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WWII - STEEL WHEELS is a realistic game simulating tactical level combat during World War Two. Game is focused on tank warfare and it is suitable to be played with 1/72 up to 1/100 scale military models.

This rulebook is oriented to best compromise between historical realism and playability, it considers all main tactical aspects that are compatible with a friendly game sequence that will result easy to remember for all players who already have a good knowledge of the armored vehicles of World War II.

Of course, rules also includes artillery and infantry units, but detail and realism levels are focused primarily on tanks, for this reason the rules for infantry units are more streamlined than those of other similar rulebooks.

However, rules simplification does not trivialize the tactic aspects of the infantry units, because they only miss some details concerning marginal aspects that would have no importance in fighting among armored units.

In effect an infantry team with one more (or less) rifleman, or that it is equipped with one more (or less) automatic rifles than the standard equipment, wouldn't make much difference in the general context of this game, instead heavy weapons could greatly affect the outcome of a battle.

Despite rules enter into details of almost all models of tanks that fought on the battlefields of World War II, all characteristics that realistically are not influent in the scale of this game are not considered, because they only would have added more complications rather of fun.

Like many other similar games, even Steel Wheels has got many summary tables and charts, but these tables are more complex because are structured in order to provide a definitive result for each die roll, to avoid post-modifiers. This choice was preferred because it reduces any error that may take place by the forgetfulness of rules whom modifiers refer, further players do not need to perform calculations that disturb and interrupt logic of the fighting phases.

Tables contain all necessary data for determination of the actions of the game and they yet remember to players the rules.

This method, apparently complex, after few matches necessary to learn the correct sequence of tables consultation, it permits more automatically to perform the stages of game, inducing a quick consultation of tables rather than an effort to remember data they contain in.

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(Rulebook for game of tactical warfare between armored units in the World War II)  
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**This rulebook file is free licensed only for personal use, in order to get a single copy useful to play the “WWII - Steel Wheels” war game.**

**\* In order to permit a quick updating, all last changes in the rules are marked in blue color.**

## GAME SCALES

Game is played in turns. Each complete turn represents about 1 minute of real time. The models scale is 1/72 up to 1/100. The scale of distances is about 1/500. The scale of speed movements is about 1/1000. The light-weapons rate of fire scale is about 1/6. The heavy-weapons rate of fire scale is about 1/2.

Two different scales are chosen for rate of fire, to avoid big numbers in tables that refer to infantry weapons and because at engagement distances under 1000 meters (as those simulated in this game), heavy weapons fire is more accurate than light weapons one.

Such scales makes a 120 x 200 cm game board as wide as a 600x1000 meters battlefield for models 20mm, or little wider for models 15mm, of course players are free to play on different sized boards, minimum requirement is that short side measures 100 cm at least.

## COMPONENTS

1 game rulebook.

Army book.

1 shooting and impact angles protractor and 1 ribbon measurer (centimeters).

Many set of cardboard indicators (stationary, moving, firing, target, various damages, etc.) useful to remember the units status in course of play.

1 rectangular game board with short side of 100 cm at least (Not included).

6 or more terrain elements (houses, rocks, Woods, etc.), proportionally to the size of terrain (Not included).

4 dice type, 6-8-10-12 faces (Not included).

Any number of soldiers and military vehicles models in 1/72 scale (Not included).

## TERMINOLOGY

For well understand this rulebook, players must remember the meaning of following terms:

**D6:** 6 faces die.

**D8:** 8 faces die.

**D10:** 10 faces die.

**D12:** 12 faces die.

**Miniature:** it is a 1/72 up to 1/100 scale soldier model, mounted on 18mm round base at least.

**Model:** it is a 1/72 up to 1/100 scale military vehicle or an artillery model.

**Unit:** it is a number of miniatures and/ or models organized for combat together in squads and platoons of army they belong to.

**Line of sight (LOS):** it is a uninterrupted perfectly straight line measured from any weapon of a model, or from head of a miniature, to any part of an opponent model or base of miniature, in range of sight.

**Line of fire (LOF):** it is a uninterrupted perfectly straight line measured from the weapon barrel of a model, or from head of a miniature, to any part of an opponent model or base of miniature, in range of fire.

**Firing arch:** it is the included angle between the two lines of fire (LOF) generated by rotation limits of an heavy weapon

**Impact angle:** it is the angle between the line of fire (LOF) of a firing weapon and the armor plate hit of an armored vehicle.

**Command unit (HQ):** it is the squad leaded by an officer, it can even send direct fire requests to other units.

**Observation unit (OS):** it is the squad leaded by an officer, it can even send direct fire requests to other units and indirect fire requests to the artillery battery it belongs to.

**Shelter:** it is any natural, artificial, or military terrain element able to obstruct the line of fire and/or reduce the fire effects.

## ARMIES

Players can play with German, English, American or Russian armies, at the moment the choice is limited at the four that had competitive armored vehicles since 1940 until 1945.

For each army is available a specific Army book that contains the organization charts of the most important company-level, battery-level and platoon-level units.

For example:

TANKS PLATOON
<b>1941-1945:</b> from 3 up to 5 tanks: M3-Lee; M4A1-Sherman; M4A3-Sherman; M4A3e8-Sherman; M4(105)-Sherman. <b>Note:</b> 1 vehicle must be commanded by a Lieutenant, at +50 extra-cost points, it can send a DFR to friend units within battle field.

Each platoon-level chart is followed by a charts list of team-level units, with all features useful to the game: movement allowance, radio availability, men number, number and types of weapons with respective features, specific notes and an icon, or an armor scheme for the vehicles.

For example:

Tank M4A1-Sherman (1942) Points: 730 recruit / 800 skilled											
MOVEMENT: Tactical = 36 cm   Brief = 18 cm   Slow = 9 cm   On road = Tactical x 2						RADIO: yes					
CREW: 5 men (1 Sergeant + 4 soldiers)						RANGES - cm			Shots per turn		
WEAPONS:		Location	Trajectory	Fire	Shells	cm-blast	Short	Effective	Long	Stationary	Moving
1 Cannon cal. 75 mm	turret	straight	direct	AP,HE	4 cm	75	300	600	2	1	
1 machinegun M1919A4	coaxial	straight	direct		-	24	70	140	12	12	
1 machinegun M1919A4	body	straight	direct		-	24	70	140	12	12	
1 smg Grease Gun	Sergeant	straight	direct		-	-	15	35	6	6	
4 pistols colt 1911A1	soldiers	straight	direct		-	-	10	15	3	3	
NOTES: -											

**cm ARMOR**

Before begin to play, players have to compose their units list, basing their choices on platoon or battery sized units into the Army list, for each platoon/battery players must acquire at least the half of teams/vehicles of the full strength unit (For example: *If the American player wants buy a Sherman tank platoon, he must take at least 3 tanks, because the full strength platoon had 5*).

This restriction is mandatory because normally, when casualties of a platoon were over 50% of the unit full strength, survived forces were destined to complete other platoons that suffered minor losses.

Squad section teams are the smallest units which players can maneuver on the game board (2-6 miniatures), normal units are infantry squads (8 –12 miniatures), single artillery weapons models (3-12 crew men) and single vehicles models (1-8 crew men).

When game starts each team is complete, its points cost depends by type of unit and by its combat skill (**CS**) that is based on fighting experience.

Data of all units available for each army are listed in the “Army list”, for each type of platoon or battery can be found different compositions and different weapons, each composition and each equipment always refers to date they became available.

Points amount (useful to acquire units) has to be decided by players before game starts, in function of miniatures and models they have available, year, size of game surface, tactic situation.

### UNITS TYPES

Army lists

- 1) Infantry units: teams of miniatures, including their weapons, that are able to act and move both independently or carried on vehicles;
  
- 2) Artillery units: models of heavy weapons and respective miniatures crew which are able to act independently, but that need of suitable vehicles in order to be moved.
  
- 3) Vehicle units: models of vehicles, including their miniatures crew, which are able to act and move autonomously.

Unit combat skill must be the same for all squads/teams that belong to the same platoon/battery, it means that players can choose platoons/batteries with different skill level, but they cannot include squads/teams with different skill level into the same platoon. While composing army lists, players have to be careful that combat skill may considerably change cost of the same type of platoon/battery.

On average, with a 200x120 cm battlefield size, each player should have 5000 up to 10000 points, depending on the reference year (5000 for the years from 1940 to 1942, 10000 from 1943 to 1945), but there is no mandatory limit, nor for size of battlefield, nor for points, both of them can be changed on players preferences.

### UNITS COMBAT SKILL

Represented by 'CS' abbreviation in the army lists, it indicate the readiness and combat ability of each military unit, value of this parameter is related to the following definitions of experience:

- Recruit CS = 0;
- Average CS = 1;
- Veteran CS = 2;
- Elite CS = 3;

Skill level is used to determine the outcome of almost all types of tests that are performed in course of game (courage, precision, action readiness, etc.) and it is a very important factor for units combat effectiveness.

### COMMANDER RANK VALUE

Each unit, depending on its size and importance is coordinated by one or more commanders (leaders), commanders are all officers, under officers and graded commonly found in the hierarchical scale of each army. Higher are the rank of commander and greater is the ability of unit to perform combat actions, further troop morale will be more strong.

For each rank is associated a value "CR", according with the following hierarchical scale:

- Corporal and Corporal Major CR = 0;
- Sergeant and Sergeant Major CR = 1;
- Lieutenant and Tenant CR = 2;
- Captain CR = 3;
- Major and higher ranks CR = 4.

CR is used to determine the outcome of almost all tests that are performed in course of game (courage, fire requests, action readiness, etc.) and it is an other very important factor for units combat effectiveness.

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## COMMUNICATION AMONG UNITS

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In order to combat, all soldiers belonging to the same team (infantry squad or section, artillery team or crew of a military vehicle) and all teams or crews in the same platoon (infantry platoon, vehicles platoon, or artillery battery) must stay near to other units they have to deal with. The maximum distance at which units are able to communicate constitutes the limit beyond which soldiers or small units remain isolated.

If a miniature is isolated from the rest of his team, it no longer has **CR** parameter for all combat tests, this situation persist until it can come back in communication range with its team or another team of same platoon.

Similarly if an infantry squad, artillery model, or a vehicle crew, remains isolated from other teams of its platoon, it may still have **CR** parameter if its leaders are not dead, but it cannot report or receive information about location and detection of enemy units.

