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Operational Map Combat in World War II

MASTER RULESET

Operation Goodwood Version
Version 24 April 2011

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1. Introduction

These rules started out as a set of guidelines for the operational megagame *Operation Market Garden*. This game was run three times, in 1988, 1993 and 2004. In the course of these outings, the rules altered and benefited from considerable feedback from participants. It has been the basis for a number of club games at Chestnut Lodge Wargames group, and most recently had an outing for the Malta game at Duxford in 2010.

The game system I offer here is a distillation of feedback from users, together with additional thoughts and research.

Operation Market Garden was a large and complicated operational game. It involved forces down to battalion level and headquarters up to Corps. When running such a game there is a lot to bear in mind, and the game system has to be robust in order that things progress smoothly.

Of course, these rules do not need to be used only in the context of a full sized 100 player megagame - there are plenty of smaller operations that they can as easily be used for in the context of a club game for half a dozen players.

In addition to the reasonably straightforward aspects of ground combat the rules consider the problems of air-ground operations (both close support and airborne operations) and logistics (hopefully not quite as boring as some folk make out!).

This version of the rules has been specifically tweaked for the Operation Goodwood megagame. Some aspects have been emphasised over the original, some simplified (for example the logistics system of the original has been largely removed, as this is not as a central a feature of the operation as it was in, say, Operation Market Garden).

I hope you find this system usable and useful. Please send me feedback on how you get on with it, or just to ask questions. I will be happy to answer emails.

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Dedication:

These rules have had influences from a number of people of the years - many more than could be usefully listed. I'd like to dedicate these rules to the late Steve Hale (1955-2000) who introduced me to wargaming over 40 years ago, was a founder member of Chestnut Lodge Wargames Group and was one of the most important influences in the original runs of the Operation Market Garden Megagame.

2. Notes on Running a Game

This system assumes a standard set up for map games. This consists of a minimum of three maps, one for each side, and a master map. The scale is unimportant, so long as they are clearly marked, and easy to update.

It follows therefore that the game can be played with a minimum of three participants - one Game Control and two players. It is more fun if there are more players and teams of three per Divisional HQ (or the equivalent) and 1 control per team is ideal. With more players, or for larger and more complex battles, higher headquarters can be introduced and divisional teams need to be a little larger.

The Game Control's role is to keep the game going and to make sure the players feel that they are experiencing as realistic a simulation of the battle as possible.

For this reason Control should never refer to the game mechanisms when talking to players. All reported battle results should be, as far as practicable, in 'real-world' terms. Even if the players know all about how the combat system works, this is important because it helps with the 'willing suspension of disbelief' aimed at in good operational wargames.

As Control you may often feel the urge to inject some arbitrary ruling at various times. Try to resist the gratuitous exercise of your power. If you feel that something has to be ruled on that isn't in the rules, then that is fine - the rules are not exhaustive - but in the interests of consistency this should be kept to a minimum.

Often you will be called upon to apply common sense and a knowledge of inherent military probability to problems. The main aim of these rules is to provide a framework upon which you can successfully base that assessment.

3. Scales, Level and Resolution

The smallest represented unit is the Battalion (or equivalent)
Players represent the staff at Divisional level or higher.

Each game turn is approximately 8 hours, broken down into Night, Morning and Afternoon game turns.

Map scales etc. will vary with the map used, but counter sizes must match the map scale. Assume a counter frontage of around 1km per battalion or the equivalent. Remember that the counter is simply a unit marker. It isn't the unit. Units can be deployed over areas larger than the counter (or smaller).

Note also that the grid squares are for map reading and reporting, **they are not 'game board' squares** and must not be treated as such.

4. Sequence of Action

Each full turn should take no more than about 25 minutes to adjudicate, preferably much less.

For games with just one divisional team a side a game turn should take around 15 minutes to adjudicate.


