

The definition for Airmanship is one of the shortest we have, but it also covers more work than any other, "the proficiency in handling an aircraft in the air and on the ground". It can be readily seen that to do this, one must have a sound knowledge of everything in connection with aviation, rules of the air, signals used, parts and function of the entire airplane, and how to handle them, how to navigate from place to place, and sufficient knowledge about the weather to avoid any dangerous condition that might prevail at the time of the proposed flight. From this it can be seen that careful and specialized study must begin. For this reason, in studying any aspect of flying, we divide our work up under the heading such as Engines, Airframes Theory of Flight, Navigation, etc.

Personal Appreciation of One's Airplane.

In the same way as a proud owner keeps his automobile in shape, so the good pilot is continually inspecting the aircraft he flies. Cleanliness and freedom from mechanical defects are almost certain to predict a successful trip.

Method of Cleaning.

Fabric covered airplanes should be washed down with soap and warm water. Light oil or gasoline should never be used, but Varsol, or any other preparation that is approved, can be used to remove stubborn oils, greases and tars, where a strong solvent is needed. Metal covered airplanes present little difficulty in cleaning as the above methods apply also. Over a period of time, they will take on a dark greyish (oxide film) colour, and if an attempt is made to remove this, polish approved by the

manufacturers only, should be used. Aircraft operating in or near the vicinity of sea water will have to be inspected continually for the corroding of aluminum parts, and, wherever possible, should be flushed with fresh water immediately after operation.

Aluminum Corrosion appears as a whitish gray flake or dust (aluminum oxide) and should be scraped clean and coated with some protective finish.

Corrosion of Steel Parts appears as a reddish brown stain or scales (ferrous oxide), commonly known as rust and the same preventative action should be taken. Moving parts can be coated with oil or greases where paint impairs their action. On under water parts a grease designed for under water operation will have to be used.

The Responsibility of the Pilot.

The useful employment of a pilot's skill in the air is contingent upon the airworthiness of his aeroplane. This in turn depends on the treatment that the aeroplane receives in the air, and on the efficiency with which it is maintained on the ground. A pilot must understand that his responsibility does not cease when he has brought his aeroplane safely to earth, but that a thorough knowledge of the proper care of airframes and engines constitutes one of the most important of his flying qualifications. Each aeroplane will normally be placed in charge of the officer or airman who flies it, and he is responsible to the flight commander that inspections are properly carried out. The inspection of an aeroplane is best performed under the supervision of the pilot who flies it, for the following reasons:

(i) He has a personal appreciation of the importance of discovering any fault before going into the air.

(ii) He knows whether any fault developed in his last flight.

(iii) He knows to what special stresses his airplane has been subjected during flying or in landing, and therefore knows where to look for possible trouble.

Signal Area.

In order that signals may be displayed to show what rules are in force, all R.A.F. and R.C.A.F. aerodromes will have what is known as a signal area. This is usually a large hollow white square with a green background, containing any of the signals outlined below. On the control tower will be a signal mast, on which flags and signals can be hoisted, and it will be the responsibility of the Duty Pilot to keep signals in force according to the conditions as they exist.

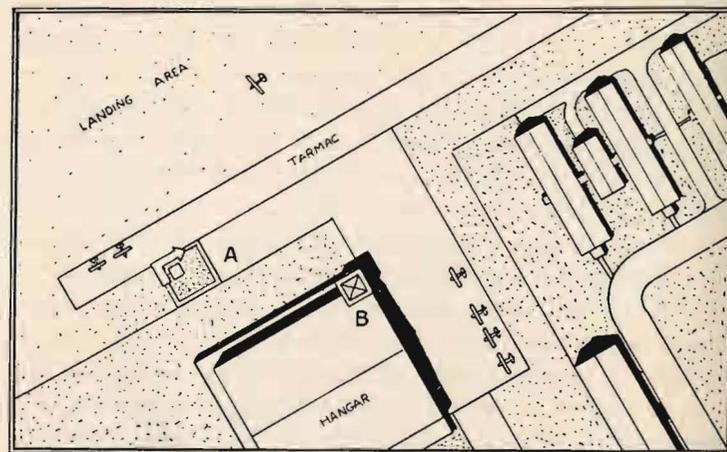
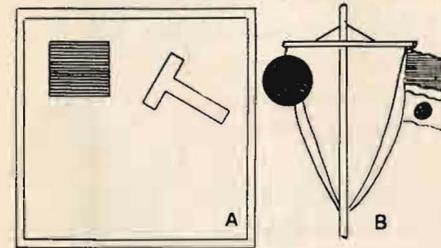


