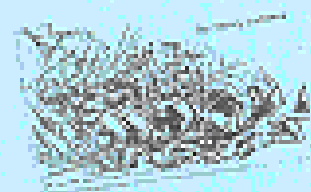


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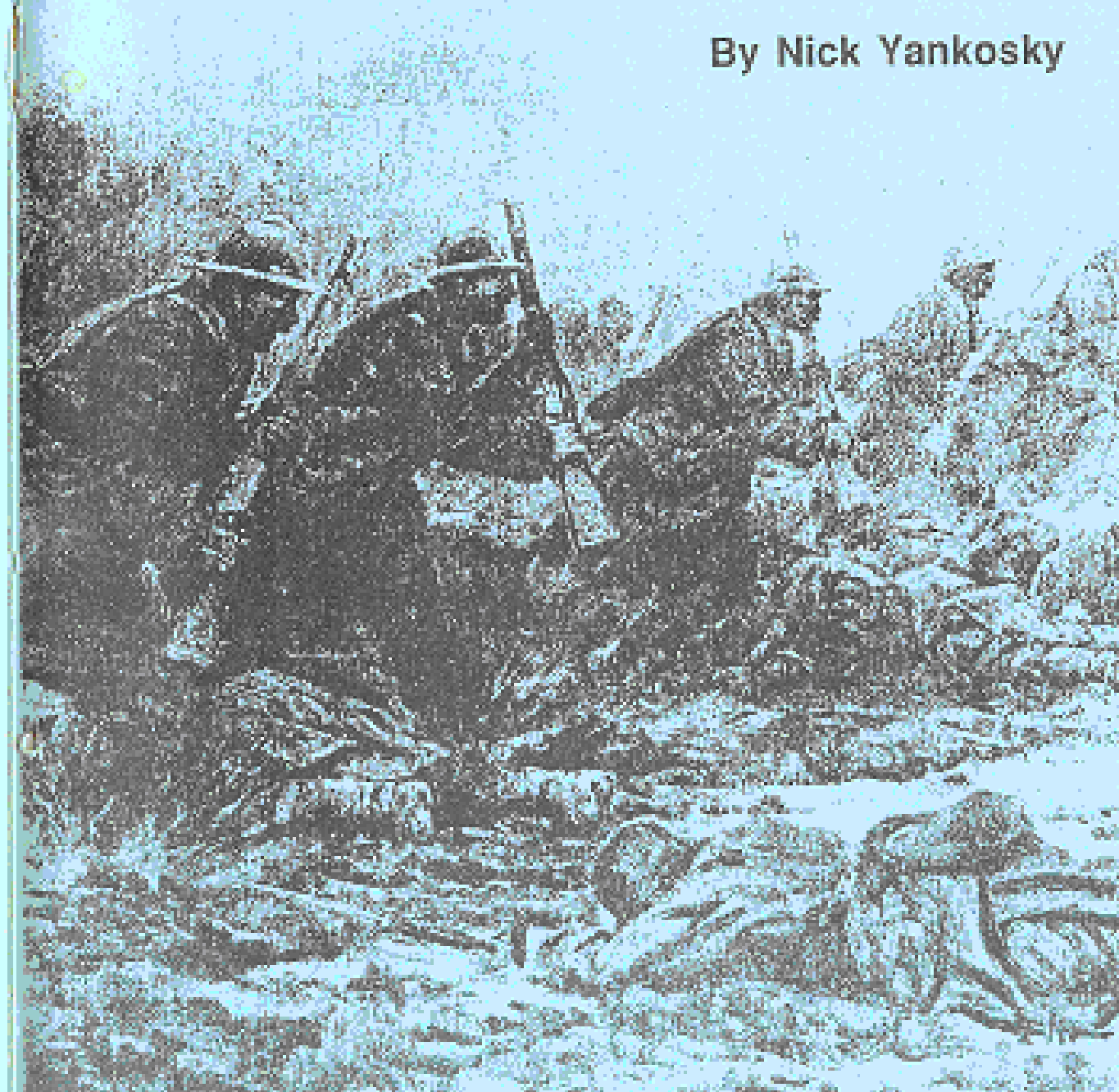
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OVERTHERE

MINATURES RULES FOR WARFARE 1900 to 1929

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Rivertown Publications

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FIRE RESOLUTION CHARTS

HIT DETERMINATION TABLE

A		UNDER 2.0'	2.1' to 6.0'	6.1' to 15.0'	15.1' to 30.0'	30.1' to 150'	150.1' AND OVER	RESULT	PIN	PIN 1 CAS.	PIN 2 CAS.	PIN 3 CAS.	PIN 4 CAS.	PIN 5 CAS.
								FIRE FACTOR						
RIFLE	PER STAND	9	6	4	3	2	1	1	15-17	18	-	-	-	-
HEAVY MACH. GUN	PER SECTION	22	15	10	8	4	2	2	13-14	15-18	-	-	-	-
37mm GUN RENAULT / FT	PER GUNNER/TANK	6	4	3	3	2	1	3	11-12	13-18	-	-	-	-
75mm / FIELD GUN	PER GUNNER	15	10	8	6	4	2	4	10-11	12-18	-	-	-	-
MEDIUM GUN	PER GUNNER	18	12	10	8	6	3	5	9-10	11-18	-	-	-	-
HEAVY GUN	PER GUNNER	24	16	12	10	8	5	6	8-9	10-18	-	-	-	-
B								7	7-9	10-18	-	-	-	-
RIFLE	PER STAND	6	4	3	2	1	-	8	6-8	9-18	-	-	-	-
HEAVY MACH. GUN	PER SECTION	18	12	8	6	3	1	9	4-7	8-18	-	-	-	-
37mm GUN RENAULT / FT	PER GUNNER/TANK	4	3	2	2	1	1	10	1-6	7-18	-	-	-	-
75mm / FIELD GUN	PER GUNNER	12	8	6	4	3	2	11, 12	0-5	6-18	-	-	-	-
MEDIUM GUN	PER GUNNER	15	10	8	6	4	3	13, 14	0	1-17	18	-	-	-
HEAVY GUN	PER GUNNER	18	12	10	8	6	4	15	⇒	0-16	17-18	-	-	-
C								16	⇒	0-14	15-18	-	-	-
								17, 18	⇒	0-12	13-18	-	-	-
RIFLE	PER STAND	3	2	1	1	-	-	19-21	⇒	0-9	10-18	-	-	-
HEAVY MACH. GUN	PER SECTION	9	6	4	3	2	-	22-25	⇒	0-7	8-18	-	-	-
37mm GUN RENAULT / FT	PER GUNNER/TANK	3	2	1	1	-	-	26, 27	⇒	0-5	6-18	-	-	-
75mm / FIELD GUN	PER GUNNER	6	4	3	2	1	1	28	⇒	0-4	5-17	18	-	-
MEDIUM GUN	PER GUNNER	7	5	4	3	2	1	29, 30	⇒	0	1-14	15-18	-	-
HEAVY GUN	PER GUNNER	9	6	5	4	3	2	31-35	⇒	⇒	0-9	10-18	-	-
FRC MODIFIERS:								36-40	⇒	⇒	0-5	6-17	18	-
ALL CAVALRY & NATIVES SHIFT FIRE ONE COLUMN RIGHT								41-45	⇒	⇒	0	1-14	15-18	-
								46-50	⇒	⇒	⇒	0-8	9-18	-
								51-55	⇒	⇒	⇒	0-5	6-17	18
								56-60	⇒	⇒	⇒	0	1-12	13-18

TARGET DETERMINATION TABLE

TARGET TYPE:	UNIT IS IN:	OPEN	BEHIND WALL / RUBBLE	WOODS	GUN PIT	TRENCH	FIRING STEP	SMOKE / GAS	BUILDING	BUNKER / DUGOUT
INFANTRY		A	B	B	C	C	C	B	C	C
CAVALRY		A	B	B	-	-	-	B	C	-
HVY. M.G. / GUNNER / BLIND FIRE		B	C	C	C	C	C	C	C	C
NON-MOVING TANK / A.C. / TRUCK / TRAIN		A	A	B	-	-	-	B	-	-
MOVING TANK / A.C. / TRUCK / TRAIN		B	B	B	-	-	-	C	-	-
STORM-TROOPER		B	B	B	C	C	C	B	C	C
LIMBERED HORSE-DRAWN ARTILLERY		A	B	B	C	-	-	B	-	-
WIRE		B	-	B	-	-	-	B	-	-

MORALE RESOLUTION TABLE

RANGE TO CLOSEST ENEMY: UNIT IS IN:	UNDER 2.0'	2.1' to 6.0'	6.1' to 15.0'	15.1' to 30.0'	30.1' to 150'	150.1' AND OVER
OPEN	3	4	5	5	6	6
WALL / RUBBLE	3	5	6	7	7	8
WOODS	3	5	6	7	7	8
GUN PIT	4	6	7	8	8	9
TRENCH	6	7	8	8	9	10
FIRING STEP	5	6	7	7	8	8
SMOKE / GAS	3	4	5	6	6	7
BUILDING	5	6	7	8	8	9
BUNKER	6	7	8	9	10	10
DUGOUT	5	5	6	6	7	7

ADD BASE RATE ABOVE WITH MORALE MODIFIERS AND REFERENCE RESULTS TABLE

MELEE

ANY UNIT WITHIN 1" OF AN ENEMY UNIT AT THE BEGINNING OF THE MELEE PHASE MAY PARTICIPATE IN CLOSE ACTION

MELEE MODIFIERS:

AMERICAN, ANZAC, FR. FOREIGN LEGION, OR GERMAN STORM-TROOPERS.....	+1
FRENCH REGULAR (1918 ONLY).....	-1
DEFENDING IN GAS EQUIPMENT.....	-1
IN GAS WITH NO GAS EQUIPMENT.....	-2
ATTACKING THROUGH WIRE.....	-1
ATTACKING OUT OF TRENCH.....	-1
DEFENDER IS ROUTING.....	-3
MOUNTED.....	+2
DEFENDING: IN BUILDING.....	+1
IN RUBBLE.....	+1
IN WOODS.....	+1
BEHIND WALL.....	+1
BEHIND TRENCH BARCADE.....	+1
DUGOUT / BUNKER.....	+3
ATTACKING / DEFENDING IN STREAM.....	-1
BOLSHEVIK / IRREGULAR.....	-1
MOUNTED NATIVES / MOUNTED INFANTRY.....	+1
ELITE TROOPS.....	+1
GREEN TROOPS.....	-1
COLONIALS ONLY	
BOERS.....	-1
COLONIAL EUROPEAN REGULARS.....	+1

MORALE RESULTS TABLE

DIE ROLE	RESULTS	
3 & UNDER	ROUT	- move away from enemy at RUN (NO FIRE)
4 - 7	FALL BACK	- move away from enemy at NORMAL rate (FIRE TWO COLUMNS RIGHT)
8 - 10	HOLD	- no movement (FIRE ONE COLUMN RIGHT)
11 - 13	CAUTIOUS ADVANCE *	- move at 1/2 NORMAL rate (NORMAL FIRE)
14 & OVER	FULL ADVANCE *	- move normally (NORMAL FIRE)
(24 & OVER)	CHARGE *	- must CHARGE closest enemy unit (NO FIRE). APPLIES ONLY TO CAVALRY, IRREGULARS, & NATIVE TROOPS.