Control Actions	Max Time Taken
1. Team Control takes players written orders for the turn on a standard proforma, reads them, clarify unclear points and prepares to work out the results.	2-3 minutes
2. When Control are ready, the Team Controls move all counters on master map, and then assess the results of combat.	No more than 5-10 minutes
3. Team Control orally brief the players on the outcome of combat. (This can be concurrent with 2. above if telephones &/or radios are available).	2-3 minutes
4. Map Control position new reinforcements, if any, on the main map for the coming move.	3-5 minutes
	Total 12-21 minutes
Player Actions:	
5. Clarify orders when requested by Control.	
6. While Control are working out the update, prepare as much of next orders as possible and communicate with other HQs and superiors/subordinates. Carry out map updates.	
7. Be prepared for battle updates as they occur.	

5. Orders

Each turn players will issue orders for units or groups of units with the same task (i.e. battlegroups, regiments, brigades). An order sheet is then passed to the team Game Control person who check they can understand it, before going to the main map and implementing the orders.

Game control then annotate the order sheet as the combat is resolved and return to the players to report.

A typical sheet might look like this:

ALLIED		GAME TURN No. ____			
Order Sheet :Game Date _____ night / am / pm					
Unit / Grouping	Orders	Supporting elements	General Intentions (circle one in each col.)		Game Control Notes
			Action	Movement	
			Break through Attack Probe Hold Move Prepare	Tact Non-Tact	
			Break through Attack Probe Hold Move Prepare	Tact Non-Tact	
			Break through Attack Probe Hold Move Prepare	Tact Non-Tact	

The headings are mostly self-explanatory, except 'general intentions' which are:

Action	
<i>Breakthrough</i>	This is only available to armoured units. An all out attack intended to break through the enemy formations and continue movement on the other side. This can mean the units fight more than one action during the turn, and will wear out units faster.
<i>Attack</i>	Attack the units in the direction indicated in orders, with the intention of dislodging or destroying them and taking an objective.
<i>Probe</i>	Intensive patrolling to determine the location and extent of units to the front. The unit will advance until it makes contact then conform to the enemy's deployment, when found. This also give some unit identification of the facing units.

Action	
<i>Hold</i>	Dig in and remain in current positions. If specified in orders this might be a 'stand fast' or 'hold at all costs' in which case the unit might take additional casualties rather than be pushed back.
<i>Move</i>	Move from 'A' to 'B'. If enemy encountered, the unit stops and does not attack.
<i>Prepare</i>	Prepare for an attack. This is essential if an attack is to be successful.
Posture	
<i>Tact</i>	Tactical – ready for combat deployed and expecting trouble.
<i>Non-Tact</i>	Non-Tactical. Not ready for combat, not expecting trouble. Ammunition stowed, weapons slung. But allows faster movement.
<i>Rest</i>	In some cases units can recover fighting effectiveness by resting. Typically this needs to be for several days before any improvement is felt.

6. Unit Movement

Movement

As a guide, the ABSOLUTE MAXIMUM movement distance, in kilometres, on the map are shown below.

Individual unit movement will almost always be much less than this maximum, especially the road movement rates which can be affected by weather, congestion, choke points and other road conditions.

NIGHT MOVES ARE MUCH SLOWER – assume ¼ to ½ of the figures below.

REMEMBER, THESE FIGURES REPRESENT THE UNINTERRUPTED MAXIMUM MOVE.

Troops	Ground	Tactical	Non-tactical	Road Column	River Crossing
Horse drawn Infantry & Paras.	All terrain	15	25	30	Possible
Mech. or motorised	Close	18	28	64	impossible
	Open	30	32	64	impossible
Tanks or SPGs	Wood/ Town	18	28	64	impossible
	Marsh	8	18	64	impossible
	Open	30	32	64	impossible
Motor towed arty	All terrain	-	-	75	impossible
Recce and lt. tanks	Close	18	28	100	possible
	Open	30	35	100	possible

Obviously, movement can be interrupted for combat. Units which have moved for more than half a turn cannot fight in that turn (i.e. they fight in the next turn).

Armoured units which are *breaking through*, may move on after a combat - depending upon how fierce the fighting was.

Examples of things that slow down unit movement

- Moving down narrow, twisty lanes
- Coming under fire
- Traffic jams
- Bad weather
- Preparing for an attack

Control decides how much the unit is delayed by these factors, the delay can, and should, be significant – in each case the examples above should at least halve the maximum movement distance.

River Crossing

On the operational maps only river obstacles of major importance are marked. There are numerous minor obstacles that have been factored into the movement rates.

