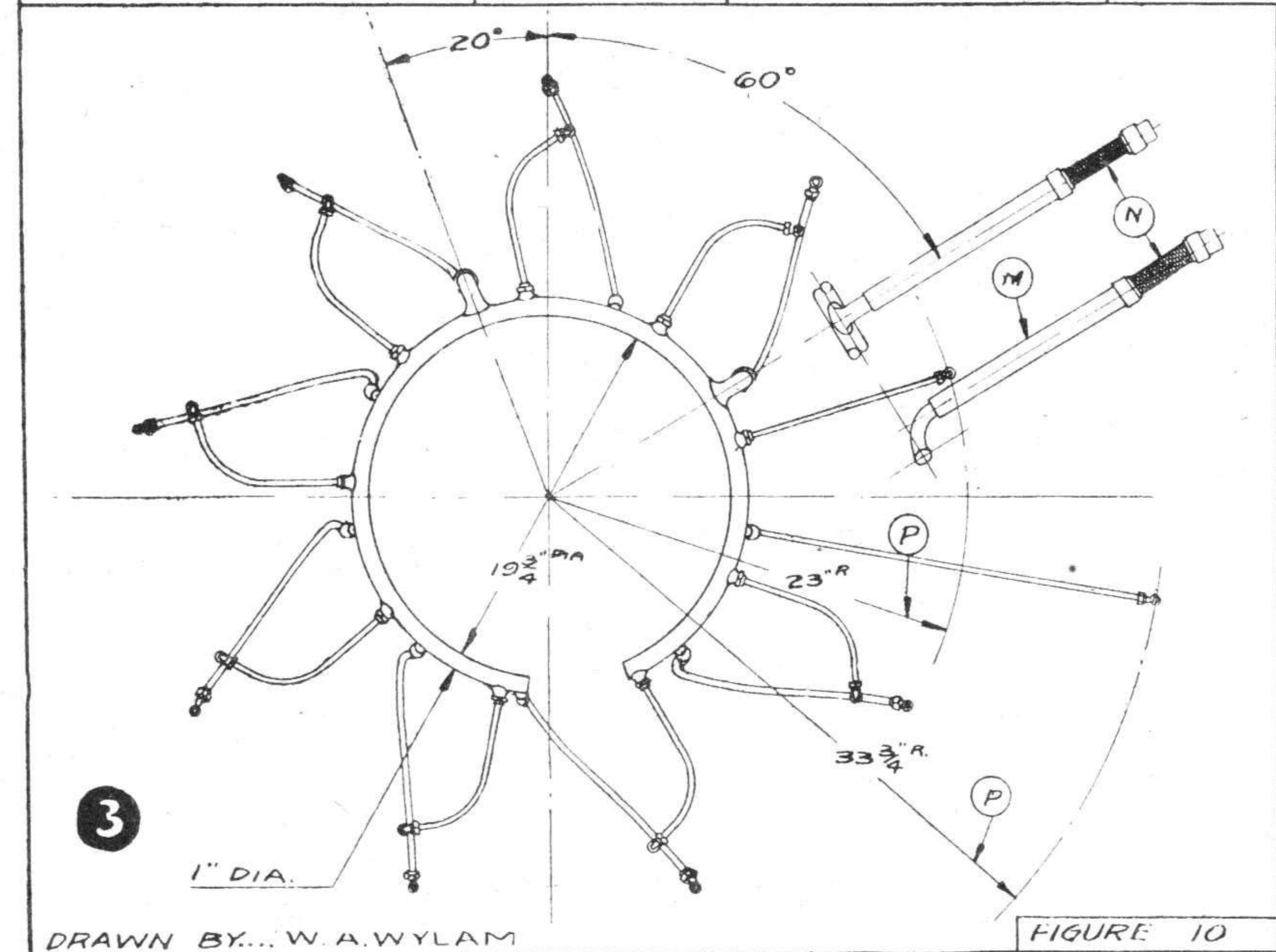


FIGURE 10

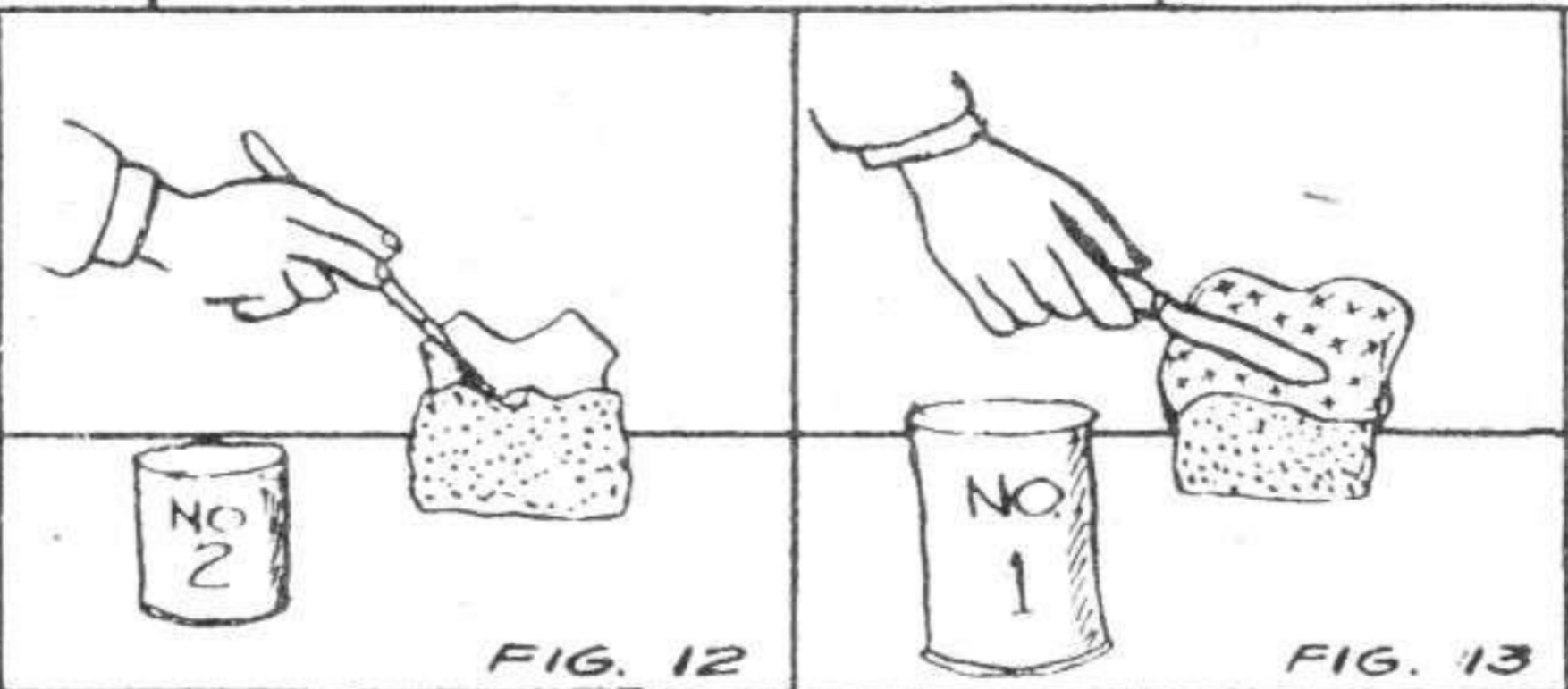


FIG. 12

FIG. 13

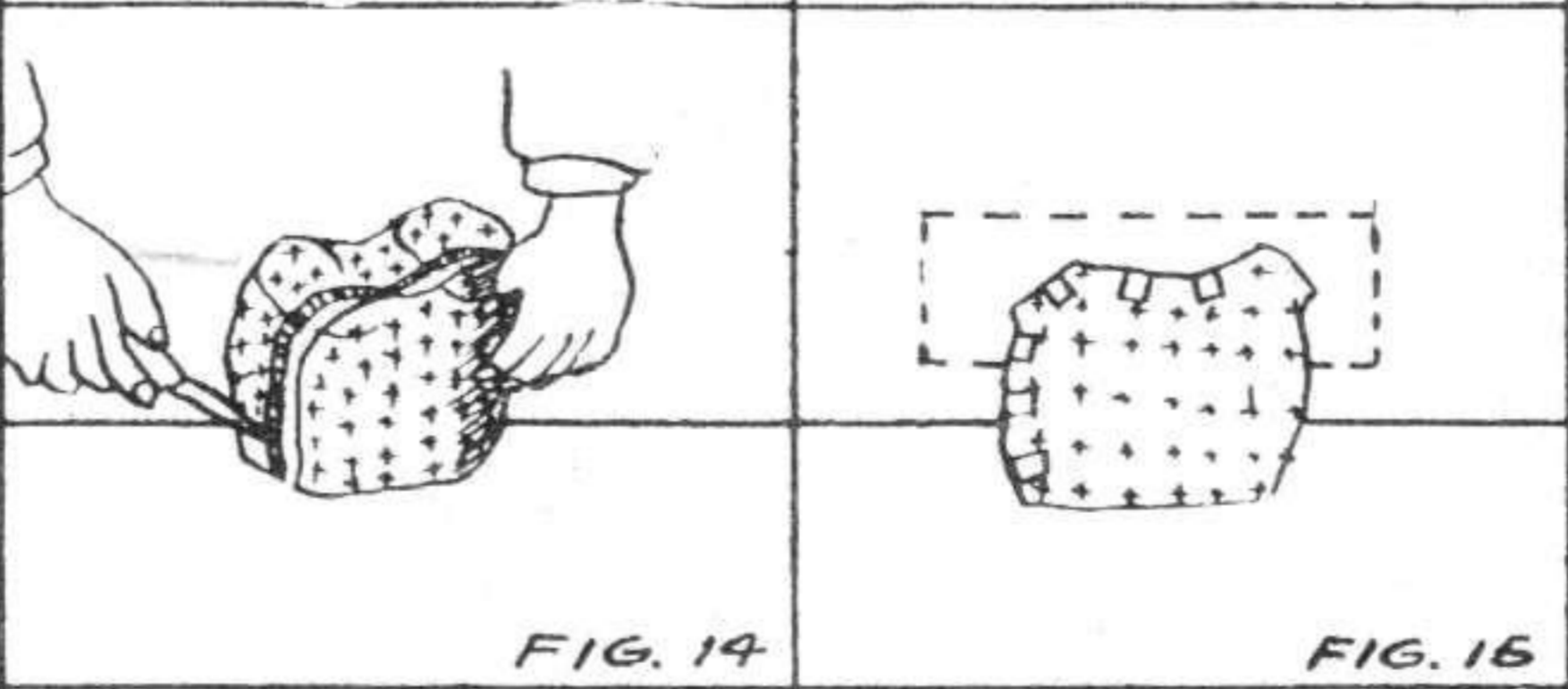


FIG. 14

FIG. 15

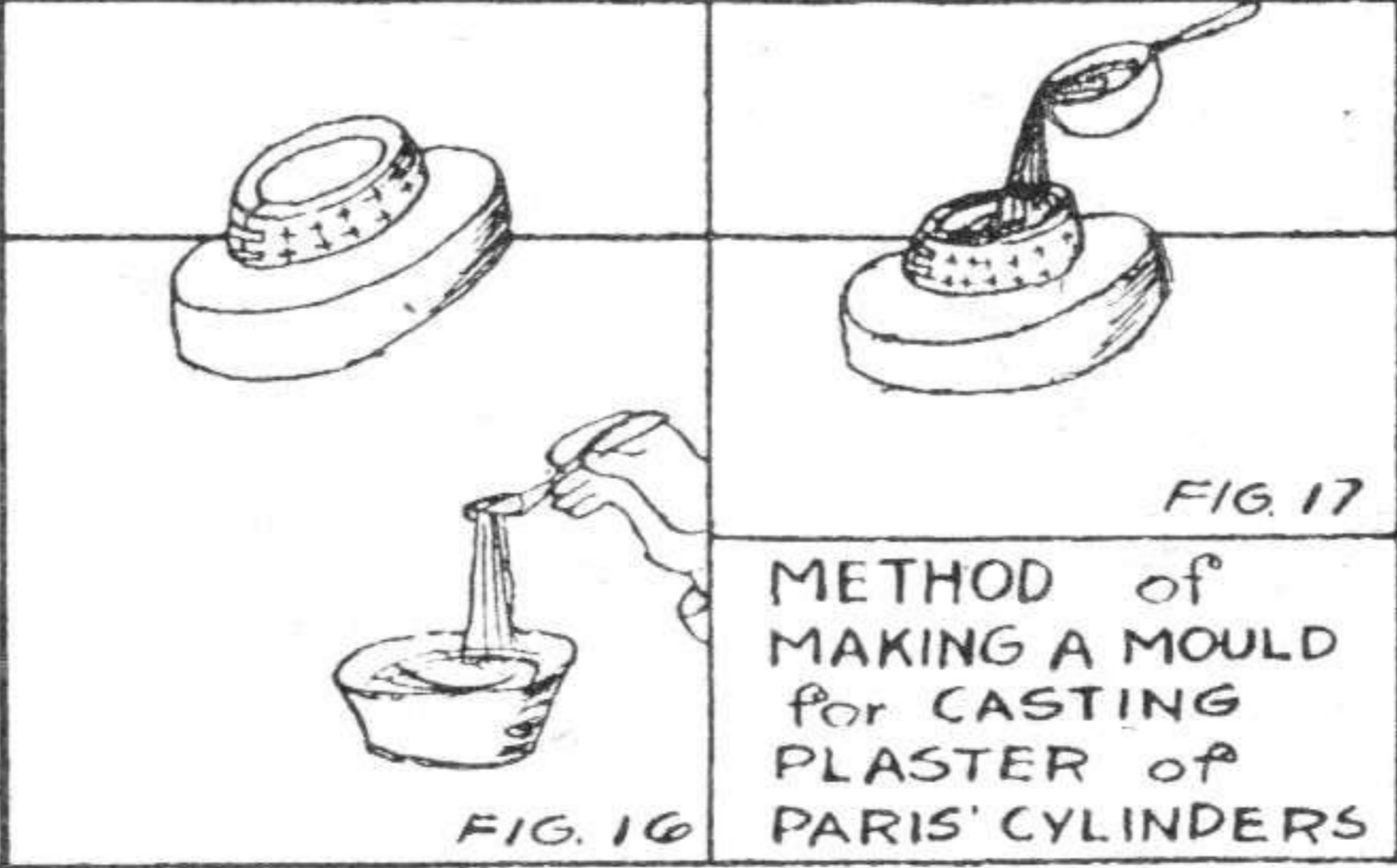


FIG. 16

FIG. 17

METHOD of MAKING A MOULD for CASTING PLASTER of PARIS' CYLINDERS

- R GRID PLATE (SCREEN MISSING)
- Q EXHAUST CONNECTIONS for HOT-AIR PASSAGE
- P MINIMUM RADIUS
- O HOLLOW SPACE
- N BRAIDED WIRES' COVERING
- M METAL SLIEVE (BEND TO CONTOUR of BLOCK)
- K WOOD BLOCK (CARVE TO SHAPE of VALVE HOUS'G)
- J GLUED DOWEL
- I THREAD
- H MOUNTING POST
- G HOT-AIR EXHAUST
- F ADJUSTMENT BOLTS
- E REINFORCEMENT RING
- D BUSHINGS
- C INTAKE PORT
- B GUIDE LINE for GEAR HOUSING
- A DOWEL HOLES (DRILLED TO SUIT DOWELS)

FIGURES	NAME	COLOR	MISCELLANEOUS
1	MOTOR BLOCK	BLUE-GRAY	
2	SPACER	BLUE-GRAY	
3	ENGINE MOUNT	BLUE-GRAY	
4	SUPERCHARGER CHAMBER	BLUE-GRAY	
5	CARBURATOR AIR SCOOP	SHINEY BLACK	
6	CARBURATOR MIXING CHAMBER	SHINEY BLACK	CHROM. PL'D. FIXTURES
7	CARBURATOR ADAPTER	SHINEY BLACK	CHROM. PL'D. SIDES CHROM. PL'D. FIXTURES
8	MAGNETO	SHINEY BROWN	CHROM. PL'D. FIXTURES
9	FUEL PUMP UNIT	ALL STEEL	
10	WIRING HARNESS	ALUMIMUN SHIELD RING	GOLD S.P. WIRES CHROM. PL'D. FIXTURES

3

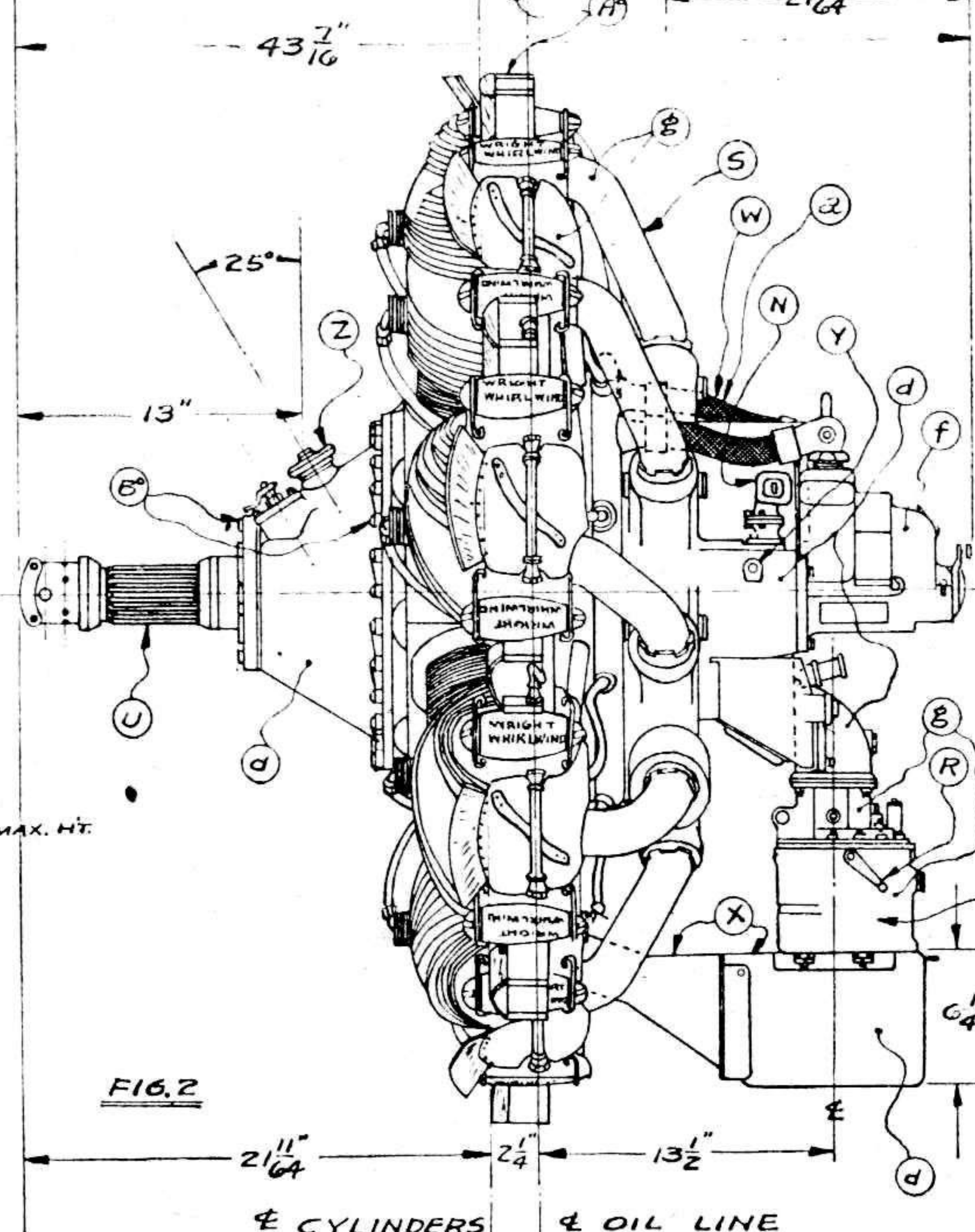
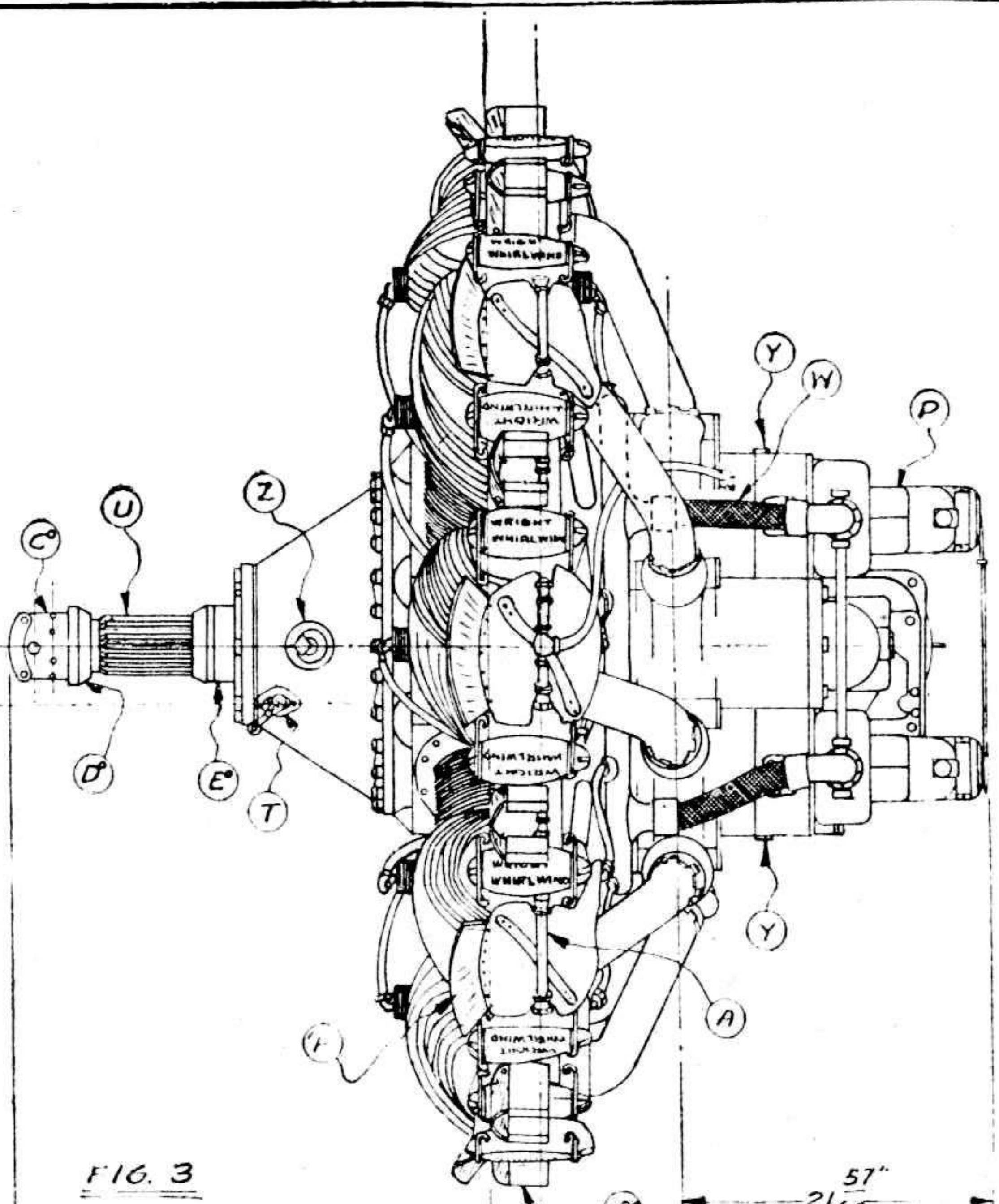
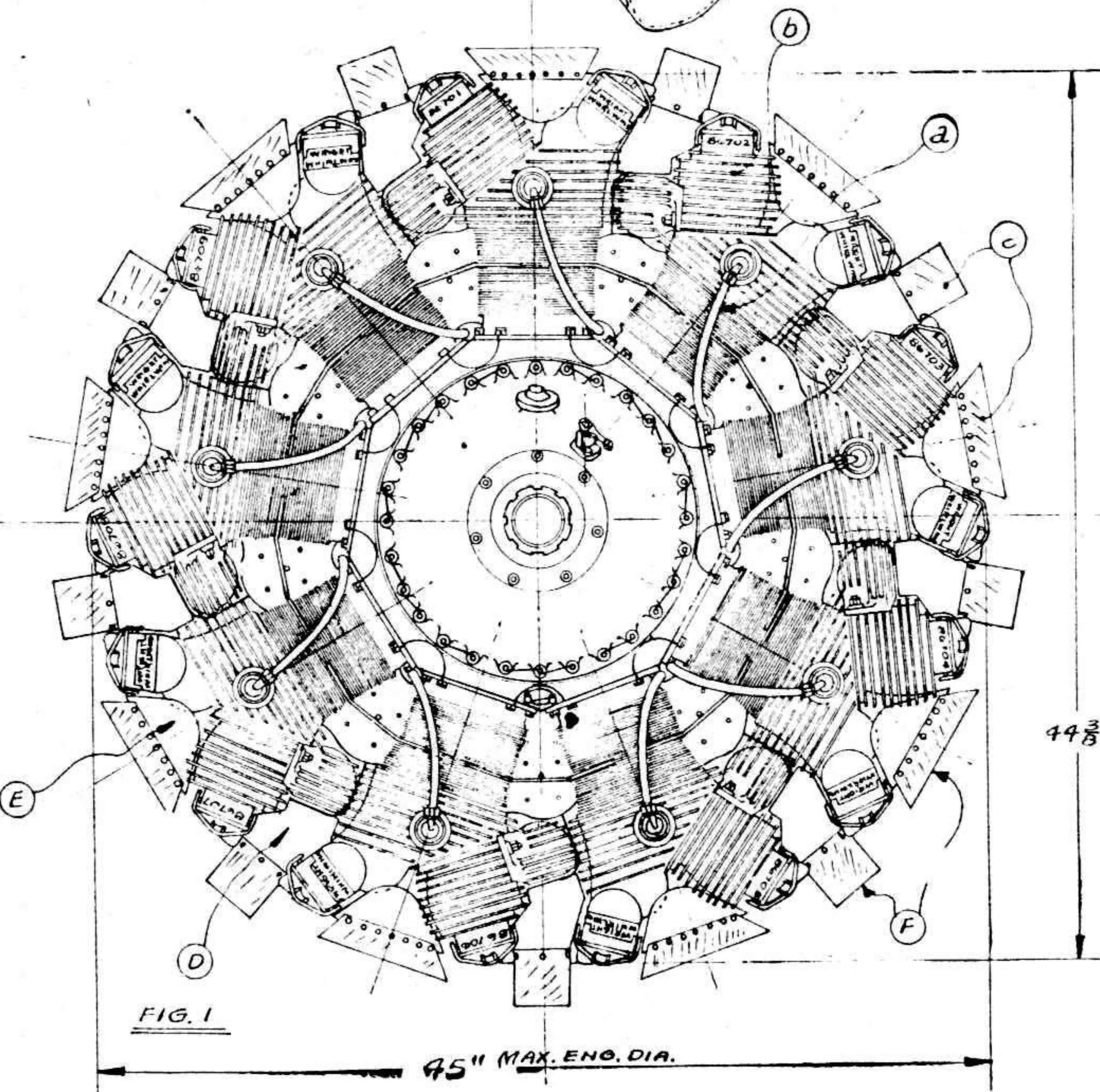
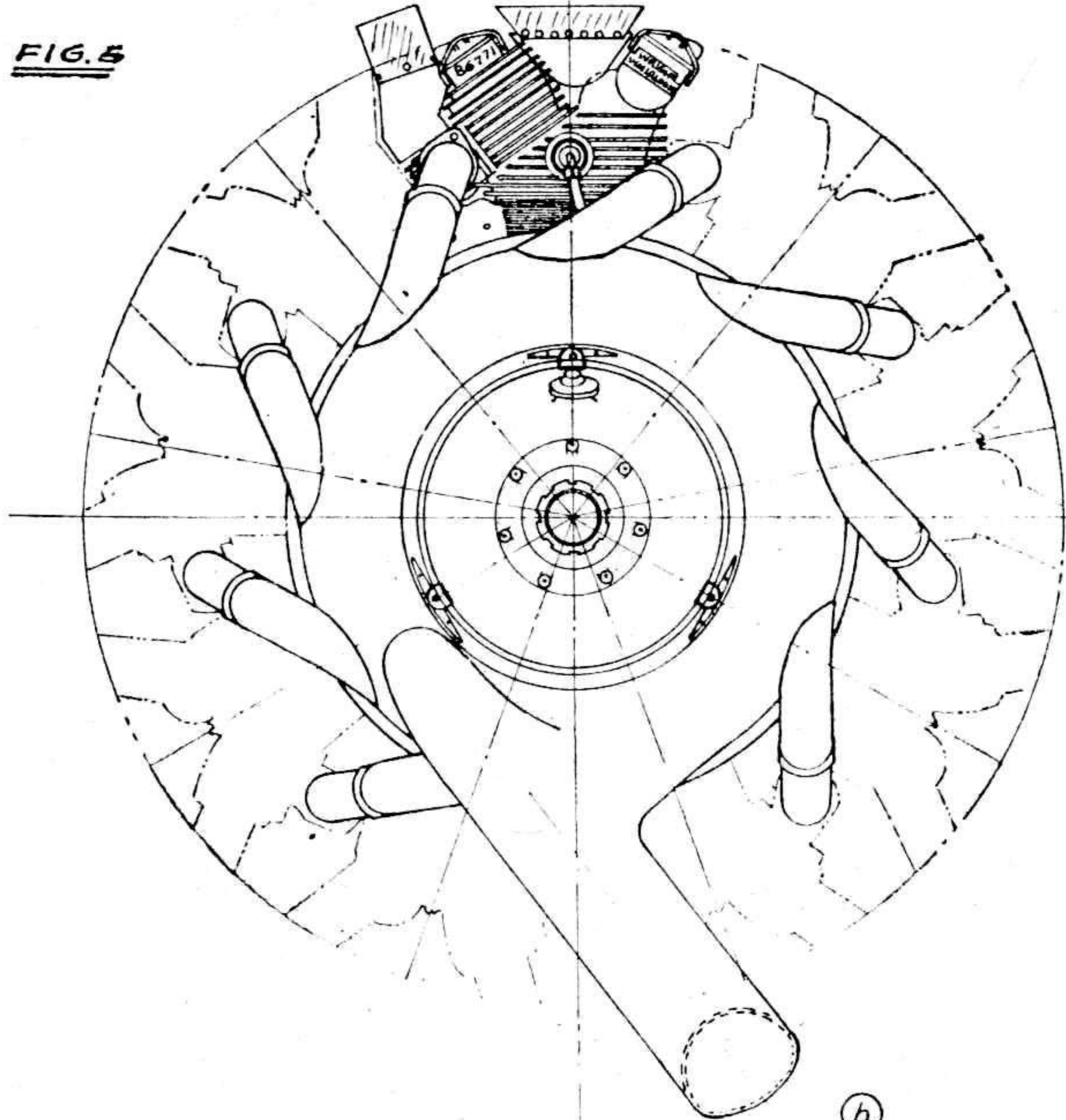
DRAWN BY... W. A. WYLAM

WRIGHT "WHIRLWIND" 420 H.P.

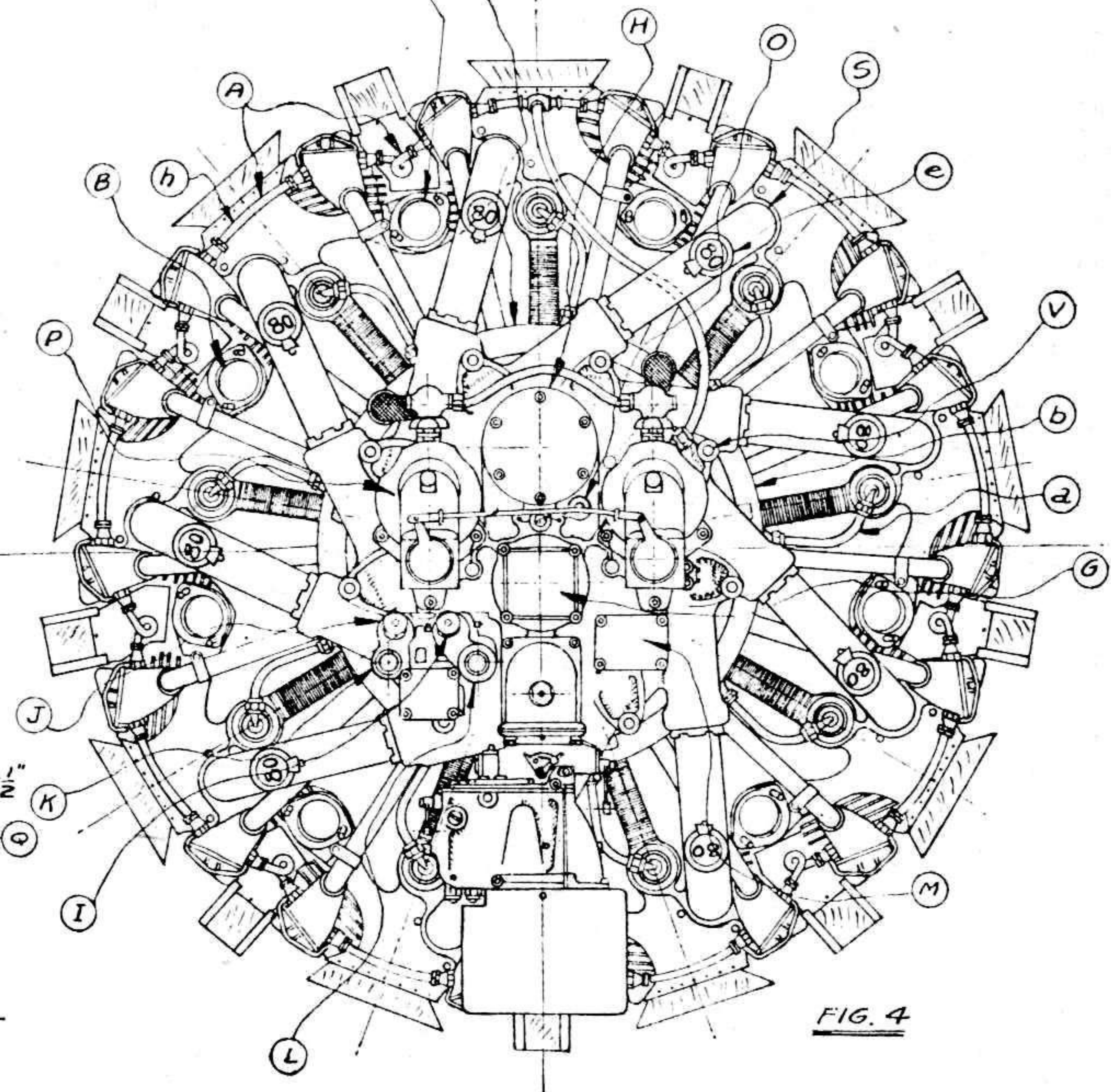
621	SCALE: 1/16" = 1"-0	DRAWN BY... WILLIAM A. WYLAM	
Y	OIL PRESSURE GAUGE CONN.	A	OIL LUBRICATION LINE.
Z	OIL SUMP ENTRANCE	B	EXHAUST PORTS
A°	FELT PADS	C	WIRE HARNESS
B°	CASTLE NUTS	D	INTER-CYLINDER BAFFLE
C°	PROP. HUB RETAINER NUT	E	CYLINDER-HEAD BAFFLE
D°	PROP. HUB FRONT CONE	F	LEATHER STRIPS
E°	PROP. HUB TAPER RING	G	GENERATOR DRIVE CONN.
...COLORS...		H	STARTER CONN.
a	GOLD	I	OIL ENTRANCE CONN.
b	DULL BLACK	J	OIL EXIT CONN.
c	DULL BROWN	K	OIL PRESSURE ADJ. CONN.
d	DULL BLUE GREEN	L	OIL THERMOCOUPLE CONN.
e	RED ORANGE	M	FUEL PRESSURE CONN.
f	SHINEY BROWN	N	GUN SYNCHRONIZER CONN.
g	SHINEY BLACK	O	VENT TO OIL
h	ALUMINUM	P	MAGNETO
i	COPPER	Q	CARBURATOR
		R	THROTTLE CONN.
		S	INTAKE PIPE
		T	CONTRO'E. PROP. VALVE
		U	SAE. #30 SPLINE
		V	MOUNTING BOLT HOLES
		W	BRAIDED WIRE SHIELD
		X	CARBURATOR HEATER

FRONT VIEW of COLLECTOR RING

FIG. 5



WHEN COLLECTOR RING IS INSTALLED, REVERSE THE EXIT (TOWARD THE PROPELLOR HUB).



W.A. WYLAM

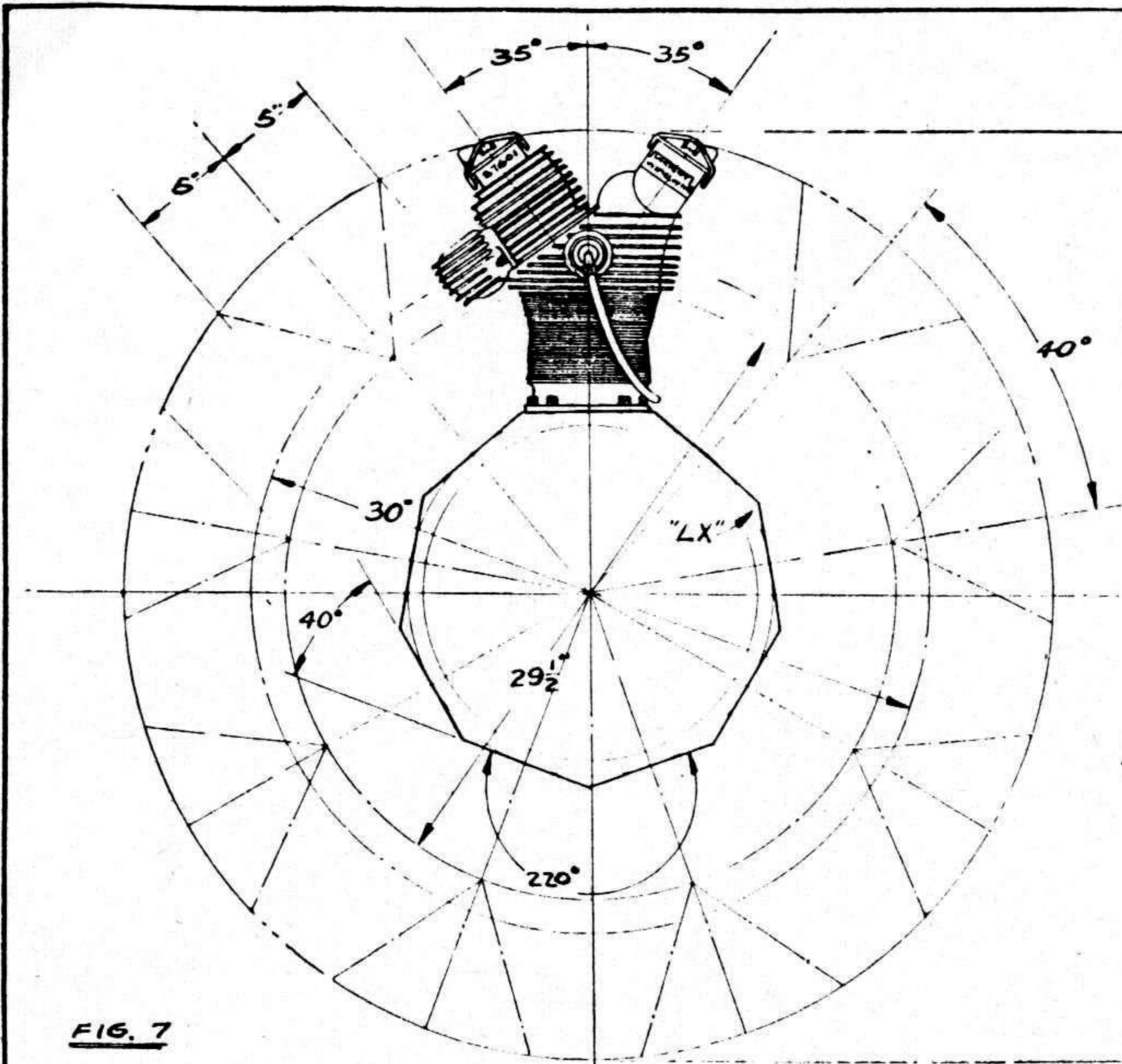


FIG. 7

FRONT VIEW of LAYOUT PLAN

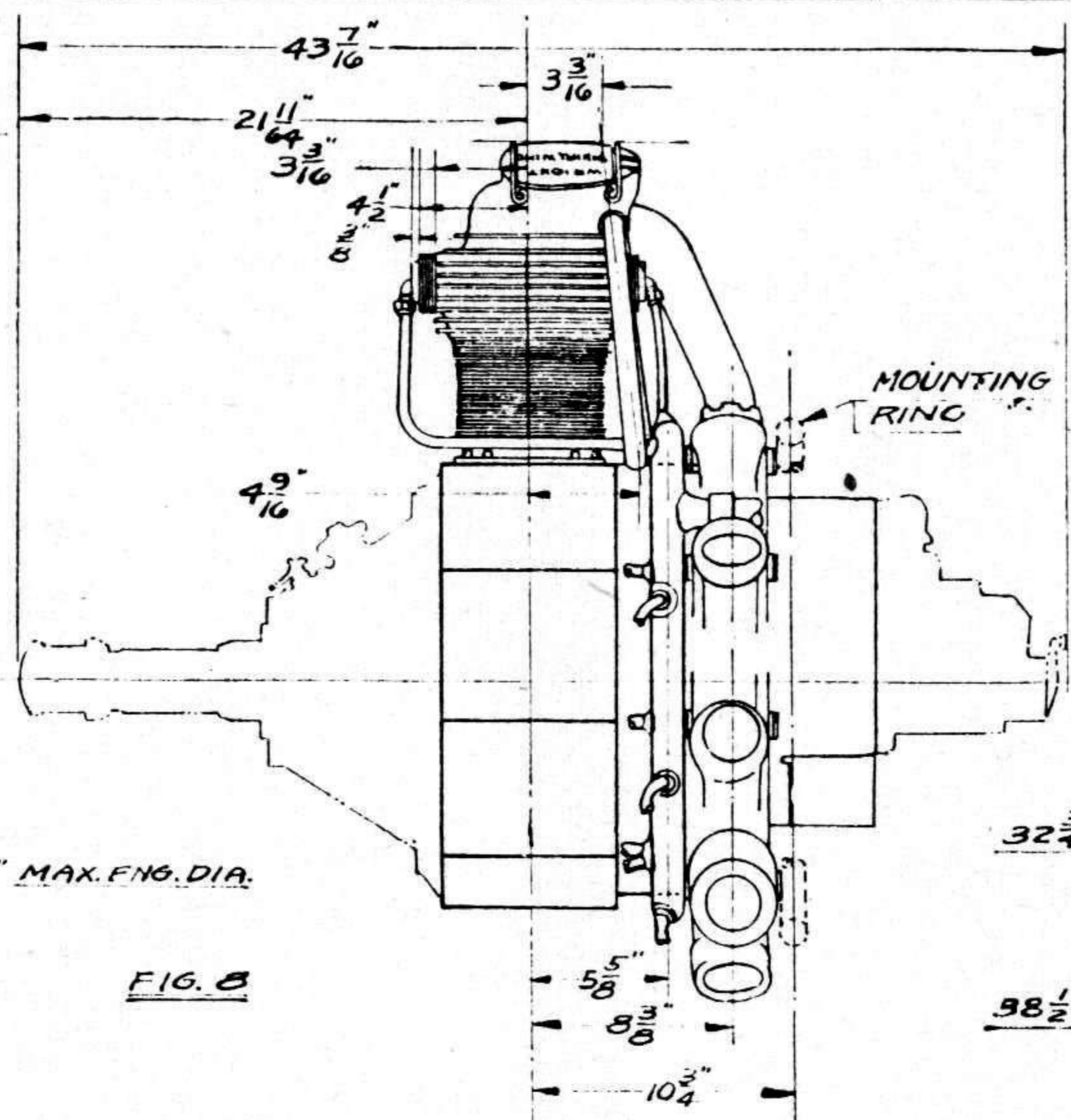


FIG. 8

SIDE VIEW of LAYOUT PLAN

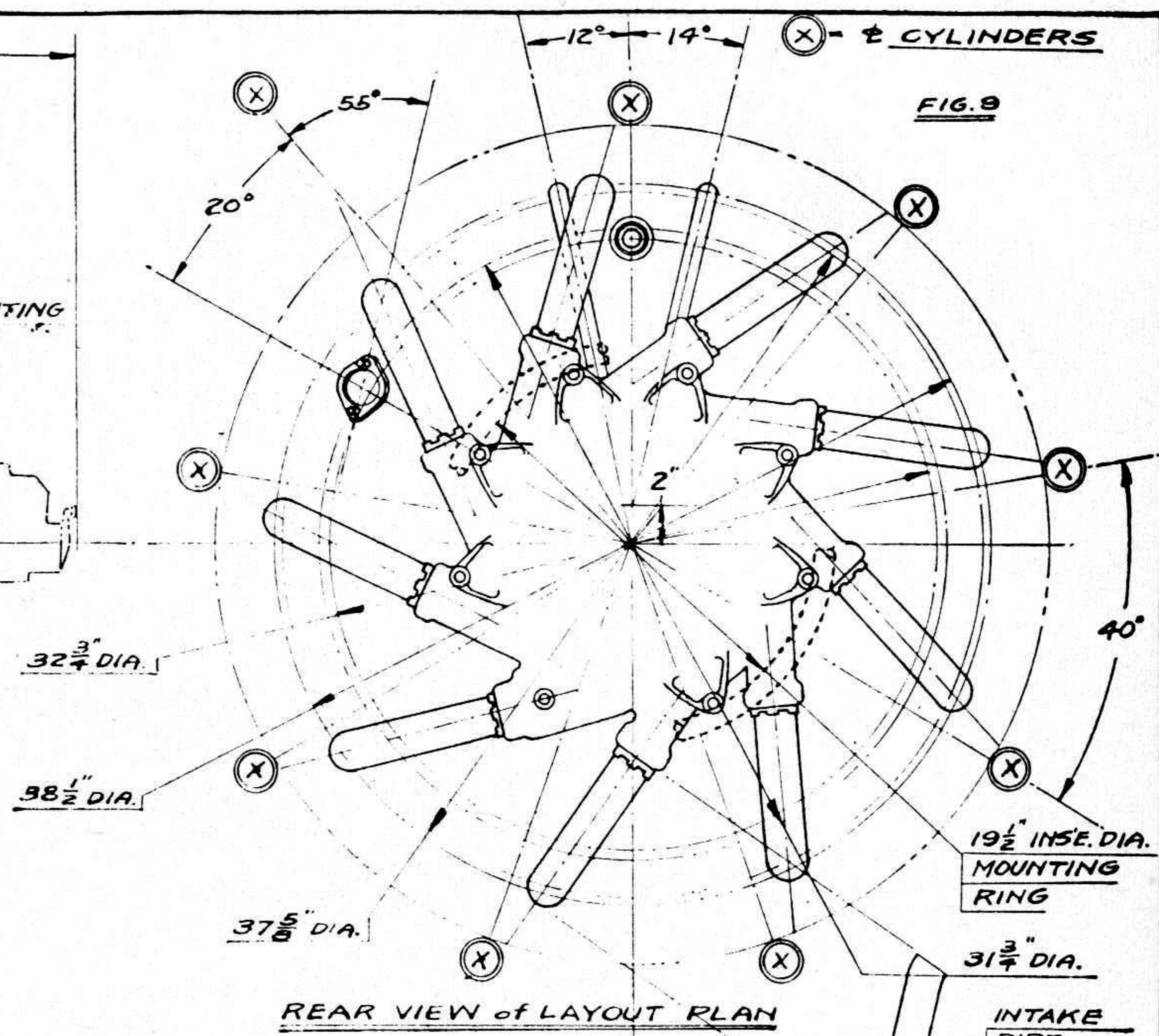


FIG. 9

REAR VIEW of LAYOUT PLAN

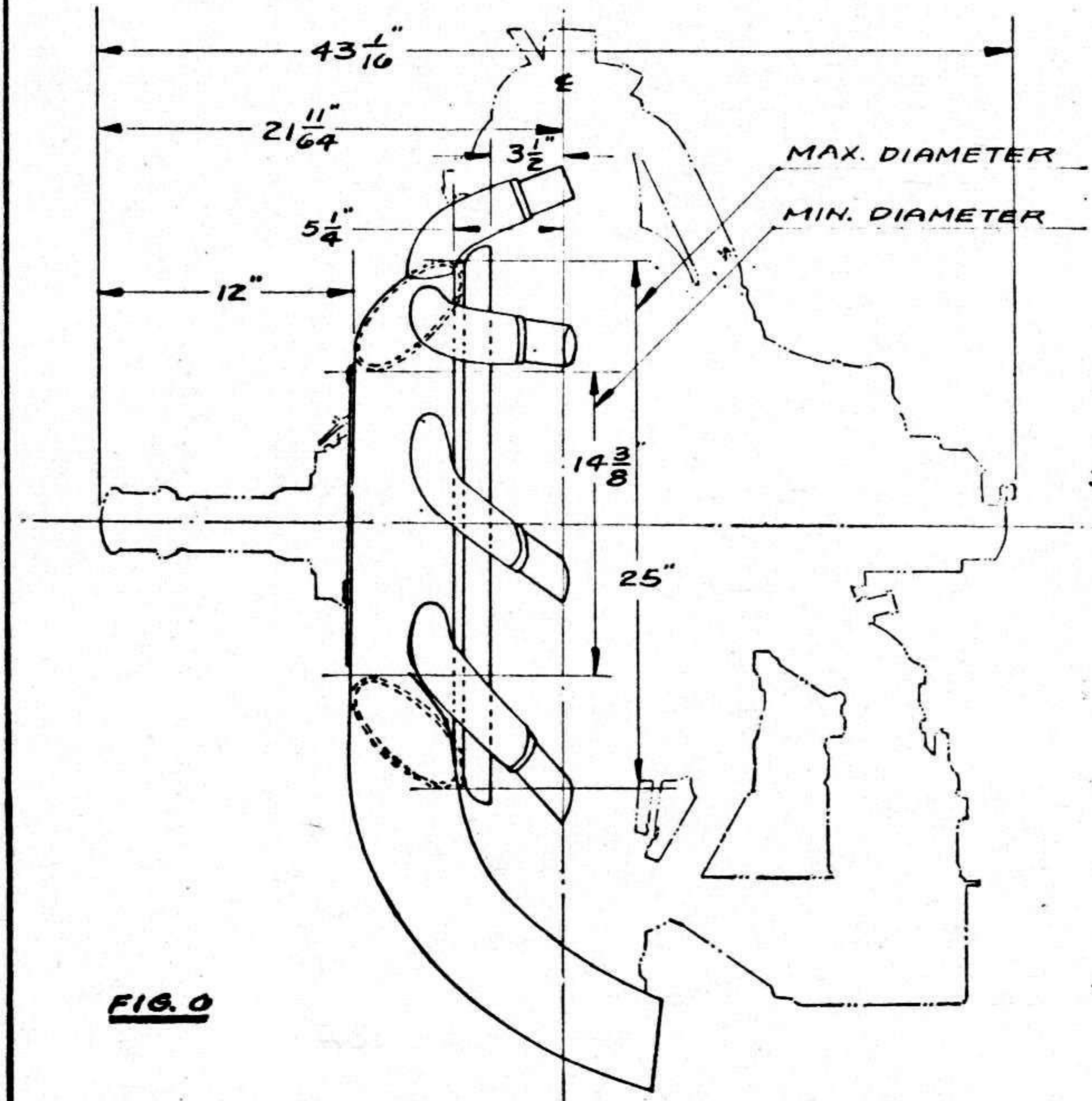


FIG. 10

SIDE VIEW of COLLECTOR RING (REF. FIG.)