Fig. 1.

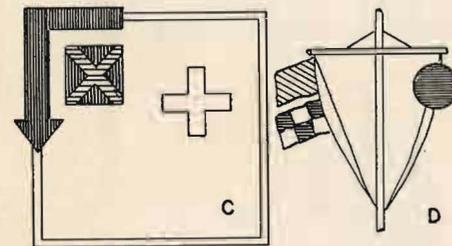
The illustration above, of the Hangar Area of an airdrome, shows (A) the signal area, and (B) the Control Tower.

Fig. 2.



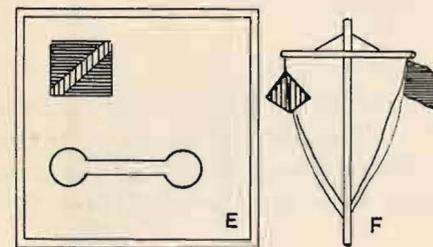
- A—The Signal Area Showing: As for Left Hand Circuit. The Red Square. The Landing Tee.
B—The Signal Mast Showing: The Red Circuit Flag. The Dual Instruction Flag. The Black Ball.

Fig. 3.



- C—The Signal Area Showing: The Right Hand Circuit Arrow. The Prohibited Landing Cross. The Parachute Dropping Cross.
D—The Signal Mast Showing: The Green Circuit Flag. The Checkered "Wash Out" Flag. The Red Ball.

Fig. 4.



- E—The Signal Area Showing: The Cautious Landing Diagonal. The White Dumbell.
F—The Signal Mast Showing: The Lorenz Beam Pyramid.

Illustrated below are the position, angles, and colours of the Navigation and Identification Lights for Night Flying.

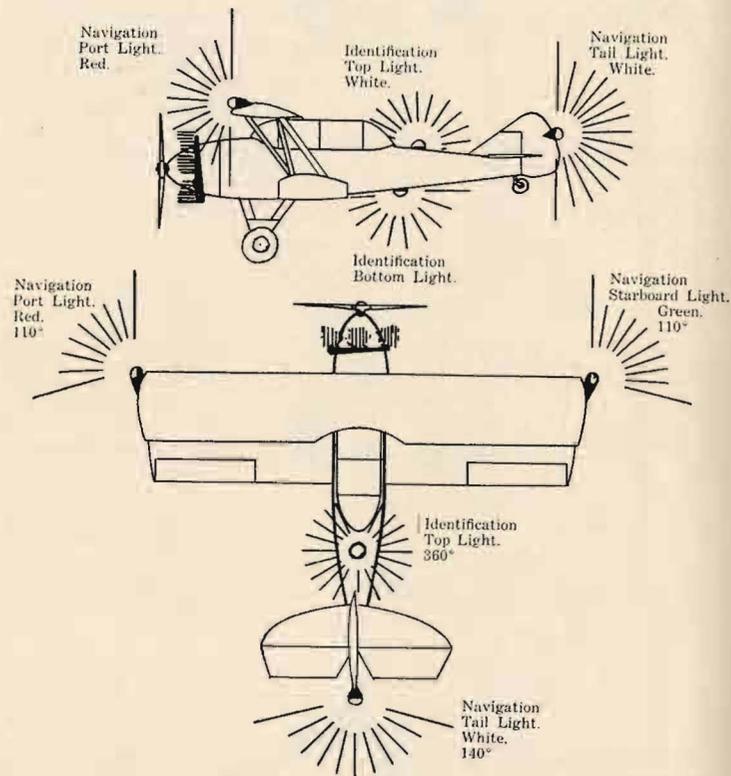


Fig. 5.