* = REMOVE PIN MARKER FROM PREVIOUS TURN

MODIFIERS TO MORALE RESULTS

ZULU, FUZZY WUZZY.....	+2	ALL IRREGULARS.....	-1
CAVALRY.....	+1	CHARGED BY INFANTRY.....	-1
FRENCH FOREIGN LEGION, U.S. TROOPS.....	+1	CHARGED BY CAVALRY.....	-2
ARTILLERISTS.....	+1	ROUTING.....	-3
ELITE TROOPS.....	+1	EACH STAND LOST.....	-2
EGYPTIAN.....	-1	PINNED.....	-1

MOVEMENT ALLOWANCE CHART	NORMAL	SURFACED ROAD	RUN-GALLOP	UNBROKEN WIRE
INFANTRY	5	9	11	1
BICYCLES	6	11	12	-
CAVALRY	8	16	24	-
LT. MORTAR HVY. MACH. GUN	5	9	8	1
HVY./MED. MORTAR	5	8	-	-
HORSE DRAWN ARTILLERY	11	16	20	-
MOTOR DRAWN ARTILLERY ARMOURED CAR	14	24	-	2
RENAULT FT (LIGHT TANK)	12	19	-	X4
WHIPPET TANK	19	28	-	X4
ALL HEAVY TANKS (MK V/ST. CHAMOND)	9	14	-	X2
A7V TANK	16	24	-	X2
ALL AIRCRAFT	MAX. AIR MOVE 60" MIN. AIR MOVE 36"			

MODIFIERS TO MOVEMENT

CLIMB OUT OF TRENCH	-1
CROSS STREAM	X2
CROSS RIVER	X3
LT. WOODS	INF. * X2
	CAV. X3
	MOTOR X4
	TANK X2
HVY. WOODS	INF. * X3
	CAV. X5
	TANK NA
	MOTOR NA
CROSS WALL	-1

* GERMAN EAST AFRICAN/ASKARI NO PENALTY

SMOKE AND GAS

TO USE GAS OR SMOKE - OFF BOARD OR PLOTTING UNITS MUST NOTE: GAS/SMOKE ON ORDERS. DIRECT FIRING UNITS DO NOT.
PROJECTOR GAS: 1' WIDE FOR FIRST 2' TRAVELED, 2' WIDE AFTER 3' TRAVELED, 4' WIDE AFTER 4' TRAVELED, AFTERWARD NO WIDER

SHELL GAS: FIRE ONLY FROM MED. & HVY. GUNS.
SMOKE: MAY BE FIRED BY ANY ARTY/MTR. UNIT

MODIFIERS:

WIND SPEED	MODIFY DIE ROLL	MOVEMENT
1 MPH	0	2 1/2'
2 MPH	-10	5'
4 MPH	-20	10'
6 MPH	-30	15'
8 MPH	-50	20'

EACH ADDITIONAL TURN ATTEMPTED +25

VISABILITY-MUST BE WITHIN 3" TO SEE IN 2"

ST. CHAMOND & A7V IN TRENCH TERRAIN 1/2
CHARGE INF. +1
CHARGE CAVALRY +3

GAS EQUIPMENT TABLE

% NEEDED TO GET GAS EQUIPMENT ON IN TIME PER CO.	2' AND UNDER	25
	2.1' TO 5'	50
	5.1' TO 10'	70
	10.1' TO 20'	90
	20.1' TO 30'	100
	30.1' TO 60'	110
	60.1' AND OVER	120

German Order of Battle
 2 companies of line infantry
 2 sharpshooter machine guns sections
 1 heavy machine gun section
 1 light mortar company
 4 76mm field guns
 Off-Board Artillery
 1 field battery (4 guns) under 100' from American entry point.

Hint on Tactics: Concentrate on tanks first.

American Order of Battle.
 3 companies of infantry
 1 light mortar company
 2 heavy machine gun sections
 4 Mark Series tanks (2 males and 2 females).

Off-Board Artillery
 2 field batteries (4 guns each) over 150' from American entry point.
 1 medium mortar company (6guns) over 100' from American entry point. Artillery may not plot missions until advancing infantry has been fired upon.

Hint on Tactics: Do not let the tanks get too far in front of the infantry.



OVER THERE

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I. INTRODUCTION

OVER THERE is a complete set of miniature rules for the period between 1900 and 1930. Units represent infantry, machine gun and tank companies, cavalry squadrons, artillery and mortar batteries of the major powers during the Russo-Japanese War, the Great War, the Russian Revolution and the many small conflicts of the 1920s. The rules will allow you to experience the problems of open country maneuver and the meat grinder effects of trench warfare. Opposing commanders will be able to employ all the weapons and tactics of the period including rolling barrages, gas, smoke and flame throwers. Each combat arm has its place. For example cavalry is now reduced to a scouting role or acting as mounted infantry. Tanks and armored cars take on more of the traditional cavalry roles but are not technically proficient enough to completely fill the void. The poor bloody infantry will still be required to do the bulk of the fighting and dying.

The rules are designed as a blend of accuracy and playability. It is the crowning belief at Rivertown that rules should be easy to read and learn and yet produce generally valid historical results. To accomplish such a goal requires a few compromises. For example in order to produce a quick moving system which retained the flavor of the era it became necessary to deviate somewhat from historically accurate unit sizes. Field batteries represented in each division are only 1/3 of actual strength. Thus instead of firing three batteries each with a low percentage to hit, one battery represents three real batteries with a consequent higher probability to inflict casualties.

Infantry and cavalry units represent the average number of men available. Obviously the effects of combat ravaged many units. Some units were severely affected by disease, the British serving in German East Africa are a case in point. Others, like the Turks, were woefully understrength due to the failure of their replacement system.

Heavy machine gun sections are out of scale with other forces since machine gun crews usually consisted of only 2 to 3 men per gun. However there was a large force required to keep the guns in action and those support troops were available to replace any crew casualties.

Aircraft also presented a special problem since their effect against ground forces was limited. Gas projectors and flamethrowers are also a bit out of scale with the 1 to 20 ratio used for other troops.

I would like to take this opportunity to thank all those who play tested and contributed to the development of this system: Jim Pucke, Phil Hayes, Henry Lubbers and the members of the Lakota High School Military History Club. A very special thanks to Tom Schumacher for his assistance with the charts and artillery grids.

If you have any questions or comments please feel free to write:

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 Nick Yankosky
 P.O. Box 558023
 Cincinnati, Ohio 45255

II. GAME SCALE

A. Ratios

1. 1 inch = 30 yds.
2. 1 infantry or cavalry casting = 20 men
3. 1 gunner casting = 1 gun
4. 1 tank or armoured car = 3 tanks or armoured cars.
5. 1 machine gun casting with two crew = 2 machine guns

B. The basic units of the game are the infantry company, the machine gun section, artillery battery, cavalry squadron and tank section.

OVER THERE is designed for play with 15mm figures. For 25mm figures double all base sizes and distances (i.e. 3 inches becomes 6 inches).

III. BASE SIZES All dimensions are stated in inches, frontage then depth. Some manufacturers castings are in the prone position, simply lengthen the depth to accommodate the figure.

- A. Infantry, 1/2" wide X 1/2" deep

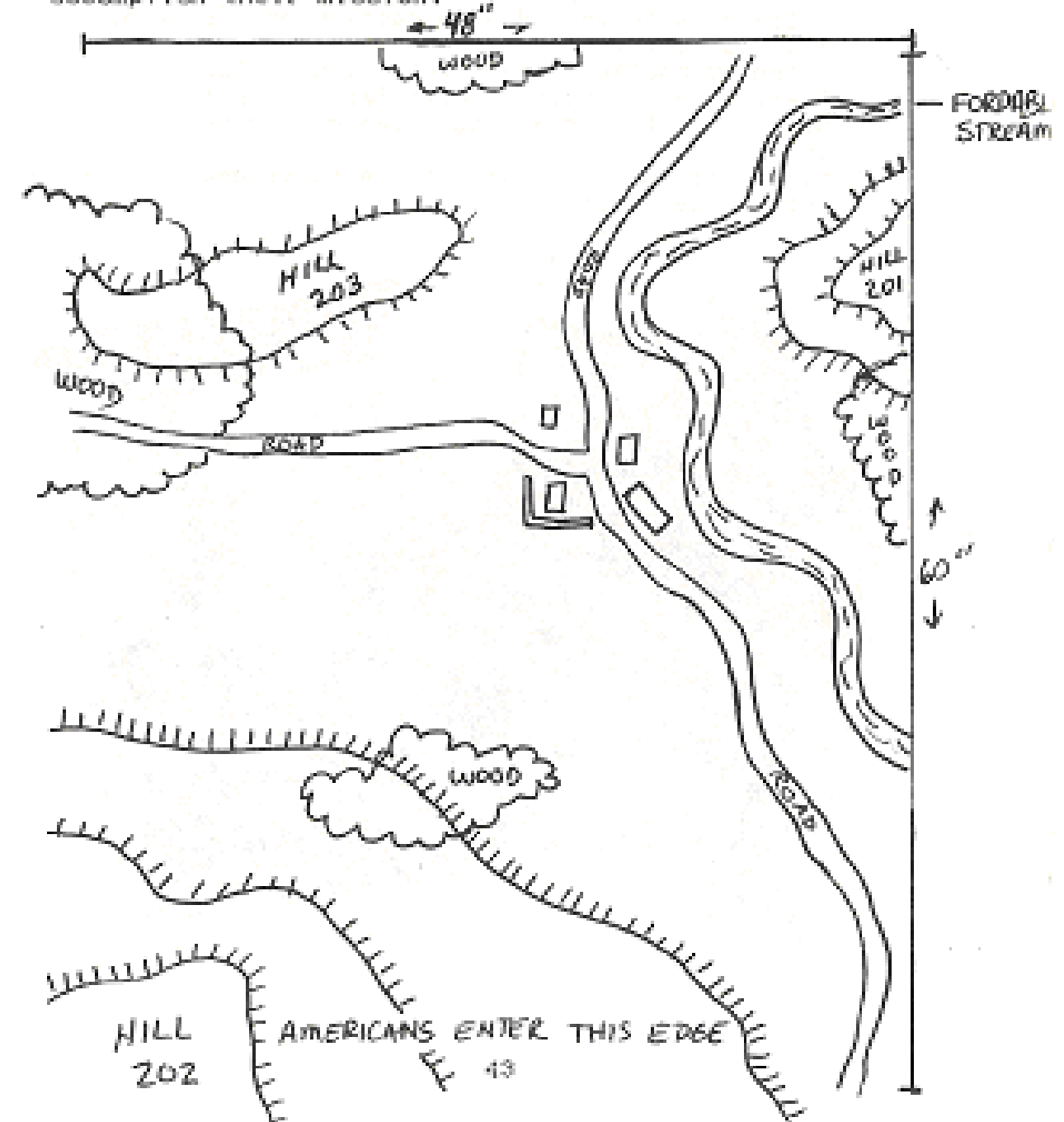
French Order of Battle

- 1 battalion of infantry
- 1 light mortar company
- 2 sections of heavy machine guns
- Off-Board Artillery
- 1 field battery (4 guns) under 100' from French front line trench.