Of course communication range varies according to the type of communication (voice, gesture, bright signal, radio or telephone) and morphology of terrain.

Communication Table reports the following communication ranges useful for game:

1) Among miniatures of same squad, section or crew:

- **16 cm** on clear terrain;
- **8 cm** over or inside any area terrain element;

2) Among infantry squads, heavy weapons or crews, that belongs to the same platoon or battery:

- **32 cm** on clear terrain;
- **16 cm** over or inside any area terrain element;

- 3) Among infantry squads, heavy weapons or crews, that belongs to same platoon or battery, if radio equipped :
- **128 cm** on clear terrain;
  - **64 cm** over or inside any area terrain element;

All teams stationed in sandbags emplacements, trenches and bunker, they always have 128 cm Communication Range, because organized defenses had field telephones.

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### TERRAIN ELEMENTS

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Game board is considered as clear terrain, above it should be positioned scenic areas and items that may limit sight lines and fire lines, as well as provide shelter from fire. Number of elements to put on battlefield depends by availability of players according to them choices (size of terrain and type of battle they want play).

There are three terrain categories:

- **NATURAL**: rough, field, woods, hills, slope-bushes, rocks, cliffs, water-streams, swamps, hedges, fords;
- **ARTIFICIAL**: big-buildings, stone-houses, wood-houses, walls, bridges, roads;
- **BATTLEFIELD**: craters, barbed-wire, road-blocks, tank-traps, minefields, trenches, sand-bags, bunkers.

Except for hedges, walls and barricades which can have a linear shape, all other items must have a base and for this reason are considered area terrain items.

There are no fixed limits about shape and size for terrain bases, however it would be better that each terrain base size never be wider than 1 thirtieth of entire surface of the game board.

Bases of battlefield terrains and artificial terrains would have to be wide enough to put a complete infantry squad unit, or a large military vehicle above them at least.

Each Battlefield area element, including mine field, barbed wire, tank traps or any mix of them, must never be wider than 30x30 cm.

Regardless shape and size of terrain items, the effects on movement of units, visibility, shooting and shelter, act on all models which they are fully located on.

All terrain effects about movement of units and shelter are listed in the 'Terrain Effect Table', instead effects about the sight lines are listed in the 'Spotting Table'.

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### BATTLE TYPES AND ARMIES DEPLOYMENT

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After to have established the year which fight situation will take place on, in order to choose proper units from respective army lists, players not always have available the same points amount to spend in order to acquire units, because forces ratio depends by type of battle to be fought:

**ASSAULT**: attaching army has available the double of points (useful to acquire units) than defending army.

- 1) Players assign the points amount for each army by mutual agreement.
- 2) Natural elements are placed anywhere on terrain board alternately by players (one at a time starting by player with the smaller army) which may choose location and orientation of each one.
- 3) Artificial elements are placed anywhere on terrain board, only by player with the smaller army (defender) which may choose the preferred location and orientation.
- 4) Defender player divides the terrain board into two halves, by tracing a virtual line, then he chooses the half in which to deploy, further he take one battlefield element (entrench, bunker, minefield, barbed wires, obstacle...) for each squad/team unit in his army.
- 5) Shelter elements (bunkers, entrench...) have to be placed by defender anywhere and with any orientation, within the half-battlefield chosen to start.
- 6) Obstacles elements (barbed wires, minefield...) have to be placed by defender, anywhere and with any orientation, on the  $\frac{3}{4}$  of battlefield including his starting half.
- 7) Defender player deploys all units on first, within his starting zone, anywhere inside or outside terrain elements.
- 8) Assaulting army starts the game outside from terrain board, all units must enter from the longest edge in front of the defence line, in course of first and/or second turn of play.
- 9) Attacker player always declares first which platoon/battery he is going to maneuver in all turns of game.

**ADVANCE:** defending army has available 75% of points (useful to acquire units) than attacking army.

- 1) Players assign the points amount for each army by mutual agreement.
- 2) Natural elements are placed anywhere on terrain board alternately by players (one at a time starting by player with the smaller army) which may choose location and orientation of each one.
- 3) Artificial elements are placed anywhere on terrain board, only by player with the smaller army (defender) which may choose the preferred location and orientation.
- 4) Defender player divides the terrain board into four parallel quarters along the major side, by tracing 3 virtual lines, then he chooses 3 contiguous quarters in which to deploy his army.
- 5) Defender player deploys all units on first, within his starting zone, anywhere inside or outside terrain elements.
- 6) Attacker player starts the game keeping army outside the terrain board, all units must enter from the longest edge of the free quarter of battlefield, in course of first and/or second turn of play.
- 7) Attacker player always declares first which platoon/battery he is going to maneuver in the first and second game turn.

**COUNTERATTACK:** Points ratio should be about the same for both armies.

- 1) Players assign the points amount to both armies by mutual agreement.
- 2) Natural elements are placed anywhere on terrain board alternately by players (one at a time starting by player with the lowest point amount) which may choose location and orientation of each one.
- 3) Artificial elements are placed on the terrain board just as the natural ones.
- 4) Players roll a D6 to determine the opposite sides of battlefield that armies will enter from (1-3 = short sides, 4-6 long sides).
- 5) Both players start the game with armies outside the terrain board, all units must enter from opposite borders of battlefield, in course of first and/or second turn of play.
- 6) Players roll a D6 to determine who chooses the side his army enter from.
- 7) At the beginning of each turn, players roll a D6 to determine who declare the platoon/battery to move for first maneuver, then players go on alternately.

### **VICTORY CONDITIONS**

Regardless type of battle, players have to decide what is the goal of game by mutual agreement:

- **DESTROY**, victory depend on the army-points ratio of destroyed units, it is calculated at the end of the last game turn, if difference between casualties of armies is less than 10% the game is draw, otherwise the winner army is the one with less casualties.
- **CONQUER**, after the terrain elements are placed on terrain board, players choose one up to three of them as strategic element, by mutual agreement. At the end of the last game turn, regardless casualties, army with one or more unit (not in panic) in range of 10 cm from the strategic element, without enemy units in range of 30 cm, will be the winner. In case there are more strategic points, wins the army which controls the most of them, otherwise game is draw.
- **DESTROY AND CONQUER**, Each side should try to reach both previous goals in order to obtain one of following victory levels:
  - 1) Decisive - the winner has reached both goals.
  - 2) Marginal - the winner gets only one goal and the opponent none.
  - 3) Draw - all other cases.

### **TIME OF GAME**

A standard play which takes place on a 200x120 cm terrain board and with 5000, up to 10000 points, for army (5000 points 1940-42; 10000 points 1943-45) ends in 10 turns. At the end of 9th turn players roll a D6: 1-2 immediately ends game, 3-4 game ends at the end of 10th turn, 5-6 game ends at the end of 11th turn.

Of course playing on wider terrain boards and with more points for armies it will requires a greater number of turns, for example: playing on a 200x240 table with 10000/ 20000 points it would requires at least 16 turns (roll a D6 at 15th turn) and so on.

No limit is mandatory to plan this game, players may decide the size of game by mutual agreement, tactical situation and historical coherence.

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## TESTS

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In course of game and in several situations, the squad-level units must perform some tests in which a dice score and respective CS and parameters determine the situation development, all these tests are indicated in the "Tests Table".

- Readiness - test RT: It must be performed in order to determine the appropriate actions sequence of the units involved in fighting. Each player rolls a **D6** and adds to result the "Combat Skill" (**CS**) and "Command Rank" (**CR**) value of the squad-level unit which test is performed for, teams which gets the highest score value perform action on first.
- Direct fire request - test DFR: It must be performed when a squad tries to report a target to a friendly unit which could not fire, just due to the sighting limits. Player must roll a **D6** and a **D10**, then he adds the **D6** score to the sum of the **CS** and **CR** values of the unit which try to report, if result is equal or higher than **D10** score, communication takes place and friendly unit can fire (direct or indirect fire) against target into its turn. Otherwise communication fails and friendly unit can only fire against targets which is able to spot.
- Indirect fire request - test IFR: when a radio-equipped squad requires artillery fire to batteries located outside the terrain board. Player must roll a **D6** and a **D12**, then he adds the **D6** score to the sum of the **CS** and **CR** values of the unit (only HQ) which requires fire, if result is equal or higher than **D12** score, request is agreed and artillery fire may be planned on battlefield (grenades fall on battlefield at the end of next game turn). Otherwise communication fails or artillery is not available at the moment.
- Can't fire - test CF: It must be performed when a squad which has not performed, or it is performing, maneuvers in the current turn, it is hit by heavy weapons fire. Even if team doesn't suffer damages or casualties, in order to simulate the probability that units maneuver to avoid to be hit again prior to fire at enemy. Player must roll a **D6** and a **D10**, then he adds the **D6** score to the sum of the **CS** and **CR** values of the unit hit, if result is equal or higher than **D10** score, unit can perform any action including shoot, otherwise it can only move. If the unit under fire has already fired this test must not be performed.
- Courage test CT: It must be performed when squads get casualties or damages from heavy weapons fire, or when squads assault enemy units, in order to simulate the situation in which teams refuse to perform actions and fall in panic. Player must roll a **D6** and a **D8**, then he adds the **D6** score to the sum of the **CS** and **CR** values of the unit, if result is equal or higher than **D8** score nothing happens, otherwise team falls in panic. If team was going to assault, it does not fall in panic but it cannot perform actions.
- Precision test PT: It must be performed to hit the target by using hand-bombs and explosive-devices hand launched, or to center open-top vehicles. Player must roll a **D6** and a **D10** (**D12** for open top vehicles), then he adds **CS** values of the firing unit at the **D6** score, if result is equal or higher than **D10** / **D12** target is hit, otherwise bomb misses and "HEAVY WEAPONS SCATTER / INACCURACY" must be used in order to determinate the explosion point.
- Dodge test DT: It must be performed when a squad moves on a minefield, in order to simulate the probability to jump on mines, or when a squad tries to dodge an armored vehicles overrun. Player must roll a **D6** and a **D10**, then he adds the **D6** score to the **CS** value of the unit test is performed on which, if result is equal or higher than **D10** score, unit does not jump on mines, or it dodges enemy overrun, otherwise it takes damages.
- Melee combat MC: it must be performed for each miniature in contact of base with a miniature of an enemy team. Players must roll a **D6**, then they add the **D6** score to the **CS** value of the respective miniatures, the one with the lower result is eliminated, if result is the same nothing happens (combat continue in the next turn).

