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Chris
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RAIN

- Wind Change DR ≥ 10 (if Overcast) starts rain; DR ≤ 3 ends it (regardless of intensity). If raining, DR ≥ 10 increases intensity to Heavy Rain.
- When Rain starts, EC wet for remainder of scenario.
- No SMOKE except from a Blaze or inside a building. No Drift.
- Causes Mist LV Hindrance: +1 at range 7-12 hexes, +2 at 13-18 hexes, etc.
- Heavy Rain Mist LV Hindrance +1 at range 0-6, +2 at 7-12, +3 at 13-18, etc.
- No Air Support during Overcast.
- **MOVEMENT During AND AFTER Rain, ground units must expend 1 extra MF/MP per elevation level (up/down) unless using stairwell or paved road.**

Low Visibility Hindrance: Like LOS Hindrance but does not negate/affect FFMO, Interdiction, Residual FP, concealment loss.

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See <http://www.sff.net/people/pitman/asl/asl.htm> for more.

SNOW

- Falling Snow: Always overcast; EC is Moist unless Ground/Deep Snow also present; streams are considered frigid. Stops on Wind Change DR ≤ 3 (regardless of intensity). Restarts on DR ≥ 10 . If snowing DR ≥ 10 increases intensity to Heavy Falling Snow.
- Falling Snow causes Mist LV Hindrance: +1 range 7-12 hexes, +2 at 13-18, etc. Heavy Falling Snow: +1 at range 0-6, +2 at 7-12, etc.

Low Visibility Hindrance: Like LOS Hindrance but does not negate FFMO, Interdiction, Residual FP, concealment loss.

Ground Snow

- EC always wet. Blazes spread to adj. Hexes only if connecting hexside crosses building/woods/brush symbol or Blaze is spread by gusts.
- Turns all marsh/mudflat terrain to Open Ground; freezes all streams; activates all Ice rules.
- +2 DRM to Entrenching Attempts.
- MOVEMENT: Infantry/Cavalry must spend 1 extra MF per elevation level change (up/down) unless using stairwell or plowed road. Road Bonus NA unless using plowed road. For vehicles, Road Entry MP cost is one MP, not 1/2. Non-tracked vehicles must spend 1 extra MP (MF) per hexside crossed/bypassed. Both effects apply even on plowed roads.

Drifts: Occur by SSR or by Heavy Winds or Gusts + Ground or Deep Snow. Affect only 1 hexside. Requires all of a unit's MF/MP to cross, requires Bog Check with +2 DRM. Treated as hedge unless wall/roadblock is there. Bypass not allowed. Normal movement between hexes of the same building can occur despite a drift hexside.

Winter Camouflage: In any type of snow, infantry/vehicle (not PRC) with WC receives +1 LV Hindrance DRM when fired on beyond 8 hexes if infantry or 16 hexes otherwise (EXC: OBA, Residual FP, Fire Lane). NA if it qualifies for positive TEM other than SMOKE. May Assault Move/Advance into Open Ground without loss of ?. -1 drm for concealment attempts.

Frigid Water Obstacle (B20.7): If Inf/Cav enter w/o a bridge they are Replaced/Disrupted as per A19.12-13 (or Casualty Reduced if incapable of both). May not Ford frigid river hex (B21.41). No Swimming.

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MUD

- EC always "Mud." Blazes spread to adj. hexes only if connecting hexside crosses buildings/woods/brush/grain/in-season orchard, or if Blaze is spread by gusts.
- All unpaved roads are non-existent (EXC LOS, Dash, Street Fighting, Straying) and are considered open ground. Paved roads and runways not affected by Mud.
- Bog/Manhandling more difficult. +1 to Entrenching attempts. SMOKE has no effect.
- HE ATTACKS: +1 TEM to all HE attacks in Open Ground (EXC: Mines, Air Bursts, Collateral Attacks; see E3.62). Residual FP reduced 1 column. FFMO still applies.
- **MOVEMENT: Ground units spend extra 1/2 MF (or 1MP) per Open Ground hexside, unless entering non-Open Ground terrain in that hex. This includes all unpaved roads, gullies not containing woods/brush, dry streams, plowed fields (not grain), and open ground hexes with shellholes and trenches. Ignore Hexside TEM.**

Deep Snow

- EC are always snow. Blazes spread to adj. Hexes only if connecting hexsides crosses buildings/woods symbol or Blaze is spread by gusts.
- Turns all marsh/mudflat/brush terrain to Open Ground; freezes all streams; activates all Ice rules (B21.6, B20.7).
- Bog/Manhandling more difficult. +2 DRM to Entrenching Attempts.
- No SMOKE except from a Blaze or inside a building.
- HE ATTACKS: +1 TEM to all HE attacks in Open Ground (EXC: Mines, Airbursts, Collateral Attacks; see E3.731). Residual FP reduced 1 column. FFMO still applies. Minefield attack/Clearance DR have +1 DRM; A-P minefield attacks resolved with half FP; A-T mine factors present considered to be 1 less than normal. This includes all unplowed roads, gullies containing woods, dry streams, plowed fields (not grain), and open ground hexes with shellholes and trenches. Ignore hexside TEM.
- MOVEMENT: Infantry/Cavalry must spend 1 extra MF per elevation level change (up/down) unless using stairwell or plowed road; must pay extra 1/2 MF per hexside (EXC: entering woods/bldg/rubble or crossing plowed road hexside). Road Bonus NA unless using plowed road. Gallop allowed only on plowed roads.
- For vehicles, Road Entry MP cost is 1 MP, not 1/2 (even on plowed roads). Except on plowed roads, non-tracked vehicles must expend two extra MP (MF) per hexside crossed/bypassed; tracked vehicles must pay 1 extra MP.

Extreme Winter

- EC always snow. Foxholes may not be dug.
- B#/X# of all ordnance/SW except DC decrease by 1 for pre-April 1941 Russians, by 2 for pre-April 1942 Axis (EXC: Finns).
- **Fate:** Non-Finn Axis unit before April 1942 (or Russians before April 1941) that makes Original DR ≥ 11 while not in bldg/pillbox suffers Casualty Reduction.
- **Vehicles:** Non-Finn Axis Defender prior to April 1942 must make dr for each vehicle that sets up onboard not in motion before it expends its first start MP; on a 6, it is immobilized.

A Bridge Too Far Scenario Play Aid

Special Rules

(unless otherwise specified, all ABtF SSR apply to both CG and non CG scenarios)

ABtF1. CONCEALMENT: Regardless of LOS, British units setting up in Concealment Terrain may always begin game concealed (before the German player may look at the board). British OB/Purchased concealment counters are intended for use as Dummies.

ABtF2. CLOAKING: During Night Scenarios, the Scenario Attacker uses Cloaking for all units, even if some/all set up on map. Majority Squad Type for the Germans is always Lax; for the British always Stealthy. On-map Cloaked SW need not be dm.

ABtF3. PIATS: At start of play, British Player may secretly record which units possess his available (by OB or Retained) PIATs. The presence of these PIATs must be revealed when possessing unit is no longer Good Order or if he performs any of the following actions in LOS and w/in 16 hexes of an unbroken enemy unit: fires PIAT, transfers PIAT, drops possession of PIAT. Once revealed, PIATs may not regain "hidden" status in the current scenario.

ABtF4. NO QUARTER: No Quarter is in effect for both sides (EXC: units about to be eliminated for Failure to Rout will instead surrender to any ADJACENT, armed, Known enemy Infantry unit. Surrender may be refused only if all eligible captors already possess the maximum # of prisoners they can Guard). Massacres are NA.

ABtF5. NARROW STREETS: All Fire attacks vs. Dashing Infantry receive a cumulative +1 DRM (treated as an LV hindrance) when fired upon in the Road Location. Such DRM ceases the instant Dash benefits become NA.

ABtF6. GAMMON BOMBS: All British Infantry units may roll for ATMM as if they were 1944 German Infantry (EXC: successful placement attempt results in a -2 CC Attack DRM, not -3). SMC: +2 drm to ATMM Check dr. Walking Wounded MMC: +1 ATMM Check drm. Assault Engineer/Commando MMC: -1 drm to ATMM Check dr.