Hint on Tactics: Keep your forces in dugouts until needed. Lightly defend the front trench.

Scenario #2 American Advance

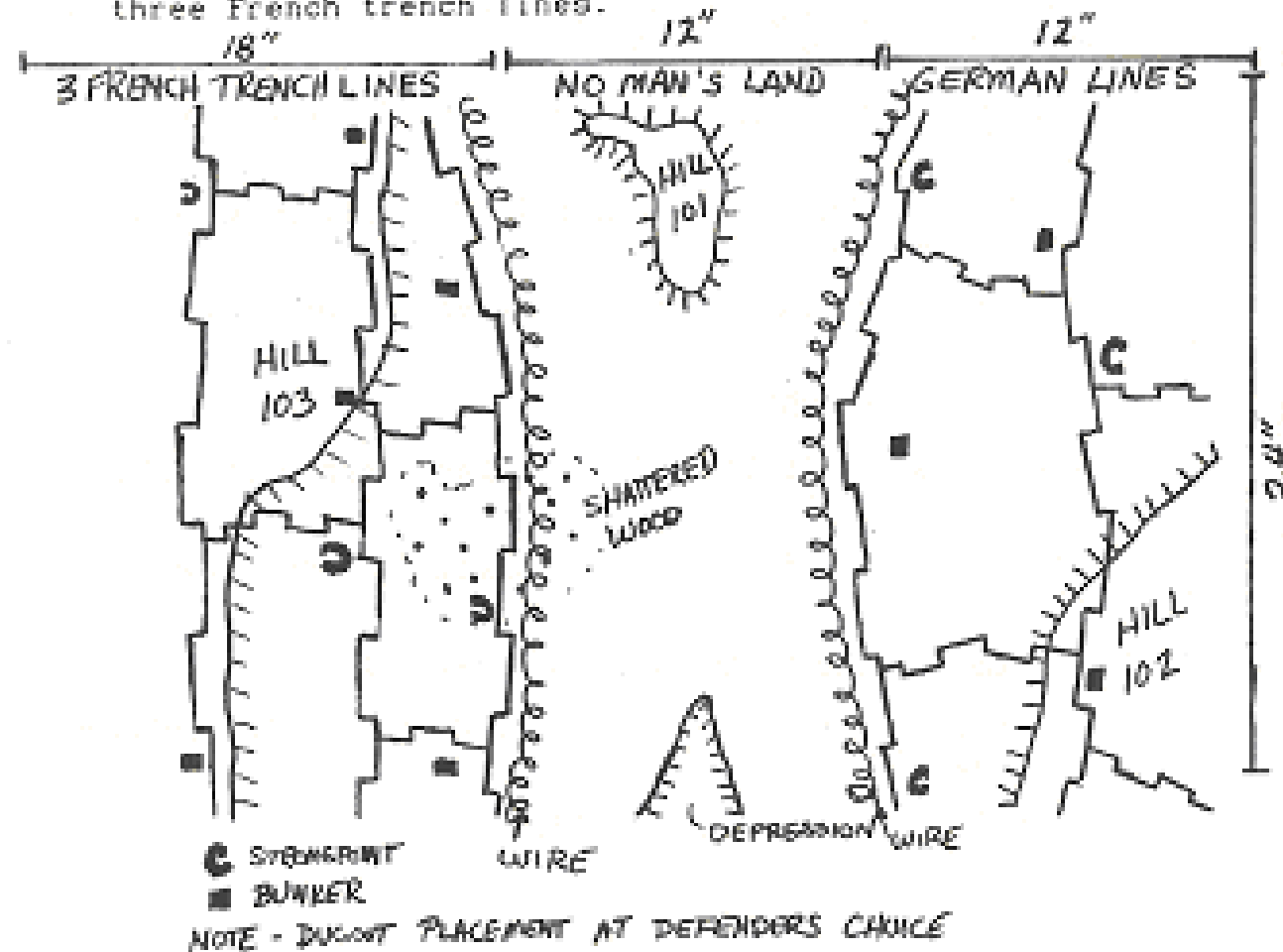
The Americans are advancing rapidly toward the German rear areas. The American must exit at least two units at greater than 50% strength off the opposite end of the field from the entrance edge. The Americans have 10 turns to accomplish their mission.



Scenarios for the First World War.

It is the purpose of these scenarios to give the player a chance to fight smaller actions which will introduce the basic concepts of the rules.

Scenario #1 Trench Attack.
German forces will have 10 turns to capture or control all three French trench lines.



German Order of Battle

- 2 battalions of Stormtroopers
- 1 Heavy Trench Mortar battalion
- 2 battalions of line infantry including 6 machine gun sections and 2 light mortar companies.

Off-Board Artillery

- 2 field batteries (4 guns each) over 100' from French position
- 1 Heavy Battery (4 guns) over 150' from French position. Heavy guns may fire two rounds of preparatory bombardment at the start of the game.

Hint on Tactics: Run the infantry all the way to the French position.

B. Cavalry. 1/2" wide X 1" deep

C. Artillery. 3/4" wide X 1 1/2" deep per gun.

D. Mortars. Lt. 1 1/4" wide X 1/2" deep (2 gun section)
Med./Hvy. Mortars 1 1/2" wide X 3/4" deep (2 gun section)

E. Flame Throwers. 1/2" wide X 1/2" deep per figure

F. Gas Projectors. 3/4" wide X 1" deep

G. Tanks or Armoured Cars use the space actually occupied by the vehicle casting.

H. Heavy Machine Guns. 3/4" wide X 1" deep 2 castings per stand.

IV. UNIT CAPABILITIES

Each combat arm has a differing capability. In each move/fire phase each of the units shown below may perform any two of the functions listed; however no function may be performed more than once per move/fire phase. The capabilities and limitations of each type of unit are listed below.

A. Artillery (motor and horse drawn) and mortars (excepting light mortars).

1. move normally
2. limber
3. unlimber
4. fire
5. gallop/run (two functions limbered only)

Artillery units which have not yet moved during a given phase and avoid a charging unit may move normally during their initiative but may perform only one function

B. Infantry and cavalry

1. move normally
2. run/gallop (two functions)
3. fire
4. mount/dismount
5. charge (two functions)

C. Light mortars, Flamethrowers and Heavy Machine Guns

1. move normally
2. run (two functions)
3. fire

D. Tanks and Armoured Cars

1. move normally
2. run/gallop
3. overrun
4. fire
5. dismount weapons (two functions)

V. SEQUENCE OF PLAY

Each game turn is composed of individual phases which must be followed in the exact order listed. Be sure to complete all functions in each phase before going on to the next phase. The sequence of play is :

1. move/fire phase
2. artillery resolution and plotting phase
3. air phase
4. morale phase
5. melee phase.

At the end of the melee phase the turn is complete. The next turn begins again with the move/fire phase.

VI. MOVE/FIRE PHASE.

Movement and firing in this phase is determined by drawing cards for initiative. A standard deck of playing cards is thoroughly shuffled. A card is then drawn, the color indicating which side may move/fire a unit. Red cards indicate a British, French, Russian, American, Italian or other allied unit has the initiative. Black cards indicate the Germans, Austrians, Turks or German allied units have the initiative.

Playing suggestion

In games involving a large number of units or players it will speed up the game if more than one unit is moved by the side with the initiative.

A. The movement of each unit is limited by its movement allowance. The movement allowance is measured in inches. The movement allowance for each unit is found on the Movement Allowance Chart. To determine the movement allowance for each unit simply cross reference the type of unit moving by the situation desired and apply any modifiers. The modifiers to movement reflect the penalty to be paid for each inch the unit actually moved. For example normal infantry movement is three inches. In heavy wood the penalty is three inches for every inch moved; thus the infantry could only move one inch in heavy wood. Units using road movement must begin the turn with all castings on the road.

B. Any unit which moves normally or moves normally using surfaced road movement may issue fire. Fire may come before or after movement at the phasing player's option. Fire is expressed as a percentage chance to hit. The determination of the percentage to hit is a two step process.

1. Use the Target Determination Table to cross reference the target unit type with the classification of the terrain the target is in. The result will be a chart letter (A, B, C, D or E) for one of the five Fire Resolution Charts which follow. For example if the target was a

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company of stormtroopers in woods the phasing player would use fire resolution chart C.

2. Next refer to the appropriate Fire Resolution Chart and cross reference the type of unit firing with the range in inches to the target unit. This will give a percentage which is then multiplied by the number of figures in the firing unit. The final number is the firing unit's percentage chance to hit.

C. To determine if the target was hit simply roll two percentage dice with one die serving as a units die and the other as a tens die. If the result is equal to or less than the predetermined percentage to hit then remove one casting from the target unit. In cases where the percentage to hit is higher than one hundred, remove one casting for each increment of one hundred and roll the dice for the remaining percentage to determine any additional casualties. For example if the percentage to hit is 230 immediately remove two castings and roll the dice. A result of 30 or less will cause the removal of an additional casting.

"any improvement in firearms is bound to strengthen the offensive."

→Foch

EXAMPLES OF MOVE/FIRE

Example #1. An eight figure infantry company (unit A) with initiative moves normally across open terrain and issues fire at an enemy infantry company (unit B) which is 13 inches away in open terrain.



To determine the percentage to hit, unit A finds that unit B is an infantry target in the open. The fire will be resolved on chart A. On chart A infantry armed with rifles at a range of 6.1\" to 15\" gives a per figure chance to hit of 12%. An eight figure company would then have a 96% (8x12) chance to hit. Any roll of 96% or less will result in a casualty inflicted on unit B.

"the ominous shadow of the machine-gun—"concentrated essence of infantry"—began to creep across the battlefield, bringing movement to a standstill."

→Liddell Hart

Example #2. A British heavy machine gun section (unit C) in the edge of a woods and with the initiative fires at a German Stormtrooper company (unit D) which is in the open and only one inch away.



To determine the percentage to hit unit C finds that unit D is a Stormtrooper target in the open. The fire will be resolved on chart B. On chart B heavy machine guns cross referenced with a range of under two inches gives a base of 120% per section. One figure is removed from unit D automatically. Any dice roll of 20% or under will result in another casualty being inflicted upon the Stormtroopers.

Example #3. The Stormtrooper company (unit D) in example #2 above issues fire with six figures at the heavy machine gun section (unit C) which fired at them. The range is still one inch. To determine the percentage to hit the target is a heavy machine gun unit cross referenced with target in woods. Chart D will be used to resolve fire. Stormtroopers with rifles, firing on Chart D under two inches gives a base of 5% per figure. With six figures firing the base chance of hitting the heavy machine gun section is 30% or less.

D. Tanks and Armoured cars which move normally, run/gallop or use surfaced road movement may issue fire in the move/fire phase. The type of fire issued is dependent upon the specific vehicle being moved. Use the diagram below the Target Determination Table to determine the fire capabilities of each type tank type.

1. Tanks with a 360 arc of fire may fire once in any direction at the appropriate percentage.

2. Tanks divided into sides may fire either each side at a different target or combine the fire from both sides on one target to the front by doubling the appropriate percentage. Such a target must lie within the fire area of both sides of the firing tank to apply.

3. Tanks which use run/gallop movement fire one chart letter lower on the target determination table. (E.G. A becomes B, B would become C and so forth).

