

FORM 620

Royal Air Force.

NOTE BOOK
FOR
Workshop & Laboratory
Records.

T. 5086. Wt. 608g. 256 000 B1s. 115K. W. & D. 1278901.

Three Principles of War.

1. Offensiveness
2. Economy
3. Cooperation

Main Weapon

1. Bomb (explosive type
incendiary
gas)

Note: In connection with the gas bomb
the British Government will in no
circumstances authorize the use of
gas unless it is first applied by
enemy.

2. Machine Gun & Small Calibre Cannon

Torpedo (for use against ships)

Various types of aircraft & the arms used & weapons
carried

1. Bomber

1. Main armament: bombs for
offensive purposes
2. Guns for defensive or security.

2. Fighter

1. Main, & poss. sole armament, machine
guns for destruction of enemy aircraft
2. Small bombs for action against
ground forces.

3. Torpedo Bomber

1. Torpedo & bombs
2. Machine guns for defensive purposes



Navigation

1. Navigation is the art of conducting an aircraft from place to place by dead reckoning (kept ^{and from position}) by observation of terrestrial objects & celestial bodies. It includes the ability to maintain a given direction in or above clouds in mist and by night.

2. Axis of the earth.

The diameter round which it revolves

3. Pole of the earth

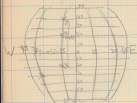
The axis continuation of the earth's axis of revolution

~~34. Meridian~~ 35. Meridian is a semi-great circle having through the pole of the earth.

36. Great Circle is a circle on the surface of a sphere the plane of which passes through the centre of the sphere and thus divides it into two equal parts. It is the shortest distance between two points from the surface of the sphere.

37. The Equator is a great circle the plane of which is at right angles to the earth's axis.

38. Small Circle is a circle on the surface of a sphere the plane of which does not pass through the centre.



Parallel of Latitude

2) Parallel of Latitude is a small circle parallel to the equator.

3) Latitude of the place is the arc of the meridian between the equator and the place in question and is named North or South according to whether it lies N. or S. of the equator.

Difference in latitude between two places is the arc of a meridian intercepted between the parallels of the place in question.

4) Longitude is the smaller arc of the equator intercepted between the prime meridian and the meridian of the place and is named East or West according to whether it is East or West of the Prime Meridian.

Difference in longitude between two places is the smaller arc of the equator intercepted between the meridians of the two places.

5) Grid Graticule is a network formed on a map by meridians and parallels of latitude.

6) Air speed relative to the air

7) Track is the angle between the meridian and the line representing the actual path of the aeroplane on the ground.

8) Course The true course is the angle between the longitudinal axis of the aircraft & the true meridian.

9) Magnetic course is the angle between the longitudinal axis of the aircraft & the magnetic meridian.



Starboard - Right
Port - Left



Var. 10° Mag. East
Compass East



Polygonal (Magnetic bearing)

(Drift caused by magnetic force)

Compass Course is the angle between the longitudinal axis of the aircraft & the direction of the compass needle

2) Drift is the angle between the longitudinal axis of the aircraft & the track and is measured to port or starboard of the aircraft's side

3) Variation is the angle measured in the horizontal plane between the true meridian and a free suspended magnetic needle influenced only by the earth's magnetic field and is named East or West according to whether the North-seeking end lies East or West of the true meridian

4) Bearing of an object is the angle at the observer between the meridian passing through the observer and the great circle joining his position to the object. True or magnetic bearing according to whether the angles are measured from the true or magnetic meridian. The compass bearing is the angle measured from the particular compass needle. Magnetic bearing is the angle at the observer between the meridian and the rhumbline joining them to the object.

5) Rhumbline is a curve on the earth's surface which cuts the meridians at equal angles

6) Deviation is the angle measured in a horizontal plane between the magnetic meridian and the direction of a particular compass needle influenced by the magnetic field not coincident with the earth's magnetic, according to whether it lies east or west of the magnetic meridian

7) Compass Error is the algebraic sum of the variation & the deviation

8) Declination of a magnetic needle is the angle in the vertical plane between the vertical plane containing the needle and the horizontal plane

Practical Dimensions of Being Right

Profile Charge 300 gal.