ABtF7. INTERROGATION: Civilian Interrogation (E2) is in effect for both sides; both sides are considered to be in a neutral country.

ABtF8. FANATICISM: All British units are Fanatic in Building S11 (the Schoolhouse). See also 9.4, SSR CG23.

ABtF9. STEALTH: Elite British units are Stealthy. All German MMC are Lax at night.

ABtF10. HAND-TO-HAND: Hand-to-Hand CC may be declared by both sides. Additionally, the DEFENDER may declare H-t-H CC if all ATTACKER units were Ambushed or are Withdrawing/pinned. H-t-H CC by/vs. PRC/Vehicle(s)/pillbox-occupants is NA.

ABtF11. ROOFTOPS: Rooftops (B23.8) that exits the map (i.e., beyond printed mapsheet area) is considered for purposes of A2.51 to extend beyond that map edge either along the same lettered hexrow, or in hexes of the same coordinate, as that map edge hex (depending on map hex grid configuration). All terrain in the off-map Setup Area(s) is considered ground-level Open Ground (EXC: half-hexes; A2.51). On the are in effect. Control of a Rooftop Location never counts as control of a building Location.

ABtF12. OFF-MAP ROADS: Any road other hand, all on-map terrain that is not in play in a given scenario remains in effect for "offboard" movement and entry purposes during that scenario.

ABtF13. KINDLING: The British player may not conduct Kindling attempts. German units may conduct Kindling attempts in any scenario taking place on/ after 19 September (or on/after 19AM for CG Scenarios). Units marked with a

German Unit Rules:

1. Assault Engineer ELR always 5 & Morale # always underlined, even if ELR-replaced.
2. SS MMC Morale # NEVER considered underlined for any purpose (EXC: Assault Engineers).
3. Replacement/Battle Hardening progression is 6-5-8 > 5-4-8 > 4-4-7 > 4-3-6; 3-4-8 > 2-3-8 > 2-3-7 > 2-3-6 for half squads (and vice versa).
4. SS 4-4-7/2-3-7s are still considered Elite, but any SS MMC replaced with a Conscript MMC is considered Inexperienced for all purposes and no longer considered SS. 4-3-6/2-3-6s become 4-4-7/2-3-7s when they Battle Harden.

No Move counter may not conduct Kindling attempts.

ABtF14. BURNT-OUT WRECKS: A Burnt-out Wreck cannot be Scrounged, set Ablaze, or removed from play as per D10.4. A Burnt-Out Wreck is a LOS Hindrance just like a normal Wreck.

ABtF15. FRIENDLY BOARD EDGE: Recalled German vehicles must exit via the North edge on/east of Hexrow Q, via the South edge from hex R23, or anywhere along the east or west board edges. British vehicles are never Recalled; treat Recall results (D5.341) as stun (D5.34) instead. Multiple stun results on British Vehicle crews have no additional effects.

ABtF16. GERMAN AFV: German Vehicle crews may not voluntarily Abandon non-immobilized vehicles (EXC: SPW 250/sMG HT and SPW 250/7 HT).

ABtF17. TRENCHES: Trenches are considered to "connect" (per B30.8) to (but not through) all ADJACENT bldg/rubble Locations (EXC: not to a Location that is rubble during play of that scenario) (see also R4.21 and R4.6, last sentence). Infantry entering such a bldg/rubble Location need not pay an extra MF to leave the Trench in that Location, but must still pay applicable bldg/rubble COT. Infantry leaving such a bldg/rubble Location need not pay an extra MF to enter a "connecting" Trench. Infantry may not enter such a Trench while using Bypass Movement; nor may they use Bypass Movement while in such a Trench; nor may they exit such a Trench to directly use Bypass Movement. A unit entering/leaving a bldg/rubble Location via a "connecting" Trench is not subject to Snap Shots as it does so. A vehicle must pay the appropriate MP-costs/penalty to cross such a Trench while using VBM; hence vehicle types not allowed to cross a Trench may not do so while using VBM. Infantry may enter a Fortified Building Location as if that building were not Fortified, provided they enter it from a Trench "connected" to that Building Location.

ABtF18. WHITE PHOSPHOROUS: German squads may use WP Grenades as if they were 1944 British. Any German ordnance capable of firing Smoke (i.e., has a Depletion Number) is also considered to have a WP6 Depletion Number printed on the reverse of the counter. For the purposes of WP Fires, EC are always considered Very Dry and the -2 Kindling DRM for buildings is NA.

ABtF19. MISCELLANEOUS: The river is deep with a Moderate Current to the west. **Boresighting is NA.** The difference in color between darker colored green hexes near the river bank and other Level 0 hexes on the map are for artistic purposes only; the darker hexes are also Level 0. Each Friendly Setup Area or Entry Area is considered separately for purposes of percentage calculations (e.g., Deployment, Cloaking, allowed HIP).

ABtF20. SPECIAL AMMUNITION AVAILABILITY: The OB of both sides is considered Elite for purposes of special ammunition supply.

ABtF21. RUBBLE: Rubble is considered a building for purposes of **Rout, Rally, Ambush.** A rubble factory hex is still considered part of the factory for LOS purposes (EX: if hex M17 is rubbled, units occupying the rubble still have LOS to M19 as if M17 were still a standard ABtF factory hex).

British Unit Rules:

1. All British MMC are considered to have underlined Morale # until British ELR drops below 5 (EXC: Assault Engineers). During any scenario (or portion thereof) in which British ELR is not 5, treat all non-crew British MMC (EXC: Assault Engineers) as having non-underlined Morale #.
2. Replacement/Battle Hardening progression (if Morale # not underlined) is 6-4-8 > 4-4-7 > 4-3-6; 3-3-8 > 2-3-7 > 2-2-6 for half squads (and vice versa). British 4-4-7/2-3-7s which Battle Harden always improve to 4-5-8/2-4-8s (which Replace normally).
3. British Commando MMC which suffer Replacement when British ELR is < 5 are no longer considered Commandos for any purpose (even if they subsequently Battle Harden).
4. **Walking Wounded (WW) MMC:** See CG19 for WW creation. WW MMC are 4-4-7s with a "Walking Wounded" counter. They have 3 MF allotment that cannot be increased (inc. Routing/Berserk), except if carried by any conveyance. IPC of WW is reduced to 2; they have a +1 DRM on their CC attacks, and a -1 DRM on CC attacks against them. HS created from WW squads are marked with WW counter and treated as WW; however, an SMC created from a WW unit is not considered WW. If a non-WW squad and a WW squad Recombine, resulting squad is WW. HoB and Substitution are handled normally for WW. Effects are cumulative with Ammo Shortage and Water Shortage. WW Morale #s are never considered underlined.

Arnhem Bridge (R1)

- Hexes R15-R23. Each hex has both Level 0 and Level 1 Locations. Bridge hexes are treated as 2-lane stone bridge hexes, but may not be destroyed/damaged during play and MP/VCA limitations of B6.43 are NA while on (but not beneath) the Bridge/Ramp. Bridge hexes are Inherent Terrain. Units occupying Level 1 Bridge Locations have no LOS to any units occupying Level 0 Locations. Bridge hexes may be Scaled by British Commando units.
- Level 1 Bridge Locations are wide city boulevards (B7) (EXC: -1 TEM of B7.3 is NA vs. same/lower elevation fire if the target otherwise qualifies for Bridge TEM; B6.31). PBF and Case L TH DRM are NA vs. targets occupying Level 1 Bridge Locations from fire originating from any lower elevation.
- Hex R23 is a Level 2 terrain feature for purposes of E1.7 (Night LV modifier). Units entering R23 from off-map considered to have spent ≥ 4 MP in LOS of viewing units.
- Bypass movement (B23.71) NA while moving beneath bridge in Bridge hexes with Pillar artwork on each end (EX: R17/R18); see R1.12 for explanation.
- Hexsides Q15/R15 and S15/R15 are Hillside Walls (F10) and Cliffs (B11) (EXC: these hexsides may be crossed only via Scaling (B23.424).
- OT AFV in Level 1 Bridge Locations that are also adjacent to ≥ 1 Level 1 Building Location are always considered vulnerable to PBF small arms fire if all firing units occupy adjacent (or rooftop) Locations \geq Level 1, and the CE DRM is reduced by 1 (to minimum of +1).
- Level 0 Bridge Locations are one level Hindrances with +1 TEM; they are Inherent Terrain and Concealment Terrain. Entry cost is 2 MF (unless using road) for infantry, 3 MP for tracked vehicles, 5 MP for non-tracked vehicles (or normal rubble cost if rubble). These Locations are not Burnable.
- Falling rubble can exist beneath the Bridge but has no effect on Bridge itself; such rubble exists at ground level only. Falling rubble does not negate the Hindrance/Concealment Terrain status of ground level locations.
- Pedestrian Access Points: Units in R20 can move/advance to/from Level 1 as if using a stairwell (but no LOS exists).