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Unit Type	# of castings
1. Schutztruppen Company	8
Up to one casting may be a light machine gun. Four companies per battalion.	
2. Freikorps Company	5
Only one company available in South-West Africa	
3. Askari Schutztruppen Company	9
Up to one casting may be a light machine gun. Four companies per battalion	
4. Volunteer Cavalry	4
Four squadrons to a regiment	
5. Heavy Machine Gun Section	2
One to two sections attached to each Schutztruppen	
6. Artillery Battery	4
In German East Africa batteries were broken up into smaller units than the normal four gun battery.	

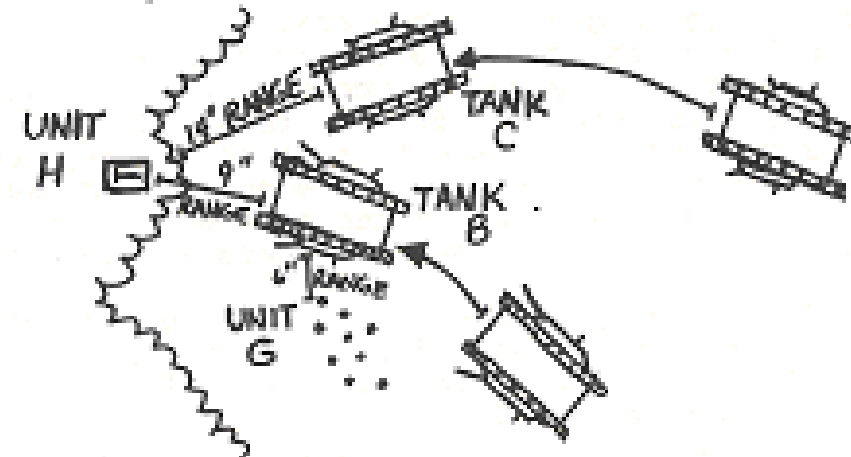
Organization: As with the British, normal European organization was not usual. Again we refer the reader to the bibliography in the back of the rules. We especially refer the reader to the campaigns of von Lettlow in German East Africa for the most exciting and unusual source of gaming material.

Army Organizations for 1920-1925 to follow soon

Example #4 A Renault 37mm Tank (A) has the initiative and chooses not to move. Using its 360 arc of fire the Renault issues fire at an enemy infantry company (E) which is five inches away. Both units are in open terrain. To determine the percentage chance to hit; the target is infantry crossreferenced with target is unit in open. Fire will be resolved on Chart A. The 37mm gun of the Renault is cross referenced with a range of 2.1" - 6". The result is 40% per gun (or tank in this case). Any roll of 40% or less will result in the infantry suffering a casting casualty.



Example #5. A Mk. IV 6lb. tank (B) with the initiative moves normally a distance of six inches and issues fire with the right side at a heavy machine gun section in the woods (unit H) which is nine inches away. The left side fires at an infantry company (G) in the open, six inches away. To determine the percentage chance to hit first find: heavy machine gun and cross reference with unit in woods. Fire will be resolved on chart D. A 6lb. MK series gun cross referenced with a range of 6.1" - 15" gives a base chance of 15% per side. If tank B had been able to fire both sides at unit H it would be $15\% \times 2 = 30\%$. The left side firing at the infantry in the open has a 60% chance to hit.



Example #6. Tank C, a Mk. IV female with the initiative moves at a run/gallop. It fires both sides at unit H at a range of 14". Tank C consults the Target Determination Table for Heavy Machine Gun in Woods which would normally be chart D; but since Tank C moved at run/gallop drop down one chart and use Chart E. Tank C has a 6% chance to hit unit H (3% per side).

4. All fire directed against tanks and armoured cars is resolved in a three step process. The first two steps are the same as against all targets. However a dice roll equal to or less than the percentage does not automatically result in a casualty. Instead a separate roll is made for each "hit" on the Hit Resolution Table, using all appropriate modifiers.

Example #7 Using the same situation described in the above examples, unit H, a German heavy machine gun section has the initiative and fires at tank B which has moved during the turn. The range is nine inches and tank B is in the open. Unit H is within 1/2 inch of the woods edge and as such may fire out with no penalties. Unit H has a percentage to hit of 60% and rolls a 42%. Unit H has "hit" tank B one time. Unit H now consults the hit resolution table. Unit H rolls the percentage dice again applying all modifiers. Unit H rolls a 64% which is modified to a 59% (-5% German heavy machine gun). Cross referencing the 59% with the column Tank/truck/armoured car (41-60% line) results in one crew casualty to tank B. (German small arms and heavy machine gun fire are modified less due to the wide distribution of armour piercing ammunition).

E. Units which charge must declare the target and move to contact if within range. Targets which have NOT YET had the initiative may flee or fire at point blank range when their initiative comes up.

F. Units firing at targets which are at point blank range disregard all terrain effects except intervening walls, buildings, dugouts or bunkers.

G. Units which are in woods and within 1/2" of the edge ignore the effects of the woods on their fire.

H. Units in woods and further than 1/2" from the edge of a woods or must treat target units as if they were in that terrain even if they are in the open. For example a unit firing from within two inches of a wood's edge at a target of infantry in the open will resolve their fire on chart B.

I. German sharp-shooter heavy machine gun sections receives a bonus of 20% when firing at any target.

J. All hits against wire results in 1/2" of wire being removed (destroyed) per hit.

K. Any fire against a target in which no enemy troops are shown is resolved as blind fire.

L. Because heavy machine gun sections were mainly composed of supporting troops, the fire of such sections is unaffected by casualties. In other words heavy machine gun sections fire at full strength until destroyed by removing the second casualty.

M. Tanks may only issue direct fire.

Organization
 Infantry Divisions: two infantry brigades of two regiments each
 17 available
 one engineer battalion
 one cavalry regiment (three squadrons)
 two field batteries
 Cavalry Brigade: two cavalry regiments (four squadrons)
 two available
 Artillery Brigade: four field gun batteries
 only two brigades available, functions as corp artillery

No Corp formation.

British Allies

Unit Type	# of castings
1. Arab Regular Infantry Company	9
Up to one casting may be light machine gun, four companies to the battalion	
2. Boer/South Africans Inf. Comp.	7
Four companies to the battalion	
3. Niger Regt. or African Rifle Company	8
Four Companies to the battalions	
4. Rhodesian Infantry Company	6
Four companies to the battalion	
5. Heavy Machine Gun Section	2
Two sections to a company	
6. Cavalry Squadron	4
Three squadrons to a regiment.	
7. Light Mortar Battery	4
One battery per brigade, but not available in Africa until mid-1916.	
8. Artillery Battery	4
9. Armoured Car Section	2
Four sections per company	
10. Irregular Arab Cavalry Unit	12-36
Units vary in strength, average about 20	
11. Irregular Arab Camel Unit	8-20
Units vary in strength, average about 12	
12. Boer Volunteer Cavalry Company	6
Three Companies to a regiment.	

Organization: Most of the units listed above are representative of types which fought in the lesser known but fascinating side shows of the Great War. As such there is little in the way of hard and fast organizations that can be used. However we would refer the reader to the bibliography at the end of the rules section to secure information on specific campaign and battles in the far flung British Empire.

Tank Brigade: one heavy tank battalion of three companies
two light tank battalions of three light tanks companies.

Roumania

Unit Type	# of castings
1. Infantry Company	7
Up to two castings may be light machine guns. Four companies per battalion and two battalions per regiment.	
2. Engineer Company	6
3. Heavy Machine Gun Section	2
Three sections per company	
4. Cavalry Squadron	5
Four squadrons per regiment	
5. Artillery Battery	4

Organization

Infantry Divisions: Two to three infantry brigades of two regiments each,
six to nine heavy machine gun companies one attached to each regiment
two engineer companies
one cavalry regiment
two field artillery batteries

Cavalry Brigades:

three cavalry regiments
one horse artillery battery

Corps:

two infantry divisions
one cavalry brigade
one medium artillery battery
one heavy artillery battery

Japan

Unit Type	# of castings
1. Infantry Company	10
Four companies per battalion, three battalions per regt.	
2. Engineer Company	11
Four companies per battalion	
3. Heavy Machine Gun Section	2
Operates as a battery, three sections to the company but only four companies available.	
4. Cavalry Squadron	6
Four squadrons to the regiment	
5. Field Artillery Battery	6
6. Heavy and Medium Artillery Battery	4
Not more than one or two	

"two machine guns in defence were often capable of paralyzing the attacking power of a thousand men, driving them to take refuge in trenches."

- Liddell Hart

N. Heavy machine gun sections may issue indirect fire. To fire indirectly simply place the Indirect Fire Grid on the target as desired and roll two different colored six sided dice declaring one die to be LONG and one die to be SHORT. The results of the dice roll moves the grid long (away from the firing unit) or short (toward the firing unit). After this adjustment if the grid still covers any part of any unit, even friendly units, it will roll for casualties.

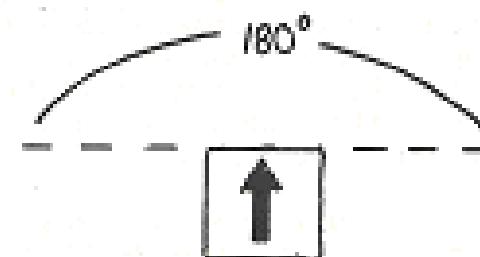
EXAMPLE. A roll 4 (long) and 2 (short) moves the grid in a straight line two inches away from the firing unit.

O. Any artillery or mortar battery which has a direct line of sight to an enemy unit may, at its discretion, disregard its prior plotted target and fire during the movement/fire phase by using one of the Initiative cards for its side.

P. Mortars which are on the playing area may fire with out prior plotting at any enemy target within 60 inches of it by using one of the Initiative cards for its side.

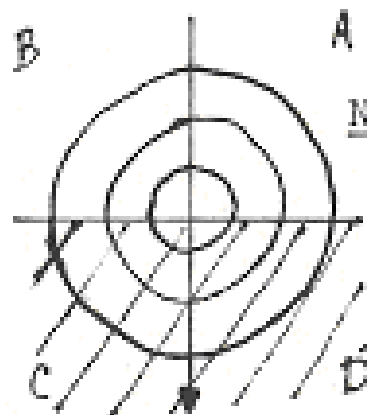
Q. It may be necessary to adjust the target area when artillery, mortars or some tanks fire. This will be shown by the notation of 1, 2 or 3 on the Fire Resouition Chart. (this will be covered further in the section on artillery, section VII.)

R. All non-tank/armoured car units are considered to have an 180 field of fire and field of vision from the front center point of the figure.



S. Most infantry companies have one or two light machine guns attached. When determining the hit percentage for a firing unit containing light machine guns multiply the number of infantry by the rifle percentage and multiply the number of light machine guns by the light machine gun percentage and add the two. For example eight infantry and one light machine gun firing on table A at a range of 2.1-6 inches equals 74%.

T. To direct fire tanks and artillery batteries, pick an aim point and set the center of the Artillery Fire Grid over that point. If the Fire Resolution Table calls for a long and short die roll, then this will alter the actual aim point. Use only the semi-circular half of the grid away from the firing unit. (quadrants A and B) to determine if the target unit will take casualties.



Note: Long/Short die roll is resolved in inches (6 Long; 4 Short = 2" Long.)