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## GAME PROGRESS

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Players maneuver their forces (squad-level units) on the terrain board seeking to destroy enemy units or gain specific territorial objectives which are decided by mutual agreement.

Standard game ends in 9 up to 11 turns.

Each complete turn represents 1 minute of real time and is subdivided in the following main phases:

- 1) **Maneuver-chips assignment;**
- 2) **Communication and Artillery fire requests;**
- 3) **Unit Maneuvers of both armies, one platoon-level unit at a time;**
- 4) **Artillery indirect fire;**
- 5) **End of turn;**

### MANEUVER-CHIPS ASSIGNMENT

At the beginning of each game turn, players must declare if all the unit teams aggregated at a same platoon (defined by "from 0 up to..." in the platoons descriptions of the army list) will be maneuvered just like if they would be an independent platoon rather than together the platoon they belongs to.

After counted the respective platoon-level units, player with the less platoons takes a number of maneuver-chips that corresponds at the difference of platoons/batteries between the opponents armies.

In course of the game turn, a maneuver-chips may be played rather than to maneuver a platoon, to preserve at least a platoon for the last maneuver segments of the turn.

Players cannot change the number of their platoons in course of the game turn.

Each maneuver chip may be played in the maneuvers phase to avoid to maneuver a platoon-level unit, in order to wait for a best opportunity.

By using maneuver-chips it can happen that opponent player have to maneuver several platoons/batteries consecutively.

Use of maneuver-chips never is mandatory and anyway unused chips are lost at the end of each game turn.



### ARTILLERY FIRE REQUEST (indirect fire)

- Any squad-level unit able to spot an enemy unit may perform a **DFR** test, such as explained at page 6 and into the "Test" table, in order to try to communicate the location of enemy to an other squad of the same platoon/battery which is located within some distance listed in the "Communication" table.
- Any platoon/battery command section may perform a **DFR** test in order to transmit the location of an enemy unit to the command section of whichever platoon/battery or company within the battlefield board, to the "Communication" table.
- Any battery command section may perform a **DFR** test in order to transmit the fire request to its battery within the battlefield, or it may perform an **IFR** test, such explained at page 6 and into the "Test" table, if its battery is outside the battlefield board.
- The company command section may perform **DFR** or **IFR** test in order to respectively transmit the fire request to any battery within or outside the battlefield board.
- If the artillery command section is in range of 32 cm (direct sight line) or 16 cm (interrupted sight line) from the nearest artillery team, no IFR or DFR test has to be performed, because communication always successful.

Indirect fire of artillery may be requested only from the company commander (captain) or battery commander (lieutenant) of mortars, howitzers and some cannons types, only if a **DFR** or **IFR** test was successfully performed.

*(Example 1: a German infantry squad spots a British cannon lurking in a trees terrain, German squad may perform a DFR test in order to communicate to other more far squads of the same platoon, that were not able to fire due to sighting distance, the location of cannon. If test is successful, all German squads of the same platoon in range of fire can shoot to the British cannon in course of respective maneuver phase).*

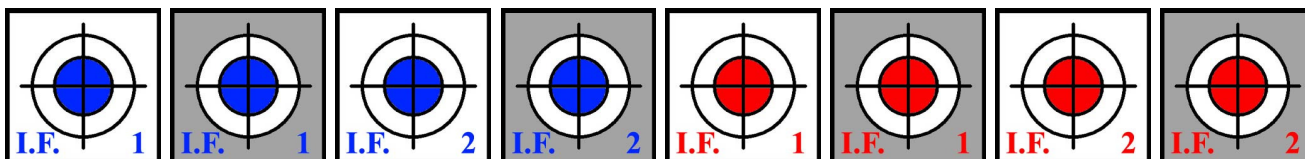


(Example 2: a British infantry squad spots a German Tank, a DFR test is performed in order to communicate the location of tank to the command section of the infantry platoon, if test is successful, the infantry platoon commander can perform a DFR test in order to transmit a fire request to a battery command section which is located within the battlefield, if test is successful yet, the battery command section can perform an IFR test to try to transmit the order of fire to the howitzers that are located outside the battlefield board.)

Practically the **DFR** and **IFR** tests reflect all problems due to communications on the battlefield and targets priority that could effect on immediate artillery fire availability.

Each indirect fire request involves the full battery use and all artillery weapons must fire against the same target. Indirect fire may be directed upon any terrain point, even where there aren't enemy units, but only if exist a direct sight line between the command section (HQ) which has performed the **DFR** or **IFR** test and the target point.

In order to designate the indirect fire on the battlefield, players have to use the markers sets IF, each set has a red or blue aim, to distinguish the German and Allied indirect fire, a white or gray background, to distinguish the even or odd turns of game and a number, 1 or 2, in order to distinguish 2 batteries of the same army.



Players must place one IF marker near at command section of artillery battery, the other 4 markers must be placed in different points of the battlefield board, but only one of them (marked in the hidden side) defines the true target of fire, other markers are false targets.

This procedure is necessary to avoid that opponent player exactly knows the area which will be hit by artillery fire, instead it has to be revealed only in the artillery fire phase.

Target markers may be placed anywhere on the terrain elements and/or clear terrain, because indirect fire attacks are directed against specific areas, not necessarily specific enemy units.

If target markers have been placed upon enemy vehicles which moves in their segments of turn, markers must remain on terrain in the same points they were upon the vehicles.

If target is an Artificial or Battle-field terrain element, regardless of the target counter location, the referring point always is the center of the area.

#### Targets markers never can be placed:

- On terrain points or elements that are not visible from the command section which submit the artillery fire request;
- Over 5 cm inside borders of woods or others terrain elements which may interrupts the sight line;
- Upon no point of the battlefield board located in range of 12 cm from unspotted opponent units.

An unit can only perform a single direct (**DFR**) or indirect (**IFR**) fire request during the same game turn.

The indirect fire of batteries located on the game terrain takes effect in the last phase of the same game turn in which it has been requested.

The indirect fire of batteries located outside the game terrain takes effect in the last phase of the turn following the one of request.

## **MANEUVERS**

Each game turn is subdivided in a number of maneuvers segments that corresponds to the number of platoons-level units of the largest army.

Each maneuver segment involves only one platoon/battery for each army and is simultaneously played from both players, according to the sequence established by the readiness test RT (see page 6 and "TESTS" table) performed for each team/section of the involved platoons.

At beginning of first maneuver segment of each turn (if it not specified by the battle type rules) players roll a D6 in order to establish who must start to declare which platoon/battery is going to maneuver, in the following segments, players make this declaration alternately.

By using maneuver chips it can happen that a player must perform more maneuver segments consecutively, with no opponent units, in this case no RT test is necessary and the active player may establish the preferred maneuver sequence.

Each squad/team can perform only one Maneuver-segment in the same game turn, regardless how many units each army have available.

Each team-level unit placed on the battlefield board always has to be marked with status marker pieces ('stationary', 'moving', 'firing') which reminds the actions that unit is performing and that must be placed near to the team.

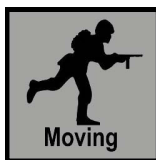
All units placed on the battlefield at the beginning of game must be marked as 'Stationary', all units entering from battlefield borders without firing, in course of game, must be marked as 'Moving'.

In course of game, status markers must be added or replaced when teams start to performing specific actions. Status of each squad-level unit persists from the start of a specific action, performed during its maneuver segment, until the start of a different action performed during its maneuver segment in the following game turn.

Action status markers have white background color for odds turns or gray background color for even turns, respectively, they define 3 main types of action.



- For stationary vehicle units that have not shot.
- For infantry/artillery units that have not shot or exceeded the 'slow' mode movement.



- For vehicle units that have not shot but are moving.
- For infantry/artillery units that have not shot but are moving in 'brief' or 'tactical' mode.



- For any kind of unit that opens fire and results visible by enemy units not in panic.
- If all enemy units in range of spotting are eliminated, or in panic, this marker will be replaced with a 'Stationary' one at the end of turn.

When a unit starts to perform its actions or takes hits, it must be immediately marked with appropriate status marker ('stationed', 'moving', 'fired', 'can't fire', 'panic'...).

When a maneuver segment starts, player who has got less units may play a maneuver-chip rather than a platoon/battery, in order to keep forces available to contrast enemy units later in the current game turn, leaving the opponent player free to move all squads in any order.

## MANEUVER TYPES

Each squad/team/vehicle can perform only one of following types of maneuvers into maneuver-segment of its platoon.

### Simple Maneuvers:

- Fleeing units recovery – a team unit (or vehicle) in panic performs tests **CT**, then it moves from 1 cm up to the "Tactical" number of cm into the section "Movement" of the "Unit chart" (see page 12);
- Lurk - team unit (or vehicle) are stationary and ready to fire, performing no action;
- Conceal - team unit (only infantry or artillery up to caliber 60mm with more than 50% survived crew) moves without exceeding the "Slow" movement of the "Unit chart";
- Fire - team unit (or vehicle) fires the "Stationary" number of shots, with each single weapon listed into the respective unit chart (*examples: 6 Kar-98 rifle = 6 x 2 = 12 shots; 2 smg-Thompson = 2 x 5 = 10 shots...*);
- Move - team (or vehicle) moves from 1 cm up to the "Tactical" number of cm into the section "Movement" of the "Unit chart";
- Hook on - carrier vehicle hooks artillery piece, it must begin maneuver-segment with the rear already in

- contact with the tails of the artillery piece to be towed, vehicle cannot move in the same maneuver segment;
- Unhook - carrier vehicle unhooks artillery piece, vehicle cannot move in the same maneuver segment;
- Embark - infantry or mortars team climbs into the carrier vehicle, all miniatures must start the movement within 8 cm (Brief movement) from sides or rear of the vehicle (miniatures are removed by terrain, leader may be put upon the carrier as reminder);
- Disembark - infantry and mortars team goes out from the carrier, all miniatures must be placed within 8 cm (Brief movement) from the sides or the rear of the vehicle.