Wing tip lights are visible for a distance of two miles. White light on the tail visible for a distance of three miles. Identification lights are used when taxiing and to ask permission at night from the Control Officer for permission to land.

Duty Flight.

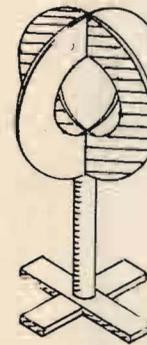


Fig. 6.

At each aerodrome one flight is detailed to attend visiting aircraft. The position of the flight is marked by a large yellow hollow disc, mounted on a white standard. Pilots landing at a strange aerodrome should taxi up to the vicinity of the yellow disc, park their aircraft, and then report to the Duty Pilot, who will be located in the control tower. The pilot of the visiting aircraft is responsible for the signing-in of his aircraft, notifying the Duty Pilot of the time of his departure, his destination, etc.

RULES OF THE AIR.

Meeting Another Aircraft.

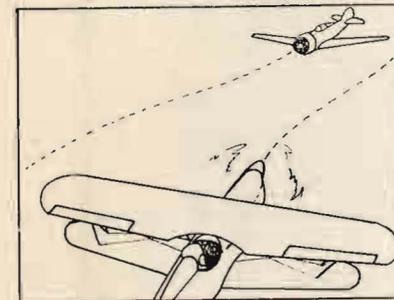


Fig. 7.

- (a) Alter your course to the right.
- (b) Keep one hundred yards away from the other aircraft.
- (c) Do not dive or climb.

Overtaking Another Aircraft.

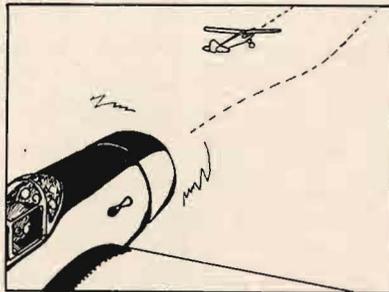


Fig. 8.

- (a) You are responsible to avoid the other aircraft.
- (c) Keep one hundred yards away from the other aircraft.
- (d) Do not dive or climb.

An Aircraft Approaching From Your Right So As To Cross Your Course.

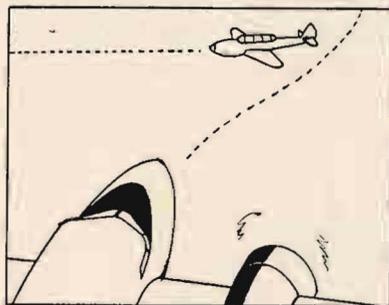


Fig. 9.

- (a) The other aircraft has the Right of Way.
- (b) Alter your course to the right.
- (c) Pass behind the other aircraft.
- (d) Keep one hundred yards away from the other aircraft.
- (e) Do not dive or climb.

An Aircraft Approaching From Your Left So As To Cross Your Course.

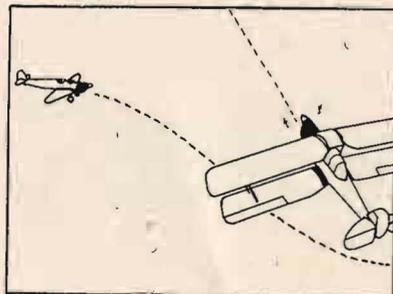


Fig. 10.

- (a) You have the Right of Way.
- But:*
- (b) Watch the other aircraft.
 - (c) Fly straight and Level.

BASIC DRILL

(Grades IX to XIII)

A comprehensive and progressive Course in Basic Drill should include the following:—

Position of attention.	Slow March.
Stand at Ease; stand easy.	Marching in double time from the half and from quick time, and marking time.
Formation of squad in threes, open and close order.	Side step, right and left close march.
Dressing.	Turning on the march.
Turning right, left, and about.	Saluting.
Sizing a squad.	Dismissing.
Marching in quick time, length of pace, time, position.	Changing direction when halted and when on the move.
Halting.	Platoon drill.
Marching, keeping dressed while on the march.	Company drill.
Marking time, changing step on the march when marking time.	Ceremonial drill.