Consult the fire resolution table to determine the hit percentage and resolve only in quadrants A and B.

VII ARTILLERY

A. At the beginning of the game and at the end of every artillery phase all artillery and mortar batteries with the exception of light mortar batteries must plot targets to be fired upon in the second artillery phase after the plot is made. This plot is recorded on the Artillery Plot Sheet. In other words artillery is plotted in turn one to be fired in turn three. Artillery plotted in turn two will not be fired until turn four. This delay is meant to reflect the poor communications of the period. Most requests for fire support or orders from higher command were either sent by runner or by semaphore. Telephone communications were rarely able to function long in combat without being disrupted. Flares were also used during pre-planned action but served to signal the time to fire on a pre-determined target.

B. Once plotted the only option available to the owning player is to cancel the fire PRIOR to the beginning of the turn of the designated artillery phase. Cancellation is usually caused by friendly infantry overrunning the target sooner than anticipated. No measurement may be made to verify this.

C. At any time during movement/fire phase artillery may limber and move. In this case the battery will resume firing at the target designated for the artillery phase of the turn it unlimbered and became available to fire.

United States of America

Unit Type	# of castings
1. Infantry Company	11
Up to one casting may be light machine gun. Four companies per battalion, three battalions to a regiment.	
2. Engineer Company	8
Three companies per battalion	
3. Heavy Machine Gun Section	2
Three sections per company	
4. Light Mortar Company	6
One company per brigade	
5. Medium Mortar Company	6
One company per division	
6. Heavy Mortar company	3
Four companies per corp	
7. Cavalry Squadron	4
Three squadrons per regiment	
8. Artillery Battery	4
9. Tank Section	2
Three sections per company. Companies either all light or all heavy tanks. Heavy tank sections are made up of one Male 6# Mk. Series tank and one Female Mk. Series tank. Light sections contain one Renault FT with a 37mm gun and one Renault FT with a heavy machine gun.	

Organization

Motor Machine Gun Battalion	Up to one battalion per division one tank company two heavy machine gun companies (all machine gun companies are transported by trucks, represented by one truck per section).
Infantry Divisions:	two infantry brigades of two regt. each one motor machine gun battery twelve heavy machine gun companies, one attached to each battalion two light mortar companies, one attached to each brigade one engineer battalion one medium mortar company one cavalry squadron six field artillery batteries
Cavalry Brigades:	two cavalry regiments two heavy machine gun companies, one attached to each regiment
Corp:	two infantry division one cavalry brigade two heavy artillery batteries two medium artillery batteries four heavy mortar batteries two engineer battalions

Cavalry Division: two cavalry brigades of two regiments each.
(A normal division had a regt. of lancers and a regt. of dragoons in the first brigade and a regt. of hussars and a regt. of cossacks in the second brigade).

Corps: one horse artillery battery
two infantry divisions
one cavalry division
one heavy artillery battery
one medium artillery battery
one heavy mortar battery

Turkey

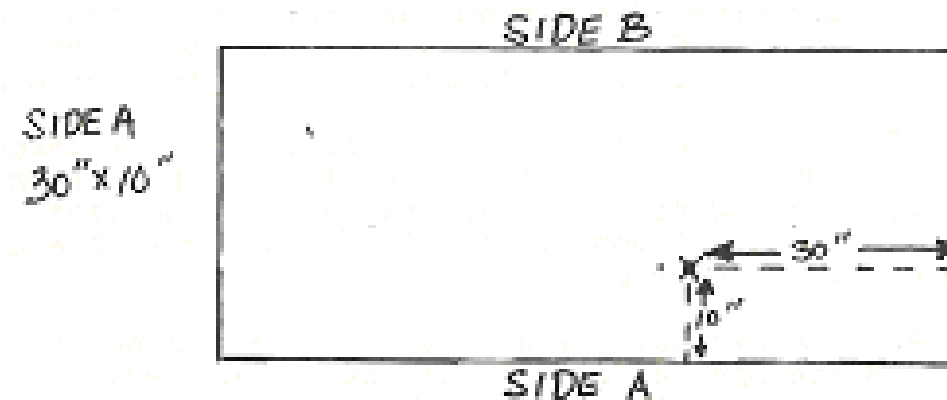
unit type	# of castings
1. Infantry Company Four companies per battalion, three battalions per regt. One casting may be light machine gun.	9
2. Engineer Company	8
3. Heavy Machine Gun Company Three sections per company	2
4. Cavalry Squadron Four squadrons per regiment	4
5. Light Mortar Battery One battery per regiment	4
6. Medium Mortar Battery One battery per division	4
7. Heavy Mortar Battery One battery per corp	4
8. Artillery Battery	4
9. Armoured Car Section Four sections per company	2

Organizations

Infantry Divisions: three infantry regiments
three heavy machine guns companies, one attached to each regiment
three light mortar batteries, one attached to each regiment
one medium mortar battery
two field artillery batteries

Cavalry Brigades: three or four cavalry regiments
two heavy machine gun companies
one horse artillery battery, about 1/2 of the brigades had artillery
two or three infantry divisions
one cavalry brigade
two engineer companies
one heavy mortar battery
two medium artillery batteries.

D. The target plot is expressed as a measurement from the plotting players right hand edge of the playing surface and the edge which his troops are defending.



E. Artillery and mortar units on the playing area may also cancel pre-plotted fire at any time to direct fire at any target in their line of sight. When these units resume firing they do so as in case C above.

F. To be able to fire, off board artillery must always be plotted and must always show a notation when limbered. Due to the ranges involved you will normally find all heavy and medium artillery and most field batteries off-board.

G. Artillery fire is resolved in the same way as small arms fire. The only exception is the random determination of drift. Drift determination is a simple process.

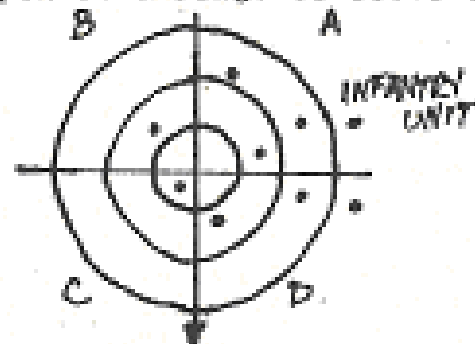
1. Determine the point targeted by the artillery plot.
2. Place the center of the Artillery Direction Grid over the target point with the arrow pointing toward the firing unit. For off-board units point the grid back toward the edge you are defending or attacking from.
3. Roll two percentage dice declaring one die to be units and the other die to be tens. The number generated is the number to be used on the Artillery Direction Grid and will give the direction of drift.
4. Roll two six sided dice of different colors, declaring one to be LONG and the other to be SHORT. Drifting long moves toward the percentage rolled (beginning at the center cross of the direction grid) drifting short moves the fire away from the percentage rolled. This point will now become the new target point.
5. Place the center of the Artillery Fire Grid over the new target point and point back at the firing unit. Any units, enemy or friendly, within the appropriate rings are now subject to fire.

It is permissible and advisable to photo-copy the Artillery and Machine Gun Indirect fire grids onto clear plastic. Artillery Plot Sheets may also be copied as needed.

H. Artillery fire is now resolved. The three circles of the Artillery Fire Grid represent the actual area which comes under fire from an artillery battery. The type of unit firing identifies the number of rings to be used to determine casualties. These rings are further divided into four quadrants (A, B, C and D). Each quadrant of rings is subject to a separate die roll, modified as instructed on the grid.

To determine the number of castings to be taken as casualties simply determine the percentage to hit as in small arms fire and roll the percentage dice for each quadrant applying all modifiers. Always begin with A and proceed counter clockwise to D.

Example #8 A heavy battery of four guns is firing at infantry in the open at a range of 150.1 and over.



In quadrant A a dice roll of 58% is made. This causes one casualty in each ring as shown: center ring - one (100%) plus 12% miss; second ring one (100%) plus 02% miss; third ring - one (72%). In quadrant B a roll of 92% causes two casualties as shown: center ring - one (100%) plus 12% miss; second ring one (100%) plus 02% miss; third ring 72% miss. In quadrant C a dice roll of 10% causes four casualties as shown: center ring - one (100%) plus one (12%); second ring one (100%) plus 02% miss; third ring one (72%). And so on for quadrant D. Casualties are only inflicted up to the total number of figures actually in the affected area. In other words if there are no castings in the center ring of quadrant C then two casualties are not inflicted.

I. If any terrain features appears in the grid it will affect the percentage to hit only for those rings and quadrants in which it appears. (for example woods in quadrant A, third ring, effect only quadrant A's third ring percentage to hit.

J. Any change in target classification of any ring within the quadrant effects only that ring of that quadrant if the firing unit wishes to target that specific unit. For example a machine gun section in the open in quadrant B, second ring, would alter the percent to hit for only the second ring of quadrant B in example #8 from 112% to 66%.

Russia

Unit Type	# of castings
1. Infantry Company 1904-14	6
Four companies per battalion, four battalions to a regt.	
2. Infantry Company 1914-19	8
Four company battalions 1914-1915 but three company battalions 1915-1918.	
3. Pioneer Company	8
Four companies per battalion	
4. Heavy Machine Gun Section	2
Eight sections per company	
5. Line Cavalry Squadron 1904-1914	4
Four squadrons per regiment	
6. Line Cavalry Squadron 1914-1919	6
Four squadrons per regiment	
7. Cossack Squadron	7
Six squadrons per regiment.	
8. Light Mortar Battery	4
One battery per brigade	
9. Medium Mortar Battery	4
One battery per division	
10. Heavy Mortar Battery	4
One battery per corp	
11. Artillery Battery 1904-14	8
12. Armoured Car	2
Four sections per company, four companies per battalion	
13. Artillery Battery 1914-19	6
14. Czech Infantry Company	9
15. Czech Heavy Machine Gun Section	
As regular Russian in #4 above.	
16. Czech Artillery Battery	
As regular Russian in #13 above.	

After the Revolution in 1918 Russian units varied considerably in strength. Infantry units could be any size, larger or smaller. Artillery and cavalry units would normally be smaller. The Czech units retained their normal strength.

Organization

Infantry Divisions: 1904-14	two infantry brigades of two regiments each two heavy machine gun companies one cavalry regiment (normally cossack) two field artillery batteries
Infantry Divisions: 1914-1919	two infantry brigades of two regiments each four heavy machine gun companies, one attached to each regiment one cavalry squadron (normally cossack) one pioneer battalion two light mortar batteries, one attached to each brigade one medium mortar battery two field artillery batteries

Italy	
Unit type	# of castings
1. Alpine Infantry or Infantry Company	9
Up to one light machine gun. Four companies in a battalion	
Three battalions to a regiment	
2. Engineer Company	10
Four companies per battalion	
3. Heavy Machine Gun Section	2
Two sections per company	
4. Cavalry Squadron	6
Four squadrons per regiment	
5. Light Mortar Battery	4
One battery per brigade	
6. Medium Mortar Battery	4
One battery per division	
7. Heavy Mortar Battery	4
One battery per corp	
8. Artillery battery	4
9. Armoured Car Section	2
Four sections per company.	
Organizations	
Infantry Divisions:	two infantry brigades of two regiments each. twelve heavy machine gun companies, one attached to each battalion one cavalry regiment two engineer companies, one attached to each brigade two light mortar batteries, one attached to each brigade one medium mortar battery three field artillery batteries
Cavalry Divisions:	two cavalry brigades, each of two regiments two heavy machine gun companies, one attached to each brigade one horse artillery battery
Alpine Infantry Division:	three infantry regiments nine heavy machine gun companies, one attached to each battalion two engineer companies two light mortar batteries one medium mortar battery two mountain artillery batteries
Corp:	two infantry division one cavalry division two medium batteries one heavy battery

K. Any terrain feature which might conceal enemy troops from view, including troops out of all friendly units' line of sight due to blocking terrain are treated as blind fire targets.