### Complex Maneuvers:

- Move and fire - (or vice versa) team-unit performs a "Brief" movement, then it fires the "Moving" number of shots for each weapon listed into the unit chart;
- Fire and conceal - team-unit (only infantry and some artillery) fires the "Moving" number of shots for each weapon listed into the unit chart, then it performs a "Slow" movement;
- Unhook and fire - (or vice versa) vehicle unhooks the artillery piece without moving, while it fires the "Stationary" number of shots with each weapon listed into the unit chart;
- Hook and fire - (or vice versa) vehicle hooks on the artillery piece without moving, while it fires the "Stationary" number of shots with each weapon listed into the unit chart;
- Load and fire - (or vice versa) vehicle picks up the infantry/mortar team, while it fires the "Stationary" number of shots with each weapon listed into the unit chart;
- Unload and move - (or vice versa) vehicle unloads infantry the team then it performs a "Brief" movement, also it may fire the "Moving" number of shots with each weapon listed into the unit chart;
- Fire and assault - team fires the "Moving" number of shots with each weapon listed into the unit chart, then it performs a "Tactical" movement to take contact of bases with an enemy unit.

Tank turret turning is not considered movement, it can be performed up to two times into any moment of the maneuver segment, without exceeding a cumulative arch of 180°, this rule is valid also for artillery pieces mounted on turntable base.

### MANEUVER SEGMENT

A maneuver segment is an action phase of a platoon/battery of both players in which the movement sequence of each team/vehicle has not a fixed order, but it takes place based on results of the readiness tests **RT**.

This procedure simulates the unpredictability of action on battlefield, in which well trained teams have more chances to act or react before than the less experienced ones:

- 1) A player declares the platoon/battery that is going to maneuver or he plays a maneuver-chip, then other player does the same. If players hasn't got maneuver-chips must maneuver one platoon or battery.
- 2) Both players perform a readiness test **RT** for each squad or team section included in the platoon/battery (see page 7 and "TESTS" table), a die indicating the **RT** score is placed beside each team/vehicle involved.
- 3) Independently by army, teams/vehicles are maneuvered into the **RT** decreasing order.
- 4) If more teams have the same **RT** score, players place the status markers of the maneuvers reversed near to the respective units, then players turn the markers, in order to reveal the established maneuvers which must be performed in the following order: "Fire"; "Fire and move"; "Move and fire"; "All other maneuvers". If more teams perform the same type of maneuver, their actions must be performed simultaneously and damages/casualties will be assigned at the end of all maneuvers of involved teams.
- 5) All teams/vehicles of the same platoon/battery must perform their maneuvers into the maneuver segment of the main unit, with the only exception of the "Opportunity fire" rule (see later).
- 6) Just before maneuver each team/vehicle, player must declare what type of maneuver is going to perform (examples: "Sherman tank performs Move - Simple Maneuver", "The platoon command section performs Fire and move – Complex maneuver", ...) and the exact point of battlefield that will be reached, if maneuver includes movement.
- 7) If a maneuver chip is played, the opponent player may freely maneuver his units, avoiding to perform RT tests.
- 8) All actions of a team/vehicle must be completed before that an other team of the same player can be maneuvered (with the only exception of "Opportunity fire rule").

- 9) When all teams/vehicles involved in a maneuver segment have completed their actions, players may perform the segment of an other platoon/battery, until all units of both armies will be maneuvered and all respective status markers are been updated.

### **FLEEING-UNITS RECOVERY**

Fleeing units are the squad level units which have failed all **CT** tests (courage test) performed in previous game turn, due to losses or heavy weapons fire.

Because these units are escaping away from enemy forces, players may attempt to retake them control by performing further **CT** tests.

Players may perform a **CT** test, such as explained at page 6 and in table "Test", by using the **CR** of each commander included in the squad in panic, plus one if squad is at communication distance from command team **HQ**, by using the **CR** of the officer (*For example, if a fleeing squad includes 2 commanders, 1 Sergeant and 1 Corporal, two CT tests may be performed by using the respective CR values, if squad is in range of 32 cm from the platoon command section one more CT may be performed by using CR of lieutenant*).

- If at least one test is successful, squad in panic is recovered but it can only perform a "Move" simple action in the current game turn, otherwise, if unit is an infantry team/crew, it will be dispersed and must be removed by game, instead, if unit is a vehicle, it will retreat as quickly as possible toward the entrance side.
- The fleeing squads that have lost all leaders are eliminated, but all miniatures in range of 16 cm from leader of others squads of the same platoon, may be aggregated at it, by performing a successful **CT** test by using the **CR** of the commander. All miniatures distant more than 16cm are dispersed.
- The fleeing vehicles may perform **CT** test in their maneuver segment of each turn of the game, but if they go out from terrain board, due to **CT** unsuccessful tests, vehicles are eliminated.
- The fleeing vehicles may fire only light weapons in course of their retreating.
- If fleeing vehicles cannot retreating due to damages, they are abandoned by crews that must disembark in range of 8 cm around the vehicle, crews on the ground are treated like infantry units.
- Abandoned vehicles remain on the battlefield until the game ends, at the end of game they are considered destroyed.
- The recovered crews move like infantry squads and can return into their vehicles or they can take other abandoned vehicles, but they cannot perform other actions in the same turn.
- Dispersed units are considered destroyed in score terms.

### **OPPORTUNITY FIRE (optional rule)**

To limit undisturbed movements of unit in range of the enemy fire, each team/vehicle, which has not performed maneuvers yet in the current game turn, may shoot "Fire - Simple maneuver" against an enemy unit that expends half or more of its movement allowance continuously in range of fire.

The following rules constitute the only exception in which a team/vehicle can fire (only direct fire) outside of the maneuver segment of the platoon/battery it belongs to:

- 1) The target units always is considered as "Moving".
- 2) All firing units must be declared (they can be more than one) before the action starts.
- 3) The firing units can perform only a fire maneuver in the current game turn (weapon turning included), regardless the maneuver segment of the unit they belongs to.
- 4) The moving unit can be hit only in the second half of the movement performed in sight of the firing units.
- 5) Opportunity fire anticipates and substitutes the maneuver that would be performed in the maneuver segment of platoon/battery unit.
- 6) All firing teams/vehicles cannot perform other maneuver in the current game turn and must be immediately marked with "Firing" and "Stationary" status markers.
- 7) Units can fire the "Stationary" number of shots if target is visible for its full route.
- 8) Units can fire the "Moving" number of shots if target is visible for less than the full route.

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## AS UNITS MOVE

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The movement allowance of units is based on the real distance presumably reachable at the combat speed off road. This speed considers all factors that normally could limit the speed off road. It means that in the scale of game this movement allowance is defined as "Tactical movement" and may be much different for each unit type.

**"Tactical" movement for all miniatures is 16 cm.**

**"Tactical" movement for the models is specific for each vehicle type** (see the army list book).

Each game turn, each team/model level unit may perform a movement (no mandatory) of 2 cm at least, up to the movement allowance permitted by terrain types and maneuvers.

### Movement types

All movements are calculated in terms of cm, there are 4 types of movement allowance indicated into the green background section of the team charts (see Army list books):

- 1) **"Tactical"**: the maximum distance in cm that an unit can reach by performing a "Simple maneuver" in clear terrain (battlefield without scenic element areas);
- 2) **"Brief"**: the maximum distance in cm that an unit can reach by performing a "Complex maneuver" and/or moving in some areas;
- 3) **"Slow"**: the maximum distance in cm that an unit can reach, moving in some rough areas, for backward moving vehicles and for hidden infantry movement;
- 4) **"On road"**: the maximum distance in cm that an unit can reach, moving on roads and urban areas.

Keep in mind the general rule, "Slow" is the half of "Brief" and "Brief" is the half of "Tactical" (example: *if "Tactical" = 32 cm, "Brief" = 16cm and "Slow" = 8 cm*), so remember only the "Tactical" value.

If an unit moves across different terrain types, it must be considered the movement allowance of the more restrictive terrain found along the complete route, with the only exception for roads.

When units move on roads, each cm is triplicated for wheeled vehicles, doubled for tracked vehicles, unchanged for infantry and mortars teams.

### Movement Route

The movement route of teams/vehicles must be performed along one or more straight line segments (easy to measure), up to the respective movement allowance, miniatures of infantry teams can freely change direction, instead models of vehicles may change direction by performing limited rotations:

- For direction changes by 0 up to 15°, there are no penalty, but are not admitted consecutive changes toward the same side.
- Tracked vehicles can rotate by 16° up to 180° for each single direction change, by spending 4 cm of movement allowance on all types of terrain (example: *a tracked vehicle with tactical movement allowance of 40 cm must subtract 8 cm if changes direction 2 times in course of its route, so the effective distance that it can reach is reduced to 32 cm*).
- Half-tracked and wheeled vehicles can rotate by 16° up to 90° for each single direction change, by spending 4 cm of movement allowance on all types of terrain, they cannot perform consecutive direction changes, they must proceed straight for at least 4 cm before a further direction change. (example: *if a wheeled vehicle flees back must perform 2 direction changes to rotate by 180° and 4 cm along a straight line between them, so the effective retreat is reduced by 12 cm*).

### Terrain affects movement

Because the terrain type may greatly reduce the movement allowance of units, the "Terrain Effects" table shows the movement allowance of each unit type on each type of terrain, by matching the terrain type row with the unit type column. Results can be:

- Impassable - unit cannot enter and/or moving on that terrain type;

- Passable - unit can enter and/or moving on that terrain type by performing the movement type indicated, while moving or removing obstacles;
- Dangerous - unit can enter and/or moving on that terrain type by performing the movement type indicated and a dodge test **DT** (see page 7 and "TESTS" table).

Before the game starts, players would have to decide, by mutual agreement, the classification of eventual terrain elements not included into "Terrain Effects" table.

### **Artillery movement**

Cannons and howitzers only may be moved towed by vehicles or crew, instead mortars can be transported by crew and loaded into vehicles.

Hooking and loading actions must be performed in the previous game turn, because artillery pieces must start the maneuver phase already hooked to the vehicles (or inside if mortars) in order to be moved.

If artillery piece can be towed only by crew, unit must have more than 50% of its full force.

The crew movement around the artillery piece always is treated as an infantry "Slow" movement.

Into the Army books are listed all artillery units and the "Notes" section of each table describes modalities in which the artillery piece can be moved or turned, further, if in the "Moving" column of the "Weapon" section there is a number, the artillery piece can fire in the same maneuver segment in which it moves.

The icon type into unit table can show 4 different base types for artillery pieces, that affect on movement allowance and fire direction.

