Combined Arms

Combat Operations 1939-70's

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[1.0] INTRODUCTION

Combined Arms is a simulation of company/battalion-level warfare from the 1930's to the present. The units represent companies and battalions of tanks or infantry. Artillery units are represented as battalion-size units. The purpose of the game is to show the relationship of infantry, armor and artillery as integral parts of the combined arms team. Six scenarios are given, each representing an actual battle.

[2.0] GENERAL COURSE OF PLAY

Combined Arms is basically a two-Player game. Each Player moves his units and engages in combat in sequential Phases divided into two Player-Turns. To move from one hex to another, each unit expends a portion of its Movement Allowance for each turn-entered depending upon the type of terrain and presence of Enemy Zones of Control. Combat is resolved by comparing the total adjusted Attack Strength of the attacking unit and presence and of Enemy Zones of Control Combat. The units are proper column on the appropriate Combat Results Table (depending upon what type weapon system is attacking and what type terrain the defending unit is in) is consulted. A die is rolled and by cross-indexing the die roll with the proper odds, a Combat Result is determined.

[3.0] GAME EQUIPMENT

[3.1] THE GAME MAP

The 22" x 34" mapsheet portrays a hypothetical area measuring approximately ten by fifteen kilometers. A hexagonal grid is superimposed on the mapsheet to regulate movement of the playing pieces. Terrain features significant to the game are delineated by the symbols on the map.

[3.2] THE PLAYING PIECES

Two different colored sets of playing pieces (henceforth known as units) are supplied. They represent the various military units of the opposing forces that will be available in the scenarios. The units are devoid of information except for the unit type and, in some cases, whether the unit is light (L) or heavy (H). The universal-type counters may be used for all scenarios in all historical periods in the game. The opposing forces in each of the scenarios are composed by selecting units from those provided on the counter sheet. It is strongly recommended that the Players sort their units by type and color and keep them segregated. This greatly facilitates setting up the game.

[3.21] Summary of Unit and Marker Types

H   Heavy Tanks
L   Light Tanks
   Assault Guns
   Armored Reconnaissance
   Infantry
H   Heavy Artillery
L   Light Artillery
   Anti-Tank Guns
   Armored Personnel Carriers (APC)
   Trucks
   Artillery Impact Area
   Air Strike/Triple-Fire Artillery Impact Area
   Artillery Supply Unit
D1   Disruption Level 1
D2   Disruption Level 2
D3   Disruption Level 3

[3.22] Unit Sizes

The unit sizes are not shown on the counters; depending upon the scenario, they vary from company to battalion in size. Combat Strength and Movement Allowance, as well as the range of the weapons, are not shown on the counters because of the wide variety of unit types given in the scenarios. The number of different types of units in each scenario is quite small, so these can be easily remembered when playing each scenario.

[3.23] Definition of Terms:

Attack Strength-Hard — This is the basic offensive Combat Strength of a unit when attacking a Hard Target (see 8.6).

Attack Strength-Soft — This is the basic offensive Combat Strength of a unit when attacking a Soft Target (see 8.6).

Defense Strength — This is the basic Combat Strength of a unit when defending.

Movement Allowance — This is the basic movement ability of a unit quantified in terms of Movement Points. In most cases a unit spends one Movement Point of its total Movement Allowance for each hex entered.

Range Allowance — This is the number of hexes of distance over which a unit may apply its Attack Strength, Hard or Soft.

[3.3] GAME CHARTS AND TABLES DESCRIPTION

Various visual aids are provided to simplify and illustrate certain game functions. Chiefly, these are the Terrain Effects Chart, the Hard Combat Results Table and the Soft Combat Results Table. Each of these aids is fully explained where presented. Most of the charts and tables are compiled in a single section in this set of rules (see 14.0, Charts and Tables).

[3.4] GAME INVENTORY

A complete set of the Combined Arms game should include the following parts:
One rules folder
One set of die-cut counters
Two (identical) chart sheets
One mapsheet
One box (boxed edition only)
One die (boxed edition only)

[3.5] GAME SCALE

Each Game-Turn in Combined Arms represents one hour of real time and each hex is the equivalent of 300 meters from side to side.

[5.0] MOVEMENT

GENERAL RULE:
During the Movement Phase, the Phasing Player may move as many or as few of his units as he wishes. During each friendly Movement Phase each unit may be moved as many or as few hexes as the Phasing Player desires, as long as its Movement Allowance is not exceeded in a single Movement Phase (each unit's Movement Allowance is specified in the Scenario). Unused Movement Points, however, may not be accumulated from Phase to Phase nor transferred from unit to unit. Also, units that suffer Loss of Command Control may not move in the Game-Turn they suffer Loss of Command Control.

PROCEDURE:
Move each unit individually, tracing the path of its movement through the hexagonal grid. Once each unit has been moved and the Player's hand withdrawn, the unit may not be moved again, nor may the path be retraced and/or changed during that Movement Phase.

CASES:
[5.1] HOW TO MOVE UNITS
[5.11] During the Movement Phase, only the Phasing Player's units are moved. All, some or none of his units may be moved. No Enemy Movement and no combat may occur during a Movement Phase (exception: see 5.3, Overruns).
[5.12] Movement is calculated in terms of Movement Points. Basically, each unit expends one Movement Point of its total Movement Allowance for each hex it enters.

[5.2] MOVEMENT INHIBITIONS AND PROHIBITIONS
[5.21] The number of Movement Points which must be expended to enter a given hex will vary with the type of terrain in the hex being entered, the presence of the Enemy in a unit or assault gun Overrunning a Soft Target, the Soft Attack Strength is tripled if the Overrun is performed in Clear terrain. If a tank or assault gun Overruns a Soft Target in any type of Rough Overruns in Clear terrain. All increases in the

b. Reinforcement Segment: After all movement of currently available forces ceases, the Alpha Player brings on all of his reinforcements scheduled for this Game-Turn and then moves them in a normal fashion, committing Overruns as desired and as possible. Entering units must pay the Movement Point cost of the hex they first entered.

[5.22] Units may not leave the mapsheet unless specifically permitted to do so by the scenario. Should a unit leave the mapsheet for any reason without being permitted, it is considered eliminated and does count for Victory Points (if elimination of units is a criteria for Victory).

[5.23] A unit may always move a single hex in a given Movement Phase as long as it is not leaving one Enemy Primary Zone of Control and directly entering another Enemy Primary Zone of Control; or, in the case of artillery, anti-tank gun, and truck units, leaving an Enemy Secondary or Primary Zone of Control and directly entering another Enemy Secondary or Primary Zone of Control.

[5.24] Units may never enter hexes containing Enemy units except during the act of Overrunning that unit. Under no circumstances may a unit end its Movement Phase on the same hex with an Enemy unit.

[5.3] OVERRUNS
An Overrun is a type of attack performed during the Movement Phase; it is not considered combat. This means that a unit may perform both an Overrun during the Movement Phase and an attack during the Combat Phase within a given Game-Turn. Only one unit may perform an Overrun against a specific hex (exception: see 5.36).

To perform an Overrun a friendly unit must actually move onto the target Enemy unit and then exit the beside opposite from the one entered and then stop in the exit hex (exception: see 5.36). After all adjustments are made in Attack Strength (modified by the Overrun) and Defense Strength (modified by terrain), the Overrun is resolved exactly as normal combat.