L. All artillery and mortar fire against buildings, bunkers and dugouts is resolved the same as fire against tanks and armoured cars. A die roll equal to or less than the percentage to hit does not result in a casualty. Each hit must be resolved with a separate percentage die roll on the Artillery Hit Resolution Table applying all appropriate modifiers. Buildings which have been destroyed are treated as rubble.

M. All mortar fire against units in trenches and gun pits ignore those terrain features and cross reference the target unit with the 'behind wall' column. This reflects the plunging fire of mortar rounds which made them so effective against entrenched positions.

N. In cases where friendly troops are in the artillery fire grid quadrants the friendlies receive casualties just as enemy troops would. Should both friendly and enemy units be in the same quadrants and rings they will both take equal casualties when possible. For example if the results for a ring containing friendly and enemy troops is two casualties both the friendly and enemy troops would each receive two casualties if enough castings are available.

O. Light and medium mortars and field guns have NO effect on dugouts.

P. Light mortars have NO effect on bunkers.

Q. For the determination of range, each off-board artillery battery should be designated as being a certain distance in inches from the edge of the playing area. Simply note the distance on the Artillery Plot Sheet.

R. To suppress enemy artillery located off board, simply designate on the Artillery Plot Sheet the notation "SUPPRESS" instead of coordinates and designate what type of battery it is attempting to suppress. To suppress an opposing battery roll two percentage dice at the beginning of each artillery phase for each battery firing suppression. The percentage to suppress for each type firing is listed below. A roll equal to or less than that percentage suppresses that battery for that phase.

Firing Unit is:

Heavy 30%

Medium 20%

Field 10%

Suppressed this battery last turn +10%.

Suppressed artillery batteries may still fire suppression at opposing batteries during the first turn they are suppressed.

VIII MORALE PHASE

During the morale phase any unit which has suffered more than 50% casualties must check morale. To check morale simply roll two percentage dice and apply all appropriate

modifiers on the morale table. All modifiers are accumulative. If the die result is less than or equal to the modified percentage to break then the unit's morale falls. Unit's whose morale has broken will then roll again and consult the Morale/Melee Results Table. Modify the dice roll as necessary. All modifiers are accumulative. Cross reference the result and move the affected unit as instructed. Units which break may not instigate melee in the melee phase. Routing units check morale during the movement phase when they have the initiative. Routing units which fail to pass this morale check continue to rout and will check again in the next movement phase.

A. Routing/retiring units always move toward the nearest edge of the playing area.

B. This movement always occurs in a straight line, adjusting only to avoid blocking enemy units.

C. Movement is never toward the edge defended by the enemy unless all other routes are blocked.

D. Once units exit the playing area they may not re-enter.

E. Routing/retiring units which are surrounded surrender if they have no gap 2" or larger to retire through.

F. Captured units must be guarded in place or taken to the rear. To guard a unit requires one guard casting for every five prisoner castings.

G. Captured and guarding units which suffer casualties from artillery fire total all hits and remove castings at the rate of two captured castings to one guarding casting. Remove captured castings first then guards for each three hits inflicted.

H. Heavy machine guns, gas projectors or other units with crews of two never take morale checks unless defeated in melee.

IX. MELEE PHASE

A. Melee occurs between two or more units which are within one inch of each other as a result of a charge by one or both during the movement/fire phase.

B. To resolve melee each player rolls one six sided die per casting (one at a time) modifying the results as listed on the Melee Table. All modifiers are accumulative. High die roll wins. A one or a two on the losers die results in that casting being eliminated. The player with the low die loses and moves that casting back until the end of the melee. Melee continues until one unit has run out of undefeated castings. Loser checks for results on the Morale/Melee Results Table applying all appropriate modifiers and following instructions for disposition of the defeated unit. Castings belonging to the winning unit which were moved back during melee now rejoin the remaining castings.

Austria-Hungary

Unit Type	# of castings
1. Infantry Company	9
Up to one casting may be light machine gun.	Four companies per battalion, four battalions to a regiment.
2. Pioneer Company	8
3. Alpine Jaeger Company	9
Up to one casting may be light machine gun.	Four companies per battalion, two battalions per regiment.
4. Heavy Machine Gun Section	2
Three sections per company	
5. Cavalry Squadron	6
Six squadrons per regiment	
6. Light Mortar Battery	2
One battery per battalion	
7. Medium Mortar Battery	4
One battery per division	
8. Heavy Mortar Battery	4
One battery per corp	
9. Artillery Battery	4
Six guns in 1914	
10. Armoured Car Section	2
Four sections per company	

Organizations

Infantry Divisions: two infantry brigades, one regt. each ten heavy machine gun companies, one attached to each battalion eight light mortar batteries, one attached to each battalion (none for landwehr battalions) two Landwehr Battalions, one attached to each brigade, 1914-15 only. two cavalry squadrons, one attached to each brigade. one medium mortar battery two field artillery batteries one medium artillery battery

Alpine Jaeger Brigade:

two Alpine Jaeger regiments four light mortar batteries, one attached to each battalion two pioneer companies

Cavalry Brigade:

one mountain artillery battery two or three cavalry regiments two or three heavy machine gun companies one attached to each regiment one horse battery

Corp:

two or three infantry divisions one cavalry brigade three heavy artillery batteries one heavy mortar battery

Cavalry Division:

two cavalry brigades

Dismounted Cavalry Regiment: Present in 1916-1918 defensive actions only. Rarely used in active fronts.

four squadrons on foot
one heavy machine gun company
one light mortar company

Infantry Divisions 1914-1915:

two infantry brigades of two regiments each
twelve heavy machine gun companies, one attached to each battalion
twelve light mortar companies, one attached to each battalion
one pioneer company (one battalion per corp).
four field artillery batteries
one cavalry regiment

Infantry Divisions 1916-1918:

three infantry regiments
nine heavy machine gun companies, one attached to each battalion
nine light mortar companies, one attached to each battalion
one pioneer battalion
one cavalry squadron
three field artillery batteries.

Cavalry Division:

three cavalry brigades of two regiments each.
six heavy machine gun companies, one attached to each regiment
one Jaeger battalion
one or two cyclist companies
one horse artillery battery

Corp (any year):

two infantry divisions
one cavalry brigade
two heavy artillery batteries
one medium artillery battery
one Jaeger battalion (1914-15 only).

Example #9

A six figure company of German stormtroops charges a nine figure company of British infantry in the open. At the beginning of the melee phase both units are still within one inch of each other. Each unit rolls one six sided die and modifies it accordingly. The British roll a 4 which is unmodified. The Germans roll a 5 plus 1 for Stormtroops which results in a six. The British casting is defeated and moves back. The next British roll is a 6 while the Germans roll another 5 plus 1 which also gives a 6. The castings are tied and must roll again. On the next roll the British roll a 4 while the Germans get a 1 plus a 1 for stormtroops resulting in a 2. The German casting is defeated and because of the unmodified 1 is also eliminated. The procedure continues until one side has no undefeated castings left.

C. All measurements for the defeated unit are taken from the original point of contact.

D. Units which are the target of a charge and have not yet had the initiative may move away from the charge by falling back up to normal movement limitations. Unit must flee with backs to enemy along the same line of charge as the attacking unit. If the unit is unable to escape it is attacked from the rear. Fleeing units may never fire.

E. Units in trenches may never flee from a charge.

X. SMOKE/GAS/WIND.

A. All artillery and mortar batteries, whether firing directly or indirectly, may fire smoke. Units plotting fire simply write "SMOKE" when listing coordinates on the plot sheet. Units not plotting fire need only declare that they are firing smoke before firing.

B. To fire smoke use the procedures already described to fire artillery or mortars BUT no percentage die roll is necessary. Once you determine the new target point set the Artillery Fire Grid in place and lay the smoke markers (cotton balls serve very well for smoke) under the center and the second ring. Use the center ring only for light mortar generated smoke.

C. Shell gas is resolved exactly as smoke described in B above except that the note GAS must be on the plotting sheet. Gas may only be fired from medium and heavy artillery batteries up to a maximum of one battery per division. Gas may NEVER be used for direct fire.

D. Projector gas is released from gas projector units stationed in the game area. Projector gas is released and travels with the wind expanding as it moves as follows:

1. 1' wide for the first 2' traveled.
2. 2' wide after 3' traveled
3. 4' wide after 4' traveled and no wider from

that point.

This pattern for gas will resemble a sharpened pencil.

NOTE: Gas can be simulated by cotton balls tinted yellow-brown.

E. Once gas appears on the field any unit which is in or near the probable path of the gas may attempt to put on their gas equipment. The attempt to put on protective equipment is represented by a percentage dice roll modified by the current wind speed. The measurement is taken from the nearest edge of the gas at the beginning of each turn. See the Gas Equipment Table/Smoke and Gas Chart.

EXAMPLE #10 An infantry unit is 12" down wind from a barrage of shell gas. The wind speed has been determined to be four miles per hour. The base percentage to don gas masks at a range of 10.1" to 20" is 90%. The 90% is further modified for a four mile per hour wind with a -20%. A die roll, using percentage dice, of 70% or less will result in the unit safely putting on its' equipment.

F. A failed attempt to get equipment on results in a one casting casualty if any part of the unit is in the gas cloud. Modify all additional attempts to put on equipment by a plus 25%.

G. Projector gas and smoke from burning tanks and buildings follows the wind in a continuous stream as long as it continues to flow from the point of origin. Shell gas and smoke travels with the wind and the same size as the original cloud.

H. As gas passes through trenches, gun pits, stream beds or other low places it will linger in that area for ten turns before disapating. It will spread along the trench, etc., up to the width of the original cloud (e.g. a 4" cloud will expand out 2" on each side)

I. Wind direction and speed should be determined before each game. To change speed roll one six sided die at the beginning of every second turn. On a roll of two through four the speed stays the same. On a roll of one the speed is reduced one on the speed table (i.e. a speed of four miles per hour is reduced to two miles per hour). On a roll of six the wind speed is increased by one on the wind speed table. To change the direction of the wind also roll one six sided die. On a roll of two through four the direction is unchanged. On a roll of one the wind shifts to the left 45 degrees. On a roll of six the wind shifts to the right 45 degrees.

J. All smoke and gas move in the direction of and at the same speed as the wind. All smoke and gas is moved the correct distance at the beginning of each movement/fire phase before any other movement occurs

K. Projector gas is released using an Initiative card and moves the distance stated for the wind speed during that Initiative.