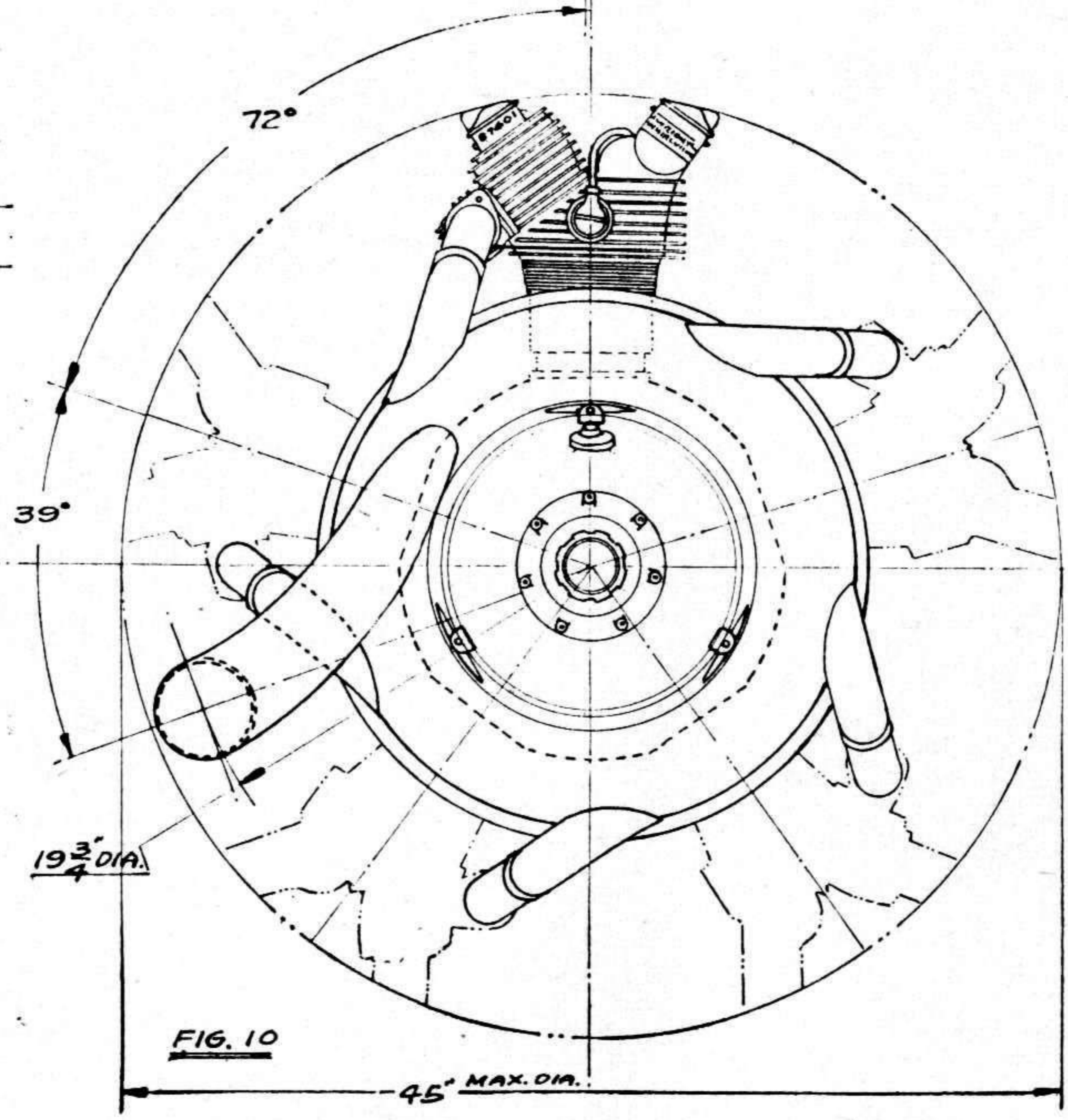


FIG. 11

FRONT VIEW of 165 H.P. WHIRLWIND

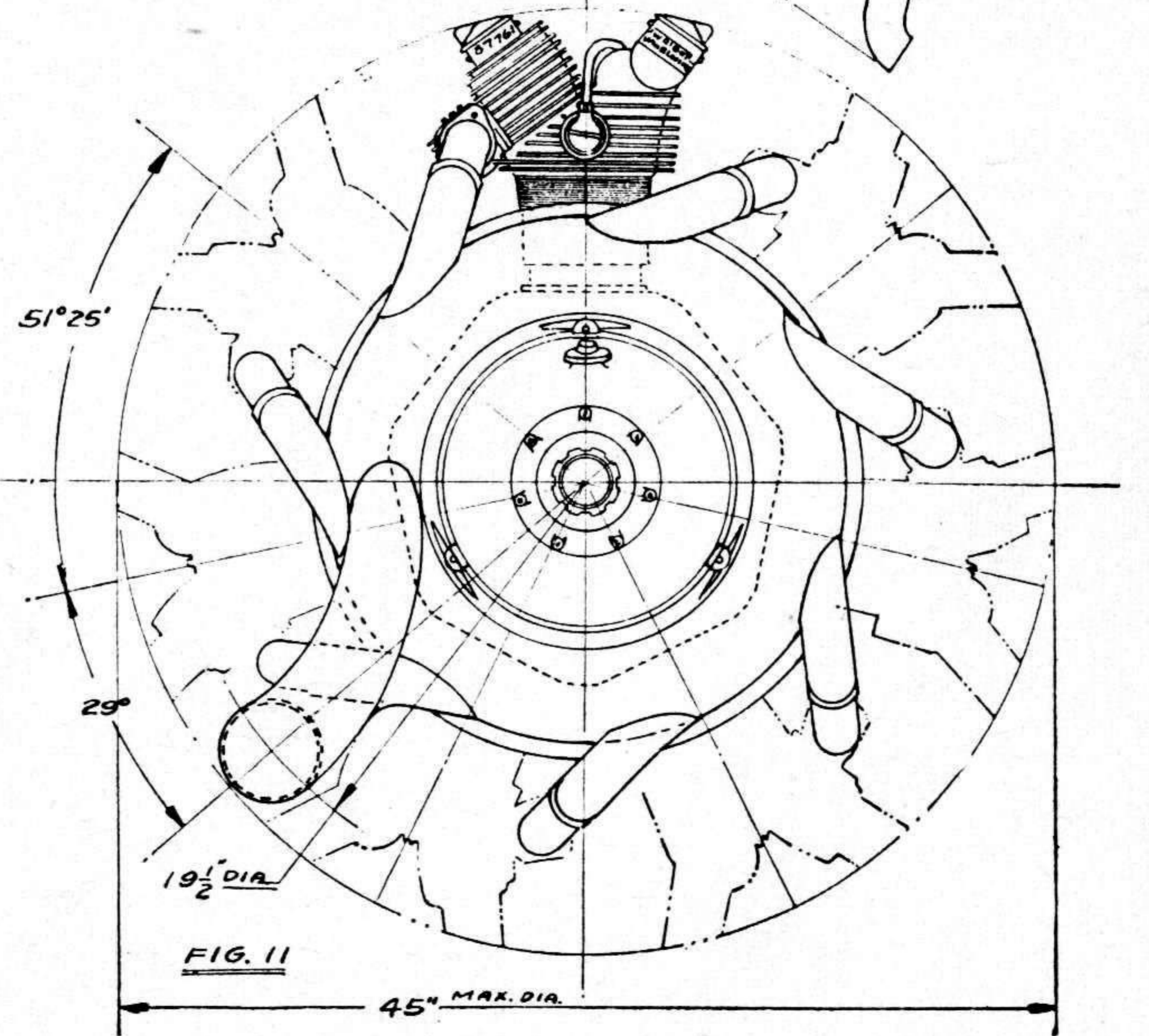
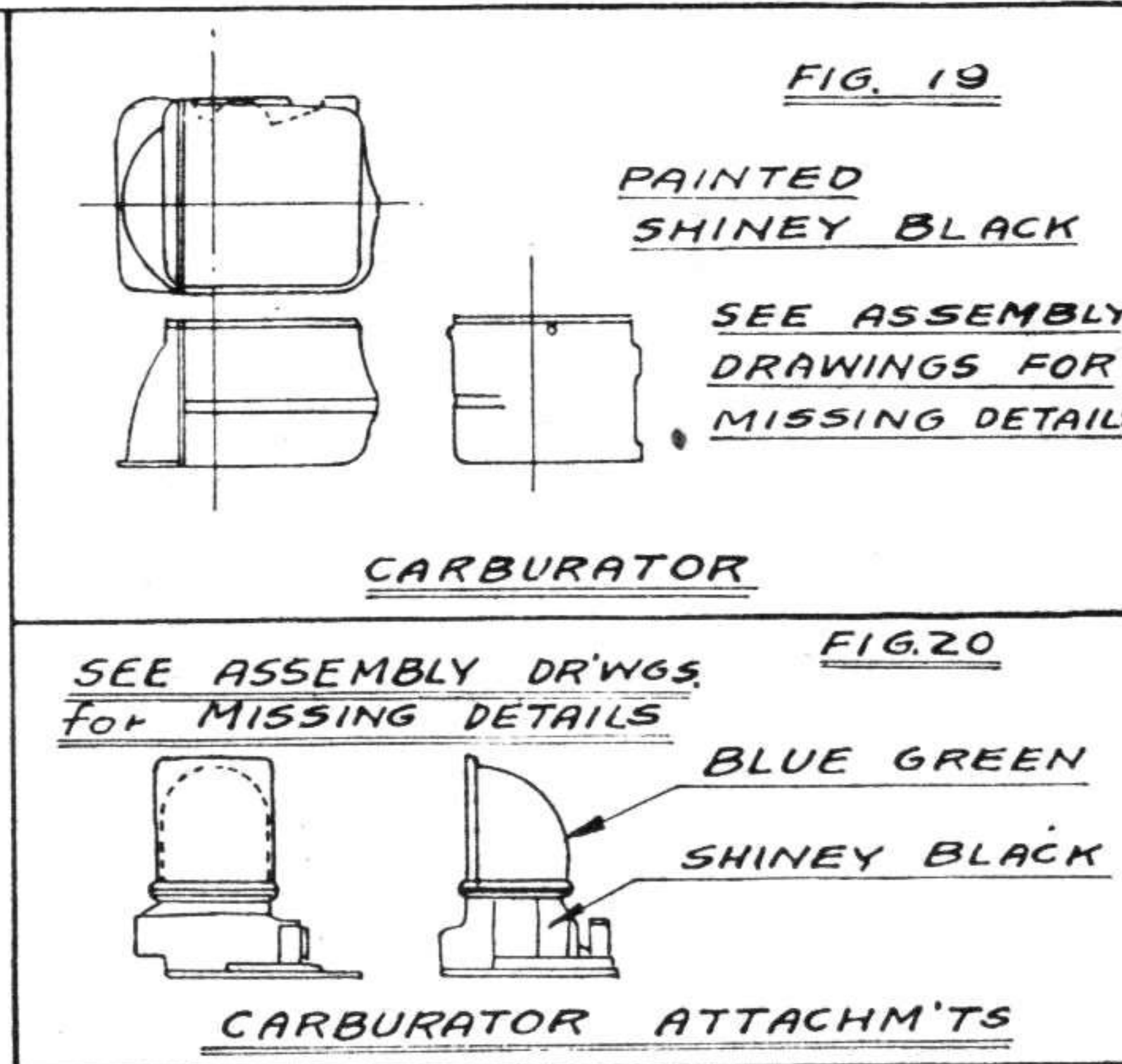
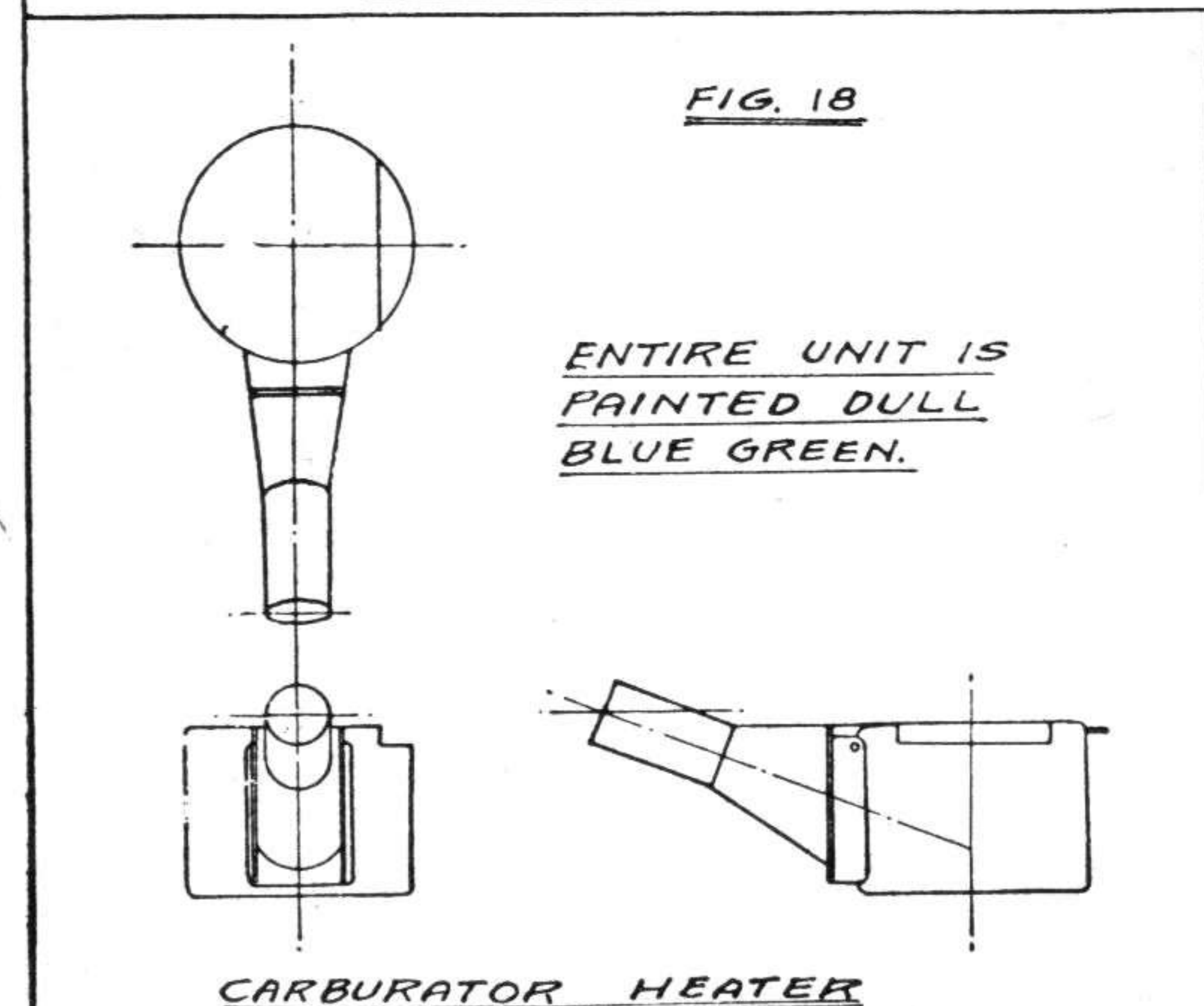
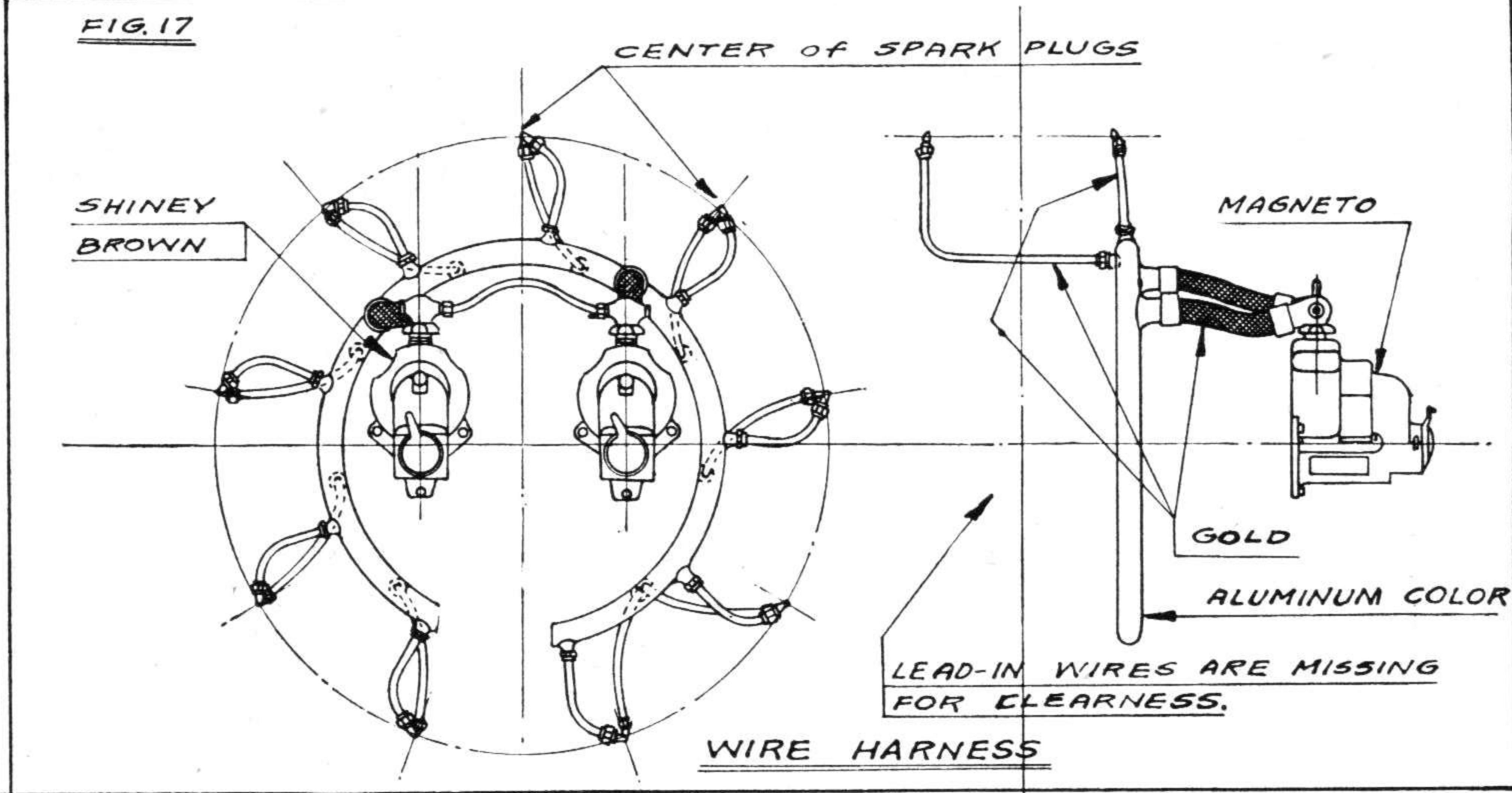
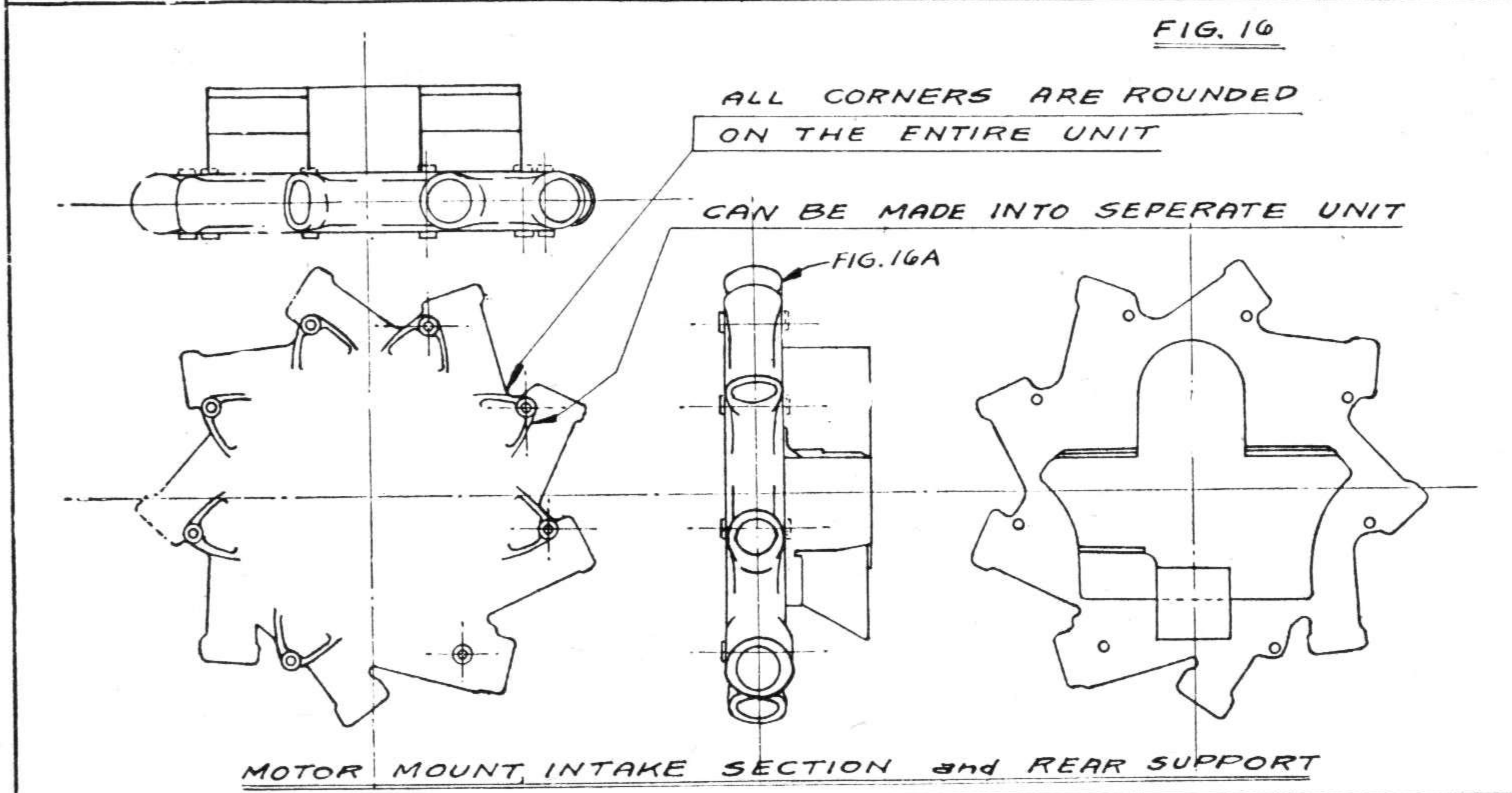
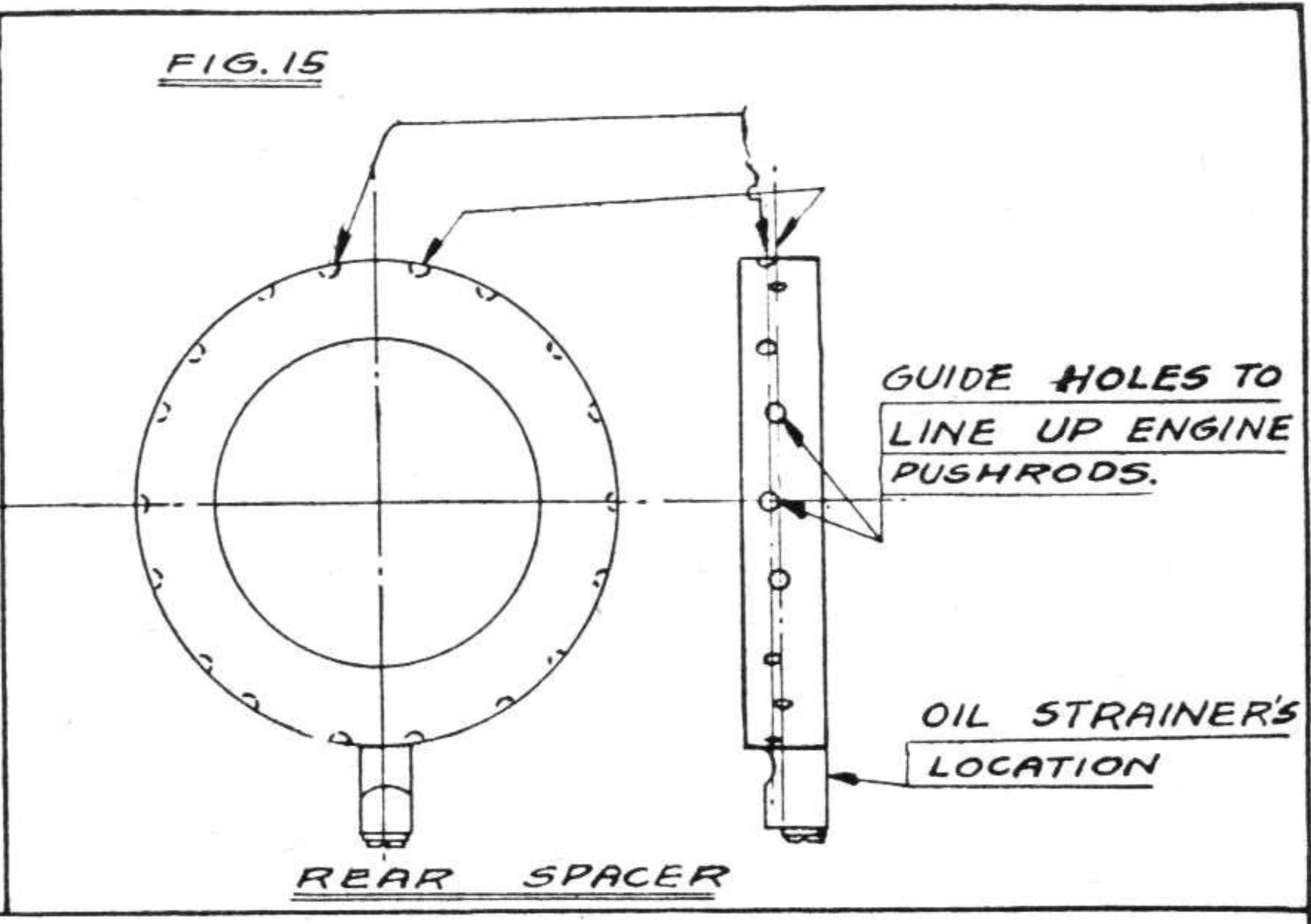
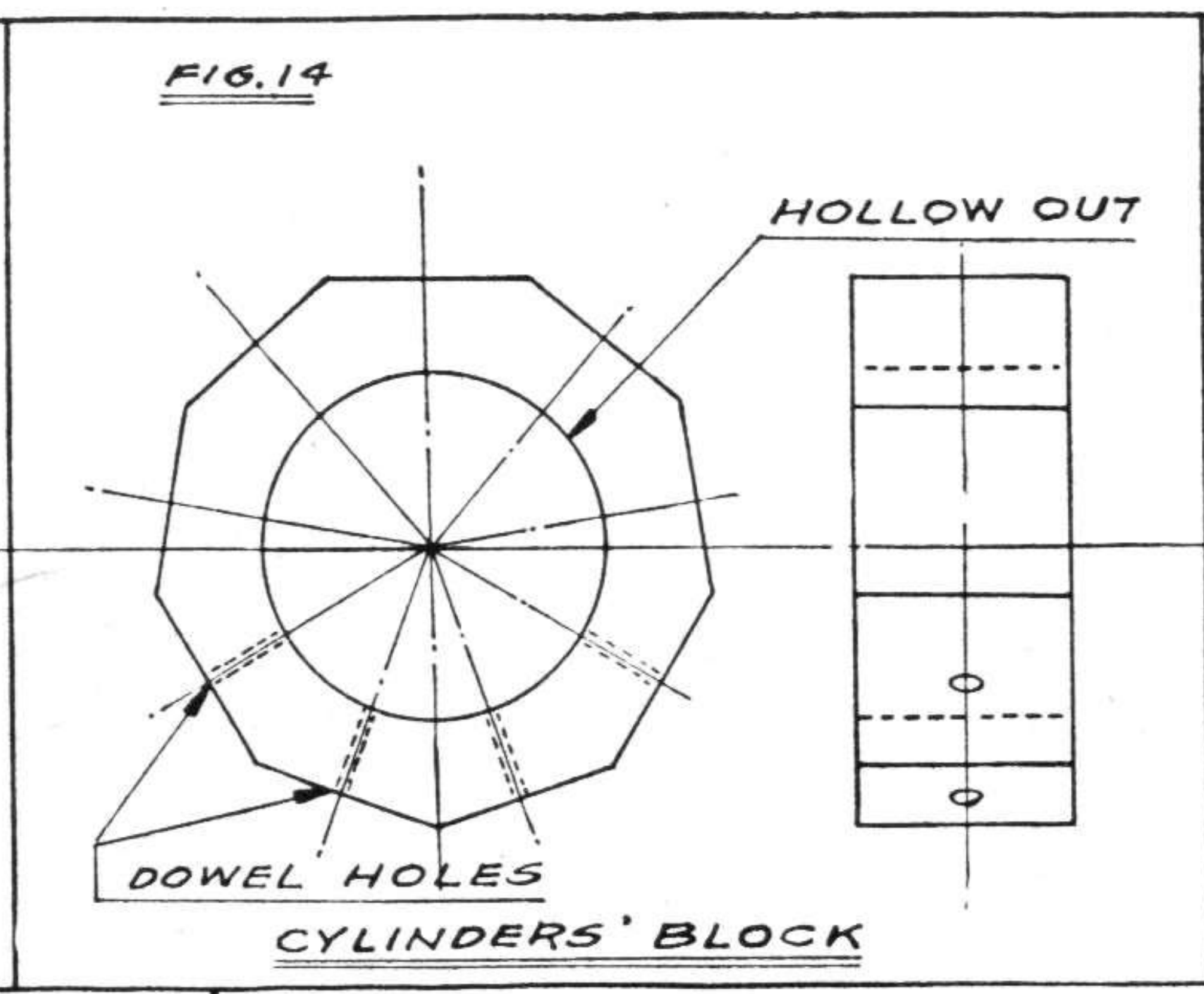
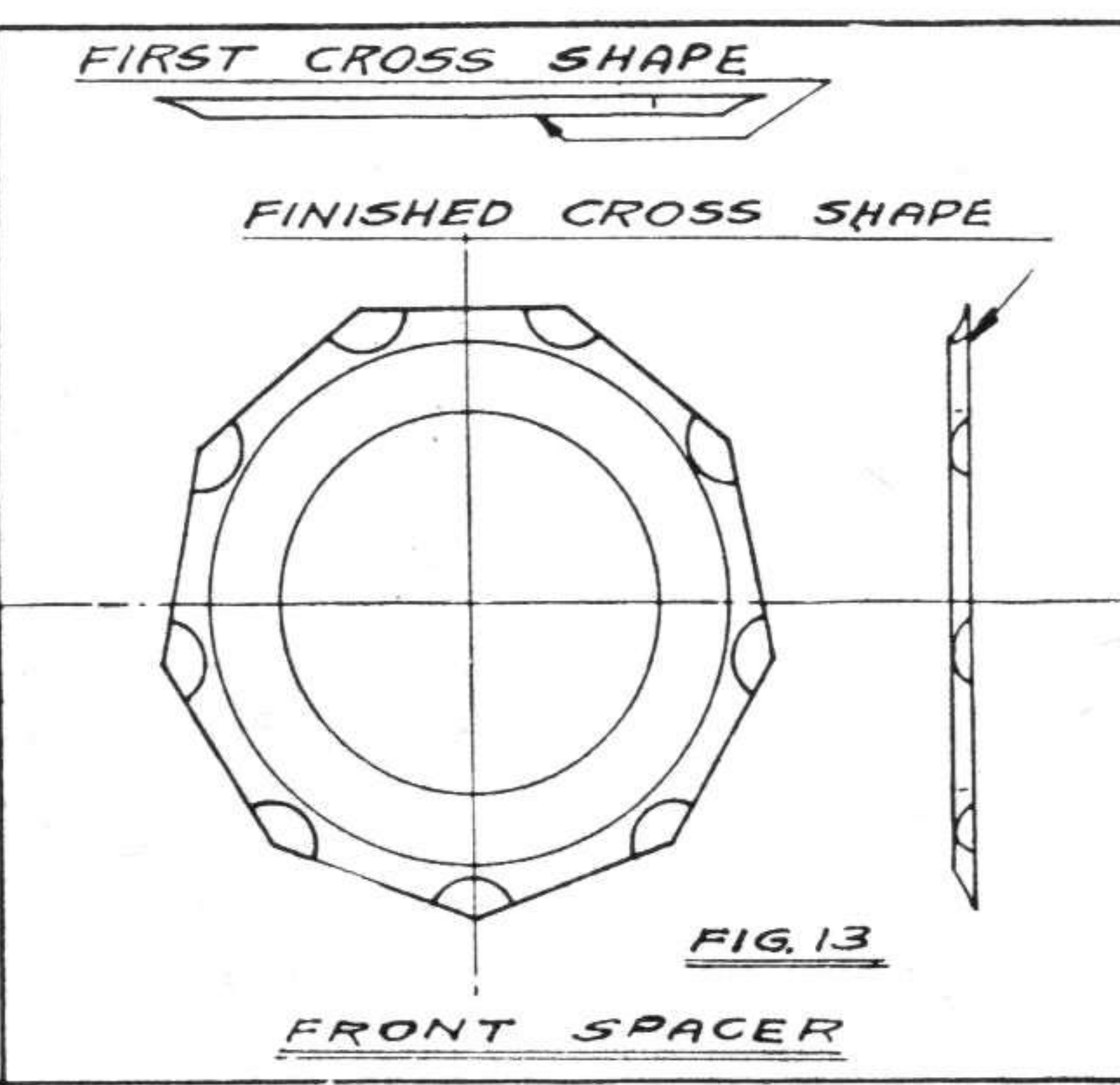
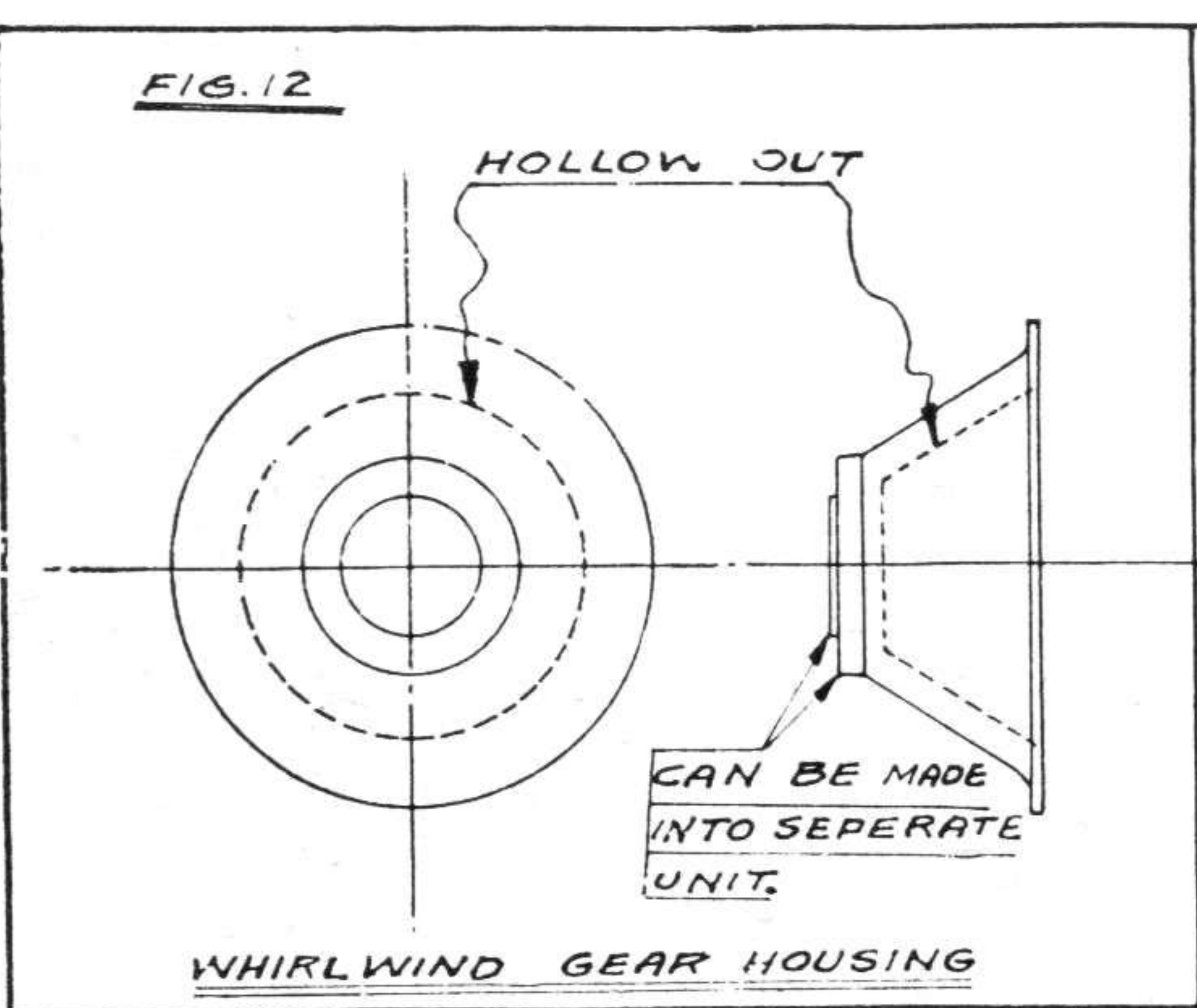


FIG. 12

FRONT VIEW of 340 H.P. WHIRLWIND

W.A. WYLAN



NOTICE: WHEN MAKING CYLINDERS, BESURE THAT THE WIDTH OF EACH CYLINDERS IS PERFECT; TO ALLOW EASY INSTALATION WITHOUT INTERFERENCE — IN OTHER WORDS, MAKE SURE THAT THERE WILL BE SUFFICIENT CLEARANCE BETWEEN THE CYLINDER'S SIDE BEFORE THEY ARE FIRMLY ATTACHED TO THE CYLINDER BLOCK (FIG.).

0" 12" 24" 36" 48"
SCALE OF WRIGHT "WHIRLWIND"

DRAWN BY...
WILLIAM A. WYLAM

PLATE NO. 4 PRATT & WHITNEY
 SCALE: 3/4" = 1'-0" TWIN ROW-14 CLY'S
 DRAWN BY... "WASP, Jr."
 W.A. WYLAM

A	2 FRONT CYLINDERS
B	2 REAR CYLINDERS
C	CONTROLLABLE PROP. VALVE
D	GENERATOR MOUNTING FLANGE
E	MAGNETO
F	CARBURATOR HEATER
G	CARBURATOR UNIT
H	FUEL PUMP
I	OIL SUMP
J	RETURN OIL LINE
K	AUXILIARY OIL SUMP
L	40 PROP SHAFT & SPLINES
M	OIL STRAINER UNIT
N	COWL MOUNTING BOSSES
O	INNER-EAR OIL DRAIN
P	INNER-CAP OIL DRAIN
Q	OIL BREATHER UNIT LINE
R	OIL BREATHER UNIT
S	CYLINDER HEAD BAFFLE
T	FRONT CYLINDER BAFFLE
U	FRONT & REAR CYLIND'R. BAFFLES
V	INTAKE PIPE
W	EXHAUST PORTS
X	MACHINE GUN SYNCHRONIZER

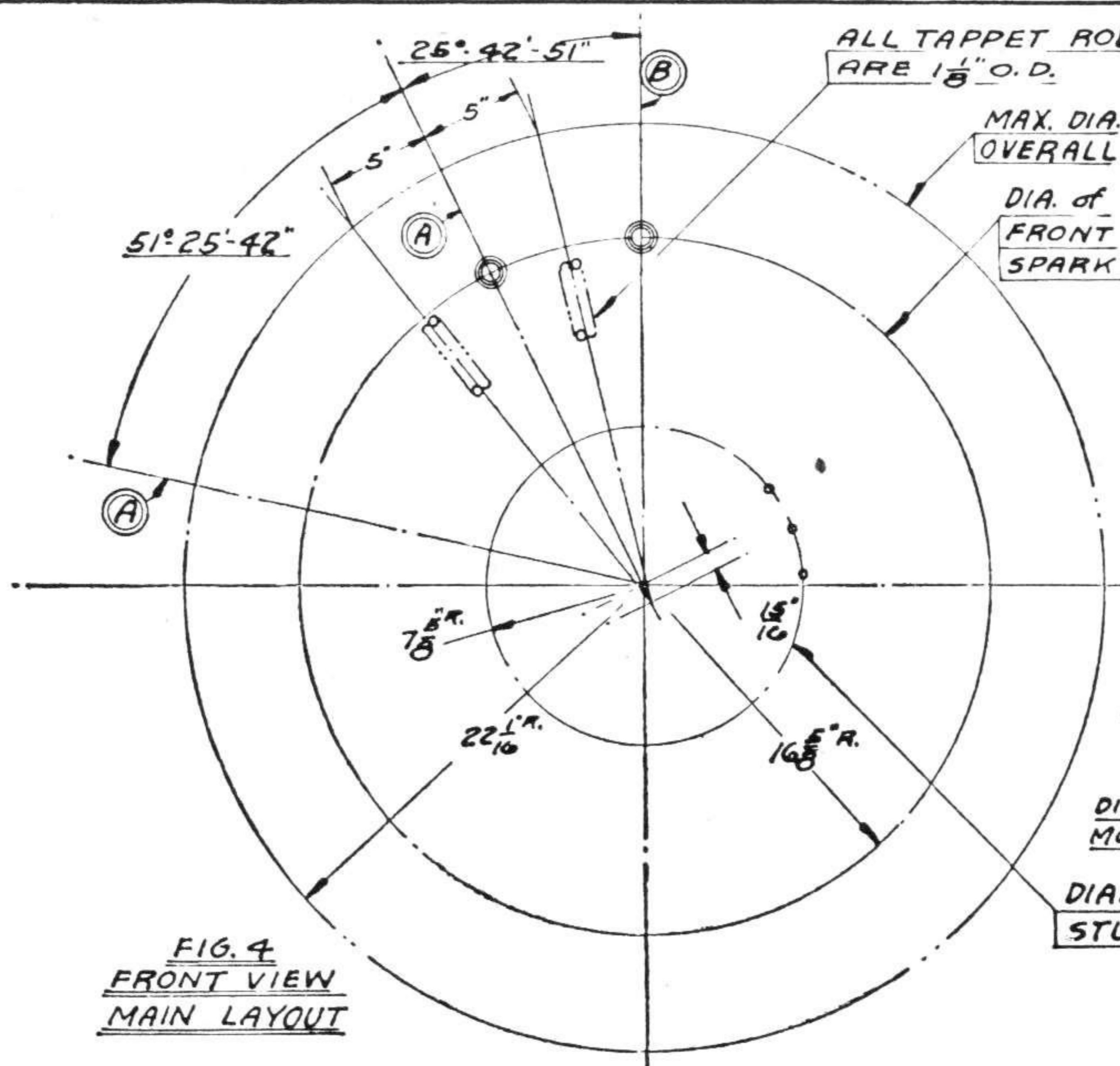


FIG. 4
 FRONT VIEW
 MAIN LAYOUT

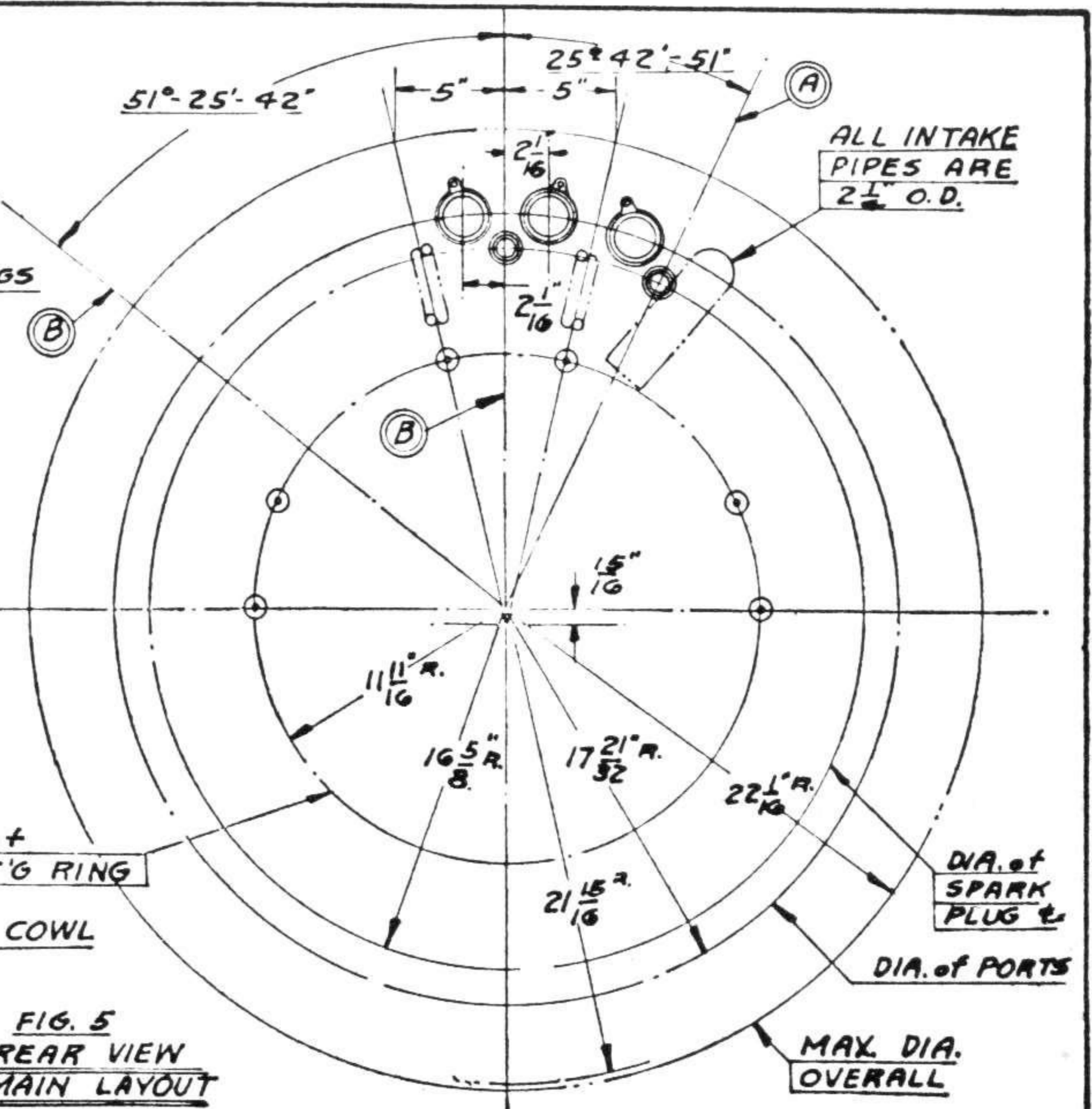


FIG. 5
 REAR VIEW
 MAIN LAYOUT

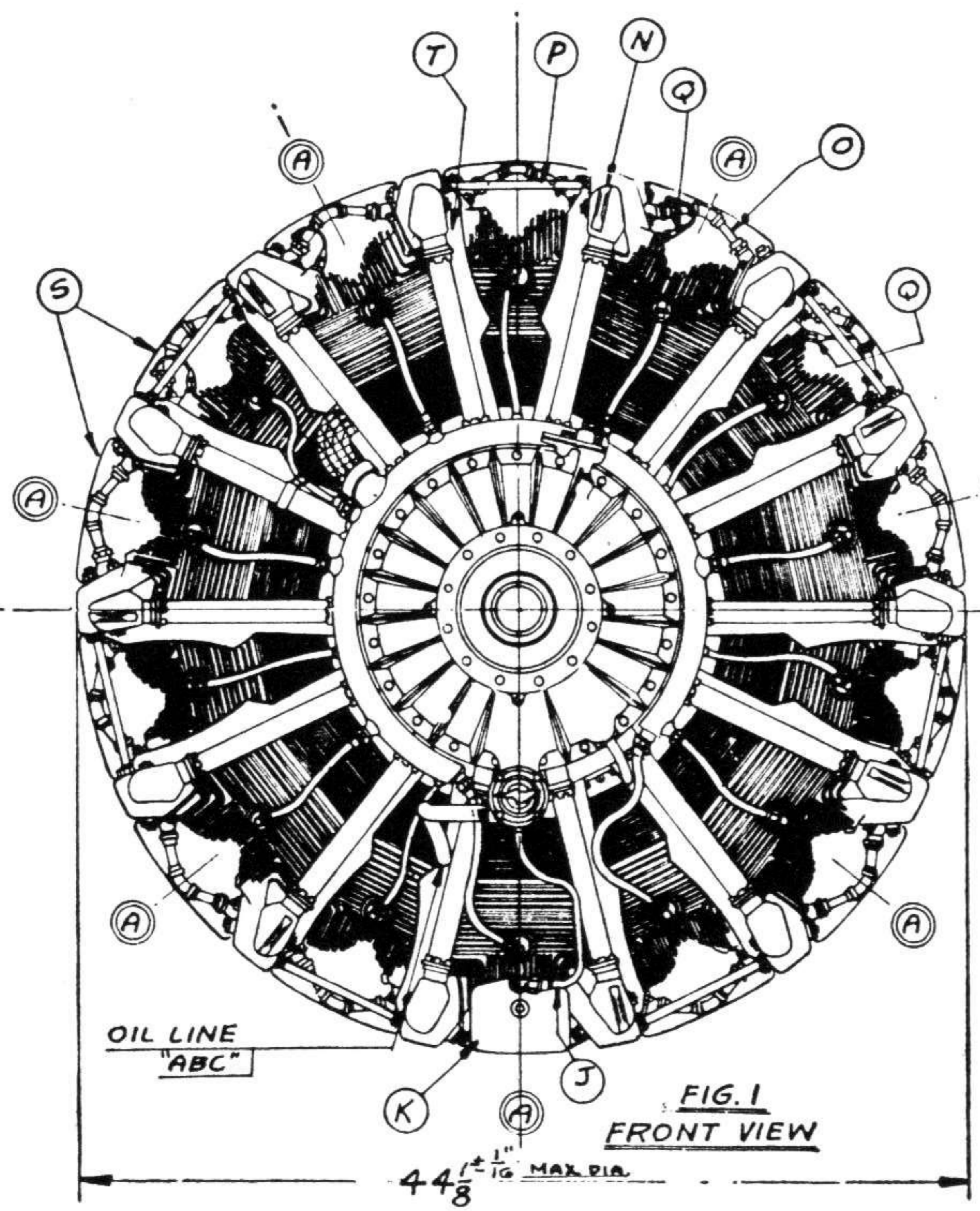


FIG. 1
 FRONT VIEW

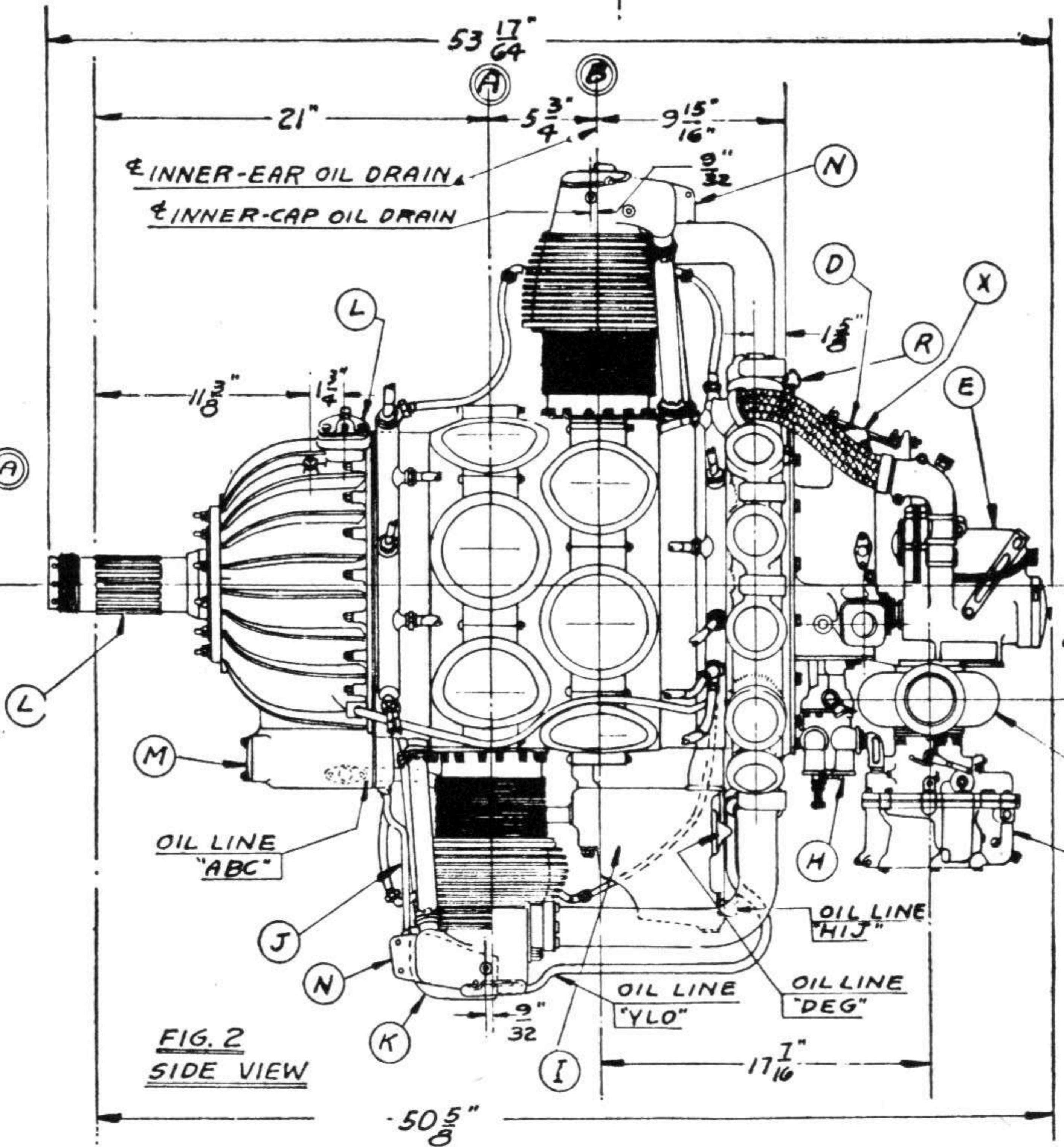


FIG. 2
 SIDE VIEW

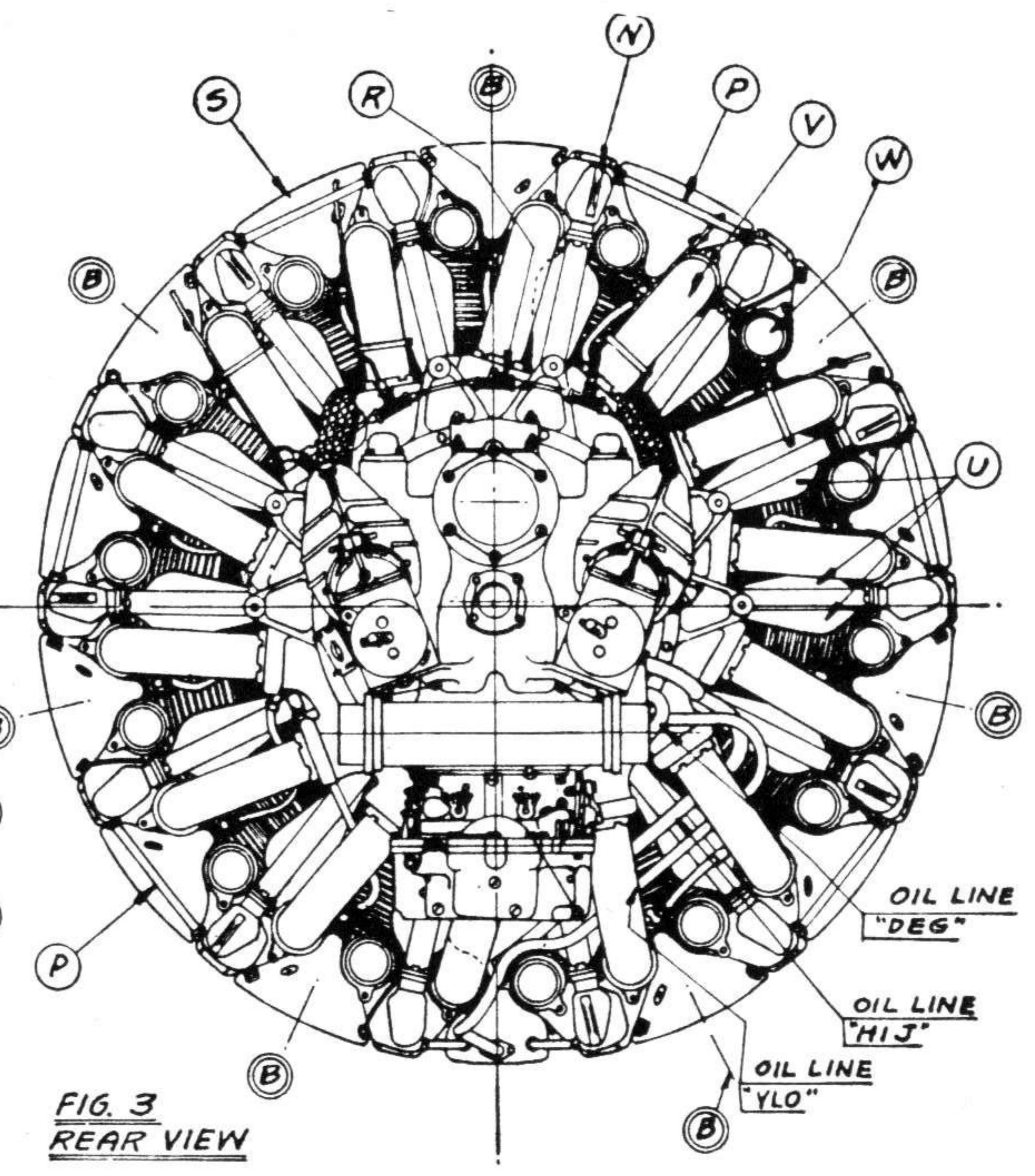
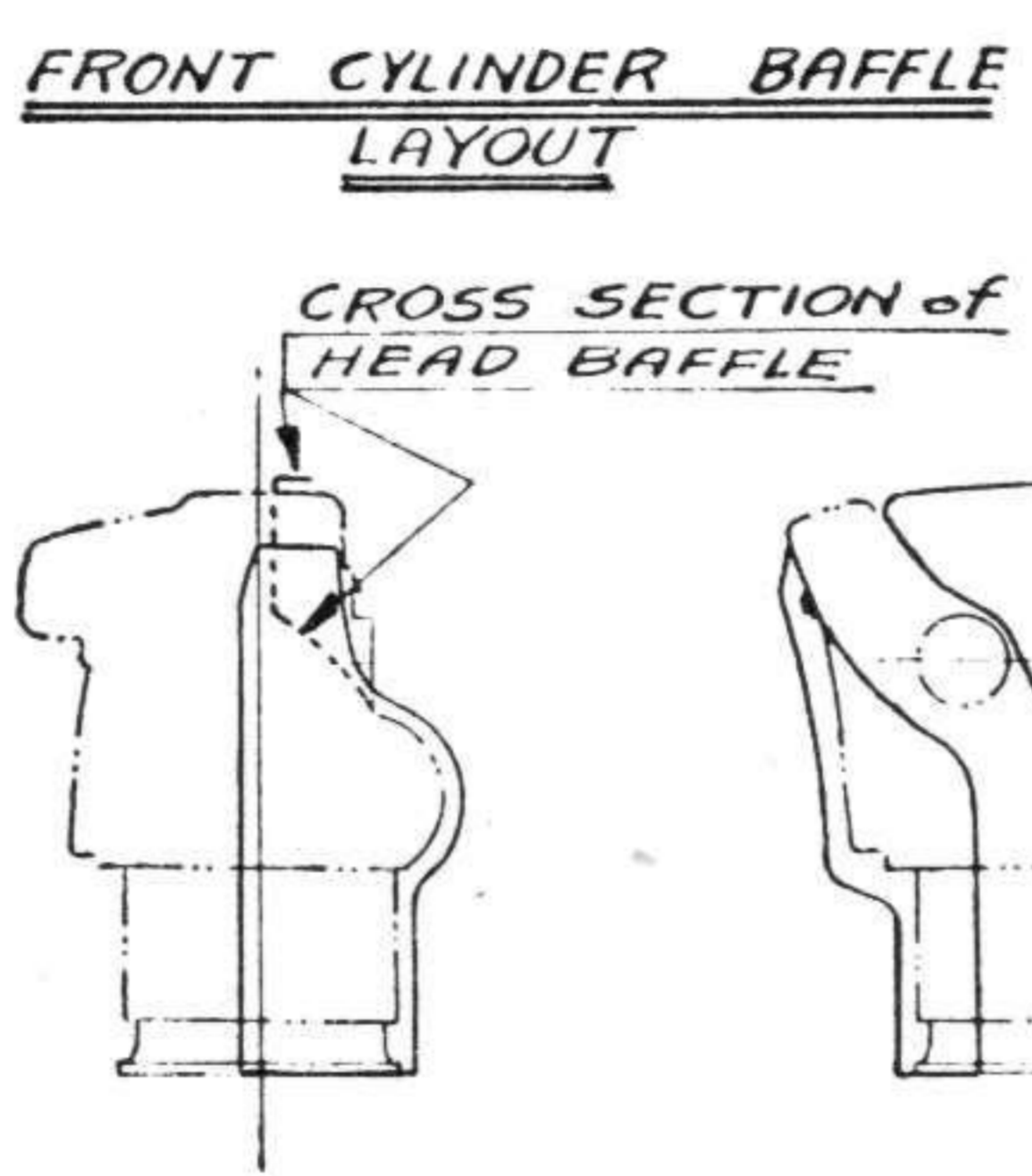
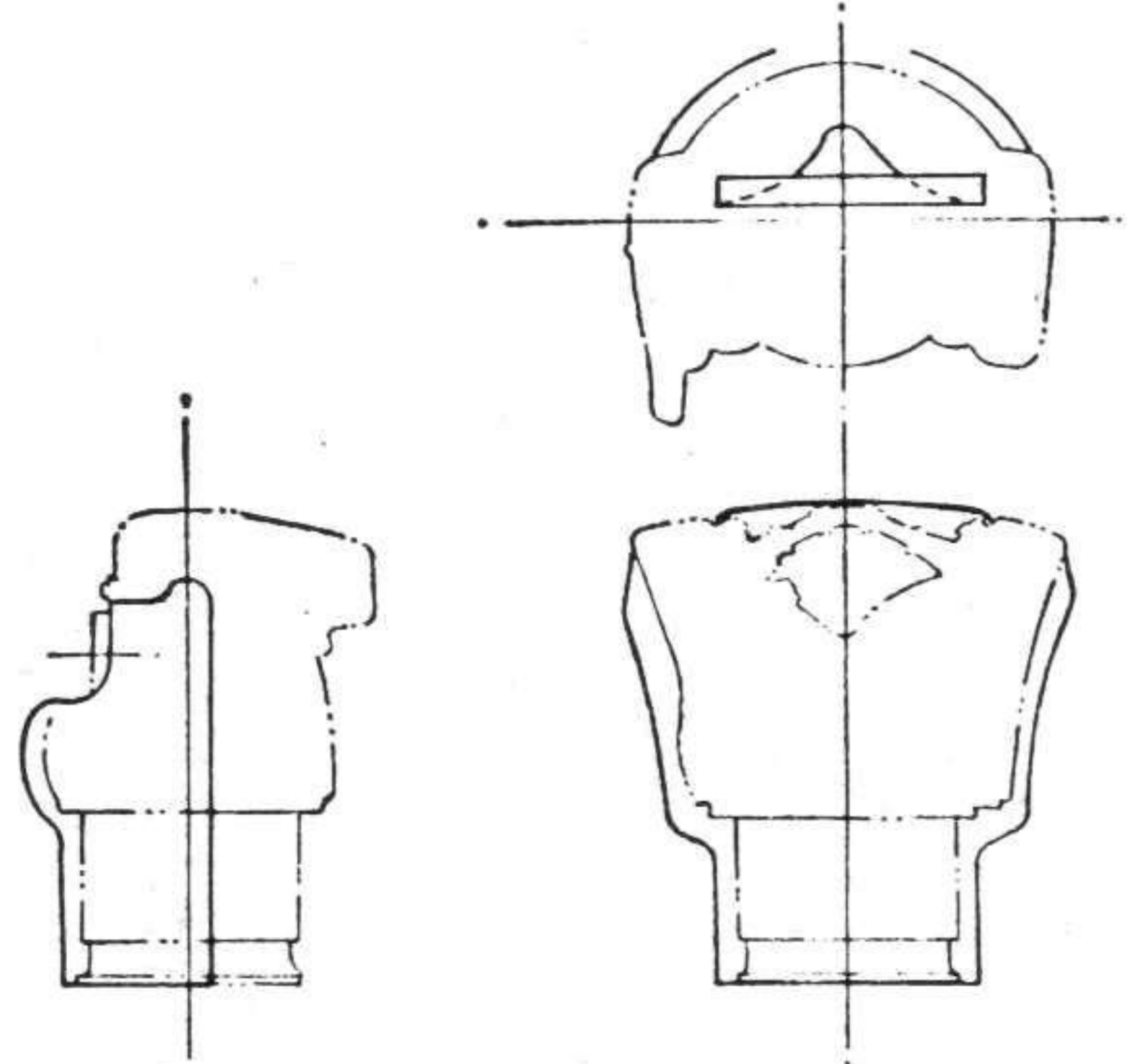
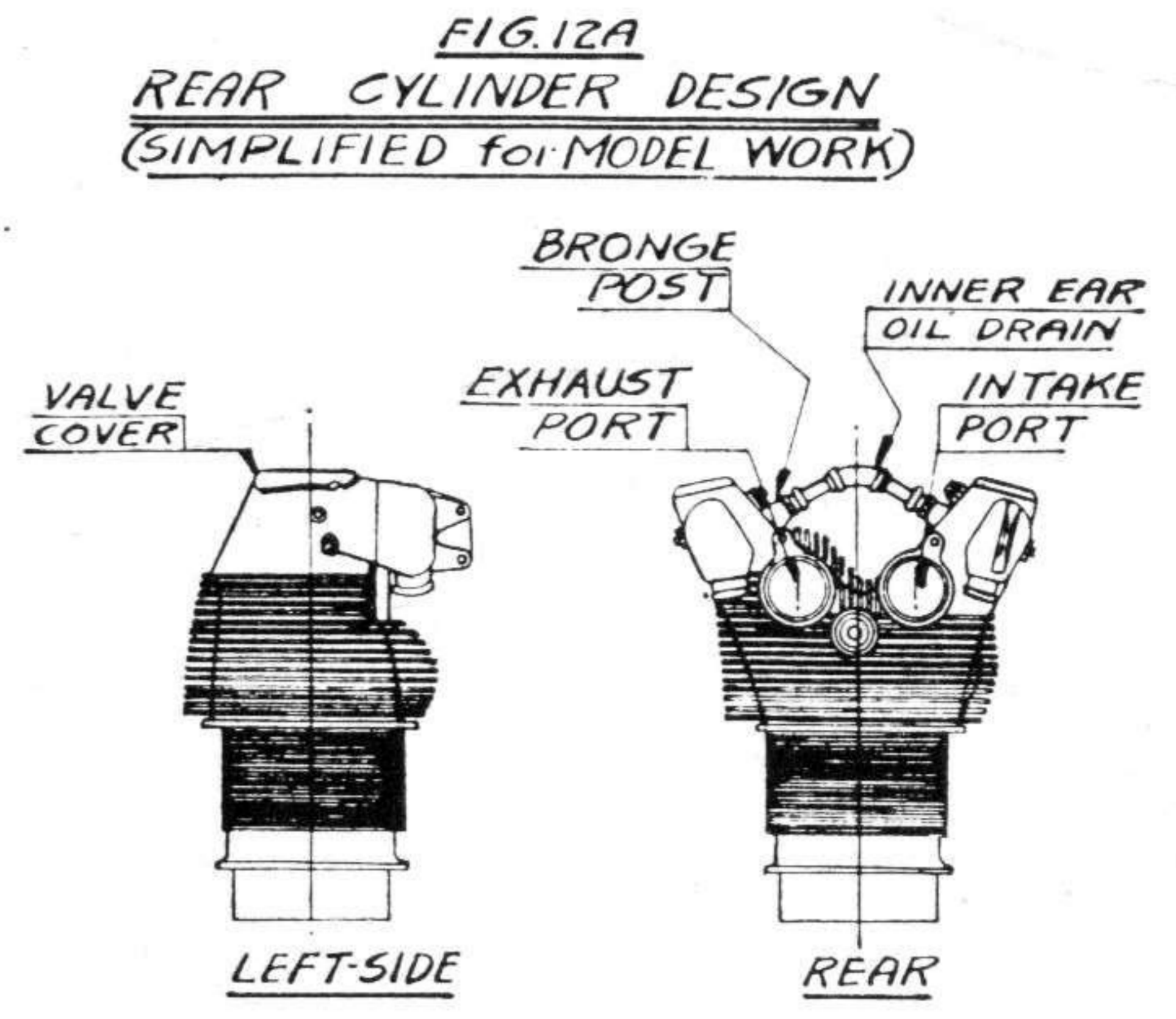
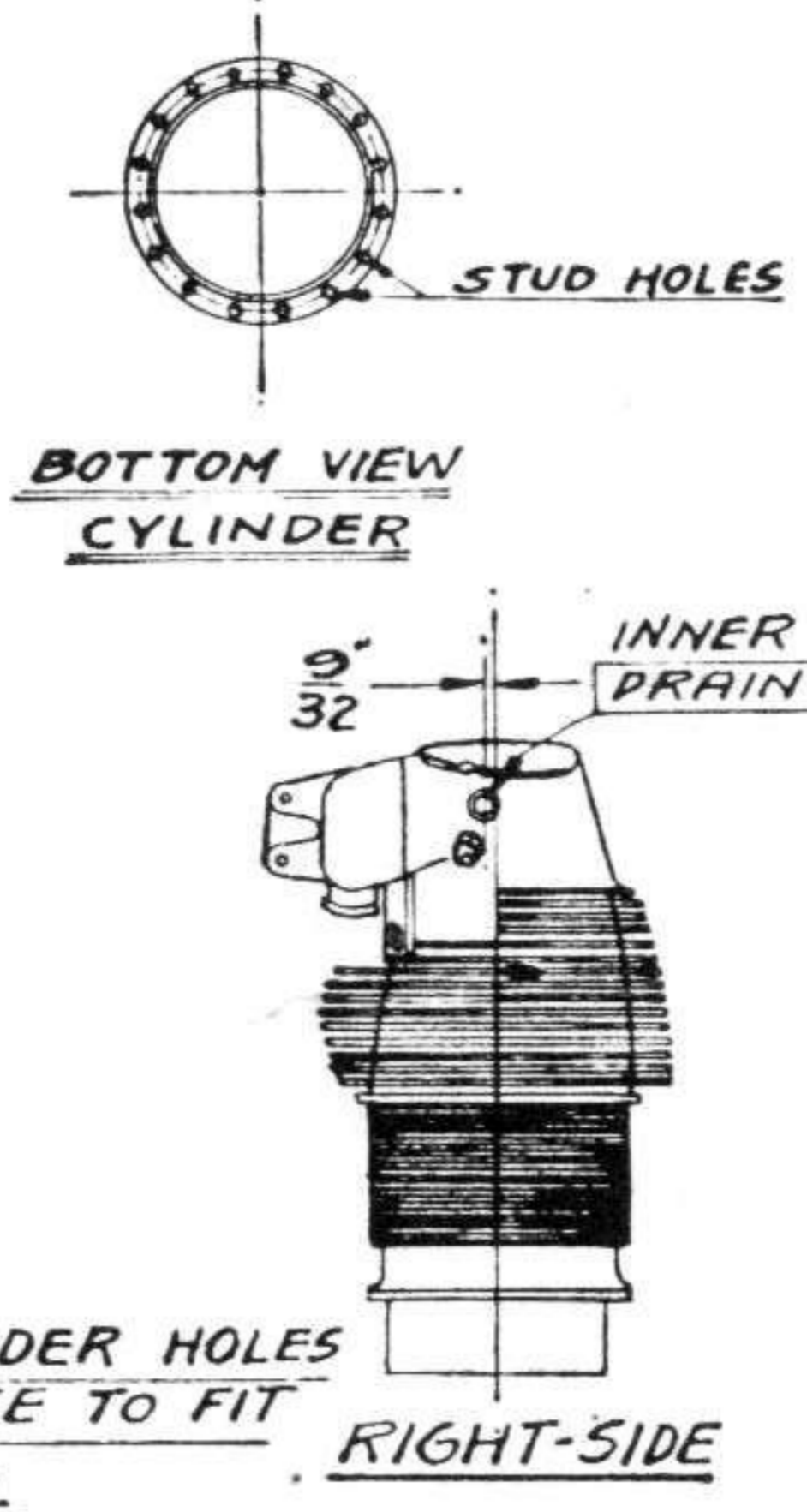
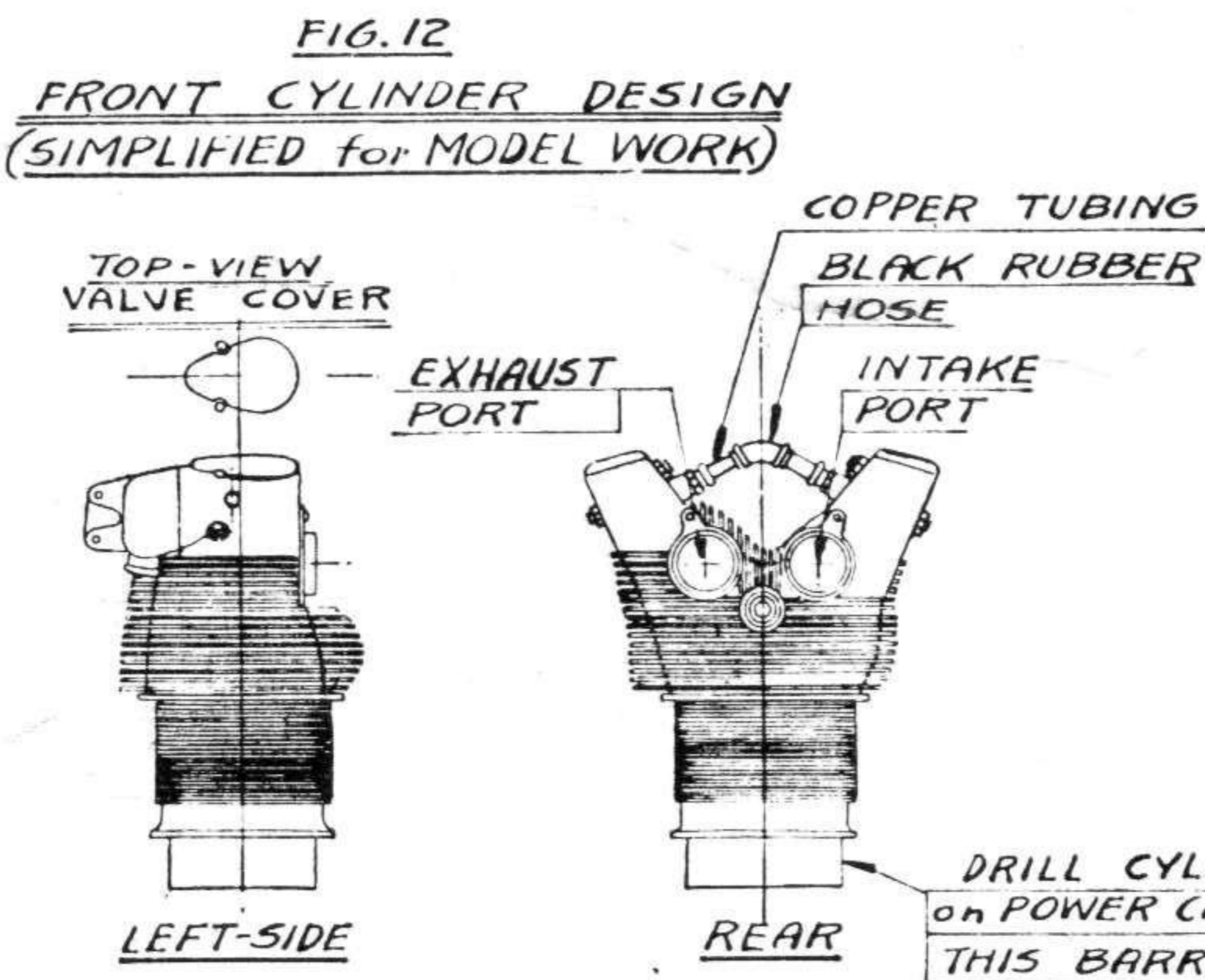
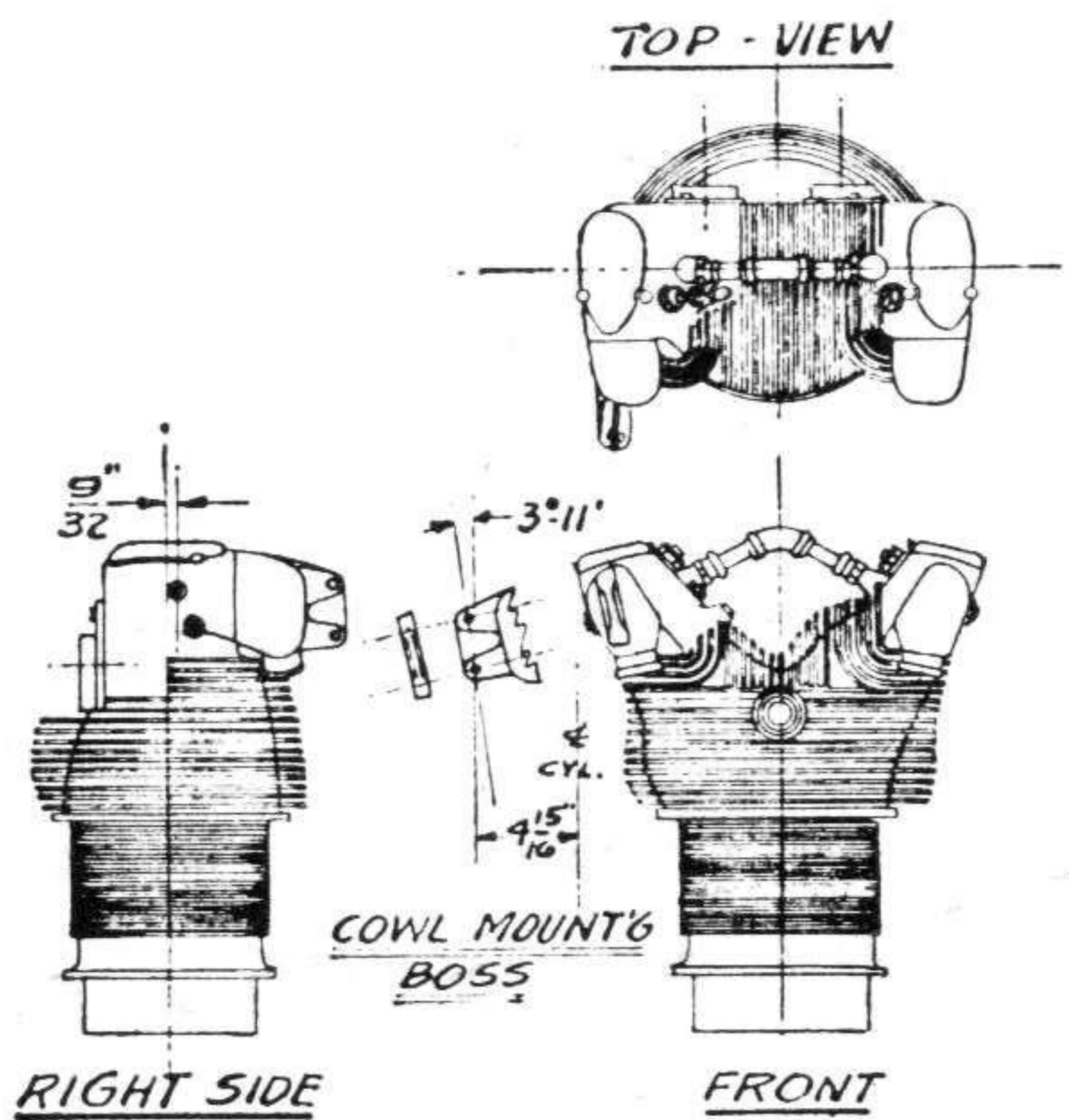