4/6 2440 F.P.S.

$$\frac{900}{2440} + \frac{100 \times 1000}{60 \times 10} = 1.76$$

$$\begin{array}{r} 264 \overline{) 900} \\ \underline{528} \\ 372 \\ \underline{336} \\ 36 \end{array}$$

$$\frac{2.8 \times 10^8}{100} = 220 \text{ ft/sec.}$$

2440 ft/sec

$$\begin{array}{r} 264 \\ \underline{2704} \\ 2704 \end{array}$$

$$907 \div 2 = 453.5$$

2704 St/ce
73 x 220 ft.

$$\frac{72.6}{901 \text{ ft.}} = \frac{x}{7}$$

$$\begin{array}{r} 660 \\ 660 \\ \hline 720 \end{array}$$

$$172.6 = 90.1\%$$

687-688

$$\frac{XY}{EY} = \frac{AB}{EC} = XY = \frac{EY + AB}{EC}$$

$$M^2 = \frac{1 \times 10^6}{90^2}$$

$$\begin{array}{r} 2.9347 \\ 1.8609 \\ \hline 1.0738 \\ 2.9347 \\ \hline 2.9062 \\ .0276 \end{array}$$



H - Horizontal force
 Z - Vertical force

4/27/49

TRUE	VARIATION	MAG.	DEVN.	COMP
220	12 W	232	2 W	216
044	10 E	034	5 W	039
325	10 E	315	3 E	312
055	9 W	064	3 E	061
251	10 W	260	1 E	260
149	3 W	152	5 W	157
093	2 W	092	11 E	084
136	NE	136	7 W	143

0
 45
 90
 135
 180
 225
 270
 315
 360

Direction - N-E-S etc.

$$\frac{BC}{d} = \tan 50$$

$$\frac{CD}{d} = \tan 30$$

$$\frac{BC + CD}{d} = \tan 50 + \tan 30$$

$$6 \frac{13}{d} = \tan 50 + \tan 30$$

Known find d

$$\frac{d}{AB} = \sin 20$$



Attachment

- Gun - Vickers - 303" air cooled Mark I.
- Weight 24 lbs.
- Rate of fire 900 rounds per minute approx.
- Loc of barrel 300 inch.
- Length of barrel 20 1/2 inches.
- Twist of the rifle 2 1/2 in complete turn in 10".
- Type of _____ Enfield left hand.
- No. of grooves - 5.
- Working weight of piece moving 10-12 lbs.

Stripping

1. Muzzle attachment
2. " up
3. Front cover cap
3. Feed block.
5. Remove lock (by lifting rear cover)
6. " firing pin
7. Force spring & force box.
8. Force a force chain.
9. Left & right slides
10. Left inner side plate and barrel

Armanent
Guns Vickers .303

Sequence of stripping the lock.

- 1 Fully cock the lock
- 2 Remove side lever head axis bush
split pin
- 3 Remove side lever head axis bush
- 4 Rotate and remove side lever head
- 5 Remove side lever
- 6 Remove extractor
- 7 Remove tumbler axis pin and tumbler
- 8 Depress axis & allow firing pin to go forward
- 9 Remove axis pin & trigger
- 10 Depress over and allow firing pin to fall out
- 11 Elevate over 45° and remove

Reverse above order to assemble with the exception
of the lock spring
which goes in last.

Signs (on Maps)- AerodromeLanding groundAirfield StationAirfield HangarMoorings MastGolf CourseSeaplane StationSeaplane MooringLighthouseObstruction BeaconLightshipWireless CommunicationWireless Direction findingHigh-tension CablesLandmarkAir CorridorUnlighted ObstructionLighted obstruction at 600 feet.Danger Area (Bombing)Prohibited Area (Area, Manoeuvring, etc.)

63360" in one statute mile
72960" in one nautical mile

Map Signs - Contd.



Abandoned Dumps

PORTSMOUTH

Geological
Annotations

Landmarks used in Cross-Country flights.

- 1 Woods
- 2 Railways
- 3 Lakes
- 4 Towers
- 5 Rivers
- 6 Canals
- 7 Roads
- 8 Race tracks
- 9 Golf Courses
- 10 Large farms
- 11 Breweries
- 12 Windmills
- 13 Gasometers
- 14 Cemeteries

Notes

1 minute of latitude = 1 nautical mile.



Additional Notes on Browning .303"

Breaching up of the barrel

If correctly adjusted don't retract barrel from barrel extension, to do.

To ~~adjust~~ when necessary.

- 1 - Remove mounting position
- 2 - " Extractor Mitchell plate
Plunger
Spring
- 3 - Disengage barrel locking spring
- 4 - Unravel barrel to of - turn.
- 5 - Assemble breech block to barrel extension
- 6 - Hold assembly so that barrel hangs downwards.
- 7 - With right hand raise up barrel until it can be forced touching the breech block.
- 8 - Disengage barrel - locking spring
(If the spring does not register with a notch, ~~unravel barrel~~.)
- 9 - Fast adjustment, hold the assembly until in a horizontal position with the locking piece fully engaged. Turn breech portion over - locking part will fall fully adjusted on with gun's diff. after then.