[NB: If you are using a real map, you should ignore minor streams and waterways.]

These river obstacles can only be crossed at a bridge by units indicated above as 'River Crossing = impossible'.

Other units may cross canals and minor rivers, but not major rivers without a marked bridge (using minor unmarked footbridges and locks or otherwise improvising).

Passing By

There are circumstances when units may wish to pass through the enemy, or between units where there appears to be a gap. This needs careful treatment, because this sort of infiltration or exfiltration did sometimes happen.

As a general rule of thumb, it is not possible to pass by an enemy unit closer than 2km in the open. The movement is stopped, as if they had bumped into the unit directly (unless they have orders to attack, of course).

If the movement is through woods, close country, or at night, then the passing distance is 1km.

Units in contact cannot 'rub past' an enemy unit they are in contact with, without fighting it. They must break contact first.

EXCEPTION: Tank battalions on their own can pass between bypassed 'hedgehog' infantry positions where the gap is smaller than above (down to 500m or so). However, they are often quite vulnerable if they do.

7. Traffic

Unit Size Points

At any major crossing, the bridge or ferry will be given a capacity in terms of
'Unit Points Per Turn'

Each unit is given a score (indicating its size in vehicles). During any major troop movement, bridges will form the main choke points for traffic, and this will be reflected in the game.

The unit size points are marked on the counters concerned.

The capacity of typical choke points, in points per game turn, will be:

Crossing type	Capacity in points
Civilian Ferry	4
Main road bridge	up to 100
Minor road bridge	Up to 40
Bailey bridge	20
Rail bridge	15-25

None of these figures are hard and fast, of course.

Circumstances can dramatically alter the capacity of a given river crossing. The above figures must be regarded as only a general guide and you must use your judgement as the game progresses.

Column Lengths

When in 'road column' the unit points also indicates the amount of road space the unit takes up in kilometres.

8. Blowing Bridges

It was common for the German army to prepare bridges for demolition, and for the various airforces to destroy bridges without reference to ground forces.

Often the destruction of a bridge was out of the hands of commanders at the player level, so we have a die roll for it.

Unless otherwise defined in the scenario, bridges may dice to blow if fought over, or you may test at Map Control's discretion should the circumstances warrant it. Roll a 1 on 1d6 to blow.

Once tested and failed to blow, the bridge should be assumed 'safe' if checked or passed over by an Allied unit - mark the bridge 'safe' on the master map to prevent another umpire from re-testing it.

9. Combat

Unit Status

At any given point in the battle all units have a status level, from 0 to 10. It is important to realise that these levels are **NOT strength points**, although strength is a consideration, neither are they solely combat effectiveness, they are an amalgam of the two.

A unit may take a number of step reductions as a result of combat which usually means a reduction in status - although this is not a 1:1 relationship. For example, an infantry battalion might have the following status profile:

Step Reduction	Undamaged 0	-1	-2	-3	-4
Status Level	5	3	2	1	No longer an effective unit

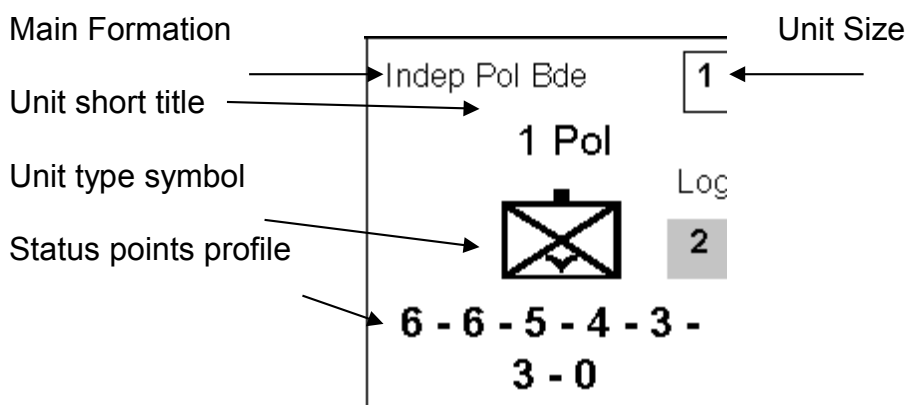
See Annex A for a summary of typical unit profiles.