The Ramp (R2)

- Hexes R5-R14. R5-R6 are Level 0; R11-R14 are Level 1. Hexes R7-R10 are equivalent to Hillocks (F6.4-6.53) for LOS/LOF, elevation, and MF/MP costs (EXC: Road MF/MP for road hexsides): they are inherent terrain; units in them are at Level 1/2. See F6.4-6.44 for LOS; good luck. MF/MP costs for entering from lower elevation: Inf/Cav/Wagon = COT; non-Wagon vehicle = 1 MP + COT. For entering from same or higher elevation: COT. Normal road MF/MP costs apply to movement along ramp and/or bridge; no additional MF/MP costs for changing elevation.
- Units on Ramp have no LOS to any Locations under the Bridge. In-season Orchards are an LOS Obstacle between a unit on a "hillock" Ramp hex and a unit at ground level (or \geq Level 1). Units in Bridge/Ramp Locations are treated as being at the same level as one another for all LOS between them.
- All Ramp hexes are wide city boulevards (B7).

The Blockhouse (R5)

- Blockhouse:** Hex R21 ordinarily contains a Blockhouse counter at Level 1; it is equivalent of 2+5+7 Pillbox except as indicated. Has 360° CA. Has LOS to lower elevations only through R21/R20, R21/Q21, R21/Q22 hexsides; does have LOS to units in the same hex. Considered a valid Friendly Setup Area to side that controls it, but neither it nor its contents would be *automatically* HIP (contents could purchase HIP during a CG Scenario). CA TEM applies to all Direct Fire attacks (EXC: FT, AP ammo). Indirect attacks use NCA TEM.
- Rubble:** If destroyed, replace it with a stone rubble counter at Level 1; such rubble exists only on the Bridge, not at ground level; falling rubble NA. Once rubble is placed, the Level 1 Location in R21 is considered fallen rubble for all purposes (EXC: 5.21 Movement Effects) and no hexside is considered a Road hexside until cleared. Such rubble is a half level obstacle to any LOS/LOF which lies within the bridge artwork in hex R21. Additional -1 DRM to any clearing attempt. If a TB exists across R20/R21 and R21/R22 hexsides, remove rubble counter completely.
- Movement:** Once rubble has been placed (even if subsequently cleared), movement costs for Infantry are 2 MF (EXC: scaling), for fully tracked vehicles 3 MP, other vehicles pay 1/2 printed MP allotment. No Bog checks required; no doubling for TCA/VCA changes.
- Mines:** Hidden mines may be placed at Level 1 while rubble exists; if rubble is cleared while there are hidden mines, place a Known Minefield counter of the appropriate type/strength; they are Known for all purposes (Dummy minefields are NA).

ABtF Cellars (R4)

- All multi-hex, non-Factory bldgs contain a Cellar Location beneath their ground-level Location. It is considered another non-rooftop building Location (even for falling rubble and Victory Conditions).
- TEM:** Cellar Locations have +3 TEM. May be fortified, but need not be fortified to fortify the ground level location. Units are not encircled normally; see R4.7.
- Stacking:** 2 squad equivalents, plus up to 4 SMC. Overstacking may occur (not during setup), but no unbroken, armed unit may enter an already overstacked Cellar Location.
- Entry:** Infantry may enter/exit a Cellar level only via a Stairwell or "connecting" Trench. May enter an adjacent Cellar Location only if the two hexes share a common, non-Rowhouse (unless Breached) building hexside. Trench "connections" open into Cellar Levels (EXC: ground level above Cellar is rubble).
- LOS:** Trace LOS outside building to non-ADJACENT location as if entrenched at ground level. No LOS between adjacent Cellar Locations across Rowhouse bar hexside, unless Breached.
- Fire:** Inherent FP of units in Cellars are halved as Area Fire if 1) LOF leaves building's depiction and is not traced to an ADJACENT Cellar Location, and 2) US# of units currently using such Inherent FP is ≥ 3 (excluding leaders directing fire). A DC may be thrown only to an ADJACENT location.
- SMOKE:** Extra +1 hindrance for outgoing fire is NA for SMOKE in a Cellar location. A Blaze may spread to/from a Cellar only to an ADJACENT location.
- Rubble:** Can be rubbled normally; if so, it and all bldg locations in hex cease to exist; see R4.6 for effects.
- Collapse (AFV):** B23.41 cellar rules apply unchanged (EXC: AFV falls in if Original colored dr of Bog Check is ≥ 5 . If crew survives, it may immediately attempt to scrounge; see R4.62).

British Water Shortage

Beginning on 20AM CG Date and each CG Date thereafter, apply to all British Personnel Units (EXC: for CG scenarios in which rainfall occurs for ≥ 3 consecutive Player Turns, remove restrictions for remainder of that CG Scenario and the immediately following CG Date [if it is Idle, penalties resume with next non-Idle date]).

No units may use Double Time movement.

All Personnel have Broken Morale # reduced by 1.

Ammunition Shortage Chart

Level	Original DR for Unit Substitution (A19.131)	B# Reduction DRM	ELR Loss DRM (9.6202)
One	12	0	+1
Two	12	-1	+2
Three	≥ 11	-1	+3
Four	≥ 11	-2*	+4
Five	≥ 10	**	+5

*No British SW/Gun repair attempts may be made during the CG Scenario (but may be done normally in the RePh). British may not use Intensive or Sustained Fire (EXC: OVR Prevention/FPF; C5.64, A8.31). ATMM Check dr (see SSR ABtF6) receive an additional +1 drm.

**All SW/Guns automatically malfunction after their first use. No British SW/Gun repair attempts may be made during the CG Scenario (but may be done normally in the RePh). British may not use Intensive or Sustained Fire (EXC: OVR Prevention/FPF; C5.64, A8.31). ATMM Check dr (see SSR ABtF6) receive an additional +2 drm.

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ADVANCED SEQUENCE OF PLAY

As listed in the Advanced Sequence of Play (ASOP), each phase is usually broken down into three main parts: the START, DURING, END and several discrete Steps. In each Step Number (e.g., "1.11A"), the player(s) involved is specified as **A** (ATTACKER), **D** (DEFENDER), or **B** (Both). The ASOP lists the official order of actions, even for those whose order is not given elsewhere (e.g. as per Steps 3.21A-3.22A, units that start the MPH berserk must move before non-berserk units); however, inconsequential violations of sequence should be tolerated in the spirit of good sportsmanship.

Should the order of actions given in the body of the rules conflict with the ASOP, the latter takes precedence. All activities in the same Step may be conducted in any order unless stated otherwise; if actions conflict, the ATTACKER goes first. Certain mutually exclusive actions may be listed in the same Step despite the fact that they cannot be conducted by the same unit—and many restrictions normally applicable to the listed actions are left unmentioned; in both cases, the normal rules pertaining to such actions still apply.

† = **Sniper Attacks/Checks** are possible during this phase (A14.1; A14.4; E1.72; E1.76; G12.603; G14.261; *RB* SSR CG8, *ABtF* SSR CG8, *BRT* SSR CG8, *KGP* SSR CG16, and *PB* SSR CG13).

PRE-GAME SEQUENCE

This Sequence takes precedence over order in rules except in the case of a CG Refit Phase .