FIG. 3
 REAR VIEW



ALL BAFFLES ARE MADE OF PRESSED DURALUMIN & ARE ATTACHED TO CYLINDERS BY LUGS & BOLTS.
COLOR: SHINEY BLACK.

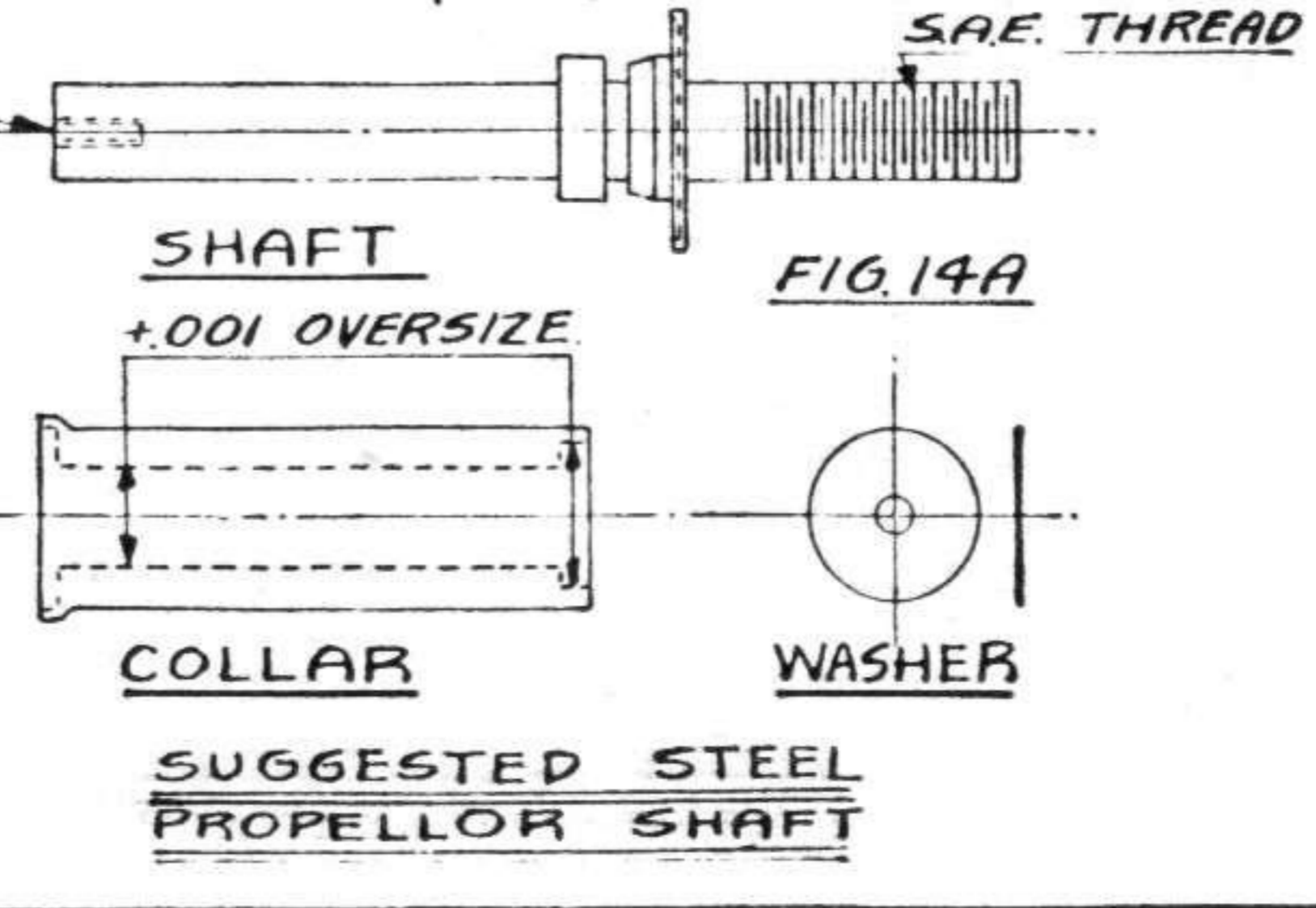
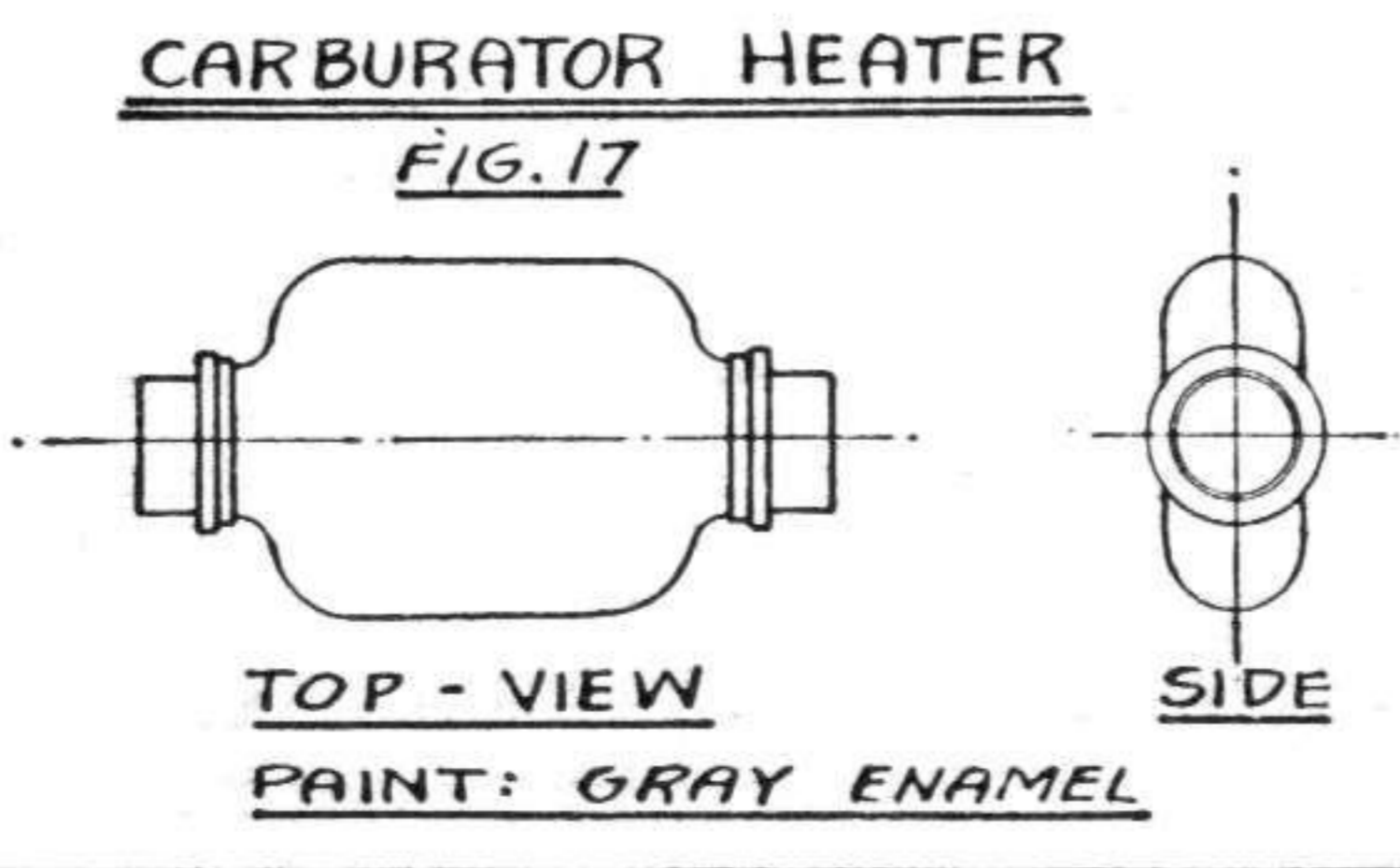
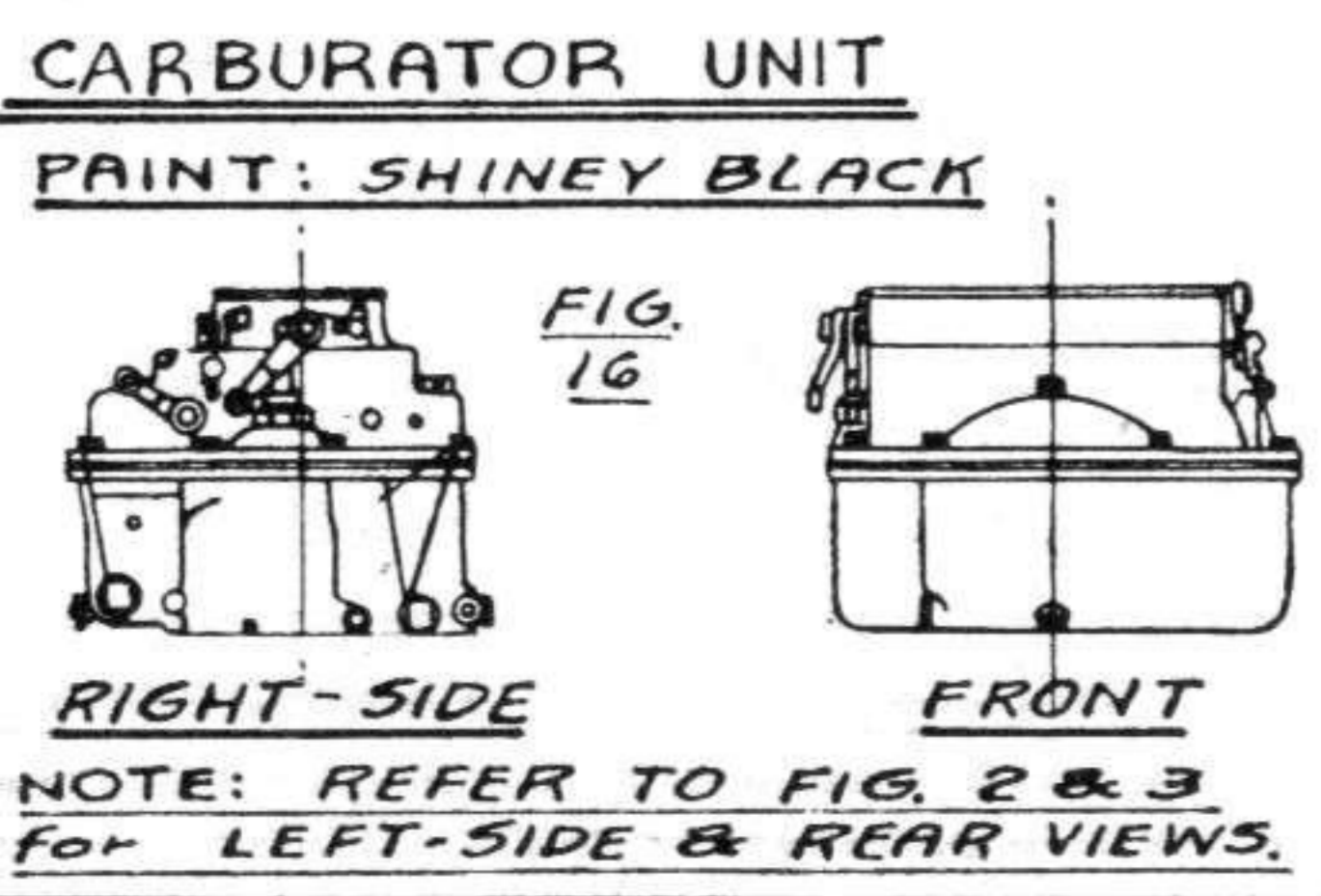
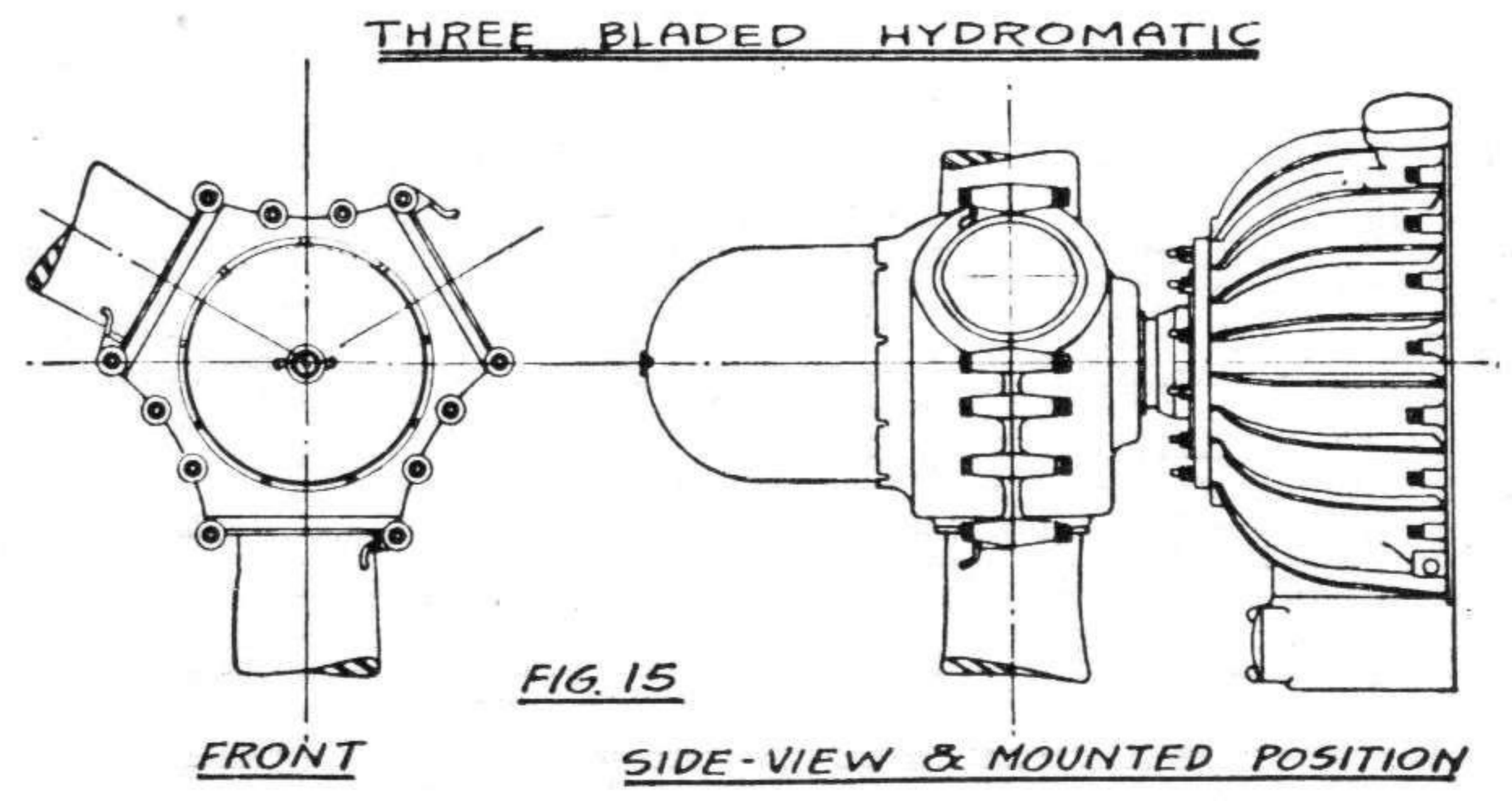
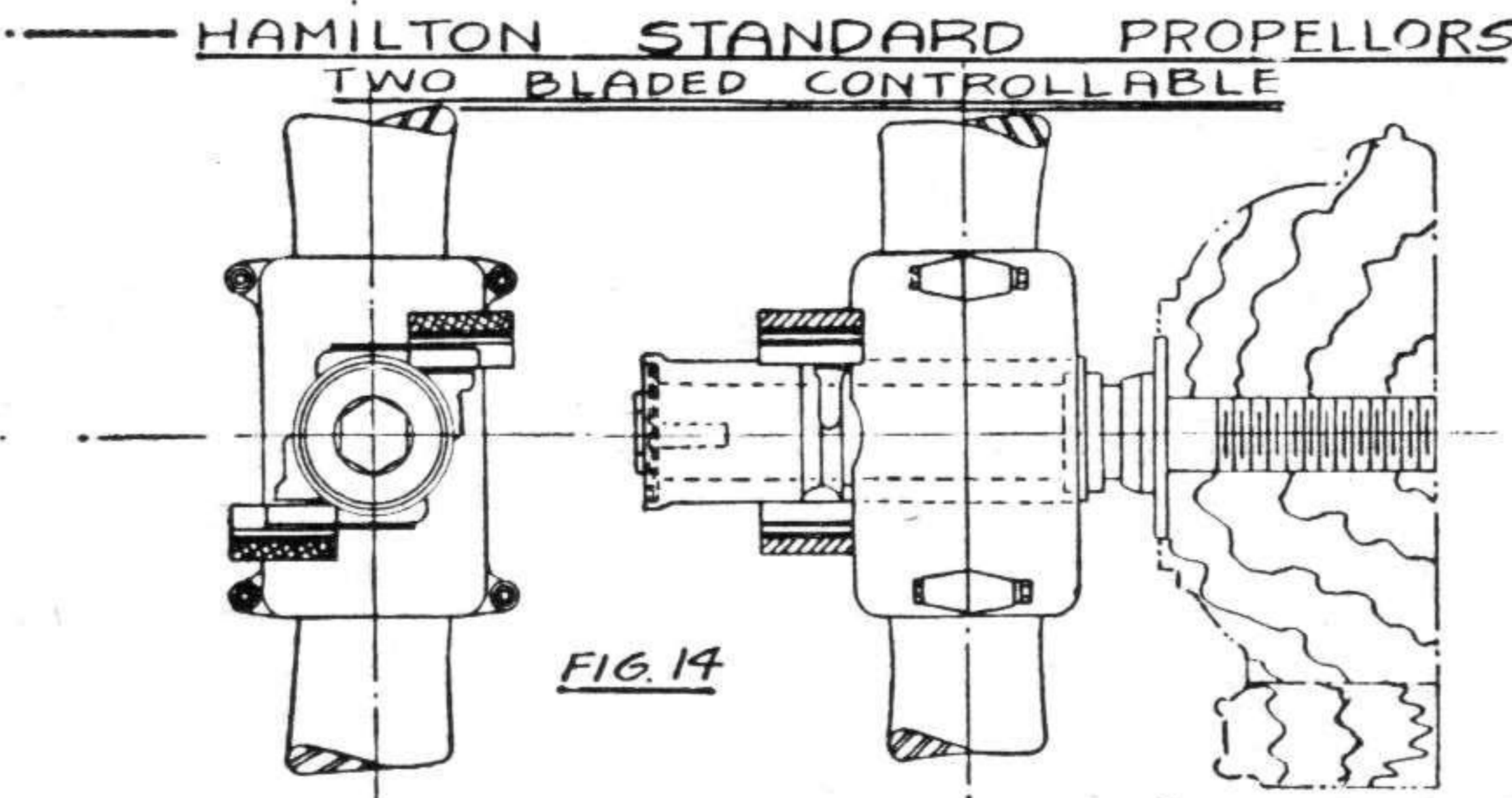
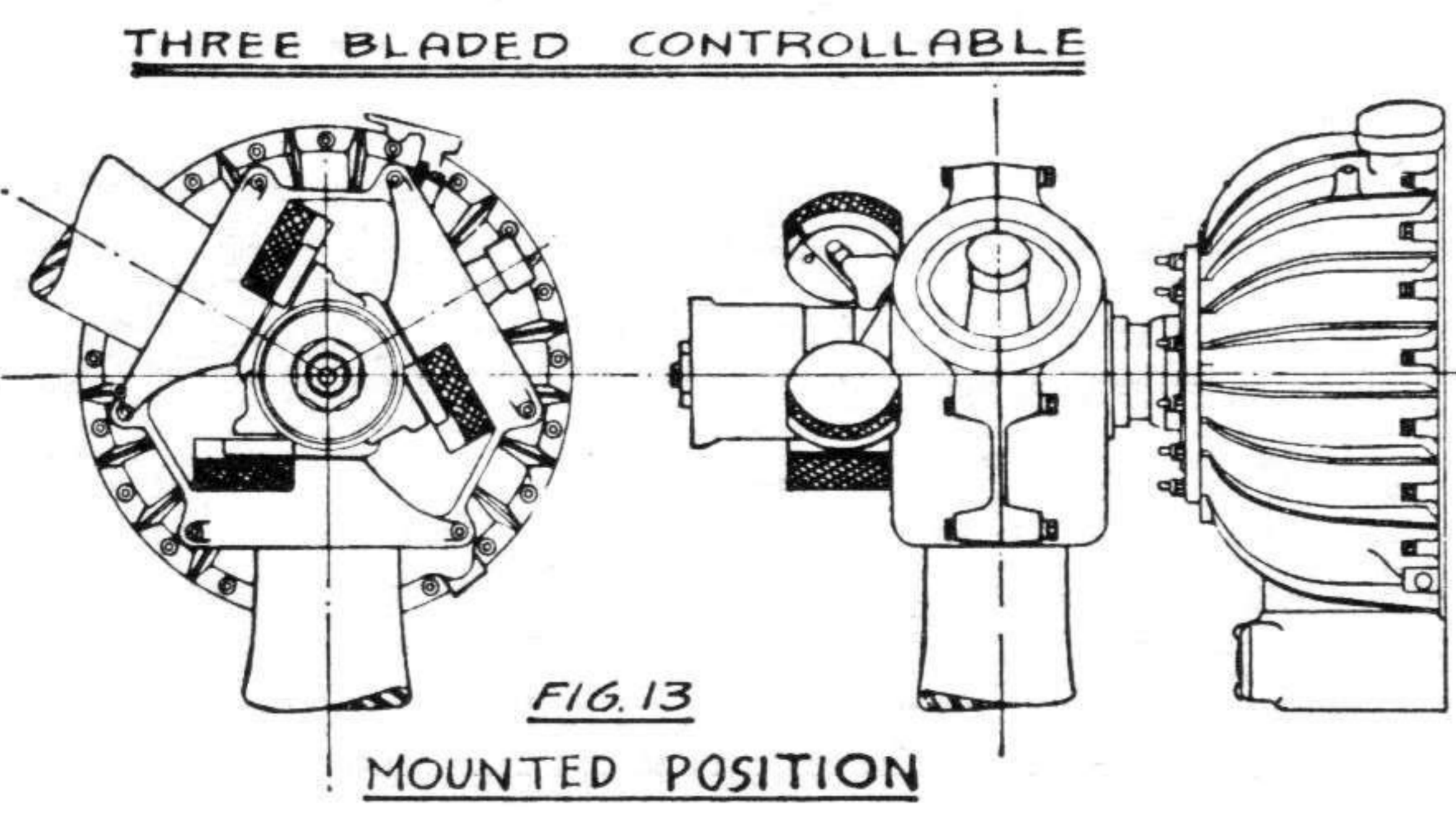
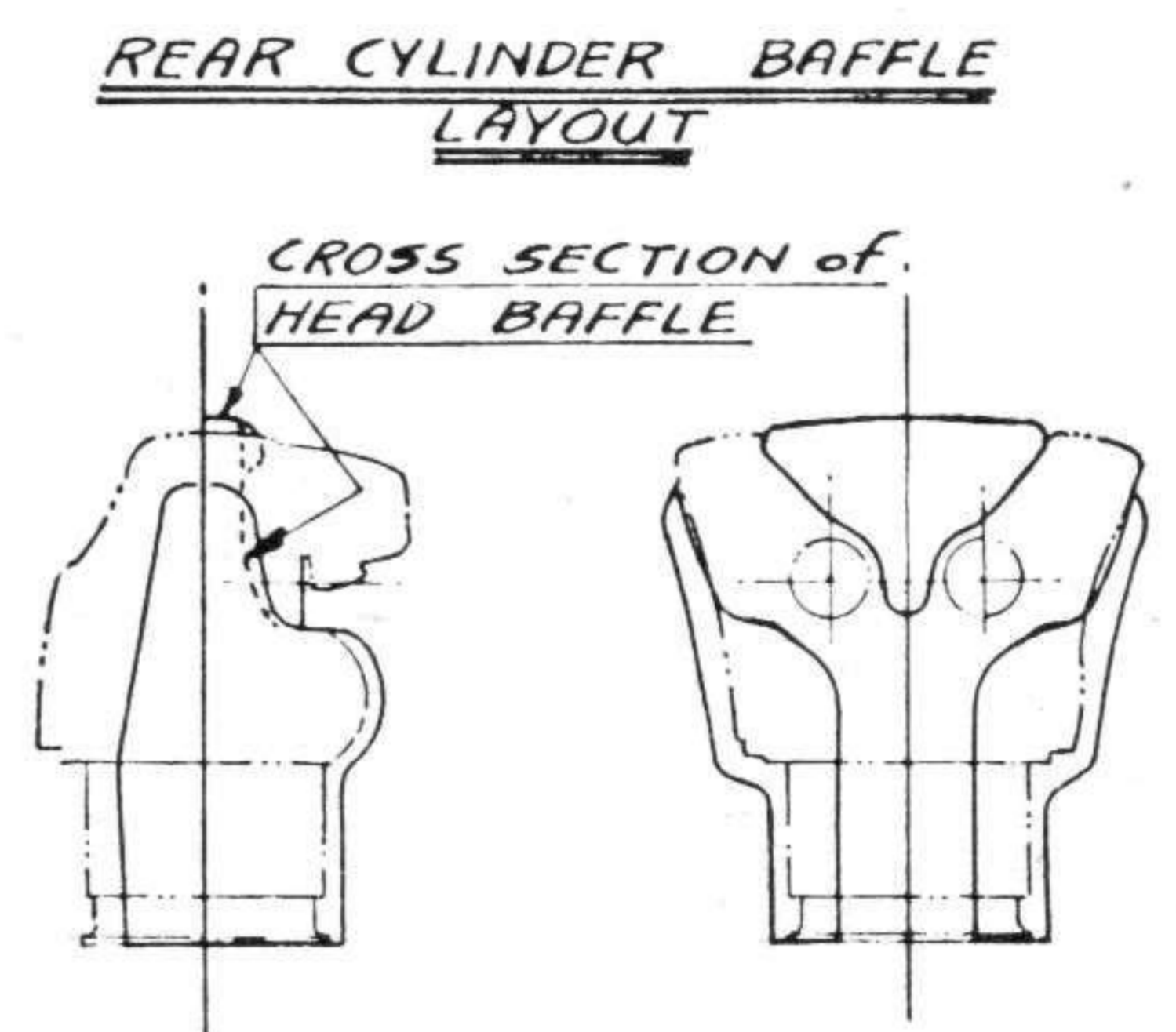
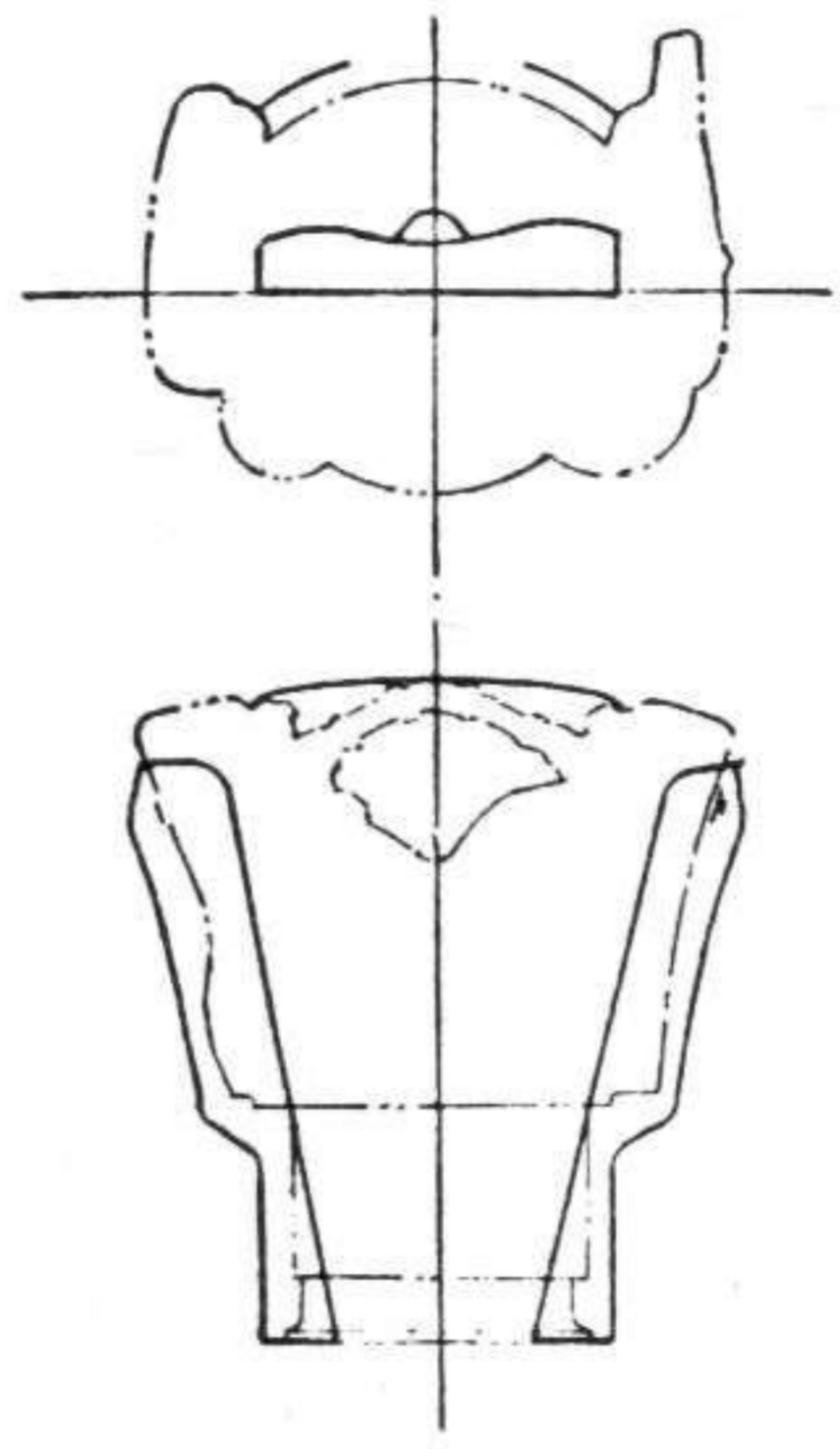
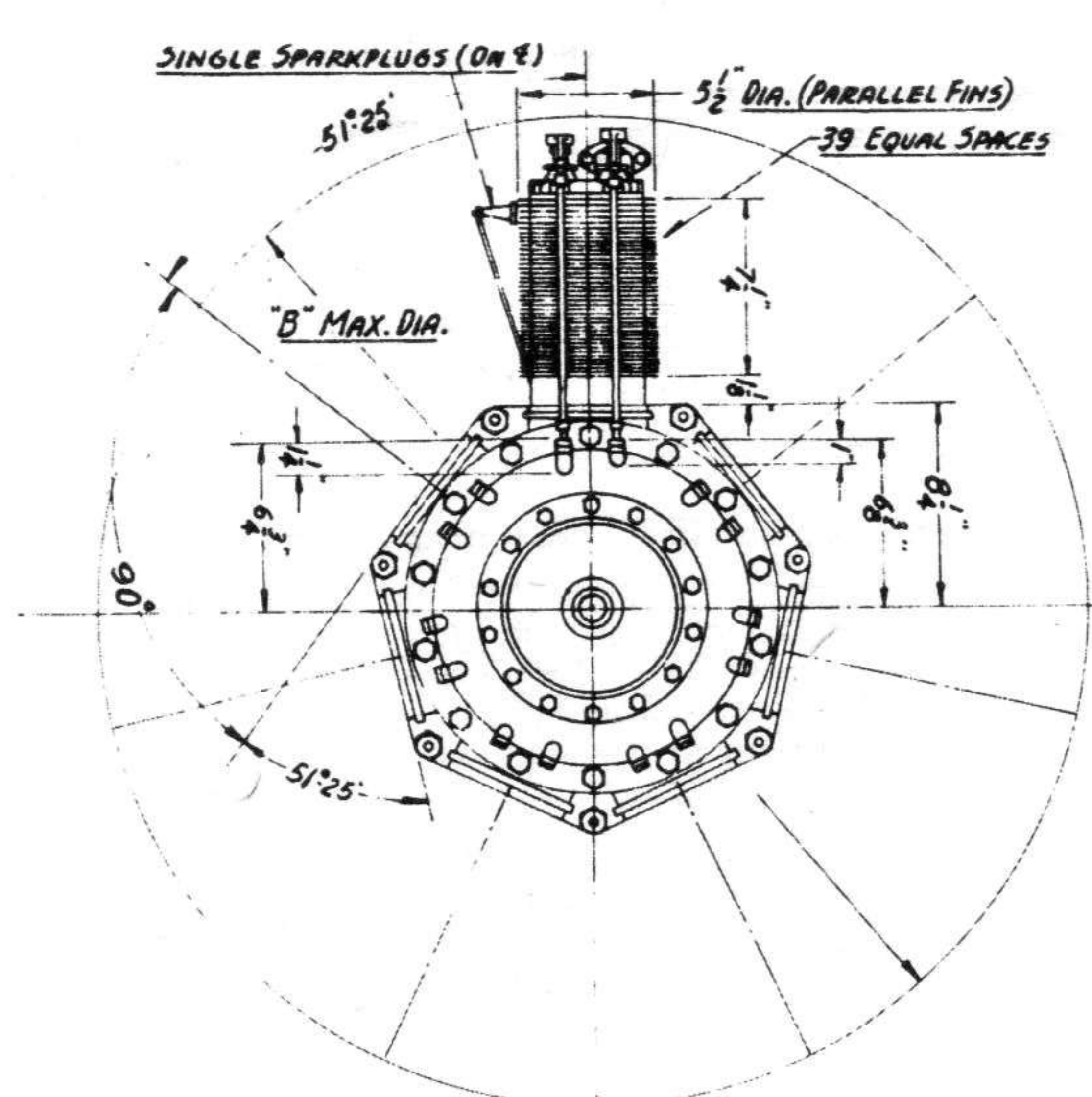
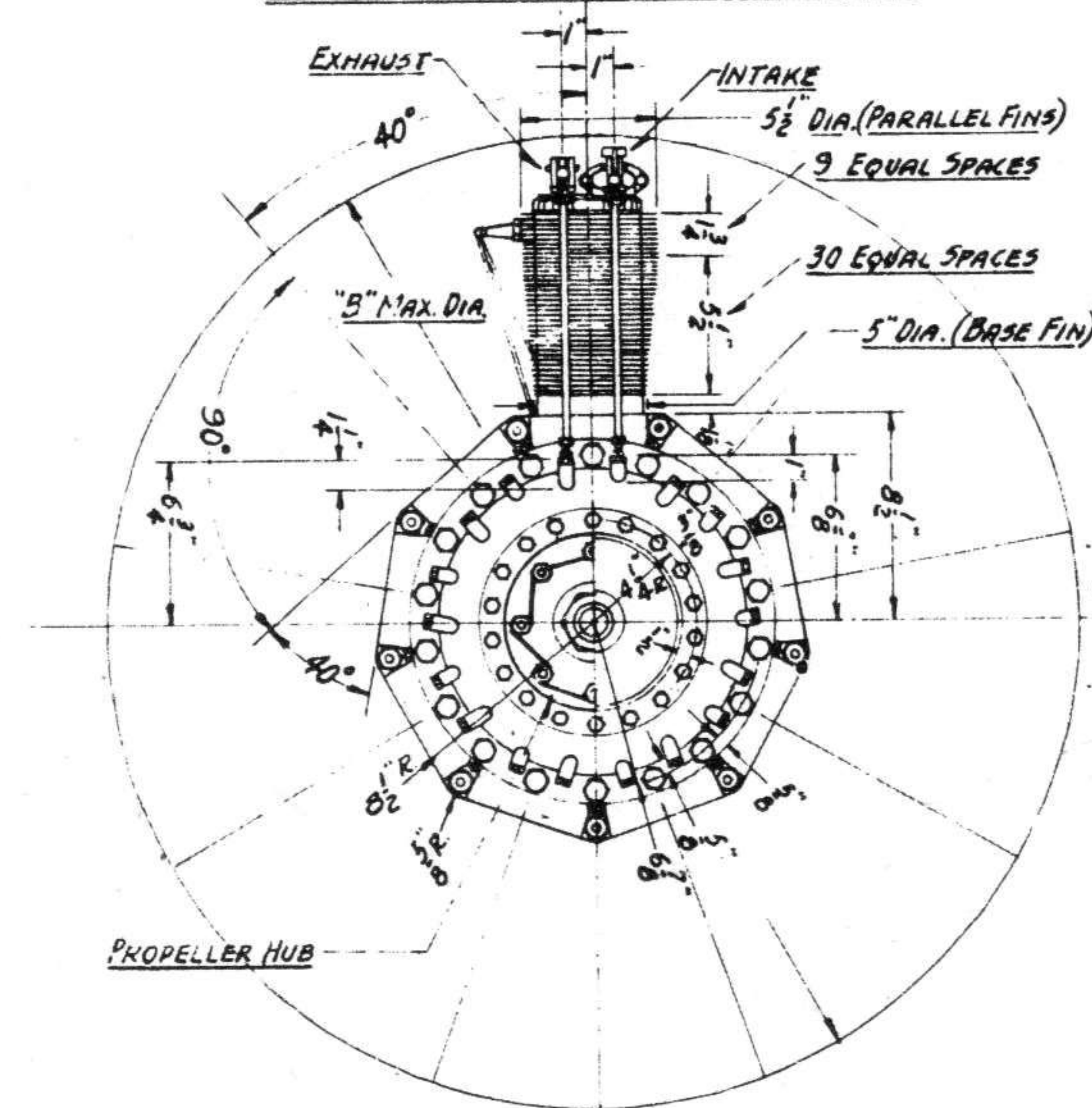


PLATE No. 6
SCALE: 1/4" = 1'-0"
DRAWN BY...
W.A. WYLAM
PRATT & WHITNEY
TWIN ROW - 14 CYL'S.
"WASP, Jr."

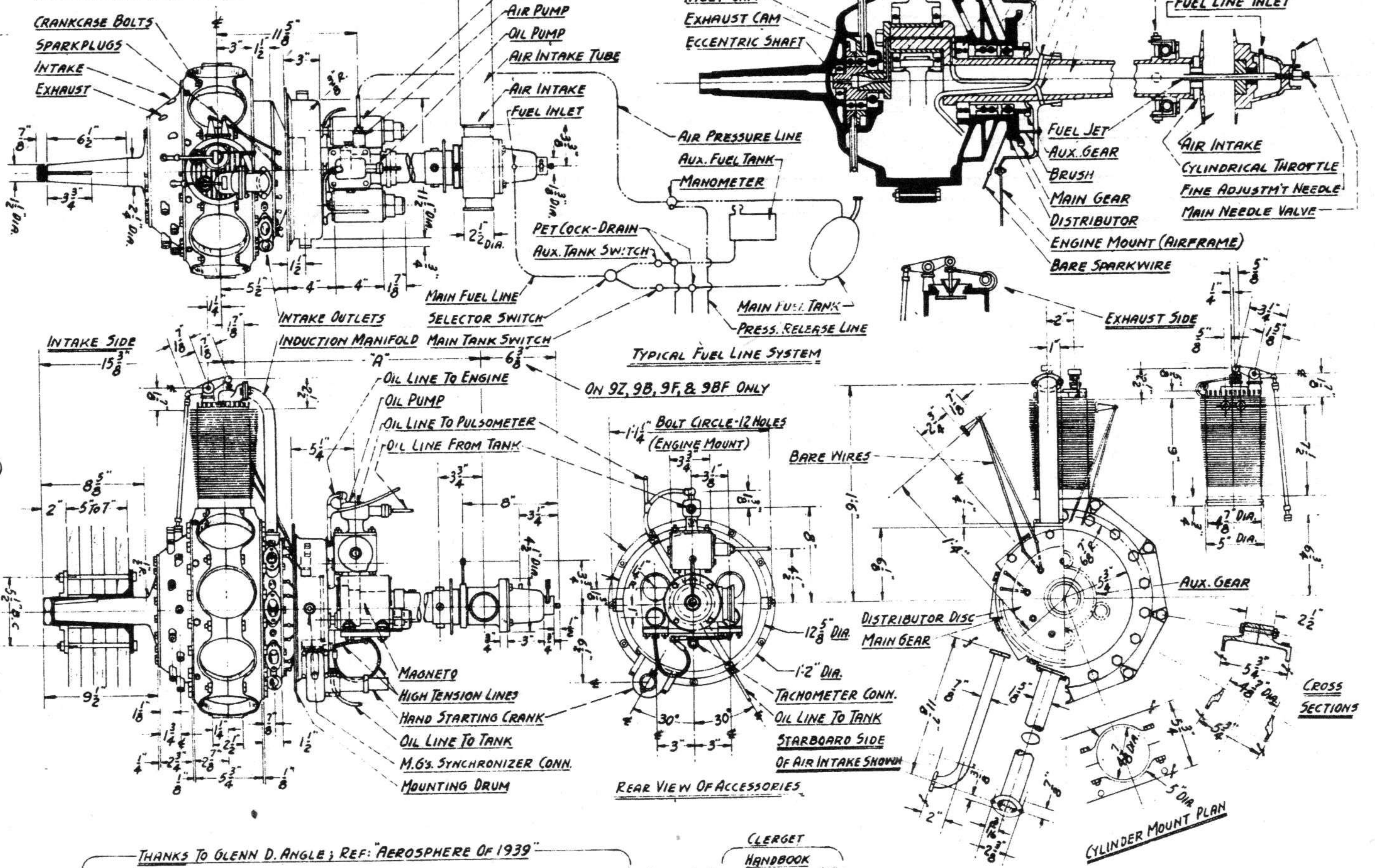


MODEL 7Y, & 7Z CLERGET SEVEN CYLINDERS



MODEL 9Y, 9Z, 9B, 9F, & 9BF CLERGET NINE CYLINDERS
(MODEL 9Y HAD SAME FINS ON CYLINDERS AS 7Y)

NOTES ON SECTIONAL DRAWINGS:
 THE HEAVY BLACK OUTLINES ARE THOSE OF THE ASSEMBLY WHICH ROTATES ON THE FIXED HOLLOWED CRANKSHAFT. THE CRANKCASE WAS MOUNTED ON FRONT & REAR BALL BEARINGS; THE CRANKSHAFT WAS FIXED TO THE AIRFRAME AT THE DRUM AND THE REAR SUPPORT. THE ECCENTRIC SHAFT PROVIDES THE CAM MOVEMENTS. THE GAS VAPOR ENTERS THE CRANKCASE THRU THE HOLLOWED CRANKSHAFT; IT ENTERS THE CYLINDERS THRU THE INDUCTION PIPES. THE EXHAUST WAS EJECTED INTO THE ATMOSPHERE AT THE EXHAUST PORTS. THE HIGH TENSION BRUSH RUBS ON THE DISTRIBUTOR DISC; THE PLUG WIRES WERE FIXED TO THE DISTRIBUTOR DISC, PASS THRU THE INSULATED HOLDERS TO THE SPARKPLUGS; FIRING ORDER WAS EVERY OTHER CYLINDER.



THANKS TO GLENN D. ANGLE; REF: "AEROSPHERE OF 1939"

MODEL	H.P. @ R.P.M.	BORE	STROKE	FUEL RATE	WEIGHT	WEIGHT/H.P.	"B" MAX. DIA.	"A" LENGTH
7Y	60 1200	4.72"	4.72"	.63 LBS/HOUR	198 LBS.	3.3 LBS.	35.5"	16.625"
7Z	85 1200	4.72	5.91	.665	216	2.7	36.25	16.625
9Y	110 1200	4.72	5.91	.675	395	3.6	36.25	20.625
9Z	121 1200	4.72	6.3	.79	367	3.03	40.25	27.625
9B	130 1250	4.72	6.3	.665	381	2.93	40.25	28.0
9F	200 1325	4.72	6.69	.687	374	1.87	40.25	29.25
9BF	140 1250	4.72	6.77	.656	381	2.72	40.25	28.0
9J	100 1300	4.13	5.51	.156	250	2.5	36.25	28.625

NOTES:
 CYLINDER DIMENSIONS & OTHER MAIN DIMENSIONS ARE THOSE OF THE POPULAR 130 H.P. VERSION. OTHER VERSIONS HAD MINOR ALTERATIONS ON DIMENSIONS, DESIGN, AND PLACEMENT OF THE FIXED REAR ACCESSORIES. SOME VERSIONS OF THE SAME MODEL HAD VARIATIONS ON THE REAR ACCESSORIES ARRANGEMENT—THAT IS, SOME 9B'S HAD SHORTER LENGTHS THAN THE STANDARD 9B'S "A" LENGTH.

AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.
 SCALE: 3/4" = 1'-0"
 TYPE: ROTARY
 COPYRIGHT 1947
 WILLIAM A. WYLAN
 BUILT 1915-18 BY CLERGET, BLIN & CIE, PARIS, FRANCE

GENERAL ARRANGEMENTS
 FRENCH AIRCOOLED ENGINE
CLERGET

F-1466

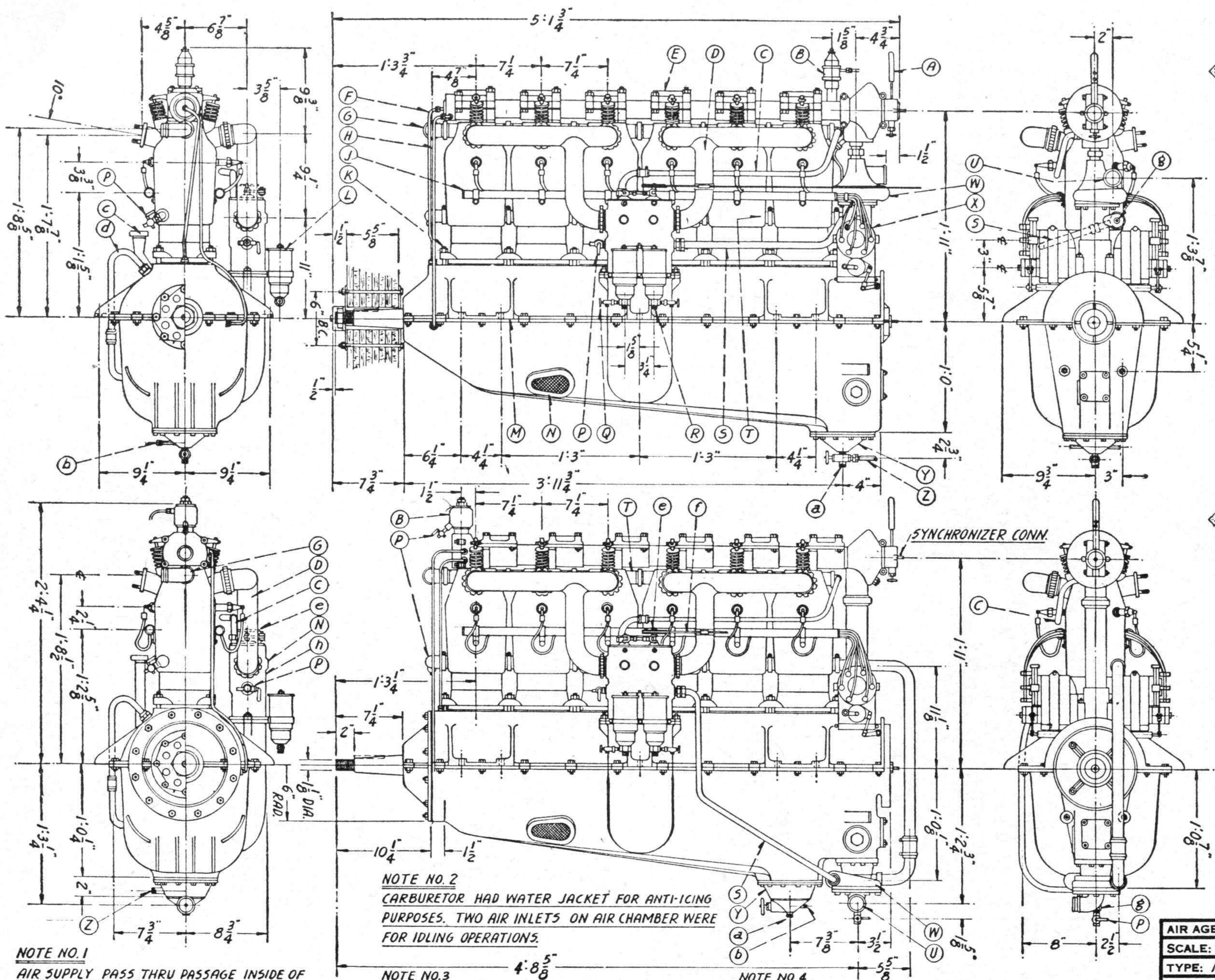
BORE 5.51"
STROKE 6.3"
160 H.P. @ 1400 RPM.

- (A) DE-COMPRESSION LEVER
- (B) AIR PUMP (FUEL PRESSURE)
- (C) CARBURETOR HEAT (WATER)
- (D) INTAKE MANIFOLD
- (E) CAMSHAFT & ROCKER CASING
- (F) OIL LINE TO OIL PUMP
- (G) WATER INLET ELBOW
- (H) OIL LINE FROM OIL PUMP
- (J) FIBER SUPPORT TUBE (WIRES)
- (K) CYLINDER HOLD-DOWN BOLTS
- (L) TWIN JET CARBURETORS
- (M) ENGINE MOUNT
- (N) CARBURETOR AIR INTAKE
- (P) PET COCK - WATER DRAIN
- (Q) PET COCK - CARBURETOR DRAIN
- (R) FUEL LINE CONNECTIONS

F-1466D-3A

BORE 5.51"
STROKE 6.3"
180 H.P. @ 1400 R.P.M.

- (S) CARBURETOR HEAT (TO PUMP)
- (T) WATER INLET CONNECTIONS
- (U) WATER OUTLET (TO RADIATOR)
- (W) WATER PUMP
- (X) TWIN MAGNETOS
- (Y) OIL PUMP
- (Z) OIL LINE CONN. (FROM TANK)
- (a) OIL DRAIN
- (b) OIL TEMPERATURE GAGE CONN.
- (c) OIL SUMP FILL
- (d) OIL BYPASS LINE
- (e) THROTTLE PULLEY
- (f) THROTTLE CONTROL CABLES
- (g) WATER TEMP. GAGE CONN.
- (h) AIR CHAMBER



NOTE NO. 2
CARBURETOR HAD WATER JACKET FOR ANTI-ICING PURPOSES. TWO AIR INLETS ON AIR CHAMBER WERE FOR IDLING OPERATIONS.

NOTE NO. 3
DE-COMPRESSION LEVER WAS USED TO REDUCE COMPRESSION DURING STARTING OPERATIONS.