[5.31] Overruns may be performed by any armored unit (tanks, assault guns and armored reconnaissance), infantry units mounted in Armored Personnel Carriers and by unmounted infantry units. Overruns may never be performed by artillery, anti-tank guns, nor by infantry units mounted in trucks (nor by the trucks alone). APC's not carrying infantry may never perform an Overrun.

[5.32] To perform an Overrun a friendly unit must move through the Enemy unit and into the hex opposite from the hexside originally entered. This exit hex must be unoccupied by both friendly and Enemy units at the instant of the Overrun. The Overrunning unit must then stop in that exit hex (exception: 5.36) and move no further that Movement Phase.

[5.33] It costs tanks, assault guns and infantry mounted in Armored Personnel Carriers four additional Movement Points to Overrun an Enemy Hard Target; it costs unmounted infantry performing an Overrun two additional Movement Points to Overrun an Enemy Soft Target.

[5.34] There is no additional Movement Point cost for unmounted infantry to Overrun either Enemy Hard or Soft Targets.

[5.35] Attack Strength may be modified when performing an Overrun depending upon what type of unit is performing the Overrun and in what type of terrain the Overrun is occurring. The Attack Strength of infantry and armored reconnaissance units is always doubled when performing an Overrun (the Hard or Soft Attack Strength is used as the basis depending upon what type of unit is being Overrun; this is similar to normal combat). If the unit performing the Overrun is a tank or assault gun Overrunning a Soft Target, the Soft Attack Strength is tripled if the Overrun is performed in Clear terrain. If a tank or assault gun Overruns a Soft Target in any type of Rough Overruns in Clear terrain. All increases in the number of Movement Points to enter a given hex are cumulative.

Terrain, the Soft Attack Strength is used without any modification. If a tank or assault gun Overruns a Hard Target in Clear Terrain, tanks automatically Overrun with a Strength of 18; assault guns automatically Overrun with a Strength of 12. If these units Overrun Hard Targets in any kind of Rough Terrain, tanks Overrun automatically with a Strength of 6; assault guns Overrun automatically with a Strength of 4.

[5.36] Wave Overrun: An infantry (or an armored reconnaissance unit) and an armored unit (tank or assault gun) may both Overrun the same Enemy unit in what is called a Wave Overrun. In this case, both units must Overrun through the same hexside. The infantry unit (or infantry mounted in APC's or the armored reconnaissance unit) Overruns first and stops on the first exit hex; the armored unit Overruns through the same hexside, passes through both the Enemy unit and the friendly infantry unit, and then stops. Note that both ending hexes must be vacant before the Wave Overrun is performed. The adjusted Attack Strengths are totalled (doubled for the infantry and as per the terrain for the armored unit; see 5.35) and the combat is resolved on the Hard Combat Results Table.
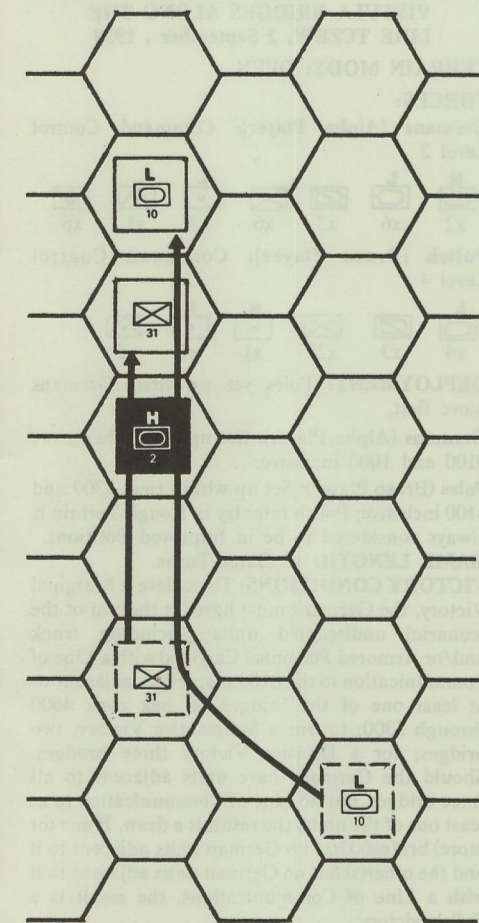
[5.37] All Enemy Zones of Control are ignored by friendly Overrunning units while performing an Overrun. This includes interdicted hexes.

[5.38] Combat results suffered during an Overrun are applied immediately after the Overrun is resolved.

[5.39] An unmounted infantry unit in a Rough Terrain may always Overrun an Enemy unit to which it is adjacent at the beginning of the Movement Phase. In other words, the terrain cost is ignored when the two units are adjacent to one another at the beginning of the Movement Phase in the case of unmounted infantry performing an Overrun.

[6.0] ZONES OF CONTROL
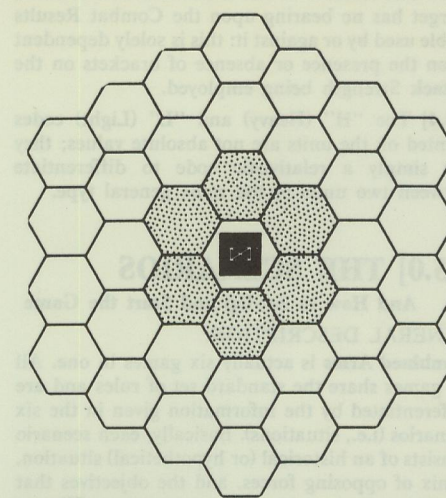
GENERAL RULE:
The six hexagons immediately surrounding a unit constitute that unit's Primary Zone of Control. All combat units exert a Primary Zone of Control. For an additional two hexes out in all directions there is a Secondary Zone of Control for infantry, armored reconnaissance, tanks and assault gun units only, which can be interrupted by terrain (see 6.5). Artillery Interdiction Fire can create Secondary Zones of Control in the target hexes. Hexes upon which a unit exerts a Zone of Control are called "controlled hexes" and have the effect of inhibiting the movement of Enemy units. When referring to both Primary and Secondary Zones of Control, the expression "Zones of Control" is used.

CASES:
[6.1] UNITS WHICH MAY ENTER ENEMY ZONES OF CONTROL
[6.11] Artillery, Anti-Tank Guns, and trucks may never voluntarily enter an Enemy Zone of Control. A unit, when forced to retreat due to combat, may retreat through Enemy Primary and Secondary Zones of Control. Thus, for purposes of retreat, Enemy Zones of Control are negated.
[6.12] Should an artillery, AT gun, or truck find itself in an Enemy Zone of Control at the beginning of its Movement Phase, it must attempt to leave. It may move only to an adjacent hex which is free from Enemy Zones of Control. If there is no such hex, it may not move. Friendly units do not negate Enemy ZOC's for purposes of movement.
[6.13] Armored units may voluntarily enter Enemy Secondary Zones of Control. "Armored" units are Tanks, APC's (loaded or empty), armored reconnaissance and Assault Guns.
[6.14] Infantry units not mounted in APC's may only enter one hex in an Enemy Zone of Control per Movement Phase. Truck mounted infantry may not enter Enemy Zones of Control.
[6.15] Armored units and infantry mounted in Armored Personnel Carriers must expend one additional Movement Point per hex to enter an Enemy armored reconnaissance unit's (mounted or dismounted) unit's Secondary Zone of Control. They must expend two additional Movement Points per hex to enter an Enemy tank or Assault Gun's Secondary Zone of Control. Overlapping Zones of Control do not add to the point cost of entering a controlled hex; no matter how many Secondary Zones of Control may be exerted into a specific hex, the Movement Point cost remains the same. However, if both an infantry and an armored units' Secondary Zones of Control are exerted in the same hex, the armored unit's Secondary Zone of Control Movement Point cost is the one that is paid.

