
MEMO
BOOK

24 SRT
24 SF - Alclad
24 HT.

Longerons -
Bulkheads -
.016
.032 } Thickness of skin
.051

Cabin - Plywood cover
with Aluminum - alclad
Steel tapes for - cadmium
plated or stainless steel
Fuselage of welded
construction.
Station 3, fwd bulkhead,
forward compartment 0. - 1 - 3
cockpit - 3 - 4
Bomb bay. 4 - 5
Radio comp.
Wheel comp.
Aft Pressure bulkhead

Aileron has 1 attaching hook
fuel rod.
Outer panel .032 skin, truss
type ribs with corrugated skin
for strength. .016 skin for
trailing edge. 4 terminals with
to take fittings and bolts in
abutting edge of angle reinforce
splice angle plates. outer panel 50°
leading edge fabricated fair with
keeper and screws.
Mounts anticlockwise made of
steel, mounted by four bolts.
inner rudder engine mounts.
accessory compartment closed by
walls of steel, no oil clearance
required, fire bulkhead

8 taper pins in ¼ terminals hold vertical fin. Tail 19 ft high. Order of assembling the stabilizer. (vertical fin, rudder, rudder trim tab, horizontal stabilizer, elevators and elevator trim tabs)

400 in-lb torque on rudder mechanism.

Secure all cables before disconnecting cables to rudder and elevators. Trim tabs must be down to adjust tension of cables. (Color coded wall of accessories section, bulkhead 8, wiring gaps.)

automatic pilot has 3 servo units on elevator, rudder, aileron. 90 in-lbs on each servo unit.

lever to inch broken, replaceable.
to replace cable loosen turnbuckle
remove sparre, take out fully
swivel, attach fuel line.

Removing elevator

1. Loosen bolt and flexplate
around torque tube.
2. Streamline elevator with a
wooden clamp.
3. Lock control column 10½°
in level flight.
4. Release tension on main
elevator cables, 2 turnbuckles
at bulkhead 6+2 at bulkhead
no. 9.
5. Put tubes down position

6. Clamp elevator tab cable behind fairlead, ahead of turnbuckle in most comp.
7. Tape drums + elevators.
8. Tie lead line to cables for reassembly.

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12 gear tapes on left system
12 flap rods, 45° deflection
meter located in Left wing
between 1 and 2 rods.
With rods closed turn #8
turnbuckles out, then adjust stops
45 turns = 45° angle. allway
free gear tapes by disconnecting
gear box and turn gears
½ to ¾ turn in closed direction

Bus cables - 2 ends 1 with short and long turnbuckle

Compass

Variation - angle of difference.
agonic line - no variation
Isogonic lines - equal magnetic variation) at all points
deviation - difference between compass heading and heading of the ship.
Navigators compass is master compass. all good compasses are really master compasses.
100 yds is fairly safe distance from magnetic disturbances.
Rubber bit - taken up round

card on spider: just that always points north. (A north is any marked off on degree, note.)
(Compensating compass. Swing compass N, E, S, W. taking off all error and 1st two directions. ½ error on last two directions)
{5° Variance on Navigator compass
10° Variance on Pilot's compass.
R.P.M. should be at least 1750 to 1450. per that given to run out on before compensating.
(Type D-12 compensating magnet)
(Use free water white kerosene compass fluid)

-Pitot Static Instruments.-
air speed indicator - Impact and static.
rate of climb - static pressure
Altimeter -
Impact pressure - static pressure
(Setting altimeter for accuracy)
1. Learn field elevation
2. Learn Barometric pressure
reduced to sea level for that
field at that time.
3. Set Barometric scale on the
altimeter to agree with the
tower reading.
4. Then hands should agree
with field elevation ± 50 ft.

Electricity

Electrical Symbols

1. (P) D.C. Power circuits
2. (I) Ignition
3. (PF) Propeller Feathering
4. (S) Starter
5. (A) Autosyn instruments
6. (M) instruments
7. (R) Retractile motor
8. (W) Warning lights
9. (D) De-icer and oil dilution
10. (IB) instrument lighting
11. (IL) interior lighting
12. (E) exterior Lighting
13. (B) Bomb control
14. (FL) flight controls

24 volt D.C. single wire, gnd return.

Power sources

1. 3-24V @ 24 A.H.
2. 4-24V @ 300 A.
3. Standard Power.

1.275 specific gravity at 80° ± 0, with 4 additional strength 10° or cube at earth. Flat battery (1.150) with gauge 1/8 above 0°. Full battery (1.275) with gauge 30° below 0°F.

Disconnect grounded lead first after removing battery from [illegible]

solenoid switch are mounted next to battery and also fuse). (Letter indicates circuit, number is the serial number of wire. Letter and number indicate wire no.)

Sheet 1 from Batt to 3.
Sheet 2 from 3 to 4.
Sheet 3. from 4 to Batt.
Sheet 4. Left wing.
Sheet 5. Right wing.
Sheet 6. Tabulation.
(12 digit numbers on each sheet).
26 V for motors instruments.
(Power circuits having fuses located at A of sh. 2, will

We fixed on #305, all other lower circuits and central circuits will be fixed in #1116. Except these fixed on resistance and shelf #43). (Bypass meters, current, and rectified current fuses on #243). (Key cut-out fuses and tantalum lights on fuse type with receiver). (4 stators, 4 RF rotors, 3 main tuning gear motors, band by-pass motors are fixed for the I. $\frac{E}{I \times R}$. E = volts, I = amps, R = ohms ($\frac{1}{1 \times 1}$).

flash field leads, from B
to A lead (power to field).

Rectifier prevents the generator
with reverse polarity from
flowing on the line.
Generator output controlled
by the field strength.
When adjusting voltage regulator
never turn on Generator
26.6 ± 0 Rev. Cur. Relay set
10 amps reverse current
into generator.
Reverse polarity causes volt-
meter to read backwards,
no reading on Ammeter.

Fuse Box

Strand shown terminating
lines with bayonet

end bulkheads for being
74'9" long - 19'1" high
103'2" wing span.
31,000 empty weight.
48,126 gross weight.

1. Front comp. - sta 1-3.
2. Pilot and navigator comp. - between sta. 3-4.
3. Bombay - sta. 4-5.
4. Radio comp. - sta. 5-6.
5. Waist comp. - sta. 6-7.
6. Tail Gunners comp. sta. 7-

Bulkheads 3, 4, 5, 6 are solid bulkheads. Tail gun attached to bulkhead 7. Bulkheads 7, 8, 9, 10, 11 are

reinforced bulkheads, due to place of attachment of struts and sudden longitudinal stiffness are made by extension of flat keel plate (called bulb angles). (Longerons, also called keelsons but not on ship). The skin and support the frames. Always use the angle or flatbar for making others. Bombay truss beams are made of steel, these are made of aluminum alloy.

Forward
Comb. Equipment

1. 2-50 flex gun mounts
   2- oblotted chain
   1- C.O² hand fire extinguisher
   1- blinker signal light
   8- ammeter type
   1- first aid kit
   1- Navigator table
      Navigator attachment
      Bombardier control panel

2. Lower receiving comb.
   Bomb doors and latch release hyd. mechanism

3. Elevated cockpit
   Low back pilot seat

Left forearm bandage
2 - Flannel bibs
1 - drinking cup distance
1 - CO^2, 1 - CCO^4 hand fire
extinguishers.
1 - Large 1st aid kit
1 - first aid kit.
1 - stretcher

4. Bombay -
Bomb door retracting mech.
Bomb racks and releasing mech.
release tests.
2 life rafts and dinghy.

5. Radio comp. 5-6

1-50 flex gun mount

1-ammunition box with flexible feed.

1-table

1-3" hand fire extinguisher

3-bucket seats with lift pressure cushions.

2-crank arm extensions

1-first aid kit

1-safety belt holder

Camera fit under floor. tool kit, mooring kit, camera covers for bow, nose, cockpit and tail.

all turret and tail gun
comp.

6. Waist comp. 6-11
1- pivot mt bkt
1- ladder
1- ball power gun turret.
2- ammo containers.
2- 50 flexible mid gun
mounts.
Ammunition hoist, flexible
1- power generator
1- CC 4" fire extinguisher

Tail gun comp. 11-aft
2- 50 Cal mounts.

2 - flex. ammunition chutes
1 - radio set equipment.

Emergency equipment
{6 - hand fire extinguishers
3 - CO^2, 2 cc CH^4 bottles
releasable hinge pins on
entrance doors for bombardier
and main and tail gunner.
First aid kit
bomb door and hatch release
10 - life preservers
2 - life rafts
Armor plated on bulkhead
3/4" plate, 1/2" plate, radiomans
seat and turret.

Jenkin Bearings
Nickelium steel -
Landing and tail bears.

Single oleo, cantilever type.
(oleo - means oil and air).
oleo strut, drag strut, retracting
strut. Trunion fair - bolts
strut - to structure.
.005 to .010 clearance on fair.
Release fuller plug only
one turn for letting out
the air.
pressure in hydraulic system
800 lbs D".
138 turns on retracting screw.
Screw made of steel.
retracting nut made of bronze
(13 threads). 25 to 50 lbs pull
to release neoprene bumper.

To set limit switches fully retract landing gear then back off one turn. To set lower limit turn landing gear full down then back off four turns.
(6 switches on landing gear)
.040 ± .005 brake clearance (new)
.015 to .075 older brake clearance
3/16" wear on brakes

Tail gear assembly
Length adj. cradle bracing.
Yoke connects fuselage with bulkhead no. 11.
2 5/8" strut showing.

420" lbs torque setting of anti-skimy brake.
50# tension on Locking pin cable. (Centering switch breaks circuit if wheel is not centered.)
(5 switches on Tail gear).
2 1/32" length, allowed 1/3 wear.
(.008 clearance allowed between knuckle of axle and cylinder).
--Pitot Static System--
Bank and Turn 8,000 R.P.M.
Flight indicator 15,000 R.P.M.
Magnetos of Lycon - 12,000 R.P.M
Pump has 10 inches Hg. on suction line, 2 inches of

united by adjustments made in mailles:

Vacuum = green & violet.