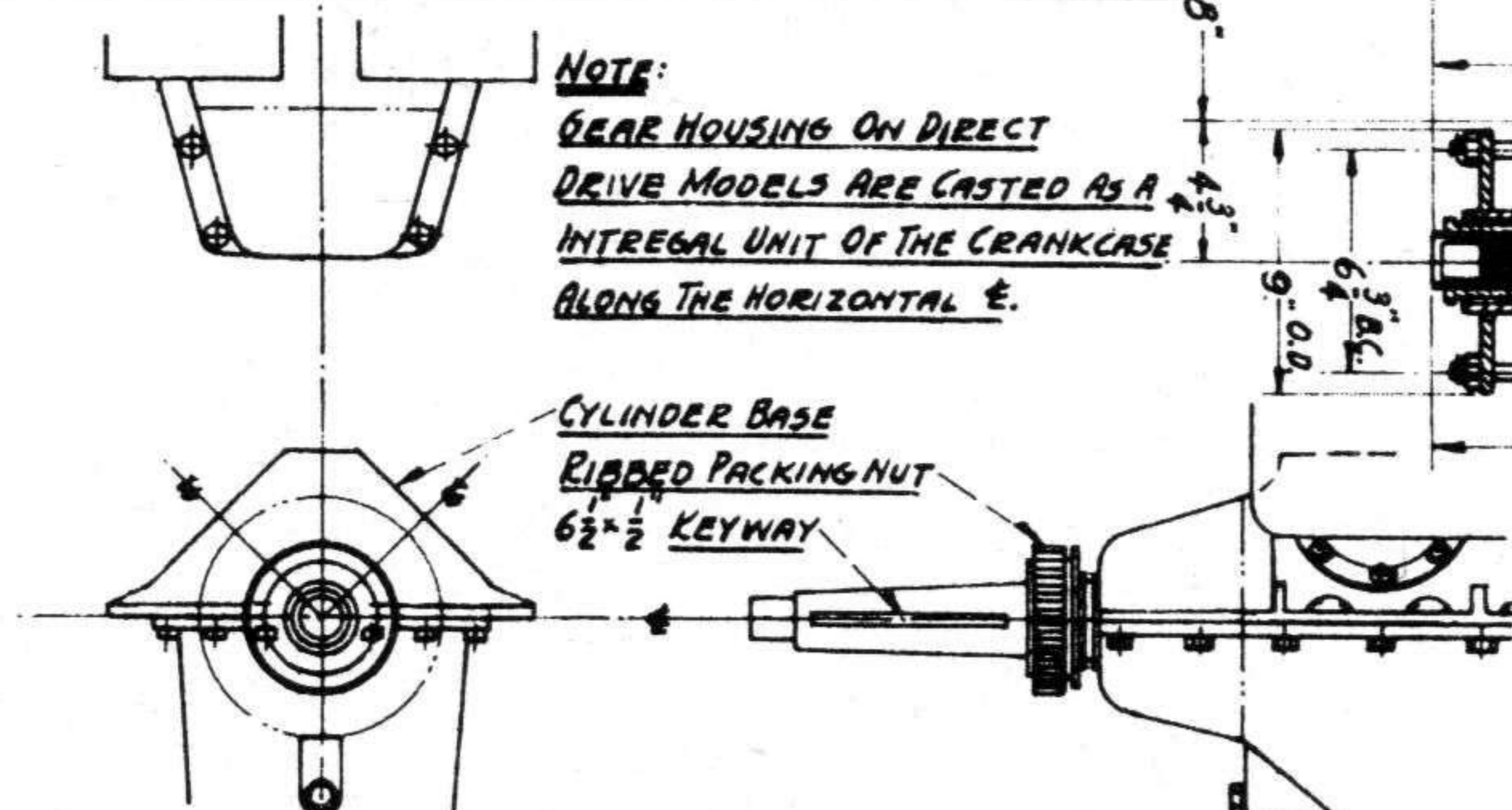
NOTE NO. 4
MACHINE GUN SYNCHRONIZER UNIT WAS ATTACHED TO THE REAR END OF THE CAMSHAFT.

NOTE NO. 1
AIR SUPPLY PASS THRU PASSAGE INSIDE OF CRANKCASE TO AIR CHAMBER. INTERNAL OIL COOLING FINS WARMED THE INRUSHING AIR SUPPLY.

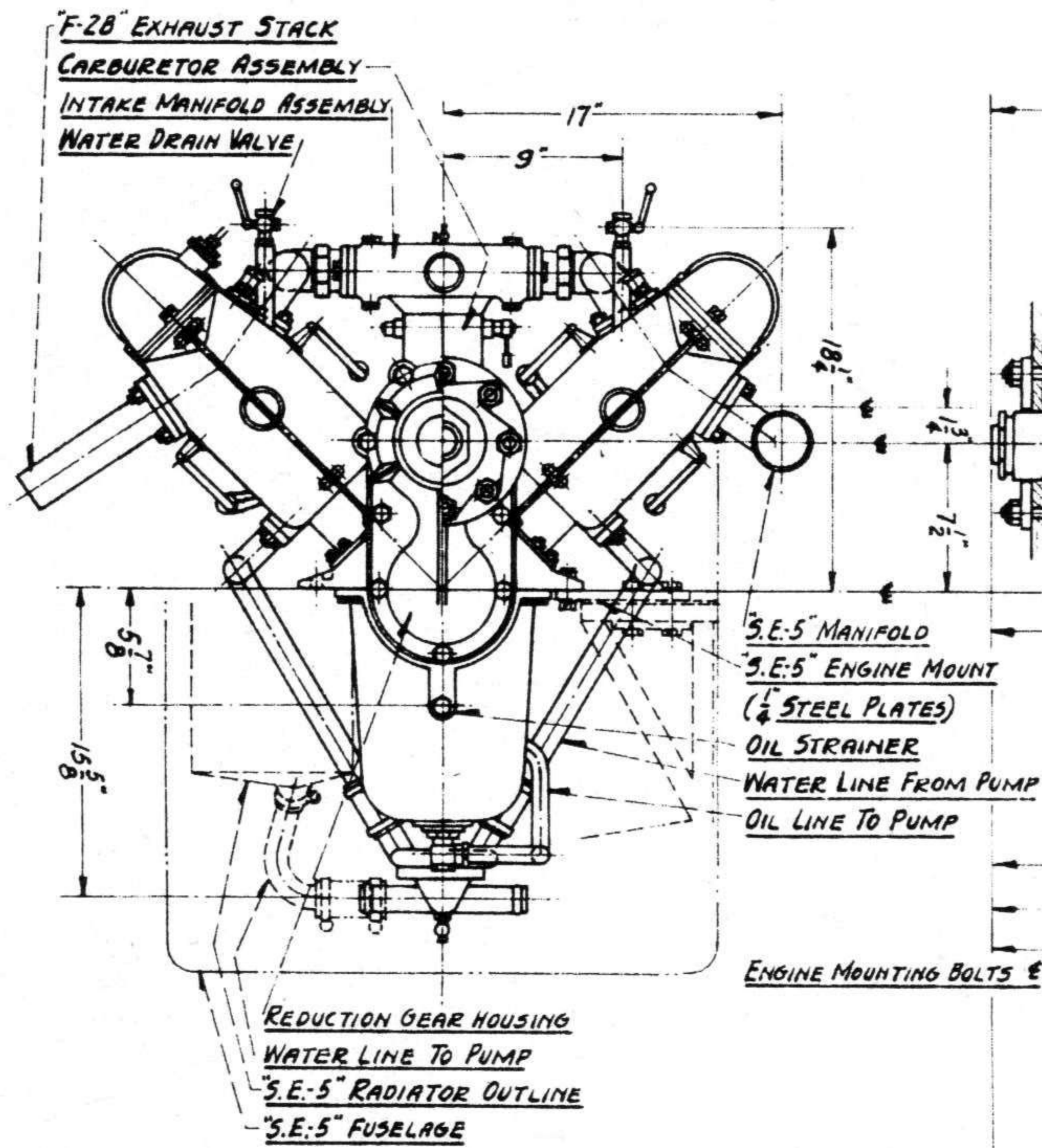
AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.	
SCALE: 3/4" = 1'-0"	GENERAL ARRANGEMENT
TYPE: INLINE	GERMANY'S 160 & 180 H.P.
COPYRIGHT 1948	MERCEDES
WILLIAM A. WYLAN	
BUILT 1914-18 BY DAIMLER-MOTOREN GESELLSCHAFT	

MODEL	H.P.	GEARING	BORE	DESIGN CHANGES
A	150	DIRECT DRIVE	4.72"	SAME AS MODELS C AND D
C	200	PROP. RED. GEAR	4.72"	MODEL SHOWN - SAME AS A, P
D	220	PROP. RED. GEAR	4.72"	PROVISION FOR M.G. IN VEE
E	180	DIRECT DRIVE	5.33"	LARGER CARBURETOR
F	220	PROP. RED. GEAR	4.72"	NO PROVISION FOR GUN IN VEE
H	300	DIRECT DRIVE	5.51"	RECTANGULAR OIL SUMP, 4 CARB'S
K	300	PROP. RED. GEAR	5.51"	FOR 37mm. CANNON IN VEE
M	300	DIRECT DRIVE	5.51"	NO PROVISION FOR 37mm. CANNON

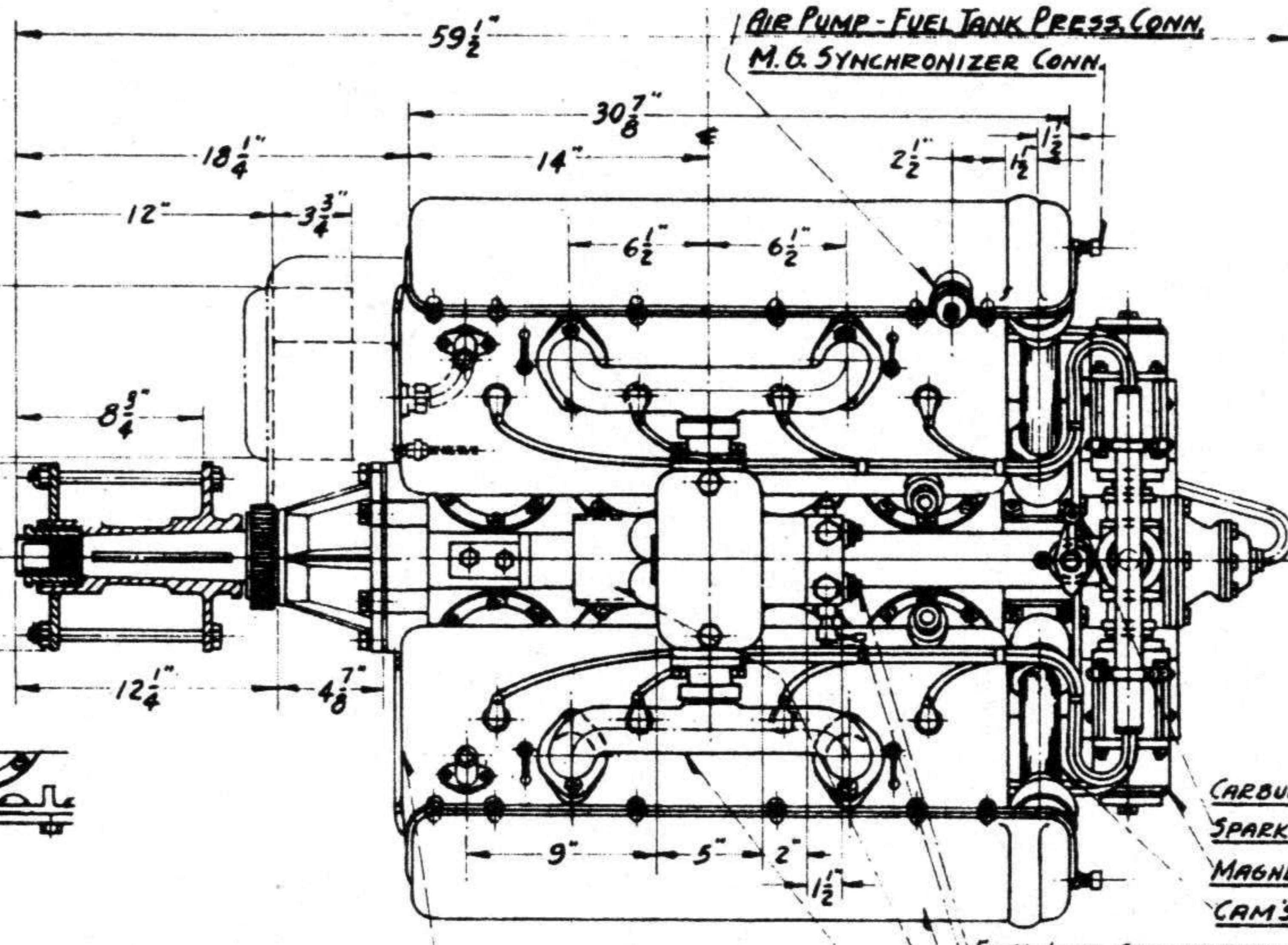
NOTE:
 GEAR HOUSING ON DIRECT DRIVE MODELS ARE CASTED AS AN INTEGRAL UNIT OF THE CRANKCASE ALONG THE HORIZONTAL E.



DIRECT DRIVE GEAR HOUSING DETAILS
 MODELS A, E, H, & M

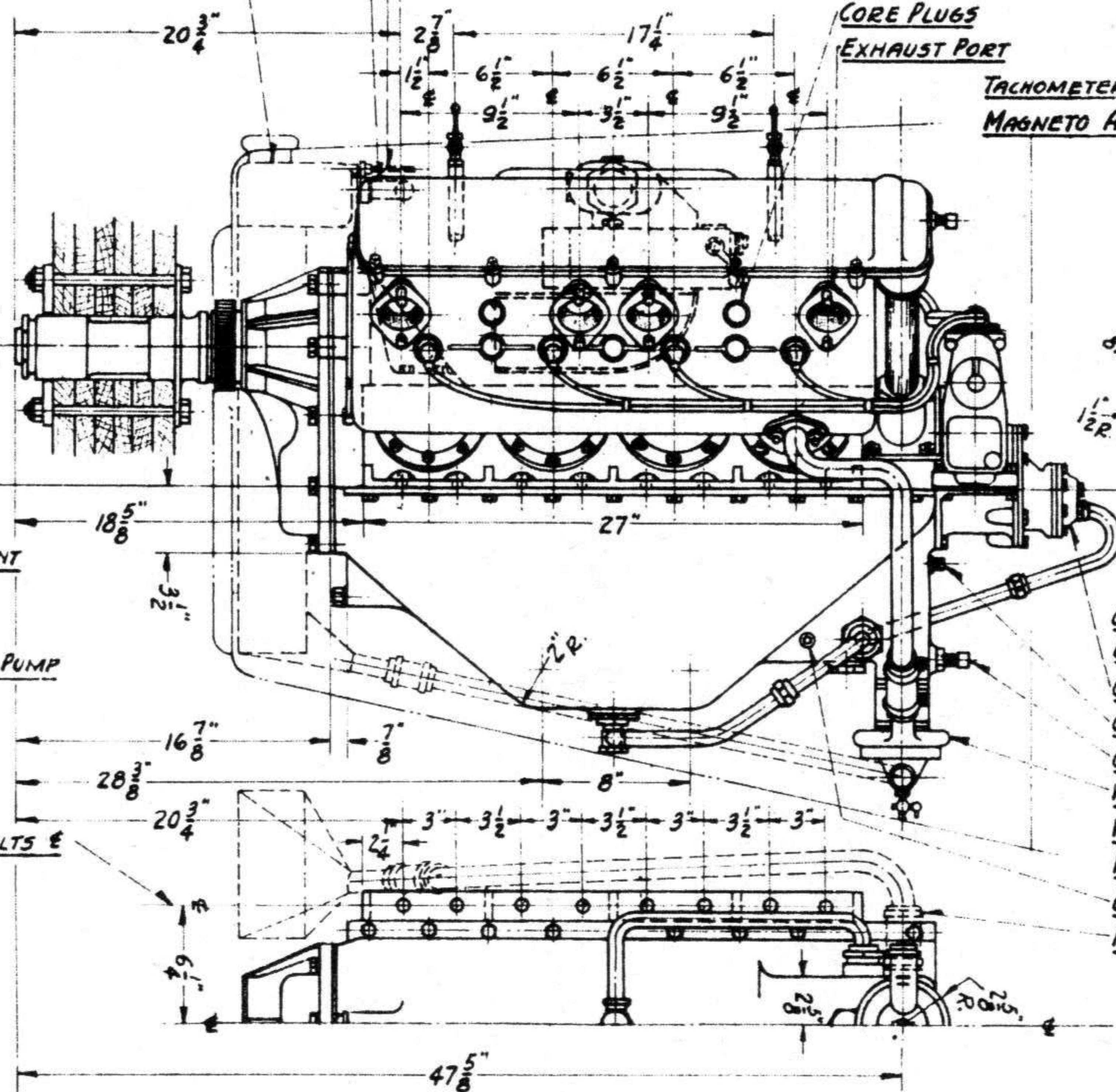


MODEL F SHOWN. MODELS A, C, D, AND E ARE SIMILAR WITH CHANGES ON GEARINGS



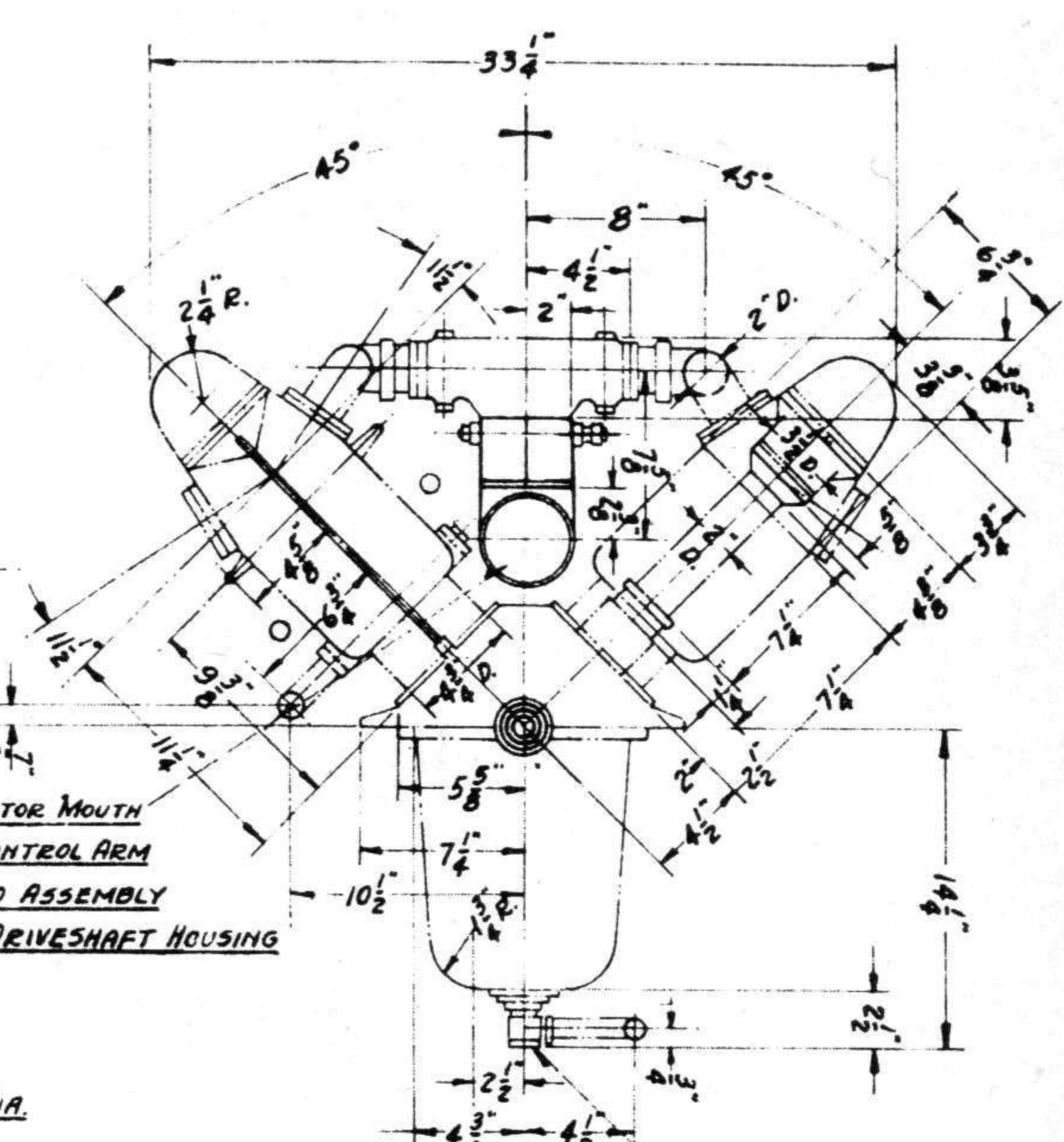
OIL DRAIN LINE TO SUMP
 WATER LINE TO EXPANSION TANK
 WATER LINE TO RADIATOR
 HEADER TANK

FUEL LINE CONNECTIONS
 THROTTLE CONTROL
 VALVE COVER PAN
 CARBURETOR MOUTH - 4" DIA.
 INTAKE MANIFOLD
 CORE PLUGS
 EXHAUST PORT



TACHOMETER GAUGE CONN.
 MAGNETO ASSEMBLY

OIL PRESS. GAUGE CONN. (OUT)
 OIL LINE TO TANK CONN.
 OIL SCAVENGER PUMP
 OIL PRESS. GAUGE CONN. (IN)
 OIL LINE FROM TANK CONN.
 WATER PUMP ASSEMBLY
 WATER LINE FROM RAD. CONN.
 WATER DRAIN VALVE
 OIL TEMP. GAUGE CONN.
 HOSE & CLAMPS CONN.

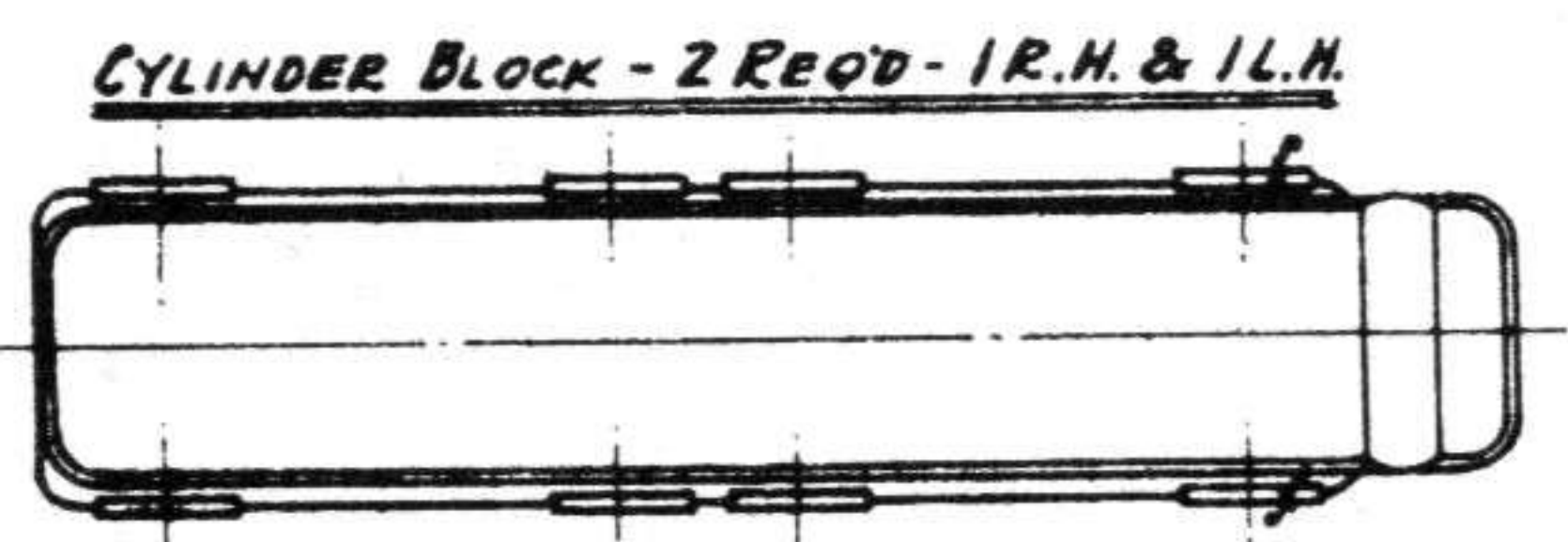
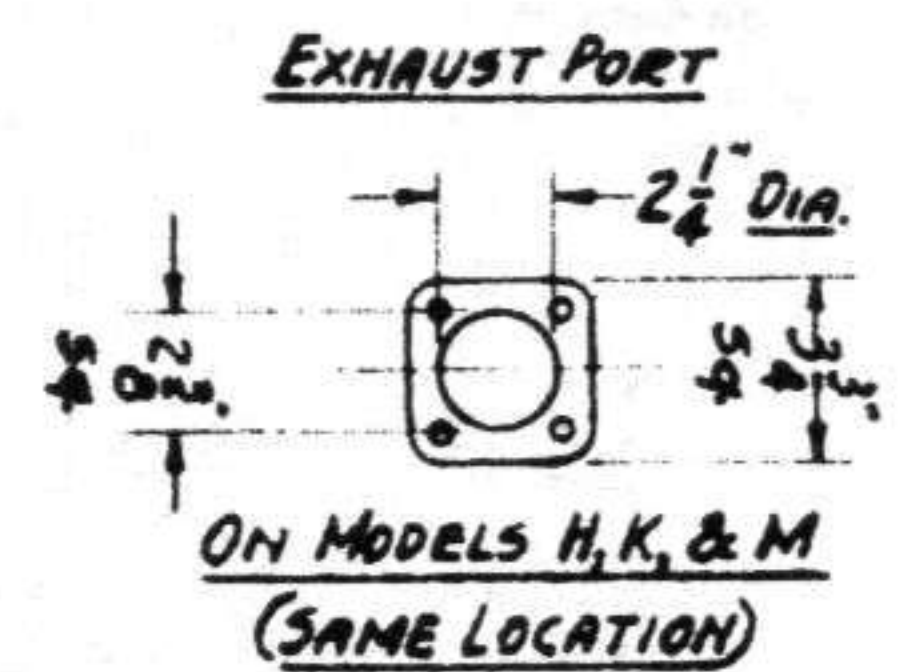


CARBURETOR MOUTH
 SPARK CONTROL ARM
 MAGNETO ASSEMBLY
 CAM'S DRIVESHAFT HOUSING

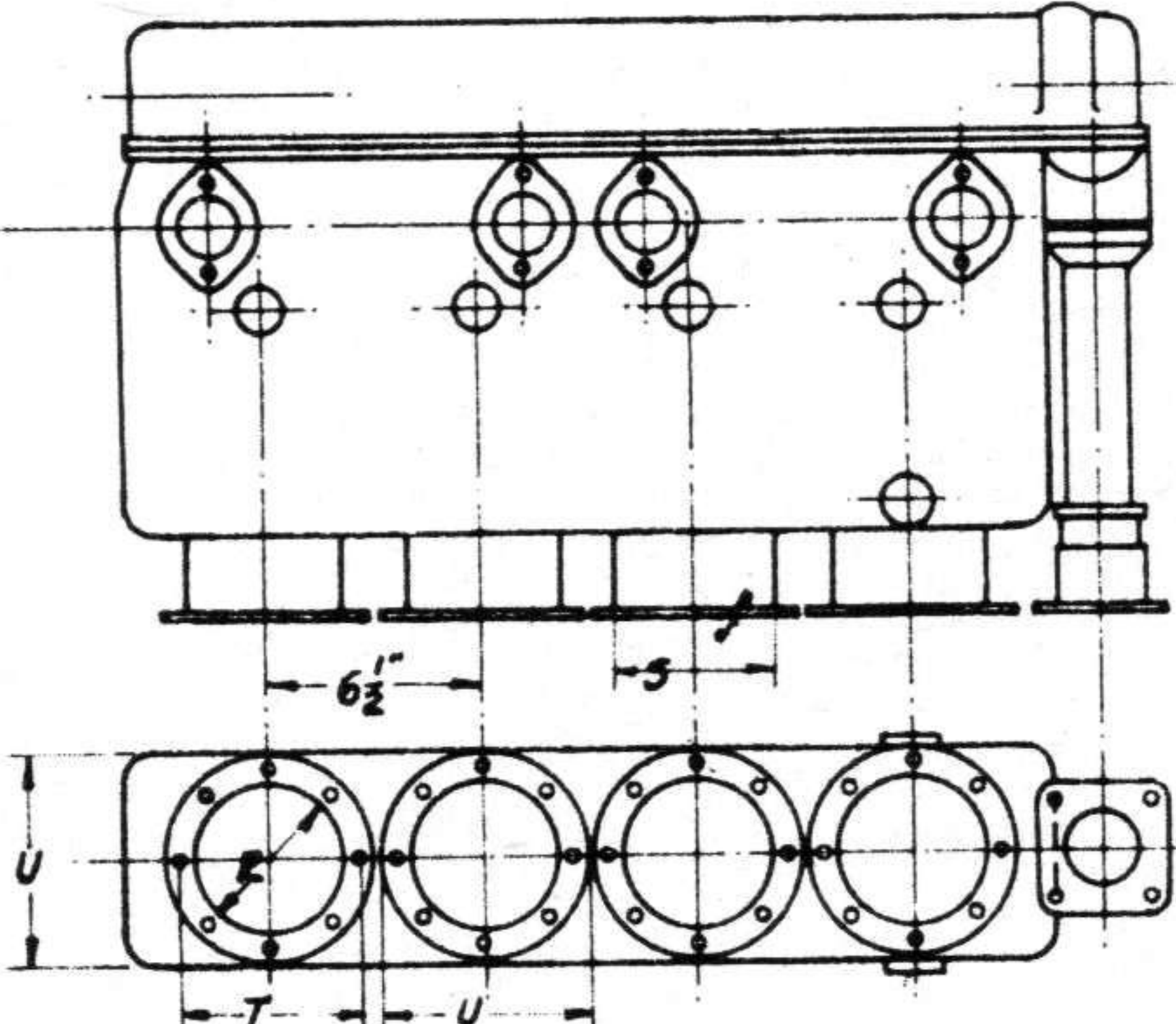
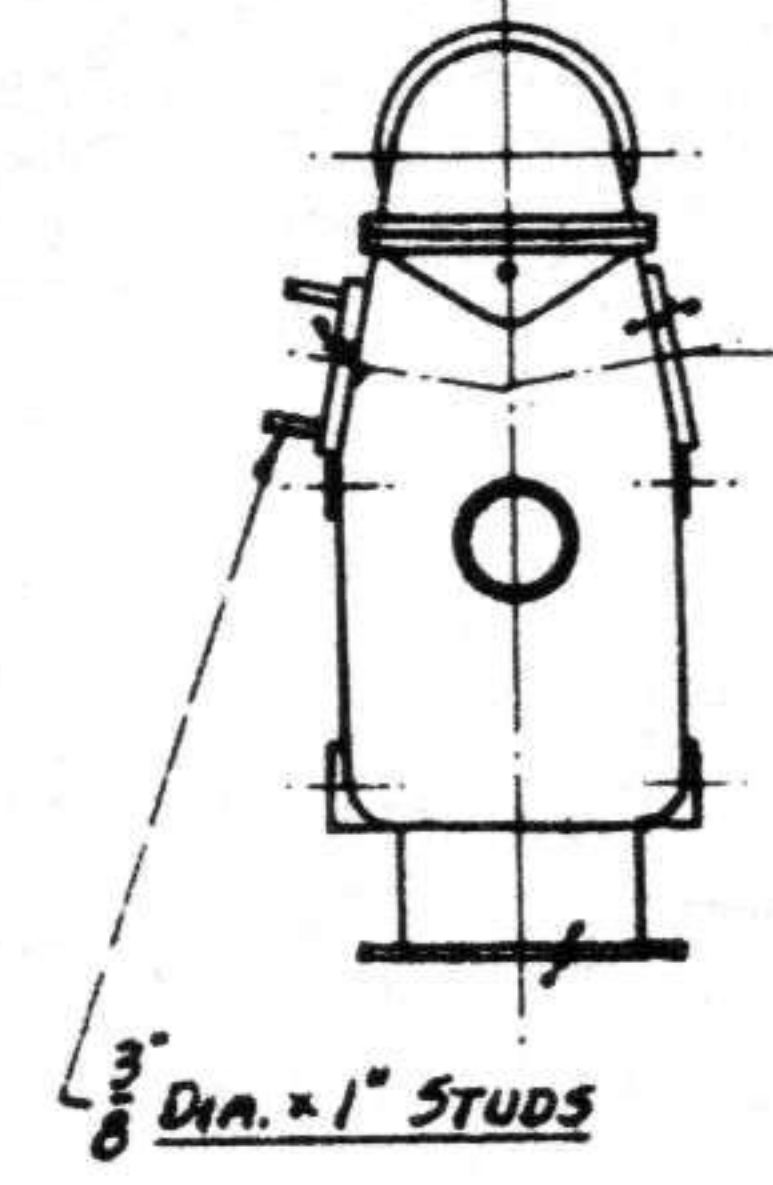
OIL SUMP DRAIN PLUS
 THROTTLE CONTROL ARM
 SPARK CONTROL ARM

AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.
 SCALE: 3/4" = 1'-0"
 DATE: _____
 DRAWN BY ...
W.A. WYLAM

GENERAL ARRANGEMENTS
 AND INSTALLATION DATA
HISPANO-SUIZA



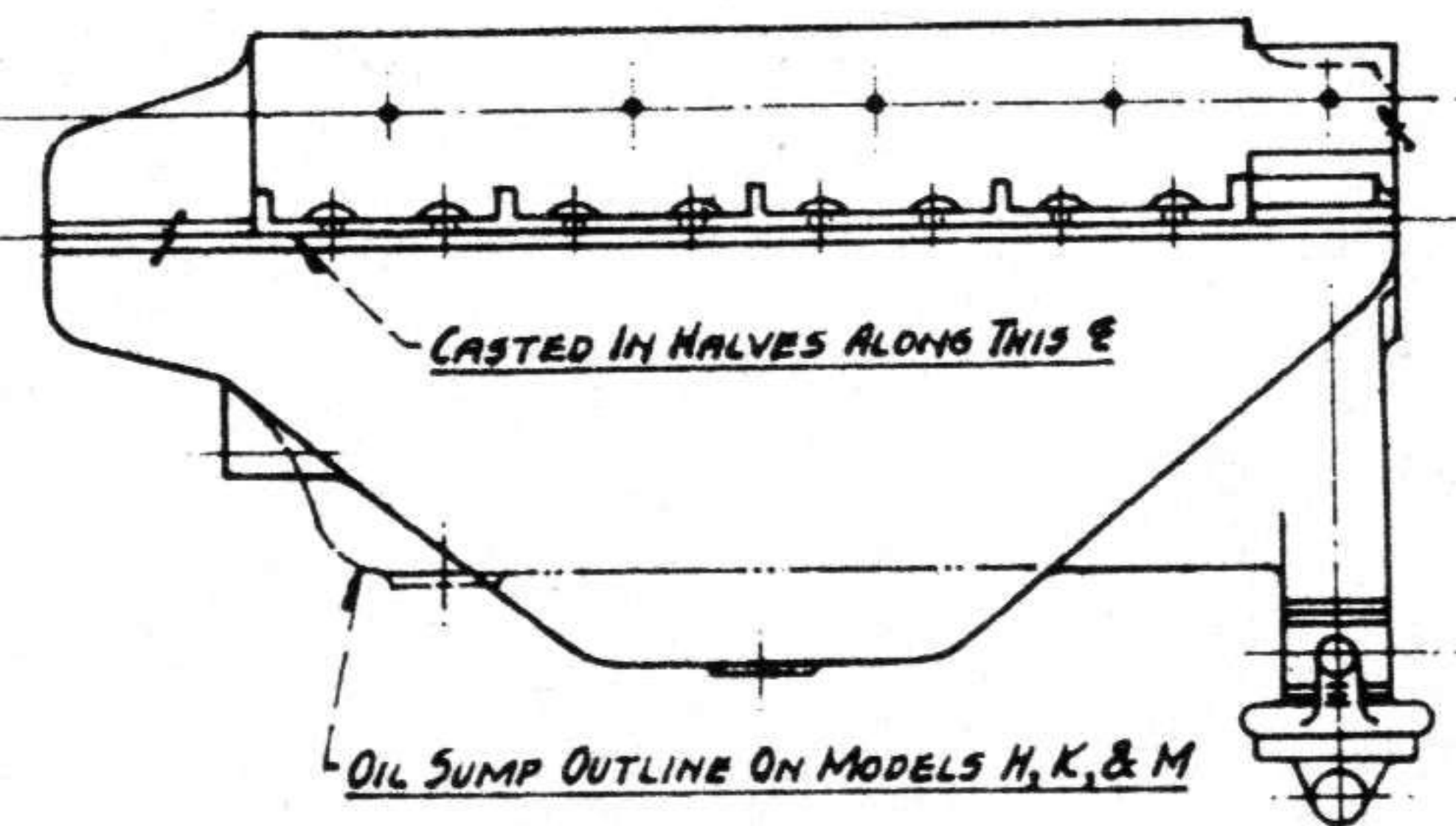
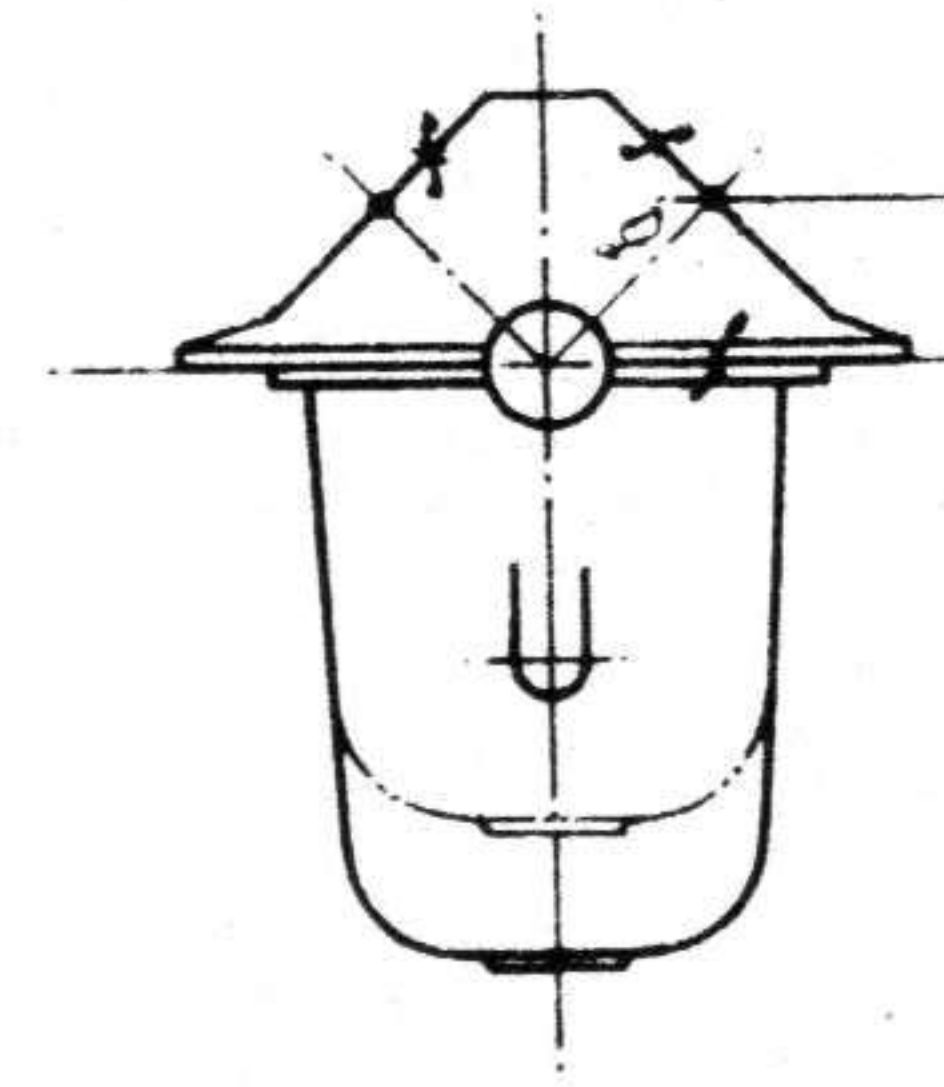
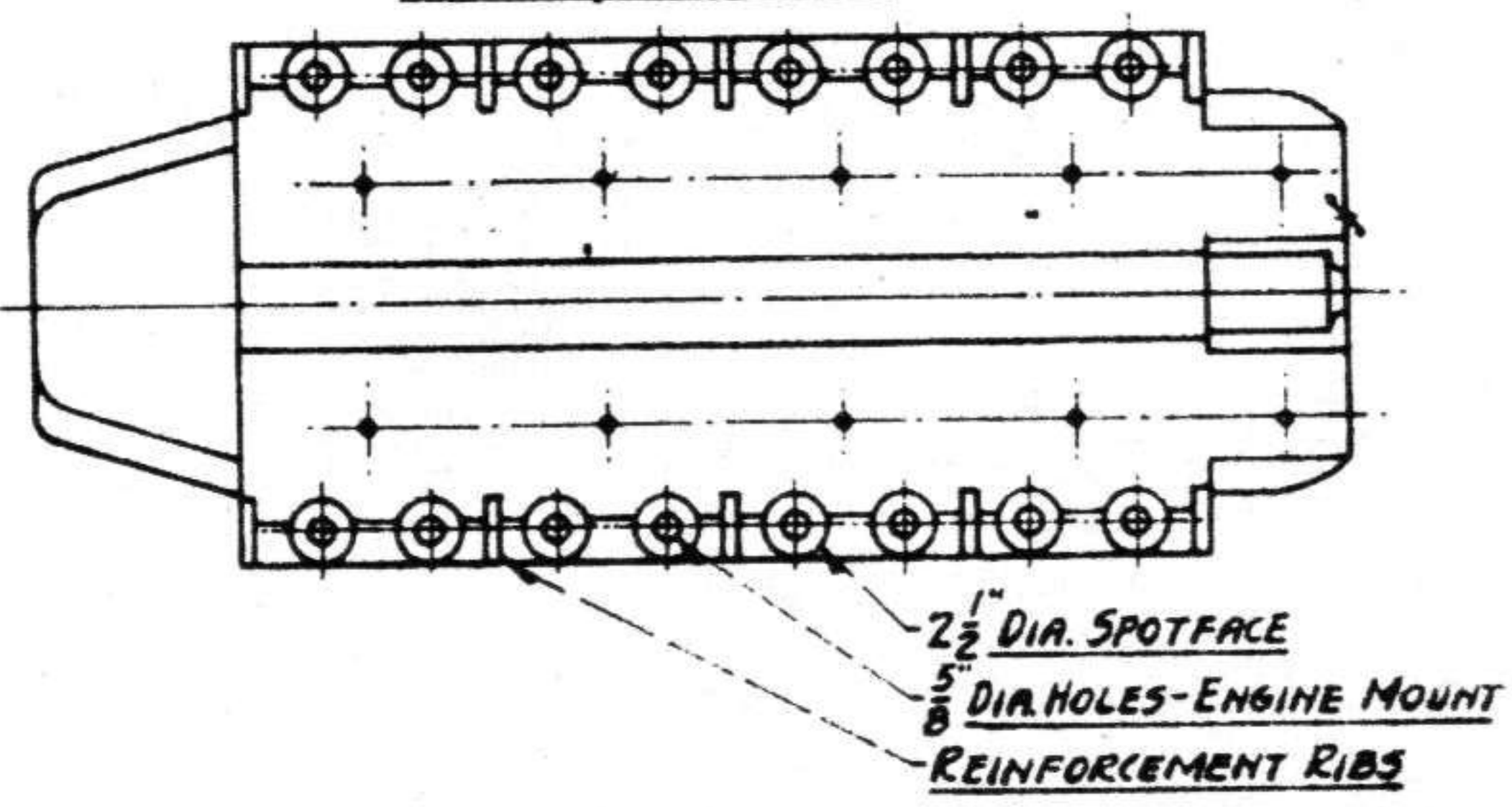
- ALL TUBING & PIPING BRASS
- INTAKE MANIFOLD ALUMINUM
- VALVES (DRAIN) BRASS
- SPARK PLUGS PORCELAIN WHITE
- SPARK PLUG WIRES RED



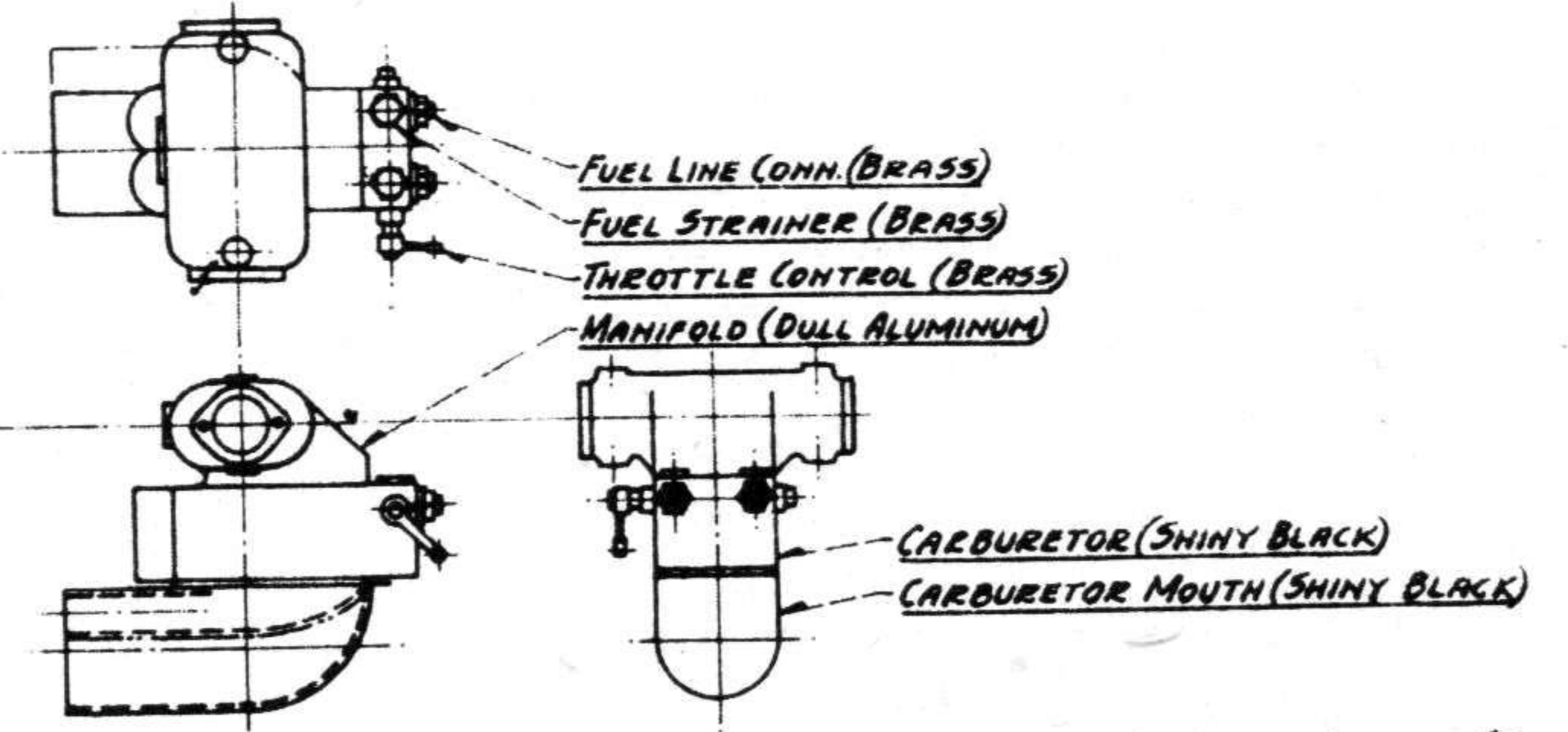
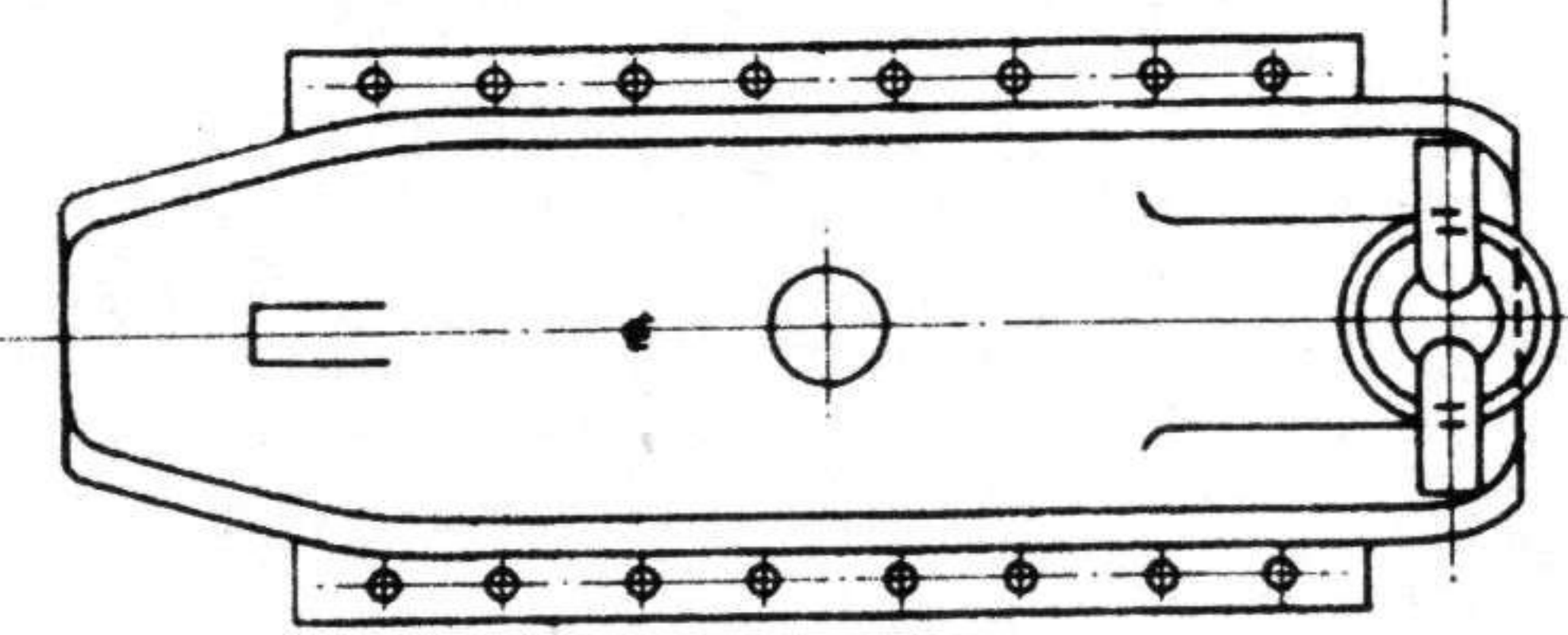
ENTIRE CYLINDER BLOCK IS OF SHINY BAKED BLACK ENAMEL

MODEL	R	S	T	U
A	4.72	5.00	5.75	6.75
C	4.72	5.00	5.75	6.75
D	4.72	5.00	5.75	6.75
E	5.33	5.50	6.375	7.375
F	4.72	5.00	5.75	6.75
H	5.51	5.75	6.50	7.50
K	5.51	5.75	6.50	7.50
M	5.51	5.75	6.50	7.50

CRANK-CASE DETAILS

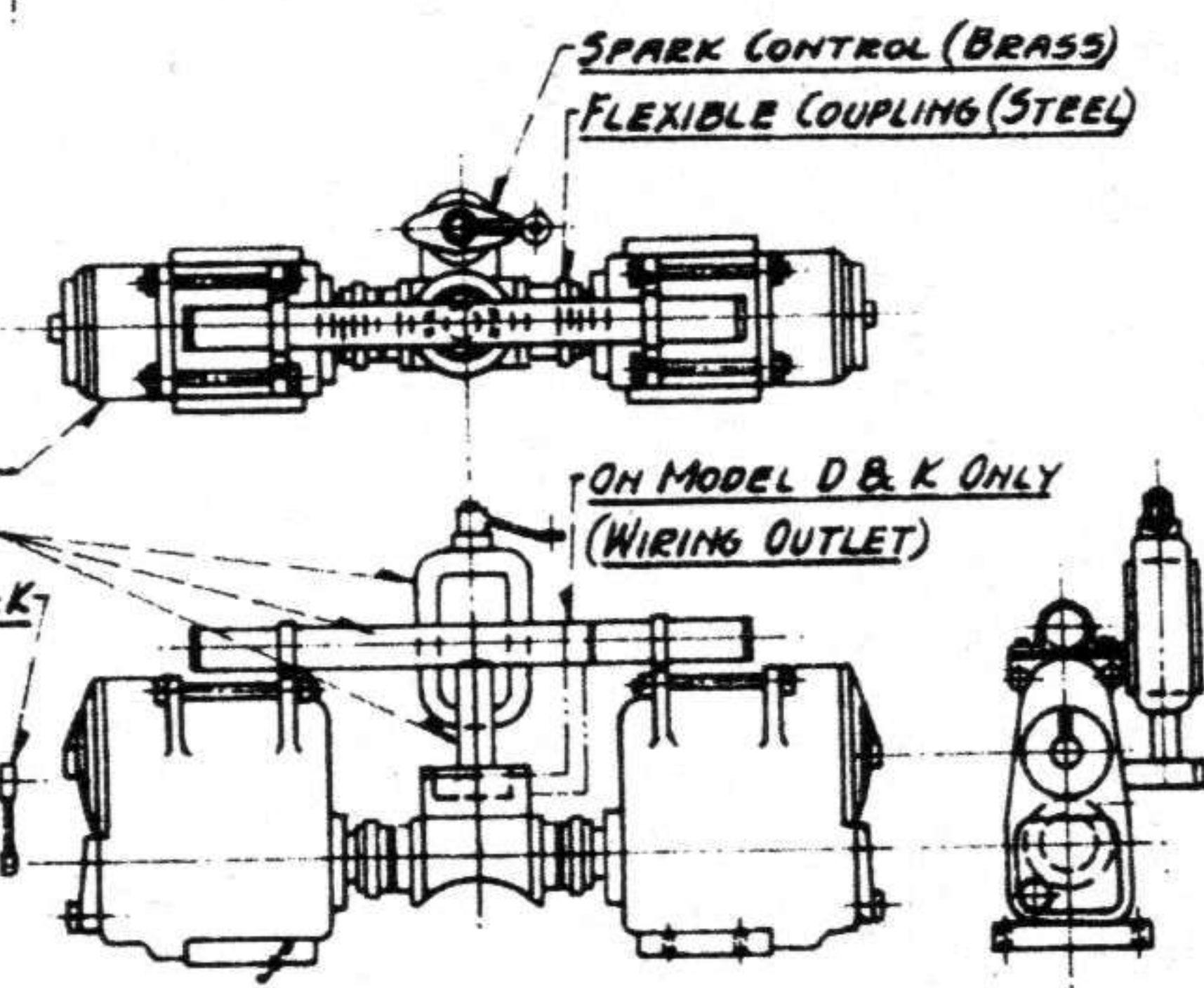


ENTIRE CRANK-CASE ASSEMBLY IS OF DULL ALUMINUM FINISH

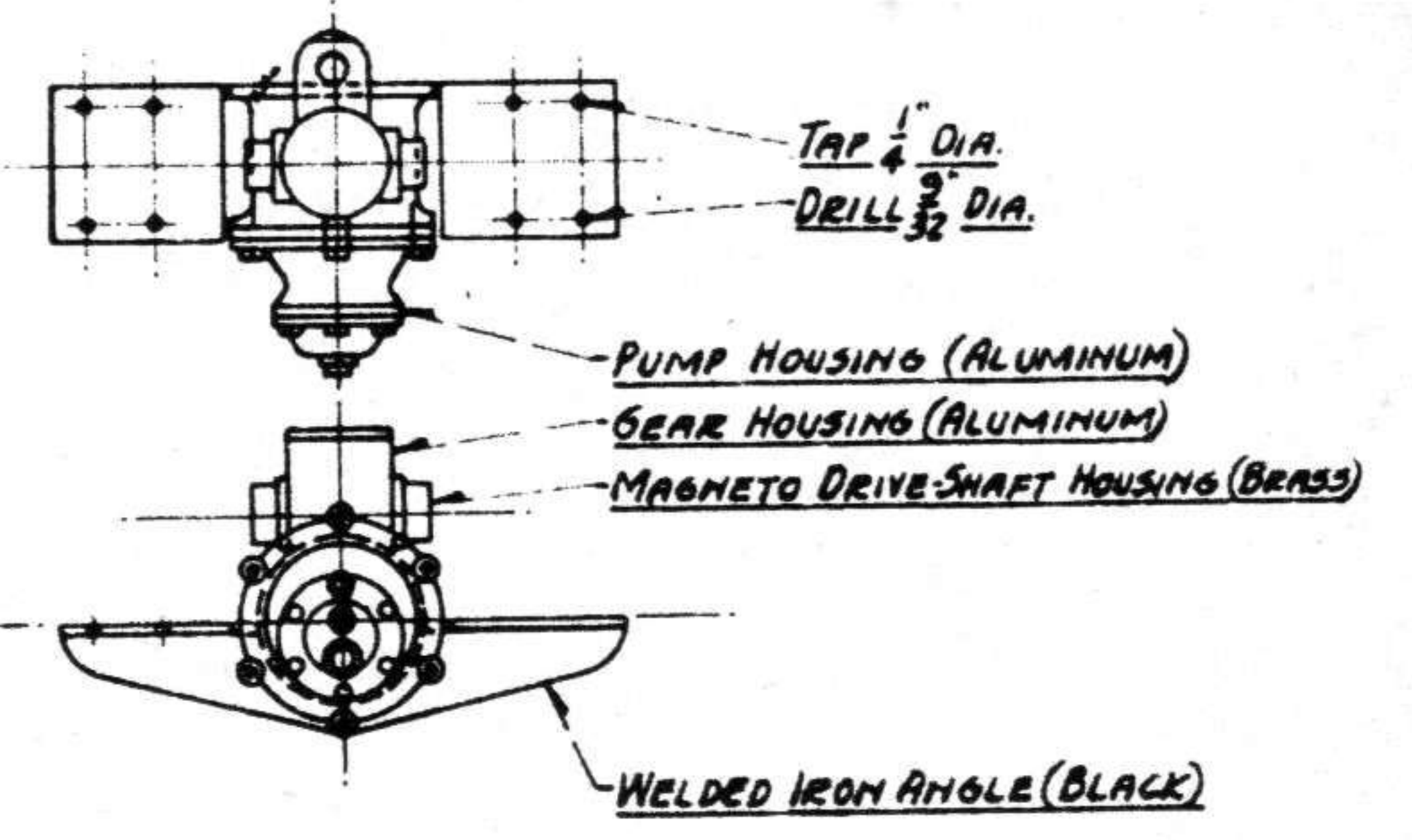


CARBURETOR & INTAKE MANIFOLD ASSEMBLY

SPARK CONTROL UNIT IS TURNED ± 90° FOR INSTALLATION OF MACHINE GUN OR CANNON IN VEE (MODELS D & K).