This profiling system means that a unit counter used on the master map can show a series of numbers, like this:

5 - 3 - 2 - 1 - 0

and Control can cross off a number to represent a step loss, and see the resulting Status Level.

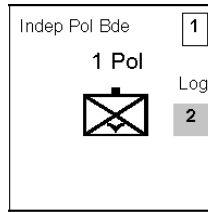
Example Master Map Counter



If you are unsure of the unit type symbols used, see annex B

Example Player Map Counter

The players should never be given data on the exact unit status numbers. Therefore, where players use map counters at all, they should look like this:



Support Units

Some units have a primarily support role. In this case the status profile will appear in square brackets, thus: **[5 – 3 – 2 – 1 – 0]**

This means that the unit's status value can only be used in attack or defence in conjunction with another unit of at least equal status.

Defence only units.

Status profile values in brackets indicate that they can only be used in defence, i.e. **(2) - (1) - 0**

Attacking

Normally no more than one attack per turn should be permitted (*except* - see Overrun Attacks below).

Combat is assessed in terms of attacks. In the case of an encounter battle, work out who attacks first, and proceed from there.

It takes one turn to prepare an effective attack.

(NB: It is possible to attack unprepared, but don't forget to apply the penalty factor below)

Orders to prepare for an attack must be made on the order sheet.

When a unit falls below status 1, it ceases to be effective.

It is not removed from play, but is incapable of withstanding any attack, or even putting up a fight, will retreat if at all possible. If unable to retreat then it is, in effect, captured (players get reports of large numbers of prisoners from the unit).

Combat Assumptions

- Combat is extremely wearing on all troops. Even if they win a battle, the winner's attacking units will take many casualties, often more than the defenders. It is important for commanders to ensure that they do not exhaust their entire force by continually using, say, their entire division to attack.
- On the whole, tanks do not fight at night.
- Paratroops and some German infantry formations lack substantial numbers of heavy weapons, and are therefore disadvantaged in the attack, or facing tanks in open country.
- Infantry have an advantage over tank formations when defending built-up areas or closely wooded country.
- Preparation is everything. All attacks need at least one game turn of preparation (i.e. waiting, or moving up a short distance) if they are to stand

the best chance of success. Obviously, sometimes attacks must be hastily organised and immediate – but be warned, success is less likely in hasty attacks.

- Co-ordination in battle is very hard. Units from the same Brigade / Regiment / Battlegroup are used to working together – but additional units, especially from another command or division make the task of battle co-ordination harder. So in a single fight, two brigades from the same division will be more effective than two brigades from different divisions.
- Tactical air power in the close support role can be decisive in an attack. But it does require several squadrons of effort to do so.
- Artillery is essential to both attack and defence. Attacking without artillery support is a definite disadvantage.
- Combined arms attacks – making good use of infantry, armour and artillery in the same attack – increase the chances of success considerably.
- Tank units are quite potent in battle, but have limits. A well deployed infantry battalion can hold up tanks, especially in close country.
- It takes time to do anything. For the vast majority of units, the following timings apply:
 - a. To prepare a brigade/battalion for an attack **takes 1 turn.**
 - b. Attach a battalion to a different division **takes 1 turn.**

Players must have allowed for these timings in their orders. There might be exceptions, for particularly flexible, effective or veteran units.

Analysing Combat

1. Get the orders from both sides for the action.
2. Check that you understand all the movements involved before resolving **any** combats. Sometimes a key instruction is included with some seemingly unimportant order at the bottom of the page.
3. Check that the orders relate to the situation – sometimes key things have changed, such as an enemy they were expecting to attack has vacated their positions suddenly. In cases like this – refer back to the players for an **instant decision**. These should be instant – no discussion is allowed.
4. Work out what constitutes the combat to be adjudicated. This will typically be where a single formation of up to regimental/brigade size is attacked. The forces involved will be the defenders vs all units involved in the attack, in a single combat calculation (see below). If there are defenders in very different situations. This might be something like one battalion of a brigade is in a built up area and the neighbouring battalion is in the open – then you might break down the combat into two separate calculations.

5. When you have decided how to group all the combats – move to the Combat Procedure (below) and work out the results. Don't do combat resolution until you have decided this for **all** combats (because it can get messy otherwise).