Gun

Trimming

Armament

(See additional notes on other page)

.303"

- Weight complete 22 lbs 12 oz.
- Length of gun with flash eliminator 3' 4 1/2"
- Barrel 24"
- Twist of rifling left hand.
- No. of grooves 2.
- Rate of fire 1120 rpm approx.
- The gun is divided in two groups.
 - 1. Breaching portion
 - 2. Gun

Breaching portion on the barrel group and the breech block. (Barrel & barrel extension)

Gun Breaching portion

- Barrel casing
- Breech casing
- Back plate
- Body cover
- Block frame
- Retain spring

Sequence of trimming

1. Flash eliminator (angle attachment is only removed by repair depot)
2. Back plate
3. Retain spring
4. Locking stud
5. Breech block
6. Lock frame, barrel & barrel extension.

To assemble reverse the above.

Adjustment - Gun Gun Extension
 Gun 2 1/2 ft. back
 disengaging breech - locking piece forced up by locking piece Gun.

No. 1.



No. 2.



No. 3.



No. 4.



Note
When reloading loads do not
forget to "kick it".

gun

Amament Load.

STOPPAGES

1. Have a look at each handle.
2. Position of each handle denotes number of stoppages.

Immediate action for No. 1 stoppage.

Pull crank-handle right to the rear, let go to carry on firing.

- Causes - 1. Insufficient weight on force spring.
2. Rattled ammunition.

Prolonged No. 1 stoppage

Muzzle attachment adrift.

Immediate action for No. 2 stoppage

Look at front handle in field blocks.
Depress both handles. Half load & fire.

Causes - 1. Double feed.

Causes - 1. Band not protruding
(This can be due to insufficient weight on cartridge).

Ready, remove lock and cartridge with plug cleaning.
No. 2 stoppage.

Changing Feed

For right hand feed the undermentioned components are retained as stated.

Positions are reversed for left hand feed.

1. Ejector nose & spring on left of ejector
2. Switchplate - rear of groove in switchplate to correspond with R.
3. Station hand and spring on right of feed opening.
4. Filling-pipe on left of feed opening.
5. Baller stop on left of feed opening.
6. Cartridge stop on left of feed opening.
7. Feed hand extension assembly to feed hand nearest rear of gun.
8. Slide filling-pipe on side of feed hand opposite to feed hand extension.
9. Feed lever plunger & spring in lower hole at side of feed lever with cover raised.

Armament

3 Stoppage Unit

No. 3 Stoppage

Immediate action

Give break handle plowing blow.

Causes

1. Congealed oil
2. Slight wear feed.
3. Thick cartridge casing.

No. 4 Stoppage

Causes

1. Broken trigger
2. No ammunition
3. Deck not out of cartridge
4. Broken firing pin
5. Broken tail of rounder

Immediate action

Half load & fire.

Points to be observed, before, after & during flight!

1. Before

1. Check timing of the c.c. gun
2. If facilities allow fire a short burst.
3. Inspect amm. after firing short burst.

2. During

1. Barrell dry
2. Oil all frictional parts with anti-freezing oil.
3. Check weight of fusee springs & working portions.
4. Security of muzzle attachment to the gun in mounting.
5. See that sights are properly harmonized.
6. Check hand parts.

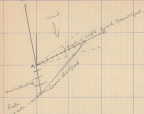
During flight

1. Fire short bursts to prevent clogging.
2. Use heater for high altitudes.
3. See that gun is unloaded before landing.

after flight

1. Gun correctly unloaded.
2. Remove all ammunition left.
3. If hostile remove remaining portion and clean.
4. Inspect all parts for damage.
5. Fill in the gun history sheet.