- Base plate (small circle): is typical of mortars which can be disassembled and moved by crews at infantry movement allowance, or loaded into transport vehicles.
- Carriage (2 wheels): artillery pieces can be turned and/or towed by crew or by vehicles, as specified in the section "Notes" of the respective unit charts. Generally anti-tank cannons up to 50 mm caliber may perform 'Move and fire' maneuvers because they also can be towed by crew ('Brief' movement).
- Rotating platform (big circle): artillery pieces never can be moved from the starting placement location.
- Carriage + rotating platform (2 wheels + big circle): artillery pieces can be turned and/or towed by crew or by vehicles, as specified in the section "Notes" of the respective unit charts.

### **Embark and disembark from vehicles**

Any infantry team may climb into vehicles which are able to load all miniatures of the team (see "Notes" of vehicle table), some trucks can load more than an infantry team, but they cannot load more than a team in the same maneuver segment.

#### In order to embark:

- 1) Infantry or mortars teams cannot fire in the maneuver segment in which they climb on the carriers.
- 2) Teams may perform a "Simple maneuver" in order to climb on/into carriers.
- 3) The squad leader must be able to reach the base contact with vehicle in the loading maneuver segment.
- 4) Vehicles cannot move in the loading maneuver segment, but they may fire the "Stationary" number of shots, with each single weapon listed into the respective unit chart.
- 5) Vehicles able to load more teams can load them only one team for maneuver segment (2 teams = 2 turns).
- 6) When teams are loaded into vehicles, miniature leader must be placed upon the carrier model, instead others miniatures must be placed outside of battlefield.

#### Passenger teams:

- Infantry team loaded inside a vehicle is treated like crew when attacked by heavy weapons fire.
- Infantry team loaded inside an open-top armored carrier may be attacked by light weapons fire, but it must be treated as behind a medium shelter.
- Infantry team loaded outside on top of armored vehicle may be attacked by light weapons fire, but it must be treated as with no shelter.

#### In order to disembark:

- 1) Carrier unit can move "Brief" movement allowance and fire all weapons without exceeding the "Moving" number of shots, or it may stay motionless and fire the "Stationary" number of shots.
- 2) Passenger teams can dismount from sides or from rear of vehicle, within 16 cm from it (infantry "Tactical" movement allowance), or within 8 cm ("Brief" movement allowance), if carriers move in the same maneuver segment.

- 3) 2 teams can dismount from the same stationary carrier in the same maneuver segment, the first team within 16 cm from carrier unit, instead the second one within 8 cm (unloading is faster than loading).
- 4) Passenger teams cannot fire in the same maneuver segment they dismount from carriers.
- 5) Passenger teams can be placed inside terrain elements in the same turn they dismount from carriers.

### How to perform infantry units movement

To speed up the game and avoid to measure the route of each single miniature, when teams move, maneuvers must be performed according to the following rules:

- 1) Player must perform and measure the route only of the squad leader miniature, according to the infantry movement allowance;
- 2) Then may be moved all other miniatures of the team, in any order, by placing them in range of the infantry movement allowance to the sides and behind (not beyond) the squad leader.
- 3) The formation of team can be changed without any restriction in course of outdoor or indoor movement.
- 4) **All miniatures of a team always must be moved, or remain, in the same terrain (or terrain element) in which its team leader is located.**

### Infantry units movement inside buildings, trenches and emplacements

- 1) Units cannot enter into the buildings kept by enemy forces.
- 2) Teams inside buildings may be eliminated by fire attacks (see pag 17) or by infantry assaults (see page 22).
- 3) A team can enter into a building just if its leader miniature can end its route inside an entrance (door or window) of the building, then all others miniatures may be placed any order and anywhere on the ground level.
- 4) All miniatures of a team must be placed inside buildings or outside of it, no middle way.
- 5) Teams inside multi-floor buildings cannot move more than 1 floor up, or 2 floors down, for each game turn.
- 6) Inside buildings, team miniatures can be moved without movement allowance restrictions, but are always treated as stationary for spotting and fire attacks.
- 7) Whatever change or movement of miniatures reduces to "Moving" the fire allowance of full team.
- 8) Miniatures inside buildings may fire outside with limitations of **2** for each window, **3** for each door, **4** for each gate.
- 9) Team can leave a building, by moving the miniature leader outside from a door or from a windows of the ground level, then all other miniatures may be placed outside according to the normal infantry movement rules.

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## SPOTTING

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Team-level units may not be fired if are not spotted by enemy units. Terrain elements may be fired only if a unit is spotted inside of them.

Models visible for less than 1/3 silhouette and miniatures visible for less than half silhouette cannot be spotted, regardless all other rules.

Because the terrain type and the unit size may considerably change the sighting distances, to verify if a unit can spot an enemy unit, players have to use the "Spotting" table that lists the maximum distances, measured in cm, at which units are visible.

- 1) Type of unit to spot is the column that defines 3 main groups of types of units that may be spotted:
  - Tanks, self-propelled guns, half-tracks and trucks (they are easy to spot due to their big size);
  - Small tanks, armored-cars, jeeps, cars and artillery pieces (not easy to spot);
  - Infantry, mortars, and bikes (they are difficult to spot due to their small size).
- 2) On terrain type is the column that defines groups of type of terrain where the units are placed:
  - Clear, crops, roads (they permit the best visibility);
  - Trees, ruins, houses, trenches, (they greatly reduce visibility);
  - Rocks, urban, others. (visibility may vary according to different types of unit).
- 3) Status unit to spot: is the column that lists the maneuver type that unit is performing:
  - "*Stationary*": unit is not performing maneuver of fire and/or movement;
  - "*Moving*": units is moving;
  - "*Firing*": unit is firing.
- 4) Normal: is the column of the observation performed by not-armored units (infantry, artillery, transport

vehicles), or by open-topped armored vehicles.

- 5) **Reduced**: is the column of the observation performed by crews of armored vehicles closed;
- 6) **From out of area cm**: is the column of the maximum distance, measured in cm, from which a spotting unit located on clear terrain can spot an enemy unit located in a terrain element.
- 7) **From within area cm**: is the column of the maximum distance, measured in cm, from which a spotting unit located within a terrain element can spot an enemy unit located in the same terrain element.

#### Line of sight (LOS and LOF) limitations

- 1) All units types inside woods areas or buildings/ruins elements must be located within 4 cm from the border in order to be spotted by spotting units located outside the same terrain element (and vice-versa).
- 2) No **LOS** of units located deeper than 4 cm inside woods areas or buildings/ruins elements can reach clear terrain (units cannot see outside the area if are not within 4 cm from borders).
- 3) No **LOS** of units located in clear terrain can reach units located deeper than 4 cm inside woods areas or buildings/ruins elements (units cannot see inside terrain areas for more than 4 cm from borders).
- 4) No **LOS** can cross more than one border of woods or buildings/ruins areas, if it does not pass over all included terrain elements.
- 5) **LOS** are interrupted by walls, hedges, rocks and any kind of terrain obstacle.
- 6) **LOS** are interrupted by vehicles and artillery models.
- 7) **LOS** are not interrupted by infantry miniatures.
- 8) **LOS** cannot pass over burning vehicles and buildings.

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### WEAPONS TYPES

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There are two main types of weapons:

- **Light weapons**: all calibers up to 10 mm (machinaguns, rifles, carabines, sub-machinegun, pistols), are effective against infantry and not armored vehicles, they cannot fire against armored targets. The number of shots of all weapons of the same team with the same range have to be summed in order to resolve the attack with a single die roll (see light weapons fire tables).
- **Heavy weapons**: caliber over 10 mm (heavy-machineguns, mortars, cannons, howitzers, bombs, infantry anti-tank devices) may fire against infantry and each type of vehicle (tanks included). Attack is resolved a shot at a time (see heavy weapons fire tables).

The army book lists all weapons available for each team-level unit (white sub-chart "Weapons"), identified by the respective names, additional information about calibers and ammunitions are specified for the heavy weapons.

- **Weapon** column lists all type of weapons, respective calibers and respective number.
- **Location** column shows where the weapons are located, or in which hands.
- **Trejectory** column defines the ballistic trajectory of projectiles, it can be linear (interruptable by obstacles) or parabolic (not interruptable by obstacles).
- **Fire** column shows if weapons can shoot against directly visible targets "Direct fire", against indirectly visible targets "Indirect fire", or both of them.
- **Shells** column shows types of projectiles that can be fired and respective symbols:
  - **I** = infantry: effective against infantry and not armored vehicles.
  - **AP** = armor piercing: very effective against armored vehicles and tanks; they may bounce off the armor or explode inside the armored vehicles hit; if projectiles hit not-armored vehicles do not explode because they pass thru them (if target is a team the shot kills only the miniature pointed by the LOF).
  - **HE** = high explosive, includes subcategories **Hb**=hand bombs, **Mm**=magnetic mines and **Ex**= satchel charges: effective against terrain areas and not armored units; they always explode on the impact point by projecting fragments (☼) all around, up to 'cm-blast' distance; if HE shells pierce armored vehicles, they explode inside vehicles without projecting fragments outside. Effects of shells larger than 70 mm are not reduced by the soft shelters, those of shells larger than 122 mm are not reduced by the medium shelters.
  - **AA** = anti aircraft: in this game are treated like HE shells, but with an higher rate of fire.
  - **F** = incendiary weapons are considered heavy weapons because they are effective against all types of units and terrain areas. They have effect upon everything there is within the respective shape area that is



defined by a circumference for bombs or by a 15x5 cm triangle for flame throwers (see 'Incendiary Weapons Effects' table).

- Cm-blast column defines the radius of the blast fragments, measured in cm, starting by the impact point of shells.
- Ranges section includes 3 columns of distances measured in cm on which is based the effectiveness of the weapons:
  - **Short/minimum** = best accuracy and penetration in straight trajectory / minimum distance in parabolic trajectory.
  - **Effective** = best compromise between range and penetration.
  - **Long** = maximum distance of fire, but less accuracy and penetration.
- Shots per turn section includes 2 columns that show the shots number that each weapon can fire in a single game turn:
  - **Stationary** = the number of shoots that weapons can fire if the unit performs a "Fire" maneuver.
  - **Moving** = the number of shoots that weapons can fire if the unit performs a "Move and fire" maneuver.

Special characters:

- means not available for the specified type of weapon (or equal to 0).

/ divides different options into the same column.

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## DIRECT FIRE ATTACKS

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Direct fire attacks are executed in the maneuver phase, all attacking units must be able to trace at least an uninterrupted LOF toward an enemy unit, within limits of range and traverse angles of the respective weapons. The unit charts (see army books) show three range limits value, measured in cm, for almost all types of weapons:

- "Short": distance at which weapons have the best chances to hit targets and best armor-piercing power.
- "Effective": distance at which weapons have good chance to hit targets and middle armor-piercing power.
- "Long": distance at which weapons have few chance to hit targets and worst armor-piercing power.