Pink and two opposite at 1.9 under Hg.

Red = black.

Static = blue and green.

(Nitrogen Instruments).

The external Instruments are transmission of a current from one pole to another by means of electrical action.

Arrangement known as Lemniscate curve.

Inverter turns out 24 volts
for instrument, 115
Volts also for florescent lamps
drift meter - radio compass.

De Icer system

Pump pressure from 12 to
time at 1000 r.p.m. wheel.
Turns out 7 lbs to 9 lbs.
Make sure that oil line
line up properly when
pump is changed during
engine change.
Pump 8" out of mount.
(distributor valve and oil
operates and relief valve
in R.H. wing gel).

(Hole of vacuum air cannot)

function of gyro camera
operation of shutter, key
film light, use on time.
(25 hrs inspection of access
on suction rel. valve, inspect
restricted fitting in line,
flush oil reservoir at 150
hour inspection.)

— Oxygen —
Always be careful
when working on the
oxygen system.
(18 - Bottles) + 2 F-1 bottles
(later models) have not
F-1 bottles.

A9A and A12 systems.
7 Bottles in accessory set.
8 in pilots comp.
3 in Radio comp.
Low level test.
Dual valve with no
pressure Low of oxygen
flow into A12 is obtained.
350 P.S.I. - A9A.
035250 - 5/16" tubing
Use 9 inch sleeve, two
finger tight, 1/3 turn with
wrench.
(Use glyptal lubricant -)
(glycerine + graphite)
Use tube + grease tight
Flow test - pressure

tubing supported and bent every 8 inches, and with 90° turns or each side of a fitting.

Bottle of stainless steel. Oxygen is delivered from it to the system.

Lower both out of fitting

New cover fittings off of bottles

A.9A. indicates, bottom needle shows cylinder pressure, top needle shows oxygen flow. Lower regulator needle valve with metric scale. Flow

- ...ation and clean up in an adapter.

A-R Demand Regulator, in action you breath oxygen and air you need it. In Lie Position you breath all oxygen.

B- Auxiliary emergency bottle Duy last 8 to 10 minutes (Carry Normal Pressure)

50 Hour Test - should flow, upto 300 P.S.I, when to Test one hour, Test has Leakage (1"-1°F. at 18"-1°C). Then allow Test 11 hours. Allow 5% loss for 11 hours. or 11 to 2

Bleed pressure down to 375
P.S.I for the 11 hour test.
bleed pressure to 50 P.S.I,
check regulator for flow
bleed pressure down and
fill system with glycol

Note - use system
81 % ethyl alcohol
15 % glycerine } mixed
4 % Nitrol Cortek
20 gal ea. - eighty total.
Color code - red and white.
{ Water solution - glycol
55% diethylene glycol
45% Ethylene glycol.

1/2" tubing 24 S.T. 1/2 hard.
3/8" stainless steel tubing around exhaust.
Radiator is 1/2" continious copper coil.
oiling is thread lubricant used (oil and graphite).
lines covered with asbestos painted once with asphalt paint.
Sliding Vane type pump with positive displacement.
Runs on No. 2 engine
Code color - White, black, white.
Pumps 50 to 100 P.S.I. pump 5.5 to 10 gals. per hour.

pump geared to 1½ engine speed.
Be sure that connections are tight to prevent water from leaking.
Pop safety valve set at 300 P.S.I. relieve to safety factor.
Filter, heating system exhaust (vacuum pump).
Spring loaded valve set to open at 28 to 30 P.S.I.
Two filter plates using eight wire gauze (about 3 thousand) slush plate using 15 layers.

Cleaning Heating water.

Remove filter, plug inlet port and flush through outlet port with steam or hot water, blow it out with air, then flush with fluid.

Drain filter every 25 hours.

Heaters are stainless steel with high nickel content.

System pressure between 30° to 300° F.

Water heated 30,000 B.T.U. per hour.

Remove heater every 150 hour to brush outside of heater, clean core.

not inside of heat) every
15 hours.
If outside air temp. is
70° or more, remove the
entire heater.
Safetying done with stainless
steel wire. Radiator in
left hand wing gap.
Tank at 50° or above
engine temp. when
in cold or off position.
Duct work covered with ½"
felt except by radiator.

Autogyro instruments

Rotor - 

Stator - 

Phase - 

Current transmitted to motor by small spring). In the indicator the current is induced by small gold spring slip rings.

Autogyro limits:
- A - ~~ground~~
- B - phase
- C - phase (yellow)
- D - phase (green)

All:
- Tachometer - flyball gov.
- Fuel pressure - diaphram (diff. pres.

Instrument:
- Oil pressure - Bourdon tube
- Manifold pres. - Aneroid

{ flap for duct mech linkage.
A trailing edge of left wing
"A" prefix to all wire in
autopr system.

Hydraulic System

Fluid is non-compressible
(Pressure on a confined area
is transmitted equally
and undiminished in all
directions) - Pascals Law)
Pressure means use the
force of one fluid.

① Supply tank must be full
with system and engine
Use AN-VV-O-366A fluid
in system

liquid and remove baffle
plate to take out mixing
and air bubbles.
Never remove panel with
system under pressure.
2. Pump relief valve adjusted
to 1150 lbs. Pump electric
motor, gear type. Pump
puts out 8½ gal. against 500
lbs pressure.
(Replacement a small pump
with 300# press.)
3. Each unit follows pump
in the line.
4. All fittings pipe type
flare tube for right &

Relief valve set to limit
fuel pump discharge.

(5) Accumulator provides
needle valve pressure
during engine shutdown
to keep fuel
back to throttle body.

(6) Pressure control switch
closes at 525 ± 25 P.S.I.
and opens at 800 P.S.I.

[illegible]
light mechanical switch
in turn switches transistor
that controls control pressure
and also warning light.
.020 gal. electric fuel
cutoff pump.

[illegible]

Hindustani Wife

Yellow and white - Colorless
tarlow Lt of passage
behind Lt street.
Sapphire Country blond
opened, 2 fronts. Sgt
Tank. alcohol is flick.
Secretary visits
Better in shoot 20,000
volts to mag. Lt sparks
to signal flags.
Lt direct line station
Engineering Lt and
12 o'clock R.M.
Refs shelter Lt No P.S.
Holding Co also loaded for
40. P.S. Props unfeathered

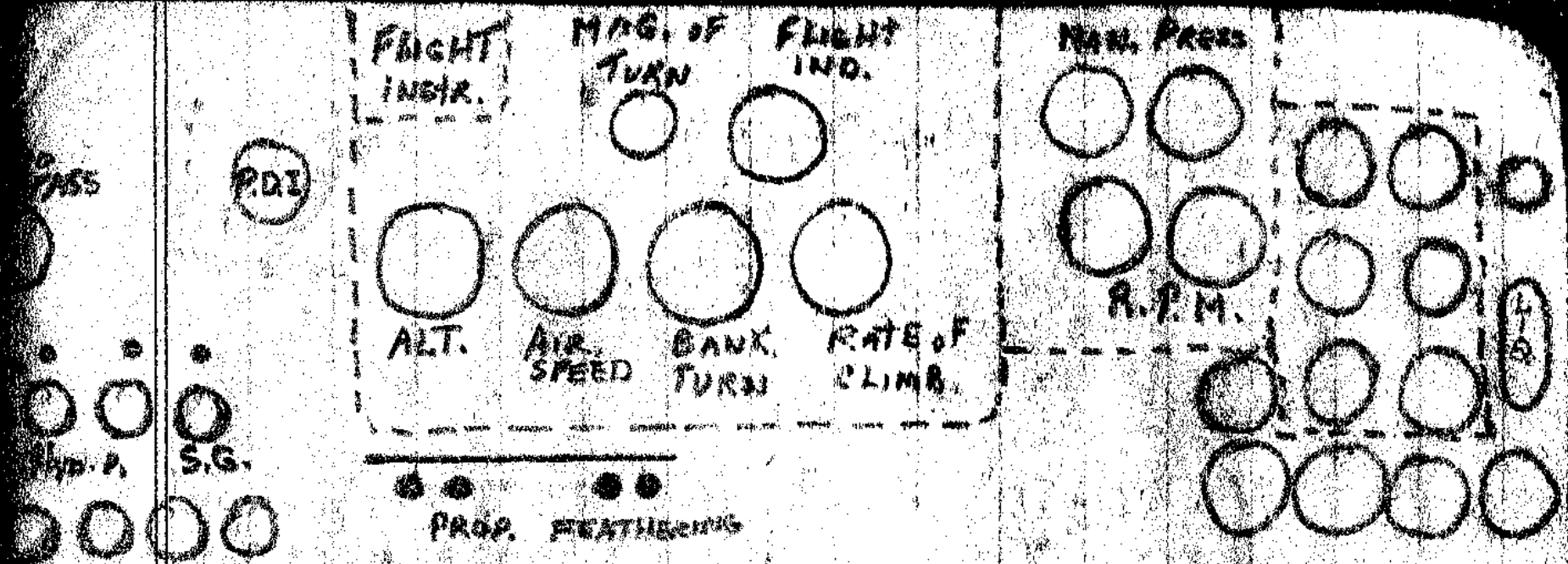
at 60 S.A.E.

Heater switch on each
oil feed pump.
4 main tanks and
4 Booster pumps with
4" pressure. Booster pumps
on bottom of tank.