[6.2] MOVEMENT EFFECTS OF PRIMARY ZONES OF CONTROL
[6.21] There is no extra Movement Point cost to enter an Enemy Primary Zone of Control.

However, a unit that does enter an Enemy Primary Zone of Control must cease all further movement for that Movement Phase, except when performing an Overrun.
[6.22] A unit may never move from one hex in an Enemy Primary Zone of Control directly to another hex in an Enemy Primary Zone of Control.
[6.23] A unit that starts its Movement Phase in an Enemy Primary Zone of Control may move and reenter another Primary Zone of Control provided that it enters at least one non-controlled hex, or a Secondary Zone of Control first.

[6.3] COMBAT EFFECTS OF ZONES OF CONTROL
Zones of Control do not affect combat. Attacking is completely voluntary. The presence of an Enemy unit and/or Primary or Secondary Zone of Control is never required to attack.

[6.4] VEHICLES AND ZONES OF CONTROL
Unoccupied vehicles (trucks and Armored Personnel Carriers) never exert a Zone of Control.

[6.5] TERRAIN EFFECTS ON ZONES OF CONTROL
Secondary Zones of Control do not extend through River hexsides or into Rough Terrain hexes. Primary Zones of Control do extend through River hexsides and into Rough Terrain hexes. Bridges, roads and fords in no way allow a Secondary Zone of Control to extend into or through terrain otherwise forbidden to it. However, Secondary Zones of Control do extend out of Rough Terrain hexes that border a Clear Terrain hex. In this case, the Secondary Zone of Control extends out of the hexside that borders the Clear Terrain (only).

[6.6] ARTILLERY INTERDICTION
Normal artillery fire creates the effect of an infantry unit's Secondary Zone of Control in the hex in which it lands if fired for the expressed purpose of interdiction. Rapid Fire artillery and Air Strikes create the effect of an armored unit Secondary Zone of Control if fired for the purpose of interdiction. Allocated interdiction is automatic.
[6.61] Zones of Control are created by artillery fire or Air Strikes (interdiction) are not cumulative. That is, only one Secondary Zone of Control is created in the hex regardless of how many strikes are made on that hex.
[6.62] The Secondary Zone of Control is created only as a result of an interdiction fire mission; a normal artillery or Air Strike attack on an enemy unit does not create a Zone of Control.
[6.63] The effects on an interdicted hex last through the next Enemy Player-Turn. In the case of the Bravo Player, the effects of his interdictions will actually last into the next Enemy Game-Turn.
[6.64] Artillery cannot fire interdiction against a hex that they cannot see (see 11.3 Terrain Effects on Spotting).
[6.65] Artillery may either attack or fire interdiction during a single Game-Turn, but not both.

[7.0] STACKING

GENERAL RULE:
Stacking (i.e., the placement of more than one unit in a given hex) is never permitted.

CASES:
[7.1] MOUNTING AND DISMOUNTING (TRUCKS AND ARMORED PERSONNEL CARRIERS)
[7.11] The act of mounting a vehicle is not actually considered

[4.0] SEQUENCE OF PLAY

[4.1] THE GAME-TURN

Combined Arms is played in turns called Game-Turns. Each Game-Turn is composed of eleven Phases and are divided into two Player-Turns. The Player whose Player-Turn is currently in progress is termed the Phasing Player. During each Player-Turn the Phasing Player moves his units and engages in combat. The Player who moves first is called the Alpha Player; the Player who moves second is called the Bravo Player. All actions must take place within the limits of the Sequence of Play. Any action performed out of Sequence is a violation of the rules.

[4.2] SEQUENCE OUTLINE

A. Alpha Player Movement Phase:
1. Alpha Player Command Control Determination Phase:
The Alpha Player draws a chit(s) and determines which of his units suffer from a Loss of Command Control (see 12.0, Command Control for procedure and effects). Units affected are inverted and considered out of Command and Control for the entire Player-Turn.

2. Alpha Player Movement Phase:
a. Current Forces Movement Segment: The Alpha Player may move any and all of his units that have not suffered from a Loss of Command Control, in any direction up to the limit of the Movement Allowance of the individual unit and within the restrictions outlined in the Movement Rules (see 5.0, Movement) and Zone of Control Rules (see 6.0, Zones of Control). All Overruns are committed and resolved in this Phase. All increases in the

[8.0] COMBAT

GENERAL RULE:
Combat occurs between opposing units at the Phasing Player's discretion. During the Combat Phase, the Phasing Player may choose to have his units attack Enemy units that are within range. No unit represents the ability of those units to take best advantage of the natural defensive features of that terrain (it does not represent actual fortifications). Such a unit always gets the Improved Position benefit when in Rough Terrain; i.e., there is no restriction to be fulfilled in order that it be considered to be in an Improved Position. Improved Position ability has the effect of doubling the normal defensive advantage that unmounted infantry in Rough Terrain has. Normal Zone of Control rules for Rough Terrain remain in effect for units with the Improved Position benefit.

PROCEDURE:
During the Combat Phase, the Phasing Player simply attacks any Enemy units he wishes that are within range. Total the adjusted Attack Strength of the attacking units involved in a specific attack and compare it to the total adjusted Defense Strength of the unit under attack. State the comparison as a probability ratio (odds), Attacker's Strength to Defender's Strength. Round off the ratio in favor of the Defender (round down in all cases). Attacker's Strength to Defender's Strength. Round off the ratio in favor of the Defender to conform to the simplified odds found on the appropriate Combat Results Table. To determine which Combat Results Table to use, first see what weapon types are attacking and what type of terrain the defending unit is in. When the appropriate Combat Results Table is found, roll the die and read the result on the line under the odds column. Apply the results immediately before resolving any other combat.

CASES:
[8.1] WHO MAY ATTACK
[8.11] During the Combat Phase of his Player-Turn, the Phasing Player may attack Enemy units. If the attacking unit is infantry or armored reconnaissance, it must be adjacent to the Enemy unit in order to attack it; if the attacking unit is a tank, anti-tank gun, assault gun or normal artillery, it will have a Range Allowance that will enable it to attack at some distance (see 8.8, Artillery).
[8.12] Artillery is completely voluntary. Units are never compelled to attack and not every unit that is able to attack need attack.
[8.13] An Enemy occupied hex may be attacked by as many friendly units that are within range, however, the Attack Strengths must be totalled and the combat conducted as a single attack.
[8.14] Units may participate in both Overruns and normal combat in a single Game-Turn during the appropriate Phases.

[8.6] DEFINITION OF HARD AND SOFT TARGETS
[8.61] The following units are considered Soft Targets: Dismounted Infantry, Entrenched Infantry, Trucks, Artillery, Anti-Tank Guns, Infantry in Improved Positions, Artillery Supply Market.
[8.62] The following units are considered Hard Targets: Infantry mounted in Armored Personnel Carriers, Tanks, Assault Guns, Armored Reconnaissance.

[8.7] CONCENTRIC ATTACKS
When a unit is completely surrounded by the Primary Zones of Control of attacking, adjacent Enemy units, the result is a Concentric Attack. The effect of a Concentric Attack is that all attacking units have their Attack Strength doubled (after all other modifications). The presence of a unit friendly to the defending unit in an adjacent hex negates the effect of a Concentric Attack.