160° 60 mph. Track 45° air speed 100 mph



Navigation

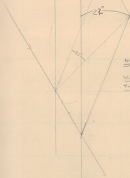
ground speed 83 mph.

course 22°

course = 2/3

track 1° 2/3

60 wind blows from 160°



W/S

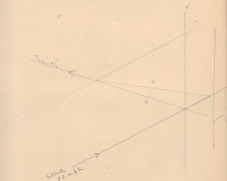
Find course or ground speed, if
Wind is 320° and 40 mph
Track 45°

1. Draw north line representing magnetic variation.
2. Draw line across the magnetic variation at the required angle, in this case 22° & represent direction of wind.
3. Draw line at required angle, course, across the line representing the wind, to represent the variation.
4. Draw the wind line at 40 mph, to be within 1/2 inch of the required course of variation, on the line representing the wind, from the north side, to represent the variation.
5. Draw course line - distance to wind speed (320 mph) and after 1/2 inch of variation on wind line across to the line of track.
6. Measure length of track in variation to give ground speed.
7. Sample distance track and wind drift (1 course from the sea - 60°).

Air Speed 90 mph.
Wind 200° 42 mph
Track 208°

Ground Speed 78 mph.

Course 105°
(100°)



8-7 N. 24
 96 S. 100
 108 S. 100

1:20,000 Road N. 24 miles to 1000
 1:40,000 " " 100 miles to 1000
 1:100,000 " " 100 miles to 1000
 1:250,000 " " 100 miles to 1000

Run A C 10.45

- B D 11.02

Dist. A-B 30 West. Miles

B E.T.A. at C. 46 miles further on.

17 min for 30 West. Miles.

1:20,000

1740
 2100
 2200
 2300
 2400
 2500
 2600
 2700
 2800
 2900
 3000
 3100
 3200
 3300
 3400
 3500
 3600
 3700
 3800
 3900
 4000
 4100
 4200
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 8500
 8600
 8700
 8800
 8900
 9000
 9100
 9200
 9300
 9400
 9500
 9600
 9700
 9800
 9900
 10000



West. Miles - East. Miles 26 1.76

" " = K.M. 41.76

East. Miles - K.M. 41.76

11.01
 2.75
 11.07.5

11.07.5

To find No. of inches in one statute mile, the natural scale being given, divide natural scale into No. of inches in the statute mile. To find No. of statute miles in one inch, natural scale being given, divide no. of inches in one statute mile into the natural scale.

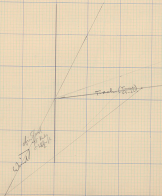
Patrol uniforms 7 lb 7 oz to the gallon.
oil - - 9 lb to the gallon.

Course 56°
 $\sqrt{3} 75$ knots (at 2 m.p.h.)
 Ground Sp. 69-71.

Wind Wind Speed
 True Dir.
 Star Wind.

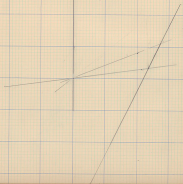
Wind Direction $13\frac{1}{2}^{\circ}$

Mag. Dir. = 51°



Fork. 82° Time

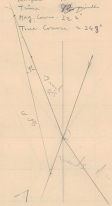
Wind 26°
 Station 1
 2663 - h.



From Bedford to Castle Bromwich.
 True track. 249°
 Variation 12° W
 Distance 146 miles
 Altitude 1300 feet.

Ground Sheet 104

True Course 249°
 Mag. Course 226°



From 110 - 110

Course 120°
120
120



Navigation

To. 045°

Vel. 240° T 25 mph.

A/E. 140 - 110

Distance 150 miles.

To. 110

W/Vel. 120° T 220° T

A/E 125 mph.

W/Vel
220
ETA
120
120
120
CSC
120
120
120

To. 219°

W/Vel. 170 mph

Wind 120° 20 mph.

Flight 2000 ft.

Distance 19x4 = 76 miles.

Course 212° true. (000.120)
Ground Speed 173 mph. Course 212
ETA. = 27 1/2 min.

Temp 22.2°
Wind 227° — 9.8.10

If a magnet is held 10 cm. away from a compass needle, compass needle is deflected 6°

If same is held 8 cm away how much will needle be deflected?

~~10 cm~~ $\frac{10}{8} = \frac{1.22}{1.00}$

Formula

Both poles acting -

Deviation varies inversely as cube of distance apart.

$$\frac{\text{New Dev}}{\text{Old}} = \frac{(\text{old dist})^3}{(\text{New dist})^3}$$

One pole acting

Same only dev. is squared.

$$= \frac{\text{New Dev}}{\text{Old Dev}} = \frac{(\text{old dist})^2}{(\text{New dist})^2}$$

Cardinal points
Quadrangle points

N. E. S. W.
NE. SE.
SW. NW.

Compass

Periodic

Aperiodic

Requirements for liquid in Compass.