1. Agree upon which (if any) optional/house rules will be in effect (A16, B10.211, C13.311, E1-E2, E4-E12, footnote A18/C5/C9, Incremental IFT (A7.37), etc.).
2. Determine who will play each side.
3. Set up mapboard(s), and overlay(s) if any [EXC: if a DYO scenario, do not setup OCEAN overlays yet; G13.91].
4. Determine Weather (E3 Temperate, F11.2 Arid, G16.2 Tropical, O11.618 RB, P8.617, R9.62161).
5. Ascertain Stream/River depth (B20.4/B21.122) and River current (B21.121); see also B16.6 (/G16.2, if DYO).
6. Determine Jungle type (G2.1). Determine Rice Paddy state (G8.1). Check to see if a Reef exists (G13.91).
7. Determine Beach Slope (G13.92), if applicable. Determine Beach Width (G13.93), if applicable.
8. Check for purchase restrictions/BPV alterations (G1.66-.664; G11.99; G12.9; G14.261-.262; G14.6; G14.69; G14.74; G15.3; G17.15-.152; G18.8-.831).
9. Make DYO purchases (H1).
10. Calculate Battlefield Integrity Base (A16.1; G14.24).
11. Choose Commissar(s) if/as allowed (A25.22; G18.31; O11.6206).
12. Ascertain the special limitations/capabilities of all units and Guns, (see National Capabilities Chart and pertinent Vehicle/Ordnance Listing/Notes).
13. Assign armor leaders (D3.41).
14. Setup all OCEAN overlays (G13.95).
15. Check for the presence of all other terrain changes/conditions, and implement if/as required.
16. Assemble all OBA Draw Piles (C1.211; G14.63).
17. Record all Pre-Registered hexes (C1.73; E12.71), Offboard Observer hexes (C1.63) [EXC: Aerial (E7.61); Shipboard (G14.68)], Barrage Blast-Area hexes (E12.2), and Aiming Hexes (E12.71).
18. Record the Drop Point of each paratrooper Wing (E9.12).
19. Determine Time of Day (F11.3), if applicable.
20. Determine Base NVR and Cloud Cover if applicable (E1.11; see also E1.15/E3.5/E3.71, BRT SSR CG10, KGP SSR CG5, PB SSR CG4, and R9.62162).
21. Determine EC (B25.5, F11.4, G16.3, or O11.618; see also E3.3, E3.4, E3.6, E3.713, E3.72, E3.73, E3.74, and/or F11.6111, R9.62163).
22. First side (or the side "defending the beach": G13.95) commences setup.
23. Deploy squad(s) if/as allowed (A2.9; A5.5; A25.2; A25.61; A25.7; G14.311; G17.11; G18.2).
24. Ascertain setup limitations, (A2.9 {Offboard: A2.51; dm SW, A9.8}; Half-Hexes. A2.3; Stacking, A5.1, G2.2, G3.1; "?", A12.12; Crest, B20.91; HD, D4.221; Guns, B23.423, B23.85, B23.93, B30.111, C2.7; Motion, A2.52, D2.4; Seaborne Assaults, G14.21, G14.23; Reserves, P8.4, O11.6194b; see also the rules for specific Fortification types).
25. Employ HIP if/as allowed (A12.3) {HS Equiv., A5.5; Fortifications, A12.33, E1.16, G.2; Emplaced Guns, A12.34, G3.4; Mines, B28.1 [Daisy Chain, B28.53 1, G1.613; Known, B28.45-.47; as Beach Obstacles, G14.501]; Field Phones, C1.23; Scenario Defender, E1.2; Trip Flares (E1.95); Japanese, G1.631-.632 [T-H Hero, G1.422; A-T Set DC, G1.6121]; CCSS, G11.32-.321}.
26. Scenario Defender records all allowed Bore Sighting (C6.41-.42) [EXC: NA in RB; SSR CG5; NA in KGP; SSR CG12].
27. Attempt any HD Maneuver(s) (D4.22-.221).
28. May claim Wall Advantage (B9.322).
29. Note special DD tank/amphibian setup abilities (D16.8).
30. Scenario Defender places No Move counters (E1.21).
31. Scenario Attacker employs Cloaking (E1.4-.411) [EXC: either/both side(s) in RB; O11.6194b].
32. Record Dare-Death squads if Chinese side (G18.6).
33. First side (or the side "defending the beach"; G13.95) completes setup.
34. Scenario Attacker makes one Recon dr if allowed (E1.23).
35. Make all allowed DYO UDT dr (G13.96; G14.561).
36. Determine Tide (see G13.97), if applicable. Determine Surf (G13.98; see also G13.448), if applicable.
37. Second side commences setup (also repeat all Steps above **marked with this color**).
38. Second side completes setup.
39. Record all allowed NOBA Ocean hexes (G14.62).
40. Make all allowed non-DYO UDT dr (G14.561).
41. Determine Wind Force (B25.63, F11.5, G16.4 {see also G13.448}, or O11.6241, P9.62164) and Direction (B25.64).
42. Determine Fog Level (E3.31) and Density (E3.311), if applicable. Determine Dust Density (F11.701; F11.77), if applicable.
43. As determined by LOS/range, reveal hidden Fortifications (A12.33) [EXC: E1.16; G.2], then place "?" if/as allowed (A12.12).
44. Set up Sniper counters (DEFENDER first) (A14.2; AbtF SSR CG8, BRT SSR CG8, KGP SSR CG16, PB SSR CG13, RB SSR CG8).
45. Conduct all allowed Bombardments (C1.8-.823 or G14.7-.73).
46. Scenario Attacker determines Creeping-Barrage timing (E12.72) if applicable, then conducts (E12.72-.74) all "pre-Game Turns" if/as required.
47. Begin RPh of initial Player Turn.

1. RALLY PHASE

Only one action (attempt) allowed per unit per RPh [EXC: repairing > one SW/Gun (A9.72); leader rallying > one unit (A10.7); Recovery (A4.44) is not an action by a broken unit].

1.1 START of RPh:

1.11A Roll for any provisional (SSR) reinforcements (including Air Support; E7.2). **Set up**, offboard, all forces due to enter in this Player Turn (A2.51-.52 {DD tanks, D16.8; Cloaking, E1.41; Gliders, E8.1; Parachutes, E9.1-.11/G1.664; LC, G14.23}).

1.12A Check for **Wind Change** (B25.65 {Blazing building collapse, B25.66; NVR change, E1.12; Civilian Interrogation, E2.4; Fog Level, E3.312; Rain intensity, E3.51; Falling-Snow intensity, E3.71; Dust, F11.76-.77; Heavy Surf, G13.448; if DYO note also G16.2 footnotes}).

1.121A During Gusts, remove Vehicle Dust (F11.74) and Dispersed SMOKE, then flip remaining SMOKE counters to their Dispersed side [EXC to both: SMOKE in cave; G11.8].

1.13B May **Recombine Good Order HS** if Good Order leader present, and/or Unarmed/Guard/Finn/Carrier HS without leader (A1.32).

1.131B May place/remove Animal Pack counter(s) in initial RPh of Game Turn (G10.3) {Pack-TI; G10.11}. May (un)load Animal Pack Gun(s) if halfway through (Un)packing Period (G10.31).

1.14B May **attempt to Recover SW/Gun(s)** in same Location (A4.44; D6.31; G.5) {Ski-use dr; E4.21}.

1.2 DURING RPh:

1.21A May (attempt to) **Deploy Good Order squad(s)** if Good Order leader present, and/or Unarmed/Guard(s)/Finn(s)/Carrier HS/U.S.M.C. 7-6-8(s) without leader (A1.31; G17.11).

1.211A Infantry MMC may attempt to Scrounge abandoned vehicle(s) or nonburning wreck(s) (D10.5); place Scrounged and TI markers.

1.22B May **attempt to repair SW/Gun(s)/vehicular-armament** (A9.72; D3.7).

1.221B May **Transfer SW/Gun(s)/Prisoner(s)** (A4.431; A9.72; A13.33; A20.5) (Ski-use dr; E4.21).

1.23B May **attempt to Rally broken unit(s)** (A10.6); those with Commissar (A25.222)/Japanese leader, (G1.41) which fail to Rally are replaced or eliminated. First ATTACKER MMC Rally attempt (or first *two*; *ABtF* SSR CG14, *BRT* SSR CG14, *KGP* SSR CG18, and *RB* SSR CG17) may be **Self-Rally/Field Promotion** (A10.63; A18.11).