[8.8] ARTILLERY
All non-infantry and non-armored reconnaissance combat units are, in effect, artillery. Tanks, assault guns and anti-tank guns can be considered mobile artillery pieces. However, a differentiation must be made between tanks, assault guns, anti-tank guns and normal artillery.
[8.81] All tanks, assault guns and anti-tank guns must attack all Soft Targets as artillery. That is, they project an Attack Strength of ten (Soft Attack Strength) up to the distance of the attacking unit's Range Allowance. Note that these units firing under these circumstances are not subject to range attenuation (see 8.83).
[8.82] All tank, assault gun and anti-tank gun units must attack Hard Targets with their Hard Attack Strength (which is subject to range attenuation).
[8.83] Range attenuation works as follows; if the target unit is adjacent to the firing unit, the Attack Strength is not reduced. Otherwise, subtract one Strength Point from the Hard Attack Strength for each intervening hex between the target and the firing unit. Note that range attenuation applies only in the circumstances given in 8.81 and 8.82.
[8.84] Normal artillery is never subject to range attenuation. It may fire up to its total Range Allowance with no lessening of its Attack Strength.
[8.85] Normal artillery units may triple their Attack Strength during any Combat Phase through the use of Rapid Fire. However, after doing so, they then cease to exist and are removed from play. The removal of a unit in this fashion counts as a unit destroyed for Victory Point

Column 1

purposes if destroyed units are used in that particular scenario as a criterion for Victory. A normal artillery unit may use Rapid Fire and **not** be eliminated if it has an Artillery Supply unit adjacent to it to be "burned" as ammunition supply. One category is used for each artillery unit using Rapid Fire in a Combat Phase. Artillery Supply units may not be moved once they are placed at the beginning of the game. Artillery Supply units removed from play due to Rapid Fire do not count towards Victory Conditions.

[8.86] For combat purposes, Air Strikes are treated as if they were the same fashion as artillery (see 6.6, Artillery Interdiction).

[9.0] COMBAT RESULTS
[See Tables 13.2 and 13.3 on separate sheet.]

GENERAL RULE:
There are six Combat Results Tables in **Combined Arms**. They are divided into two categories with three different tables per category. One category is for use by units with bracketed Attack Strengths called the "Hard Combat Results Table"; the other category is for use by units with unbracketed Attack Strengths called the "Soft Combat Results Table". The three different Combat Results Tables per category are used depending upon what type of terrain the defending unit is in; i.e., Rough #1, Rough #2, and Clear.

PROCEDURE:
To conduct an attack, the Attacker determines which category to use, depending upon whether or not his Attack Strength is bracketed; then the proper Combat Results Table is determined depending upon what type of terrain the defending unit is in. After all adjustments are made for range attenuation and terrain benefits to the Defender, the Attack Strength is compared to the Defense Strength to form a ratio (or "odds"). This ratio (odds) is always rounded off (or "odds"). This odds is always rounded off in the Defender's favor. The die-roll is then cross-indexed with the odds column to determine the combat result. Attacks (or Overruns) at less than 1-1 odds are not allowed and attacks at greater than 10-1 odds are treated as 10-1 odds.

[9.1] **EXPLANATION OF RESULTS**
There are four possible types of Combat Results. They are Retreat, Disruption, elimination of Defender and no effect.

[9.11] A combat result of "1" indicates that the defending unit must retreat one hex; a result of "2" indicates that the defending unit must Retreat two hexes; etc. The retreating unit is retreated by the defending Player. The unit must retreat towards and, if possible, into the nearest Rough Terrain area unoccupied by Enemy units. If no unoccupied Rough Terrain area is available, the unit must be retreated away from Enemy units if

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possible. A retreating unit ignores Enemy Zones of Control but not Enemy units. A retreating unit that cannot retreat around an Enemy unit is eliminated. If a unit is called upon to retreat more than its Movement Allowance, it retreats its full Movement Allowance and then suffers a "D1" result (see 9.12). This will occur in the Expanded Game only. A retreating unit does **not** pay victory costs.

[9.12] The Combat Results Table may call for a Disruption result. In this case, the unit does not retreat nor remain in place and has the appropriate Disruption Marker (D1, D2 or D3) placed upon it. A unit that is Disrupted loses its Secondary Zone of Control, may not attack, may not move and defends at half-Strength, rounding fractions up. A unit remains Disrupted until the appropriate die roll occurs during the Disruption Removal Phase. For a "D1", a die roll of 1, 2 or 3 is required; for a "D2", a die roll of 1 or 2 is needed; for a "D3", a die roll of 1 is needed to remove the Disruption. The effects of Disruption are cumulative; that is, if a unit has a "D1" Marker on it suffers a "D2" result in a subsequent Combat Phase, it would have a "D3" Marker placed upon it. Any unit that achieves a Disruption level higher than "D3" is considered eliminated. Should a unit that is Disrupted suffer a retreat result during a Combat Phase, it does not retreat but instead a partial suffers the same result as an additional "D1".

[9.13] A combat result of "DE" means that the defending unit is eliminated and is removed from play.

[9.2] **ADVANCE AFTER COMBAT**
An attacking unit may advance into a hex that the defending unit retreats out of or a hex left vacant because the defender was eliminated. In other words, if a defending unit retreats three hexes, the involved attacking unit(s) may occupy these three and only these three hexes that the Enemy unit vacated.

[9.21] Only attacking units that were directly adjacent to the defending unit may advance after combat.

[9.22] Units that are advancing after combat may ignore Enemy Zones of Control but not Enemy units. Units that are advancing after combat may not perform Overruns and they may not exceed their Movement Allowance. Advancing units must pay terrain costs as if they were making a normal Movement Phase.

[10.0] ARTILLERY SUPPLY

GENERAL RULE:
In general, there are no supply requirements in the game. The only supply applies to artillery supply units. These are immobile units (actually representing ammunition depots) which are placed at the beginning of the game and are consumed by **adjacent** artillery units in order to execute Rapid Fire (see 8.85).

PROCEDURE:
Artillery supply units are specifically assigned as per the scenario like any other unit; if none are given in the Order of Battle, then there are none in that scenario. When the game starts, the owning Player places them on the map when deploying his forces. Once deployed, they may not be moved.

CASES:
[10.1] **HOW TO USE ARTILLERY SUPPLY UNITS**

[10.11] During the Combat Phase, the Phasing Player announces that he is making a Rapid Fire artillery attack (but states which unit(s) is using Rapid Fire. Rather than having the artillery unit removed from play as described in 8.85, an **adjacent** artillery supply unit is removed following the

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the Rapid Fire artillery attack. The removal of this unit does **not** count towards fulfilling Victory Conditions.

[10.2] **COMBAT EFFECTS ON ARTILLERY SUPPLY**

[10.21] Artillery supply units defend as a Soft Target with a Defense Strength of "1".

[10.22] Artillery supply units are destroyed if they receive a "DE" result or a Retreat result. Each Player draws a number of chits equal to his Command Control Level; i.e., if the Command Control Level is "2", he draws two chits. The Player then compares the numbers on the chits that he has drawn to the last number in the hexes on the hex grid. Any Friendly unit on a hex whose number matches a number on a drawn chit is considered to have suffered from Loss of Command Control. The effects of Loss of Command Control last for the entire Player-Turn. Any combat units so affected may neither move nor dismount. Players should denote units that have suffered from Loss of Command Control by flipping them upside-down and leaving them that way for their entire Player-Turn. At the end of their Player-Turn, the units are turned right-side up.