1. Transparent.
2. Below freezing point.
3. Small coefficient of expansion.
4. Cheapness.
5. Small viscosity.

Note All liquid in described described in compass
must be

1. Free from point friction.
2. Free from discoloration of card, or glass.
3. In good condition or is all anti-vibration
device or moving or working parts
is mechanical parts
4. Bowl must be filled completely with
the proper liquid.

Syllabus title.

For

domestic radio substance

$\frac{1}{2}$ facing W - Turning E - correctly backed letter

note - End of stroke



Magnetism

1. Like poles repel, unlike poles attract.
2. If a magnet is broken into several pieces each piece will be found to be a complete magnet.
3. It is not possible to get an isolated pole.



Diagram showing the force between two magnets when placed near each other.

Diagram showing the force between two magnets when placed near each other.

Compass

- P. 4. Poles (large)
P. 6. — (small) and also in new solenoids (Duke's)
O. 2. Observed - Rotating rapidly with in plane of grid ring
O. 4. — — — — — hand held.

Magnetism

Molecular theory of magnetism

A magnet is composed of molecules

Every magnetic substance (i.e. substance capable of being magnetized) consists of smaller parts which are themselves magnets. These magnets are not arranged in any particular way when the substance is unmagnetized. When magnetized, they all arrange themselves in one direction.

Magnetic lines of force

Definition - The paths along which isolated poles in a magnetic field would move if free to travel

Magnetic moment of a magnet - measured by the product of its pole strength & the perpendicular distance.

More Definitions

Diagram

Sequence of Stripping

1. Flash eliminator

Remove the flash eliminator and remove the flash eliminator from the muzzle attachment using two suitable spanners, one on the flash eliminator and one on the muzzle attachment.

2. The lock plate

3. The return spring

With the M.G. drift, push forward and inward on the head of the return spring rod. This will disengage the rod from its recess in the right side plate and so will allow the return spring to be withdrawn from the rear of the gun.

4. The working stud

5. The breech block

6. The lock frame, barrel, and barrel extension

The 'C' Gear

Old Gear & Machine Gun Simulations

A.P. 1234.

Chapter 1. Paragraphs 1-7. Page 6 & 7.

" 13 " 5 (1). " 2

" 4 Appendix 5 Page 2.

" 11 Paragraphs 2, 4, 6 & 7.

" 9 " 2, 3, 4 & 5.

" 5 " 1-2 (A)

" 12 " 1-10

" 13 " 4

A.P. 1275

Section 10. Chapter 3 & Special Notes.

<u>T. Count</u>	<u>D.</u>	<u>V.</u>	<u>M. Count</u>	<u>Empire</u>
270	+2°	-6°	266	266
354	-4°	+13°	267	271
076	3° +8°	-1°	267 083	092

V

AIRMANSHIP

Ref.

Airborne Procedure

Chap. 2 Par. 106-108
112-115

Light Signals

Appendix 7.

Duties of Duty Pilot

Care of Plane

Chap. 2 Para 10-11. 15-16-17-18
19-23.

Engine starting procedures Swinging

Chap. 2 Chpts 26-54

Action in event of Fire.

Chapter 3 101-102.

Forced landing procedure

Chapter 3. Par. 157-164. 171

Selection of Forced Land. ground

Procedure after Forced Landing

Chapt. 95-105



The 10' Red Square indicates the rules
for air traffic in vicinity of 'drome

A Red cross in the top left hand corner
indicates a left hand circuit.

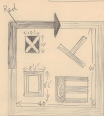
the square red panel with one ^{yellow} diagonal
across it - indicates obstruction - care
in landing. When two diagonals - landing
prohibited.

White hollow square - landing in progress
(Target - white 10' square)

Red ball or mark - no signal area
with white cross - parachute dropping

Black ball - no wind - take off & landing
must be made in direction of white T.

Yellow equilateral triangle suspended
from mast - indicates aircraft landing
by radio.



Squares X-launch aircraft by day

Green puffs at 10 sec. interval

By night

Green 'star' shells bursting at 10 sec. int.

Prohibited area warning By day
Black or white smoke puffs.

By night

Shells and or white beam day/night.

By day or night a 'flame on surface of water shall make following signals

A If not anchored or moored a sound at not more than 2 minute intervals of two blasts of not more than 5 ~~seconds~~ duration with interval of one second.

B If at anchor or moored, rapid ringing of bell for 5 secs. at interval of one minute.

Distress signals

~~At night~~ 3 S.O.S.

Whistle (hooter) Mayday 3.

Firing of rockets (white light)

Continued flashing of red. lights.

ARMAMENT

Gear - Machine Gun Synchronization.