MAGNETO ASSEMBLY DETAILS



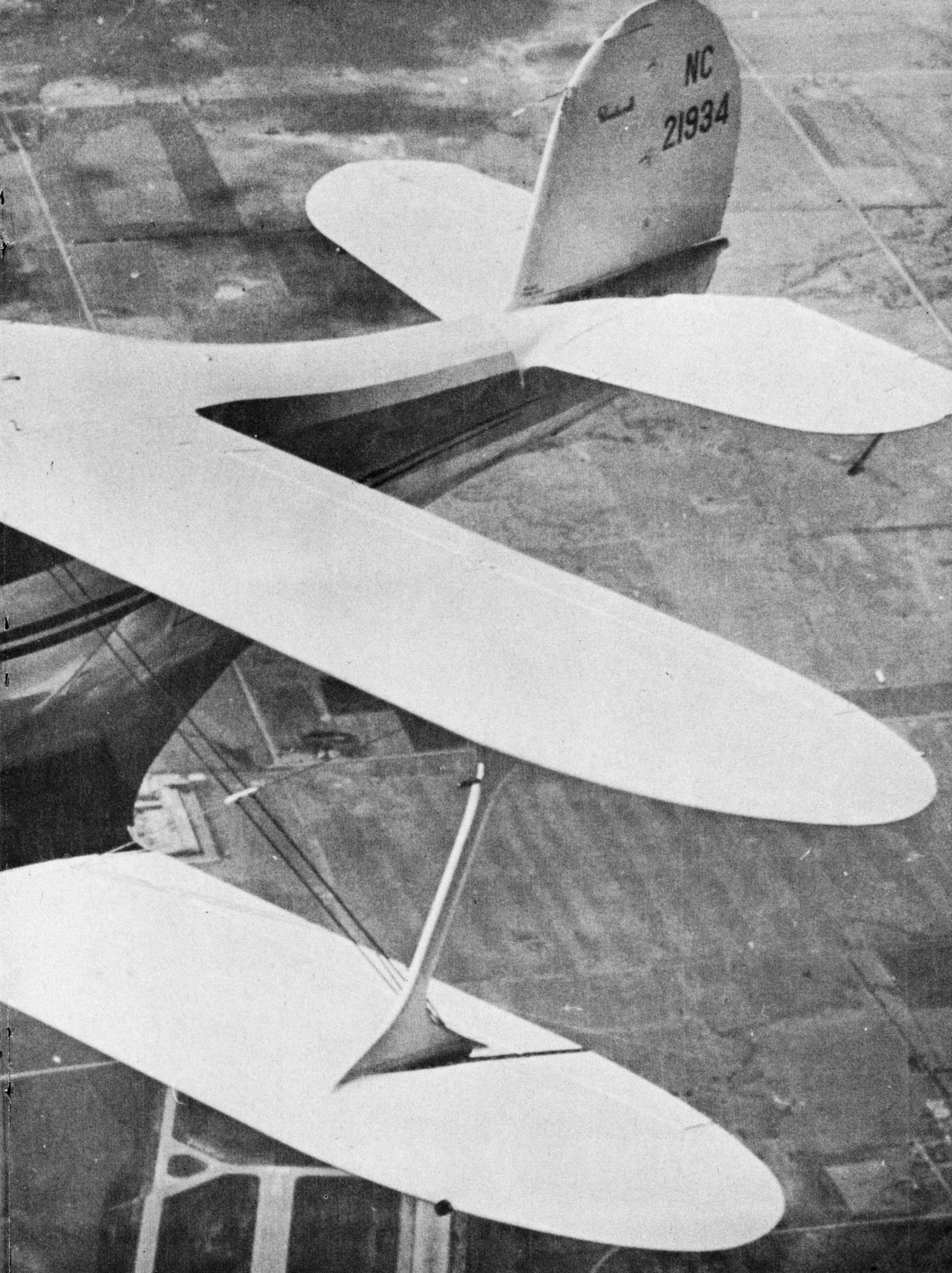
OIL SCAVENGER PUMP DETAILS



AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.
SCALE: 3/4" = 1'-0"
DATE: _____
DRAWN BY ... W.A. WYLAM
GENERAL DESIGN DETAILS & SPECIFICATIONS
HISPANO-SUIZA



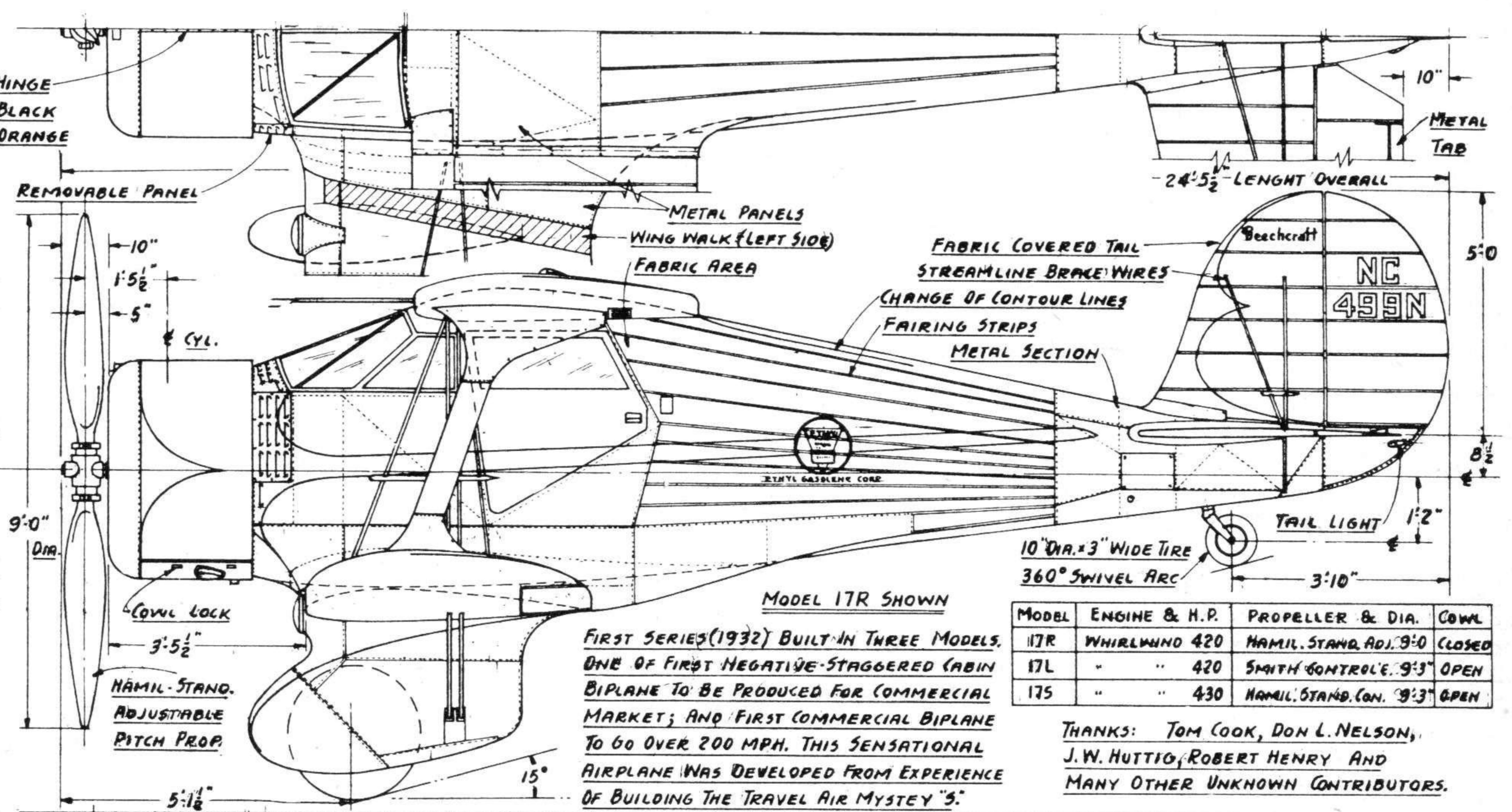
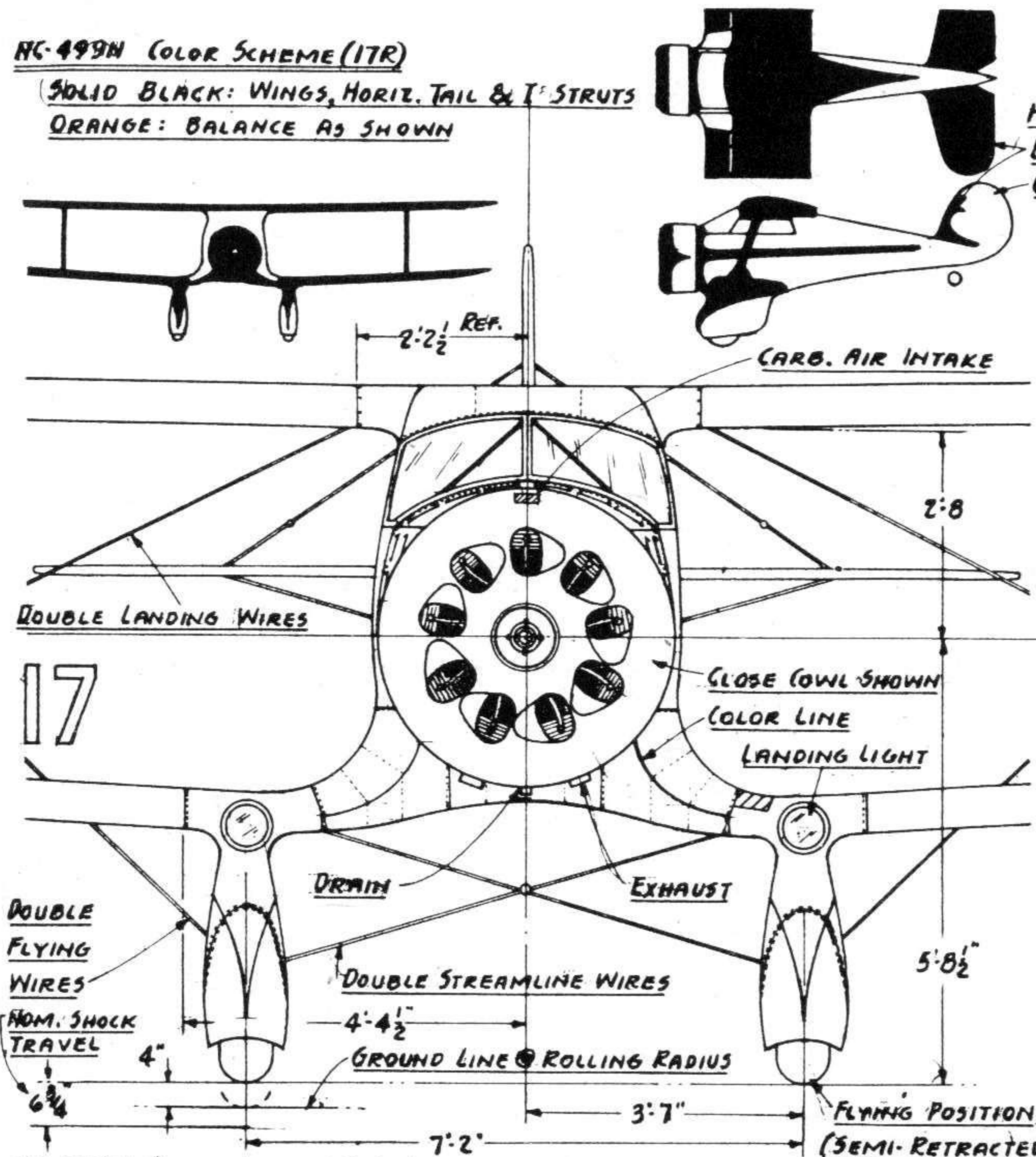
THE BEECH FAMILY



NC
21934

NC-499N COLOR SCHEME (17R)

SOLID BLACK: WINGS, HORIZ. TAIL & I STRUTS
ORANGE: BALANCE AS SHOWN



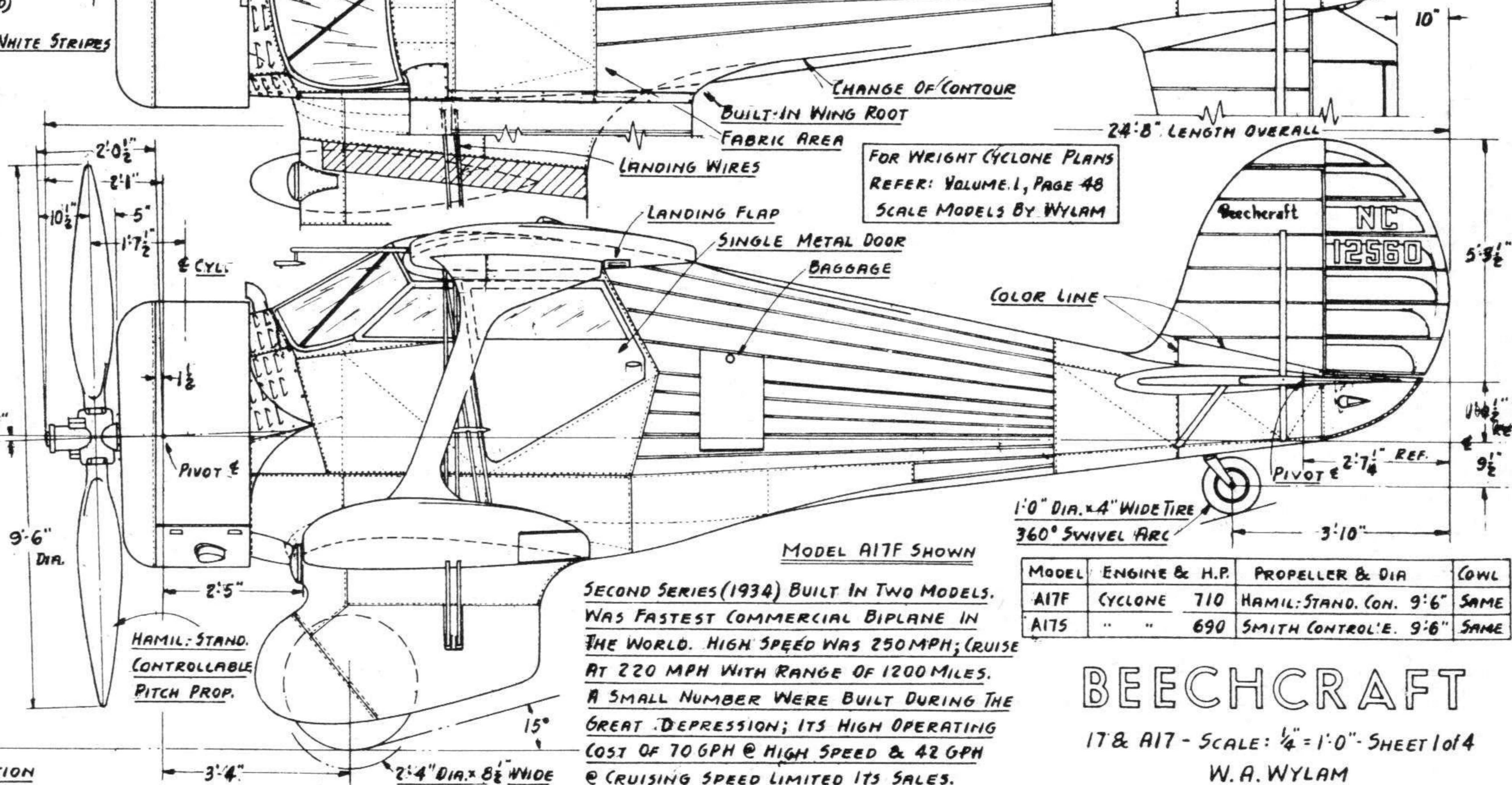
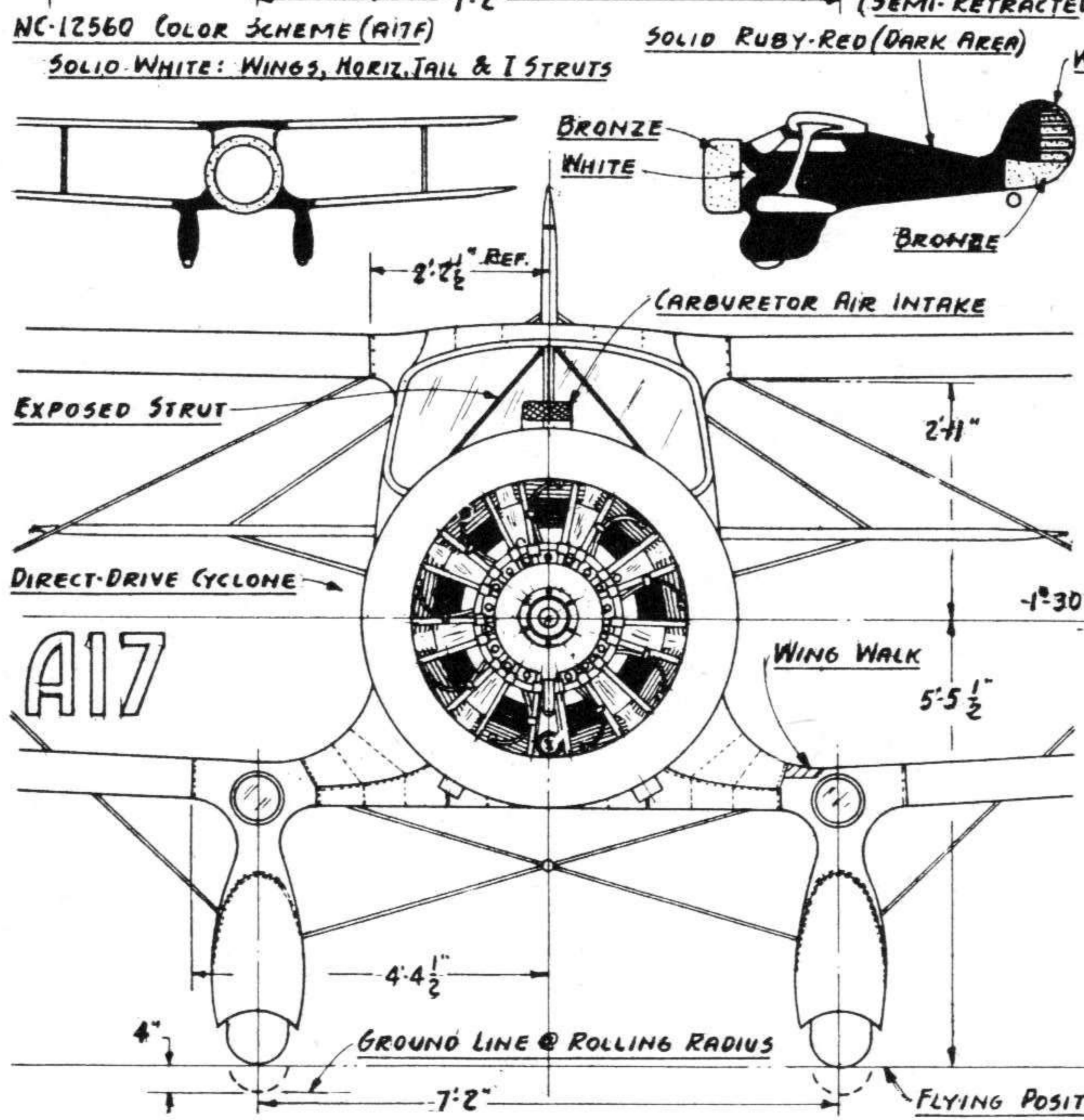
MODEL	ENGINE & H.P.	PROPELLER & DIA.	COWL
117R	WHIRLWIND 420	HAMIL. STAND. ADJ. 9'-0"	CLOSED
17L	" " 420	SMITH CONTROL'E. 9'-3"	OPEN
17S	" " 430	HAMIL. STAND. CON. 9'-3"	OPEN

MODEL 17R SHOWN
FIRST SERIES (1932) BUILT IN THREE MODELS. ONE OF FIRST NEGATIVE-STAGGERED CABIN BIPLANE TO BE PRODUCED FOR COMMERCIAL MARKET; AND FIRST COMMERCIAL BIPLANE TO GO OVER 200 MPH. THIS SENSATIONAL AIRPLANE WAS DEVELOPED FROM EXPERIENCE OF BUILDING THE TRAVEL AIR MYSTERY '3.

THANKS: TOM COOK, DON L. NELSON, J.W. HUTTON, ROBERT HENRY AND MANY OTHER UNKNOWN CONTRIBUTORS.

NC-12560 COLOR SCHEME (A17F)

SOLID WHITE: WINGS, HORIZ. TAIL & I STRUTS
SOLID RUBY-RED (DARK AREA) WHITE STRIPES



MODEL	ENGINE & H.P.	PROPELLER & DIA.	COWL
A17F	CYCLONE 710	HAMIL. STAND. CON. 9'-6"	SAME
A17S	" " 690	SMITH CONTROL'E. 9'-6"	SAME

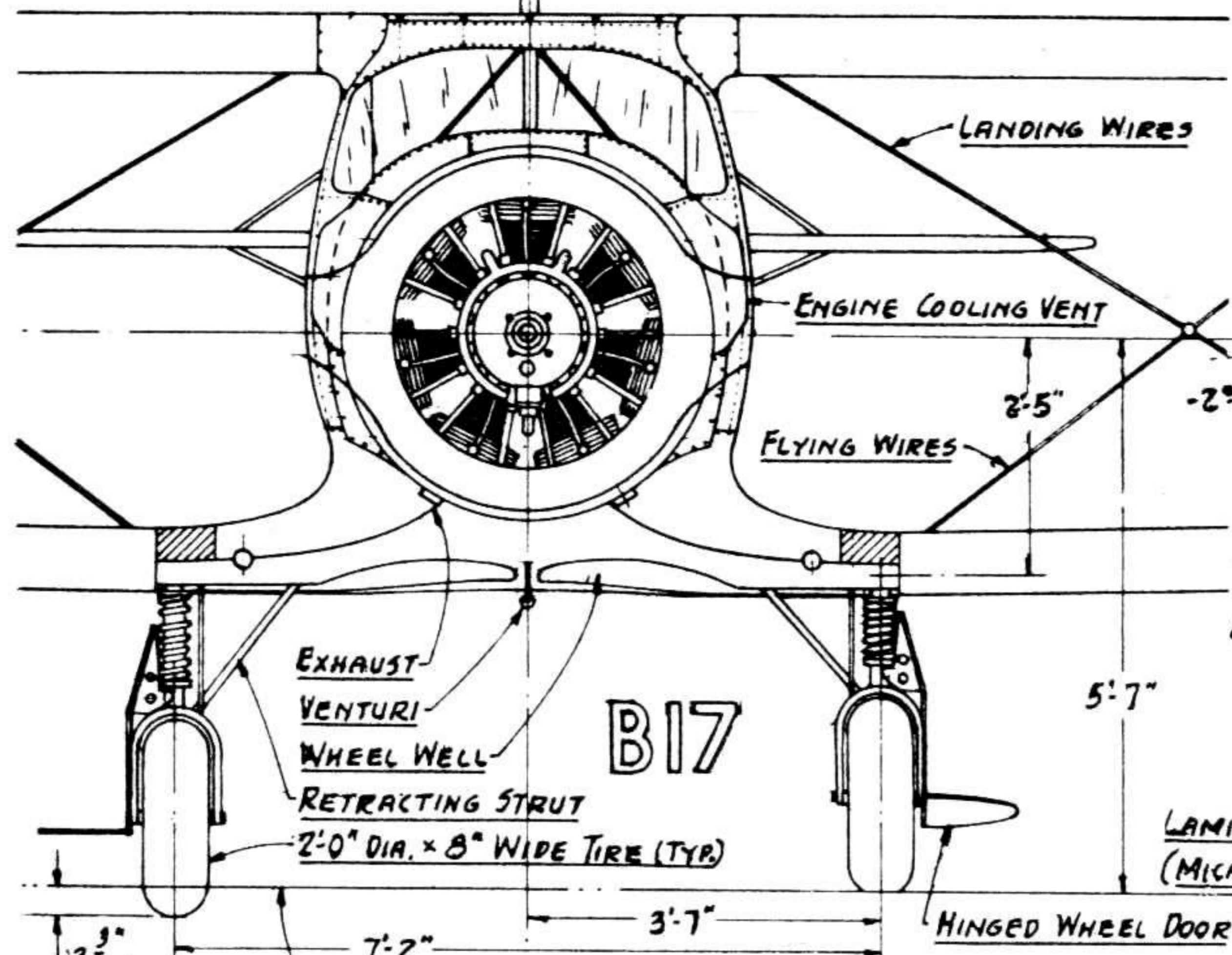
MODEL A17F SHOWN
SECOND SERIES (1934) BUILT IN TWO MODELS. WAS FASTEST COMMERCIAL BIPLANE IN THE WORLD. HIGH SPEED WAS 250 MPH; CRUISE AT 220 MPH WITH RANGE OF 1200 MILES. A SMALL NUMBER WERE BUILT DURING THE GREAT DEPRESSION; ITS HIGH OPERATING COST OF 70 GPH @ HIGH SPEED & 42 GPH @ CRUISING SPEED LIMITED ITS SALES.

BEECHCRAFT
17 & A17 - SCALE: 1/4" = 1'-0" - SHEET 1 of 4
W. A. WYLAM

NC12390 WAS FOREST GREEN BACKGROUND, BRONZE TRIM COLOR, AND RED PINSTRIPE.

B17L SHOWN WITH 225 H.P. JACOBS L4 ENGINE

THIRD SERIES (1935) BUILT IN FOUR BASIC MODELS FOR COMPETITION WITH STINSON & WACO. FIRST PRODUCTION AIRPLANE WITH RETRACTABLE L/G FOR PRIVATE FLYERS AT A LOW COST. WITH FIRST CLASS WORKMANSHIP, HIGH SPEED, LOW OPERATIONAL COST, RELIABLE AND COMFORTABLE, B17'S WERE A SUCCESS.

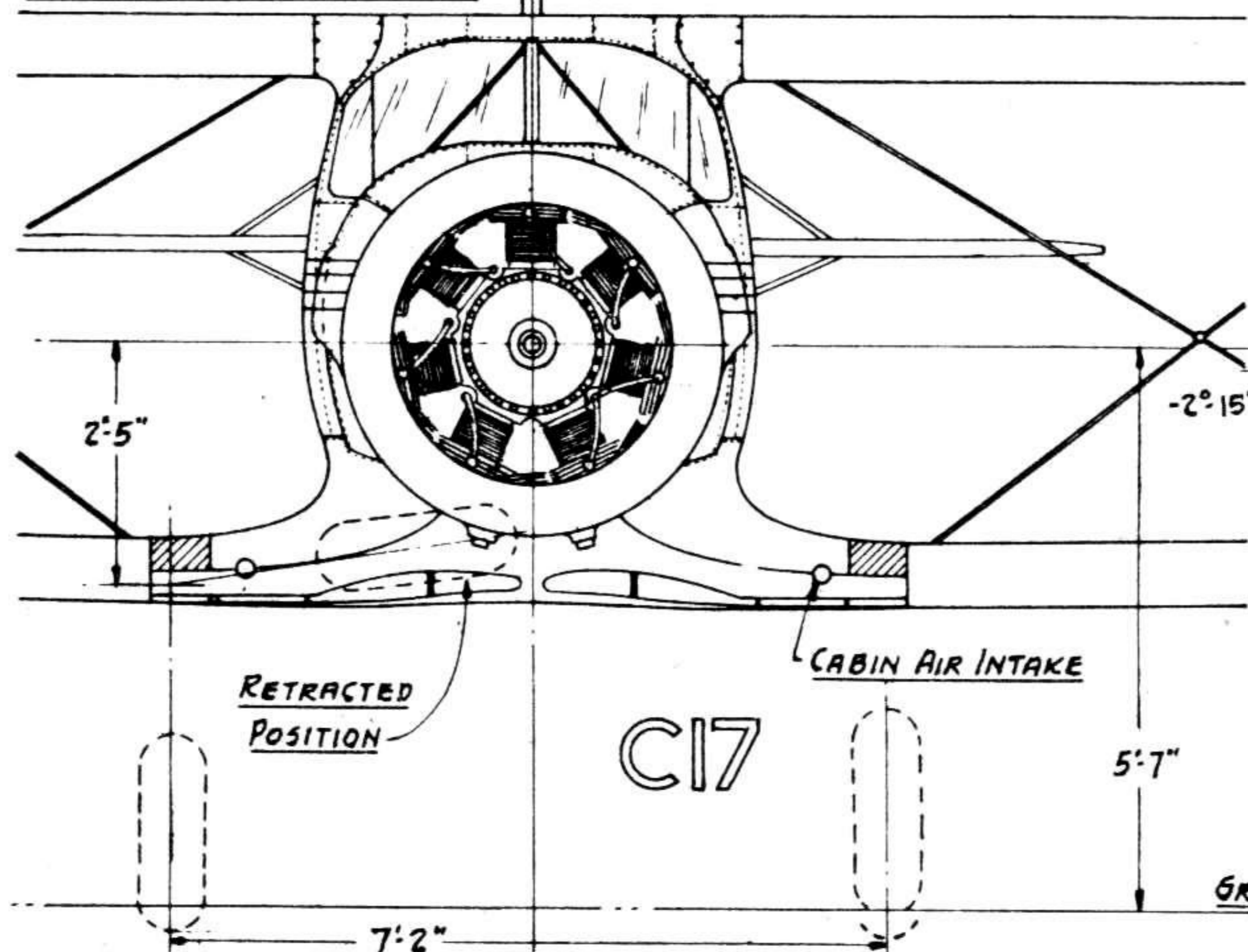


3 3/4" NOM. FULLY EXTENDED GROUND LINE @ ROLLING RADIUS (BEFORE RETRACTION)

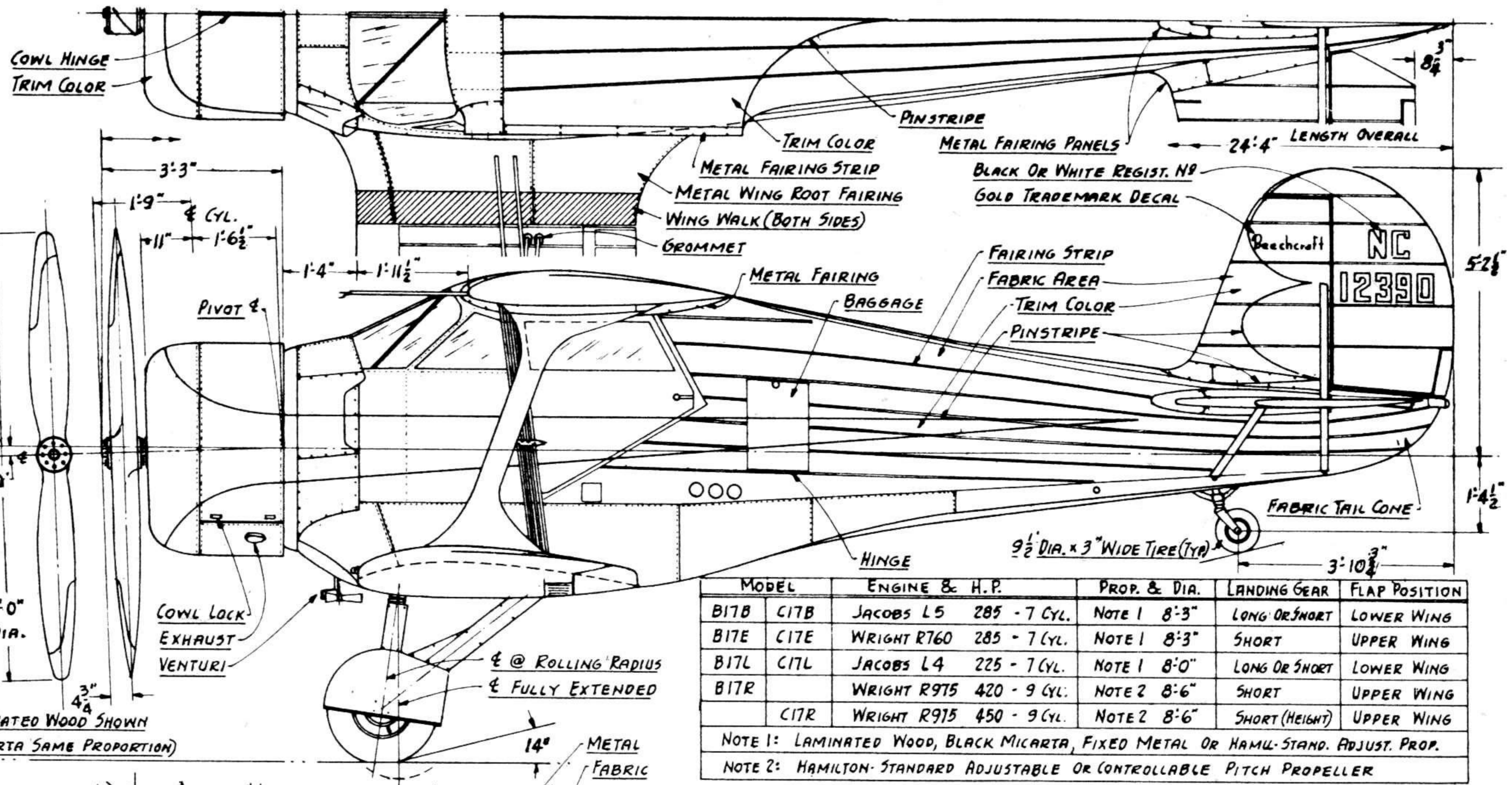
NC15865 WAS METALLIC SEA GREEN BACKGROUND, FIRE-RED TRIM COLOR, AND BLACK PINSTRIPE.

C17E SHOWN WITH 285 H.P. WRIGHT WHIRLWIND ENGINE

FOURTH SERIES (1936) WAS IMPROVED VERSION OF THE FOUR B17 MODELS. BOTH B17 & C17 WERE OF SHORT FUSELAGE, SHORT OR LONG L/G, AND SAME AIRFRAME. BOTH B17R & C17R HAD METAL TAIL CONES AND MODIFIED ENGINE COWLING.

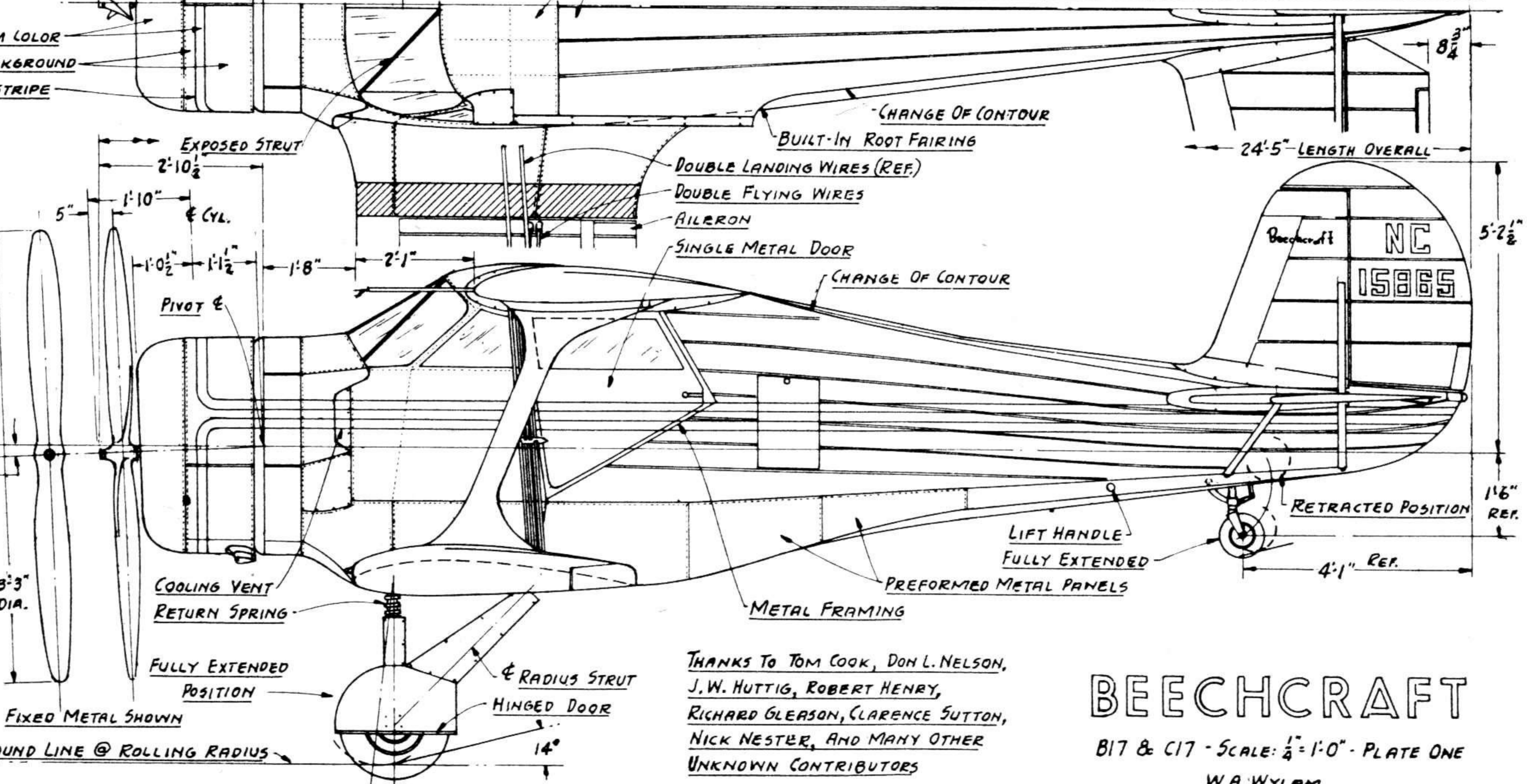


RETRACTED POSITION



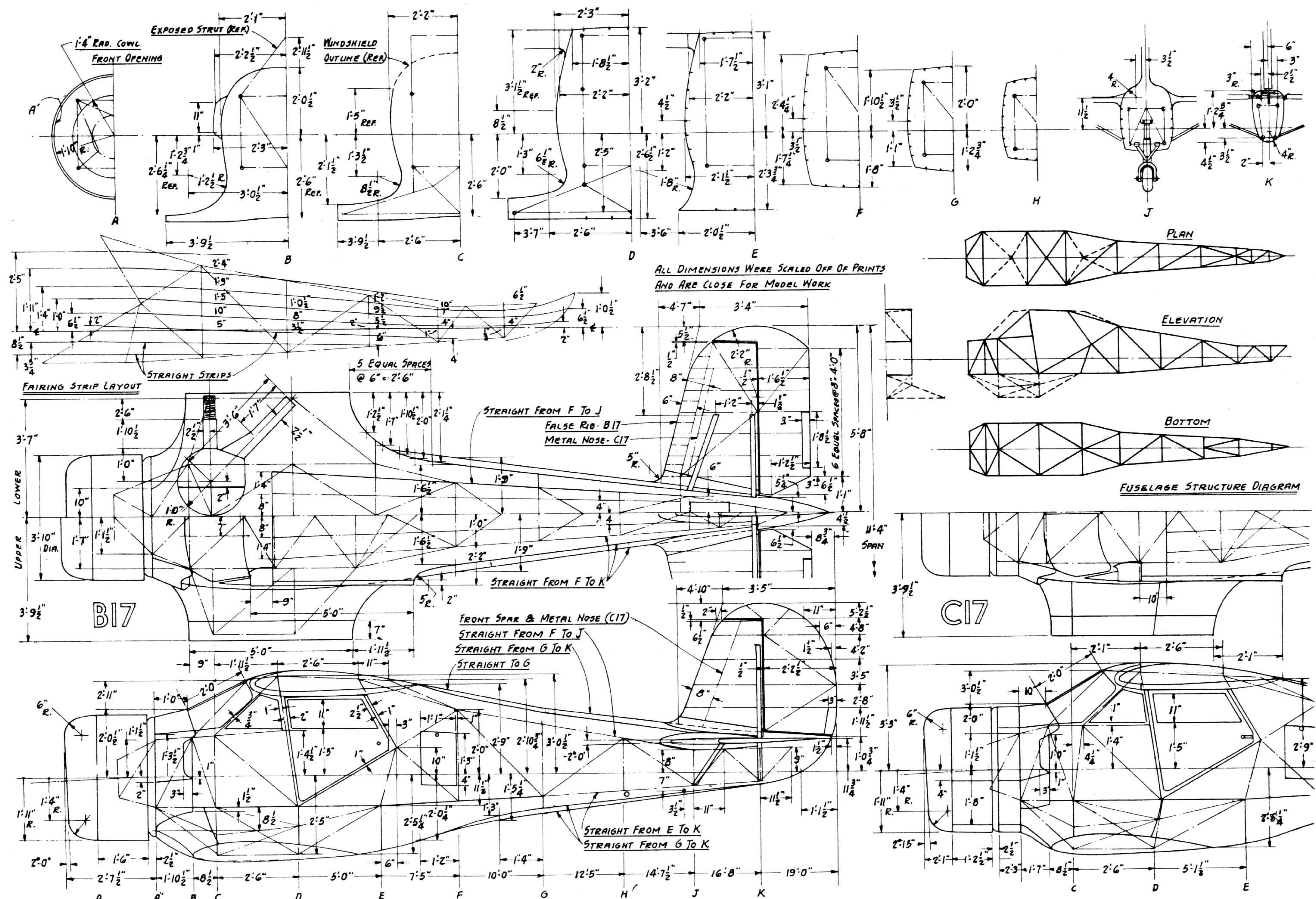
MODEL	ENGINE & H.P.	PROP. & DIA.	LANDING GEAR	FLAP POSITION
B17B	C17B JACOBS L5 285 - 7 CYL.	NOTE 1 8'-3"	LONG OR SHORT	LOWER WING
B17E	C17E WRIGHT R760 285 - 7 CYL.	NOTE 1 8'-3"	SHORT	UPPER WING
B17L	C17L JACOBS L4 225 - 7 CYL.	NOTE 1 8'-0"	LONG OR SHORT	LOWER WING
B17R	WRIGHT R975 420 - 9 CYL.	NOTE 2 8'-6"	SHORT	UPPER WING
	C17R WRIGHT R975 450 - 9 CYL.	NOTE 2 8'-6"	SHORT (HEIGHT)	UPPER WING

NOTE 1: LAMINATED WOOD, BLACK MICARTA, FIXED METAL OR HAMUL. STAND. ADJUST. PROP.
NOTE 2: HAMILTON STANDARD ADJUSTABLE OR CONTROLLABLE PITCH PROPELLER

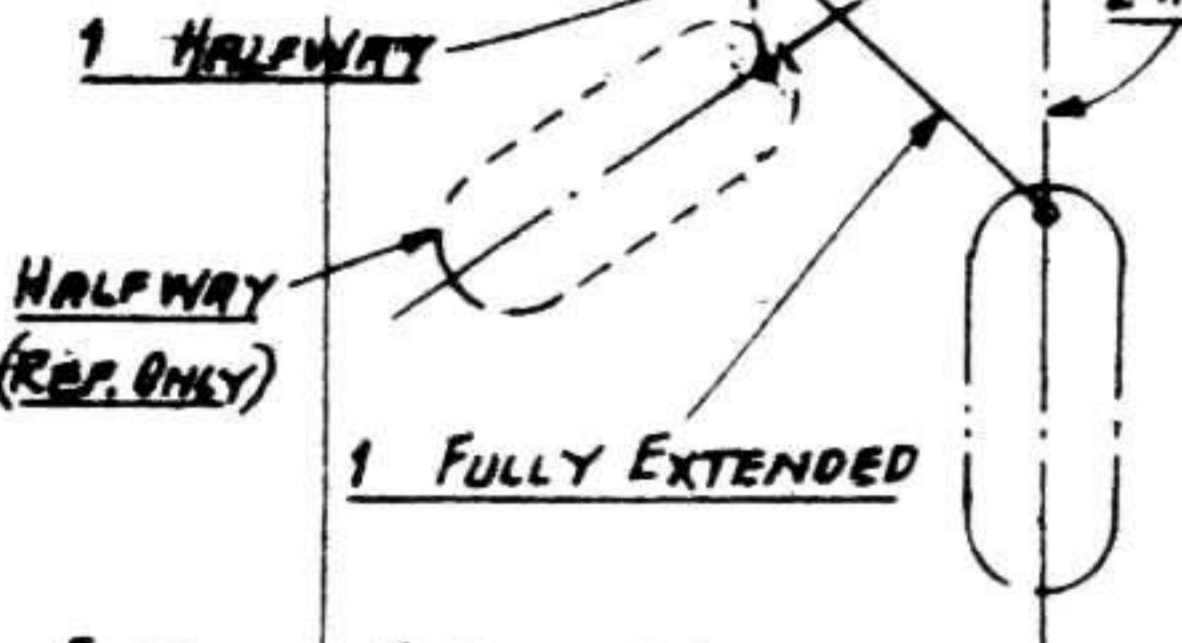
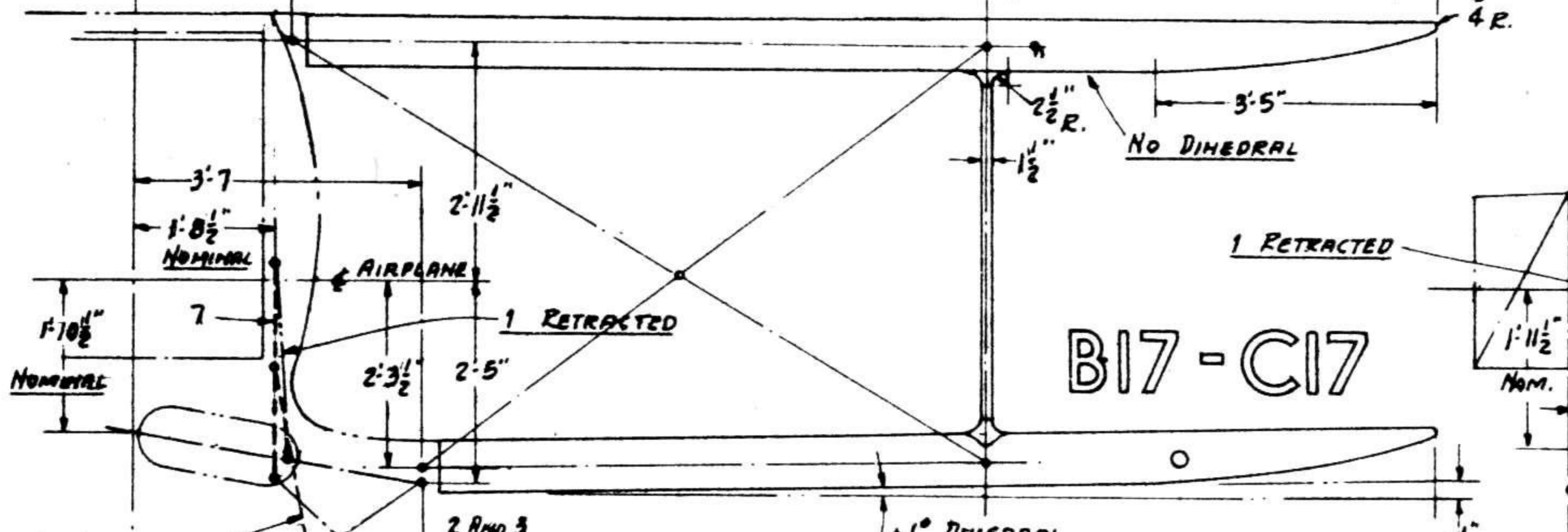
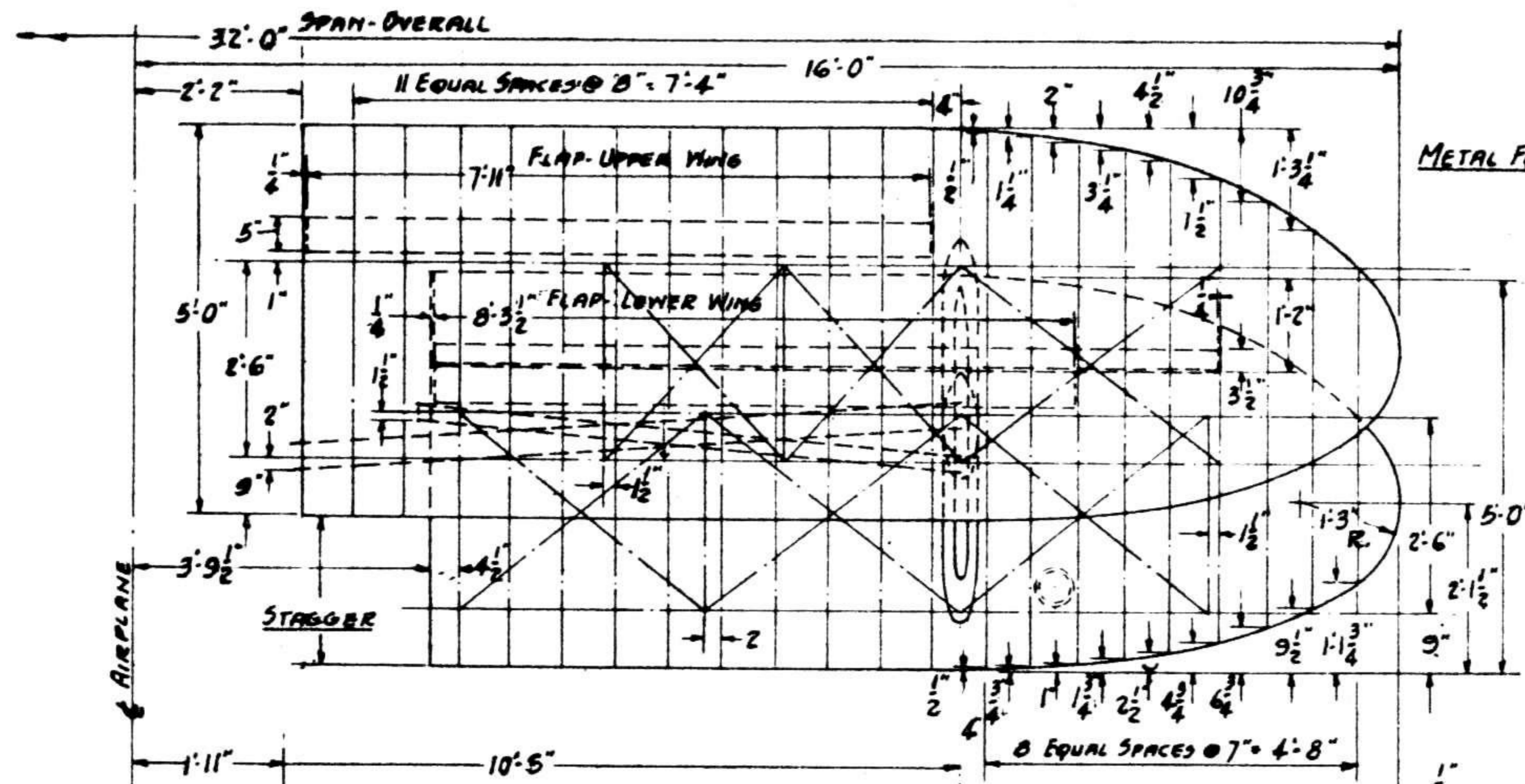


THANKS TO TOM COOK, DON L. NELSON, J. W. HATTIG, ROBERT HENRY, RICHARD GLEASON, CLARENCE SUTTON, NICK NESTER, AND MANY OTHER UNKNOWN CONTRIBUTORS

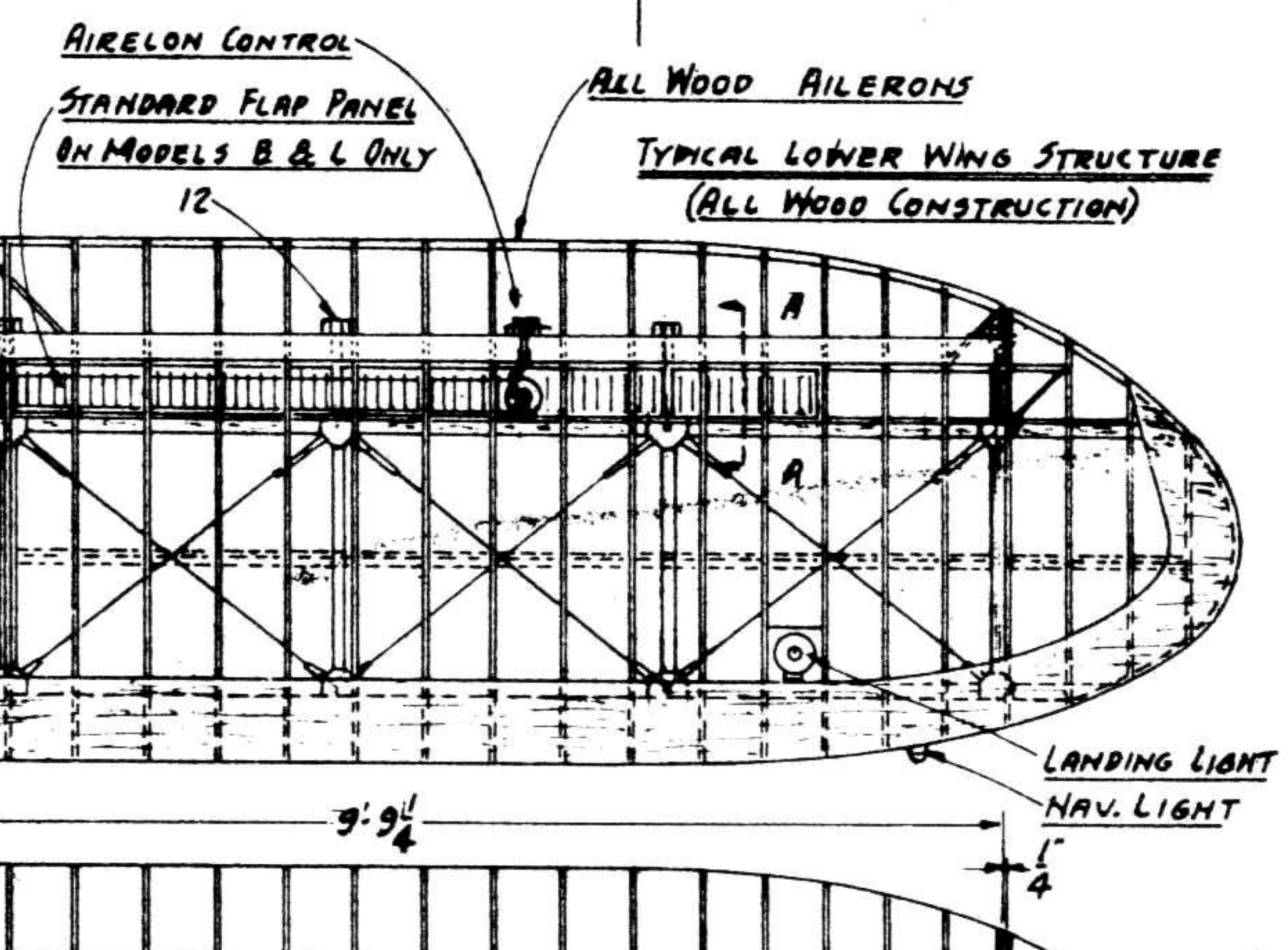
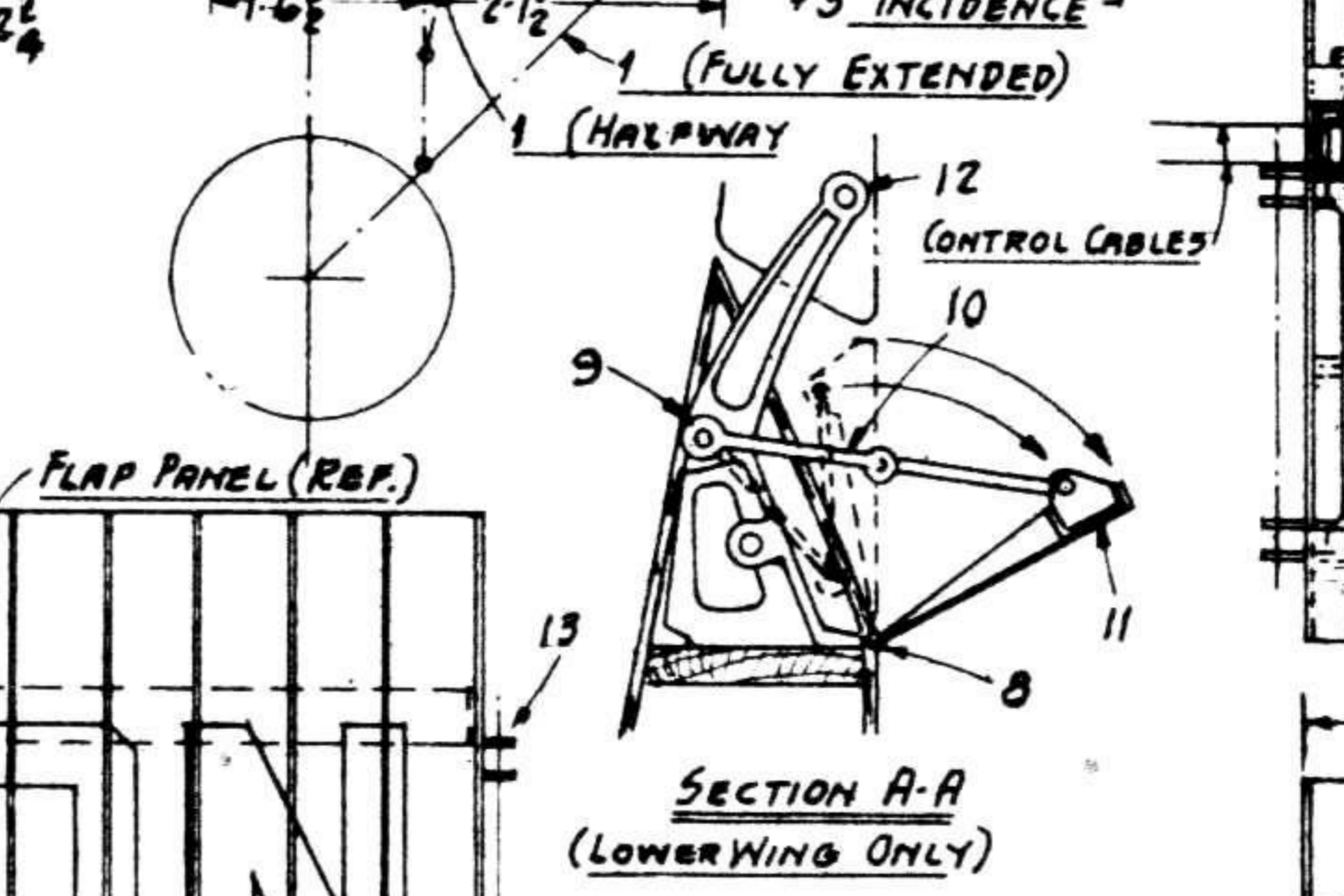
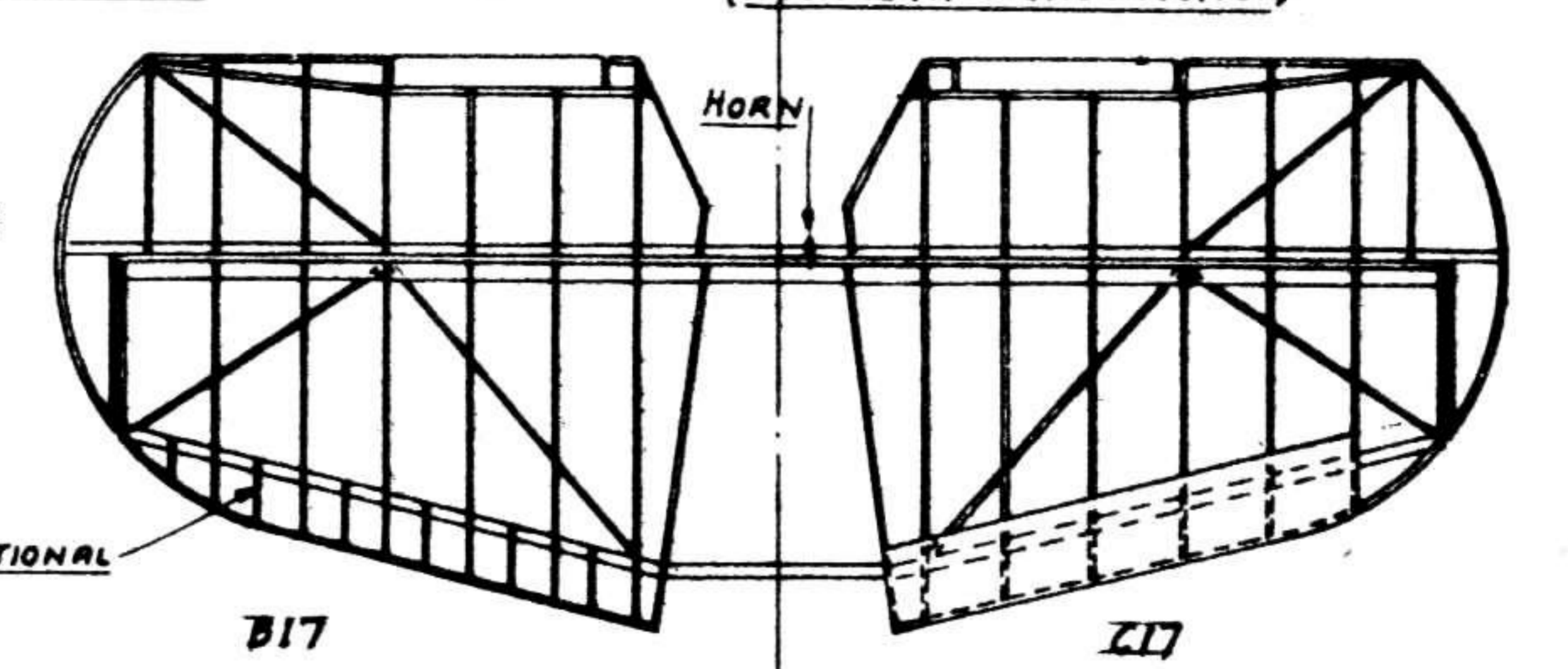
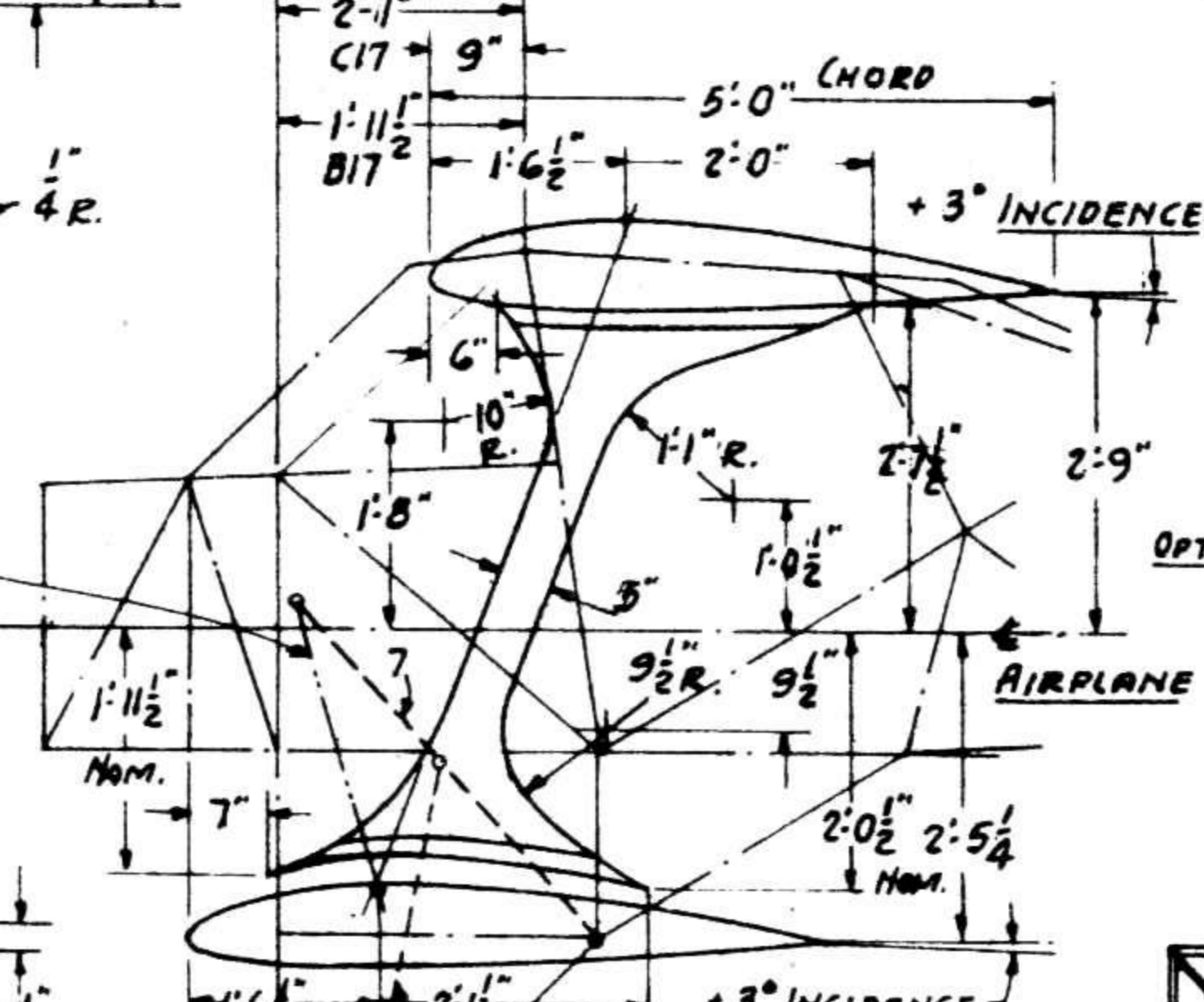
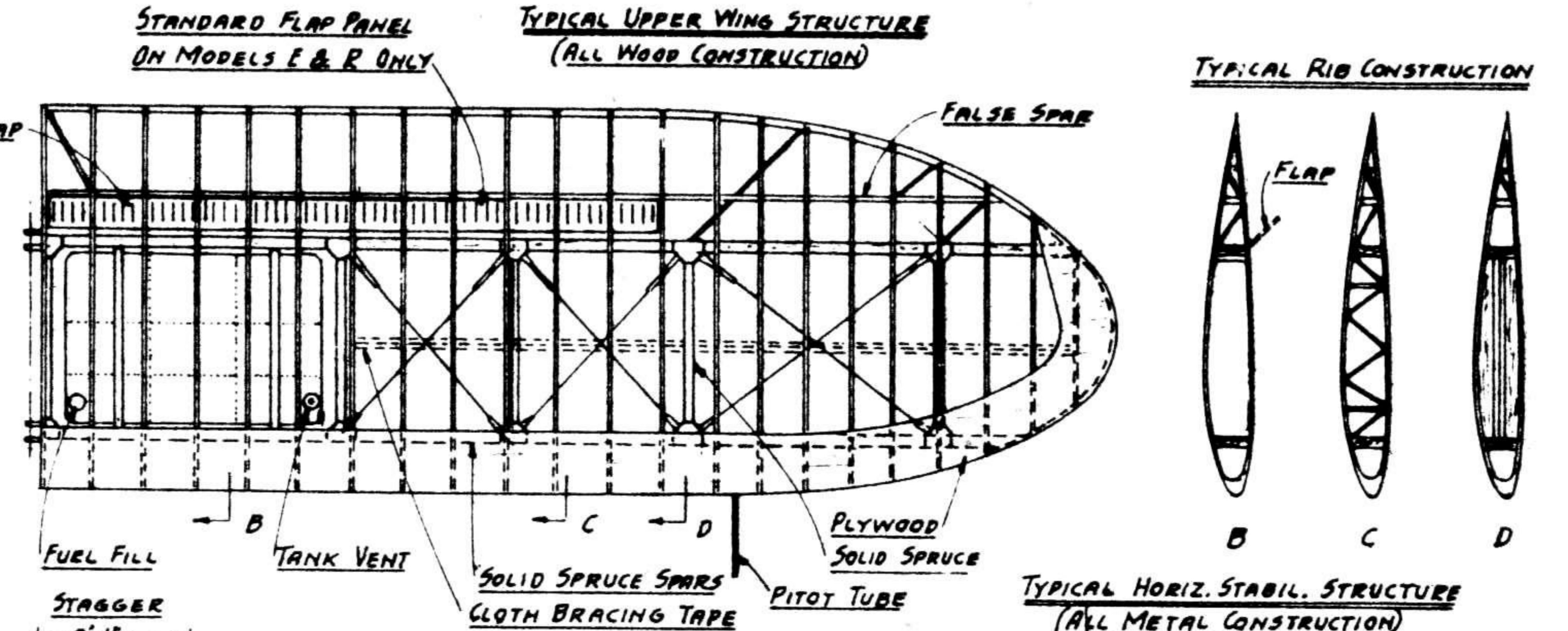
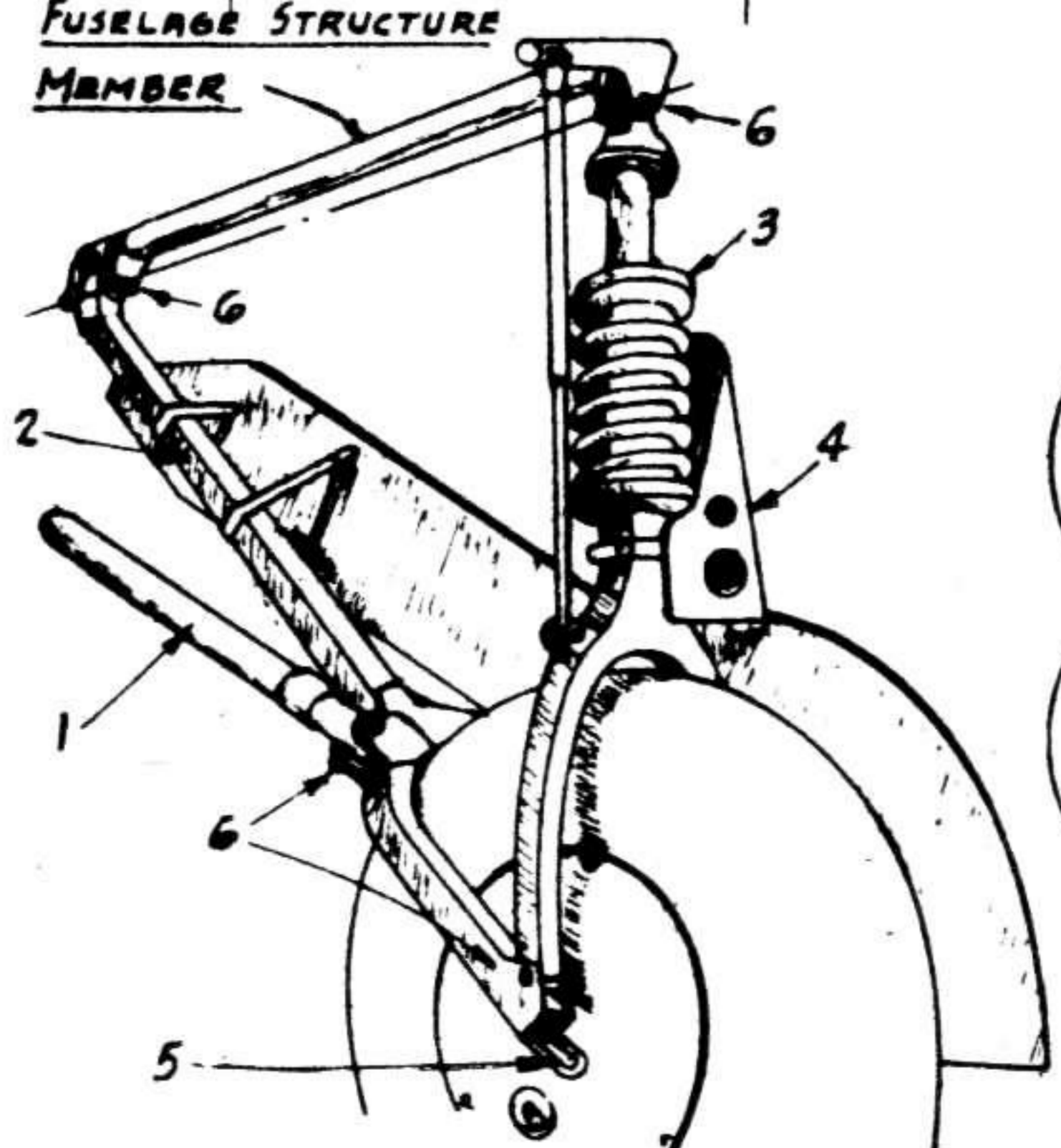
BEECHCRAFT
B17 & C17 - SCALE: 1/4" = 1'-0" - PLATE ONE
W.A. WYLAN