[12.1] **LOSS OF COMMAND CONTROL: EFFECTS ON ARTILLERY**

[12.11] Sides with a Command Control Level of four (or higher) must have at least one Friendly combat units (not necessarily the firing unit) with a Line of Sight (see 11.3, Terrain Effects on Spotting) no more than three hexes in length (two intervening hexes) from the Enemy target hex to be able to use artillery fire in combat or interdiction against that hex.

[13.0] CHARTS & TABLES

[See separate sheet.]

[14.0] UNIT VALUES BY SCENARIO

GENERAL RULE:
The unit values (Attack Strength, Defense Strength, Movement Allowance, etc.) are not printed on the counters. This is due to the large variety of units needed to simulate the forces involved in the scenarios given in section 15.0. Each counter carries only the symbol of its general type (and an identity number) and the values that unit has in the specific scenario in which it is being used are given on the separate 8½ x 11 tables and charts sheet. Examine this sheet before reading any further.

CASES:
[14.1] Each unit type in a given scenario has five value numbers associated with it. Reading left to right on the value charts they are: Attack Strength-Hard; Attack Strength-Soft; Range (in hexes); Attack Strength; Defense Strength; and Movement Allowance (in Movement Points).

[14.2] When an Attack Strength is shown in brackets[], this means that the unit uses the Hard Combat Results Tables when using that Attack Strength. When an Attack Strength is shown unbracketed, this means that the units uses the Soft Combat Results Tables when using that Attack Strength. Note that this bracketing has **nothing to do with the type of target** that the unit is firing at.

[14.3] When a Defense Strength is shown in brackets, this means that the unit defends as a Hard Target. When the Defense Strength is shown unbracketed, this means it defends as a Soft Target.

Column 2

[11.0] TERRAIN EFFECTS

GENERAL RULE:
The map portrays a hypothetical piece of terrain. Basically, four types of terrain are shown: Rivers, Rough #1, Rough #2 and Clear. These different terrain features have different effects depending upon the type of **Terrain Mode** called for by the scenario. There are four types of Terrain Modes: Open Terrain, Mixed Terrain, Closed Terrain and Urban Terrain. The Terrain Effects Chart details the effects of the various types of terrain as per the specific Terrain Mode in terms of defensive value and Movement Point cost. See the Terrain Effects Chart.

CASES:
[11.1] **VARIABLE TERRAIN MAP**
The Game Map shows all the types of terrain. It is important to keep in mind that under certain types of Terrain Modes, various terrain features will actually disappear (for example, Rough #1 in the Open Terrain Mode).

[11.2] **EFFECTS OF RIVERS IN COMBAT**
Defensive values of Rivers are an odd case that cannot be fully explained by the Terrain Effects Chart. The defensive value of Rivers apply **only** under specific circumstances. The defending unit must be in a hex adjacent to a River (i.e., at least one hexside of the hex the unit is defending must contain a River). The defending unit must be attacked solely from across a River hexside(s) even one attacking unit on the **same** side of the River as the defender will negate its defensive value.

[11.21] Defending units **do** receive the defensive value of a River if attacked exclusively by an Air Strike.

[11.22] Defending units **do** receive the defensive value of a River if Overrun from across a River hexside.

[11.23] Defending units do **not** receive the defensive value of Rivers if attacked solely by Artillery.

[11.3] **TERRAIN EFFECTS ON SPOTTING**
For a friendly unit to be able to fire at an Enemy unit, the Friendly unit must be able to see it in its target. Certain terrain features (in no matter how long or meandering) traced from the unit to the Friendly map edge. This line must be free of Enemy units or Zones of Control throughout its entire length. When calculating the interpretation of a Line of Communications, the presence of other Friendly units negates the effect of Enemy Zones of Control in the hex that Friendly unit occupies. Friendly units which cannot trace a Line of Communications (when it's called for) do not count for Victory Condition fulfillment.

[col break]

unbracketed the unit defends as a Soft Target. Note that whether or not a unit is a Soft or Hard Target has no bearing upon the Combat Results Table used by or against it; this is solely dependent upon the presence or absence of brackets on the Attack Strength being employed.

[14.4] The "H" (Heavy) and "L" (Light) codes printed on the units are not absolute values; they are simply a relativistic code to differentiate between two units of the same general type.

[15.0] THE SCENARIOS
And How to Set-Up and Start the Game

GENERAL DESCRIPTION:
Combined Arms is actually six games in all. Six games share the standard set of rules and are differentiated by the information given in the six scenarios (i.e., situations). Basically, each scenario consists of an historical (or hypothetical) situation, a mix of opposing forces, and the objectives that the Players must achieve to win the game (Victory Conditions). Additionally, most scenarios use special rules that apply only to that particular situation. The scenarios are presented in increasing order of complexity.

SELECTING A SCENARIO:
If Players can not agree upon a particular scenario, they should roll a die (or pick a chit) and play the scenario indicated by that random number.

SCENARIO STRUCTURE:
All scenarios follow the same basic pattern:
a. Scenario Number and Historical Title
b. Terrain Mode (see Terrain Effects Chart)
c. Alpha Player Nationality and Command Control Level.
d. Alpha Player Forces available. Pictures of the unit types are shown with quantity numbers underneath each picture. See 14.0, Unit Values by Scenario, for the actual strengths of the unit types indicated. Note that the Alpha Player always moves first.
e. Bravo Player Nationality and Command Control Level.
f. Bravo Player Forces available.
g. Deployment (how the forces are set up at the start of the game).
h. Game Length (maximum duration of the scenario in Game-Turns).
i. Victory Conditions (how the Players determine the winner of that scenario).
j. Special Rules (rules which apply only to that specific scenario).

SPECIAL LINE OF COMMUNICATIONS CONSIDERATION:
In some scenarios, units must be able to trace an objective and trace a Line of Communications to a Friendly map edge. A Line of Communications is defined as a continuous line of hexes (no matter how long or meandering) traced from the unit to the Friendly map edge. This line must be free of Enemy units or Zones of Control throughout its entire length. When calculating the interpretation of a Line of Communications, the presence of other Friendly units negates the effect of Enemy Zones of Control in the hex that Friendly unit occupies. Friendly units which cannot trace a Line of Communications (when it's called for) do not count for Victory Condition fulfillment.

Column 3

x9   x9   x3

Germans [Bravo Player]: Command Control Level 1

x9   x9   x3

DEPLOYMENT: Russians set up and move first.
Russians [Alpha Player]: Set up within three hexes of 2833.
Germans [Bravo Player]: Set up within three hexes of 4601.

GAME LENGTH: 16 Game-Turns.

VICTORY CONDITIONS: The Player with more undisrupted units within two hexes of hex 3214 at the end of the game wins.

SPECIAL RULES: Friendly map edge for the Alpha Player is defined as any hex ending with the numbers 33 or 34; for the Bravo Player, the Friendly map edge is defined as any hex ending with the number 01.

[15.2] SCENARIO Nr. 2, DEFENSE OF THE VISTULA BRIDGES ALONG THE LINE TCZEW, 2 September , 1939

TERRAIN MODE: OPEN

FORCES:
Germans [Alpha Player]: Command Control Level 2

x3   x3   x1   x1   x1

Polish [Bravo Player]: Command Control Level 4

x4   x3   x27   x1   x1

DEPLOYMENT: Poles set up first, Germans move first.
Germans [Bravo Player]: Set up within rows 0100 and 1000 inclusive.
Poles [Bravo Player]: Polish infantry in Rough Terrain with rows 1300 and 6100 inclusive; Polish infantry in Rough Terrain is always considered to be in Improved Positions.