General Description

- 1 Reservoir unit
- 2 Secondary lifelines.
- 3 Generator unit.
- 4 Main lifelines
- 5 Trigger motor unit
- 6 Bowden control.
- 7 Air release valve & Pipe lines.

How to be used

For all atmospheric conditions.

1st and freezing air

2nd barometric ..

To fill the gear

Open air release valve fully.

Fill low-pressure reservoir with the mixture

Pull up handle of W.P.P.R. (with pump piston rod).

Release gently.

Push the Bowden control lever.

Pushing trigger forward - loosen generator union nut.

While mixture is flowing tighten union nut.

Repeat the procedure with trigger motor union nut.

Tighten air release valve

The gear is now filled.

~~ADDITIONAL~~
ADDITION

How to find

Radius of action

$$R = E \times \frac{D \times H}{D + H}$$

R - Radius of circle

E - Endurance

D - Ground Speed Out.

H - " " Home

Duties of Duty Pilot

To maintain order on ground and in air

Responsible for authorization of flights:

- To not machines parked into wind.
- Looking in & out of each machine.
- For pilots to be employed when not flying.

AIR RANKING

3. By day - ~~Green~~ ^{Green} light at crossroads.
By night -

Landings in program - Black ball with white ring.

Rules of lights & signals.

Standard Notes at 'Drome.

Forced landing procedure

A.C. 129.

Diagram of picketing an aircraft. (A.C. 129)

Controlage (Main structure of air frame, holds tail boom & aft engine)
Main Flange is the structure a tail unit which consist
of tail flange, elevation, fin & rudder.

Landing Gear

- Which comprises tail wheel or tail wheel

structure

Good structure to flange must be made of 'stiff material'.

Detail ~~structure~~ - non rigid - more mechanically efficient
& various components can be made true, which with interlocking ability.

Main flange which provide lift may be attached about to fuselage
or by means of a center section or various other

Stable center-section - two wing mainflange (wing)

Structure which provide Pilot with lateral control may
be described as "wing flaps", which form half of
the aft of the main structure

Tail unit - consists of fixed surface known as the tail flange
which gives form to aft stability - to which are attached
elevation giving longitudinal control.

Fins - help to provide directional stability attached to which is the rudder giving directional control.



Pitch angle of incidence is the angle of ascent of the main plane makes to the horizontal when the aircraft is in rigging position (when static the wings are level).

Dihedral angle of the main plane is the upward & outward inclination of the main plane when the machine is in rigging position.



Stagger of main planes.

Positive is the distance the leading edge of the top plane is in front of the leading edge of the lower plane.

Negative - opposite.



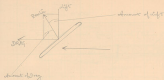
'Stagger' is adjusted on the 'incidence wires'.



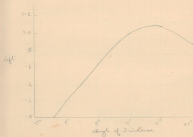


+ve High Pressure forcing wing into floor
-ve Low Pressure where air tends to move away from wing

Lateral stability is obtained by the dihedral angle of the main planes
Factor of Pressure above the centre of gravity gives pendulum stability



Maximum lift is obtained at 15° angle of incidence.



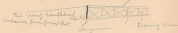
Rigging

Parrel Construction.

Wood or Metal.

The Spalle 'N' (Wooden)

Traditionally made from wood (Silver Spruce)



It is longer in a main member running from front to rear of the parrel.

The fine proof bulkhead is constructed of aluminum or steel.

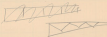


The Triangle 'N' (Metal)

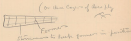


Braces Cable Winch & Compressor.

The Warren Guide



The Monoguide



Thru fly wood must be made of birch.

Rigging

Mainplanes

Wings of Main Members

Spar - running from root end to wing tip - must be strong enough to support the weight of aircraft when in flight.

Ribs - may be made of wood etc.

Control Spar - Metal. ?

Former ribs take the aerofoil shape & transfer any load from the air to the spars.

Empennage All is similar in shape but back the spar apart.

Dimensions

Wing

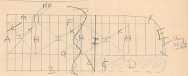
Span 30 ft

Tip of flight 25 ft

Vol. of largest airframe 100 ft³

Silver Sparrow - design
type of wood used in
aircraft construction

Diagram Construction of Main Planes.



- A - Root and rib
- B - Trailing edge
- C - Leading edge rib
- D - Leading edge
- E - Wing tip band
- F - Front or Main Spar
- G - Rear Spar
- H - Drag Struts -  (see view)
- I - Compression rib (a rib extending from leading edge to trailing edge, keeping same shape as airfoil)
- J - Drag wire
- K - Anti-drag wire
- L - Ditch Struts
- M - Former rib transfers weight from fabric to the spar
- N - Nose rib

Rigging

Fabric Subtracted with linen.