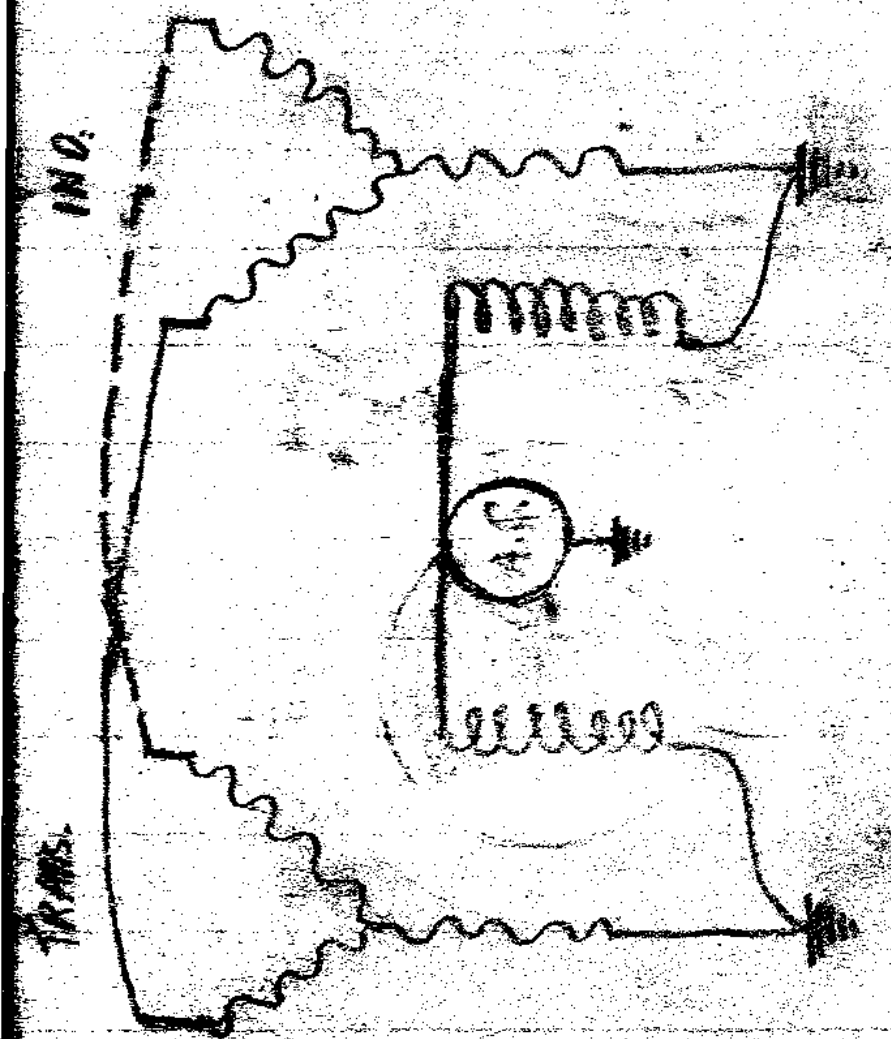
Liquidometer works on
entire. measure the
amount of oil in tanks.

—— Oil system ——

Most common kinds of
oil is 60 S.A.E. Oil pump
supplies 70 to 80 pounds pressure
75 P.S.I. in Normal.



Instrument Panel.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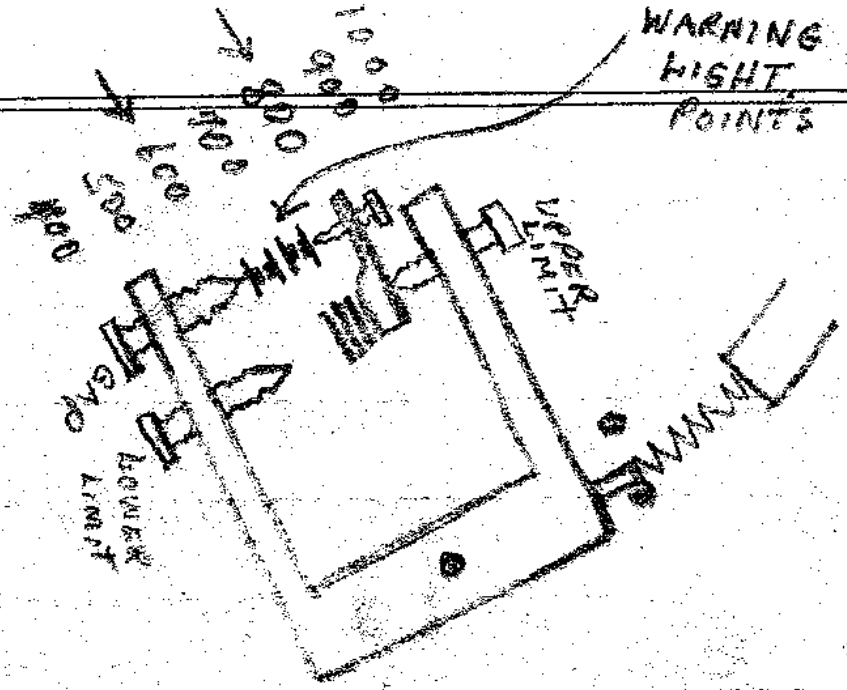
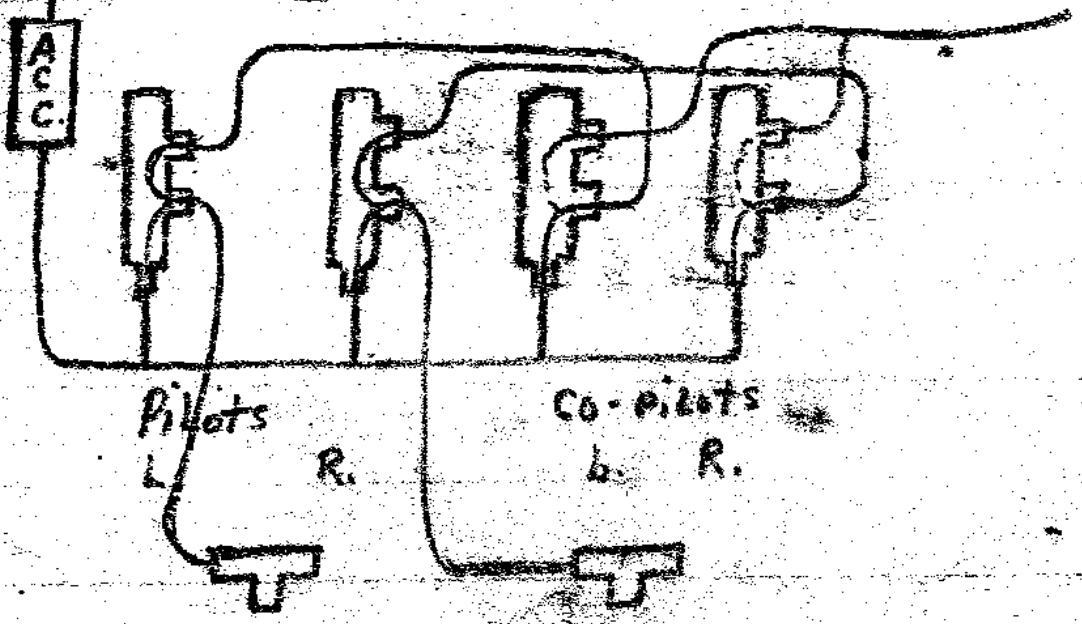
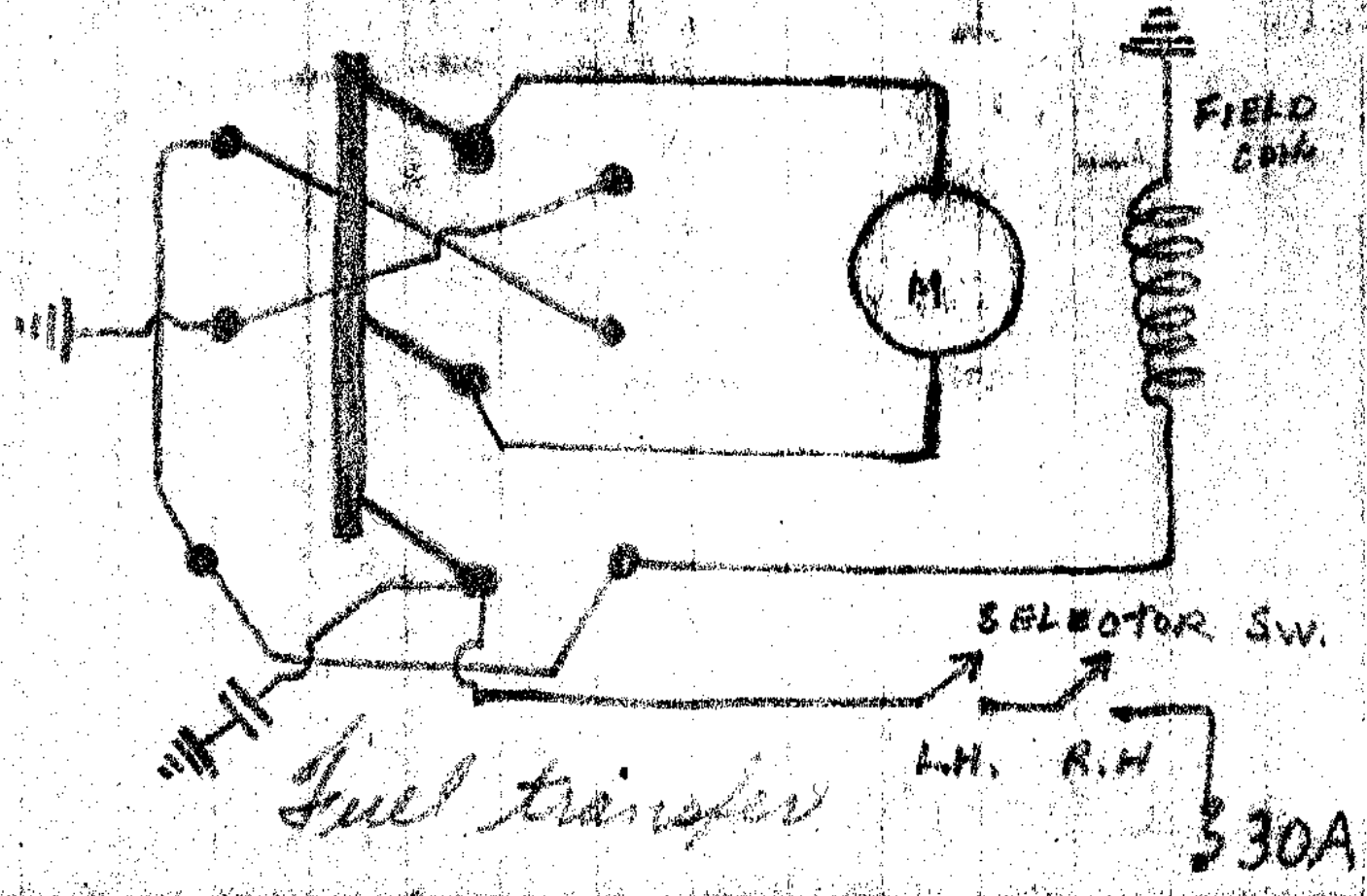
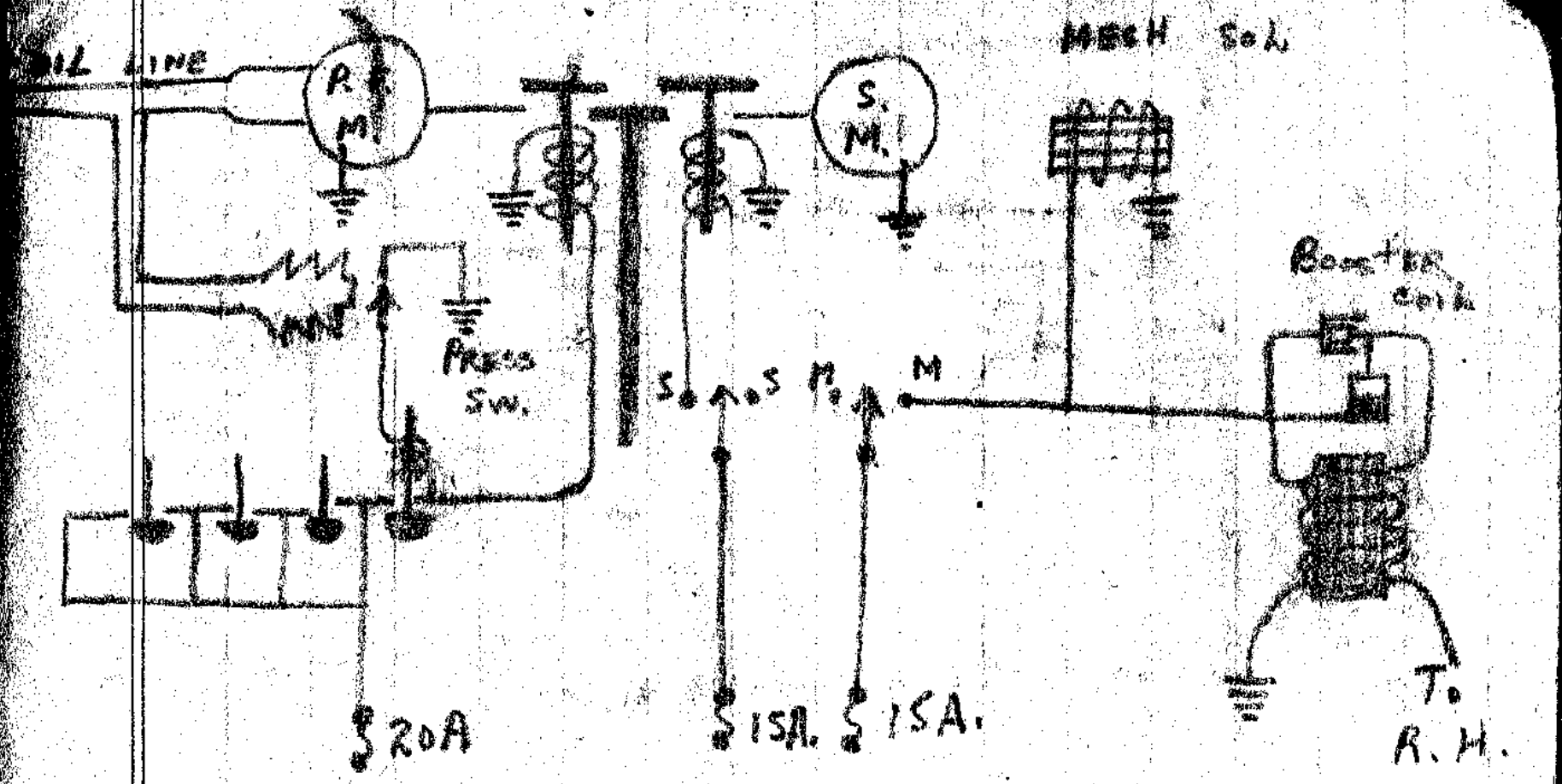