BEECHCRAFT B17 & C17 - PLATE TWO - SCALE: 1/4" = 1'-0" - W.A. WYLIAM

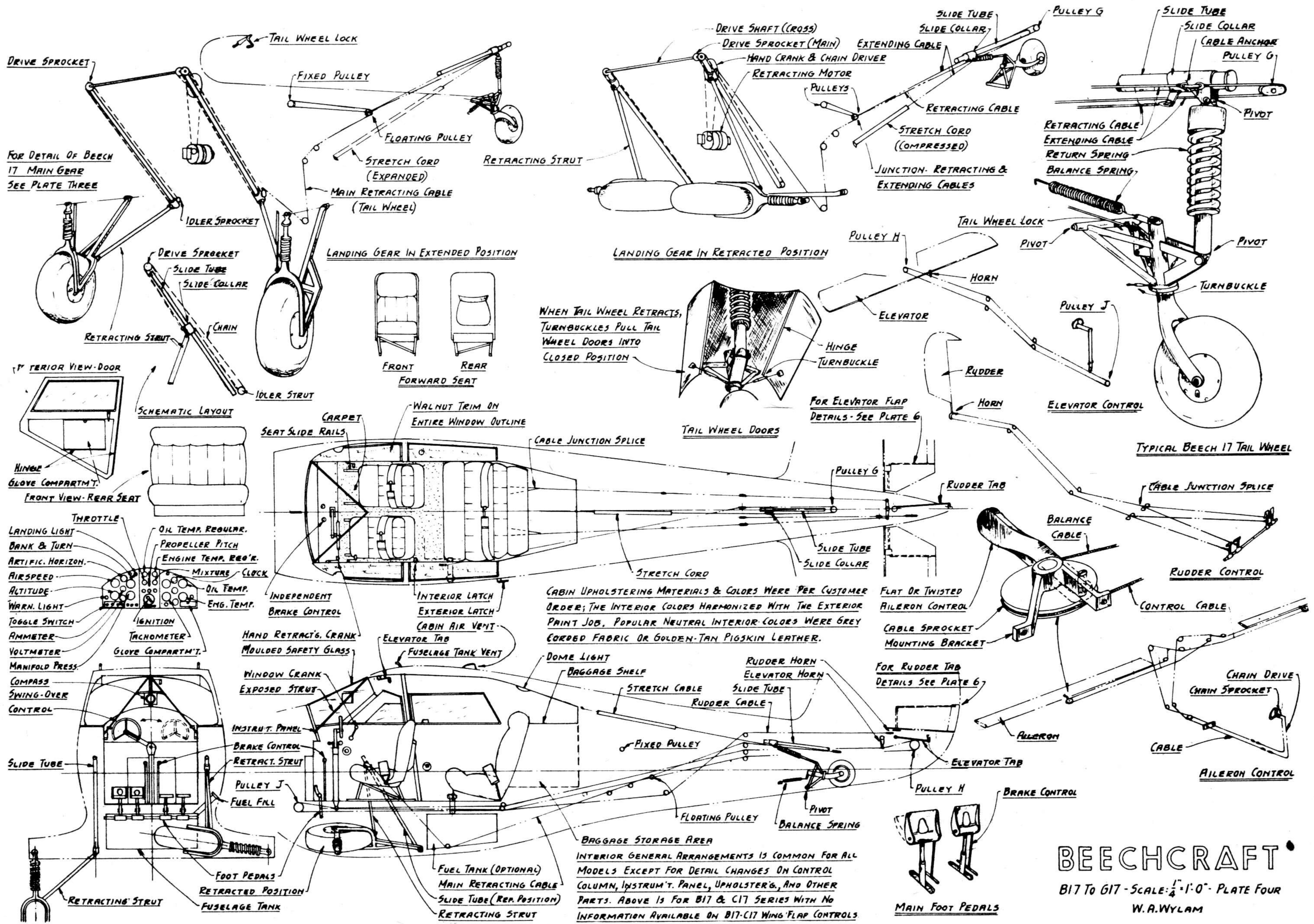


1. RETRACTING STRUT
 2. RADIUS STRUT
 3. SHOCK STRUT
 4. FAIRING PANEL
 5. TOW RING
 6. PIVOT
 7. SLIDE TUBE
 8. FLAP HINGE
 9. TORQUE TUBE
 10. CRANK ARM
 11. FLAP PANEL
 12. AILERON HINGE
 13. WING MOUNTING LUGS
 14. ACCESS PANEL
- AIRFOIL SECTION WAS NACA 23012%



WING PANELS AND I STRUTS WERE PAINTED SOLID BACKGROUND OR TRIM COLOR. SPECIAL COLOR PATTERNS & STRIPINGS WERE RARE.

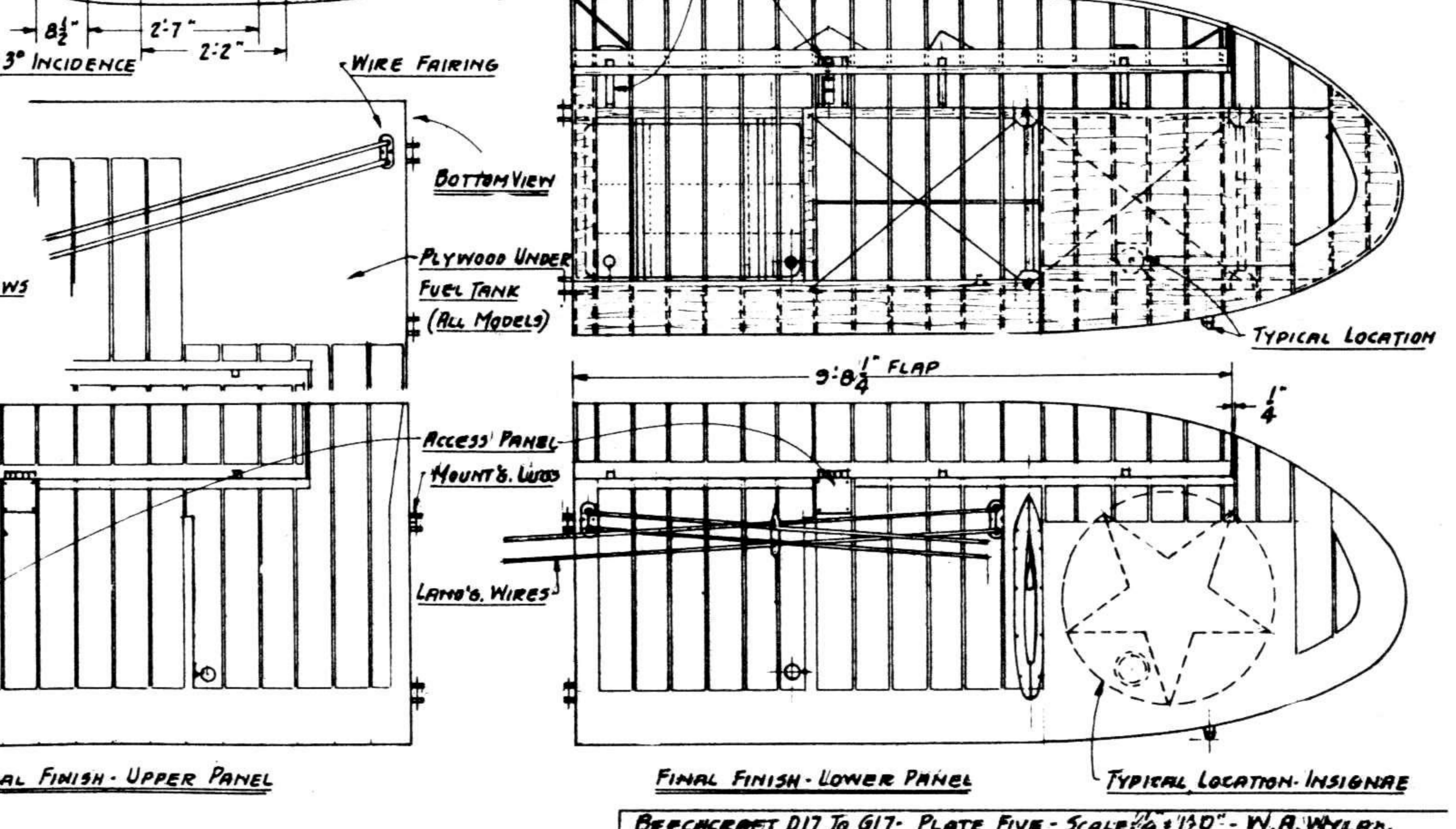
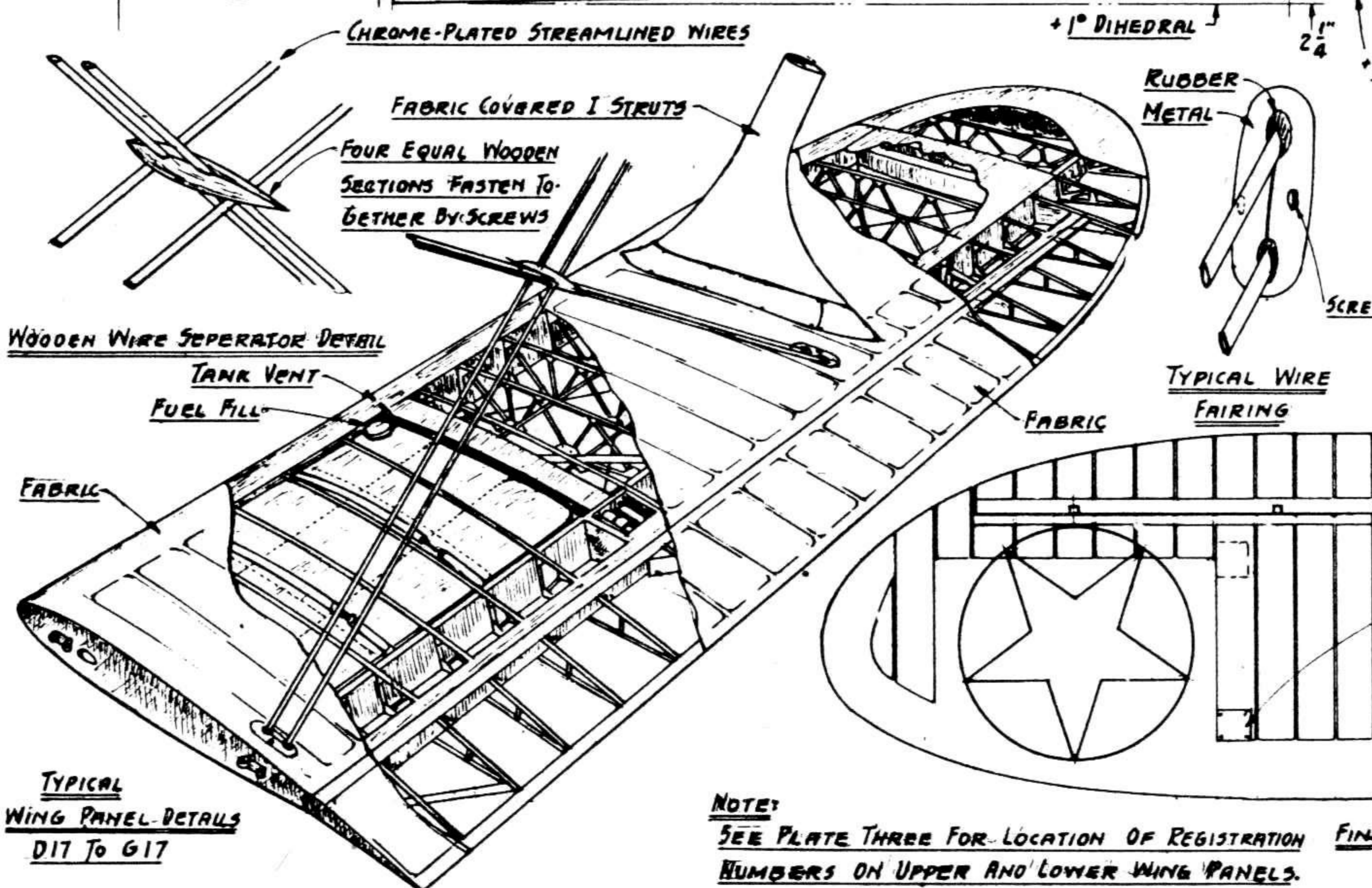
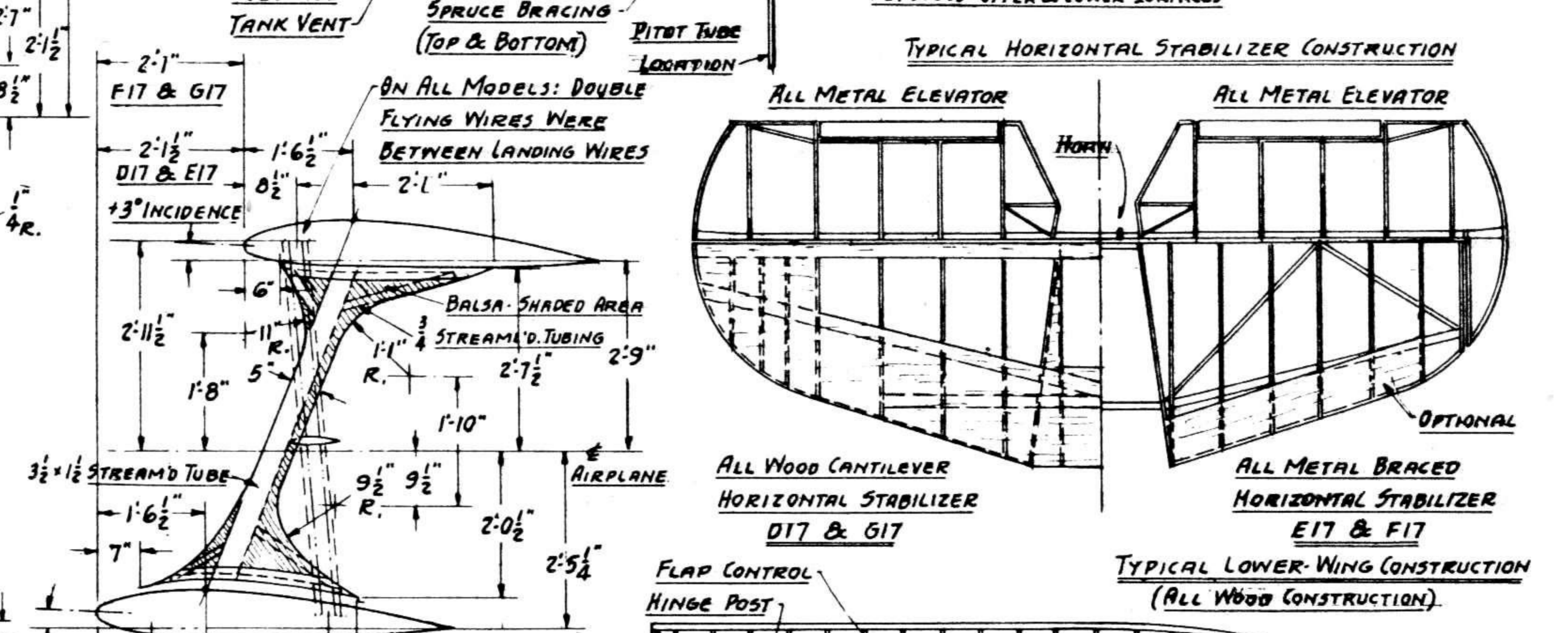
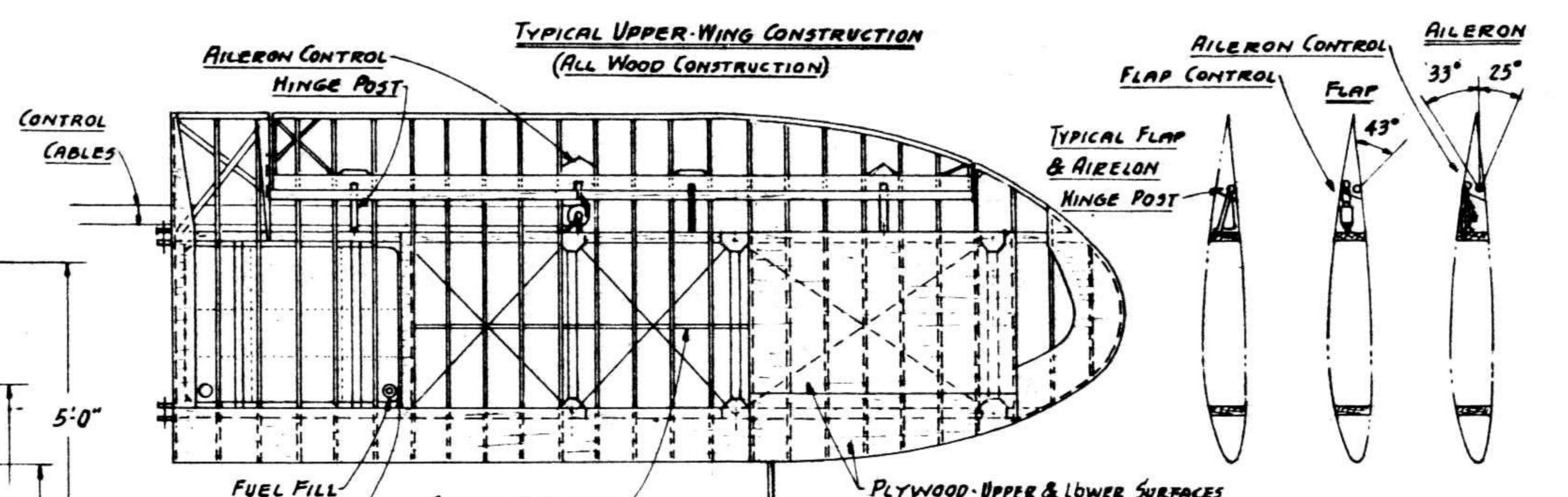
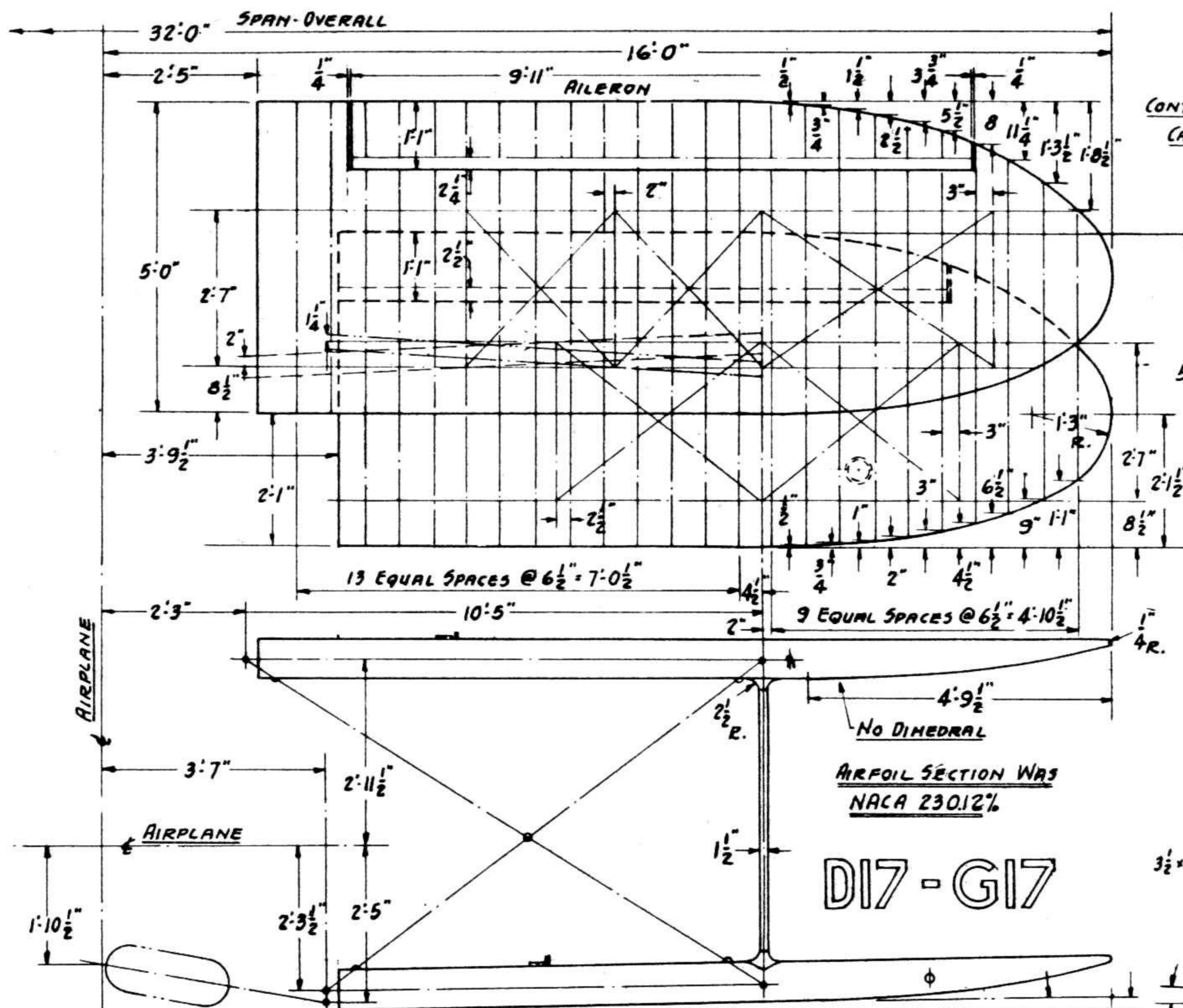
BECHCRAFT B17 & C17 - PLATE THREE - SCALE: 1/4" = 1'-0" - W. A. WYLAN



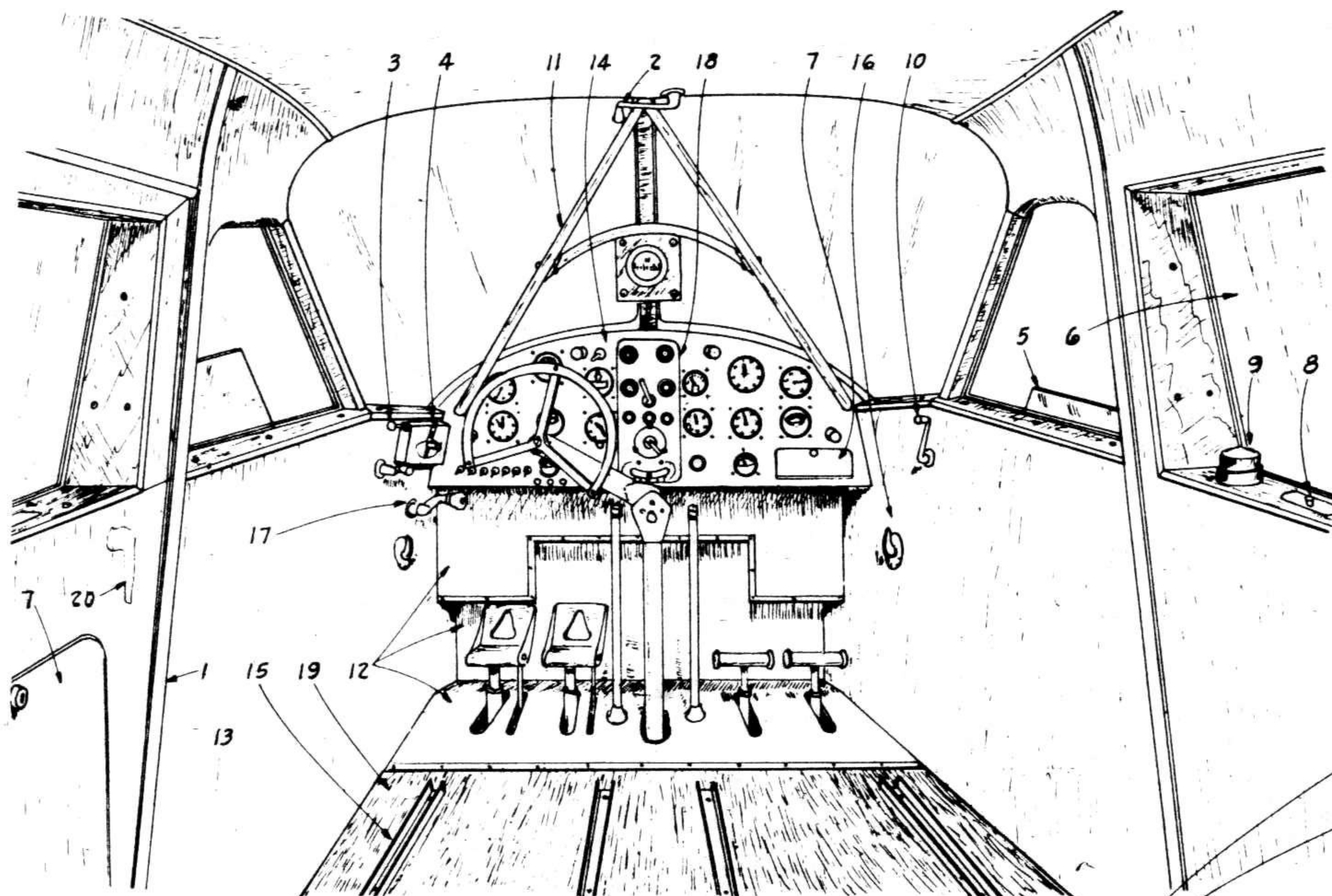
CABIN UPHOLSTERING MATERIALS & COLORS WERE PER CUSTOMER ORDER; THE INTERIOR COLORS HARMONIZED WITH THE EXTERIOR PAINT JOB. POPULAR NEUTRAL INTERIOR COLORS WERE GREY CORDED FABRIC OR GOLDEN-TAN PIGSKIN LEATHER.

BAGGAGE STORAGE AREA
 INTERIOR GENERAL ARRANGEMENTS IS COMMON FOR ALL MODELS EXCEPT FOR DETAIL CHANGES ON CONTROL COLUMN, INSTRUM'T. PANEL, UPHOLSTER'G., AND OTHER PARTS. ABOVE IS FOR B17 & C17 SERIES WITH NO INFORMATION AVAILABLE ON B17-C17 WING FLAP CONTROLS

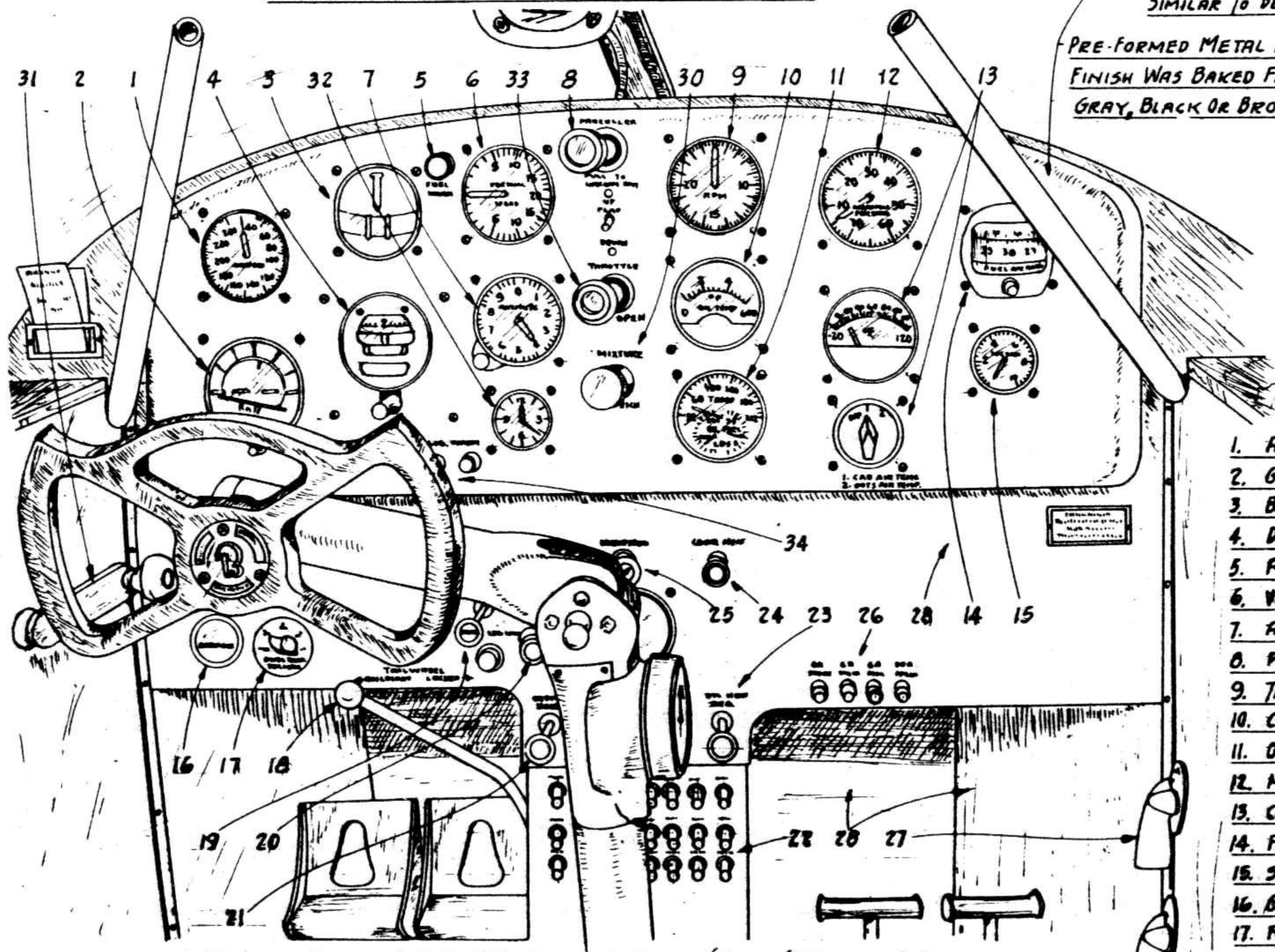
BEECHCRAFT
 B17 TO G17 - SCALE: 1/4" = 1'-0" - PLATE FOUR
 W.A. WYLAM



BEECHCRAFT D17 TO G17 - PLATE FIVE - SCALE 1/4" = 1'-0" - W.A. WYLAN.



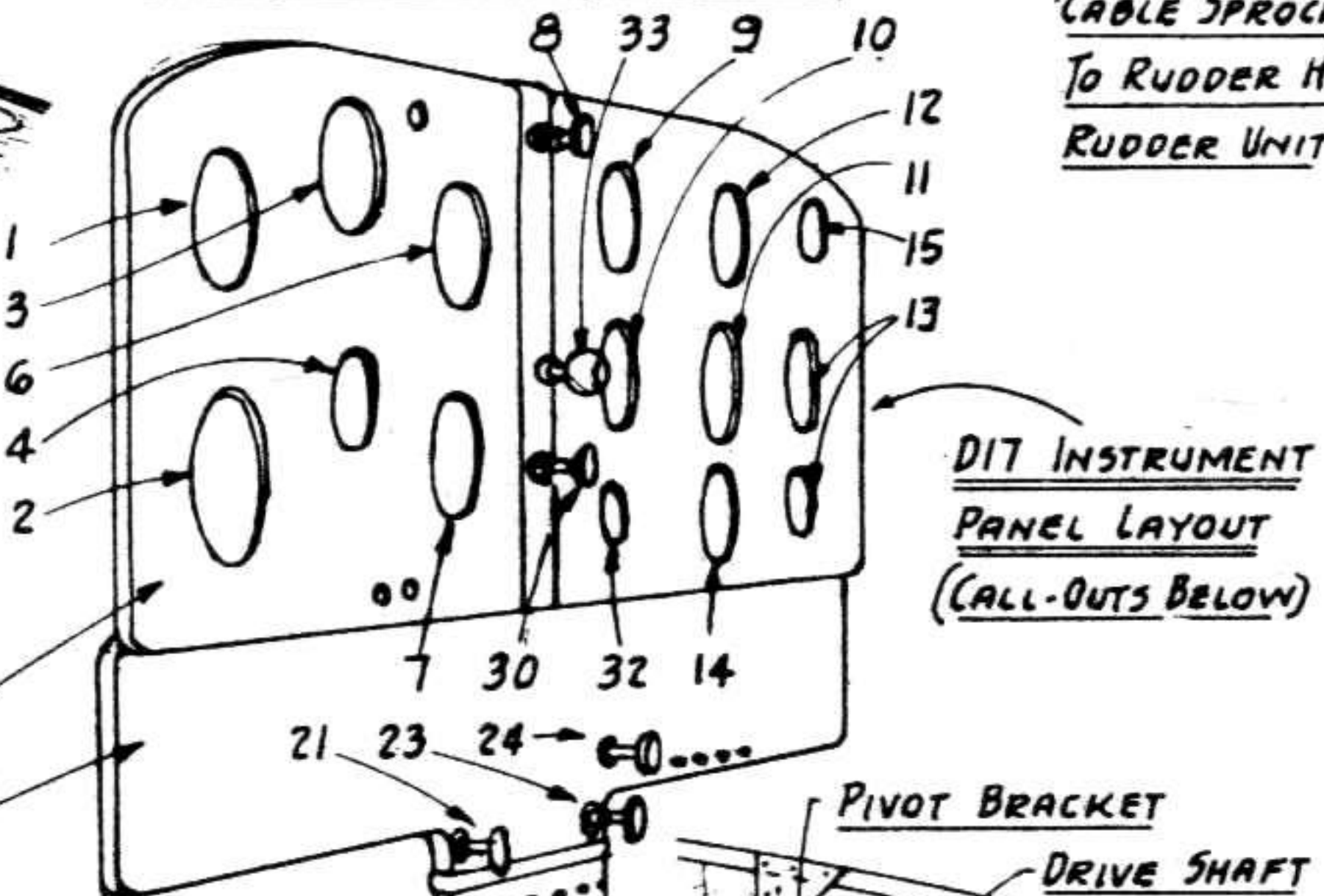
TYPICAL BEECH B17 & C17 FRONT INTERIOR VIEW



TYPICAL BEECH E17 TO G17 FRONT INTERIOR VIEW (D17 SIMILAR)

- 1. MOULDING STRAP
- 2. ELEVATOR TAB
- 3. RUDDER TAB
- 4. TAILWHEEL LOCK
- 5. ADJUST. WINDOW
- 6. FIXED WINDOW
- 7. GLOVE COMPARTMENT
- 8. ASH RECEIVER
- 9. LIGHTER
- 10. WINDOW CRANK
- 11. EXPOSED STRUT
- 12. METAL PANEL
- 13. UPHOL. PANEL
- 14. METAL INSTRU. PANEL
- 15. SLIDE RAILS
- 16. FUEL SWITCH
- 17. RETRACT. CRANK
- 18. RAISED PANEL
- 19. CARPET
- 20. DOOR LATCH

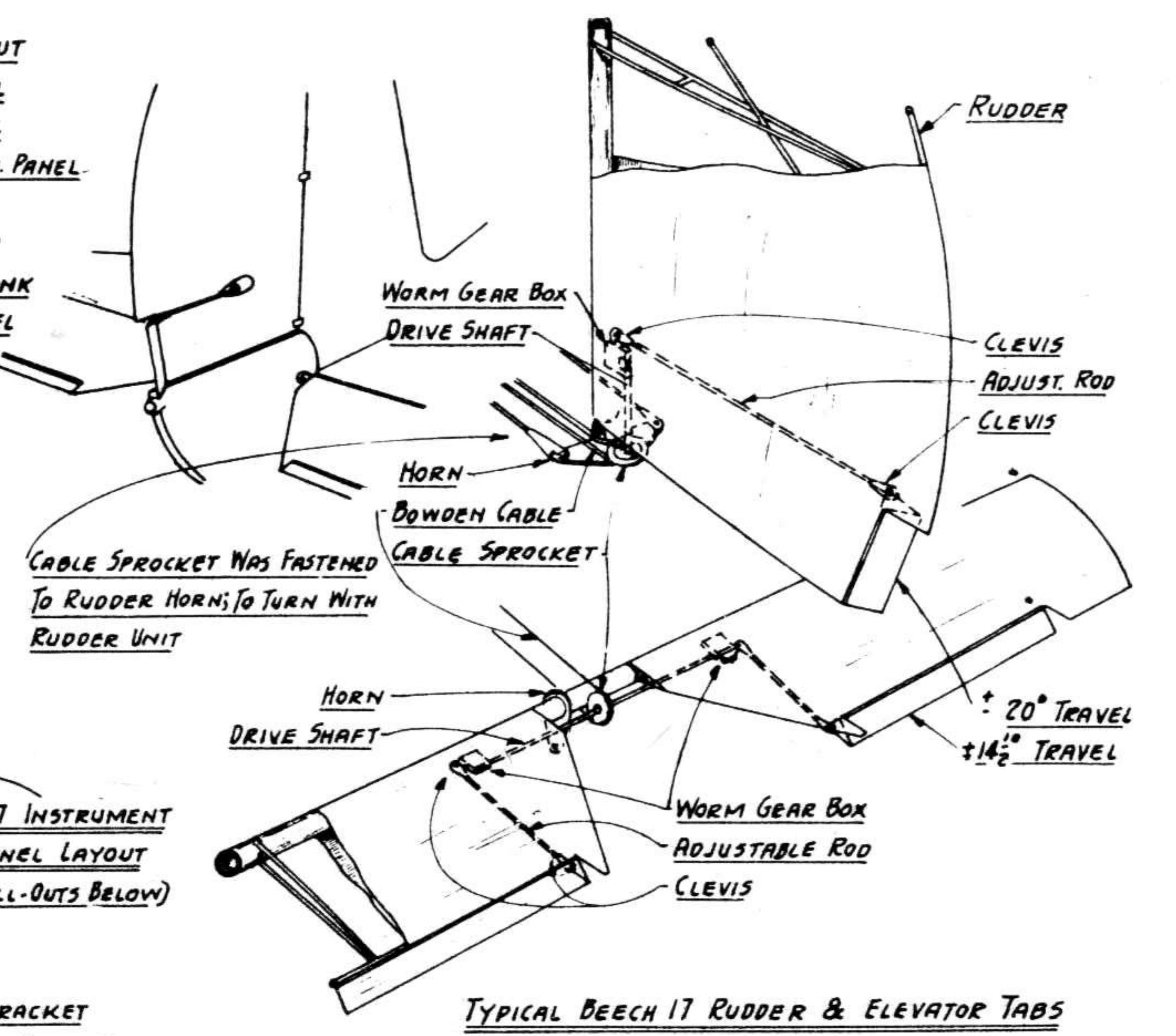
NOTE:
SEE PLATE FOUR FOR INSTRUMENT
PANEL LAYOUT AND CALL-OUTS.



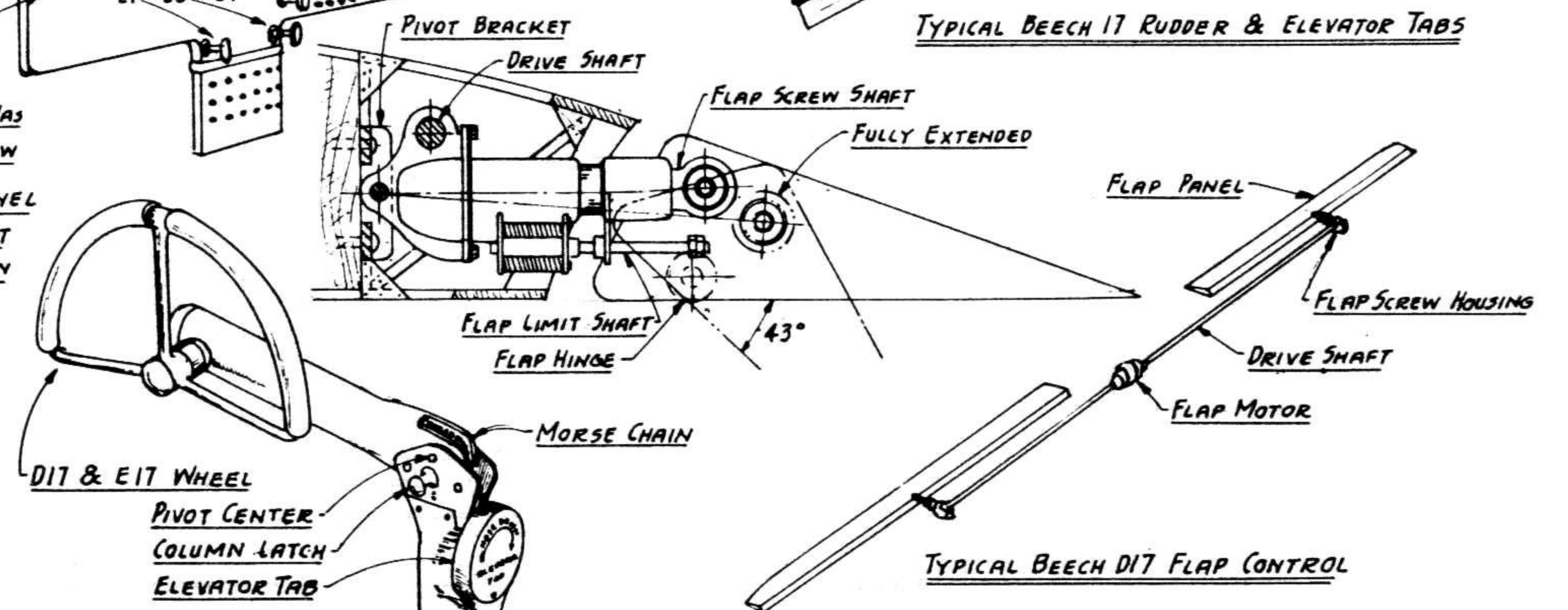
D17 INSTRUMENT
PANEL LAYOUT
(CALL-OUTS BELOW)

LOWER PANEL WAS
SIMILAR TO BELOW

PRE-FORMED METAL PANEL
FINISH WAS BAKED FLAT
GRAY, BLACK OR BROWN



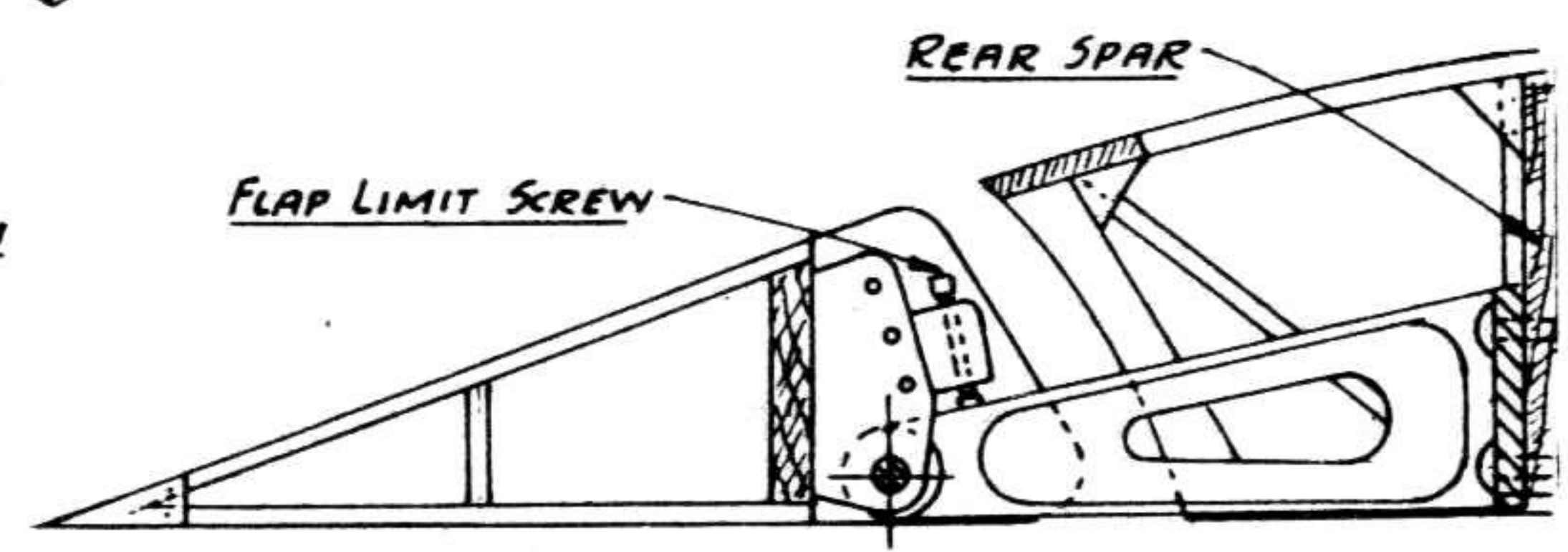
TYPICAL BEECH B17 RUDDER & ELEVATOR TABS



TYPICAL BEECH D17 FLAP CONTROL

- 1. AIRSPEED
- 2. GYRO HORIZON
- 3. BANK & TURN
- 4. DIRECTIONAL GYRO
- 5. FUEL WARNING
- 6. VERTICAL SPEED
- 7. ALTIMETER
- 8. PROPELLER PITCH
- 9. TACHOMETER
- 10. CYLINDER TEMP.
- 11. OIL FUEL PRESS.
- 12. MANIFOLD PRESS.
- 13. CARB. & OUTS. AIR TEMP.
- 14. FUEL/AIR RATIO
- 15. SUCTION GAGE
- 16. GASOLINE SIGHT
- 17. FUEL TANK SELECT.
- 18. TAILWHEEL LOCK
- 19. PARKING BRAKE
- 20. L/G RETRACT. SW.
- 21. CABIN HEAT
- 22. FUSE PANEL
- 23. OIL HEAT CONTROL
- 24. CARB. HEAT CONT'L.
- 25. IGNITION
- 26. SPARE FUSES
- 27. FUEL TANK SW.
- 28. METAL PANEL
- 29. UPHOL. PANEL
- 30. MIXTURE
- 31. RETRACT. CRANK
- 32. CLOCK
- 33. THROTTLE
- 34. L/G WARNING

TYPICAL BEECH B17 CONTROL COLUMN



TYPICAL BEECH B17AILERON & FLAP HINGE

BEECHCRAFT

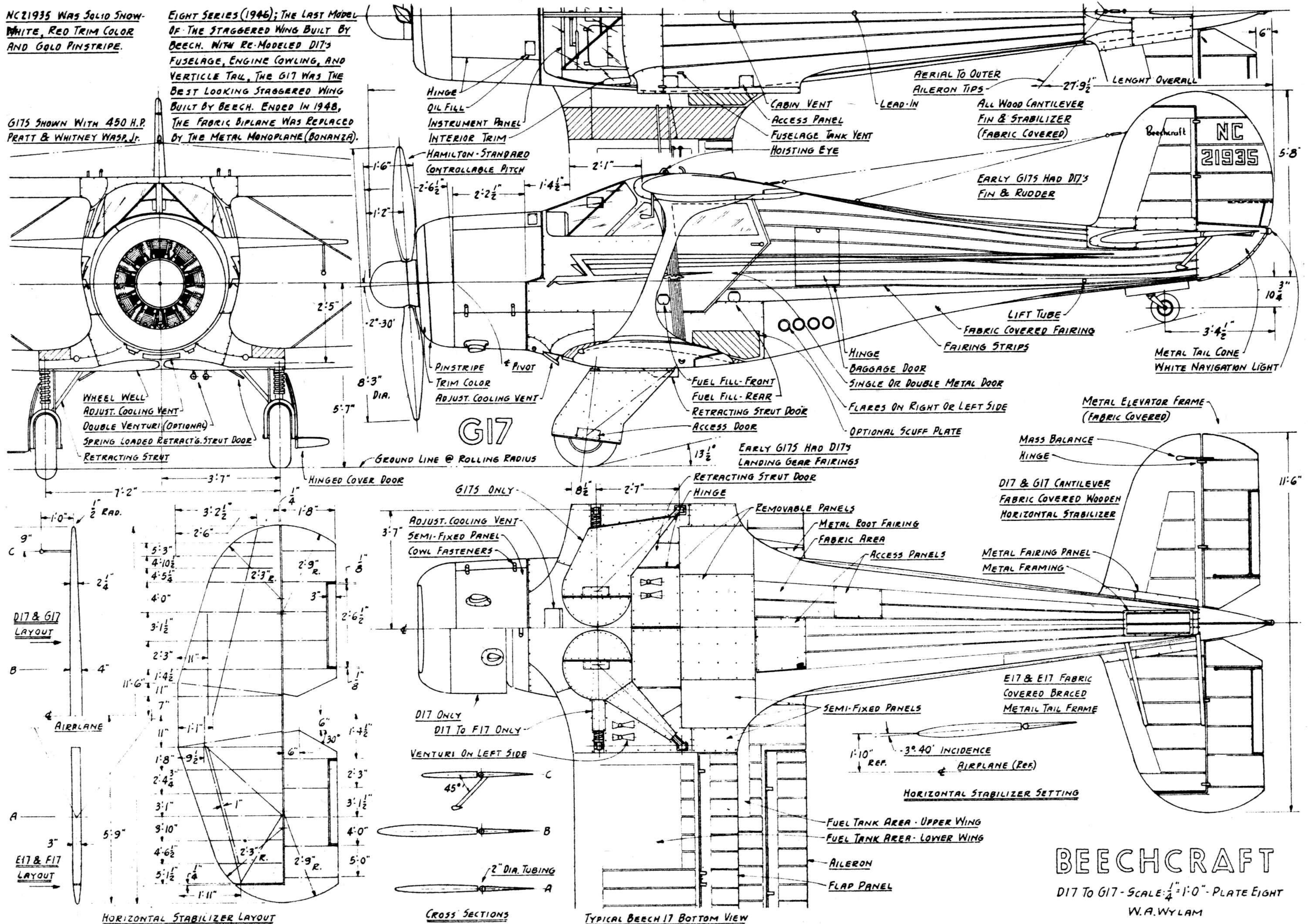
D17 TO G17 · SCALE: 1/4" = 1'-0" · PLATE SIX

W.A. WYLAM

NC21935 WAS SOLID SNOW-WHITE, RED TRIM COLOR AND GOLD PINSTRIPE.

G17S SHOWN WITH 450 H.P. PRATT & WHITNEY WASP, JR.

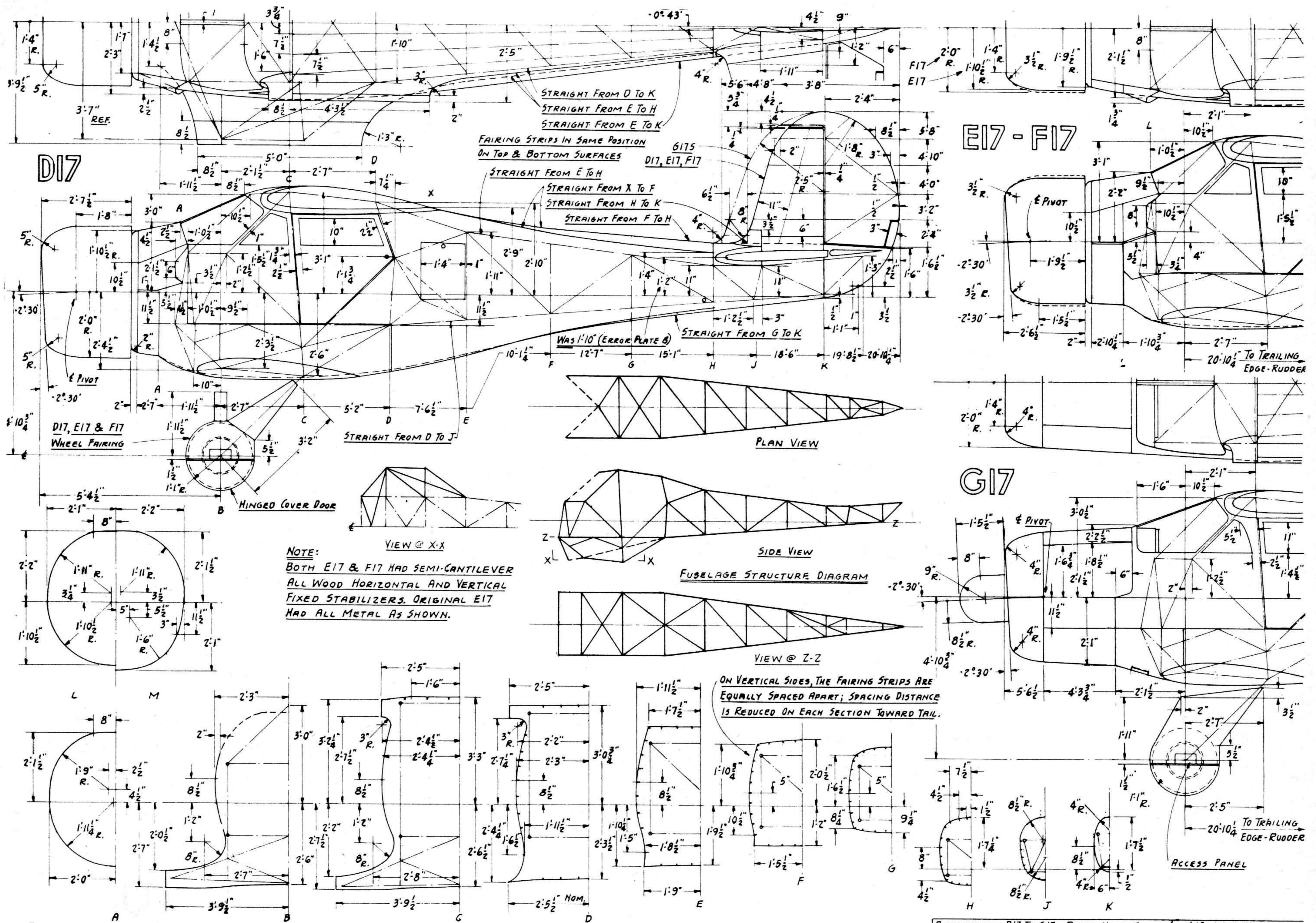
EIGHT SERIES (1946); THE LAST MODEL OF THE STAGGERED WING BUILT BY BEECH. WITH RE-MODELED D17'S FUSELAGE, ENGINE COWLING, AND VERTICAL TAIL, THE G17 WAS THE BEST LOOKING STAGGERED WING BUILT BY BEECH. ENDED IN 1948, THE FABRIC BIPLANE WAS REPLACED BY THE METAL MONOPLANE (BONANZA).