The details of this training can be found in the following official publications:

Army

"Drill For Foot Guards And Infantry of the Line."
(Military Training Pamphlet No. 18).

"A General Instructional Background for the Young Soldier."
(Canadian Army Training Pamphlet No. 1).

Air Force

"Manual of R.C.A.F. Drill and Ceremonial."
(Canadian Air Pamphlet No. 90).

ANSWERS TO PROBLEMS IN AIR NAVIGATION SECTION

- Page 300 1: $47^{\circ}01'S$, $99^{\circ}38'E$; 2: $21^{\circ}39'N$, $168^{\circ}28'E$.
- Page 302 31.1; 38; 69.1; 76; 93.3; 100.2; 107.1; 138.2; Stat. miles.
119.8; 92.9; 105.9; 133.7; 158; 173.7; 182.3; 196.2; Naut.
miles.
- Page 306 036° ; 331° ; $8^{\circ}E$; $8^{\circ}W$; 357° ; 001° .
- Page 307 230° ; 167° ; $4^{\circ}W$; 001° ; 359° .
- Page 308 036° , 031° ; 002° , $5^{\circ}W$; $12^{\circ}E$, 244° ; 057° , $1^{\circ}E$; $13^{\circ}E$,
 143° ; $9^{\circ}W$, $4^{\circ}E$; 003° , 001° ; 356° , $6^{\circ}W$.
- Page 310 $9^{\circ}E$, $5^{\circ}E$; $15^{\circ}E$, 139° ; 310° , $2^{\circ}W$; 083° , 079° ; 149° ,
 142° ; $6^{\circ}E$, $3^{\circ}W$; $10^{\circ}W$, 007° ; 336° , $12^{\circ}E$.
- Page 312 092° , 089° ; $11^{\circ}E$, $8^{\circ}W$; 255° , 252° ; $11^{\circ}E$, 347° ; 233° ,
 $3^{\circ}E$.
- Page 313 355° ; 022° ; 008° ; 000° .
- Page 317 $066^{\circ}/22$ m.p.h. $281/19$ m.p.h. $238/44.5$ m.p.h. $169/9$
m.p.h.
- Page 320 $17^{\circ}P$, $8^{\circ}S$, $12^{\circ}P$, 235° , 001° , 007° , 359° , 002° , 141° .
- Page 321 $231^{\circ}T$, 78mph. $275^{\circ}T$, 94 mph. $33^{\circ}T$, 101 mph.
 $030^{\circ}T$, 112 mph. $090^{\circ}T$, 84 mph.
- Page 322 $069^{\circ}T$, 67 mph. $19^{\circ}S$; $132^{\circ}T$, 76 mph. $16^{\circ}P$; $340^{\circ}T$,
84 mph. $10^{\circ}P$; $202^{\circ}T$, 72 mph. $8^{\circ}S$; $187^{\circ}T$, 87 mph.
 $12^{\circ}P$.
- Page 323 $065/13$ mph; $219/18$ mph; $143/8$ mph. $049/13$ mph.
 $077/17$ mph.
- Page 325 1. $200^{\circ}T$, 100 mph. $160^{\circ}/30$ mph. 2. 136 mph. $212^{\circ}M$,
 $10^{\circ}S$, 40 min. 3. $017^{\circ}M$, 124 mph. $3^{\circ}S$, $0130\frac{1}{4}$ hrs.
4. $047^{\circ}M$, 91 mph. $16^{\circ}S$, 1113 hrs. 5. $317^{\circ}C$, 169 mph.
 $9^{\circ}P$. 6. $244^{\circ}M$, $240^{\circ}C$, 122 mph. $14^{\circ}P$, $1211\frac{1}{2}$ hrs.