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INSTRUCTIONS REGARDING THE EMPLOYMENT OF AEROPLANES AND DIRIGIBLE BALLOONS DURING ARMY MANŒUVRES, 1910.

NOTE.—As this is the first occasion on which aeroplanes and dirigible balloons have been employed in this country for military work, their employment is largely a matter of experiment; and, as the science of aerial navigation is yet in its infancy, unreal conditions which would not obtain in war must be observed for the safety of the aeronauts and their machines.

GENERAL INSTRUCTIONS.

1. During Army Manœuvres, two aeroplanes and one dirigible balloon will be attached to the Headquarters of the Commander of the Red Force.
2. The main object of the employment of aeroplanes and dirigible balloons at this year's manœuvres is to test their value for military purposes so far as existing conditions, *i.e.*, with machines not constructed with a view to military requirements and pilots without special military training, may permit.
3. The commander of an aeroplane or dirigible balloon will receive his instructions through the General Staff.
4. A commander of an aeroplane or dirigible balloon will act solely on his own responsibility in undertaking a flight. The Commander under whose orders an aeronaut is acting will merely convey his wishes regarding any work he would like to be undertaken, giving definite instructions as to the object it is desirable to attain. If possible, these instructions should be given over night and the aeronaut allowed to select his own time for flight. Should he consider the conditions of flight dangerous, he will act on his own judgment and at his own risk.

AEROPLANES.

5. It is possible that our aeronauts may not readily find their way across country, and it must be borne in mind that they have had no practice in observing military operations from above. No great reliance can, therefore, be placed on the employment of aeroplanes during the present year, and aeronauts should not be induced to run any unnecessary risks.

TACTICAL EMPLOYMENT.

6. The tactical employment of aeroplanes will be confined to :—
 - (a.) Reconnaissance, to locate the positions and composition of large bodies of the enemy's troops, the position of temporarily constructed bridges, field works, &c.
 - (b.) Conveyance of messages, plans, &c., for considerable distances.
 - (c.) Conveyance, if practicable, of a staff officer from one point to another.
7. An aeronaut should be furnished with a map showing necessary information regarding the positions of troops, &c.
8. If an aeronaut has to bring messages or information to a certain point great care must be taken to select beforehand a suitable landing-place, if possible, in flat open country, from which he can re-ascend. The spot selected should, if possible, be sufficiently open to permit of 200 yards' run (not up-hill) with open country beyond. To enable the aeronaut to locate the landing-place, it should be marked with two strips of white calico in the form of a cross, each strip being about 10 yards in length and about two yards in width.

9. An aeronaut meeting with an accident and forced to descend must be treated as neutral and assisted back to where his machine can be repaired, the pilot being put on his honour not to reveal anything he has seen on the trip. If available a motor car should be placed at the disposal of an aeronaut so that his mechanics may be sent to the place of descent as rapidly as possible.

10. No reconnaissances from an aeroplane will be made during the night.

DIRIGIBLE BALLOONS.

TACTICAL EMPLOYMENT.

11. The dirigible balloon may be employed for the same tactical purposes as an aeroplane, except that it will not convey any persons other than its crew.

12. Communication should be effected at some specified spot on which messages can be dropped from time to time, and be recovered by day or night.

Places where messages can be delivered should be specified as exactly as possible. In order to indicate the exact spot an orderly should be placed there with a white flag, which he should wave horizontally backwards and forwards when he sees the balloon approaching. At night the position should be indicated by five lights placed in the shape of a cross shining upwards.

Any place selected for the delivery of messages should be, as far as possible, clear of trees, and not too close to permanent telegraph wires. In no case should it be near a wireless station.

13. It is not possible to lay down any rule for the Army dirigible balloon as to its being considered out of action when below certain heights, but the aeronaut should be instructed that, if he finds it necessary to descend below 1,000 feet, he is not to use any information he may obtain.

14. The dirigible balloon may be sent out at night provided the weather is good. It should not be used for any offensive action, such as dropping dummy bombs, &c., nor should it be used to land anyone for the purpose of any hostile act.

15. The dirigible balloon, if in difficulties in the enemy's country, will be considered as neutral and commanders of troops will afford every assistance to an aeronaut who descends in their vicinity. The assistance of from 40 to 50 men will usually suffice.

16. A gas train, which will be neutral, will be at the disposal of the commander of the dirigible balloon.

RULES FOR UMPIRES.

The following general rules will be observed by Umpires :—

- (1.) The effect of fire directed at an aeroplane or balloon depends upon the pace at which the aeroplane or balloon is moving, its direction with reference to the firer, its range with relation to the height above ground (*e.g.*, artillery cannot fire at more than a certain degree of elevation; directly overhead it is an easier mark for rifle fire), the volume of fire directed at it and the time it is exposed to such fire.
- (2.) An aeroplane or balloon will be considered immune from rifle fire when at a range of 1,500 yards or at a height of 3,000 feet.
- (3.) An aeroplane or balloon will be considered immune from Artillery fire when at a range of 3,000 yards, or at a height not exceeding the angle of elevation plus the angle of sight at which the particular battery is capable of firing at the moment (*e.g.*, a battery on the side of a hill that has dug in the trails can attain a considerable elevation).
- (4.) Assistant Umpires will forward reports daily to Umpires on the movements of hostile aeroplanes or balloons which they were able to observe, giving the following particulars :—
 - (a.) Description of aeroplanes or balloons.
 - (b.) Movements and approximate speed and course.
 - (c.) Fire to which exposed (volume, range, &c.) from the troops to which umpire is attached.
 - (d.) Duration of time exposed to fire.
 - (e.) Probable effect of fire, in the umpire's opinion.

EXAMPLES.—“Red Aeroplane No. II. passed over Enford Down at 8 a.m., travelling E.N.E. at about 18 miles an hour; exposed to rapid fire from 200 rifles for 4 minutes at ranges from 1,500 yards to 600 yards. Altitude 1,200 feet. I consider aeroplane would have escaped serious injury.”

X., *Assistant Umpire,*
— *Bn. Royal Fusiliers, Blue Force.*

“Red Aeroplane No. II. passed over B. at 9 a.m., circled twice at range of about 2,000 yards, altitude 500 feet; exposed to rapid fire from — Brigade, R.F.A., for 12 minutes. I consider aeroplane would have been destroyed.”

X., *Assistant Umpire,*
— *Brigade, R.F.A., Red Force.*

These reports will be collected by Umpires, and forwarded with any remarks they may wish to make to the Chief Umpire, who will cause a separate report to be prepared on each flight observed, and will record his opinion as to the fate of the aeroplane or balloon. These reports will be forwarded to the Director of Military Training, War Office, on the conclusion of the manœuvres.

- (5.) The Commander of the Red Force will forward to the Chief Umpire daily reports on the employment of the aeroplanes or balloon attached to his command.

WAR OFFICE,
13th September, 1910.