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## WEAPONS POINTING

Weapons must be pointed towards the enemy units that is [visible for more than half model or miniature](#), but due to the different features of units, the LOF are not determined all in the same way:

### Infantry units

- 1) A team can fire only with weapons of the miniatures able to trace a LOF towards at least one or more miniatures belonging to the same enemy team.
- 2) Each miniature can fire in any directions, regardless the real direction pointed by its weapon.
- 3) Miniatures of a team do not interrupt the LOF of miniatures of the same team, instead miniatures of other teams on the same level interrupt the LOF.
- 4) Shots of all light weapons with the same range of the same team must be summed and resolved by a single die roll.
- 5) All light weapons of the same team must fire against the same enemy team or vehicle.
- 6) If a team also has available heavy weapons they can be used against a second enemy unit.
- 7) Instead to fire, up to the half of the miniatures of an infantry team may perform launching of bombs or explosive devices, but only against the same enemy unit.

### Combat-vehicle units

Differently by the infantry weapons, the weapons aboard vehicles must be pointed toward the enemy units in order to open fire, because they are installed in turrets and casemates.

- 1) All weapons mounted upon turrets may be rotated (see page 11) and must point towards target to form the

- LOF (turrets of models can be rotated).
- 2) Due to the fixed barrels of models, the heavy weapons mounted upon casemate can fire only if their LOF is included in an angle of 15°, to the left or to the right, measured by using the "Steel-Wheels" goniometer which must be put under barrel in contact with the border of the model.
  - 3) The light weapons mounted upon casemate, can fire only if their LOF is included in a angle of 22°, to the left or to the right, measured by using the "Steel-Wheels" goniometer which must be put in contact with the border of the model.
  - 4) Sponson mounted weapons can fire only if their LOF is included in a angle of 45°, to the left or to the right, measured by using the "Steel-Wheels" goniometer which must be put in contact with the origin of the barrel.
  - 5) If a vehicle has available several weapons, each of them can fire against a different enemy unit, with only exception of the coaxial weapons which can only shoot against the same target of the main weapon.



"Steel-Wheels" goniometer permits to measure both traverse angles and impact angles, respectively marked in the side of the origin of the LOF and in the incoming side of the LOF.

### Artillery units

All artillery units can fire in a limited traverse angle without need to move their supports (see "Artillery movement" at page 14), the icon type into unit table can show 4 different base types for the artillery pieces, that affect fire direction.

- 1) Base plate (small circle): permits to fire at traverse angles up to 45°, to left or right, by the direction pointed by model, without performing the 'Move' maneuver.
- 2) Carriage (2 wheels): permits to fire at traverse angles up to 22°, to left or right, by the direction pointed by model, without performing the 'Move' maneuvers.
- 3) Rotating platform (big circle): permits weapon rotation up to 180° like tank turrets, without performing the 'Move' maneuver.
- 4) Carriage + rotating platform (2 wheels + big circle): permit to fire at traverse angles up to 45°, to left or right, by the direction pointed by model, without performing the 'Move' maneuver.

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### SHOOTING

An unit can shoot against an enemy unit with the following procedure:

- 1) Verify that unit can be spot the target unit by consulting the "Spotting" table described at page 15.
- 2) If unit cannot directly spot the enemy, any other friend unit that is able to spot the enemy may communicate the target location as explained at page 4, or by performing a **DFR** test (see page 7).
- 3) Select the weapons and respective number of shots that team/combat-vehicle has available, into the unit chart of the army list.
- 4) Rotate the turret, if any, to form the LOF toward the target unit and/or exclude all weapons that cannot obtain the respective uninterrupted LOF.
- 5) Perform the correct fire procedure for all types of weapons of the firing team, by using the combat tables.

### Fire effectiveness

The chance to hit and damage enemy units depends on many factors and situations, this game considers the most important:

- 1) The status of the firing unit (moving or stationary) - A team unit which moves and fires, in the same maneuver segment, fires less shots rather than it should fire by performing only the fire action, as specified into the columns "Shots per turn" in the unit-charts. The only exception at this rule is for the light weapons aboard vehicles that have not this limitation.
- 2) The status of the target unit (marked as moving or stationary) - A target unit that is moving, is more difficult to hit rather than it should be stationary, for this reason the tables "Heavy Weapons Fire" and "Light Weapons Fire" have 2 distinct columns for dice scores, the first for 'Stationary' targets, the second for 'Moving' targets.
- 3) Distance of target (short, effective, long) – All sections "Ranges-cm" of the unit charts have three column of distances, according at which players must roll a **D8**, **D10** or **D12** respectively for 'long', 'effective' or 'short' range at which the target is engaged. This rule is not valid for mortars, throwing device and 'Indirect fire'.
- 4) Infantry shelters (soft, medium, hard) – If an infantry unit is located on some types of terrain elements, or inside an open top vehicle, or more than 50% of its miniatures are not reachable by LOF of shots or fragments, the 'S', 'M' and 'H' symbols into the combat tables reduce the casualties if team is protected, respectively, by soft, medium or hard shelters (see combat tables).
- 5) Vehicles shelters – If a vehicle is just partially visible due to terrain elements or other units, the direct fire can hit only parts of the vehicle that are visible for more than 50%, in this case, all hits of the "Weapons Fire" tables about hidden parts miss the target, specifically: entrenched combat vehicles can be hit only at the turrets, casemate or main weapon; all other types of entrenched vehicles cannot be hit at tracks and wheels.
- 6) Altitude may considerably increase fire effects of heavy weapons against armored vehicles, because a shot coming from high may hit the thinner horizontal armor plates. For this reason, an heavy weapon hits horizontal armor (always with an impact angle lower than 75°) if gets a result 'choice' into the 'Heavy Weapons Fire' chart, when firing from at least 4 cm altitude above the target armored unit, instead, if the target vehicle is open top, a 'choice' result exclude the 'Armor penetration' procedure.

### Light weapons fire

- 1) Measure the distance in cm, between the team leader of the squad which opens fire and the most near part of model/miniature of the target enemy squad, in order to have only one distance to calculate ranges of all weapons.
- 2) Sum the shots of all light weapons that fire at the same range type, against the same target unit, in order to determine the shots amounts respectively for 'long', 'middle' and 'short' shots amount, according to the rule number 1 of the fire effectiveness.
- 3) Roll the appropriate die (D8, D10, D12) for each shots amount, according to the rule number 3 of the fire effectiveness.
- 4) If target is an infantry or artillery team, the number of casualties is determined for each shots amount, by using table "LIGHT WEAPONS FIRE against infantry/artillery", by matching the "die score + CS" row with column of the cover offered by the terrain features (! = no shelter; S = soft shelter; MH = medium/hard shelter) of the shots amount, according to the rules number 4 and 2 of the fire effectiveness.
- 5) If target is an unarmored vehicle, effects are determined for each shots amount, by using table "LIGHT WEAPONS FIRE against unarmored vehicles", by matching the "die score + CS" row with the shots amount column, according to the rule number 2 of the fire effectiveness, in this case casualties include both crew and carried infantry.
- 6) If the miniatures of the target team are not all visible due to interposed models of vehicles or terrain elements (only medium and hard shelter), casualties cannot exceed the number of miniatures effectively reachable by at least a LOF, regardless by the tables scores, according to the rule number 4 of the fire effectiveness.

### Heavy weapons fire

- 1) If target is an infantry team, choose a valid LOF toward a single target miniature of the enemy team.
- 2) If the target is a vehicle or artillery team, the LOF can be traced toward main model or toward a single

miniature of the crew or of a visible transported infantry team.

- 3) If the target is a building, the LOF can be traced toward the wall center of the entire building, toward the wall center of a single floor, or toward the bottom side of a visible window/door.
- 4) If target is a trench or other open top emplacement, the LOF may be traced toward any point of front border.
- 5) If target is a bunker/pillbox the LOF can be traced toward the wall center or toward a single weapons slit.
- 6) Choose type of shells to shoot against target, among those available in the unit chart.
- 7) Determine the number of shots that weapon can fire, according to the rule number 1 of the fire effectiveness.
- 8) Roll the appropriate die (D8, D10, D12) for each fired shot, according to the rule number 3 of the fire effectiveness.
- 9) To determine if the target unit is hit, for each shot, use the "HEAVY WEAPONS FIRE" table, by matching the "die score + CS" row with column of the target type, according to the rule number 2 of the fire effectiveness. If target is a building look to the green section of table.
- 10) If target is missed, 'AP' shots take no effect, instead 'HE' shots anyway explode on the ground (or in an other point of the building perimetral wall) exactly in the point determined by the rows 'Target missed by...' of the "HEAVY WEAPONS SCATTER / INACCURACY" chart.
- 11) If a shot hits an infantry team, only the miniature pointed by the LOF may be killed, according to the rule number 4 of the fire effectiveness. More casualties may occur only if shell is an 'HE' (or other equivalent device) and others miniatures are within the fragments blast radius.
- 12) For each shot that hits an armored unit or a building, use the procedure of the "ARMOR PENETRATION" table to determine if projectile penetrates armor/wall or it bounces (see page 21).
- 13) To determine effects of each shot that hits target, roll a D10 and use the "HEAVY WEAPONS EFFECTS" table for units, or "EFFECTS AGAINST BUILDINGS" table for buildings and emplacements, by matching the die score row (full shot or fragments) with the column of the target. These tables results include all casualties suffered by crew of the vehicles and by infantry units inside.
- 14) If shell is 'HE', the 'Explosion fragments' procedure must be performed (see page 21).
- 15) Regardless damage and casualties, squads or vehicles hit by heavy weapons while performing maneuvers, or that they have not yet performed maneuvers into the current turn, they must perform a '**CF**' test (see page 7 and Test table).

#### **Mortars direct fire**

Differently by any other type of artillery weapon, mortars shoot with parabolic trajectory also when performing direct fire attacks, for this reason the procedure is the same of the artillery indirect fire attacks explained later, with the only exception of the row 'Mortars direct fire inaccuracy' in place of the row 'Indirect fire scatter of artillery' in the "HEAVY WEAPONS SCATTER / INACCURACY" chart (see tables of game).