1.24A Determine final Drop Point for each Para Wing, then place all Sticks (i.e., Parachutes; E9.12) onboard in Aerial Locations.

1.3 END of RPh:

1.31B Roll for Shocked/UK AFV recuperation (C7.42); remove or flip marker/AFV as appropriate

1.311B May/must **remove DM markers** from eligible broken units (A10.62).

1.32B May **claim Wall Advantage** (ATTACKER first).

2. PREP FIRE PHASE†

2.1 START of PFPh:

2.11A Remove his Dispersed **SMOKE** (checking for any Napalm terrain-Blaze/weapon destruction; G17.41); then **flip his SMOKE counters to their Dispersed side** (A24.4). Check for Vehicle Dust removal (F11.74).

2.111A Leader(s)/MMC/CE AFV may **attempt to fire Starshell(s)** (E1.91-.921).

2.12A May fire **ordnance SMOKE** (C8.5-.51)/**MTR IR** (E1.91; E1.93-.932), after designating Spotter (C9.3) if necessary; resolve ensuing WP NMC. **Place Prep Fire or Gunflash** counter(s) as required.

2.121A May fire MOL Projector(s) (C13.51). Check for ensuing Flame(s) (A24.32; C13.57). Place Prep Fire or Gunflash counter(s) as required.

2.13A May **attempt Radio Contact** (C1.2; G.7) if necessary (C1.63; E12.77). If successful may (must, for FFE:C; C1.34) attempt (Sighting TC [E7.61] and) **Battery Access** (C1.21; G14.63); if successful may **place AR** (C1.3) and either **SR** (C1.3-.31) or **Pre-Reg. FFE/IR** (C1.731/E1.931), or must **place rocket AR and FFE** (C1.9) or **remove or replace FFE:C** (C1.34-.343; G14.671).

2.14A May (must, for a Creeping Barrage FFE) **Correct/Convert or Cancel SR/FFE** (C1.33-.337; C1.35-.4; E12.73-.74; E12.76; E12.771) [*EXC: rocket Correction is NA; C1.9*].

2.15A May **place OBA SMOKE** (C1.71; E12.51)/**IR** (E1.91; E1.93-.932), resolving ensuing WP NMC (C1.71; C3.76; G14.65) and checking for ensuing Flame(s) (A24.32). Then **resolve HE FFE** (C1.5; C1.52-.56; G14.65), checking for shellhole/Flame/rubble creation (B2.1/B6.331/B25.13/B24.11/G13.7), wire/roadblock/pillbox removal (B26.52/B29.5/B30.92/G14.56), minefield/panji removal/reduction (B28.62/G9.72/G14.56), and sangar/trip flare elimination (E1.952/F8.41). Check for Column Disbandment (E11.533) and Reverse Slopes (G14.66-.661).

2.2 DURING PFPh:

2.21A Infantry MMC may become TI and: **Mop Up** (A12.153) {Casualties; A12.154} or **attempt to entrench** (A25.21; B27.11; F.1B; G3.5; G13.3; G13.82), placing Labor counter if unsuccessful. Infantry may make **Kindling Attempt(s)** (B25.11; MMC requires leader who passes NTC); place Prep Fire counter on each unit involved.

2.22A May **designate Spotter(s)** for MTR(s) that had no original Spotter (C9.3).

2.221A May fire **non-Aerial, non-TI Good Order unit(s)/manned and functioning weapon(s)** {Heavy AA fire; E7.52}, **placing Prep Fire or Gunflash** counter(s) as required; **both sides resolve attacks**. Infantry/Cavalry may **declare Opportunity Fire**; **place Bounding Fire counter(s)** (A7.25).

2.222A Leader (/MMC/CE AFV, if a Starshell/IR has been fired in *no* previous Player Turn) may **attempt to fire Starshell** (E1.921).

2.223A May **destroy/malfunction/dismantle/reassemble SW/Gun(s)** (A9.73; A9.8).

2.23A May (un)limber Gun(s) (C10.21; it and crew become TI if unlimbering).

2.3 END of PFPh:

2.31A May **change CA of Gun(s)** presently able to fire without using Intensive Fire (C3.22). May designate/cancel AA mode of weapon(s) that can/do(es) thusly change CA (E7.5).

3. MOVEMENT PHASE†

The MPh Sequence of Play is expressed separately in terms of THE MPh and of each moving unit's (or stack's) MPh; i.e., each moving unit has a START, DURING and END to ITS MPh within the overall context of THE MPh—usually followed by the START of another unit's (or stack's) MPh. However, the MPh of all units that start THE MPh berserk must be completed before any non-berserk unit may start ITS MPh, and the MPh of all non-berserk units that start THE MPh on the ground (i.e., non-Aerial) must be completed before any Glider/Parachute may start ITS MPh.

3.1 START of THE MPh:

3.11A May designate new mortar **Spotter** for one eliminated or not in Good Order (C9.3).

3.12D Leader(s)/MMC/CE AFV may **attempt to fire Starshell(s)** (E1.91-.921).

3.13A Place all Gliders, blue side up (i.e. in Aerial Locations), onboard in their ILH (E8.2).

3.2 START of ITS MPh:

3.21A Prepare to move any currently **berserk unit/stack** required to charge (A15.43); then go to Step 3.31A [EXC: if no such berserk unit can charge, go to Step 3.22A].

3.22A Prepare to move any **Good Order/Mobile ground unit/stack** [EXC: *pinned Infantry; A7.8*] not marked with a Prep/Bounding Fire or TI counter (A4.1; D2.1). May drop possession of SW/Gun(s) (A4.43). Best leader may make Freedom of Movement dr if Scenario Defender (E1.21). Make Movement (E1.53-.531)/Straying (E1.53; G2.22; G3.21; G13.83) DR if necessary. Infantry may **declare Double Time** for two extra MF (A4.5; place CX counter), or **Assault Movement** (A4.61), **Dash** (A4.63), **Sewer** entry (B8.4) or **Climbing** (B11.4). Infantry/Cavalry may declare **Human Wave** (A13.62/A25.23/G18.61—Banzai Charge if Japanese Infantry; G1.5), or **Swimming** (E6), movement. Dare-Death Infantry may declare berserk status (G18.6). Cavalry (or Wagon) may declare Gallop for 8 (or 4) extra MF unless Cavalry/Horse (or Wagon) is CX (A13.36 or D12.4). Remove vehicle's Motion counter if it will expend MP/MF. Check for Column (E11.52)/Convoy (E11.2)/Platoon (D14.2) movement status. Onboard radioless AFV that will use non-Platoon movement takes NTC (D14.23) unless Recalled. Flail tank declares TB creation attempt in minefield hex it will enter (B28.7). Boat/Non-Aground LC in Heavy Surf makes any required (un)Beaching DR (G13.442/

3.23A Prepare to conduct Glider/Parachute movement; go to Step 3.37D [EXC: *if no Aerial Glider exists, go to Step 3.34A*].

3.3 DURING ITS MPh:

3.31A **Berserk unit charges** if so required (A15.43-.431; A15.45; G13.491); then go to Step 3.35D.

3.32A May **move** that non-TI Good Order/Mobile (or must charge with that voluntarily berserk Dare-Death) ground unit/stack after making any required Sewer dr (B8.41), Mechanical Reliability (D2.51 {Stall}), Bog Removal (D8.3; G12.211-.212) and/or Movement/Straying (E1.53-.531; G2.22; G3.21; G13.83) DR. May conduct Infantry OVR (A4.15-.152). Infantry may declare **Double Time** for one extra MF (A4.5; place CX counter), and/or make Manhandling DR (C10.3, E5.2; Pushing unit and Gun/Boat become TI—place Labor counter if unsuccessful). Infantry may Place (A23.3) or Set **DC** (A23.7; roll US#). Personnel (etc., for LC; G12.12) may **mount/dismount** horse (A13.31) or vehicle (D6.4-.5; D12.2; D15.41; G12.4-.45; G13.443).