GAME LENGTH: 12 Game-Turns.

VICTORY CONDITIONS: To achieve a Marginal Victory, the Germans must have (at the end of the scenario) at least one Friendly truck and/or Armored Personnel Carrier(s) with a Line of Communication to the 0100 map edge, adjacent to at least one of the bridges on hex rows 4600 through 5300; to win a Substantive Victory, two bridges; for a Decisive Victory three bridges. Should the Germans have units adjacent to all three bridges, but no Line of Communication to at least one of the units, the result is a draw. If one (or more) bridge(s) has no German units adjacent to it and the other(s) has no German units adjacent to it with a Line of Communications, the result is a draw.

SPECIAL RULES: All German infantry start the scenario mounted on trucks. The Friendly map edge for the Alpha Player [Germans] is defined as any hex in the 0100 row or lower; for the Bravo Player, the Friendly map edge is defined as any hex on the 6100 hex row.

[15.3] SCENARIO Nr. 3, PROCHOROVKA, 12 July, 1943

TERRAIN MODE: OPEN

FORCES:
Germans [Alpha Player]: Command Control Level 1

x4   x3   x1

Russians [Alpha Player]: Command Control Level 3

x4   x3   x1

Column 4

unbracketed the unit defends as a Soft Target. Note that whether or not a unit is a Soft or Hard Target has no bearing upon the Combat Results Table used by or against it; this is solely dependent upon the presence or absence of brackets on the Attack Strength being employed.

x9   x9   x3

Russians [Bravo Player]: Command Control Level 3

x9   x9   x3

DEPLOYMENT: Germans set up first and move first.
Germans [Alpha Player]: Enter anywhere on 0100 hex row within a ten hex front. Germans do pay entry cost of first hex.
Russians [Bravo Player]: Bravo Player enters anywhere on row 6100 within a ten hex front on Game-Turn four. Bravo Player Do pay entry cost of first hex. Bravo Force "West" may enter on row 6100 within three hexes of 0800 and 3100 inclusive. Note that Bravo Force "West" deploys before the Germans enter the map.

GAME LENGTH: 12 Game-Turns.

VICTORY CONDITIONS: The Russian Player wins if he can destroy more than seven German units (excluding APC's). The German Player wins if he can exit, before the last Game-Turn of the scenario, eight units (excluding APC's) from the 6100 mapedge. Any other result is a draw.

SPECIAL RULES: Russian infantry in Rough Terrain is considered to be in Improved Positions. German infantry starts the scenario mounted in APC's. There is no Command Control Determination Pahse for either Player for the first Game-Turn.

[15.4] SCENARIO Nr. 4, ARRANCOURT TANK BATTLE, 19 September, 1944

TERRAIN MODE: MIXED

FORCES:
Americans [Alpha Player]: Command Control Level 1

x3   x3   x8   x1   x2   x1   x1

Germans [Bravo Player]: Command Control Level 3

x3   x27   x1   x2   x9   x1

DEPLOYMENT: Poles set up first, Germans move first.
Americans [Alpha Player]: Deploy within rows 0100 and 1000 inclusive.
Germans [Bravo Player]: Deploy within two hexes of hex #5519.

GAME LENGTH: 6 Game-Turns.

VICTORY CONDITIONS: The Player with the greatest number of undisrupted units (excluding trucks and APC's) with a Line of Communication to the respective map edge, on or adjacent to the road between hex rows #4414 and #5018 (inclusive) wins the scenario.

[15.5] SCENARIO Nr. 5, BATTLE OF THE CHINESE FARM, 15 October, 1973

TERRAIN MODE: OPEN

FORCES:
Egyptians [Alpha Player]: Command Control Level 3

x27   x1   x2

Column 5

⊠⊞ ⊞ ⊞
x9   x9   x3

⊞ H L ⊞
x1   x1   x1

Russians [Bravo Player]: Command Control Level 3

⊞ ⊞ ⊞
x9   x9   x3

DEPLOYMENT: Russians set up and move first.
Russians [Alpha Player]: Set up within three hexes of 2833.
Germans [Bravo Player]: Set up within three hexes of 4601.

GAME LENGTH: 16 Game-Turns.

ALPHA FORCE "NORTH"

⊠ ⊞ ⊞
x3   x6   x2

ALPHA FORCE "SOUTH"

⊠ ⊞ ⊞
x3   x3   x1

Israelis [Bravo Player]: Command Control Level 1

H L
x3   x6   x2

DEPLOYMENT: Egyptians set up and move first.
Egyptians [Alpha Player]: Force "North" set up within four hexes of hex #3501; Force "South" set up within four hexes of #3934.
Israelis [Bravo Player]: Set up within three hexes of 3214, 4314, or 5108. They may be divided between these three areas, but at least one unit must be placed with each of the areas.

GAME LENGTH: 8 Game-Turns.

VICTORY CONDITIONS: The Egyptians must have at least three undisrupted units on or adjacent to the road between 3214 and 5219 inclusive, at the end of the game. If the Egyptians have one or two undisrupted combat units on or adjacent to the road at the end of the scenario, the result is a draw; if they have no combat units on or adjacent to the road at the end of the scenario, the result is an Israeli victory.

SPECIAL RULES: The river that runs 4601-5213-4926 may only be crossed at the ford at 5219/5320 (treat it as a bridge). Hexes 4830-33 and 4929-33 are considered water and no units may ever enter or cross.

Israeli infantry in Rough Terrain is considered in Improved Positions.

All infantry start the scenario mounted in vehicles. For the Alpha Player, the Friendly map edge is defined as any hex ending with the numbers 01, 33, or 34; the Bravo Player does not require a Friendly map edge.

[15.6] SCENARIO Nr. 6, HEARTBREAK RIDGE, 13 September, 1951

TERRAIN MODE: CLOSED

FORCES:
US [Alpha Player]: Command Control Level 3

ALPHA FORCE "SOUTH"

⊞ ⊞ ⊞
x3   x6   x2

ALPHA FORCE "CENTER"

H L
x3   x6   x2

ALPHA FORCE "NORTH"

⊞ ⊞ ⊞
x3   x6   x2

Chinese [Bravo Player]: Command Control Level 2

⊞ ⊞
x27   x1

Column 6

GAME LENGTH: 16 Game-Turns.

VICTORY CONDITIONS: The US must have at least ten undisrupted units each on or adjacent to hexes #2017 and #2315. If only one hex meets these conditions, the game is a draw; if none do, the Germans win.

SPECIAL RULES: Chinese infantry in Rough Terrain are always considered to be in Improved Positions.

[16.0] GAME NOTES

[16.1] NOTES FOR SCENARIO Nr. 1 [Russia '44]

PLAYTEST NOTES:
The Germans have a slight edge in this scenario because of a lower Command Control Level and slightly better tanks. This advantage in tanks is particularly important because the German can Overrun Russian tanks at 3-1 odds; while the Russian tanks Overrun German tanks at only 3-1 odds. This can be an important edge when a general melee occurs.

The Russians have a definite advantage in infantry. They are strong enough so that they are extremely difficult to destroy. The Russian Player should advance rather carefully, screening his armor with infantry. This will pay off later in protecting Russian tanks from Overrun Attacks and will give the Russians an opportunity to perform Wave Overruns of his own.