Pressure cutout switch for hydraulic system





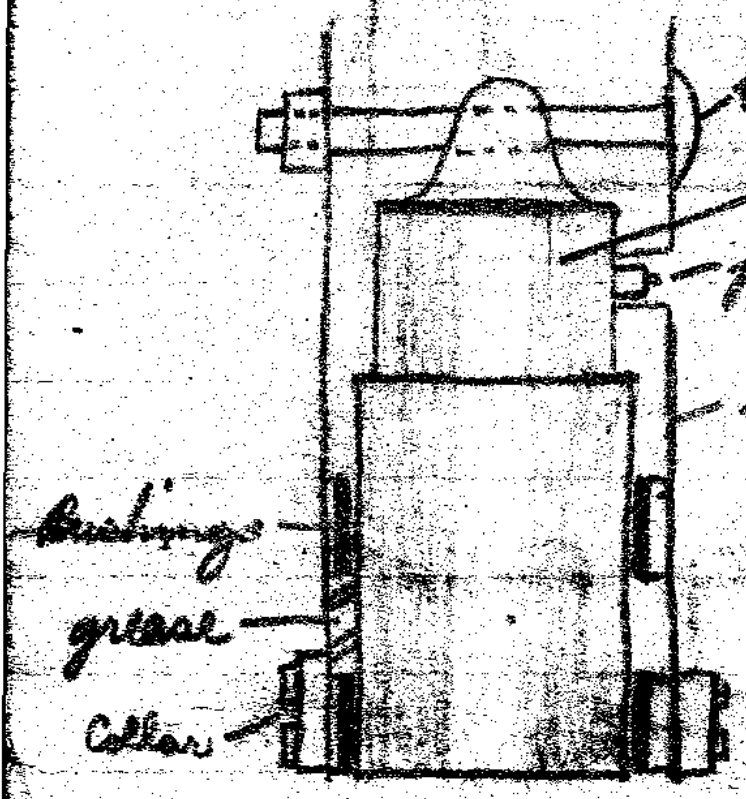
Fuel trimmers



Prop. feathering and starter.

Shaft # 7739 - 11½ long

.011 to .125 clearance

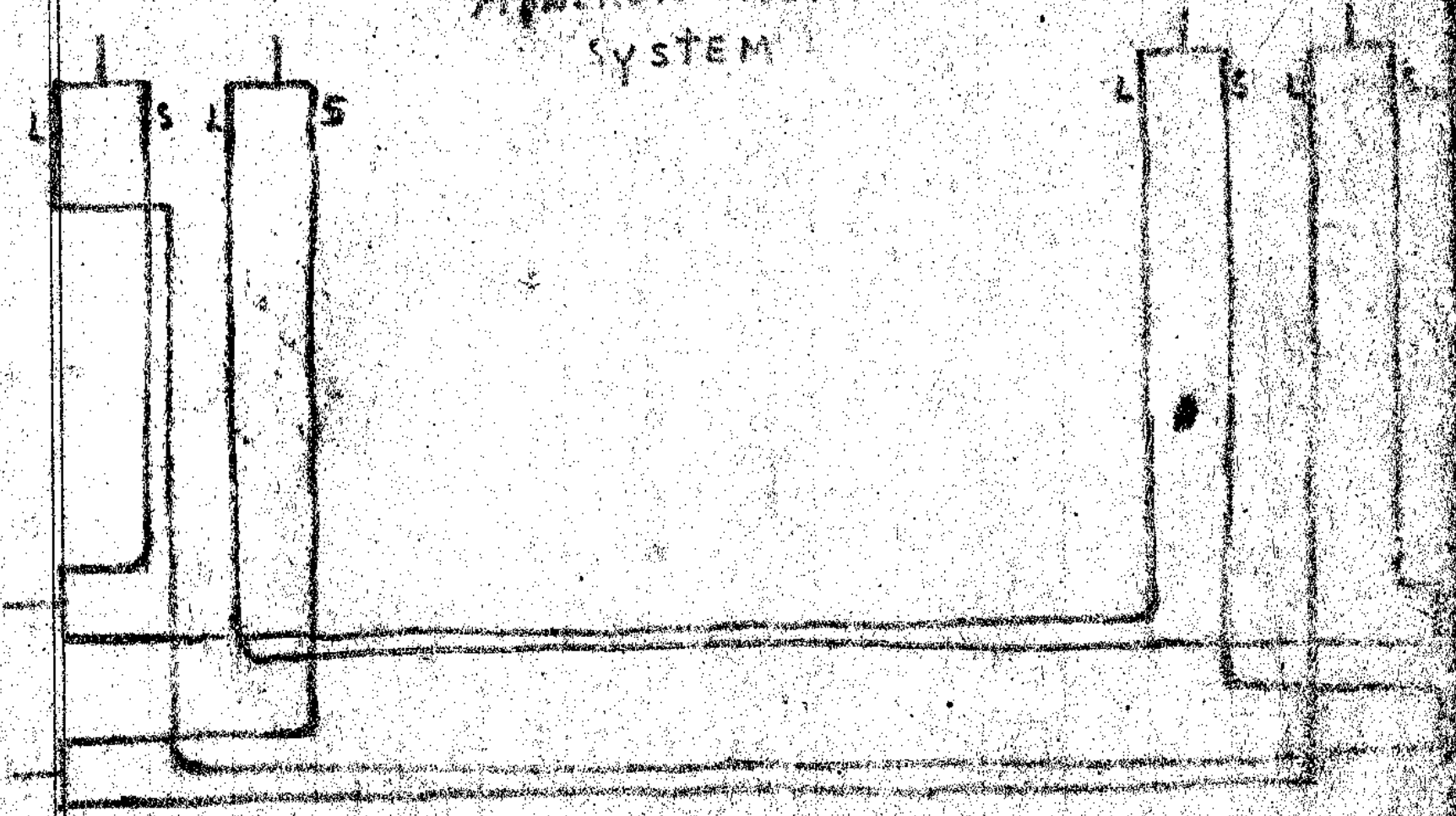


Impregnate with graphite base grease.