3.321A Personnel may **attempt SW/Gun Recovery** (A4.44) {Ski-use dr; E4.21} and/or **drop possession of SW/Gun(s)/Prisoner(s)** (A4.43; A20.53). May *declare* attempt to **Clear rubble** (B24.71), **wire** (B24.73), **mines** (B24.74), **Set DC** (B24.75), **roadblock** (B24.76), Path (G2.7), Panji Covered-hexside (G9.71), or non-Factory Debris (O1.5); unit becomes TI. May attempt to **Clear Flame** (B24.72; unit becomes TI—place Labor counter if unsuccessful). May hook up Gun (C10.11; it, Personnel and vehicle become TI). May unhook Gun (C10.12; it and Infantry become TI). May attempt to **place SMOKE Grenades** (A24.1; D13.35) or **use Smoke Dispenser** (D13); resolve ensuing WP NMC (A24.31) and check for ensuing Flame (A24.32). May **claim Wall Advantage** (B9.322).

3.322A Japanese Infantry squad/HS within 8 MF and in LOS of enemy AFV may attempt to **create T-H Hero** (G1.421 {DC Hero; G1.424}). Cavalry may declare Gallop (for 4 extra MF) unless Horse is CX (A13.36), and may declare Charge while ≥ 3 hexes from and in LOS of target (A13.6; resolve in target Location). Make **Bog DR** as required (D8.2-.23). Recalled vehicle must (attempt to) exit (D5.341; G14.232 [EXC: *G14.33*]). Vehicle may **use Bounding First Fire** (C5.3; C8.6; D3.3; D7.1; E7.51-.512; G12.5). Vehicle may declare Wreck Removal (D10.42), attempt ESB-(D2.5)/HD-Maneuver-(D4.22), and/or **place or remove CE counter** (D5.33). May conduct **Armored Assault** (D9.31). Wagon/Motorcycle resolves any required Wreck Check dr (D12.4/D15.46). Units using Impulse movement expend MF/MP in their Impulse before receiving First Fire.

3.323A Check for "?" loss (A12.14-.15; A12.2; A12.33; A12.41-.42) and Column Disbandment (E11.531). Infantry resolves any required Lost dr (B8.41), Falling DR (B11.41) or Swimming TC/MC (E6.1/E6.5). Place appropriate Climb counter for Infantry that successfully ascends or descends (B11.43). Resolve Panji MC (G9.41). May don/remove Skis (E4.2). Check for creation of Vehicle Dust (F11.74-.741). DD tank may drop screens (D16.11). May (un)beach Boat/LC (E5.23/G12.3). LC might run Aground (G12.21; G13.446). Check for Swamping (G13.4222) and/or Heavy-Surf Swamping/Immobilization/(un)Beaching/Broaching (G13.44-.4423). Infantry/Cavalry Wading in Heavy Surf become CX (G13.447). Lastly, go to Step 3.35D.

3.33A Aerial Glider takes Evasive Action if necessary (E8.211); then go to Step 3.37D.

3.34A All Aerial Parachutes drift (E9.2); then go to Step 3.38D [EXC: if no Aerial Parachute exists, go to Step 3.5].

3.35D During Steps 3.31/3.32 **resolve, vs moving ground unit/stack (only), each Residual FP** (A8.22; A9.22), **FFE** (A24.31; C1.51-.53; C1.55-.56; C1.72; C1.9; G12.5; G14.65-.661) **and/or minefield** (B28.41-.412; B28.42-.52; B28.531; G14.53) attack as it occurs.

3.351D Leader(s) (/MMC/CE AFV, if a Starshell/IR has been fired in *no* previous Player Turn) may attempt to **fire Starshell(s)** (E1.921). Check for Column Disbandment (E11.532)/trip flare activation (G.8). Lastly, go to Step 3.36D.

3.36D During Steps 3.31/3.32, may **conduct First Fire** (A8.1)/**Subsequent First Fire** (A8.3)/FPF (A8.31) vs moving ground unit/stack {Snap Shot, A8.15; Fire Lane, A9.22; Thrown DC, A23.6; Reaction Fire, D7.2; Sighting TC and FB/DB Ground Support, E7.3-.4/G17.4-.42}. **Place Residual FP** (A8.2; A9.22; G11.82), **First/Final/Intensive/No Fire or Gunflash counter(s)** as required. Place MOL-Projector Smoke and check for any ensuing Flame (C13.57-.58). Japanese squad/HS in CC Reaction Fire position may attempt to **create T-H Hero** (G1.421). DEFENDER vehicle may **attempt Motion** (D2.401)/**Smoke Dispenser** use (D13.2). ATTACKER may conduct Light AA fire (E7.51) vs attacking FB/DB, placing AA/Prep/Bounding Fire or Gunflash counter(s) as required (E7.5). Check for Column Disbandment (E11.532). Lastly, go to Step 3.41A.

3.37D May conduct Light AA First/Subsequent First Fire vs Aerial Glider (E7.51-.512, E8.21-.211), placing AA/First/Final Fire/Gunflash counter(s) as required; then go to Step 3.33A (or to Step 3.42A if no Light AA fire occurred).

3.38D May conduct First/Subsequent First Fire vs all Aerial Parachutes (Small Arms/Light AA only; E9.3-.33, E7.5-.512), placing AA/First/Final Fire/Gunflash counter(s) as required; then go to Step 3.43A.

3.4 END of ITS MPh:

3.41A Non-Bypassing Good Order Infantry/Cavalry may **Search** (A12.152; E1.95/1.953; G1.63) {Casualties; A12.154}; becomes TI—Defensive First/Subsequent First/FPF allowed. Broken Infantry in Bypass enter that obstacle (A4.32). Sewer unit/stack makes emergence dr (B8.42). Unarmed unit(s) may attempt to Scrounge Small Arms (A20.552; G17.14). Place Motion counter on qualifying vehicle(s) (D2.4) or expend Stop MP. **Place CC counter** if necessary. Lastly, go to Step 3.21A.

A3.42A Glider lands (E8.211 {Landing DR, E8.22; Crash dr, E8.23}); then go to Step 3.23A.

3.43A All non-German 5/8" Parachutes move one hex; *all* Parachutes then land, and all 1/2" Parachutes are flipped over (E9.4;{NMC/NTC, E9.42}); then go to Step 3.5.

3.5 END of THE MPh:

3.51A Each vehicle unable to leave, and each Glider/Parachute that landed in, terrain Blaze Location is eliminated (B25.4; E8.232; E9.42).

3.511A Resolve Wreck Removal (D10.42). Air-Dropped pre-1942 German *MMC* may attempt to locate arms canisters (E9.7).

3.52A Berserk unit(s) with no Known enemy in LOS return(s) to Good Order (A15.46).

3.53B Remove all **Residual FP** (A8.2; A9.223) and **1/2" SMOKE** (A24.11 [EXC: G11.85]) counters.

4. DEFENSIVE FIRE PHASE†

4.1 START of DFPh:

4.11D May fire **ordnance Dispersed SMOKE** (C8.5)/**MTR IR** (E1.91; E1.93-.932). Resolve ensuing WP (A24.31) NMC. May fire MOL-Projector(s) (C13.51). Check for ensuing Flame(s) (A24.32; C13.57). **Place Final/Intensive/No Fire or Gunflash** counter(s) as required.

4.12D May attempt **Radio Contact** (C1.2; G.7) if necessary (C1.63; E12.77). If successful may (must, for FFE:C; C1.34) attempt (Sighting TC [E7.61] and) **Battery Access** (C1.21; G14.63); if successful may **place AR** (C1.3) and either **SR** (C1.3-.31) or **Pre-Reg. FFE/IR** (C1.731/E1.931), or must **place rocket AR and FFE** (C1.9) or **remove or replace FFE:C**, (C1.34-.343; G14.671).

4.13D May (must, for Creeping Barrage recorded as "FFE: 1-2"; E12.731) **Correct/Convert or Cancel SR/FFE** (C1.33-.337; C1.35-.4; E12.74; E12.771) [*EXC: any such action of Creeping Barrage recorded as "FFE:1" is NA; rocket Correction is NA (C1.9)*].