#### **Incendiary weapons fire**

Flamethrowers and Molotov bombs always affect all models and/or miniatures within respective ranged area, for each of them roll a '**D10**' and determine effects by matching the die score row with the unit type column of the "INCENDIARY WEAPONS EFFECTS" chart (see tables).

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#### **Attacks against buildings and emplacements**

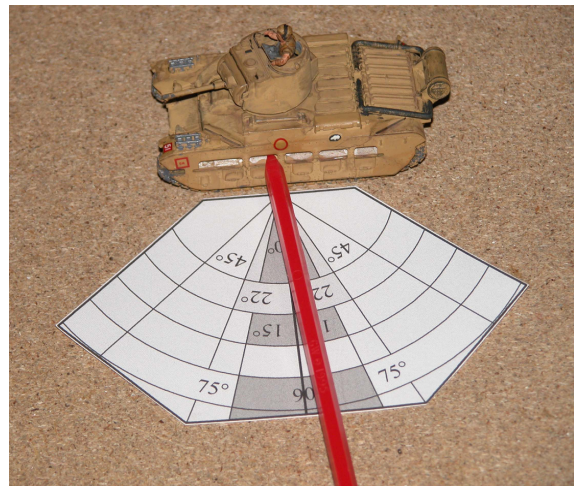
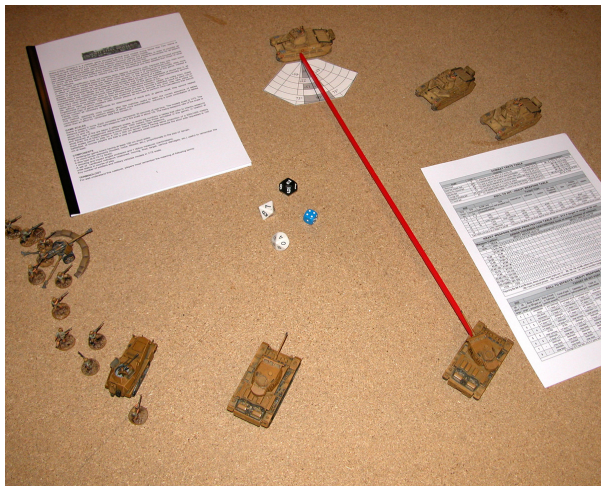
- 1) A team may directly fire against building or emplacement only if an enemy unit has been spotted inside it.
- 2) When an heavy weapons shot misses the LOF point, the "HEAVY WEAPONS SCATTER / INACCURACY" chart result has to be determined on vertical surface of aimed wall of buildings, or on the ground for the emplacements.
- 3) If a shot miss target and it goes outside the building silhouette, due to the "HEAVY WEAPONS SCATTER / INACCURACY" chart result, it explodes away and no effect occur.
- 1) If a shot miss the point aimed by the LOF, but it hits an other point of the building silhouette, determined by the "HEAVY WEAPONS SCATTER / INACCURACY" chart result, effects must be determined from the new impact point.
- 2) If an heavy weapons shot hits a wall, the "ARMOR PENETRATION" chart must be used by referring to the column containing the green symbol of the material type of which wall is made: **L**=wood; **B**=bricks; **C**=stones or cement; **A**=armored cement (bunkers and pillboxes).
- 3) If shot bounces on a wall, it does not cause damage or casualties inside building, but if it is type 'HE' the explosion effect must be determined outside.

- 4) If an 'AP' heavy weapons shot hits a window or a door, it kills immediately all miniatures with bases touched by the LOF (no shelter), but it does not explode inside the building because exits by the rear wall.
- 5) If an 'AP' heavy weapons shot hits a slit of bunker or pillbox, it kills immediately all miniatures with bases touched by the LOF (no shelter) and explodes against the first wall that interrupt the LOF.
- 6) If an 'HE' heavy weapons shot hits a slit, window, a door, or an emplacement, the impact point for determination of the blast radius is within the respective floor, 2 cm behind the front wall or emplacement border, along the LOF.
- 7) If a shot of heavy weapons pierce a front wall, the impact point for determination of the blast radius is on the wall perimeter, in this case 'AP' shells are treated like 'HE' (they explodes).
- 8) Heavy weapons effects must be determined by using the "EFFECTS AGAINST BUILDINGS" chart, roll a D10 and match the die score of the weapon caliber column with the type of building (see Tables).
- 9) When a shot of heavy weapons explodes inside a building or emplacement, due to enclosed space, it automatically kills all miniatures within the blast radius and no 'Explosion fragments' procedure is needed.

### ARMOR PENETRATION

If target hit is an armored unit or a building, before to determine the effects, for each shot follow this procedure:

- 1) Find the shell features (AP or HE/AA) and weapon caliber, into the unit chart of the firing unit.
- 2) Find the thickness of the armor plate hit, into the armor plan of the target unit chart, considering the rule number 5 of the fire effectiveness.
- 3) Determine if the angle formed between the LOF and the armor plate hit is major or minor than 75°, by using the "Steel-Wheels" goniometer (red zone).
- 4) Roll a die (D8, D10 or D12) according to the rule number 3 of the fire effectiveness.
- 5) Select the column of the chosen ammunition type (AP or HE/AA) and the appropriate 'Impact Angles' section (<75° or >=75°) into the 'Armor Thickness' of the "ARMOR PENETRATION" table.
- 6) Find the minimum score value needed to penetrate armor of the target unit, by matching the caliber row of the shot fired with the armor thickness column corresponding to the hit part of target.
- 7) If the found value is major than die score, projectile bounces on the armor plate and no damage occurs, otherwise armor is pierced and the effects of hit must be determined.



### ☀ EXPLOSION FRAGMENTS (HE,AA)

When a shell of HE or AA type hits something, if it does not explodes inside an armored vehicle, the explosion fragments may hit all models and/or miniatures also partially within the radius of explosion (see 'cm-blast' column of the unit chart).

When a vehicle or an artillery piece explodes, fragments are projected all around up to a distance of 5 cm from each border of model and may hit all other models and/or miniatures also partially within the radius of explosion. In order to see if models are hit by fragments, keep in mind following rules:

- 1) For each model included within the blast radius, player rolls a D10 and consults the "Heavy Weapons Fire" (without consider CS) to see if model is hit, by matching the die score row into the "Stationary target" column with the column of the respective unit type.
- 2) If model is armored (or it is a building), player has to consult the "Impact angles < 75°" section of the "ARMOR PENETRATION" table, to determine if armor is pierced (see 'Armor Penetration' procedure' at page 20).
- 3) If armor is pierced or model is not armored, player has to consult the "Heavy Weapons Effects" table, to determine damage type and/or casualties (see 'Heavy Weapons Fire' procedure at page 19).
- 4) If a shell explodes inside an enclosed building (not ruins), the reduced space amplifies the blast effects, all models and or miniatures within blast radius are hit automatically, miniatures are eliminated.
- 5) If miniatures within the blast radius are within a base of a terrain area or behind a terrain element, the respective type of shelter must be considered by using the "Heavy Weapons Fire" table, according to the rules number 4 of the fire effectiveness (see page 18).

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## ASSAULT

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Assault is a 'Fire and Move' complex maneuver (not vice-versa) during which units can move at 'Tactical' movement allowance instead than 'Brief', by touching bases of enemy miniatures or models along their route. Only teams with at least a commander and more than half survived soldiers can perform assaults.

### Infantry assault

#### - Against infantry or artillery

- 1) Assault team shoots normally against the enemy unit that should be assaulted.
- 2) Assault team must performs a '**CT**' test (see page 7 and "TEST" chart).
- 3) If test fails, the assault team cannot perform assault and ends its maneuver segment on place.
- 4) If test is successful, each miniature in range of 16 cm from a miniature of an enemy squad, must be moved in contact of base, regardless the terrain type.
- 5) If the assaulted team is inside a building or emplacement, assault can take place only at ground floor if at least one team leader can enter, others floors can be assaulted only if all miniatures of the assault team start the maneuver segment already inside the ground floor of building.
- 6) Troops inside bunkers and pillboxes cannot be melee assaulted, they can be eliminated only by heavy weapons fire or by explosive devices and flames thrown through the slits from not more than a third of team members.
- 7) For each miniature in contact with a miniature of an enemy squad, players must perform an '**MC**' test (see page 7 and "TEST" chart), to determine those to remove by game. If more miniatures get contact with the same enemy miniature, assaulter player performs more tests and chooses the best result.
- 8) Assaulted team must perform a '**CT**' test in its maneuver segment or in the next one, if it already has maneuvered in course of current turn of game.
- 9) If test is successful, all miniatures not yet involved in fighting are moved in contact of base with the enemy team and a melee conter assault takes place (just as explained in paragraph 5).
- 10) If test fails, all miniatures which are not involved in fighting are in panic and flee away, instead the ones in contact with assaulters are eliminated (killed or surrendered), all miniatures in panic that cannot flee due to terrain features are eliminated.

#### - Against armored vehicles

- 1) Assault team shoots light weapons against visible crew members of the target vehicle.
- 2) Assault team must performs a '**CT**' test (see page 7 and "TEST" chart).
- 3) If test fails, the assault team cannot perform assault and ends its maneuver segment on place.
- 4) If test has successful, up to three miniatures of the assault team can move, up to 16 cm, to hit the target vehicle by using explosive devices (hand bomb, satchel charge or magnetic mine) or launchers (flamethrower, Panzerfaust, PIAT, Bazooka, Pansershreck).
- 5) For each device used against the target vehicle follow the heavy weapons fire procedure (see page 19).
- 6) Each hand launched device that miss target explodes upon the armor plates or on the ground, determined by the rows 'Target miss by hand launched HE device' of the "HEAVY WEAPONS SCATTER / INACCURACY" chart, in this case fragments also can hit the assault team members.

- Against open top vehicles

- 1) Procedure is the same of that for armored vehicles, but in this case, the explosive devices are thrown towards the center of the vehicle open top (or open entrance, if crew is exposed), along a parabolic trajectory. In this case, all turret/casemate (or body, if vehicle is turretless) results of the "Heavy Weapons Fire" chart mean that bomb explodes inside the vehicle, killing all crew.
- 2) Hand-launched devices that do not go inside vehicle explode upon the armor plates or on the ground, in the point determined by the rows 'Target miss by hand launched HE device' of the "HEAVY WEAPONS SCATTER / INACCURACY" chart, the scatter distance must be measured starting from the open top border, in this case fragments also can hit the assault team members.