Combat Procedure

1. Total the attacker's status points (including supporting artillery / air) and ADD Factors that apply to the attacker to arrive at the Attacker's Score
2. Total the Defender's status points (including supporting artillery / air) and ADD the factors that apply to the defender to arrive at the Defender's Score
3. Subtract the Defender's score from the Attacker's score.
4. Add the score of 1d6
5. Look up the result in the table

FACTORS (apply to both attacker and defender if appropriate)

- +2 per unit for each clear tactical advantage⁽¹⁾
- +2 per unit if 'Combined Arms'⁽²⁾ (prepared)
- 2 per unit if light infantry⁽³⁾ attacking
- +2 heavy tanks fighting other tanks
- 4 per unit for unprepared attack
- +2 per unit if defending close country⁽⁴⁾ against tanks
- 2 per unit if unsupported infantry⁽⁵⁾ in open against tanks
- x ½ unit factor unit if moving non-tactically
- 2 for each unit from another formation⁽⁶⁾
- x ½ value of tank units fighting at night
- +4 for ordinary air support
- +6 for superior air support
- +8 for overwhelming air support
- +10 for apocalyptic air support

Notes:

(1) These cannot always be codified - but things like holding a river crossing, overlooking the enemy, or having spent several days preparing defences - that sort of thing would qualify. Use this for units holding a fortified village area.

(2) A combined arms attack or defence is one in which there is a balanced force of infantry and tanks and supported by artillery. Acceptable balances would be, say, no less than 1 tank status point per 3 infantry or 1 infantry to 3 tank. Any amount of artillery counts. This can **only** be applied to prepared attacks.

(3) Light infantry are British & US paratroops, US glider troops transport and HQ units, ad-hoc units, units fighting out of role (i.e. tanks or artillery units fighting as infantry).

(4) Close country is defined at built up areas or woods.

(5) Unsupported infantry are infantry with no tank or anti-tank units with them and no artillery allocated to their defence.

(6) Units from another formation are units that are not part of the main brigade or division leading in the attack. Particularly common where an ad-hoc defence or hasty attack has been organised.

Supporting Artillery

Unit	Effective Range (km)	Long Range (km)
Field Artillery	8	12
Medium Artillery	12	18
Heavy Artillery	10	16
Rocket Artillery	8	n.a.
Infantry Guns	6	n.a.

Artillery Units join the combat as additional unit status in the combat calculation. Defending artillery specifically allocated to the task can be counted for the defenders and use ammo in the process.

Artillery units can be moved and fired, but obviously their effect is reduced in proportion to how much of the turn they spend moving and what part of the turn they move in.

For example, an artillery regiment moving up during the first half of a turn could not, obviously, support an attack commencing at the beginning of that turn.

Air-Ground Attacks (Close Air Support)

Close air support (CAS) of a ground battle is very difficult to organise successfully.

This can only be done in prepared attacks (i.e. those having spent the previous turn with 'prepare' orders)

Also the effectiveness of the attack is strongly influenced by the presence of specialised air liaison units - in the case of Allied forces called 'Tentacle' or Germans, 'FLIVO'.

German doctrine seems to have been to use their limited air power to hit rear areas and vulnerable targets - so most of the time they will use the interdictions rules (see later).

Air attacks are always by multiples of squadrons or the equivalent

The various bomb-loads and tactical doctrines have been averaged out in the interests of simplicity.

All allied air attacks by Typhoons, Mosquitoes, Spitfires and all the rest of the tactical airforces are treated as 'Ground Attack'.

Long range heavy and medium bombers are the only type treated differently.

Type	Squadrons needed to achieve...			
	Normal support (+4)	Superior support (+6)	Overwhelming support (+8)	Apocalyptic support (+10)
German Ground Attack Squadrons	1-2	3-5	6-9	10 or more
Allied Ground Attack Squadrons	1	2 - 3	4 - 7	8 or more
Heavy Bomber Squadrons	-	-	1 - 2	3 or more

Team Control (or Air Control if one is being used) must quickly place an appropriate air attack marker on the master map so that the air attack factor is added into the combat.