4.14D May **place OBA Dispersed SMOKE** (C1.71; E12.51)/**IR** (E1.91; E1.93-.932), resolving ensuing WP NMC (C1.71; C3.76; G14.65) and checking for ensuing Flame(s) (A24.32).

4.141D Then **resolve HE FFE** (C1.5; C1.52-.56; G14.65), checking for shellhole/Flame/rubble creation (B2.1/B6.33/B25.13/B24.11/G13.7), wire/roadblock/pillbox removal (B26.52/B29.5/B30.92/G14.56), minefield/panji removal/reduction (B28.62/G9.72/G14.56), and sangar/trip flare elimination (E1.952/F8.41). Check for Column Disbandment (E11.533) and Reverse Slopes (G14.66-.661).

4.2 DURING DFPh:

4.21D May designate **Spotter(s) for MTR(s)** that had no original Spotter (C9.3).

4.211D May fire **unit(s)** *not* marked with First or Final Fire counter {Heavy AA fire; E7.52}, and/or any marked with First Fire counter (as Final Fire at adjacent/same hex target; A8.4), placing AA/Final/Intensive/No Fire or Gunflash counter(s) as required; both sides resolve such attacks.

4.212D Leader(s) (/MMC/CE AFV, if a Starshell/IR has been fired in no previous Player Turn) may attempt to **fire Starshell(s)** (E1.921).

4.213D May conduct **FB/DB** Sighting TC (E7.3) and Ground Support (E7.4; G17.4-.42); ATTACKER may conduct Light AA fire (E7.51-.512), placing AA/Prep/Bounding Fire (E7.5) or Gunflash counter(s) as required.

4.214D May *declare* attempt to **Clear wire** (B24.73), **Set DC** (B24.75), **road block** (B24.76), **Path** (G2.7), or **Panji** Covered hexside (G9.71). May attempt to **Clear Flame(s)** (B24.72-.721; unit becomes TI-place Labor counter if unsuccessful).

4.215D Check for Column Disbandment (E11.533).

4.216D May **destroy/malfunction/dismantle/reassemble SW/Gun(s)** (A9.73; A9.8).

4.22D May **(un)limber Gun(s)** (C10.21; it and crew become TI if unlimbering).

4.3 END of DFPh:

4.31D May **change CA of Gun(s)** presently able to fire without using Intensive Fire (C3.22). May designate/cancel AA mode of weapon(s) that can/do(es) thusly change CA (E7.5).

4.32D In **daytime** scenario, **remove all First and Final Fire counters** (A3.4; E1.8).

5. ADVANCING FIRE PHASE†

5.1 START of AFPh:

5.11B During **Mild Breeze**, place Drifting (i.e., gray) Dispersed SMOKE downwind of each Blaze, and of each white SMOKE, counter that has none (A24.61) [EXC: NA in cave; G11.851].

5.12A May fire ordnance **Dispersed WP** (C8.6); resolve ensuing NMC (A24.31) and check for ensuing Flame (A24.32).

5.13A During **Gusts** (B25.651), remove Dispersed SMOKE, then flip remaining SMOKE counters to Dispersed side [EXC to both: NA in Cave; G11.8].

5.2 DURING AFPh:

5.21A Place all Glider contents [EXC: vehicle/Gun and its PRC/Crew] onboard (E8.4).

5.22A All unbroken ground (or sewer; B8.43) **units/weapons not marked with Prep/Bounding/Intensive/No Fire or TI counter may fire**, using halved FP for non-ordnance [EXC: DC; Non-Motion FT; Opportunity Fire (A7.25)]; qualified squad(s) may use **Assault Fire** (A7.36); ordnance uses TH Case(s) B/C [EXC: Case B NA for Opportunity Fire; C5.2].

5.221A May **(un)limber Gun(s)** (C10.21); it and crew become TI if unlimbering.

5.222A **Resolve Placed DC attack(s)** (A23.4; C7.346).

5.23A Each berserk unit that eliminated all Known enemy units (at least one) in its Location with halved TPBF returns to Good Order (A15.46).

5.3 END of AFPh:

5.31B Resolve **Blaze Spread** (B25.6; B25.651) every Player Turn *after* initial appearance.

5.32B Resolve **Flame to Blaze Spread** for each unpinned Flame (B25.15-.151).

5.33B Remove all **Prep Fire, Intensive Fire, No Fire and Bounding Fire** counters. If night scenario, also remove all **First Fire, Final Fire and Gunflash** counters (E1.8).

6. ROUT PHASE

ATTACKER first, then DEFENDER (A3.6).

6.1 START of RtPh:

6.11B Unit(s) may **Voluntarily Break** (A10.41).

6.111B Place **DM** counter on each non-DM unit/stack that must rout (A10.62).

6.12B **Disrupted unit(s)** in/ADJACENT to enemy Infantry/Cavalry Location (might) **Surrender** (A19.12) {Interrogation; E2.1}.

6.2 DURING RtPh

6.21B **Conduct all routs** (A10.5-.52; A19.12; E1.54; G14.41); **leader(s) may accompany routing unit(s)** (A10.711). Routing unit(s) may don/remove Skis (E4.2). Broken Infantry in/ADJACENT to Known enemy Infantry/Cavalry might **Surrender** (A20.21/A20.3) {Interrogation; E2.1}. Check for **Failure to Rout elimination** (A10.5; A20.21). Resolve **Interdiction** (A10.53)/Panji (G9.41) MC [EXC: if using Low Crawl], and check for trip flare activation (E1.95), as enemy unit/stack routs. Resolve, vs routing unit/stack only, each FFE (C1.51-.53 {C1.71-.72; C1.9; E12.5; G14.65-.661})/minefield (B28.41-.413) attack as it occurs. Check for Column Disbandment (E11.532).

6.3 END of RtPh:

6.31B Eliminate all Infantry unable to leave terrain Blaze Location(s) (B25.4).

7. ADVANCE PHASE

7.1 START OF APh:

7.11A May **Transfer SW/Gun(s)/Prisoner(s)** (A4.431; A20.5) {Ski-use dr; E4.21}.

7.12A Japanese Infantry squad/HS ADJACENT to enemy AFV may attempt to create **T-H Hero** (G1.421).

7.13A Boat/Non-Aground LC in Heavy Surf makes any required (un)Beaching DR (G13.442/G13.4423).

7.2 DURING APh

7.21A Good Order Infantry not pinned or TI may **advance** (A4.7 {PAATC, A11.6; vs Difficult Terrain = CX/Panji MC, A4.72/G9.41}). Climbing unit(s) may exchange Climb counter for CX counter if at proper level (B11.432). May don/remove Skis (E4.2). May **place/remove CE counter(s)** (D5.33). May **claim Wall Advantage** (B9.322). Sewer unit(s) may emerge (if allowed; B8.42) or advance into CC with adjacent sewer unit(s) (B8.44). Check for trip flare activation (E1.95).

7.22A Boat(s)/Amphibian(s)/Swimmer(s) might drift in Moderate/Heavy Current (B21.121/E5.23/E6.2); check for OCEAN drift in Heavy Surf (G13.444) [EXC to all: Pier; G13.734].

7.23D Boat(s)/Amphibian(s)/Swimmer(s) might drift in Heavy Current (B21.121/E5.23/E6.2) [EXC: Pier; G13.734].

7.24A May (un)Beach Boat(s) (E5.23). Boat/Non-Aground LC in Heavy Surf makes any required (un)Beaching DR (G13.442/G13.4423).

7.25B During Steps 7.21-.24 resolve, vs advancing/drifted unit/stack (only), each FFE (C1.51-.53 {C1.71-.72; C1.9; E12.5; G14.65-.661})/minefield (B28.41-.412; G14.53) attack as it occurs. Check for Drowning (E6.21) and Column Disbandment (E11.532).

7.26A All 5/8" Parachutes onboard are removed and replaced by their contents (E9.6).

8. CLOSE COMBAT PHASE

Perform all Steps listed under "... **LOCATION'S CCPH**" in any one CC/Melee Location first, then in the next such Location, etc.

8.1 START of LOCATION's CCPH:

8.11B Place onboard beneath a "?" all hidden items, then reveal Strength Factors of all concealed units (eliminating Dummies) (A11.19).