oil - AN-WO-36A. Red-mineral base

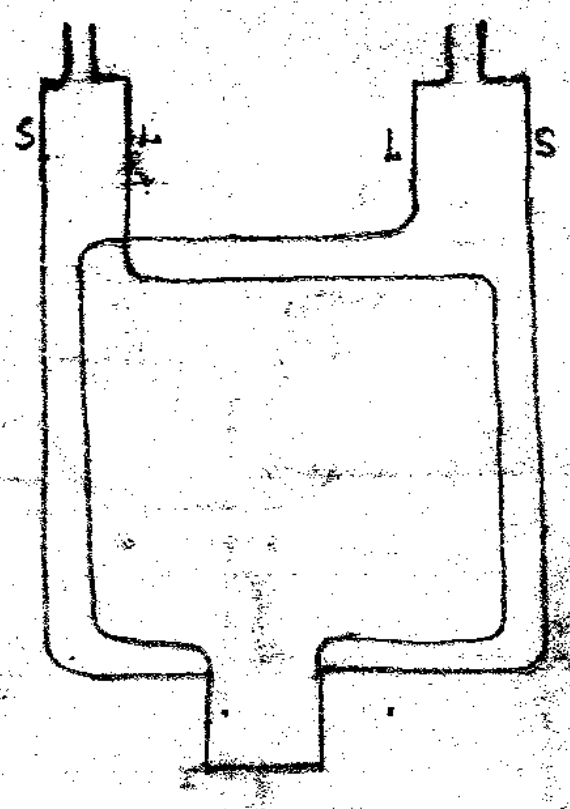
1½" of shaft showing

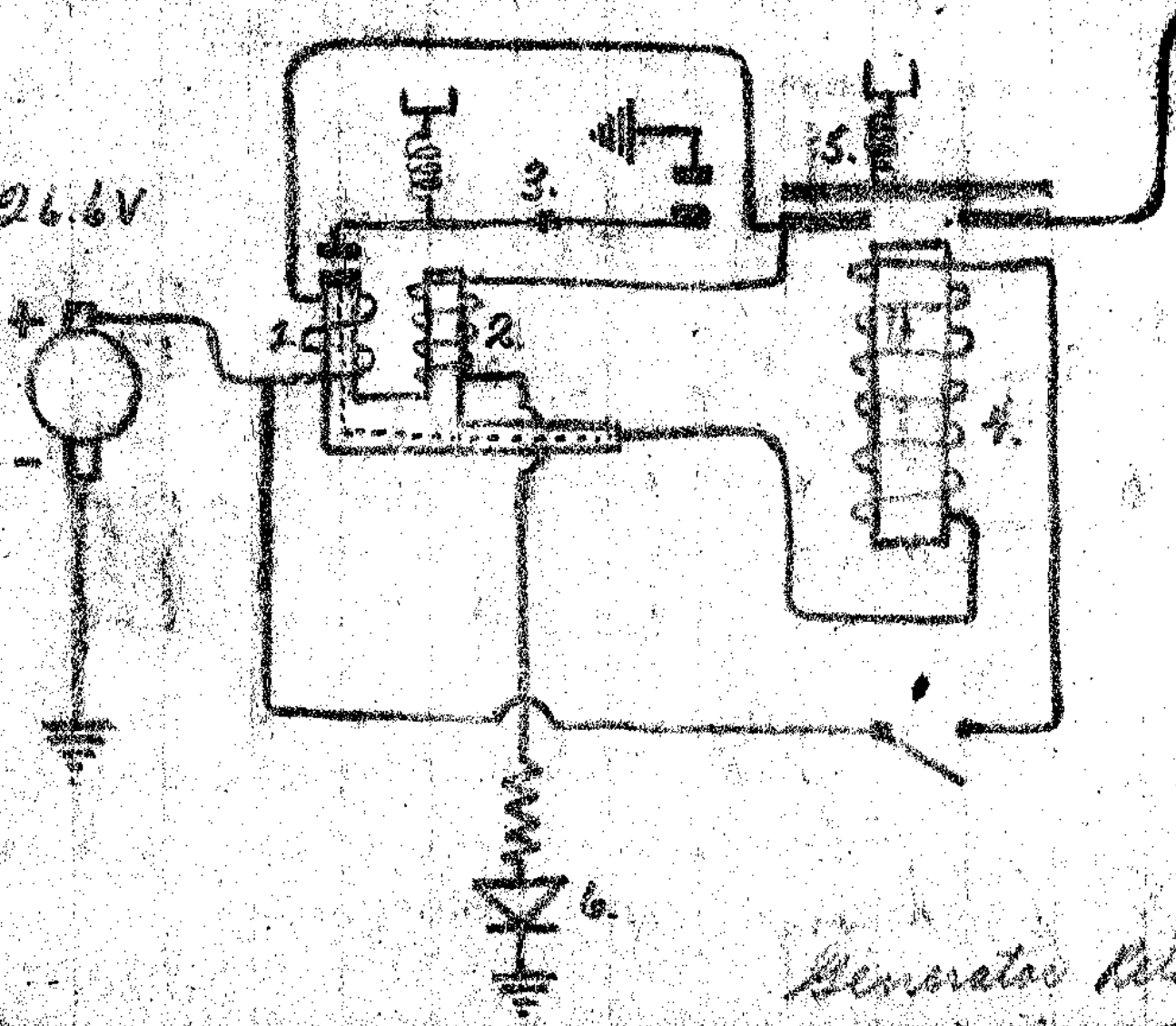
AILERON CONTROL SYSTEM



RUDDER CONTROL SYSTEM

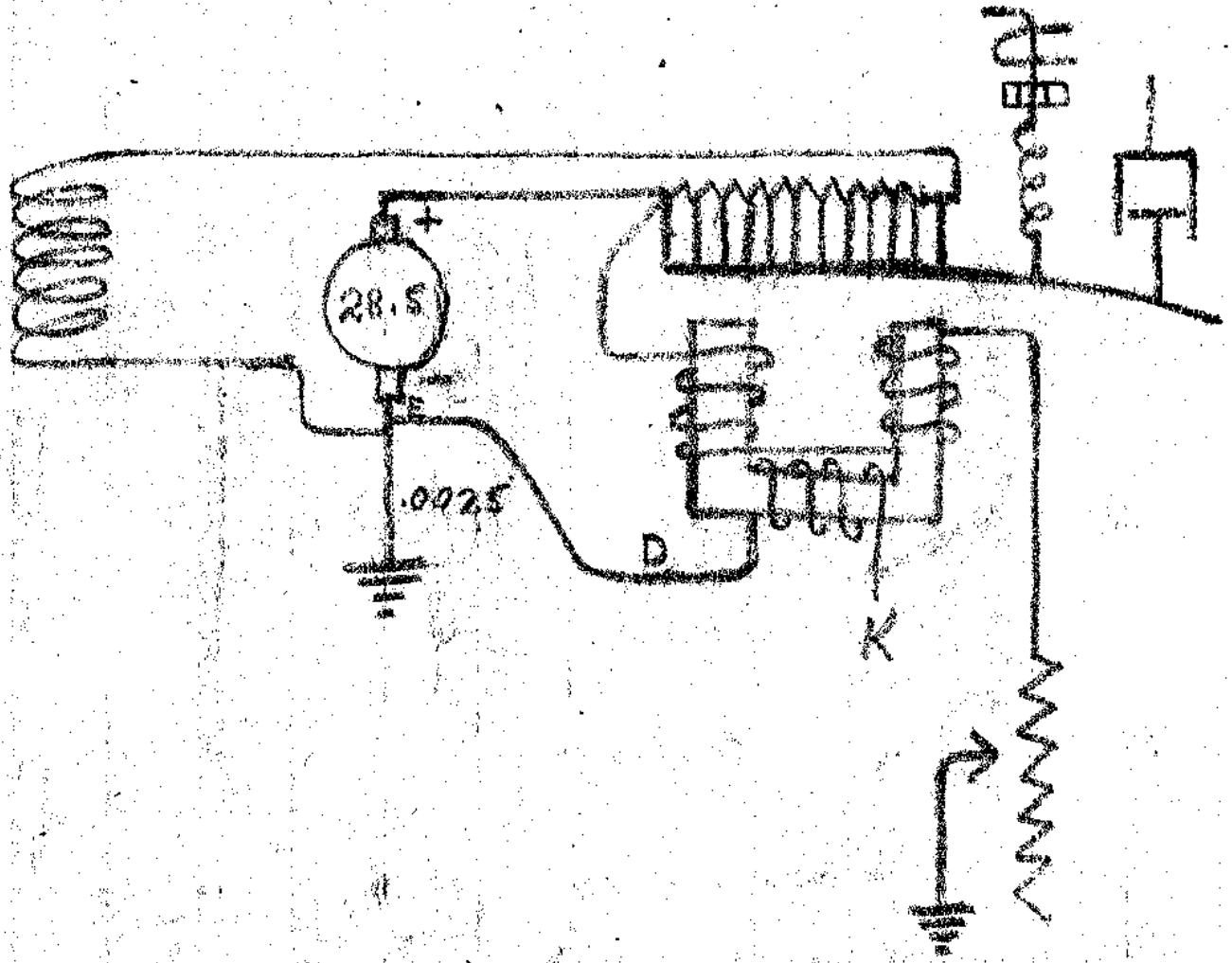
Pilot | Co-Pilot



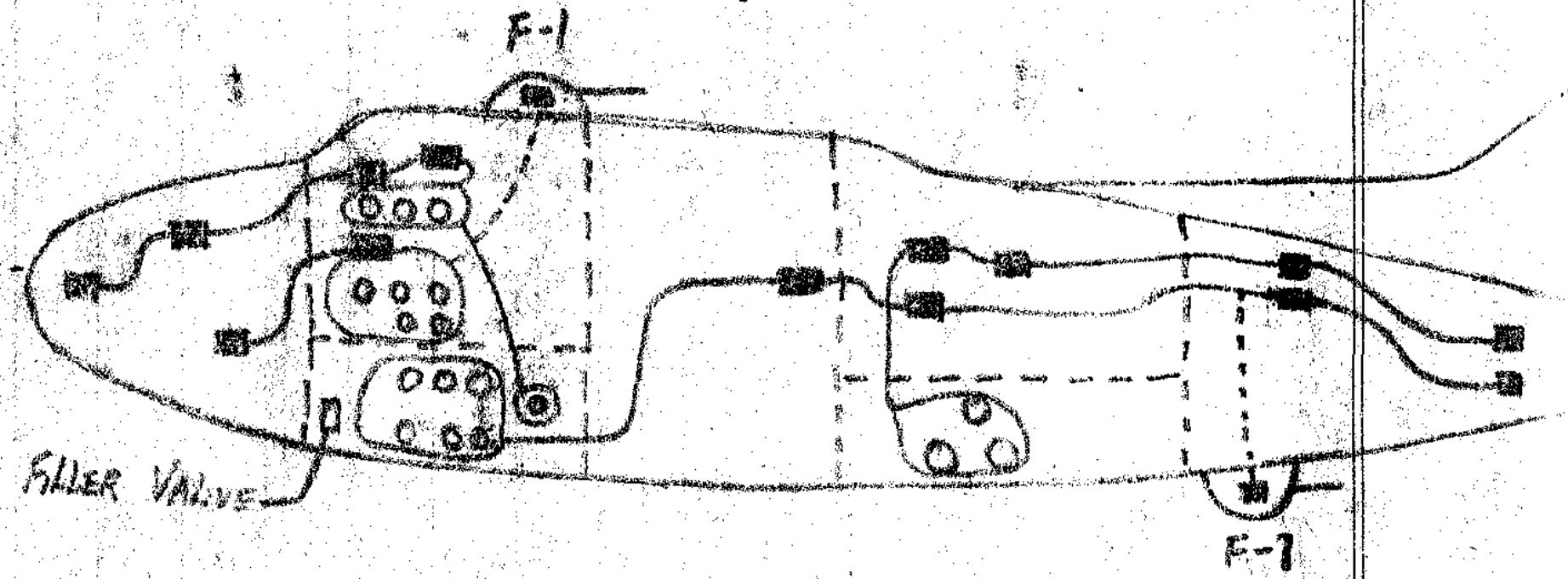


1- Series coil
2- Shunt coil
3- Pilot point
4- Main coil
5- Main point
6- Out Rectifier

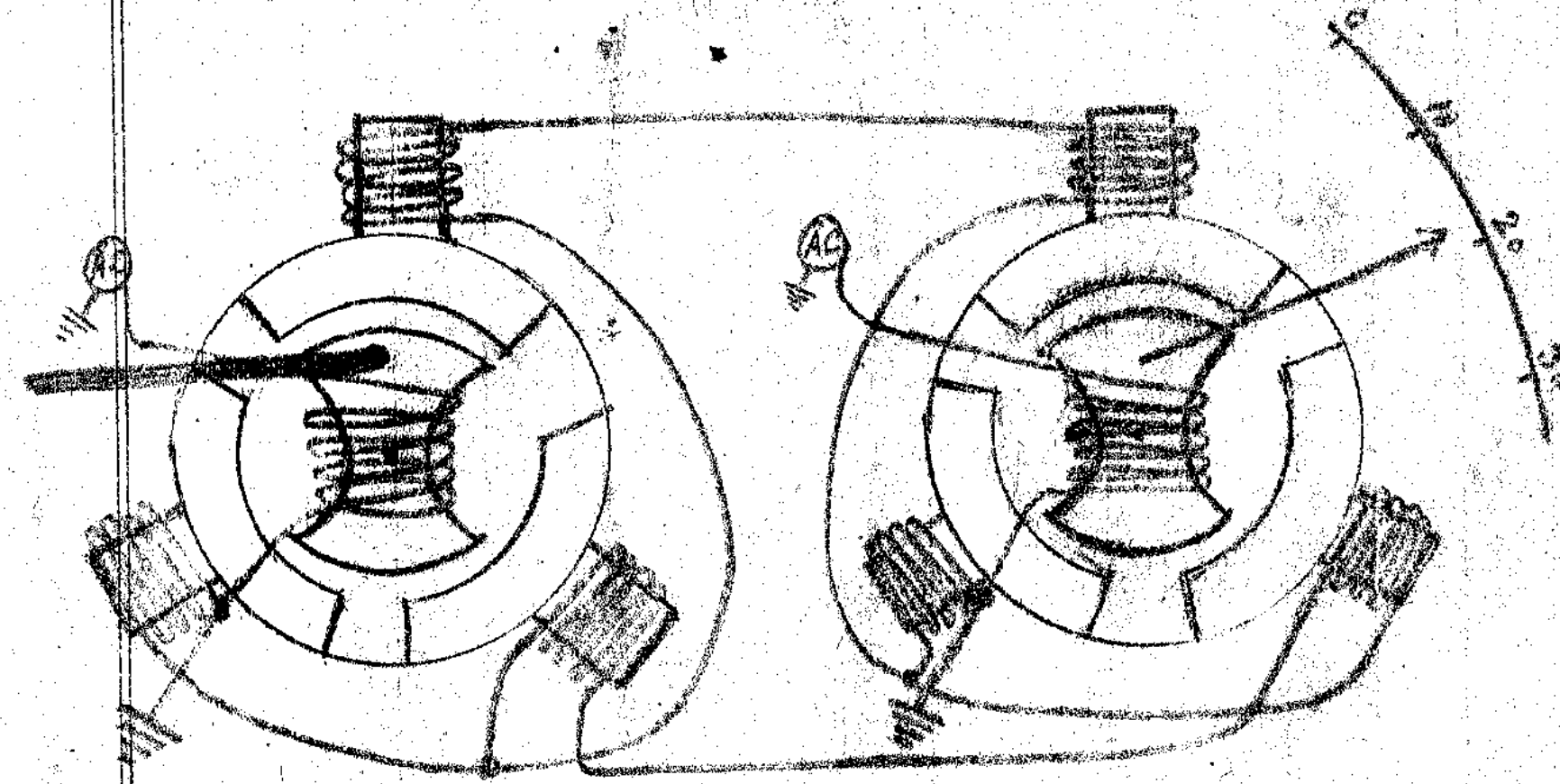
Elevator relay switch.



Generator current