The Russians have the problem of being out-classed in firepower and Command Control. However, time is all on their side. With Force "West", the Russians should attempt to delay the Germans at all costs. Probably, Force "West" will suffer heavy casualties, but it is worth the cost if it delays the Germans until Russian reinforcements arrive. Should the German Player expose any Soft Target, it is worth sacrificing an anti-tank unit to destroy it. The Israeli Player is in trouble—there are simply too many of them to be effectively challenged. The Israeli Player must stop the Egyptians piecemeal. The Israeli Player, however, must beware of his own losses. He is so outnumbered that the loss of even one unit can mean the difference between winning and losing the scenario.

The **Egyptians** have two advantages that they must utilize to the utmost: numerical superiority and time. All the Egyptian Player has to do is rush the position and occupy it during the last Game-Turn. Unfortunately, the Israeli Player will have a Friendly unit within three hexes of the target. Infantry units can be used for this purpose as well as armored reconnaissance units. As for the Polish tanks, they are weak; protect them at all times. Remember that you outnumber the Germans and that the Germans are pressed for time. Trade

[col break]

territory for time; hold the German up as long as possible. Whenever there is an opportunity to eliminate a German unit, do it even if it means losing one of your own.

The **Germans** have the advantage of a good position, Command Control and firepower; they have the disadvantage of time and numerical inferiority. The German Player should concentrate his forces, spearheading with his armor, and then drive through the Poles. Although the Poles have a large force, it is not very mobile and they will be hardpressed to stop any German breakthrough. One thing to beware of is the vulnerability of your mounted infantry. Polish artillery will be able to slaughter them unless the German Player can keep Polish units away from the trucks. Armored reconnaissance units are quite helpful for this purpose. One further point for the German Player to keep in mind is the Line of Communications. It does no good to seize the bridges and not have a Line of Communications. The bridges should have their initial forces inadequate to take all the bridges on the last Game-Turn.

[16.4] NOTES FOR SCENARIO Nr. 4 [Arrancourt]

PLAYTEST NOTES:
The **Americans** have an opportunity at the start of the scenario that will never come again. As the German infantry starts mounted in trucks, they are excellent targets for American artillery. This will have the effect of denying the Germans a certain amount of support that they will need to carry through their seizure of the road. The Americans will usually seize the road first and then must fight a delaying action to hold the objective.

[16.5] NOTES FOR SCENARIO Nr. 5 [Chinese Farm]

PLAYTEST NOTES:
The **Israelis** are faced with a major attack against a vital road that they must hold at all costs. Despite their numerical inferiority, they must immediately take the initiative and go after the Egyptians as soon as the game starts. Utilizing superior Israeli range, firepower and Command Control, the Israeli Player should attempt to take the light artillery for interdiction purposes in Clear Terrain can have the effect of slowing and channeling the American advance. It is also extremely useful for destroying Disrupted units.

Working in their favor is their large number of infantry units, terrain, the Game Length and the fact that they know where the Germans must go. The Polish Player should block all the passes with infantry; they will be in Improved Positions and can go a long way in delaying the Germans. It is not a bad idea to place an anti-tank gun unit near the infantry to use the anti-tank guns in Hard Combat Results Tables. This will make the Germans cautious about forcing the passes. The Germans are also pressed for time and will have to keep their infantry mounted in trucks; this will make them extremely vulnerable to artillery attacks. However, because of the High Command Control Level of the Poles, they must have a Friendly unit within three hexes of the target. Infantry units can be used for this purpose as well as armored reconnaissance units. As for the Polish tanks, they are weak; protect them at all times. Remember that you outnumber the Germans and that the Germans are pressed for time. Trade

[col break]

possible with their armored forces. Although Egyptian tanks are quite inferior to Israeli armor, the Israelis cannot afford to ignore them. The Egyptian forces are going to suffer severe losses; accept this as a fact. However, if you can trade these losses for time, or better yet Israeli losses, you will come out ahead. Never miss an opportunity to destroy Israeli units.

[16.6] NOTES FOR SCENARIO Nr. 6 [Heartbreak Ridge]

PLAYTEST NOTES:
The **American Player** has superior infantry, some armor and plenty of artillery support. However, the Chinese have better Command Control and have the benefit of defending from Improved Positions. The American Player must attempt to release Force "Center" as soon as possible. This will often mean that the US will have to intentionally take casualties in Force "Center". This should immediately engage the Chinese and tie Chinese resistance and the special Command Control rules do the rest. This will release Force "Center" and allow for a two-pronged attack against the Chinese positions. For the American Player, this scenario truly lives up to the name of the game — **Combined Arms**. He must move up to the Chinese unit to be attacked, hit it with infantry, support it with artillery to increase the odds, and support it with armor for superior odds.

The **Chinese Player** has advantages of interior lines of communication, numerical superiority and better Command Control. Remember that your objective is to hold a specific position, not to inflict casualties on the American Forces. In fact, this can actually be detrimental because it will mean the release of the American Force "Center". The Chinese have four artillery units; use them to destroy the other Forces. The Chinese have superior armor and infantry groups which superior American artillery and air power defend.

[17.0] DESIGN CREDITS

Game Design: James F. Dunnigan
Physical Systems Design and Graphics: Redmond A. Simonsen
Game Development: Christopher Allen with Edward Curran
Rules Construction: Christopher Allen, Kevin Zucker
Research: David C. Isby, James F. Dunnigan
Proof-testing: Omar DeWitt, John Heydt
Physical Production: Manfred F. Milkuhn, Roger Dowd, Linda Mosca.

[14.0] SCENARIO UNIT VALUES

Column values in each unit row represent: Attack Strength Hard, Attack Strength Soft, Range, Defense Strength, Movement Allowance.

SCENARIO Nr. 1, Russia, 1944 — Terrain Mode: Mixed

ALPHA (Russians, CCL: 2)

Unit	Atk Hard	Atk Soft	Range	Def	MA
L	[4]	[10]	4	[4]	12
⊠	1	8	1	8	3
L	1	10	27	1	10

BRAVO (Germans, CCL: 1)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[5]	[10]	5	[5]	10
⊠	1	6	1	6	3
L	1	10	27	1	10

ALL SCENARIOS, ALL FORCES

Unit	Atk Hard	Atk Soft	Range	Def	MA
⊙	0	0	0	1	10

SCENARIO Nr. 2, Vistula Bridges — Terrain Mode: Open

ALPHA (Germans, CCL: 2)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[4]	[10]	4	[4]	10
L	[2]	[10]	2	[2]	10
⊘	1	8	1	[8]	10
⊠	1	5	1	5	3
L	1	10	27	1	10
△	[2]	[10]	2	1	10

BRAVO (Poles, CCL: 4)

Unit	Atk Hard	Atk Soft	Range	Def	MA
L	[2]	[10]	2	[2]	10
⊘	1	1	1	[1]	10
⊠	1	4	1	4	3
H	1	10	27	1	10
L	1	10	20	1	10
△	[2]	[10]	2	1	10

SCENARIO Nr. 3, Prochorovka — Terrain Mode: Open

ALPHA (Germans, CCL: 1)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[6]	[10]	6	[6]	11
L	[5]	[10]	5	[5]	10
⊘	[3]	[10]	3	[3]	10
⊠	1	6	1	6	3
L	1	10	30	1	10
L	1	10	27	1	10
△	[5]	[10]	5	1	10
⊡	0	0	0	[1]	10

BRAVO (Russians, CCL: 3)