Note At each side the fabric is strong 4th
and bottom.

Fabric is placed a coating of red dope is applied
which must be ~~brushed~~ brushed. Then apply
three more coats either by brush or spray. Weight
of dope must be one ounce per sq yard.

Protective coating (oil-soluble or yellow)
is used to protect the dope.

Sir I have the honor to

Thank the honor
is for your
obliterated servant.

Knigs Regelchen

1. Par. 1070

Acquaintance with regulations.

10 Par. 1072

Disclosure of information.

1073
No. 1073. Any officer shall never
discuss the

Relation with the Press.

Each Command deals with own particular Command.

1077

Responsibilities in General.

No. 1077. No officer shall be in good contact.
shall require or expect any interference.

1078

Treatment of subordinates

1080

Control of Superiors.

Agent from military commands or orders or conduct of war.

1085

Communication & interview with
the kindly official.

1088

Discipline

... No. 1088 C.O.

Relative Ranks of P.A. Navy
Army

3467

RAF

Member of Staff

A.C.M.

A.M.

A.V.M.

Air Const.

Group Captain

Wing Commander

Squad. Leader

Flight Lt.

Flying Off.

Off.

A.P.O.

W/O

F/S

Sgt.

Capt.

LAC.

A.C.I.

A.C.II.

NAVY

Ad. of the Fleet

Admiral

Vice Admiral

Rear Admiral

Commodore, R.N.

Capt.

Commander

C. Commander

Lieut.

Sub Lieutenant

Act. Sub Lieutenant

Commissioned from Naval Res.

ARMY

Field Marshal

General

St. General

Maj. General

Brigadier

Colonel

St. Colonel

Major

Captain

Lieut.

2nd Lieut.

Warrant Off.

W.O.

F/S

Cpl.

C.A.C.

Act.

N.C.

C.P.O.

Land Sgts.

Ab. Sgts.

Staff Sergeant Major

Warrant Off.

C.S.P. H.S.

Cook.

Private.

	RAF	Thick	Med	Thin	Med	Thin
Mar. of R.R.P.				1	4	
A.C.M.				1	2	
A.H.					1	2
A.V.H.					3	1
Bio. Control				1		
Grasshopper				4		
Wing Control					3	
Grasshopper					2	1
Oct. 2nd					1	1
P/O						1
P/O						1
A.P.O.						1
W.O.						
F.V. Sgt.						
Sgt.						
Chd.						
C.A.C.						
A.S.I.						
A.C.A.						

FIGURES

1	7 — — — — .
2	8 — — — — .
3	9 — — — — .
4	10 — — — — —
5	
6 — — — — .	

PUNCTUATION

3

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COMMENCING

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ENDING

(AR)

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R	K — — — — .
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W	G — — — — .
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Y	Q — — — — .
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L	F
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• C	J
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Z — — — — .

Air force law is brought out annually on the 30th April. By this method Parliament retains control of the service.

King Regulations

Collation of instructions by the authority and issued by the Air ^{Command} ~~Board~~.

For the guidance of all A.F. personnel at home & abroad.

Duties of officer to be acquainted with K.R. & all orders etc. & to enforce same.

Main Provision - A.F.D.

To regulate conduct of all air force personnel at all times and in all places in peace and in war at home and abroad.

A.F.A. Act.

A code that deals with discipline, courts-martial, enlistment, desertion, disobedience to orders, which, by civil law would be breaches of contract.

These offences are punishable in peace and in war. They are dealt with severely.

It provides for administration but generally is discipline.

20 YCS W45 LOVELY
LAST NIGHT. ?

EQP ✓

MORSE

ENGLAND RULES THE WAVES ✓
IN 39 ✓

F B M F O — C B D O — O B C — N O K R T ✓

F X Y P B — F G K I B ✓

Y V Y S P — 2 N O C H — H G I B A ✓

V N R K G — F Y C L V ✓

A C G I N I — O R G B — 4 F H ✓

Y S X B A — W C U R O ✓

~~# Y X B 2 9 7~~ A F F I X N — I Y ✓

V — K C W ✓

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S K D A W S — G B F P D — C O M M I O N E D