Cab Rank. This was a system whereby a number of squadrons would be in the air and on call for 'immediate' CAS missions. This option is only available to the Allies.

A Cab Rank has to be allocated to a specific formation for an entire day (2 daylight turns), and takes 3 squadrons to provide 1 squadron's worth of cover.

The main effect is that by using Cab Rank CAS is made available for unprepared attacks and can be allocated to defence.

Results Table

In terrain particularly unsuitable for attacking, use the 'BAD TERRAIN' result column (note 4)

Normal Terrain	BAD Terrain	Standard Results	Special Results
12 +	20+	<p>Total success. Attacker takes one step loss per unit Defender takes 2 step loss per unit, and must retire at least 1d6 km in open or half that in woods / close country / bad terrain. Defender loses two supply points per unit, and may not counter-attack next turn.</p>	<p>If attacker mostly armoured and has TWICE status of defender and has 'BREAK THROUGH' orders, then it is a SUCCESSFUL OVERRUN ATTACK. Move through defeated enemy up to half remaining movement. If this brings the unit into contact with more enemy, then an unprepared attack is permitted in the same turn at player's discretion.</p>
8-11	12-19	<p>Success. Attacker wins, takes one step loss per unit. Defender takes one step loss per unit and must retire 1d3 km in the open or half that in woods / close country / bad terrain. Defender loses one supply point per unit.</p>	<p>If attacker mostly armoured and has TWICE status of defender and has 'BREAK THROUGH' orders, then it is a SUCCESSFUL OVERRUN ATTACK. Move through defeated enemy up to half remaining movement and take 1 extra status loss on attackers. If this brings the unit into contact with more enemy, then an unprepared attack is permitted in the same turn at player's discretion.</p>
5-7	7-11	<p>Limited Success. Attacker wins, and takes one step loss per unit. Defender takes one step loss per unit and must retire 2 km in open or 1 km in woods / close. Defender may counter-attack if so ordered. Defender loses one supply point per unit.</p>	<p>If attacker mostly armoured and has TWICE status of defender and has 'BREAK THROUGH' orders, then it is a SUCCESSFUL OVERRUN ATTACK. Move through defeated enemy up to one quarter of remaining movement and take 1 extra status loss on attackers. If this move brings the unit into contact with more enemy, halt.</p>
4 to -1	2 to 6	<p>Confused combat. Both sides take one step loss per unit, and remain in position. No counter-attacks possible this turn.</p>	
Less than -1	Less than 2	<p>Attackers badly beaten. Defender takes no loss. Attackers all take one step loss per unit and are thrown back to start line or at least 1 km whichever is greater. Defender may counter-attack if so ordered.</p>	

NOTES:

1. Units forced to retire will do so backwards usually to a specific location to their rear if that is the most reasonable place - for example into a nearby town or wood, or across a bridge etc. - even if this might mean altering the distance pushed back slightly.
2. Units ordered to stand fast or holding a vital spot (such as the end of a bridge for example) may choose to give up an additional step loss and ignore a retreat result.
3. Units in city or fortified areas do not retreat on anything less than a 'Total Success' result.
4. Bad Terrain is defined as areas of close country such as bocage, and the tiny walled fields found in southern Italy, Crete and Malta. It also applies to generally mountainous conditions found in Italy.

Example of Combat Procedure

Defender

2nd Para Bn is defending the north end of Arnhem Bridge.
It has a current status of 6, and is supported by 5 AL Atk Battery with a status of 2. Total Status 8. The whole force is in a built up area.

The defender's score starts off as 8

The defenders have been in position in the city for a day, which Control deem to be a 'tactical advantage' to the defenders +2

Bringing the final defender's score to 10

Attacker

This is attacked by an ad-hoc force of Germans made up of:

20 SS PzGR Bn, status 6

9 SS PzJg Abt (fighting as infantry) status 4

9 SS Pz Abt (fighting as infantry) status 4

9 SS PzArtR (fighting as infantry) status 4

Supported by field artillery within effective range - status 6

Total status 24

All the attacking units spend the previous turn with 'prepare' orders.