Unit	Atk Hard	Atk Soft	Range	Def	MA
L	[3]	[10]	3	[3]	12
⊙	[2]	[10]	2	[2]	12
L	1	8	1	8	3
L	1	10	13	1	10
△	[3]	[10]	3	1	10

SCENARIO Nr. 4, Arrancourt — Terrain Mode: Mixed

ALPHA (U.S., CCL: 1)

Unit	Atk Hard	Atk Soft	Range	Def	MA
L	[4]	[10]	4	[4]	11
⊙	[6]	[10]	6	[6]	10
⊠	1	5	1	5	3
H	1	10	30	1	10
L	1	10	27	1	10
⊡	0	0	0	[1]	10

BRAVO (Germans, CCL: 3)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[6]	[10]	6	[6]	11
⊙	[4]	[10]	4	[4]	10
⊘	1	9	1	[9]	10
⊠	1	5	1	5	3
△	[5]	[10]	5	1	10

SCENARIO Nr. 5, The Chinese Farm — Terrain Mode: Open

ALPHA (Egyptians, CCL: 3)

Unit	Atk Hard	Atk Soft	Range	Def	MA
L	[4]	[10]	4	[4]	12
⊘	1	3	1	[3]	10
⊠	1	11	1	11	3
H	1	10	27	1	10
L	1	10	13	1	10
⊡	0	0	0	[1]	10

BRAVO (Israelis, CCL: 1)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[11]	[10]	11	[11]	12
⊠	1	8	1	8	3
L	1	10	27	1	10
⊡	0	0	0	[1]	10

SCENARIO Nr. 6, Heartbreak Ridge — Terrain Mode: Closed

ALPHA (U.S., CCL: 3)

Unit	Atk Hard	Atk Soft	Range	Def	MA
H	[5]	[10]	5	[5]	[10]
⊠	1	6	1	6	3
H	1	10	33	1	10
L	1	10	28	1	10
⊡	0	0	0	[1]	10

BRAVO (Chinese, CCL: 2)

Unit	Atk Hard	Atk Soft	Range	Def	MA
⊠	1	2	1	2	4
L	1	10	20	1	3
L	1	10	13	1	3

[13.1] TERRAIN EFFECTS CHART

TERRAIN KEY: Clear, Rough #1, Rough #2, Road, Trail, River, Ford, Bridge, Lake

CLOSED MODE — Terrain Feature In...	Movement Point Cost to Enter or Cross Hexside	Multiplying Effect on Unit's Defense Strength
Clear	2MP	x1
Rough #1	4MP	x3
Rough #2	8MP	x4
River	+4MP	x2
Trail	2MP	na
Ford	+1MP	na
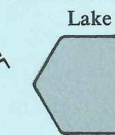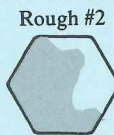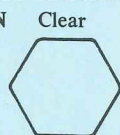
MIXED MODE	MP Cost	Mult. Def
Clear	1MP	x1
Rough #1	2MP	x2
Rough #2	5MP	x3
River	+2MP	x2
Trail	1MP	na
Ford	+1MP	na

URBAN MODE (optional)	MP Cost	Mult. Def
Clear	1MP	x1
Rough #1	2MP	x2
Rough #2	2MP	x4
River	+2MP	x2
Trail	1MP	na
Ford	+1MP	na

OPEN MODE	MP Cost	Mult. Def
Clear	1MP	x1
Rough #1	1MP	x1
Rough #2	2MP	x2
River	+1MP	x2
Trail	na	na
Ford	+1MP	na

ALL MODES	MP Cost	Mult. Def
Road	1MP	na
Improved Position	na	x2
Bridge	(a)	na

NOTES: MP = Movement Point Cost
(a) = Bridge negates River crossing cost
na = not applicable; no effect
* In the OPEN MODE, Rough #1 is treated as Clear Terrain.

COMBINED ARMS CHARTS & TABLES

Whatever the table used, attacks and Overruns at less than one-to-one odds are not permitted; odds higher than ten-to-one are treated as ten-to-one.

[13.2] HARD ATTACK STRENGTH COMBAT RESULTS TABLES
(used by Tanks, Assault Guns, and Anti-Tank Units)

[13.21] CLEAR TERRAIN, Hard Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	3	D1	D2	D3	De	De	De	De	De	De	1
2	2	3	D1	D2	D3	De	De	De	De	De	2
3	2	3	D1	D2	D3	De	De	De	De	De	3
4	1	3	D2	D3	De	De	De	De	De	De	4
5	1	2	3	D1	D3	De	De	De	De	De	5
6	•	1	3	D1	D2	D3	De	De	De	De	6

[13.22] ROUGH #1, Hard Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	2	3	D1	D2	D3	D3	D3	D3	De	De	1
2	2	2	D1	D1	D2	D2	D3	D3	D3	De	2
3	1	2	3	3	D1	D2	D3	D3	D3	D3	3
4	1	2	3	3	D1	D2	D2	D3	D3	D3	4
5	•	1	2	3	3	D1	D1	D2	D2	D3	5
6	•	•	2	2	3	D1	D1	D1	D2	D2	6

[13.23] ROUGH #2, Hard Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	1	2	2	2	3	3	3	De	De	De	1
2	1	1	1	2	2	3	3	3	De	De	2
3	1	1	1	1	2	2	3	3	3	De	3
4	•	1	1	1	2	2	2	3	3	3	4
5	•	•	1	1	1	2	2	2	3	3	5
6	•	•	•	•	•	1	2	2	2	3	6

[13.3] SOFT ATTACK STRENGTH COMBAT RESULTS TABLES
(used by Infantry, Artillery, Recon, and Air Strikes)

[13.31] CLEAR TERRAIN, Soft Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	2	3	3	3	D2	D3	D3	D3	D3	D3	1
2	1	2	2	3	D2	D2	D3	D3	D3	D3	2
3	1	1	2	2	D1	D2	D2	D3	D3	D3	3
4	•	1	2	2	3	D1	D2	D2	D2	D3	4
5	•	1	1	1	3	D1	D1	D1	D2	D2	5
6	•	•	1	1	3	D1	D1	D1	D1	D1	6

[13.32] ROUGH #1, Soft Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	2	3	3	3	D1	D2	D2	D3	D3	D3	1
2	1	2	2	3	3	D1	D2	D2	D3	D3	2
3	1	1	2	2	D1	D1	D1	D2	D3	D3	3
4	•	1	1	2	3	3	D1	D1	D2	D3	4
5	•	1	1	1	3	3	3	3	D2	D2	5
6	•	•	1	1	2	3	3	3	D1	D1	6

[13.33] ROUGH #2, Soft Attack Strength Combat Results Table

Die Roll	1-1	2-1	3-1	4-1	5-1	6-1	7-1	8-1	9-1	10-1	Die Roll
1	1	2	2	2	3	3	3	3	3	3	1
2	1	1	1	1	2	2	3	3	3	3	2
3	•	1	1	1	2	2	2	3	3	3	3
4	•	•	1	1	1	2	2	2	3	3	4
5	•	•	•	1	1	2	2	2	2	3	5
6	•	•	•	•	•	1	2	2	2	2	6

For explanation of Combat Results Tables see 9.0.

Combined Arms

ALPHA

BRAVO

D1	D1	D1
D1	D1	D1

D3	D3	D3	D3	D3	D3	D3	D3	D3

D1	D1	D1	D1	D1	D1	D1	D2	D2	D2
D2	D2	D2	D2	D2	D2	D2	D2	D3	D3

0	1	2	3	4	5	6	7	8	9

Combined Arms

Combat Operations 1939–70's

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