OXYGEN SYSTEM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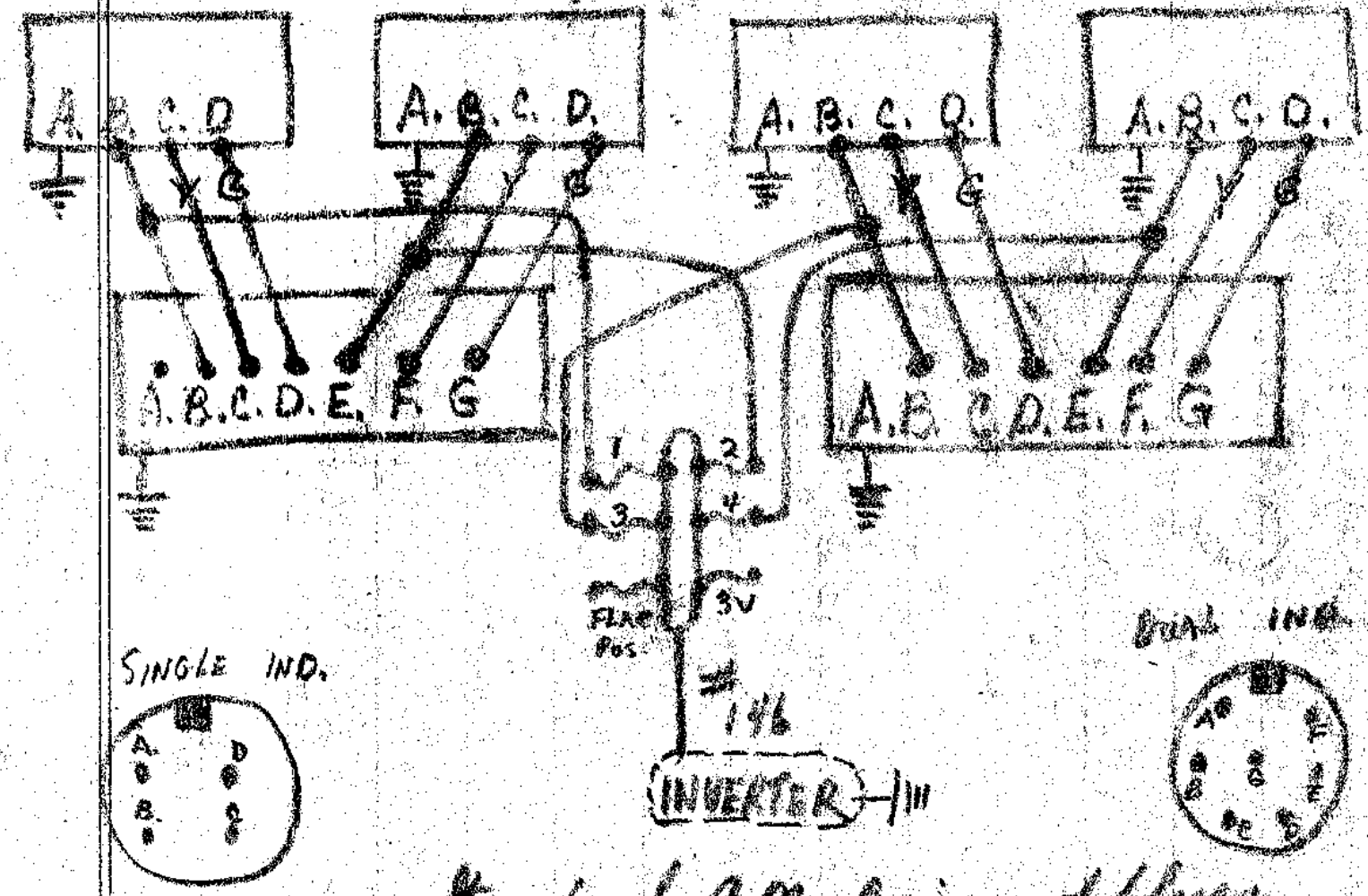


Standard A.N. disconnect plugs

Température régulière étuve
from 60° C to 58° C.
Drain 2 to 3 quarts from
oil sump for a daily
inspection.
Check valve in front
of pump keeps oil from
flowing into cylinder by
gravity flow, when engine
is idle.
Cooler shutter is operated
by oil pressure valve can
be adjusted to control
oil inlet in adjusting
screw 1 to 3° C difference
in Temperature.