R A N K S — T H I S — D B S E Y T —

S R I I L R 3 F

T S R I I L R 3 O L D — O N 2 0 1

O M B A R D — M I A T — T H I S — S T R I D I O N

O F I N E N Y O S I V —

X L P T V Y P X 3 ✓

A G K M U — B H C O V — Y I M P X

O R G 2 K

Crapping

BMQOT — CVGN — LYO —

L HZ — 1PMV

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UOVUTOMATTOOVIVAT
OR — RITSOHE #SYO
WHEAOURACCFM LATOR
IDNTAINEXL

INCS RPORAECLL —
BEIHOONYONT

BRING RD SIB — R
CHANIMBAGM VIRNOR WSI
CAIFFECTS B WOMAY —
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TIMINH

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S E N S E R E I N P S H A

THE — CORRECT — STAT OER

CY — FOR — TAIR — MAIRBA

NB — FOR EIGH — ORRSLOA

DIACE — BRITISH — ADS

BVZZER — PRACTICE — ERIA

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MATHEMATICS = ECHT

ONOMTRNA = W

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THISTSCLEPAMOISH
RQFILADR...IANSISISIS

PTOMLRINDIS A. RTSI RB OTON.O.
RCONDUCTO

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CXRKY

SOLUTION... OF... TRIANGLE... FROM...
... MISCELLANEOUS... DATA.

CXRC... PVADRAKATRAL
THE CORRECT, STATION AT LORAI
PONTI

A - - -

B - - - - -

C - - - - -

D - - -

COAXY

T.O KOUN-MEN-ENT-ROODANCE TO A
UB K-HO-SE — AND THE RETET-O
-OUR OMEN — ONE OF TSE-OMEN'S
GIDSHEAD A CAROUTSIDE
RDANCE



IN .ESTIGATION OF THE .A-TASTER IN
THIS CASE TIGHTTAVE US NO TON.
TODUS IN BUT-UTTERA#IED
ANOTHER DIRECTION —

U .240 .4 S .P . E

SOON RAIN SRE-TI TRI-ING SIS
ACEH ON.

ASSINOHIMFOR A MOMENT TO
ON S .IOURNESOS TO .THE .E .IR . M
HICHO

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42/21734903173816894

54/13578008926

C .BDRORIRKANSAM . . . CD .

CS-T . . . OHTD .

ESOSTAISII . . . T 4 . . . ETHOE

ISH

...

JE — ROYS — AB^{NOT} AND SHE MEA

W — N6B3 — OT

KVYZ — TSUP

3V — DV4GRK —

ZYXQT — RBOFG — YAND — VKJLW —

Within a week a baby sister joined the current
Painter in the garage.

~~Transcription~~ GOOD DEAL OF OPPOSITION

BUT AS IT WAS IMPOSSIBLE TO SNUB THE
NEW ASSISTANT THEY ~~VS~~

ANNTOORRATHI W CE, THE EVN

RENOC EYES AND PROMINENT CHECK BONES
AND SHE REALIZED THAT SALLY HAD NOT
SAID AITLY IN ESS

ALXET YG DSCRATHOBBYTHNSVWYK

C VAPYB3

BECOME NTF

IT WAS HER FINAL SHOT AND SHE WENT
BEFORE HER ADJUSTMENT
HE

S

THAT DOGS

WE WERE FIXED ON SOME DISTANT OBJECT

OR YET!

MOMENT THE MAN SECELENTHE REA
CE AND SHE REALIZED
SHE MIGHT CERTAINLY BE MORE ALONE
IN TOMY V

SHE LOOKED AT HIS D K FACE
AT THE MONOCLE SCREW ON HIS RIGHT
EYE AT THE DANGLING BALLS -
AT THE LINE OF COMICAL HUMOR RADI-
ATING FROM THE FUR MOUTH

Target Speed. 100 mph.

H/S. 2440' for Sea.

561.2

600' in .254

$$\frac{600 \times .254}{1} = \frac{152.4}{1}$$

$$\frac{152.4}{1} = 152.4$$

$$\frac{152.4}{1} = 152.4$$

$$600 \overline{) 1119.2} \begin{array}{r} 1865 \\ 1200 \\ \hline 119.2 \end{array}$$

$$\frac{152.4}{1} = 152.4$$

$$\frac{1119.2}{1} = 1119.2$$

$$\frac{1119.2}{1} = 1119.2$$

$$37.3 \times \frac{3}{1} \times \frac{12}{1}$$

$$111.9 \times \frac{12}{1} \div \frac{600}{1}$$

$$= \frac{1119}{1} \times \frac{6}{1} \times \frac{1}{600}$$