So the attacker's score starts off with 24

Three of the attacking units are classed as 'light infantry' -3

Making the final attacker's score as 21

Less the defender's score (of 10): $21 - 10 = +11$

The Germans roll a 2 on 1d6, bringing the score to +13

This is a Total Success. This would normally force the British out of position, but they had orders to 'hold at all costs', so they can ignore the retreat at a cost of extra status loss.

The defenders take 3 status steps lost on 2nd Para Bn and the Atk Bty. This reduces the Atk Bty to zero effectiveness, and the Para Bn to a status of 3

The attackers take one step loss on each unit involved (except the supporting artillery, obviously) and remain in position.

The attackers used up 5 ammo counters and 1 fuel in the attack, the defenders used up no ammo.

Bombing/Interdiction

When carrying out interdiction attacks or flak suppression either by aircraft or long range artillery, the rules are different.

Interdictions are on an AREA, taken as a square 2km x 2km. Control will have handy templates for use on the master map, which players can fill in as part of their order – writing.

Look at the numbers of each type of attack.
Roll separately for the different types of force being used.

Take the number and type of squadrons used and use the following table:

Roll 1d6 per target unit in the interdicted area.

Force being used			Result on Die		
Spitfire Sqs or Arty Bns per AREA	Typhoon / Mustang / Fortress / Liberator Squadrons per AREA	Lancaster / Halifax / Stirling Squadrons per AREA	One Step loss & immobilised	Immobilised	No effect
LIGHT	MEDIUM	HEAVY			
1-2	1	-	6	5	1-4
3-4	2	1	6	4-5	1-3
5-6	3	2	5-6	3-4	1-2
7-8	4	2	5-6	2-4	1
10-12	5	3	4-6	2-3	1
12+	6-8	4-5	3-6	2	1
-	9+	6+	3-6	1-2	-

10. Hints on Reporting Combat Results

The realistic feel of the game depends on how well Team Control report back to players. This, as mentioned before, has to be the same way a real commander might get information.

This is best in the form of a story of the events of the battle – adding all sorts of colour to make it sound like a real battle account.
Or, if there is a lot of reporting to do, it might be more streamlined with only an outline of events.

It key thing to remember is what the player/commander needs to know. The following information must be imparted.

Use the mnemonic **ELETI**

EFFECTIVENESS – LOCATION – ENEMY – TYPE – INDENTITY

1. **EFFECTIVENESS.** An indication of the combat effectiveness of their own forces. **You may not reveal status scores.** However, remarks like *“the unit is very close to disintegration”*, or *“the unit has had light losses and is fully capable of further offensive action”* are good. Units with a status of less than 3 are regarded as having low offensive power. Units with status of over 5 are regarded as have considerable combat power.
2. **LOCATION.** The location of own forces. It is important that this is correct, because they are basing their next orders on these positions
3. **ENEMY.** They should be told roughly how many battalion equivalents they are fighting. This may be modified – 3 weak status battalions might be mistaken for one full-strength one.
4. **TYPE.** They should be told what *sort* of opposition they face. Tanks, artillery and air power **MUST** be mentioned if they are involved.
5. **INDENTITY.** If they have been in contact with the same formation (division or regiment/brigade) for more than one turn, they should be given unit identification as well.

11. Supplies

There is no detailed logistics system in this version of the rules.

The key logistical issue is that the Germans were often short of ammunition, especially artillery ammunition.

This has been factored into the combat values of German support and artillery units.

They also had trouble getting supplies of fuel. This mainly affects the arrival time of units into the battlefield area, and this is factored into the scenario.

During the short period of the battle, the Allies suffered few serious logistical difficulties, in terms of supplies of ammunition and fuel. That isn't to say they were not concerned about these issues, or that there wasn't a lot of work involved in keeping key units supplied – it is just that we have chosen not to game that work, and instead assume it 'just happens'.

12. Air Operations

The main missions are: Close Air Support (CAS), Bombing, Recce, Escort and Air Cover.

a. Close Air Support: Acting as artillery support to a given ground operation. This must be pre-ordered as part of the units orders - and must appear in BOTH ground AND air orders to be effective. Only available to Allied forces. See Combat section for how this works.

b. Bombing: Bombing a given location or unit on the map behind enemy lines. This includes flak suppression actions. The bomb line is normally at least 2-3 km from the nearest friendly troops. See 'Bombing / Interdiction'

c. Recce: Reconnaissance of the map per squadron/move. Units in cover have a vanishingly small chance of being spotted, so we ignore it here (unless there is an exceptionally high concentration)

Armoured and mechanised units in built up areas cannot claim cover.
+1 if more than 2 units in same grid square.

