

ORGANIZATION & EMPLOYMENT OF ARTILLERY IN THE FIELD ARMY. F.S. Regs
Vol II, Chap III, Section 15.

The role of Artillery is to assist the other arms in breaking down opposition and to afford all possible support to the infantry, with whom the eventual decision rests.

RANGE, ACCURACY & FIRE POWER OF MODERN ARTILLERY, enable it to support the other arms closely and effectively from the commencement of their deployment throughout the battle (e.g. 60-pdr. 15,500 yards). Artillery can develop overwhelming bombardment without previous warning engage targets by day and night without observation and yet with accuracy. Importance of C.B. work, of sound ranging, and aerial observation. Use of Smoke Shell. Harassing Fire. In all battle plans the Artillery possibilities considered.

The battery is the fire unit in Artillery.

Detached sections cause ammunition supply difficulties.

The principles of War must be studied:-

- (1) Maintenance of the objective.
- (2) offensive action.
- (3) Surprise.
- (4) Concentration
- (5) Economy of Forces
- (6) Security
- (7) Mobility
- (8) Co-operation.

To justify opening Artillery fire, there must be a definite tactical objective and a reasonable probability of attaining it.

Ammunition expenditure proportional to the tactical importance of the objective.

Ammunition supply difficult in mobile warfare.

"Life" of guns. Exhaustion of personnel.

Importance of right firing.

ARTILLERY IN THE FIELD - A.A. Light, Medium, Heavy and super-heavy, (Guns, Howitzers & mortars).

CHARACTERISTICS OF GUNS. High M.V. (long range), flat trajectory - deep searching effect (shrapnel), rapidity of fire.

See Table of Guns and Howitzers.

See diagram showing organization of Artillery.

Necessity for staff officers of Artillery officers.

Appreciate the difficulties of the Infantry particularly.

F.S. REGS VOL II OPERATIONS 1924 Section 15. Chapter III.

See F.S. Regs Vol I, Chapter XI.

Divisional Artillery - the only Artillery permanently allotted as an integral part of a formation.

All other Arty is allotted to armies by the C-in-C and distributed by Army Commanders to Corps as required.

Divisional Artillery = the Brigades of F.A; pack Arty Bde and ammunition column forming an integral part of a division. With Cavalry division it is the Horse Artillery Bde with its ammunition column. If additional Arty attached to division it is grouped under C.R.A. and the whole becomes -

"-- DIVISIONAL ARTY GROUP" (including any heavy Arty so attached)

NON-DIVISIONAL F.A. BRIGADES form independent mass of F.A allotted to Corps and attached to Divisions or retained under Corps.

Corps Heavy Artillery All medium and heavy Arty of a Corps, (may be allotted to Divisions)

SUPER-HEAVY ARTY - Long range, super heavy Arty control exercised directly by Army G.S. Army Headquarters regulates ammunition expenditure

A.A. BTY organized into Brigades under Air Defence Brigade Command. A.A. Searchlight battalion manned by R.F. and A.A. Signal section included in Brigade.

Air Defence brigade either G.H.Q., or Army troops, or Corps Troops as C-in-C decides.

G.H.Q. Senior duty officer affiliated to G.S. branch at G.H.Q. to act as adviser in Arty matters to G.A & Q branches.

Corresponds on technical matters, experiment and research with D of Arty at War office, and with other technical institutions in England. Submits his recommendations thereto to G.A or Q at G.H.Q.

A.H.Q. Senior duty officer with G.S. at Army H.Q.

Corps Artillery Commander. Chief Arty adviser to Corps Commander. Issues Arty instructions through the G.S. to divisions and direct to Corps heavy Arty &c.

If executive control necessary, he commands all Arty in the Corps, in which case he issues orders direct to Artillery, copies forwarded for information to divisions, Corps Staff &c.

Responsible for general direction and supervision of C.B. work in the Corps. Decides proportion of heavy Arty for C.B. and recommends employment of divisional Arty on this duty.

G.O.C. F.A. Corps (Contd)

Deals direct with senior R.A.F. officer attached to Corps and with Balloon Commanders, also Arty Survey Units allotted to Corps, also light workshops at his disposal.

CORPS HEAVY ARTILLERY COMMANDER Executive Commander of all Medium and Heavy Artillery in the Corps.

In moving warfare he will (under Corps Arty Commanders (Constructors) detail Brigades of heavy or medium to divisions tactically. He still administers them.

If delegated by Corps Arty Commander - he deals direct with Corps R.A.F. C.R.A. Executive Commander of Arty of division. Arty task laid down by General staff of division.

C.R.A. issues orders to Arty Brigades - in the form of technical instructions, or he may issued detailed orders to F.A. Brigades, the intention of the commander and movements of other troops must be indicated to the Artillery.

Orders may be issued verbally by B.P.A. ~~Artillery~~ ~~Commander~~

COUNTER - BATTERY OFFICER :- Attached to ~~Arty~~ ~~Corps~~ Commander. Activity of our and enemy Arty; General Staff intelligence of the Corps

Continually appreciating the situation regarding hostile Arty. Corps Arty Commander usually allows him to communicate direct with Corps R.A.F. and Balloon Comdrs attached to Corps. C.R. programmes issued to Corps Heavies & Div Arty.

MOBILITY v SHELL POWER:-

Mobility means flexibility and power to manoeuvre. Inflicting surprise.

Effective Range:- H.P. Effective at extreme range of the gun.

Time shrapnel is limited by the time fuze employed, value of clock work fuzes.

STUDY OF THE 100' BREATH AND LENGTH ZONES CONTINUALLY:- Necessary by all Arty Commanders before undertaking a task -

Big Bertha	= 5 miles zone	= $\frac{5}{75}$	= $\frac{1}{15}$
18-pdr	= 100 yds at 3000'	= $\frac{200}{3000}$	= $\frac{1}{15}$

COMPARISON OF GUNS AND HOWITZERS

The Gun.

High velocity
Flat trajectory
Small angle of descent
High rate of fire
Uses shrapnel

Rapidity of fire
Deep searching effect with shrapnel (road strafing)

Difficulties of concealment.

The Howitzer.

Low velocity
Variable curved trajectory
Large angle of descent
Low rate of fire
Shrapnel not used, 400 f.s. ~~distance~~ required or burst for man-killing effect.

Usually greater shell powers
Less range. More mobile.
Clear obstacles, bombardment of trenches and strong points etc.
Better possibility of concealment.

Mortars - great shell power, but short range, ammunition supply difficult.

EXAMPLE HIGHEST POINT OF TRAJECTORY OF GUNS & HOW'S.

18-pdr - 3000 yds	Time of flight = 7 secs.	Highest pt	196 ft
4.5" How (full)	3000 yds.	Time of flight = 10 secs.	Highest Pt 400 ft
4.5" (2nd Ch)	3000 yds	" " = 20 secs	" " 1600 "

C f Big Bertha . 75 miles (4 T² ft = 25 miles)