Use Lanyard for pushing the regulator cord.
Use rubber gauntlets when making repairs on rubber jacket.
Low oil pressure may be due to A. Low oil supply.
B. Leak in pressure line.
C. Worn or broken pressure or suppressed pumps. D. Pressure relief valve unseated or dirty.
E. Low temperature in system suction line. Also high temperatures. F. Worn out bearings with excessive clearance
Cont. on 8th page attached
2. High altitude causing foaming. H. Air locks

Spring loaded switch on foot to pilot left to build up pressure over 700 P.S.I. to open electric check valve and also for energy to build up pressure.

① Eighteen inch pipe nipple out of 700 P.S.I. to be mounted on either side.

② Hand pump located to right of pilot. 2 check valves located in the pump.

③ Accumulator stores pressure, acts as shocking device. If full accumulator may carry pressure 850 P.S.I.

then build system pressure to 800 P.S.I. Then bleed slowly.

Neoprene rings should fit loosely around piston on accumulator.

(10) Manual shut-off valve provide cut off between main and emergency accumulator.

(11) Selector check valve allows fluid to flow to emergency system in normal, or servicing it allows a flow back ways. Safety in manual [illegible]

(12) Emergency gage and wires under seat emergency

warning light on when it drops to 400 P.S.I. Do not adjust with pressure in system.

- Brake system -
Adjust valves for full and a full from 1/2" from bottom of guide
Check for leaks during the adjustment. Leaking valve must be replaced. Check that parking brake releases fully when applied.

Move seated washer one notch forward.
Return boost valve regulator pressure to 3 and depress release of brakes.

Test plate - always check cowl flaps. They should travel from open to closed in 2 to 5 seconds. Adjust without pressure in system.

At 12,000 ft check limiter limits, check relief valve on test plate and check gages.

last rubber and
page of app P.S.I.
Test flow and not at low.
Check air pressure and
both accumulators.
Four ways of bleeding
air out of system are,
(1) Bleeding of accumulator
charging valve. (2) Pressure
must be pressure side of
four flat cylinder with
selector handle in locked pos.
(3) Bleed system through
brake lead with hand
pump in line until
and fluid comes

(3) Work emergency meeting
notice with list
is attached.

Oil system (Cont.)

Causes for high temperature and consumption of oil.

a. Lack of oil. b. Oil too heavy. improper adjustment. c. Clogged lines, strainer, and valves. d. Improper engine operation. e. Clogged vent lines. f. Consumption due to worn engine. g. Leakage h. Worn piston rings (improper width etc.).

$C = 5/9(F-32)$
$F = 9/5(C+32)$
$F - 32/180 = C/100$

} formulas for changing F° to C°.

Clean oil tanks at regular intervals.

425
313
212
85°

3 main tanks.
270 Gals IN EACH SECTION

Fuel System

6 Main Tanks - 1700 gals.
2 Reserve - 720 gals
Total - 1,080 gals.
Fuel tanks are self sealing.
Use 100 octane gas or
Aromatic gas if the
tanks have been cleaned.

80 oct gas 60%
Toluene 20% } Aromatic
X-lene 15% } Fuel
Benzene 5% }

Flush tanks with Zinc
Chromate to protect against
Aromatic fuel. Flush
every 10 to 12 days.

Drain at Daily inspection. allowed 10 drops.
Check Gauges at 25 hours 1/2 lower 5/8 water

Boat pump is electric driven. Centrifugal impeller type pump.
Inlet pipe 6" to strainer pipe 8" to a closed pipe to 1500 R.P.M.
Plant 1-50 and on have self resetting tanks with no relief valve
Drain Fuel strainer daily and clean strainer every 25 hours.
Fuel pump engine driven, sliding vane, positive displacement. Fuel pressure is 15# sq. inch.

Pump has a close shaft.
Remove Fuel Strainer and
drain away Fuel.

Retarding motors are
series wound motors.
They will stand a heavy
torque and also grind
speed.

Carburetor air filter is
controlled by a retarding
motor. It has one switch
with a gang relays and
warning light.

Superchargers

27,000 ft. is critical altitude for manifold pressure. Engine develops 1000 H.P. above 27,000 manifold pressure lbs. 1½ lbs. (B2-1 Turbo). output is 230 horsepower. Takes 23 horsepower to work supercharger. Turbine wheel turns at 24,000 R.P.M. at critical altitude.

Full boost - waste gate closed. no boost - waste gate open. All Engine control cables have 70 strands ± 10

Shaft for Governor cable.
which is 20".
Clearance between casing
cap and bracket is 1/8".
(.095" to .160").
Nozzle key clearance to bracket.
(.070" to .160").
Rocker shaft to cam key
clearance is .012"
End play is .015"
Worm bearings cover and
key and side play.

— Loading —

Thrust
Drag
Lift
weight.

48,726 design weight
64,500 gross weight
(Mean aerodynamic chord - average line on which c.g. will fall.)

177.5" is length of m.a.c. on which c.g. falls
(Average lift of wing section - m.a.c.)
(Always use basic combat conditions to find

Take all guns + am. except side guns - Sched. "B" except Prof. Anti-ice fluid
200 gals gas, 140 oil, 200 Bag. 6-6D
100 Lunch - ea. comp. #10,000 Contg
loads on).
Nav.
Bomb.
C-P
Pilot.
R. operator
Fuel Ld.

Item	Position	Weight	C.G. shift
Basic Ld.		37,675	31.50
Nav.	nav. station	+ 200	- .55
Id. Ld.	3H	- 200	+ .40
Life Rs.	6D-6H	- 200	- .80
Life Rs.	6D-6H	- 293	- 1.20
Fluid	Radio C.	- 125	- .15
Gas	wings	+ 17,000	—

Oil wings		+1050	—
Legs	6-60	+200	+.50
Luck	3H	+100	-.20
Bombs	Bomb	+1000	—
		+61,725	32.40
		- 818	2.90
		60,907	29.50%

29.5%

19% to 32% limits

Aluminum

24 S.R.T. Strain Hardened

No. 2 pure aluminum
No. 2450-ST 95% al. 5% copper
S- means wrought aluminum. (worked out while still hot).
T- tempered aluminum
O- annealed "
T and O differ only in the cooling process.
(Copper in aluminum makes it unfit for welding and also causes corrosion).
Weld and oxidizing are two most common forms of protective coating

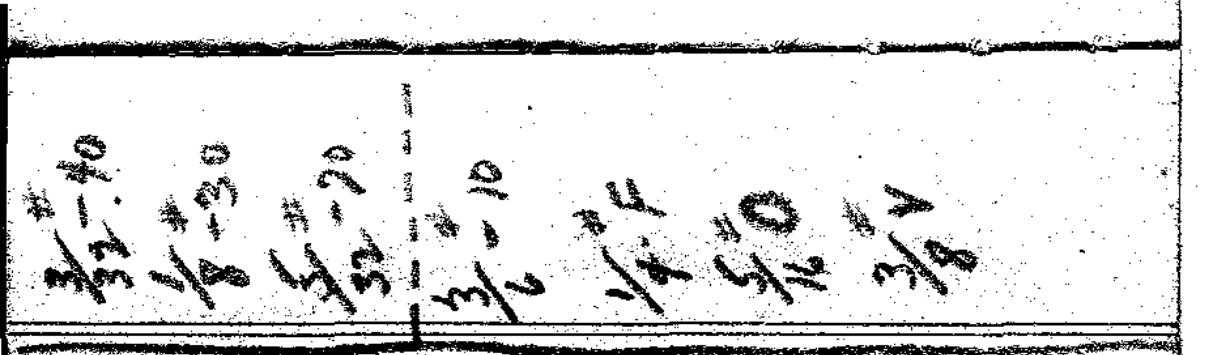
Place rivets twice their diameter from edge - ½" is min. distance from edge. Lft print 5" diameter of rivet.

(Chromic acid and electrical current (40 volts) - solution used in anodizing Aluminum oxide is the protective coating)

24 } stock aluminum } structural
17 }
A17 - rivet

non-heat treated

- 2S Pure aluminum
- 3S
- 45 — I-eye beam
- 31 1. dinging hammers
- 32 2. dolly bars
- 51 3. rawhide mallets
- 4. electric hammer
- 5. scribes
- 6. keyout



7. snips or duck bills (straight)
8. right and left snips
9. keyhole hack saw
10. tom thumb hack saw
11 files { half round, mill file, square file, knife, 3 cornered, rattail, mouse tail } swiss file
second cut, regular cut, double cut, smooth
12. pencil divider.
13. drills
14. center punch

rivets stick out 1½ diameter
Cucked down to ½ diameter
use die on rivet heads

Monel rivets used to rivet steel on firewalls, etc. (SS)

AN4-16A

A.N. - Army Navy
4 - dia. in 16th's
Length { 1 - inches 1st.
6 - eights 2nd.
A - no cotter hole

Handling

103'9" wing span.
74'9" length of fuselage
3:4 is ratio of L. + W.
19'1" height
{Prop clearance on inb'd
is 1'5"
{Prop clearance on outboard
2'5"
21' between wheels
Wing dihedral 4½°
M.A.C. 177.5
Sweep back of wing 8°
{1,277 sq. ft. area on
top of one wing.
1-7 cone 78" from grd.
wheel knocks 19½"

3-5 cones 68" from grd
Plane designed for
37,000 lbs empty.
48,726 lbs loaded.
65,000 lbs have been
loaded on and taken
off with it.