Results table 1d6

Target			Infantry / Guns / Supplies	
Die roll	Vehicles in Moving open	Vehicles stationary in open	stationary in open	Infantry Moving in open
6	Direction, type and size of unit reported	Type and size reported	Type reported	Direction, type and size of unit reported
5	Direction and type reported	Type reported	'Enemy Spotted'	Direction and type reported
4	Direction reported	'Enemy Spotted'	No report	'Enemy spotted'
3	Direction reported	No report	No report	'Enemy spotted'
2	'Enemy spotted'	No report	No report	No report
1	No report	No report	No report	No report

Explanation:

Type = distinguish between trucks, tanks, assault guns, artillery, half tracks, infantry etc.
 Direction = the main direction of movement , eg "towards Arnhem"
 Size = "Battalion sized unit" or 'Several battalions', "small force" etc
 'Enemy Spotted' = a vague report that some sign of enemy activity has been seen in a given location, but no details.

d. Escort: Close air cover to protect bombers or transport aircraft. See 'Air Combat'

e. Air Cover: Combat patrols to dissuade enemy air operations. See 'Air Combat'

Losses from Flak

If a flak unit is the victim of a flak suppression mission – and it takes damage or is immobilised (see 'Interdiction' above) then it is also suppressed for that turn.

Flak can be very damaging to nearby transport operations or on Bomber or Transport overflights.

Target: 1d6 per target air serial	Overflight (not fighters)			Air landing /or paradrop within 2km			Air landing /or paradrop within 4km		
	Loss	Dam	NE	Loss	Dam	NE	Loss	Dam	NE
Heavy Flak	6	5	1-4	5-6	3-4	1-2	6	5	1-4
Light Flak	-	6	1-5	5-6	4	1-3	-	6	1-5

Loss = transported/landed unit loses one status AND air unit takes one damage (2 damage = one lost serial/squadron (aggregate over whole operation for the turn)

Dam = air unit takes one damage.

NE = no effect

13. Air to Air Combat

Fighter vs Fighter

1. **Establish Air Cover patrol areas.** If these are mutual you have a combat.
2. **Establish fly-in routes for air transport or bombers.** If this coincides with enemy air cover you have a combat.
3. **Fighter Vs Fighter:**

Take the numbers of fighter squadrons on each side and roll 1d6. The side with the largest number of squadrons is always the attacker (and therefore rolls).

ODDS: Score	1-1	2-1	3-1	4-1	5-1	6-1(+)
1	Lose	Lose	Draw	Draw	Draw	Win
2	Draw	Draw	Draw	Draw	Win	Win
3	Draw	Draw	Draw	Win	Win	Win
4	Draw	Draw	Win	Win	Win	Win
5	Draw	Win	Win	Win	Win	Win
6	Win	Win	Win	Win	Win	Win

WIN = Attacker loses 10% of defender's strength
 Defender loses 20% of attacker's strength

DRAW = Each side loses 10% of their opponent's strength.

LOSE = Attacker loses 20% of defender's strength
 Defender loses 10% of attacker's strength






















Losses are in complete squadrons, rounded to the nearest squadron. Given the forces involved, few squadrons will be lost - but umpires should report 'Light Losses' or 'Heavy Losses' as appropriate.

4. Fighter Vs Transport Aircraft.

If the fighters win against the air cover, they inflict losses on the transports. Losses are 1 transport serial out of action per squadron that breaks through to the stream.

For attacks on bombers, quarter these losses.

Typical Unit Type Symbols

unit type	description
	Anti Tank
	Transport / Logs
	Mountain Inf
	Airborne Arty
	Paras
	AA Arty
	Engineers
	Infantry
	Armour
	Mechanised
	Cavalry
	Recce
	Artillery
	SP Artillery
	Armoured Engineers
	Airborne Engineers
	Glider Infantry
	Mountain Arty
	HQ
	Blank
	Bridging Column



Master Ruleset

SPACE FOR NOTES



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