Germany

Unit Type	# of castings
1. Infantry Company	9
Up to one casting may be a light machine gun. Four companies per battalion, three battalions per regt.	
2. Pioneer company	8
Two companies and one minenwerfer co. per battalion	
Up to one casting may be a light machine gun	
3. Jaeger Company	9
Up to one casting may be a light machine gun	
4. Stormtroop Company	6
Four companies to a battalion	
5. Cyclist Company	6
Four companies to a battalion. Also one company may be attached to a cavalry regiment or Jaeger battalion.	
6. Heavy Machine Gun Company	2
Three sections per company	
7. Cavalry Squadron	6
Four squadrons to a regiment	
8. Light Mortar Company	2
One per infantry battalion.	
9. Minenwerfer Company 1914-1916	11
Composed of two heavy mortars, three medium mortars and six light mortars	
10. Minenwerfer Company 1916-1918	6
Composed of two heavy mortars and four medium mortars	
11. Artillery Battery	4
Six guns per battery before 1915.	
12. Mountain Minenwerfer Company	6
Composed of two medium and four light mortars	
13. Flamethrower Section	2
14. Gas Projector Company	4
15. Tank Section	2
Three sections per company but no more than six castings per battle, of all types. Germans also used captured British Mk. Series tanks.	

Organizations

Stormtroop Battalions: May only be used on the Western Front in offensive action 1916-1918. About one battalion per line division.

four stormtroop companies
one heavy machine gun company
one 37mm infantry battery
one light mortar company

Minenwerfer Battalion: four companies, each company of three heavy and two light mortars.
No more than one battalion per corp

Heavy Machine Gun Sharpshooter Co.:

three heavy machine gun sections
Up to one co. per division 1916-18.

should be armed with a 37mm gun while the other 1/2 should have a heavy machine gun.

Belgium Unit Type	# of castings
1. Infantry company Four companies per battalion and three battalions per regt. Up to one casting may be a light machine gun.	10
2. Engineer company	10
3. Heavy Machine Gun Section Three sections per company	2
4. Cavalry Squadrons Four squadrons to a regiment.	6
5. Cyclist company Two companies to a battalion	6
6. Cyclist Pioneer company	6
7. Light Mortar Battery One battery to a brigade	4
8. Medium Mortar Battery One battery for every two divisions	4
9. Heavy Mortar Battery One battery for every two divisions	2
10. Artillery Battery	4

Organizations

Infantry Divisions: three infantry brigades of two regiments each.
three field artillery batteries, one attached to each brigade.
three heavy machine gun companies, one attached to each brigade.
one cavalry regiment
one medium artillery battery
one engineer company
three light mortar batteries, one attached to each brigade.
one medium mortar battery or one heavy mortar battery.
* some division also had one heavy artillery battery.

Cavalry Division: two cavalry brigades, two regiments each
one horse artillery battery
one cyclist battalion
one cyclist pioneer company.

L. For each hit against a projector gas unit there is a 25% chance the gas cylinder will explode killing the crew and any casting within two inches of the cylinder.

XI. AIRCRAFT PHASE.

A. Aircraft will appear randomly on the playing area.

1. The attacker begins with a 30% chance of getting a plane during the aircraft phase. For each turn thereafter in which an aircraft does NOT appear increase the attacker's odds by 10% a turn. After a plane appears the attacker's odds go back to a base 30%.

2. The defender begins with a 10% chance of getting an aircraft. For each turn thereafter in which a defending plane does NOT appear increase the base chance by 10%. After a defending plane appears the base chance is again placed at 10%.

B. Should both sides get an airplane in the same phase the aircraft are considered to be in a dogfight and neither appears on the playing area. If one side has a plane on the playing area and the other side gets a plane both planes are removed and are considered to be in an off-board dogfight. There will NEVER be planes of opposing sides on the field at the same time. Should one side have a plane on the field and both sides receive an additional plane the two new aircraft cancel one another out and the original airplane stays on the field.

C. Aircraft may remain on the field for four turns. Each air phase the plane may move up to 60 inches and fire its machine guns twice (4 times for two seater aircraft). The aircraft may NOT combine fire at the same target. The aircraft may also drop one bomb per phase.

D. Aircraft must move at least 36 inches but no more than 60 inches each aircraft phase. For each 12 inches or fraction thereof moved the opposing player may roll two percentage dice to reflect anti-aircraft fire from ground forces. The percentage to hit is 15% per fire (or 12" move). On a die roll of 15% or less the aircraft is hit. Roll two percentage dice and consult the Aircraft Hit Resolution Table for effect. No modifiers are applied.

E. To strafe ground units pick a point within 4" of either side of the line of flight. Place the Indirect Machine Gun Grid at that point and roll two six sided dice declaring one short and one long. Adjust the grid away from or toward the aircraft as instructed for indirect machine gun fire. There is no range determination. Use the Target Determination Table to select the proper Fire Resolution Chart and percentage to hit. The aircraft may strafe twice but not during the same 6" of movement.

F. To bomb ground units simply pick a point within 3 inches of either side of the line of flight. Place the center of the Artillery Direction Grid over the point the aircraft desires to bomb and roll the percentage and long/short dice just as with artillery fire. There is no range determination. Place the Artillery Fire Grid over the

new target point and use the center ring only. Use the Target Determination Chart to select the proper resolution chart and percentage to hit. While aircraft may only drop one bomb per turn they may bomb and strafe the same target.

XII. TRENCH EFFECTS

A. Units in trenches must designate whether they are in the trench or on firing steps.

B. There is no cost or penalty for moving from the trench bottom to the firing step or from the step to the bottom.

C. There is no movement penalty for moving along a trench bottom. Use the normal movement allowance.

D. Units which are defending on the fire step and are charged by an enemy unit are pushed off the step to the trench bottom by the charging troops who are also considered on the trench bottom. IF the defenders have not yet had the initiative they may not move when they do but may fire at point blank range.

E. Defending units being charged down the trench line may defend behind trench barricades by declaring "barricade" and turning two figures to face the enemy. The defending unit may fire the two figures but not move with the initiative. This is to simulate the defending units pulling down sand bags or collapsing part of the trench to block it and create defensive barriers. Once a barrier is abandoned it ceases to exist.

F. Although most trenches had a fire step pointing only toward the enemy position the back wall would be sloped enough to allow occupying units to fire at targets behind it. This will only come into effect once trenches are captured or if the defending units are surrounded.

G. There may be as many castings in a trench as can physically fit in that space. Troops may occupy the firing step and the trench bottom if desired. This technique is especially useful when massing troops for an attack out of the trench.

H. Gunners in dugouts and bunkers may have their guns unlimbered in the playing area and move to them to fire in the same phase. In other words the crew is in cover. They may move one function to their already unlimbered weapons and use the other function to fire.

I. Trench assault games should begin with two rounds of artillery fire from the attacker. This fire need not be plotted as it represents an attempt to blow holes in the enemy wire and reduce strong points. Friendly wire is removed before the attack begins BUT after the defender has plotted his first two turns of artillery fire.

France

Unit Type	# of castings
1. French/colonial infantry company	11
Up to one casting may be a lt. machine gun. Four comps. per	
battalion and three battalions per regiment.	
2. Engineer company	10
3. Heavy Machine Gun section	2
Two sections per company	
4. Cavalry Squadron	6
Four squadrons per regiment	
5. Light Mortar Battery	6
One battery per brigade	
6. Medium Mortar Battery	6
One battery per division	
7. Heavy Mortar Battery	4
One battery per corp	
8. Artillery Battery	4
9. Motor Artillery Battery	4
1915-18 Only. Needs two truck castings. No more than 20% of field artillery.	
10. Tank Section	2
Three sections per company. Either all light or all heavy tanks in each company.	
11. Cyclist Company	6
Two companies per group.	

Organizations

Infantry Divisions: two infantry brigades of two regt. each
 twelve heavy machine gun companies, one attached to each battalion.
 one cavalry squadron
 two light mortar batteries
 one medium mortar battery
 three field artillery batteries
 one engineer company

Cavalry Divisions: Three cavalry brigades of two regts. each
 three heavy machine gun companies, one attached to each brigade
 one horse artillery battery
 one group of cyclists

A corp consists of: two infantry divisions
 one cavalry regiment
 one engineer company
 one heavy mortar battery
 two heavy artillery batteries
 four medium artillery batteries.

Heavy French tanks should be the St Chammond while light French tanks should be the Renault FT series, 1/2 of these

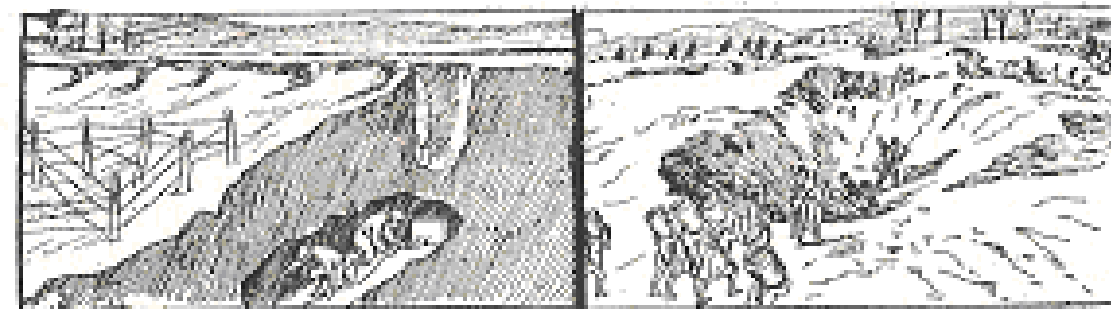
Unit Type	# of castings
1. British/colonial infantry company	9
Up to one casting may be lt. machine gun. 4comps/battalion.	
2. engineer company	10
3. heavy machine gun section	2
Two sections per company.	
4. cavalry squadron	6
Three squadrons per regiment.	
5. Light mortar battery	8
One battery per brigade	
6. Medium mortar battery	6
One battery per division	
7. Heavy mortar battery	3
One battery per Corp	
8. Artillery battery	4
Six guns per battery before 1915, field guns only	
9. Tank Section	2
Four sections per company	
Tank sections should be composed of one Male 6# Mk Series and one Female Mk. Series tank or two Whippets.	
10. Armoured Car Section	2
Four sections per company	

Organizations

Infantry Divisions: three infantry brigades each of four battalions ✓
 48 — two engineer companies ✓
 — twelve heavy machine gun companies, one attached to each battalion (in 1916, all heavy machine gun sections in the brigade were formed into a machine gun battalion, which could then be employed and distributed as needed.)
 one cavalry squadron ✓
 three light mortar batteries, one attached to each brigade ✓
 one medium mortar battery ✓
 three field batteries ✓
 one medium battery ✓
 one heavy battery. ✓

Cavalry Division: four cavalry brigade of three regts. each
 two horse artillery batteries
 twelve heavy machine gun sections, one attached to each regiment.

Two Divisions equal one Corp.



Unconscious of Their Danger

After the Explosion of the Mine

J. Mines. Both sides frequently tunneled under no man's land to bury explosive charges under enemy strong points. To reflect this either player may choose to use mines. Plot the coordinates for the mine just as would be done with artillery on the Artillery Plot Sheets and under the turn in which the explosive should be detonated. On the designated turn (detonate early in the game to keep your own troops from being affected) roll two six sided dice and add together. On rolls of 2, 3 or 4 the mine failed to detonate. On rolls of 5 through 12 the mine exploded. The number generated (5-12) represents the area in inches as the diameter of a circle centered on the point of detonation. All troops (enemy and friendly) within the affected area are removed from play. This is due to the disorientation and total breakdown of unit cohesion of the surviving units. Allow only one mine per game. The attacking player would normally use it.