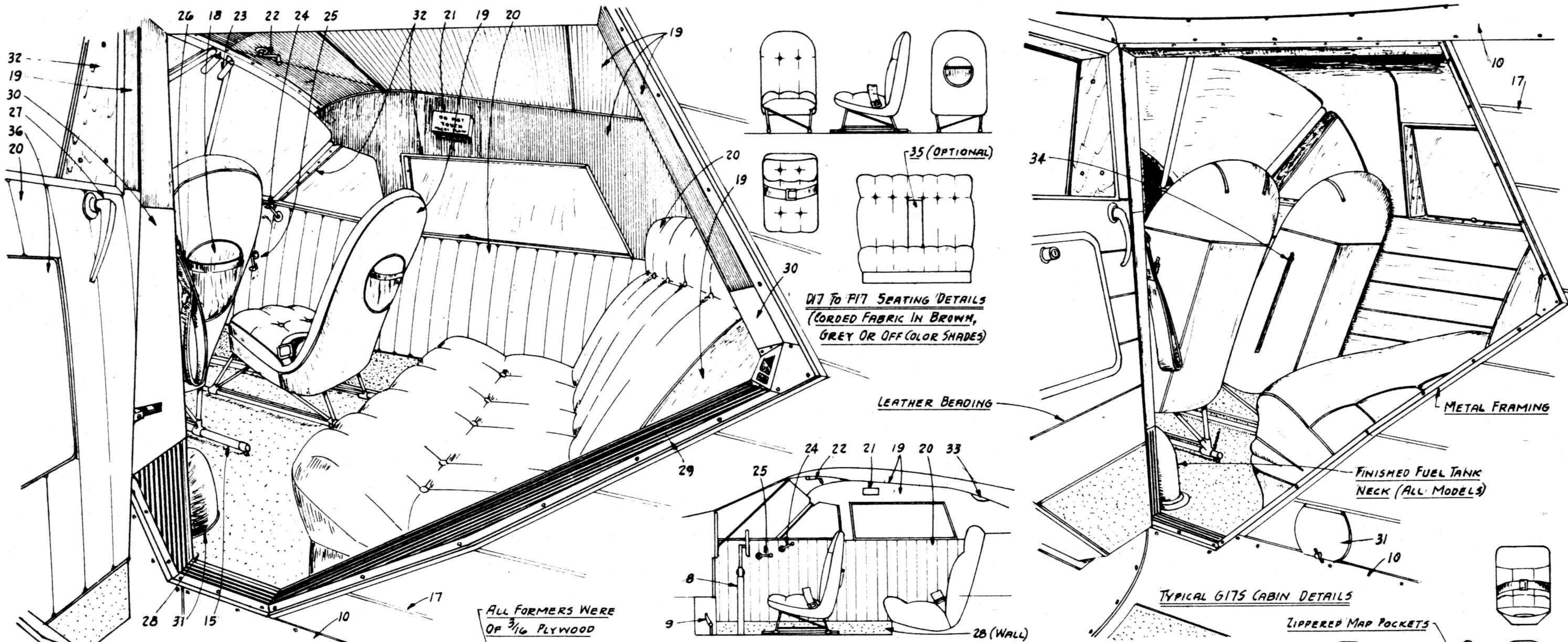
BEECHCRAFT

D17 TO G17 - SCALE: 1/4" = 1'-0" - PLATE EIGHT

W.A. WYLAM



BEECHCRAFT D17 TO G17 - PLATE NINE - SCALE: 1/4" = 1'-0" - W.A. WYLAM



- | | | | |
|----------------------|--------------------|---------------------|-----------------|
| 1. EXHAUST COLLECTOR | 10. METAL PANEL | 19. CORDED FABRIC | 28. CARPET |
| 2. OIL TANK | 11. PLYWOOD PANEL | 20. PLEATED LEATHER | 29. ALUMINUM |
| 3. FIREWALL | 12. WOOD FRAMING | 21. FLARES CONTROL | 30. LEATHER |
| 4. LOUVER SHROUD | 13. FRONT TANK | 22. RUDDER TAB | 31. FUEL FILL |
| 5. SUPPORT RING | 14. REAR TANK | 23. SPOTLIGHTS | 32. MAHOGANY |
| 6. CARB. AIR FILTER | 15. SLIDE TUBE | 24. WINDOW CRANK | 33. DOME LIGHT |
| 7. SHROUD, COWLING | 16. RETRACT. STRUT | 25. WOBBLE PUMP | 34. ZIPPER |
| 8. CONTROL COLUMN | 17. SPRUCE STRIPS | 26. ASSIST STRAP | 35. ARM REST |
| 9. RUDDER PEDALS | 18. MAP POCKETS | 27. DOOR LATCH | 36. GLOVE COMP. |

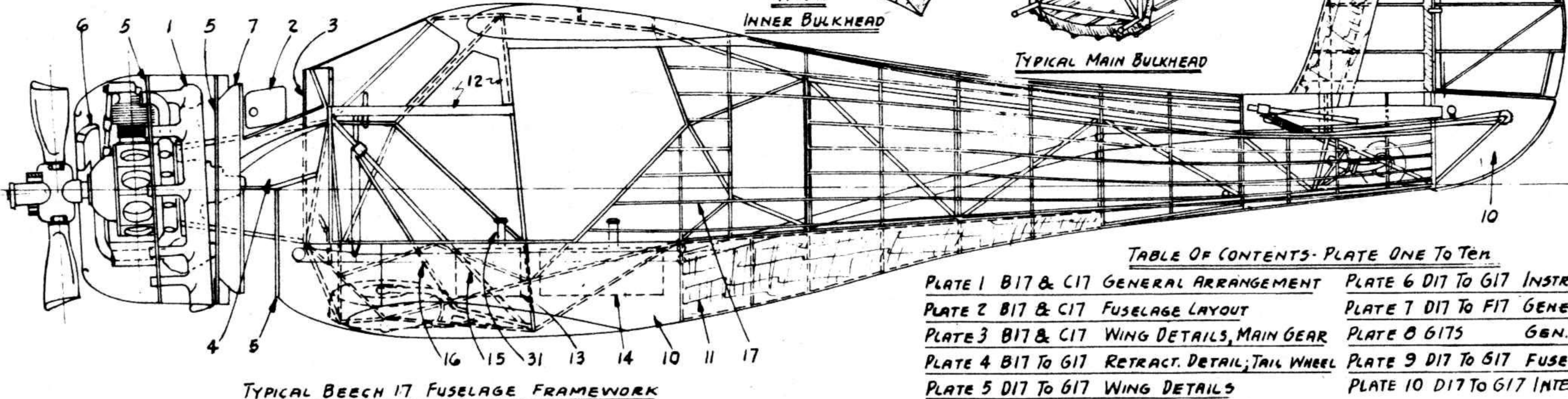
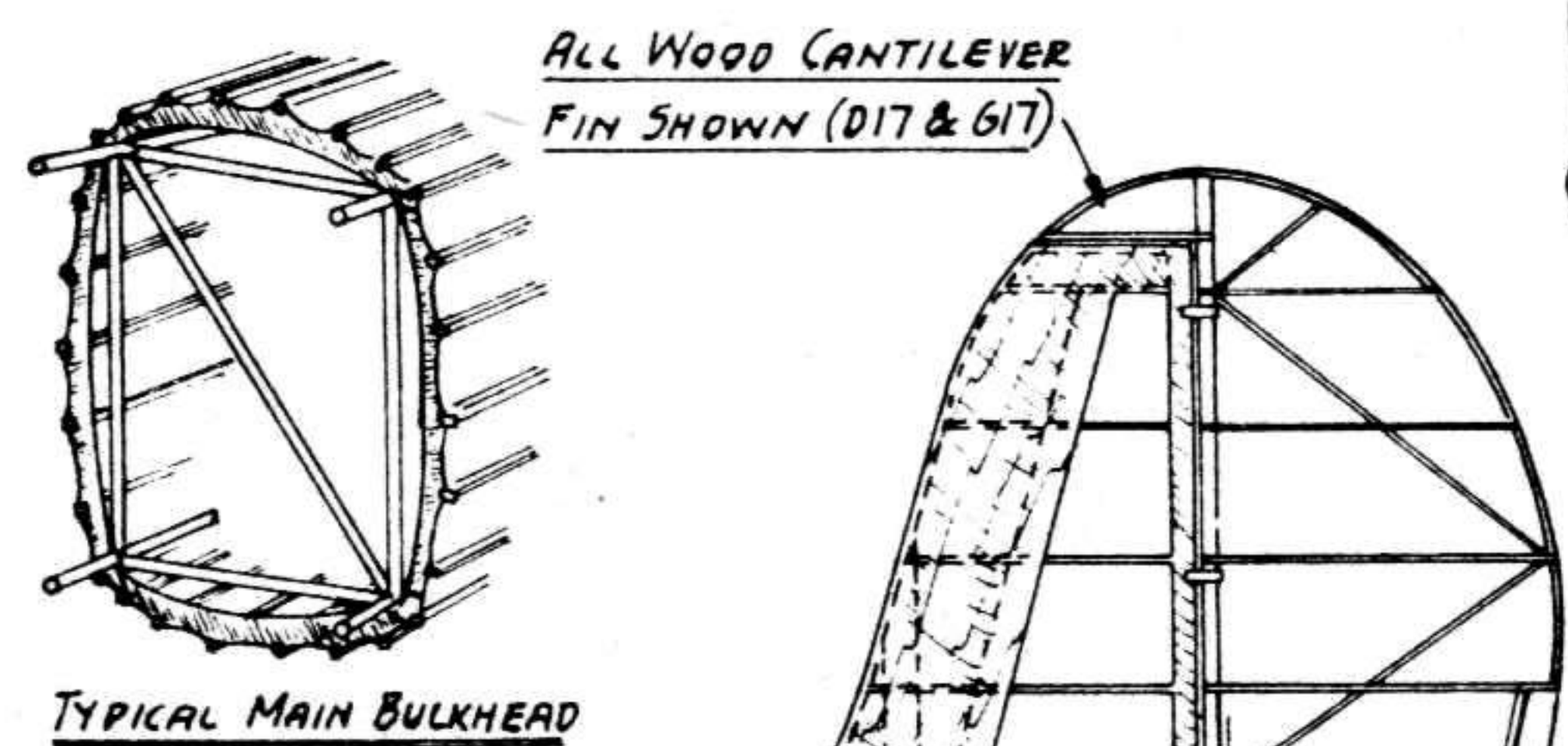
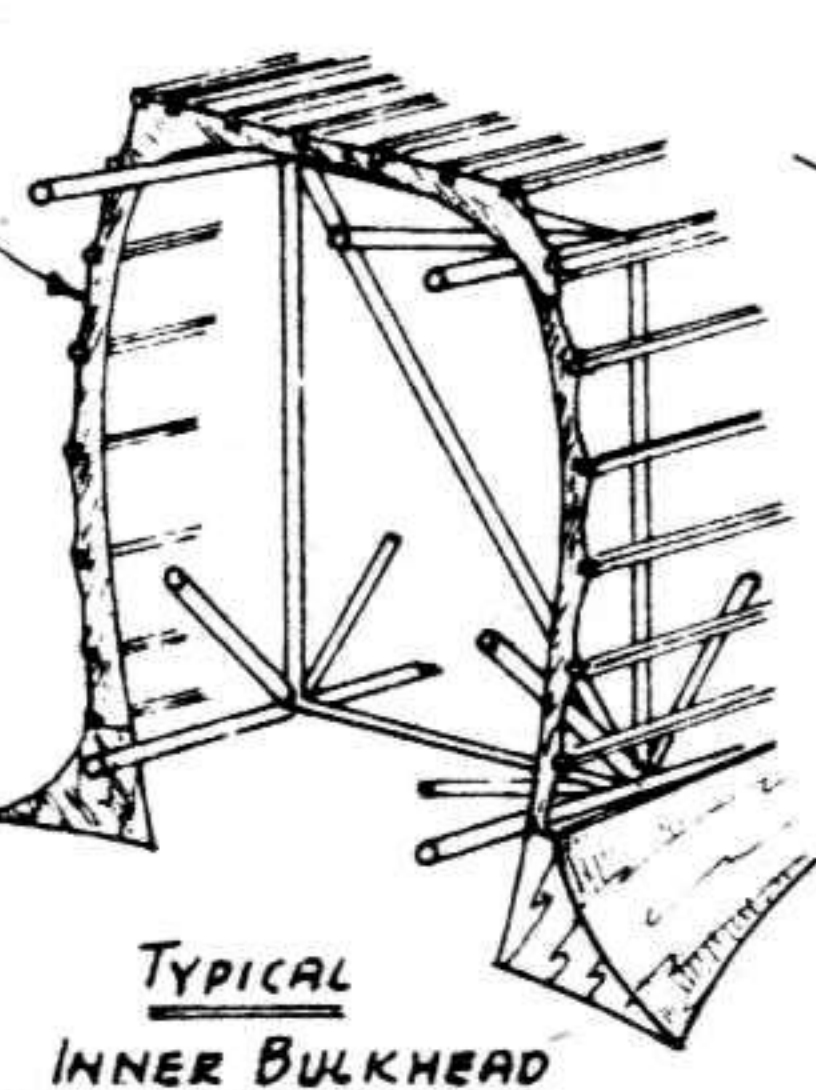


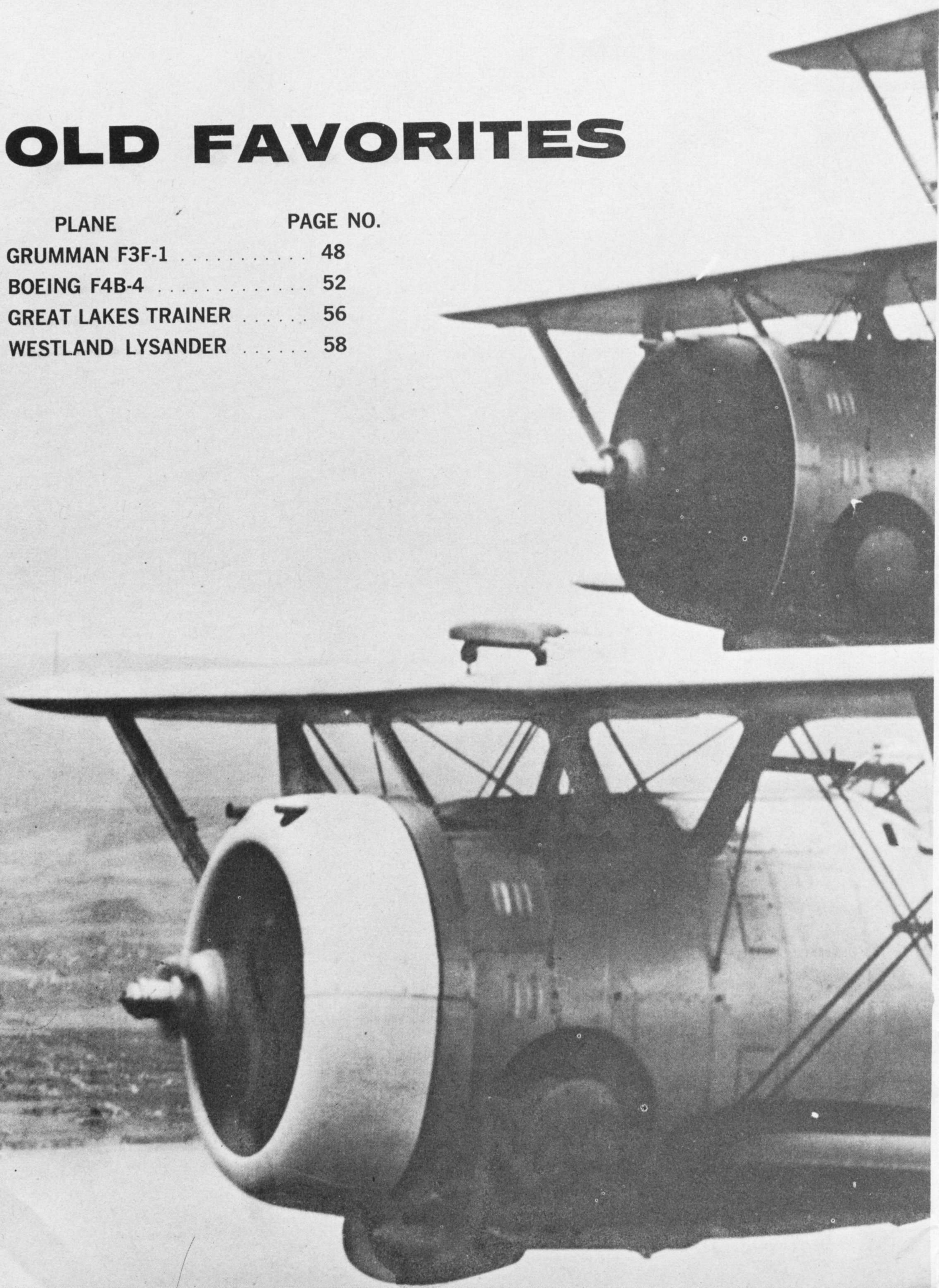
TABLE OF CONTENTS - PLATE ONE TO TEN

PLATE 1 B17 & C17 GENERAL ARRANGEMENT	PLATE 6 D17 TO G17 INSTRU. PANEL, TAB & FLAP
PLATE 2 B17 & C17 FUSELAGE LAYOUT	PLATE 7 D17 TO F17 GENERAL ARRANGEMENT
PLATE 3 B17 & C17 WING DETAILS, MAIN GEAR	PLATE 8 G17S GEN. ARRANG.; BOTTOM VIEW
PLATE 4 B17 TO G17 RETRACT. DETAIL; TAIL WHEEL	PLATE 9 D17 TO G17 FUSELAGE LAYOUTS
PLATE 5 D17 TO G17 WING DETAILS	PLATE 10 D17 TO G17 INTERIOR DETAILS

BEECHCRAFT
 D17 TO G17 - SCALE: 1/4" = 1'-0" - PLATE 10 OF 10
 W.A. WYLAM

OLD FAVORITES

PLANE	PAGE NO.
GRUMMAN F3F-1	48
BOEING F4B-4	52
GREAT LAKES TRAINER	56
WESTLAND LYSANDER	58





2-MF-10

0878

F3F-2

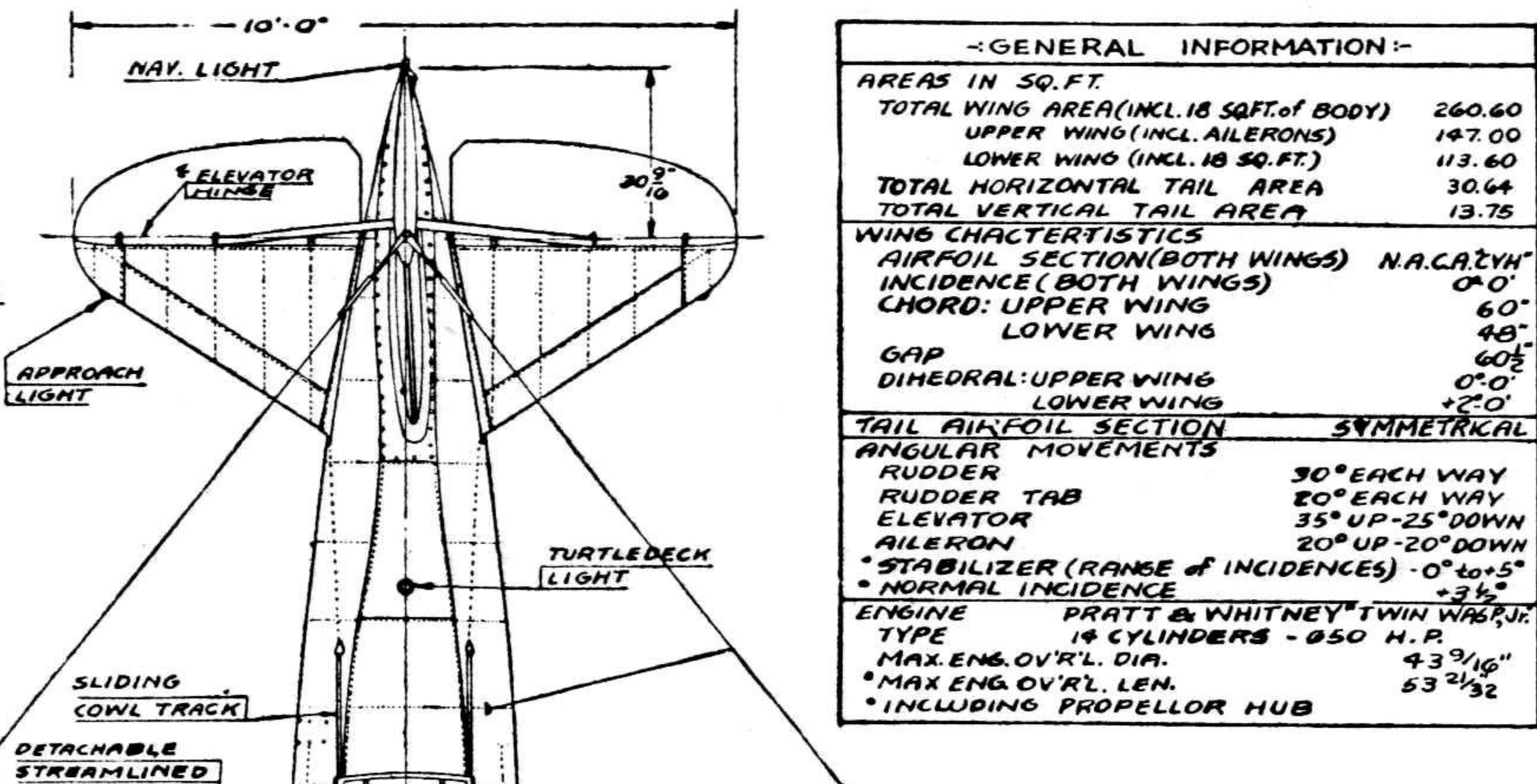
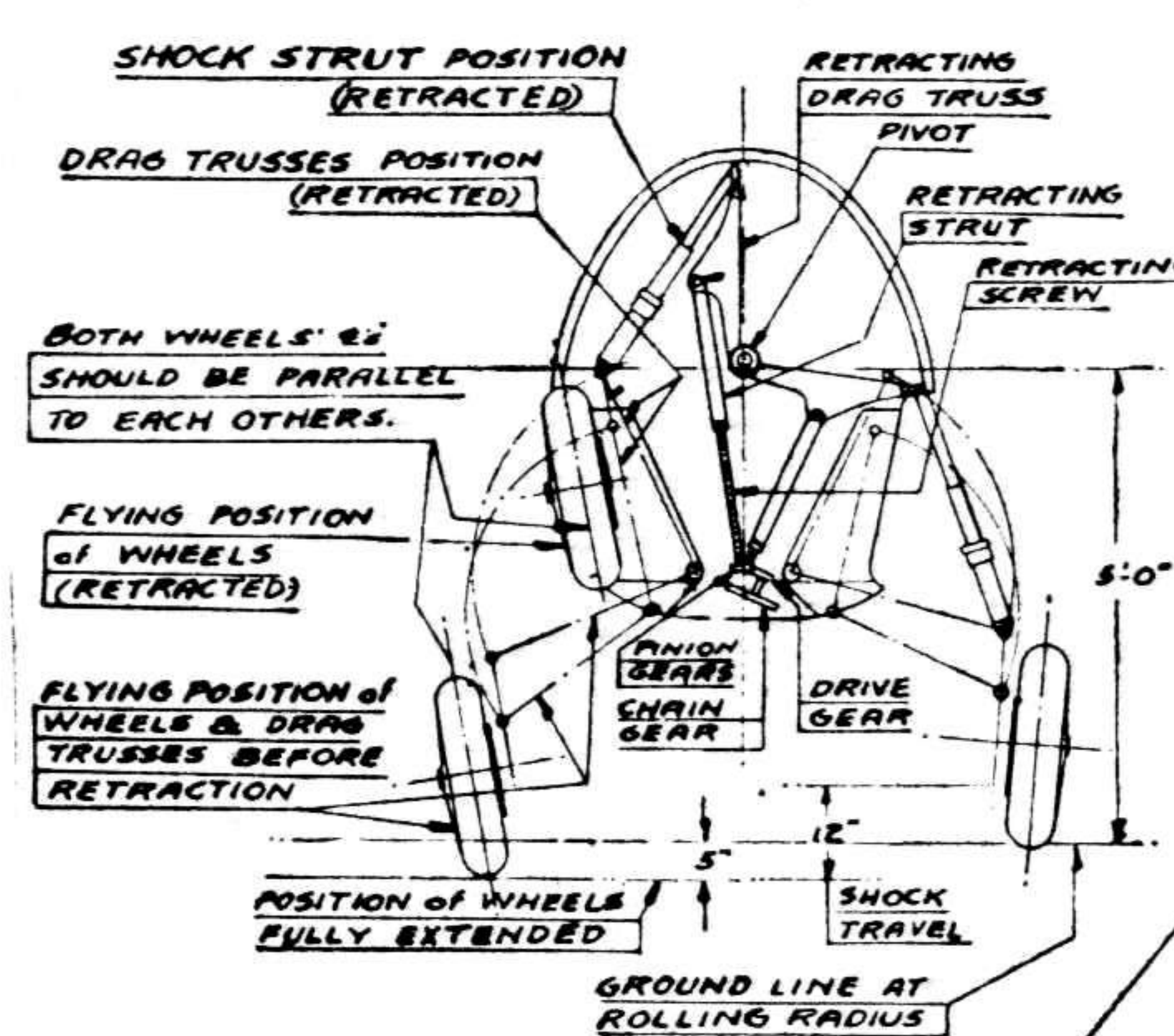
2-MF-4

0873

F3F-2

0877

FIG. 5
SUGGESTED RETRACTING DIAGRAM



-GENERAL INFORMATION:-

AREAS IN SQ. FT.	
TOTAL WING AREA (INCL. 18 SQ. FT. OF BODY)	260.60
UPPER WING (INCL. AILERONS)	147.00
LOWER WING (INCL. 18 SQ. FT.)	113.60
TOTAL HORIZONTAL TAIL AREA	30.64
TOTAL VERTICAL TAIL AREA	13.75
WING CHARACTERISTICS	
AIRFOIL SECTION (BOTH WINGS)	N.A.C.A. 23M
INCIDENCE (BOTH WINGS)	0° 0'
CHORD: UPPER WING	60"
LOWER WING	48"
GAP	60 1/2"
DIHEDRAL: UPPER WING	0° 0'
LOWER WING	+2° 0'
TAIL AIRFOIL SECTION	
SYMMETRICAL	
ANGULAR MOVEMENTS	
RUDDER	30° EACH WAY
RUDDER TAB	20° EACH WAY
ELEVATOR	35° UP - 25° DOWN
AILERON	20° UP - 20° DOWN
*STABILIZER (RANGE OF INCIDENCES)	0° to +5°
*NORMAL INCIDENCE	+3 1/2°
ENGINE	
PRATT & WHITNEY TWIN WASP, J.R.	
TYPE	14 CYLINDERS - 850 H.P.
MAX. ENG. O.V.R.L. DIA.	43 3/16"
MAX. ENG. O.V.R.L. LEN.	53 21/32"
*INCLUDING PROPELLOR HUB	

FIG. 2
TOP VIEW PLAN

FOR VERTICAL TAIL LAYOUT & DETAILS - SEE FIG. 14

FOR FUSELAGE LAYOUT & CROSS SECTIONS - SEE FIG. 13 & FIG. 11

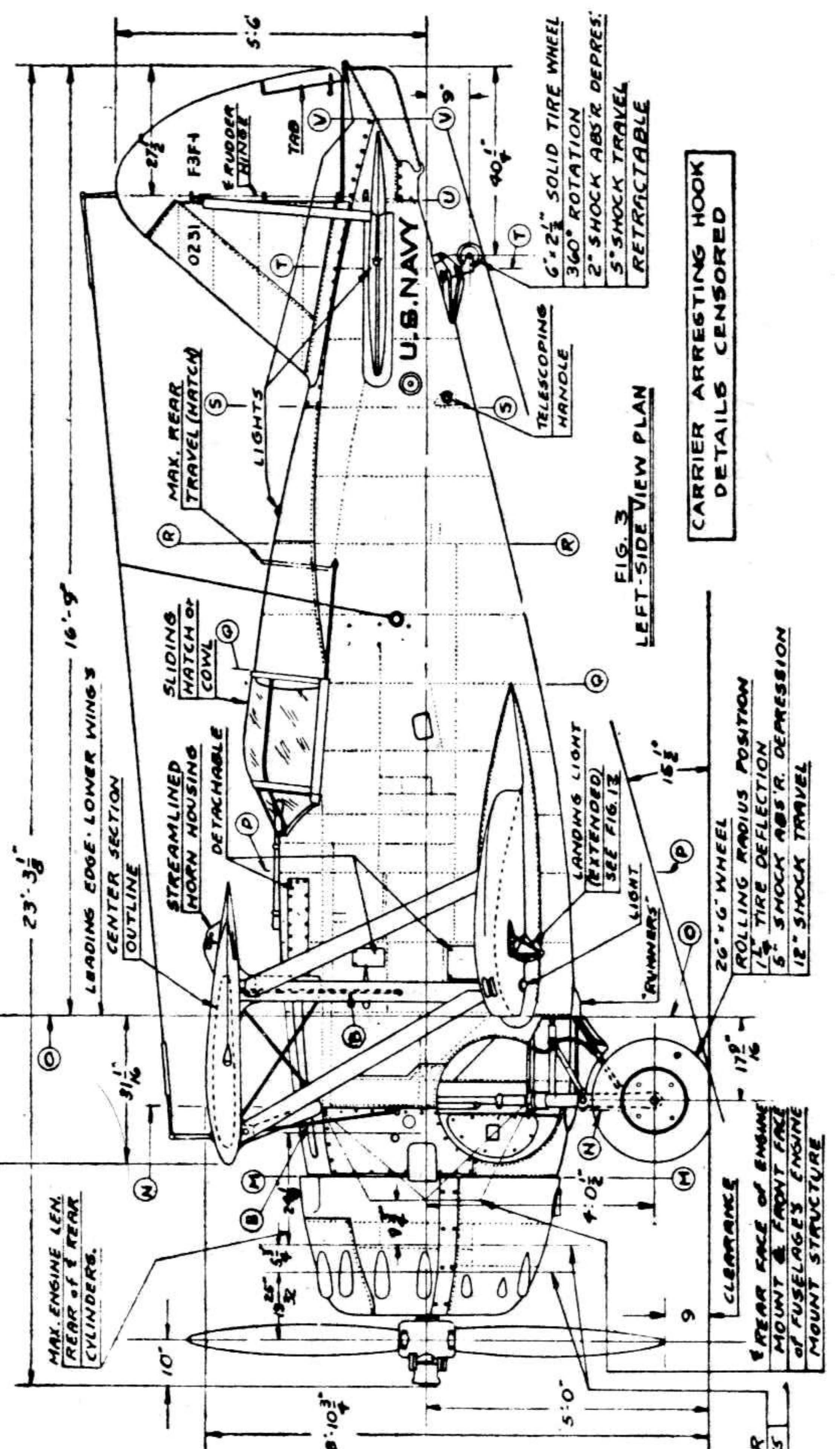


FIG. 3
LEFT-SIDE VIEW PLAN

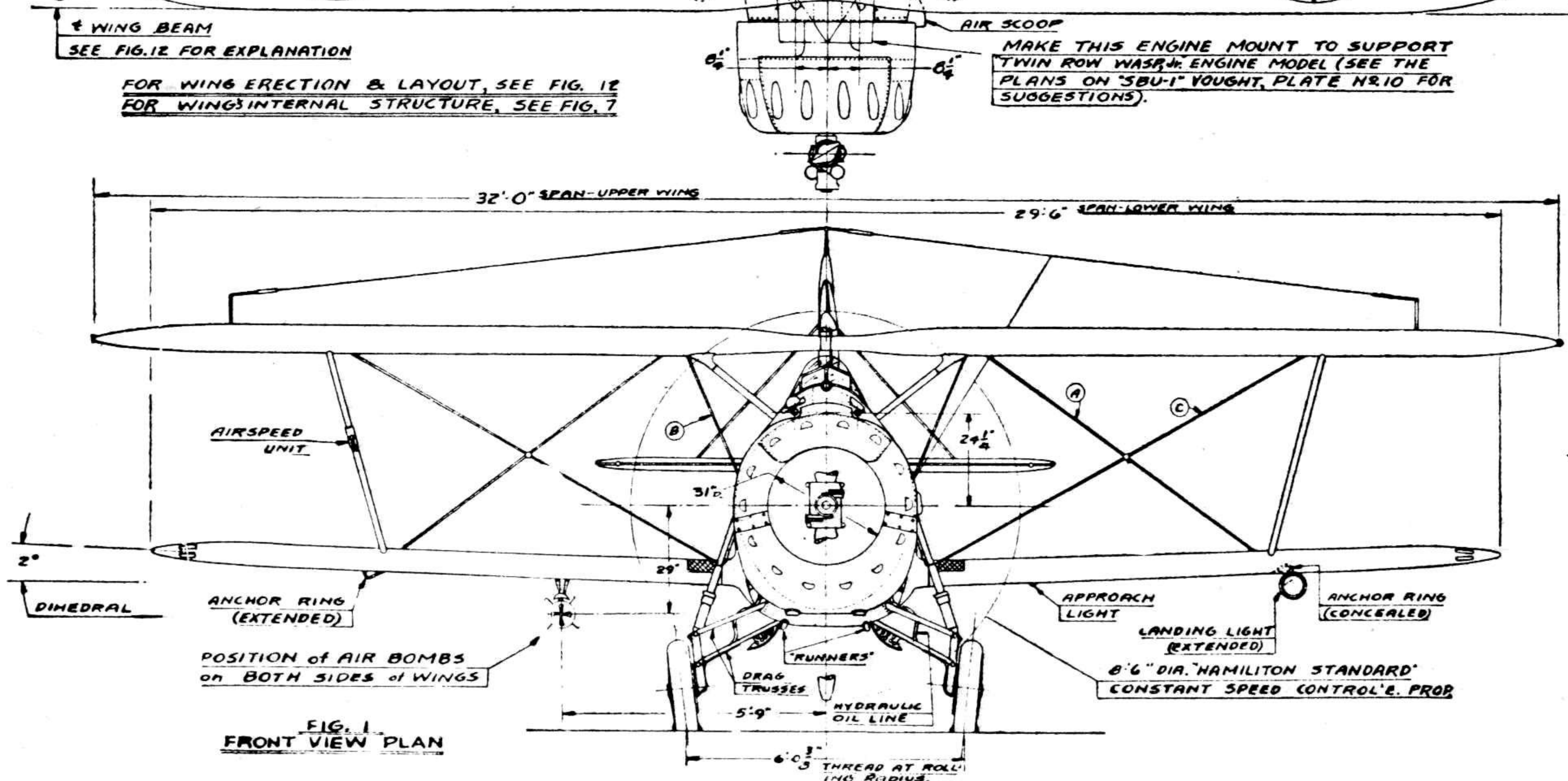


FIG. 1
FRONT VIEW PLAN

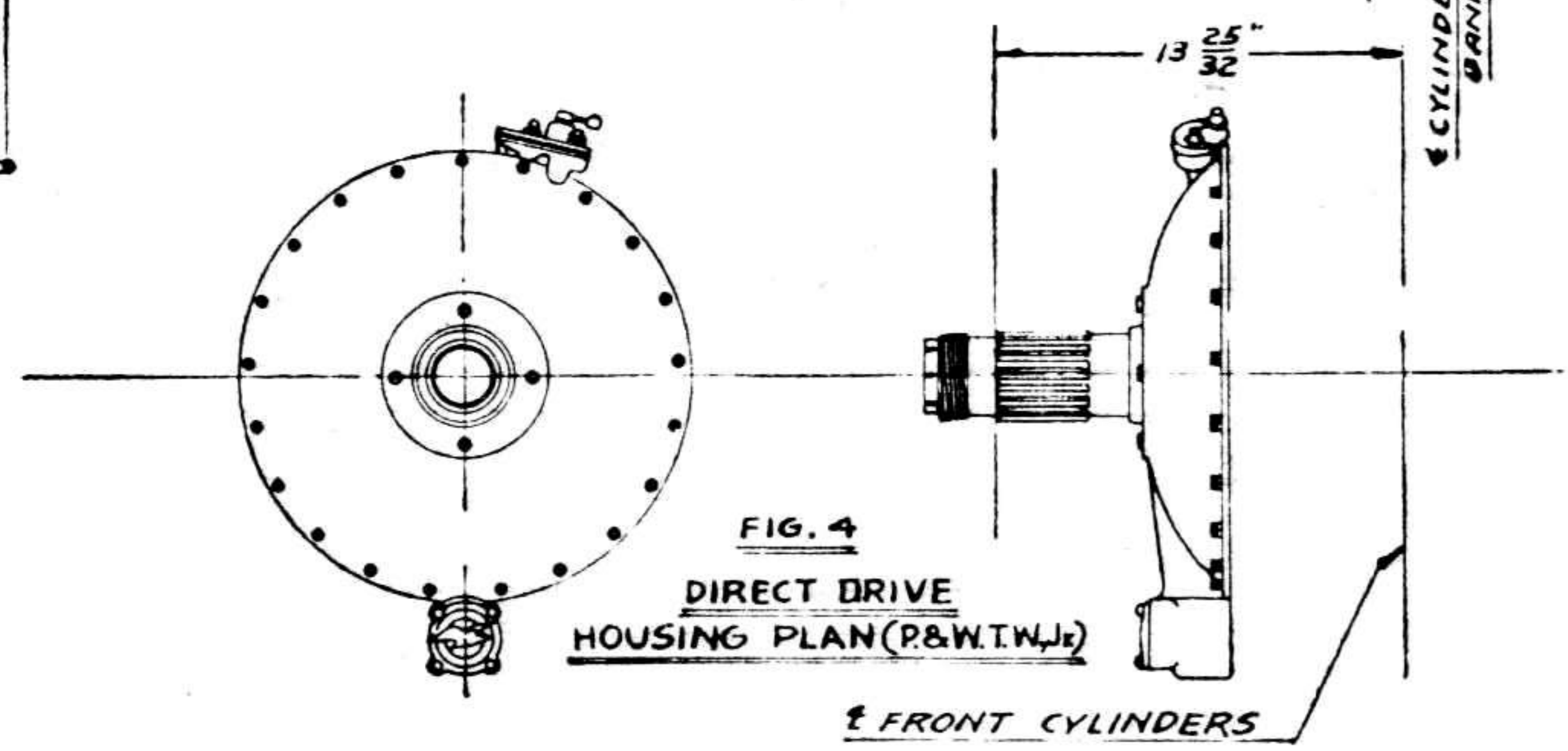


FIG. 4
DIRECT DRIVE HOUSING PLAN (P&W.T.W.)

PLATE NR. 12	THREE VIEW ASSEMBLY GRUMMAN "F3F-1"
SCALE: 3/16" = 1'-0"	
DRAWN BY...	
W.A. WYLAM	

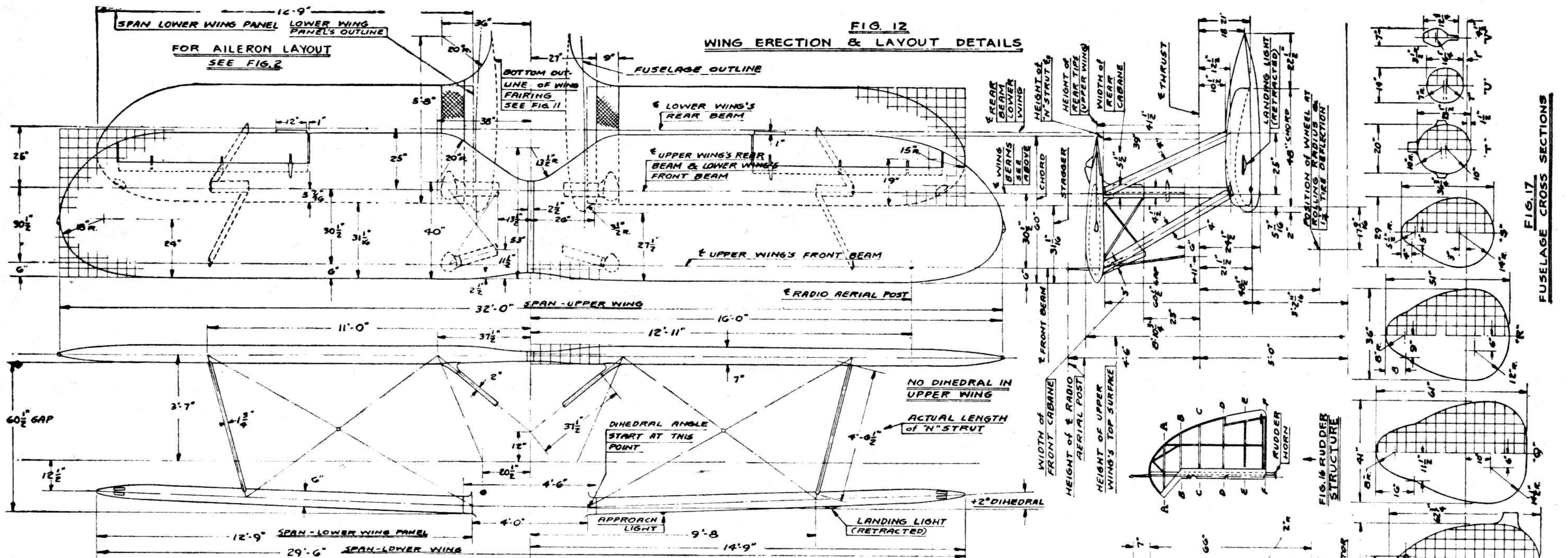


FIG. 12 WING ERECTION & LAYOUT DETAILS

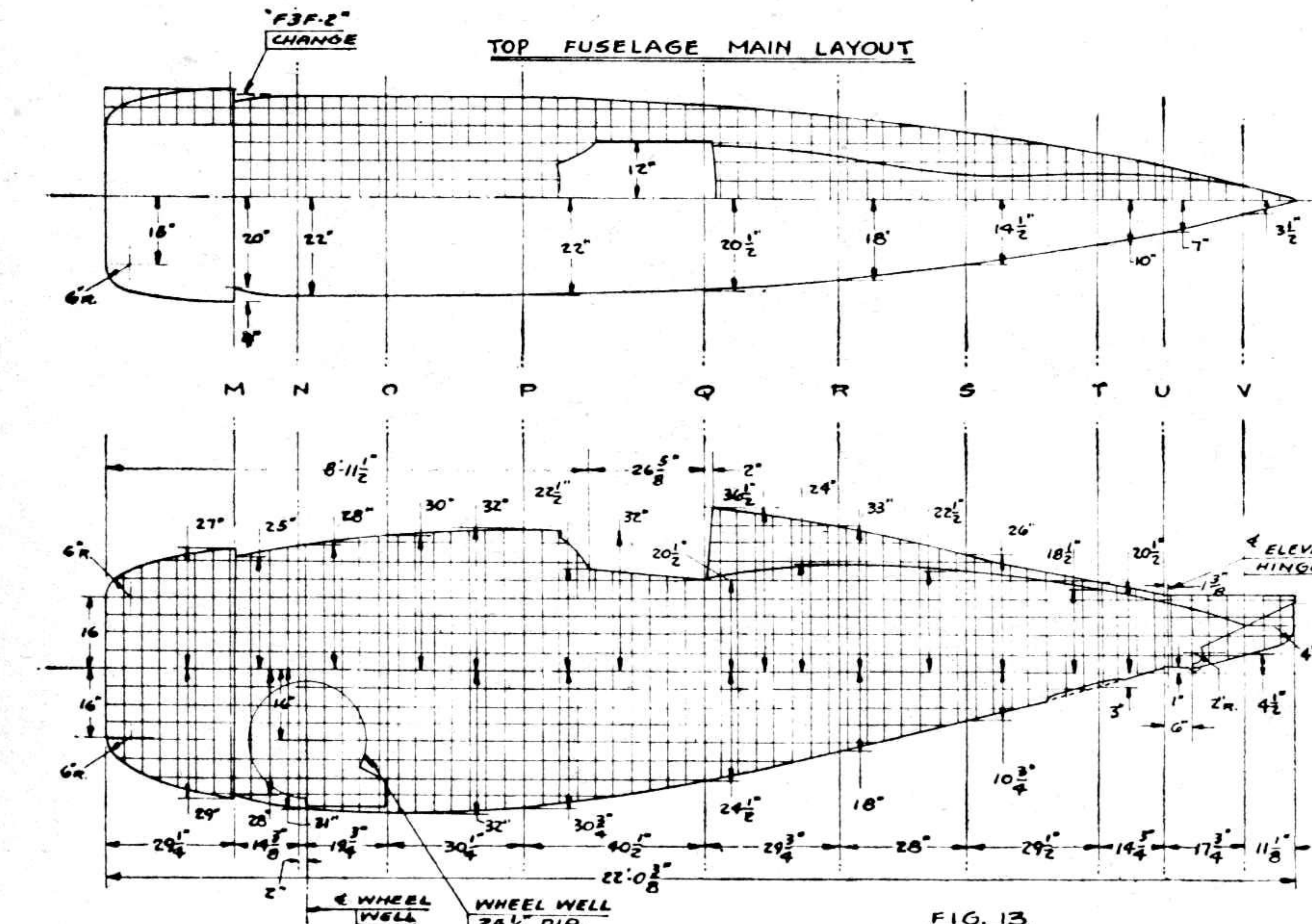


FIG. 13 FUSELAGE MAIN LAYOUTS

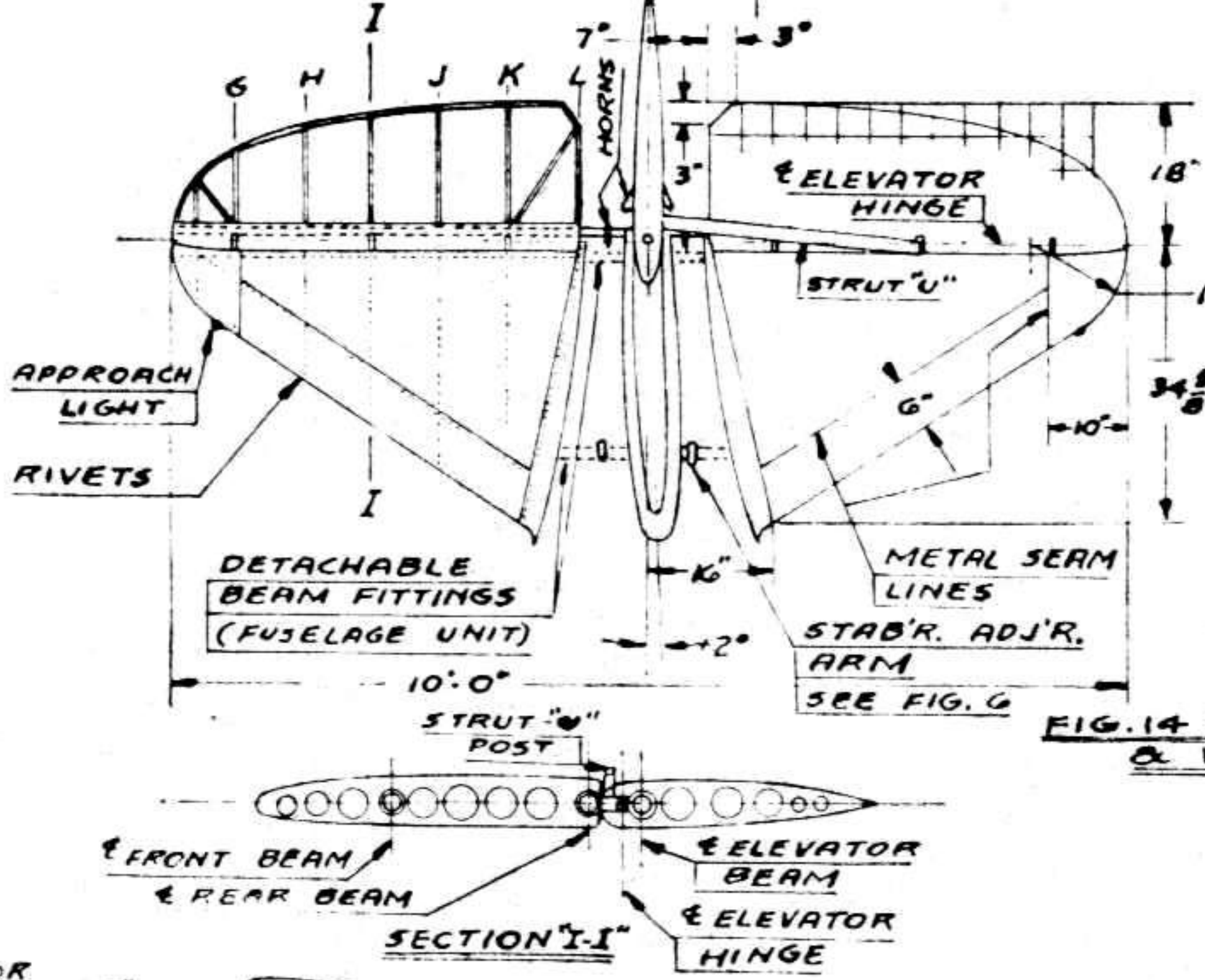


FIG. 14 TAIL SECTION & LAYOUT DETAILS

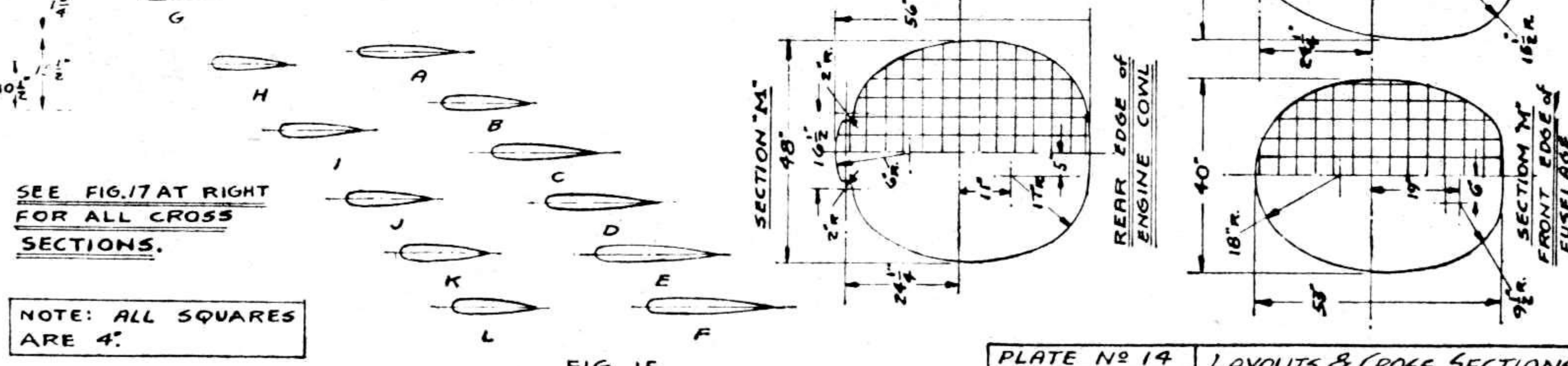


FIG. 15 TAIL'S CROSS SECTIONS

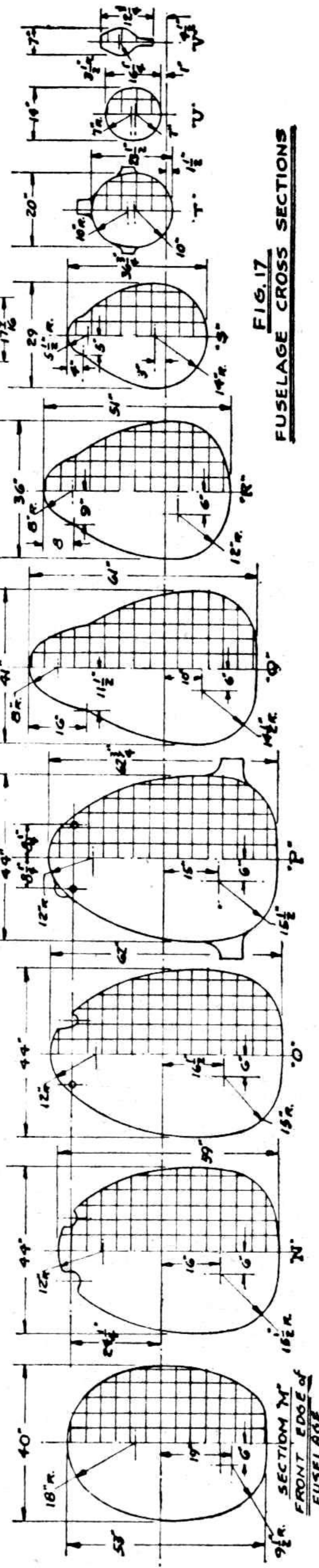
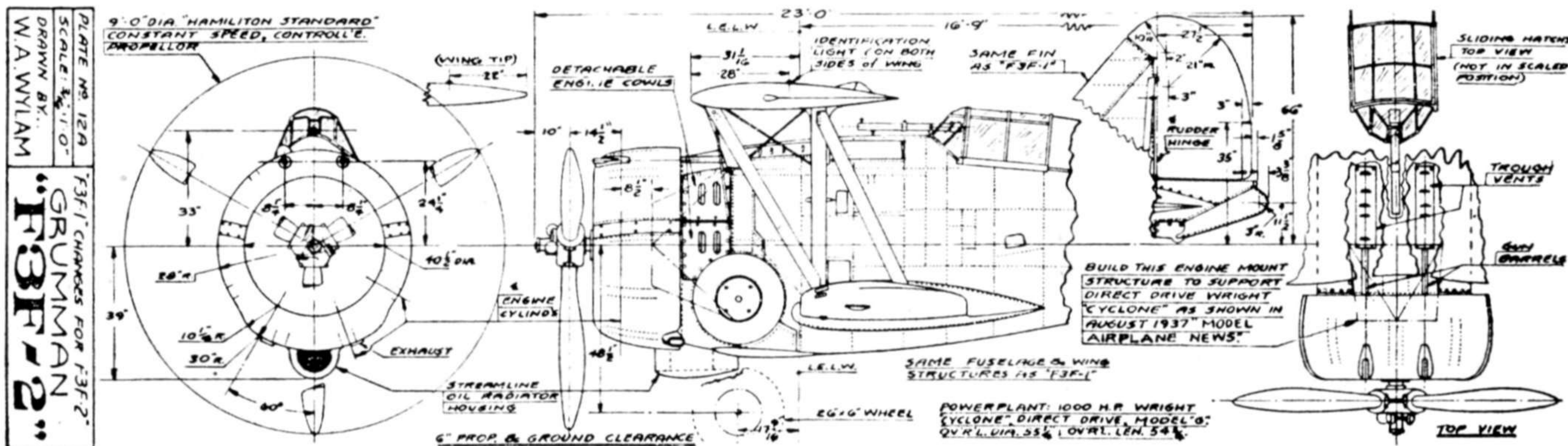


FIG. 17 FUSELAGE CROSS SECTIONS

SEE FIG. 17 AT RIGHT FOR ALL CROSS SECTIONS.

NOTE: ALL SQUARES ARE 4"

PLATE No 14	LAYOUTS & CROSS SECTIONS GRUMMAN "F3F-1"
SCALE: 3/16" = 1'-0"	
DRAWN BY...	
W.A. WYLAM	



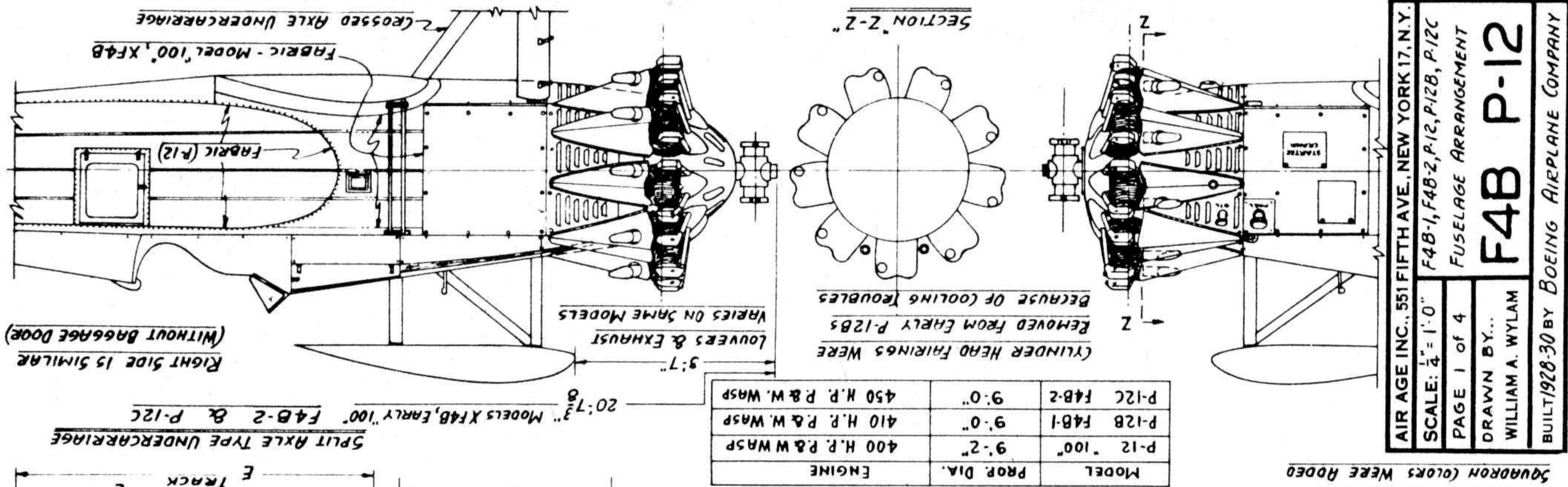
Above drawing shows F3F-1 changes for F3F-2 variations of Grumman Fighter.