—Taxing—

1. Always uncheck the tail wheel before taxing.
2. Watch out for near by planes
4. Taxi at slow speed (10 to 20 M.P.H.)
5. Instructor of each ground. Use 3 men

to maneuver a plane.
6. Be careful of scratch and dent on plane.

Towing

Towing legs designed to pull 10,000 #

1. Always release parking brakes and remove all chocks first.
2. Towing line should be 3½ times distance of tread. (at least 75 ft. long)
3. Tow plane slowly, be careful of hole, chocks, etc.
4. Watch gas tanks removed

never taxi over 5 M.P.H.
5. Don't help with a taxi if using engine for taxiing.
6. Don't taxi backwards.

For towing lugs on tail wheel, 7,000# allowable pull straight, 4000# pull at 45° and 4000# pull at 90° with plane in motion. No 90° pull if plane is standing still. Always control tail wheel towing bar when at 7,000#. In towing

Are named with our
5 planes.
All engines should pull
evenly for taking.
Have proper tire inflation.
- Inflating tires -
E - 16 lbs.
F - 14 lbs.
for E 21 7/16"
for F 20 3/4"
Pressure is from 65 to 70#
in tires.
Every 1000# weight
increase 1# of air in tire.
{Tail wheel inflated to
10½", 55# from outer

— Mooring —

2 Wing eyes on ea. 2½ good for 10,000# pull.
2 mooring bolts on keel of landing gear at 10,000# 5000# pull on tail wheel strut.

— Mooring kit —

{ anchor rod eye
anchor rod
driving rod
mooring anchor.

Leave 16" slack in mooring ropes.

slack in rope
tie lights
tie lights } reason for 16" slack

1. attach line to mooring points.
2. Consider plane can stand 60 mile from wind.
3. Place head to the wing.
4. Chock the wheels.
5. Lock rudder and elevator in neutral position.

Generator Brushes

1/16" brushes when new, replace after 5/16" wear.
Generator operates 28.5 volts.
full F-lead is return to field.
new B- goes to voltage regulator.
C.-
D.-
E.- ground

Starter brushes allowed 1/3 wear of brushes (9/16" new).
Never use solvent under or near engine overhaul

Auxiliary Generator field current 2.5 amps 14 volts

20 exterior lights

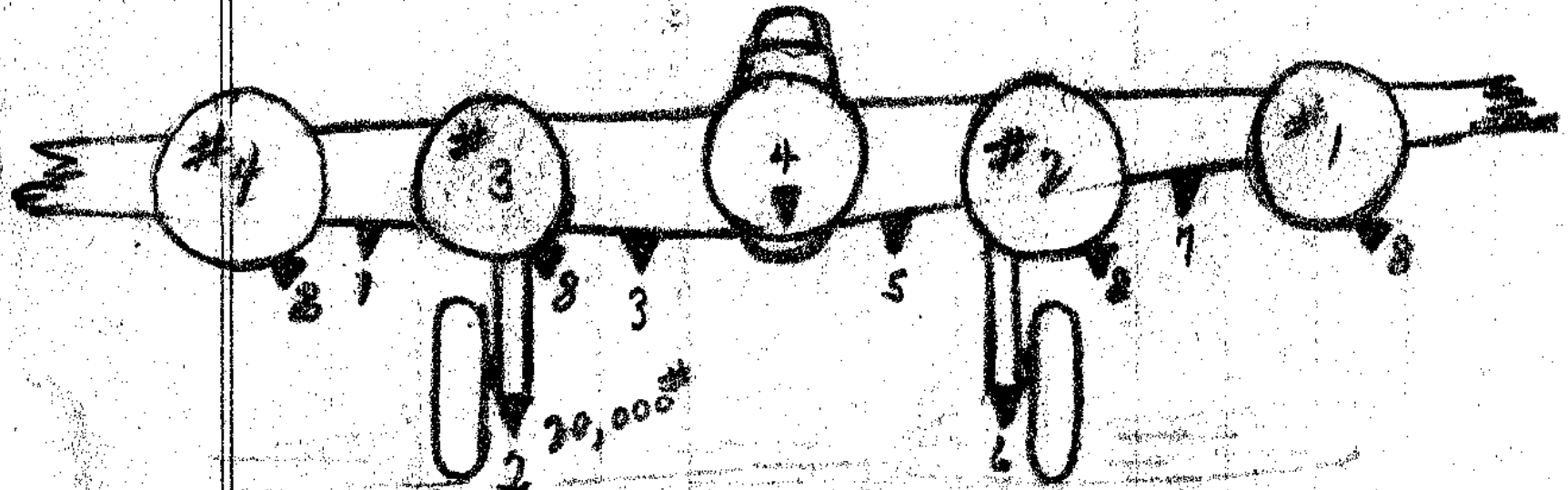
2 landing lights
3 fuses - 60 amp - (15 amp control)
2 relays

4 identification lights.
white, red, green, amber.

1 spacing light - Red (L.H.L.L.)
6 running lights - white light each side of tail, 2 red light on left wing tip
2 green light on right wing tip.

7 formation lights, 3 on head and 2 on each side of fuselage. (Blue)

3 main jacking points 3-4-5



never jack any point more than 4"

Jacks	and weight
No. 1-7	28,000#
No. 2-6	20,000#
No. 3-5	36,000#
No. 4	7,000#
No. 8	3,000#

1. strength of structure.
2. strength of Jacks.
3. Balance of plane.
4. Uniform lift while jacking.
5. Even jacking foundation.
6. Select proper jacking points
7. Importance of level plane
8. <u>Steel packing blocks</u>
9. Release clearance
10. Tail rudder extended when it will carry weight.

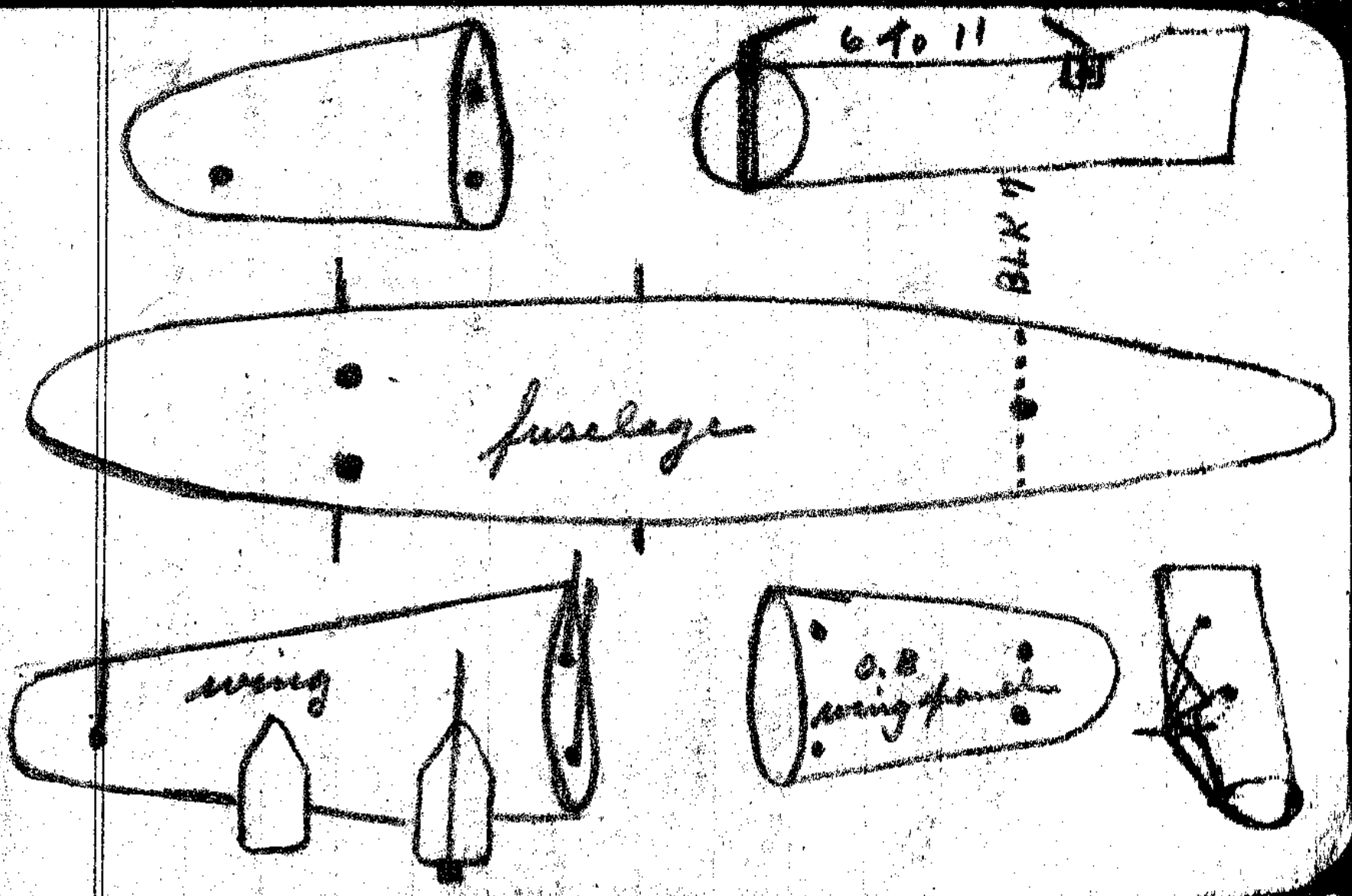
— shoeing —

Use brakes with sand bags on top or cradle with a thick felt.

— Hoisting —

Hoist in vertical position only, except at swing centers.

1. Read site and for starting
2. Before starting engine examine record and report for oil and load
3. Check oil + linkage, check fuel, check caps + drain fuel strainer, check


6 to 11
Blk 11
fuselage
wing
o.B
wing frame

safety wire.
5. Check bombay tanks, bomb rack bracket over the rear boot.
7. Ground plane before refueling
8. Test battery.
9. Inspect tires, wheels.
10. Test brake metering valve "F" clearing.
11. Check entire fuel system
12. Check prop.
13. Examine windshields.
14. Examine landing gear tail gear.
15. Test instruments.

16. Examine red c.o. disk.