K. To represent dugouts along the trench line use two sets of numbered one inch square chips. Place one chip on the playing area where the dugout is located and the matching number with the troops that are taking cover within. Note: Have more chips than needed as dugouts always become priority targets. Use the extra chips as decoy dugouts.

XIII. TANKS AND ARMoured CARS.

A. Due to the mechanical unreliability of tanks in battle there is a chance they may suffer a breakdown and be unable to move. At the beginning of EACH movement phase roll two percentage dice. If the result is 20% or less for allied tanks or 30% or less for German tanks, one vehicle from that side has suffered a breakdown.

B. Tanks which breakdown may not move until repaired. They may fire or dismount weapons.

C. To repair an immobile tank roll two percentage dice for any tank section with the initiative. On a result of 10% or less one tank is repaired. Tanks may not be repaired on the same turn they became immobilized.

D. Tanks and armoured cars disabled due to enemy fire may also attempt to repair damage.

E. Tanks and armoured cars must use at least one crew casting to attempt repair. While this casting is not placed in the playing area this is significant because any vehicle which has suffered casualties exceeding the crew necessary to maintain fire will need to reduce that capability by one. For example a Renault FT needs two crew to move and fire. One crew member to move OR fire. If the Renault FT is immobile and suffered one crew casualty the tank may fire or attempt repair only.

F. Tanks and armoured cars have the following crew levels.

	crew	minimum for move and fire
Armoured Cars	2	2
Renault FT	2	2
Whippet (1918 only)	3	2
All Mk. Series	8	6
St. Chamond	9	6
A7V (1918 only)	18	10

Each vehicle needs a minimum crew to move and fire, once below this minimum the controlling player must choose either to move or fire, or in the case of tanks with two sides of fire, fire one side and move or not move and fire both sides. For tanks with two sides of fire, once casualties reach 1/2 of the minimum it may only move or fire one side. NOTE: You may fire one side one turn and the other side the next turn.

G. Tank and armoured cars must test for gas protection equipment like any other unit.

H. Tank and armoured car crews never check morale while in their vehicles.

I. Immobile tanks and armoured cars may dismount any machine guns up to the limits below. Each weapon must have at least one crew casting to serve it. Additional castings per weapon do not increase fire but may be used to absorb casualties. Dismounted guns and crews are treated as heavy machine guns for target determination.

DISMOUNTED WEAPONS CAPABILITIES FOR TANKS/ARMoured CARS

Any armoured car/Renault FT (non-37mm)	1 heavy machine gun
Whippet	2 Lewis guns
Mk. Series Males	3 Lewis guns
Mk. Series Females	5 Lewis guns
A7V	6 heavy machine gun
St. Chamond	4 heavy machine gun

"Even with the aid of the railway it was difficult to handle armies of millions, to keep them supplied, and to prevent them clogging the arteries of movement."

-Liddell Hart

XVII. ARMY ORGANIZATION

Most armies of the period covered by these rules were similar in composition. Normally there were between 150 to 250 men to a company and four companies per battalion.

Units listed for each nation represent the basic components of the forces which fought during the period covered. The number of castings is a maximum strength. That number represents the number of men available on average and NOT the active paper strength of a unit. When composing forces for any battle it is not necessary to construct entire brigades, divisions or corps. The higher formations are listed only to show an example of the proper balance of forces in the field. In other words a battle with two regiments of German Infantry would be supported by two field artillery battalions not three or four.

In general when constructing forces for the period you will need to field no more than a division with some supporting forces for any nationality of interest. Only in very large trench battles will more than one division be needed. Most battles average three to five battalions defending and four to eight battalions attacking.

Formations:

Infantry battalions should contain two battalion command figures which must be attached to one of the battalion's companies.

Cavalry regiments should contain one regimental command figure which must be attached to one of the regiment's squadrons.

Regimental, brigade, division or higher echelon command figures may be represented but play no role in the game.

within a specified maximum number of turns. These rates for engineer tasks are given below:

TASK	Turns of effort and percentage needed to complete.									
	1	2	3	4	5	6	7	8	9	10
Build heavy pontoon bridge Engineer only	-	-	5%	10%	20%	35%	55%	75%	95%	100%
Build light pontoon bridge Engineer only	5%	15%	30%	50%	75%	100%	-	-	-	-
Dig gun emplacement Engineer or Infantry	20%	45%	80%	100%	-	-	-	-	-	-
Dig 3' of trench Engineer or Infantry	10%	30%	60%	75%	100%	-	-	-	-	-
Destroy 1' of wire Engineer casting only	50%	90%	100%	-	-	-	-	-	-	-
Knock a 2' gap in a heavy structure Engineer casting only	-	25%	70%	90%	100%	-	-	-	-	-
Destroy a light structure Engineer casting only	20%	50%	90%	100%	-	-	-	-	-	-

For construction add 10% for each Infantry company assisting in the task.

To complete the above tasks the unit(s) must remain next to the target for destruction, or on the site of construction, and perform no other function that turn. Example: Turn 1 engineers move adjacent to a bunker. On turn 2 they have no chance of destroying the bunker but may perform no other function. On turn 3 the engineers roll two percentage dice with a 25% chance of destroying the bunker. If they fail they may try again in turn 4 with a 70% chance.

Note: Infantry companies may dig trenches without the aid of engineers. Infantry companies may also assist engineers with construction.



J. Tanks/armoured cars do not melee during the melee phase. Instead these vehicles may overrun enemy units during the movement phase. To overrun an enemy unit move the tank/armoured car through the target unit. Determine the percentage to hit the enemy at point blank range and continue to move up to the limits of movement allowance if desired. To overrun the tank/armoured car unit must have enough movement to at least occupy the area previously held by the enemy unit.

K. Unlimbered artillery, mortars and gas projector batteries which are overrun must abandon their guns/projectors and flee using a run-gallop move. Limbered artillery, mortars and gas projector units may flee with their equipment. Overrun Infantry units must also flee at run-gallop.

L. Armoured cars may NOT cross walls, wire or trenches. Armoured cars may not move through buildings unless they have been destroyed.

M. Tanks may move through buildings; afterward the building is treated as rubble. There is a 25% or less chance the tank will become immobile inside the rubble. Roll two percentage dice for results before the tank leaves the rubble.

N. Tanks/armoured cars may NOT run-gallop through woods or buildings.

O. Tanks/armoured cars immobilized by flamethrowers or small arms fire are only immobilized for one turn and take one crew casting casualty.

P. Tanks may not be used in any scenario occurring before mid-1916.

XIV. VISIBILITY.

A. Visibility in open terrain is unlimited. Due to the game scale it would be difficult to create a battle large enough to cancel out the optical equipment available during this period.

B. Sighting is interrupted by blocking terrain, smoke and/or gas. Units already in the playing area are blocked by smoke or gas; but remain in the playing area (adjustments are made on the firing tables).

C. Units defending in buildings, bunkers, dugouts or unsighted due to blocking terrain need not be placed in the playing area until spotted. Units which fire are considered to be spotted.

D. Target units blocked by smoke or gas are treated as units in "smoke/gas".

E. Visibility into buildings, bunkers, woods, gunpits and behind walls is limited. Units must be within 3" of the terrain feature to see into the feature 2". Visibility is never more than 2" into the feature no matter how close the sighting unit is to the terrain feature, including being in the terrain feature. Exception: Units in buildings see the entire interior area.

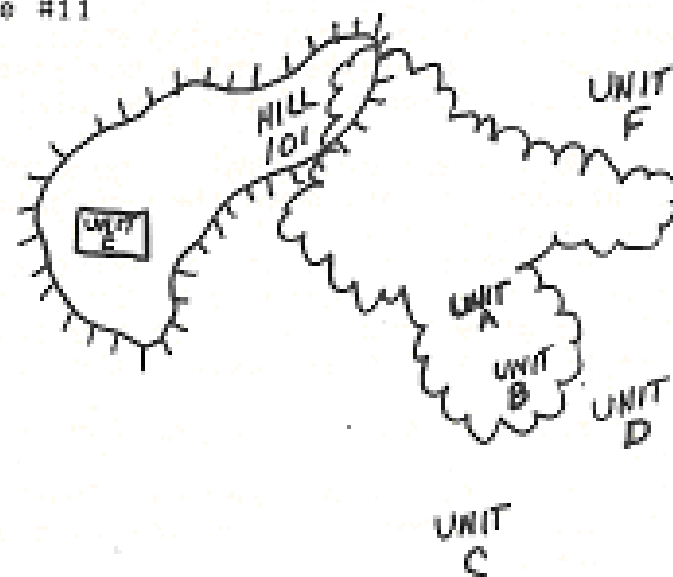
F. Conversely units in terrain features must be within 3" to see out.

G. Units in dugouts are not sighted until a spotting unit is adjacent to the dugout. The spotting unit is considered to kick in the door and look in.

H. Units behind walls or behind hills are spotted by aircraft.

I. Rubble is treated as "behind wall" for target determination.

Example #11



In the diagram above unit E which is in the house on hill 101 can see only unit C which is in the open. Unit A which is 4" in the woods can spot only unit B which is within 2" of it; but no other unit. Conversely only unit B can spot unit A. Unit B is within 2" of the edge of the woods and can see both units C and D. D is within 2" of the woods and can see unit B. Unit D also spots unit C which is in the open. No unit spots unit F and unit F spots no other unit.

XV. TERRAIN EFFECTS AND FEATURES.

A. Bunkers, dugouts and gun pits can hold one from the list below.

1. one infantry company
2. two machine gun crews with weapons
3. up to 12 gunners without guns
4. four mortar gunners with mortars
5. one machine gun crew and two mortar gunners with mortars
6. one infantry company and two gunners without guns

7. one flamethrower crew
 B. four gunners with artillery guns or mortar tubes (in gun pits only).

B. Buildings can hold as many units as can physically fit.

C. Wire can be targeted and destroyed. Each hit removes 1/2 inch. Small arms fire does not affect wire.

D. Artillery fire against buildings, bunkers and dugouts is resolved on the dugout and bunker/building hit resolution table.

E. Buildings/bunkers which are destroyed burn for five turns and are considered rubble. Surviving occupants must flee immediately. If they have not had the initiative, they may move/fire normally when they get it.

F. Door blockage for dugouts is accumulative

G. Bunkers are considered to be loopholed on all sides except the rear.

H. Tanks which move through wire smash a path, equal to the width of the model, through the wire.

XVI. ENGINEERS.

Engineers perform a number of functions on the battlefield. These duties range from construction and demolition of field works to assisting infantry in close assaulting strong points.

A. Individual castings of engineer companies may be attached directly to regular infantry units. The engineer castings must be attached prior to the first turn of the game.

B. Once the regular unit has reached 50% or more casualties the next hit on the unit removes an engineer casting. If there is more than one engineer casting attached to the company begin to alternate engineer and infantry casting casualties after the first engineer casualty.

C. Engineer companies or regular companies with at least one engineer casting attached receive a plus 2 to their melee die when assaulting buildings, bunkers and dugouts.

D. Engineers may build pontoon bridges, dig trenches and gun emplacements and destroy structures and obstacles