GRUMMAN PROTOTYPE XF3F-1



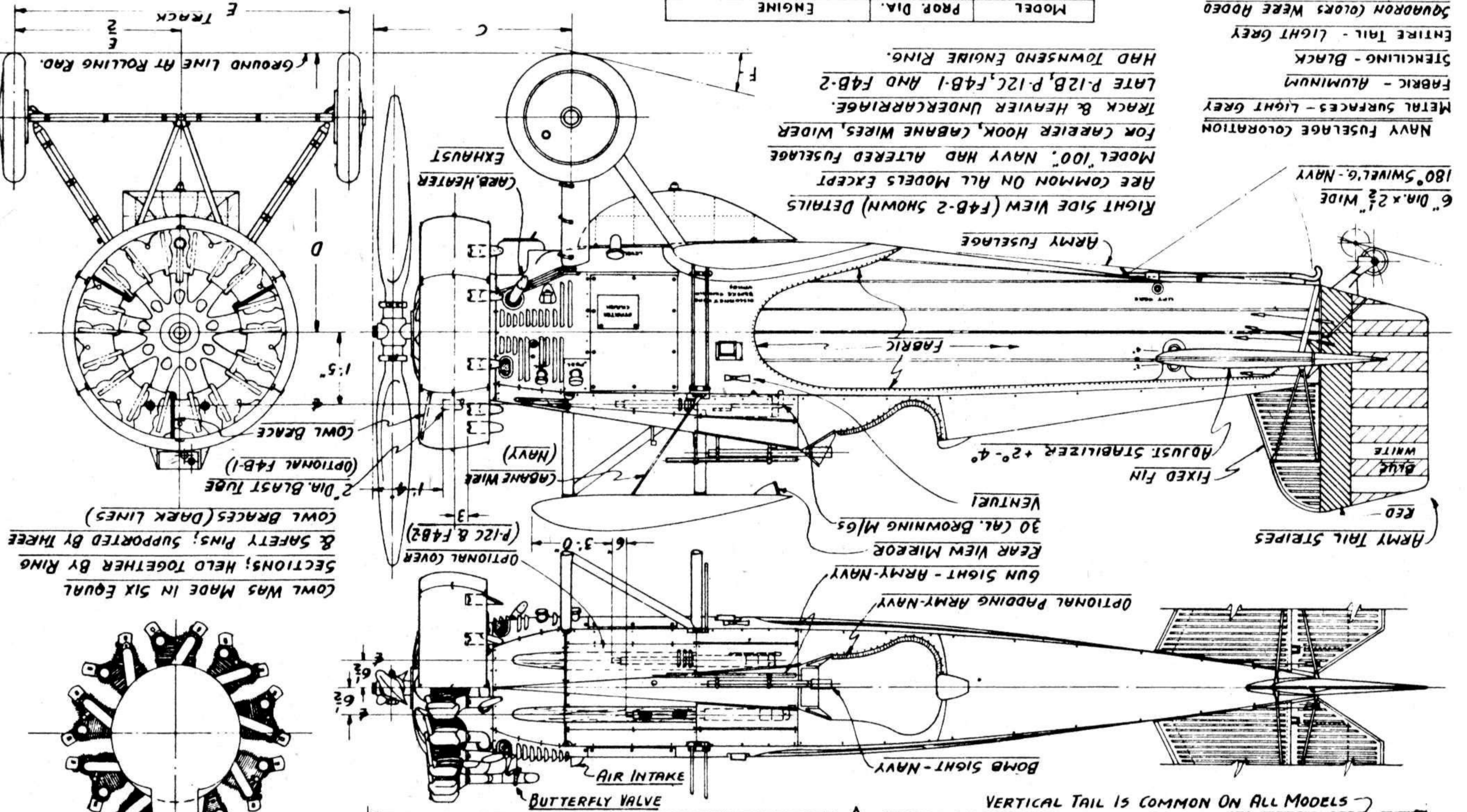
AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.
 F4B-1, F4B-2, P-12, P-12B, P-12C
 SCALE: 1/4" = 1'-0"
 PAGE 1 of 4
 DRAWN BY...
 WILLIAM A. WYLAM
 BUILT 1928-30 BY BOEING AIRPLANE COMPANY

F4B P-12

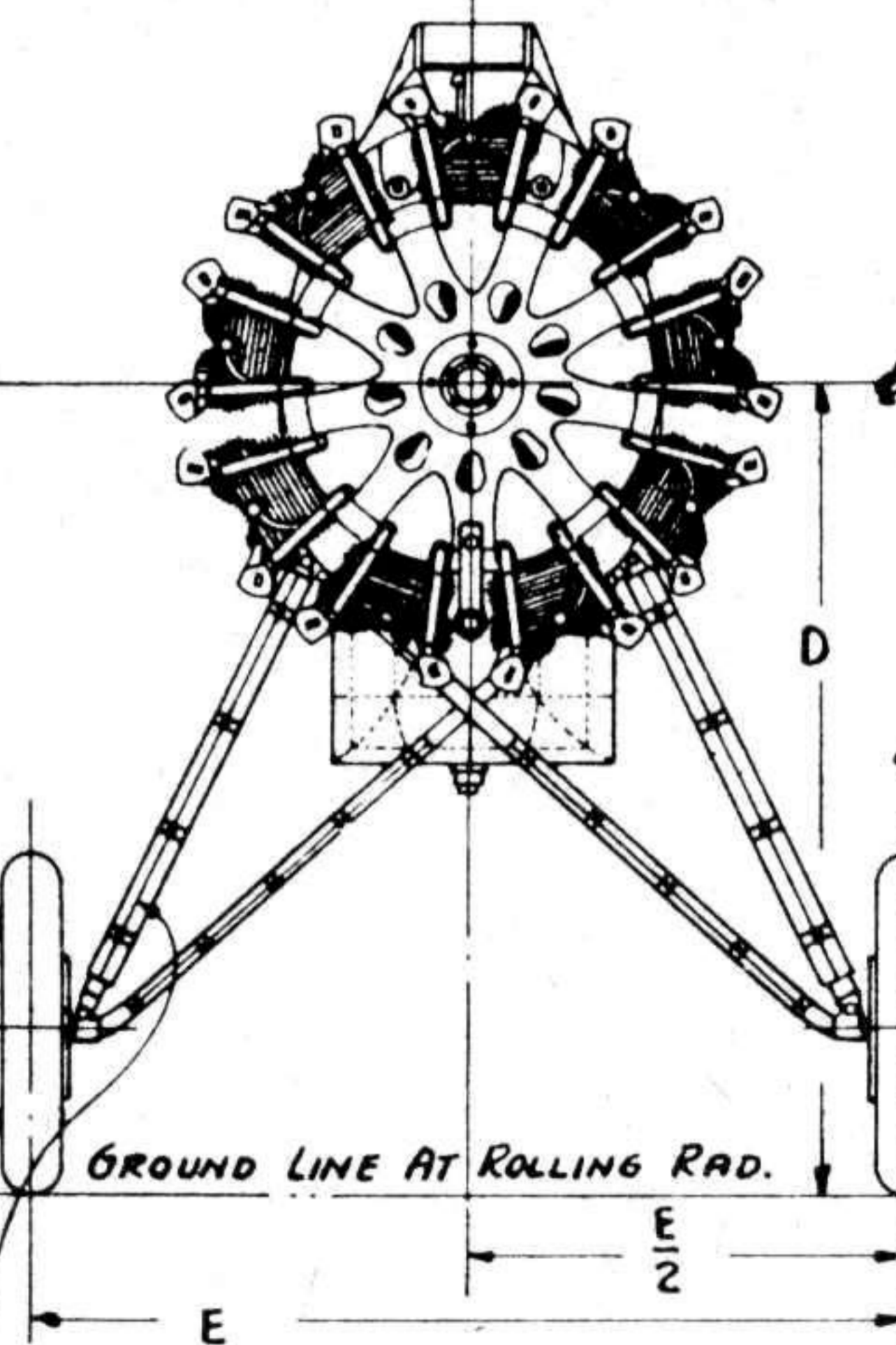


MODEL	PROP. DIA.	ENGINE
P-12 "100"	9'-2"	400 H.P. P & W WASP
P-12B F4B-1	9'-0"	410 H.P. P & W WASP
P-12C F4B-2	9'-0"	450 H.P. P & W WASP

NAVY FUSELAGE COLORATION
 METAL SURFACES - LIGHT GREY
 FABRIC - ALUMINUM
 STENCILING - BLACK
 ENTIRE TAIL - LIGHT GREY
 SQUADRON COLORS WERE ADDED

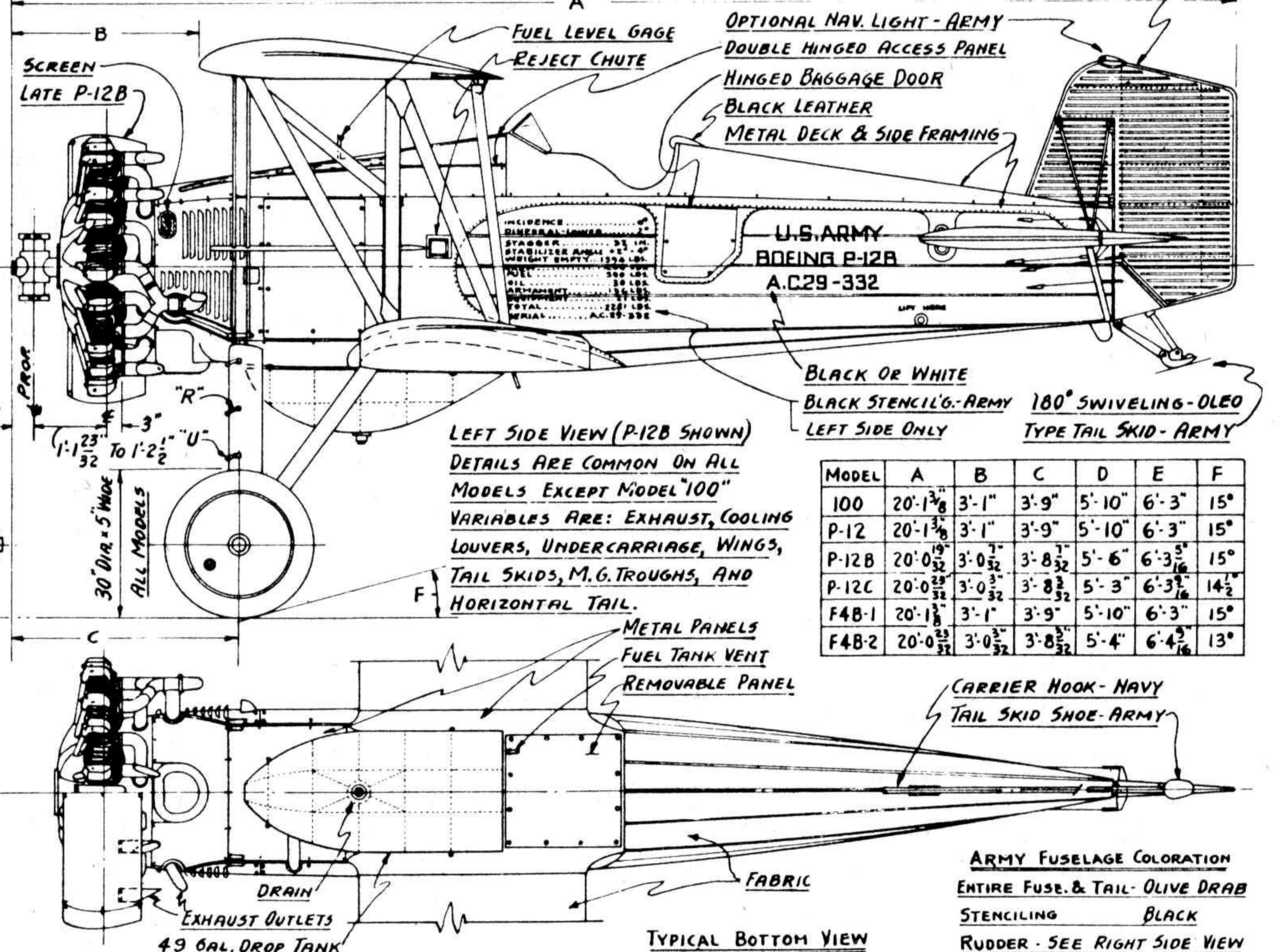


FRONT & REAR VIEWS OF P & W. WASP (COMMON ON ALL MODELS ON PAGES 1 & 2)

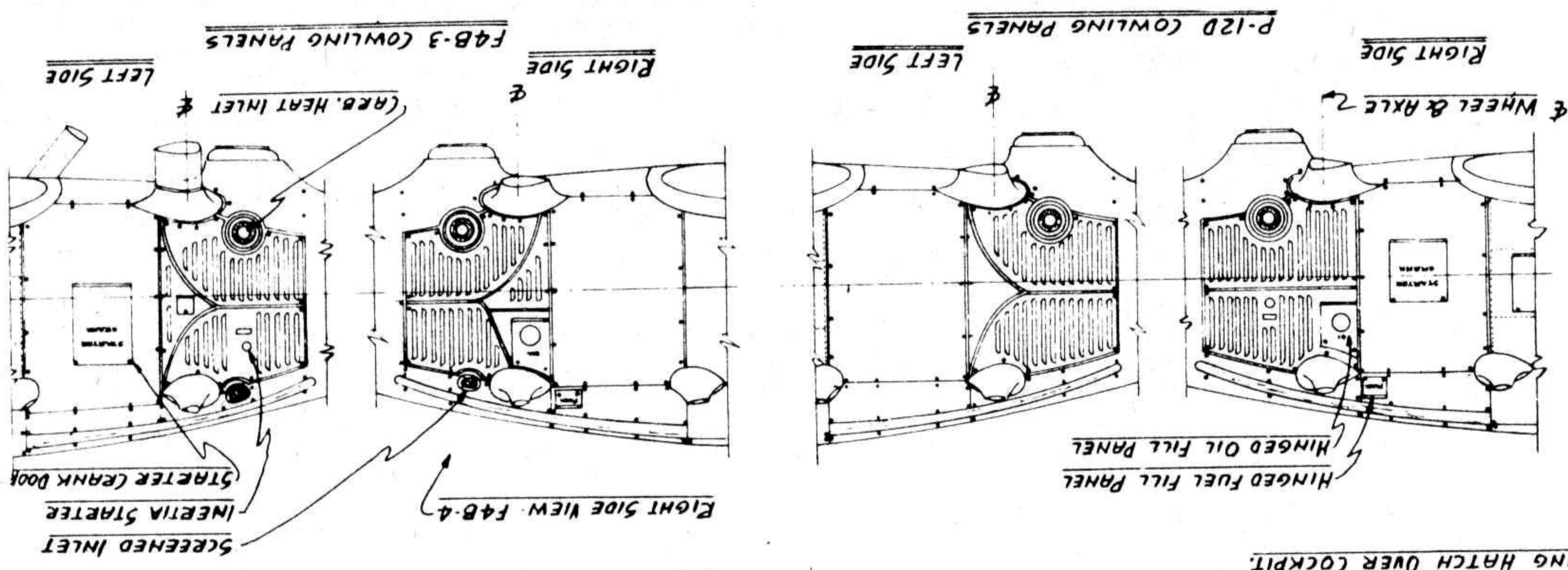


CROSSED AXLE TYPE UNDERCARRIAGE MODEL 100, XF4B, F4B-1, P-12, P-12B

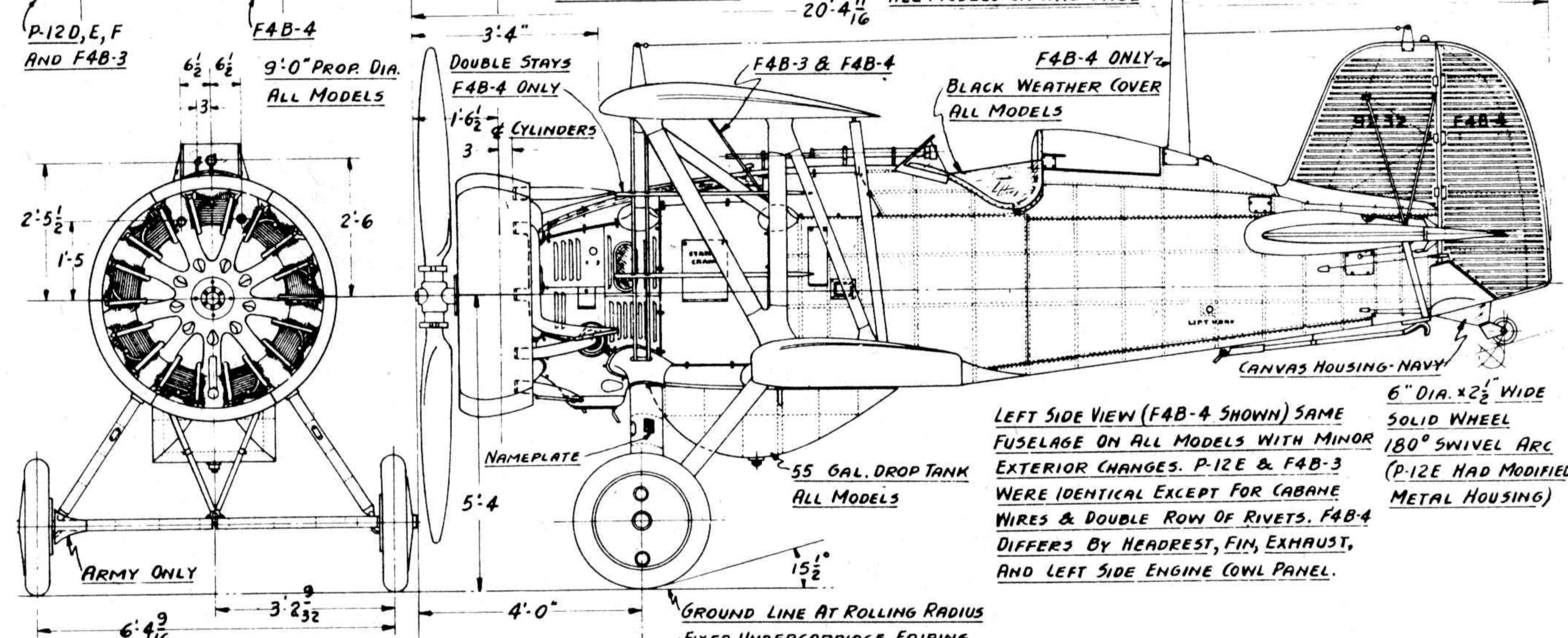
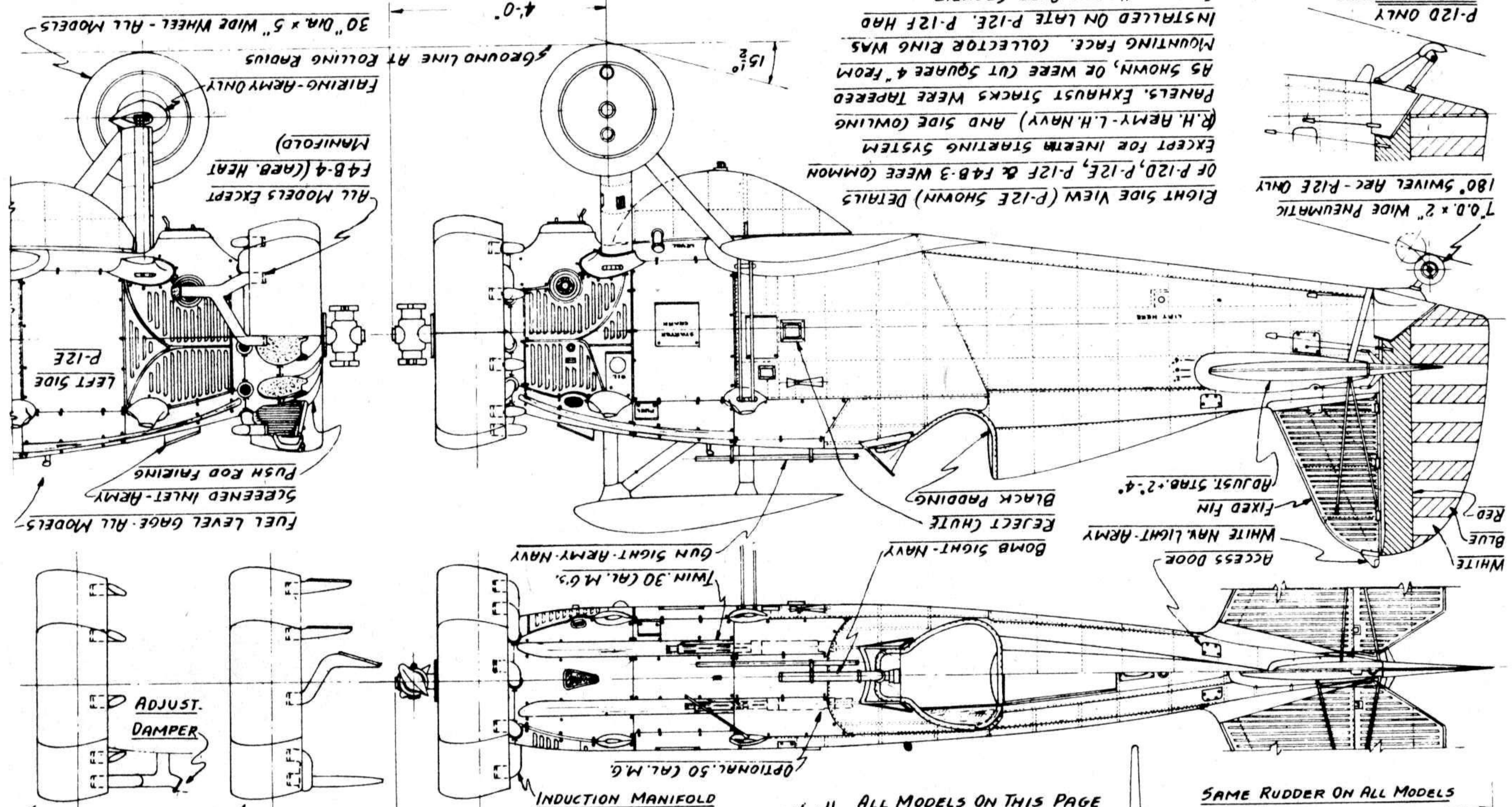
SHOCK ABSORBER STRUT WAS ENCASED IN STREAMLINE HOUSING. HOUSING WAS SPLIT AT LEADING EDGE, HELD TOGETHER BY CLAMP BANDS "R" AND SCREWS "U." SAME CONSTRUCTION ON AXLE STRUT AND SPLIT AXLE TYPE UNDERCARRIAGE.



MODEL	A	B	C	D	E	F
100	20'-1 3/8"	3'-1"	3'-9"	5'-10"	6'-3"	15°
P-12	20'-1 3/8"	3'-1"	3'-9"	5'-10"	6'-3"	15°
P-12B	20'-0 19/32"	3'-0 5/32"	3'-8 7/32"	5'-6"	6'-3 5/16"	15°
P-12C	20'-0 29/32"	3'-0 3/32"	3'-8 3/32"	5'-3"	6'-3 7/16"	14 1/2°
F4B-1	20'-1 1/8"	3'-1"	3'-9"	5'-10"	6'-3"	15°
F4B-2	20'-0 29/32"	3'-0 3/32"	3'-8 3/32"	5'-4"	6'-4 3/16"	13°



DETAILS OF WINGS ON PAGE THREE
 DETAILS OF FUSELAGE ON PAGE FOUR

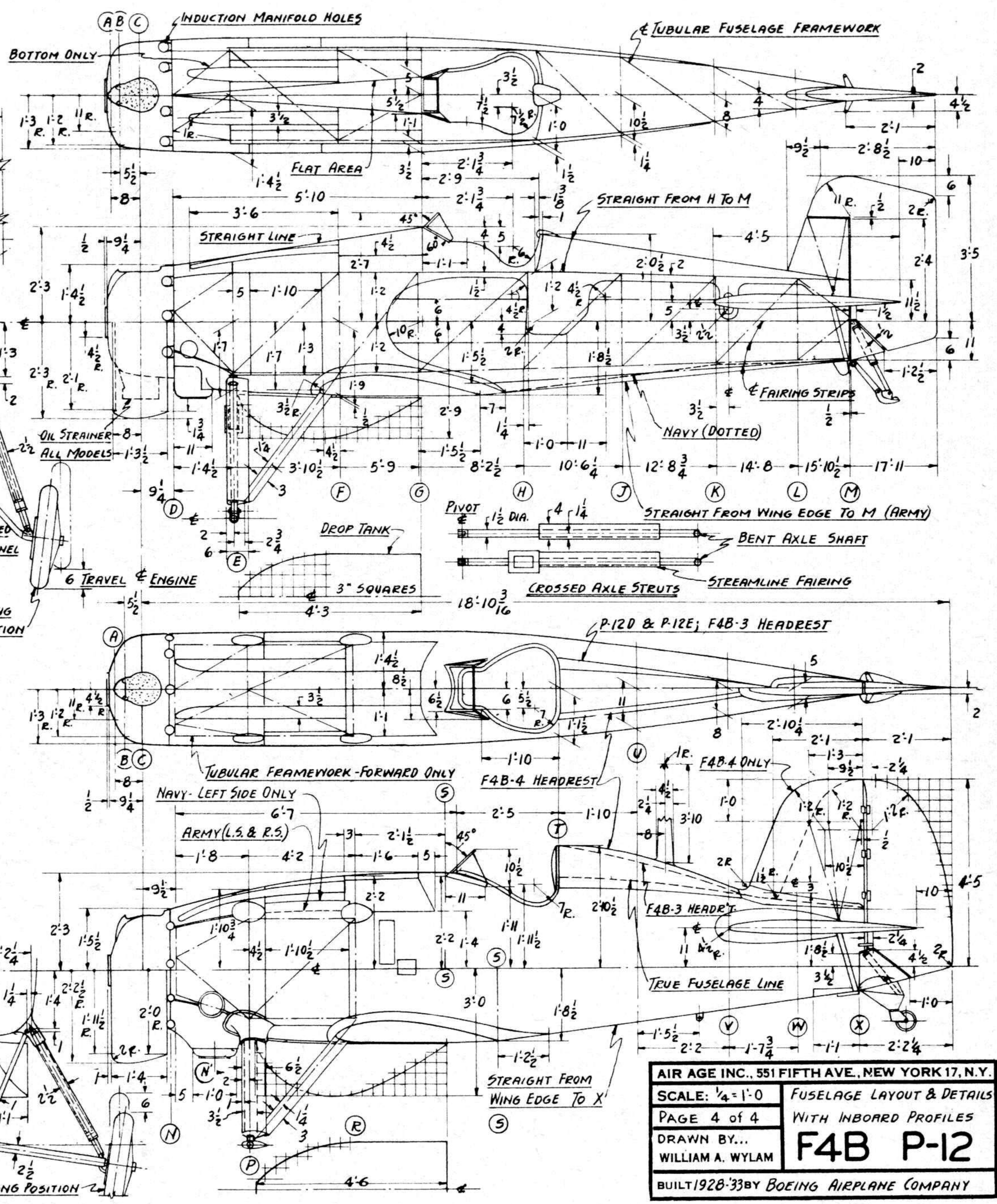
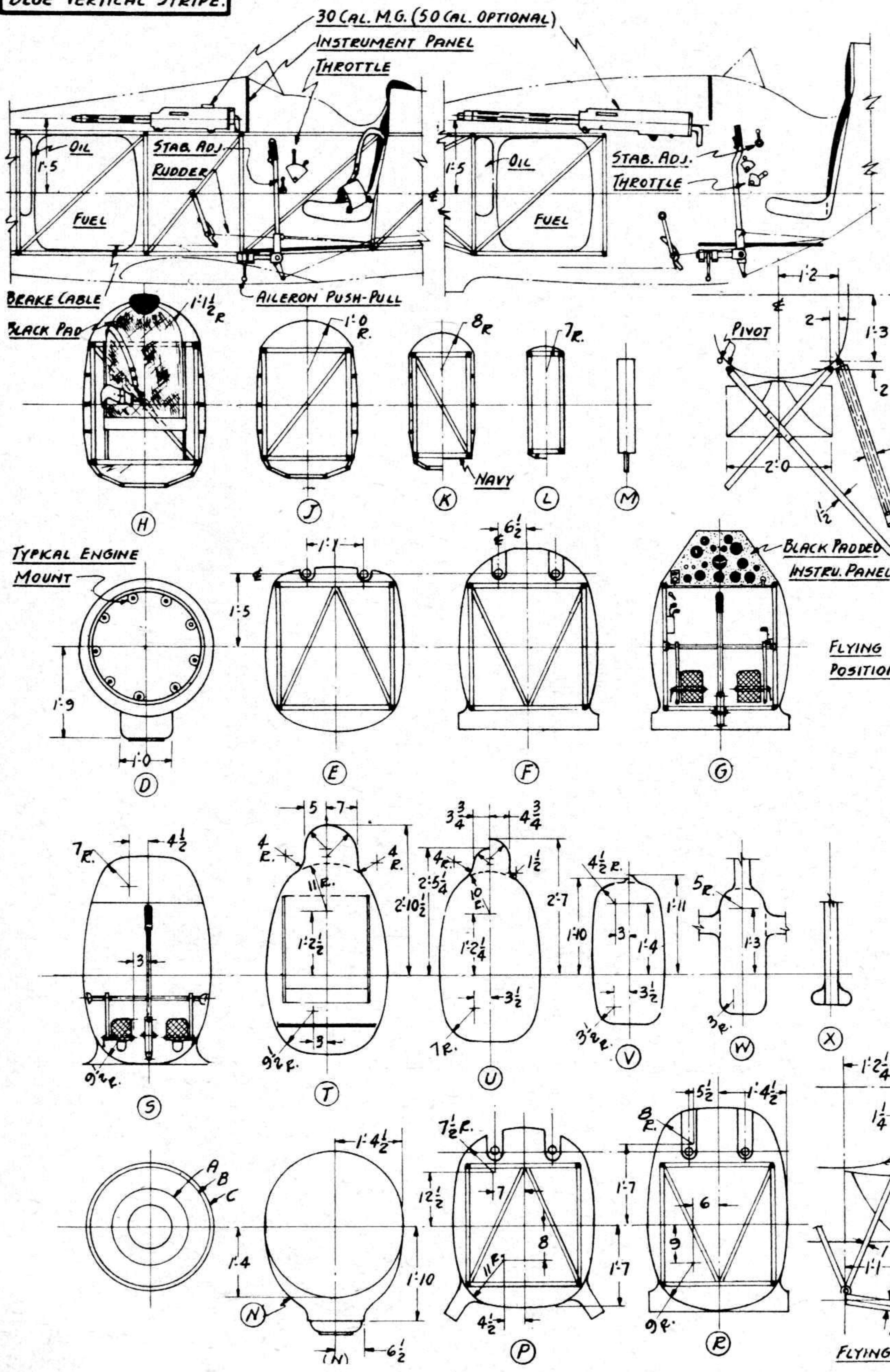


FUSELAGE COLORATION

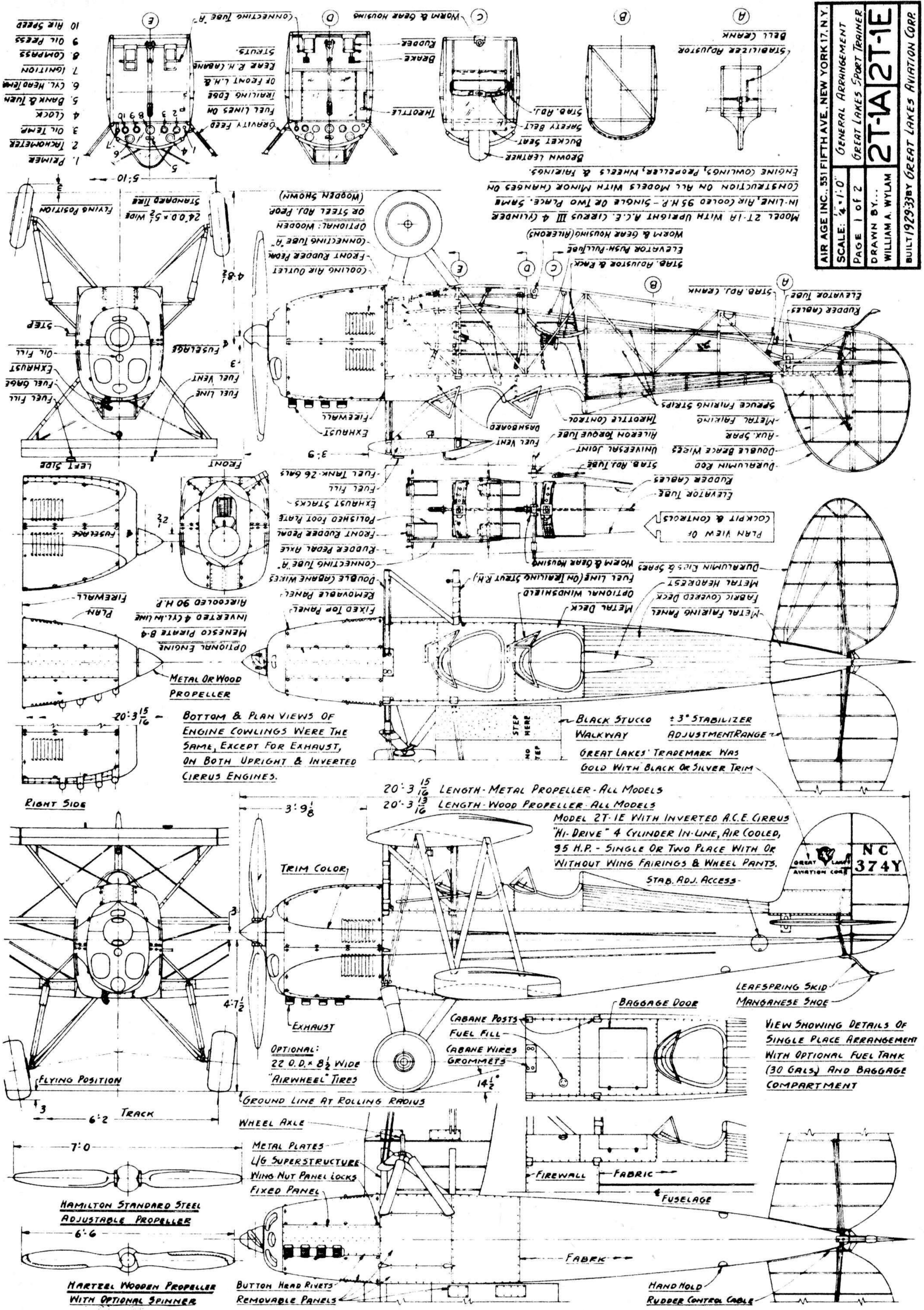
	ARMY	NAVY
FUSELAGE	BLUE	LIGHT GREY
*TAIL	ORANGE-YELLOW	LIGHT GREY
STENCILING	BLACK	BLACK
ENGINE COWLS	BLUE	LIGHT GREY
* SQUADRON COLORS WERE ADDED		
* ARMY RUDDER HAD STRIPES AS SHOWN		

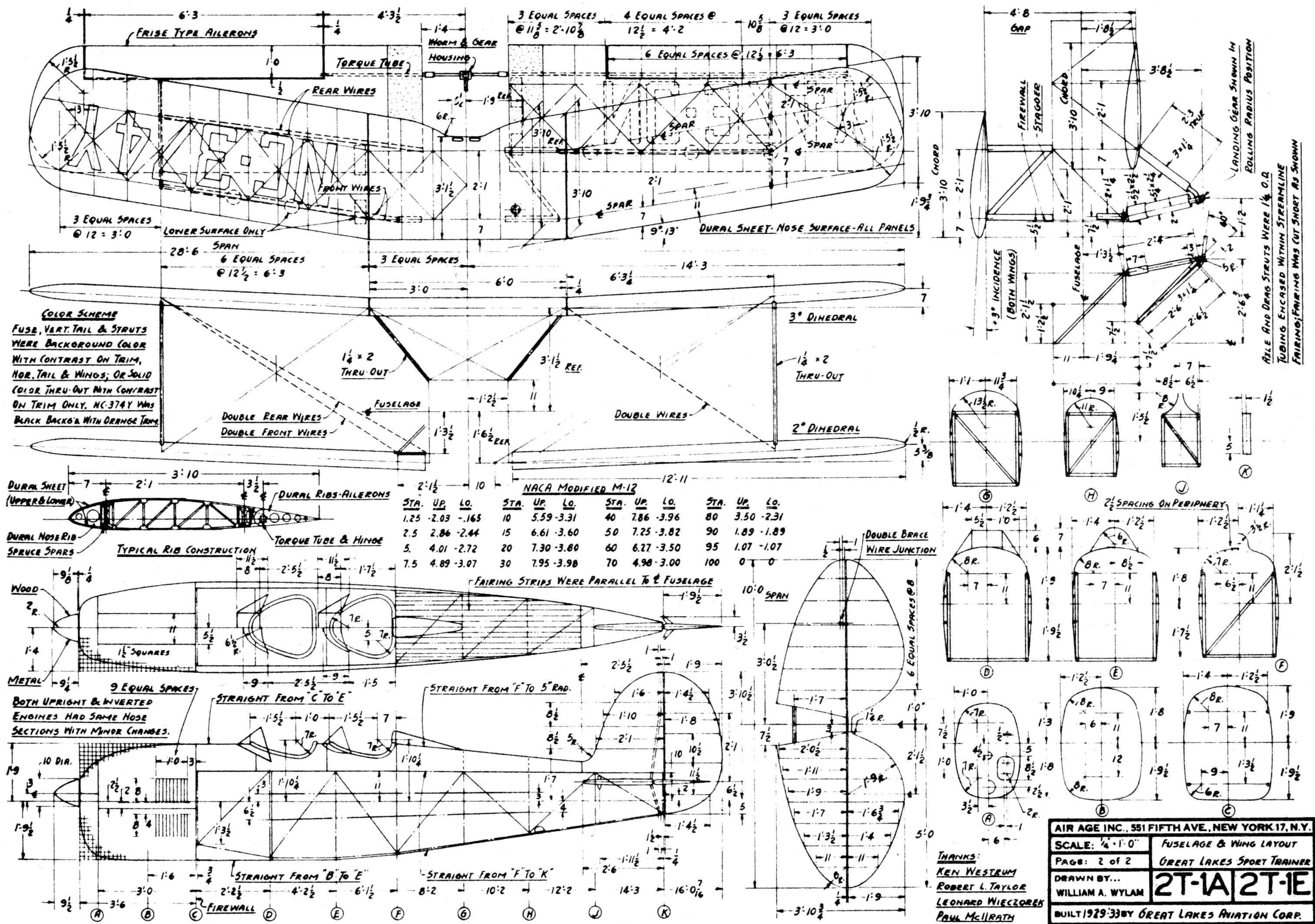
NOTICE: ERROR ON PAGES 1 AND 2
 ARMY RUDDER COLORATION SHOULD BE
 RED & WHITE HORIZONTAL STRIPES WITH
 BLUE VERTICAL STRIPE.

MODEL	ENGINE
F4B-3 P-12D	500 H.P. P.&W. WASP
F4B-4 P-12E	550 H.P. P.&W. WASP



AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.
 SCALE: 1/4" = 1'-0"
 FUSELAGE LAYOUT & DETAILS
 PAGE 4 of 4
 WITH INBOARD PROFILES
 DRAWN BY...
 WILLIAM A. WYLAM
F4B P-12
 BUILT 1928-33 BY BOEING AIRPLANE COMPANY





COLOR SCHEME
 FUSE, VERT. TAIL & STRUTS
 WERE BACKGROUND COLOR
 WITH CONTRAST ON TRIM,
 HOR. TAIL & WINGS. OR SOLID
 COLOR THRU-OUT WITH CONTRAST
 ON TRIM ONLY. NC-374Y WAS
 BLACK BACKS WITH ORANGE TRIM.

NACA MODIFIED M-12

STA.	UP.	LO.	STA.	UP.	LO.	STA.	UP.	LO.	STA.	UP.	LO.
1.25	-2.03	-.165	10	5.59	-3.31	40	7.86	-3.96	80	3.50	-2.31
2.5	2.86	-2.44	15	6.61	-3.60	50	7.25	-3.82	90	1.89	-1.89
5	4.01	-2.72	20	7.30	-3.80	60	6.27	-3.50	95	1.07	-1.07
7.5	4.89	-3.07	30	7.95	-3.98	70	4.98	-3.00	100	0	0

AIR AGE INC., 551 FIFTH AVE., NEW YORK 17, N.Y.

SCALE: 1/4" = 1'-0"

PAGE: 2 of 2

DRAWN BY... WILLIAM A. WYLAM

BUILT 1929-33 BY GREAT LAKES AVIATION CORP.

FUSELAGE & WING LAYOUT
 GREAT LAKES SPORT TRAINER
 2T-1A | 2T-1E

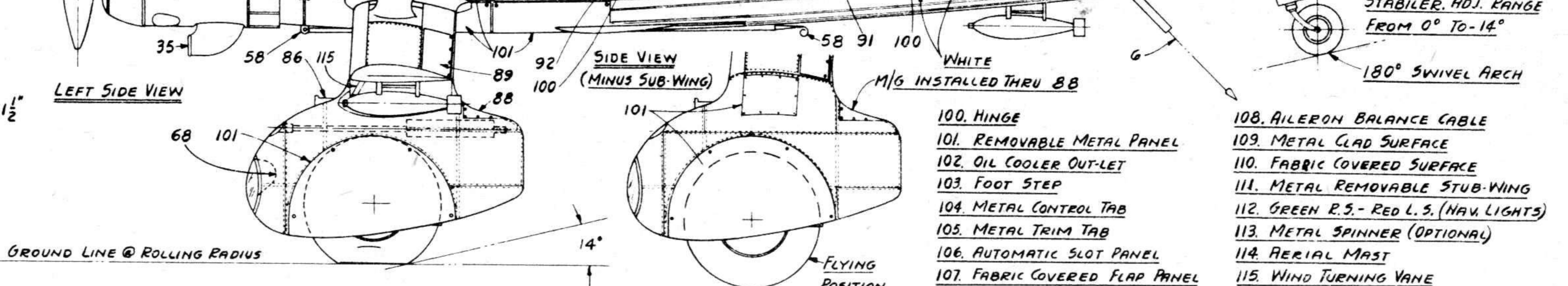
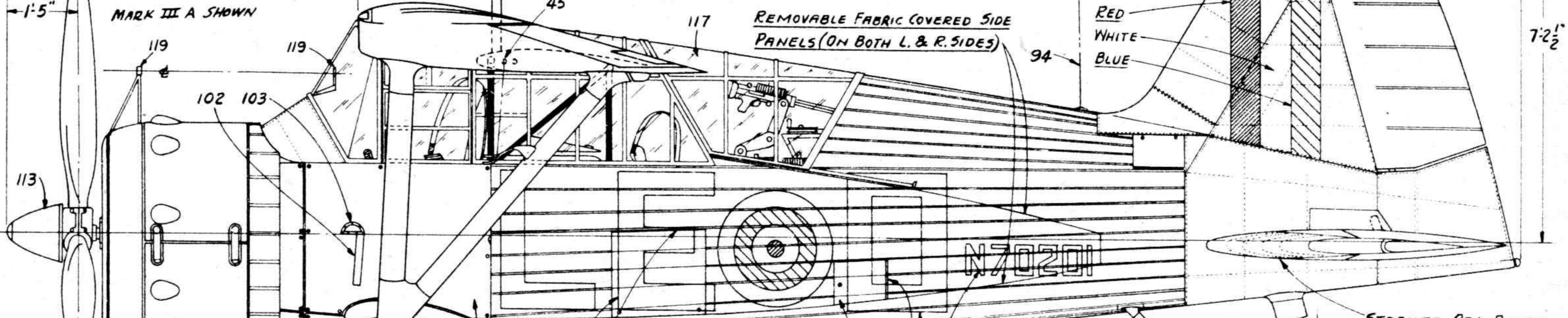
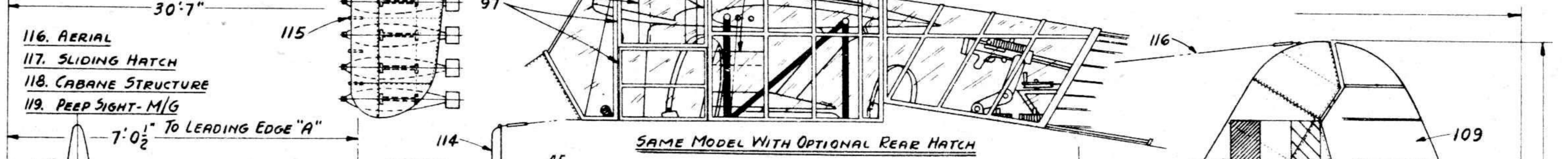
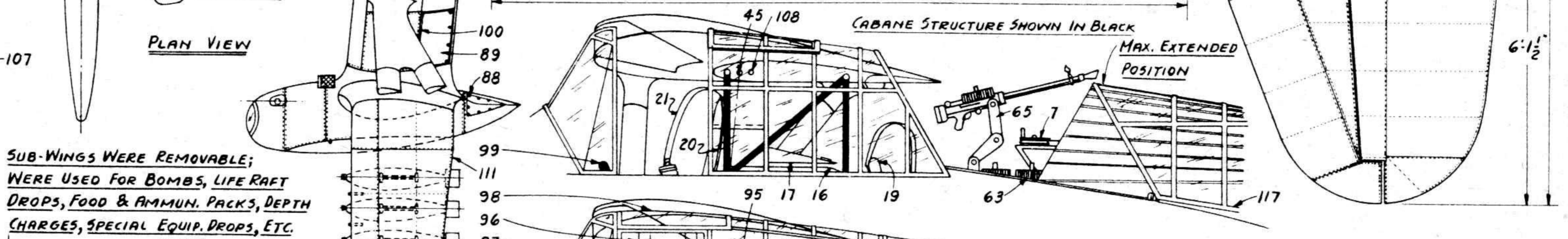
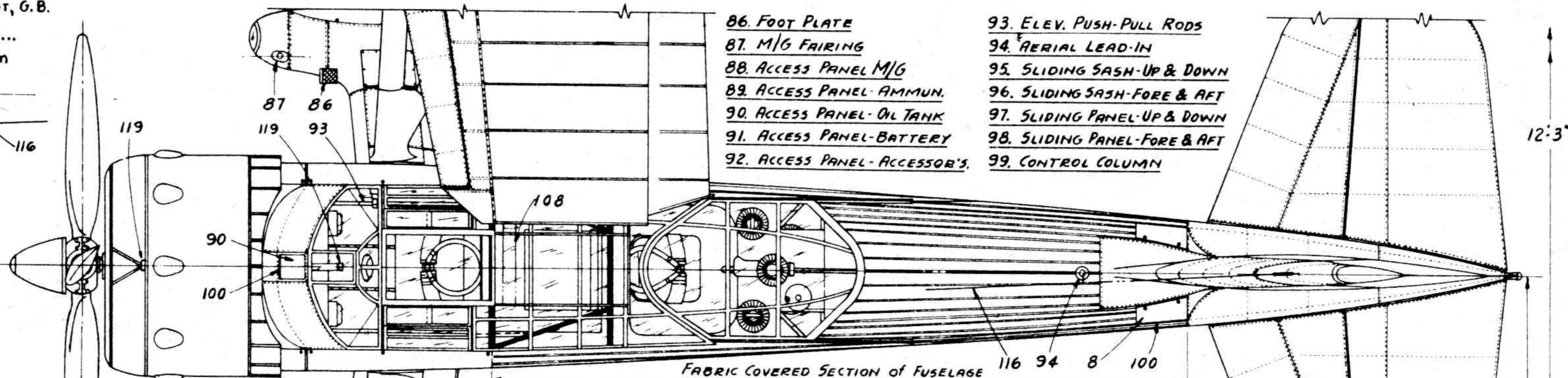
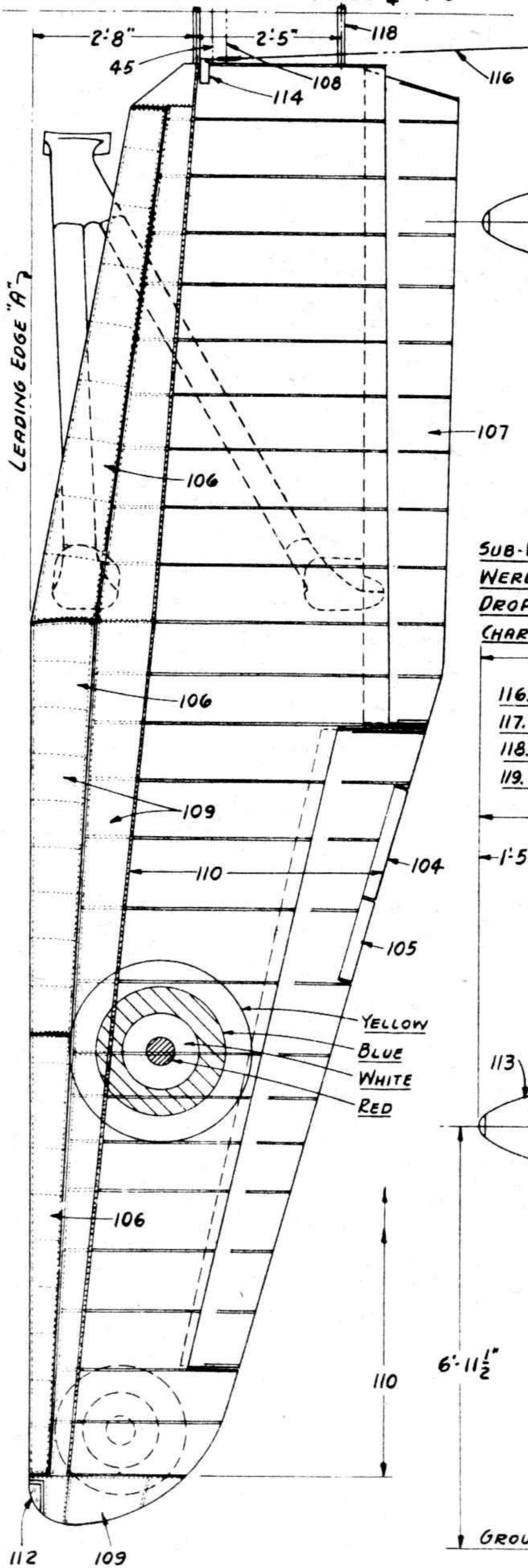
THANKS:
 KEN WESTRUM
 ROBERT L. TAYLOR
 LEONARD WIECZOREK
 PAUL McILRATH

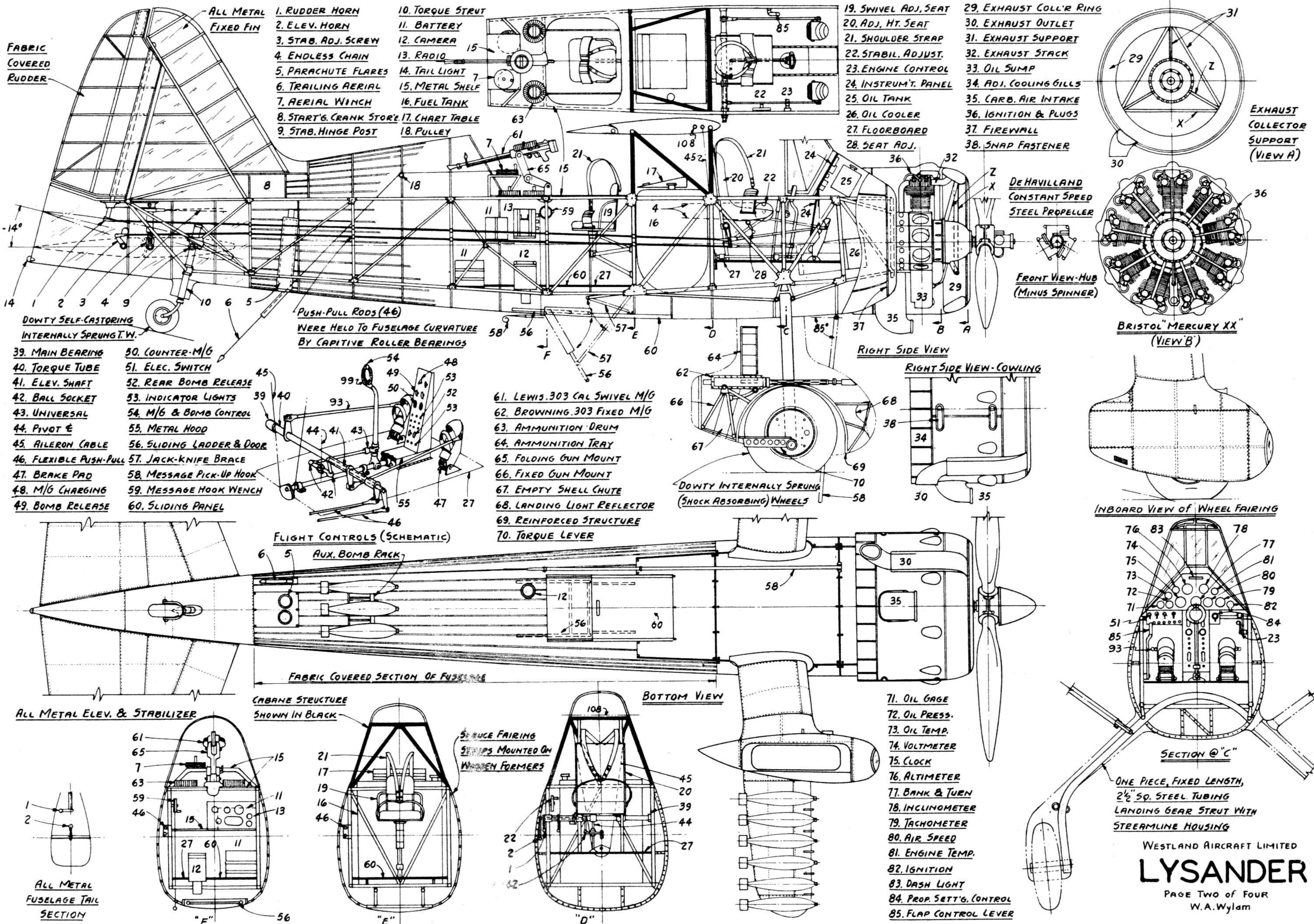
AXLE AND DRAG STRUTS WERE 1/4" O.D.
 TUBING ENCASED WITHIN STREAMLINE
 FAIRING; FAIRING WAS CUT SHORT AS SHOWN

LYSANDER

drawn by...
W.A. Wylam

PAGE ONE OF FOUR SCALE 1/4" = 1'-0"



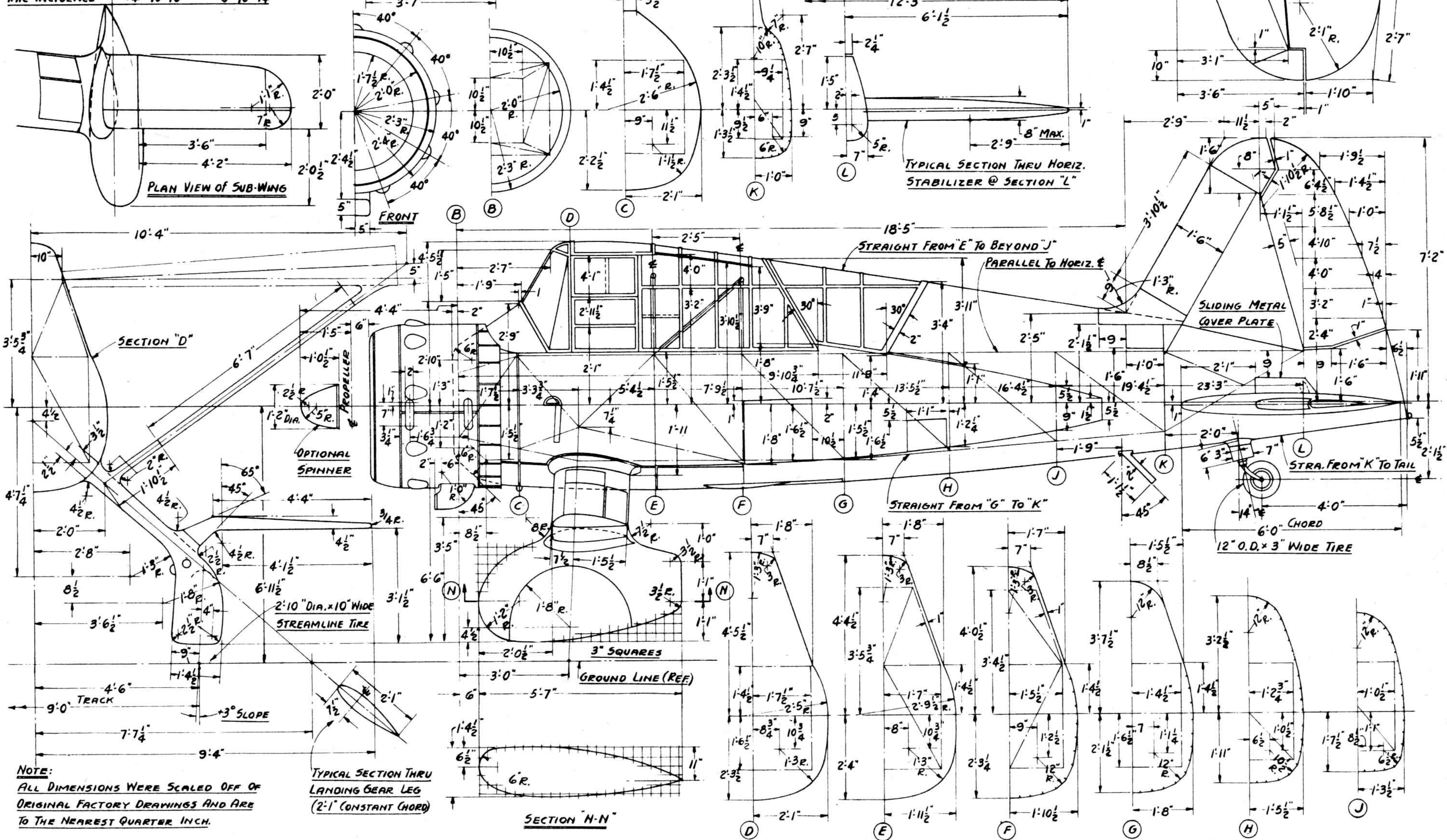


WESTLAND AIRCRAFT LIMITED
LYSANDER
 PAGE TWO OF FOUR
 W.A. Wylam

WESTLAND AIRCRAFT LIMITED LYSANDER

PAGE FOUR OF FOUR
W.A. Wylam

	MARK II	MARK III
SPAN	50'-0"	50'-0"
LENGTH	30'-6"	30'-7"
ENGINE	PERSEUS XII	MERCURY XX
PROPELLER DIA.	11'-0"	10'-8"
TAIL INCIDENCE	+4° TO -10°	0° TO -14°



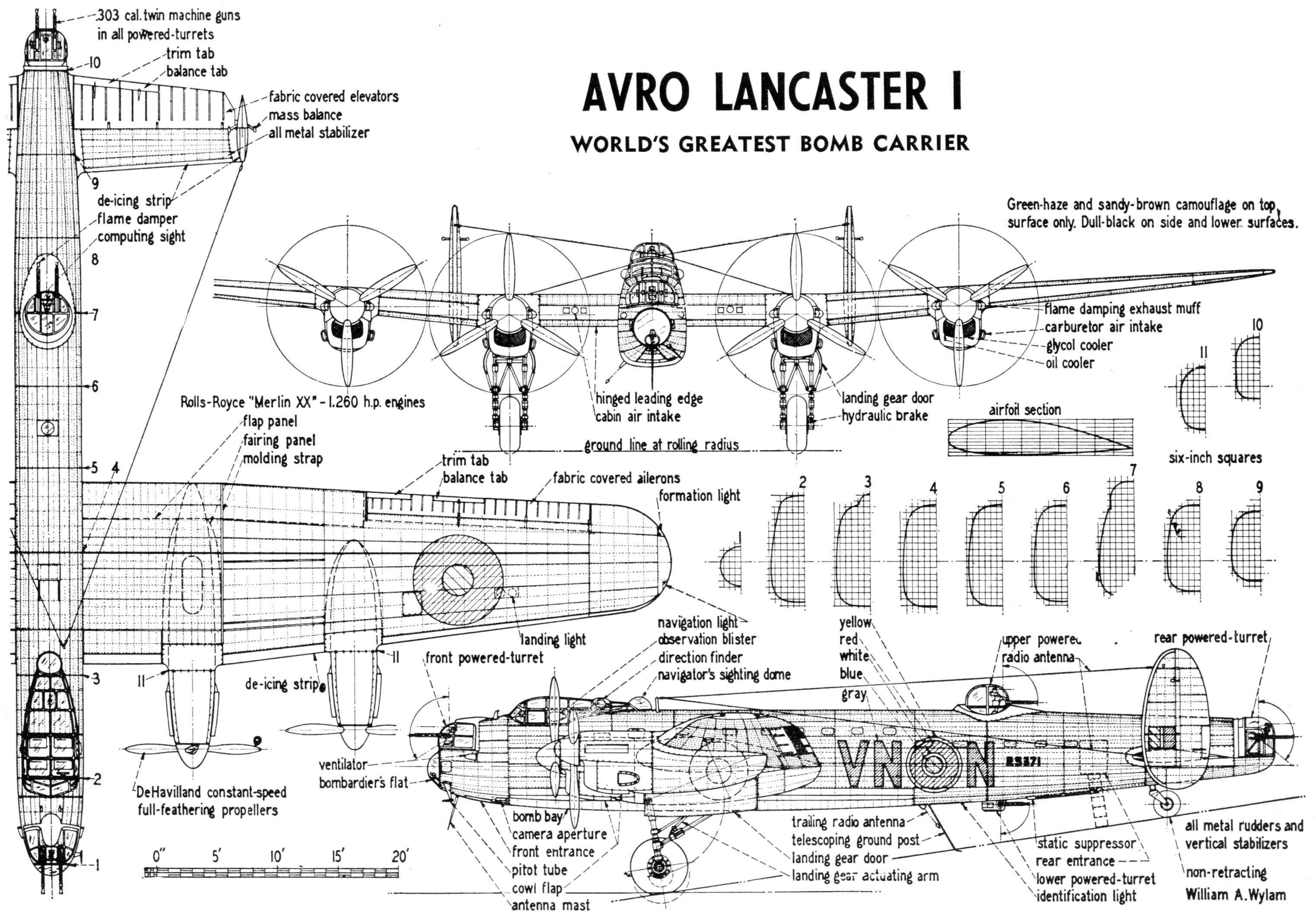
NOTE:
ALL DIMENSIONS WERE SCALED OFF OF ORIGINAL FACTORY DRAWINGS AND ARE TO THE NEAREST QUARTER INCH.

TYPICAL SECTION THRU LANDING GEAR LEG (2'-1" CONSTANT CHORD)

SECTION "N-N"

AVRO LANCASTER I

WORLD'S GREATEST BOMB CARRIER



Model Airplane News—THE BEST OF WYLAM