**Armored assault**

- Against vehicles

- 1) Tanks and any kind of armored vehicles may ram each not armored vehicle found on route, but armored vehicles cannot be rammed.
- 2) Armored vehicles may fire the 'Moving' shots number with all their weapons before to start the assault movement.
- 3) To avoid to be rammed, a vehicle must perform a dodge test '**DT**' (see page 7 and "TEST" chart).
- 4) If test is successful, not armored vehicle goes on, of the minimum distance needed to go outside from the route of the armored vehicle and nothing happens.
- 5) If '**DT**' test fails or vehicle cannot go on, due to obstacles or impassable terrain, it is rammed and effects must be determined by using the "HEAVY WEAPONS EFFECTS" chart.
- 6) Roll a **D10** and match the die score row with the columns 'Ramming', effects include all casualties suffered by crew of the vehicles and by infantry units inside.

- Against infantry

- 1) All types of vehicles (bikes excluded) may overrun infantry or artillery squads, overwhelming all miniatures with bases also partially touched by the assault vehicle.
- 2) To avoid to be squashed, all miniatures in danger must perform a dodge test 'DT' (see page 7 and "TEST" chart).
- 3) All miniatures that fails '**DT**' test are eliminated.
- 4) Assaulted team must perform a '**CT**' test in its maneuver segment or in the next one, if it already has maneuvered in course of current turn of game.
- 5) If test is successful, all survived miniatures can maneuver normally.
- 6) If test fails, the full team is dispersed and eliminated.

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**INDIRECT FIRE ATTACKS**

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Differently by direct fire attacks, the maximum range of howitzers and mortars match the real distance that shells can reach, because targets are terrain areas rather than single enemy units.

After that all maneuvers of the units of both sides are completed, all artillery/mortars batteries which have planned indirect fire (see '**IF**' markers on the game terrain) for the current game turn, now can fire.

**PROCEDURE**

- 1) Players must remove all false '**IF**' markers and reveal the true target point of the game terrain on which falls the artillery fire of each battery.
- 2) First is performed the incoming fire of all artillery units located within the game terrain, then the incoming fire of all artillery units located outside the game terrain.
- 3) Players establish by mutual agreement the sequence of fire, regardless by side and weapon type, because effects take place all at the same time.
- 4) For each artillery battery/mortars platoon, players determine the amount of incoming shots and the blast-radius (see the Weapons section of the unit chart) starting from the respective impact points.
- 5) For each shot must be determined damages and casualties that it can cause to units and/or buildings by direct impact and by blast fragments.

### Impact point determination

- 1) For each shot of the on-field unit, players roll a **D10** and a **D12**, then subtract by the total score the '**CS**' value of the firing unit and the '**CR**' value of the officer that submitted the '**DFR**' (see "HEAVY WEAPONS SCATTER" chart), result is the distance measured in cm from the '**IF**' marker towards direction pointed by **D10** that determines the exact impact point.
- 2) For each shot of the out-field unit, players roll a **D10** and two **D12**, then subtract by the total score the '**CS**' value of the firing unit and the '**CR**' value of the officer that submitted the '**IFR**' (see "HEAVY WEAPONS SCATTER" chart), result is the distance measured in cm from the '**IF**' marker towards direction pointed by **D10** that determines the exact impact point.
- 3) For results lower or equal to **0** shells falls exactly on the marked point.

### Impact point on miniatures

- 1) If a shot falls upon base of a miniature, this is eliminated, regardless the terrain shelter type.
- 2) If a shot falls upon a big base containing more miniatures, only one is directly eliminated (chosen by the owner player), other ones may be hit by the blast fragments.

### Impact point on models

- 1) Model is hit exactly in the point upon which the shot falls.
- 2) Shots always have impact angles lower than 75° when hit armored vehicle. Also horizontal armors may be hit due to the parabolic trajectories, see the 'Armor penetration' procedure at page 21, to determine if projectile bounces or penetrates the armor.
- 3) If a shot falls within the open top of an armored vehicle, or upon unarmored vehicle, no 'Armor penetration' procedure is needed because it explodes inside the vehicle.
- 4) To determine effects of the shot, roll a **D10** and use the "HEAVY WEAPONS EFFECTS" table for units, by matching the 'Full shot' die score row with the column of the target type (unarmored vehicle always are hit on body). Results include all casualties suffered by crew of the vehicles and by infantry units inside due to direct impact of shot.

### Impact point on buildings/emplacements

- 1) Shot pierces the building roof and explodes on the last floor, just under the vertical of the impact point.
- 2) If target is a bunker or pillbox the "ARMOR PENETRATION" chart must be used by referring to the column containing the green symbol **A**=armored cement, to determine if shot bounces or penetrates.
- 3) Effects must be determined by using the "EFFECTS AGAINST BUILDINGS" chart, roll a **D10** and match the die score row of the weapon caliber column with the type of building (see Tables).
- 4) Explosions inside buildings and emplacements automatically kill all miniatures within the fragments radius.

### Blast fragments

After have determined damages and casualties due to the direct impact, for each shot, determine damage and casualties due to fragments, according to the 'Explosion fragments' rules at page 21.

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## DAMAGES AND CASUALTIES

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Owner player decides which miniatures remove from infantry teams and crews hit by direct fire of an enemy unit, choosing them among those reachable by at least one LOF, starting by those located on clear terrain. Instead, miniatures to be removed due to indirect fire, must be exactly those included within the blast area and which are hit by fragments.

Players earns 10 victory points for each enemy soldier killed, for leaders points must be assigned in the following mode: corporals=20; sergeants=30; lieutenants=50, captains=100.

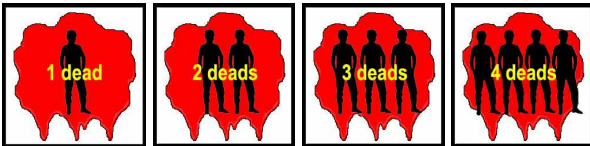


### Effects of crew losses on vehicles and artillery units

Because each crew leader also was able to perform different crew roles (gunner, pilot,...) when needed, all vehicle or artillery crews can continue to fight also when are reduced due to casualties.

Of course casualties reduce combat effectiveness of unit and following effects are cumulative:

- One or more crew casualties involves a readiness loss for unit which always has a result '1+CS+CR' in all readiness tests 'RT' for the rest of game.
- Units that lost 50% or more crew members cannot perform complex maneuver for the rest of game (see page 11).
- Units with only a survived crew member, cannot fire heavy weapons for the rest of game.



For all units without miniatures, or for team members joint on the same base, losses are assigned by casualties markers that must be placed near to affected units.

### Damage types and effects

Some kinds of damages reduce, partially or fully, the fighting abilities of the vehicles/artillery-units for the rest of game and they must be reminded by specific markers that must be placed near to the damaged units.



Only brief movement (10 victory points for armored units / 0 for other units)

Vehicle can no longer exceed the 'Brief' movement allowance, due to damages to axis, tracks wheels or engine.



Only slow movement (20 victory points for armored units / 0 for other units)

Vehicle can no longer exceed the 'Slow' movement allowance, due to serious damages to axis, tracks wheels or engine.



Immobilized (100 victory points for armored units / 5 for other units)

Vehicle can no longer move and remains stationary for the rest of game. If vehicle is moving while is hit, player must roll a D6 in order to determine after how many cm the vehicle stops.



Track broken (50 victory points for armored units / 5 for other units)

Tracked vehicle (half-tracks included) can no longer move and remains stationary for the rest of game. It can rotate on itself only toward the side of the broken crawler.



Wheel destroyed (30 victory points for armored units / 5 for other units)

- 2 axis wheeled vehicle without a wheel can no longer move, just as 'Immobilized'.
- 3 axis wheeled vehicle without a wheel can move 'slow', just as 'Only slow movement', and it can no longer enter in area terrains; without 2 wheels it can no longer move, just as 'immobilized'.
- 4 axis wheeled vehicle without a wheel can move 'brief', just as 'Only brief movement'; without 2 wheels it can move 'slow', just as 'Only slow movement', and it can no longer enter in area terrains; without 3 wheels it can no longer move, just as 'Immobilized'.



Weapon destroyed (50 victory points for armored units / 20 for other units)

- If shot hits turret, coaxial or other secondary weapon is destroyed, otherwise the main weapon.
- If shot hits the vehicle body, the most important weapon is destroyed.
- If there are more weapons the one nearest to the impact point is destroyed.
- If there are no weapons only the others effects of the damage are applied.



Turret or cannon blocked (50 victory points for armored units / 15 for other units)

- If vehicle has turrets, the main turret can no longer be rotated and unit can fire only towards the direction pointed by the barrel of the model.
- If vehicle has casemates instead than turrets, the main weapon can no longer fire to targets not directly pointed by the barrel of model.

Cannon destroyed (100 victory points for armored units / 30 for other units)

Cannon is destroyed, if more cannons are present, each damage of this type eliminates one of them starting from the biggest one.

All structural damages affecting already destroyed parts, are treated with the effect found into the next row of the same column of the "HEAVY WEAPONS EFFECTS" table.

For example: *If a shot hits body of an already immobilized tank, gets a die score 6 (immobilized yet) in the "HEAVY WEAPONS EFFECTS" chart, tank is destroyed, because effect found into the next row of the same column is: 'destroyed+ 2 dead + CT'.*

### Destructive effects

When a vehicle is destroyed (or exploded) due to the die roll result for effects, the respective model of unit remains as wreck in the point of terrain where it was hit for the rest of game.

Wrecks are like obstacles for all action types.

- Destroyed unit wrecks stop all LOF, crew casualties may vary.
- Exploded unit wrecks stop all LOF, also the ones passing over it (due to flames and smoke), full crew is lost and fragments effects must be determined for all units within 5 cm from all sides of the model.

### Moral stauts

When an unit is under enemy fire, it may happen that it performs escape maneuvers rather than firing, or also that the unit under fire flees in panic, regardless the losses.

The following markers indicate this situations:



#### Can't fire

Each unit that can't fire in the current game turn, due to the failure of a 'CF' test (see page 7), must be marked by using this status marker, white for odds turns or gray for even turns. Because the unit anyway can perform other maneuvers, markers must be removed at the end of current maneuver segment.



#### Panic

Each unit that fails a test 'CT' (see page 7) must be marked by using this status marker, white for odds turns or gray for even turns. Panic marker will be removed just after that a successful "Fleeing units recovery" maneuver is performed (see page 12).

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