8.12B Resolve Ambush if *advance* into CC (not Melee) was into woods/building/jungle/bamboo/kunai (A11.4; G.6) and/or by/vs "?" (automatic ATTACKER Ambush for Street Fighting; A11.8) (night Ambush dr; E1.77).

8.13D Japanese Infantry squad/HS in same Location with enemy AFV may attempt to create T-H Hero (G1.421).

8.14B Check for Sequential CC if vehicle(s)/Ambush/Prisoner(s) involved (A11.3); Prisoner(s) of broken Guard(s) may declare escape attempt(s) (A20.55). Infantry may declare attempt to capture escorted Abandoned vehicle(s) (A21.2).

8.15B May (must, if non-Disrupted/non-Guard broken Infantry; A11.16) **declare Withdrawal(s)** from *Melee* (ATTACKER first; A11.2), dropping possession of any SW/Gun(s) that would prevent Withdrawal (A4.43).

8.16B Declare each SMC's solo status or pair it with another SMC or MMC (A11.14)—ATTACKER first (A11.12).

8.2 DURING LOCATION's CCPH:

8.21B Declare first/next sequential **CC attack** (A11.3-.34) or, ATTACKER first (A11.12; G13.495), all simultaneous CC attacks if no sequential CC exists. Declare if Hand-to-Hand (A25.43; G1.64; G18.62; J2.31; SSR *RB11*) and/or Capture attempt (A11.52; A20.22). Reveal (A12.31) all units declared to be making/directing a CC attack (A11.19).

8.22B '44-45' German(s), or Japanese T-H Hero(es), may make **ATMM dr** (C13.7; G1.4231).

8.23B Japanese Personnel may attempt/commit Hara-Kiri (G1.641) vs CC Capture attempt.

8.24B Resolve that sequential **CC attack**, or all simultaneous CC attacks if no sequential CC exists. Successfully Withdrawing unit(s) enter(s) Accessible Location(s) (A11.21-.22); resolve, vs Withdrawing unit/stack (only), each FFE (C1.51-.53 (C1.71-.72; C1.9; E12.5; G14.65-.661)/minefield (B28.41-.412) attack as it occurs, and check for Column Disbandment (E11.533)/trip flare activation (E1.95)/Panji MC (G9.41). Berserk unit(s) that eliminated all Known enemy units (at least one) in Location return(s) to Good Order (A15.46). Lastly, go to Step 8.21B if further sequential CC can be declared.

8.25B May Interrogate new Prisoner(s) (E2.1; G1.621; G18.71).

8.3 END OF LOCATION's CCPH:

8.31B Automatic capture of unescorted abandoned vehicle(s) (A21.2).

8.311B Flip/remove CC, or **retain/remove Melee**, counter as appropriate. Dare-Death Infantry remain berserk only if in Melee (G18.6).

8.4 END OF CCPH:

8.41B Declare and resolve (sequentially; ATTACKER first) all Aerial Combat (E7.22-.226).

8.42B Resolve all **non-Flame Clearance** attempts (B24.7; B28.7; G2.7; G9.71; O1.5); place Labor counter if unsuccessful (B24.8). Eliminate all Recovered tunnel entrances (B8.63).

8.43B Remove all TI [EXC: *Ammo Replenishment* (E10.3); *Animal-Pack* (G10.11)] **and Pin counters**.

8.431B Flip each Stun counter to its +1 side (D5.34) [EXC: *cumulative Stuns* (G12.111; G14.33)].

8.432B Check for Ammo Replenishment (E10.3).

8.44A Place a "?" on his qualifying non-concealed, Good Order unit(s) or stack(s) (A12.12-.122; E1.32; E3.712; F11.601; G1.63; *ABtF* SSR CG12, *BRT* SSR CG11, *KGP* SSR CG11, *PB* SSR CG10, and *RB* SSR CG15).

8.45B If night, remove all **Starshells** (E1.923) and **IR** (E1.933), and all **Acquisition** not Illuminated by Blaze/Flame (E1.74).

Aircraft	Type	MG FP	Bomb FP (Hexes)	TK DRM	RMG	Weight	Dates in Use	Notes
Australia								
CA-12 Boomerang	FB	12	22 (1)	+2	-	5450	5/43+	TK = (2) 20L (4) MG
Belgium								
Gloster Gladiator	F	4	-	+1	-	3476	37+	TK = (4) MG
Bulgaria								
Dewoitine D.520	F	8	-	+2	-	4608	43+	TK = (4) MG (1) 20L
PZL P.24	FB	10	10 (1) or 15 (1)	+1	-		38+	TK = (2) MG (2) 20L
Avia AV-135	F	6	-	+2	-	4241	41+	TK = (2) MG (1) 20L
Brazil								
Republic P-47D Thunderbolt	FB	16	22 (1) or 45 (1)	+6	-	9900	11/44+	TK = (8) 12.7 Used in Italy
Croatia								
Ikarus IK-2	F	6	-	+1	-	3175	4/41+	TK = (2) MG (1) 20L
Morane-Saulnier MS 410	F	6	-	+2	-	4189	41+	TK = (4) MG (1) 12.7
China								
Polikarpov I-15bis	FB	4	15 (1)	+1	-	2880	37+	TK = (4) MG Flown by Russian "volunteers"
Polikarpov I-16	FB	10	10 (1)	+2	-	3285	37+	TK = (2) MG (2) 20L Flown by Russian "volunteers"
Gloster Gladiator	F	4	-	+1	-	3476	37+	TK = (4) MG
Curtiss Hawk 75	FB	3 or 5	8 (2) or 17 (1)	+2	-	3975	38+	TK = (1) MG (1) 12.7
Fiat CR 32	FB	4	7 (1)	+1	-	3042	36+	TK = (2) 12.7
Finland								
Messerschmitt Bf 109G	F	16	-	+3	-	5900	6/44+	TK = (2) 12.7 (3) 20L
Dornier Do 22	RecB	2	10 (1)	+2	1	5610	42+	TK = (2) MG, Float Plane
V.L. Fokker D.XXI	F	4	-	+1	-	3380	11/39+	TK = (4) MG
Polikarpov I-15bis	FB	4	15 (1)	+1	-	2880	12/39+	TK = (4) MG Captured from Russians
Polikarpov I-153	FB	4	18 (1)	+1	-	3168	12/39+	TK = (4) MG Captured from Russians
Polikarpov I-16	FB	10	?	+2	-	3285	12/39+	TK = (2) MG (2) 20L Captured from Russians
Morane-Saulnier MS 406	F	4	-	+2	-	4200	6/44+	TK = (2) MG (1) 12.7 "Super Morane"
Brewster F2A Buffalo	FB	8	14 (1)	+2	-	4732	6/41+	TK = (4) 12.7
Bristol Blenheim IV	B	1	32 (1)	+4	2	9200	38+	TK = (1) MG
Hawker Hurricane I	F	8	-	+2	-	4670	11/39+	TK = (8) MG
Gloster Gladiator	F	4	-	+1	-	3476	2/40+	TK = (4) MG
Curtiss P-36C Hawk 75-A	F	6	-	+2	-	4620	11/39+	TK = (6) MG
Fiat G 50 Freccia	F	4	-	+2	-	4442	40 - 4/44	TK = (2) 12.7
V.L. Myrsky II	F	8	-	+3	-	5141	9/44+	TK = (4) 12.7
France								
Bloch MB-151	F	4 or 10	-	+2	-	4374	10/39+	TK = (4) MG or (2) MG (2) 20L
Caudron C.714	F	4	-	+1	-	3086	6/40	TK = (4) MG Equipped Polish exile squadron
Dewoitine D.520	F	8	-	+2	-	4608	5-6/40, 8/44	TK = (4) MG (1) 20L
Morane-Saulnier MS 406	F	6	-	+2	-	4189	9/39-6/40	TK = (2) MG (1) 20L

Potez 631	F	14	-	+3	2	6526	9/39-6/40	TK = (6) MG (2) 20L
Latecoere 298	FB	2	33 (1), 26 (1) or IR	+2	1	6750	9/39-6/40	TK = (2) MG, Float Plane, Can place IR w/ spotting TC
Curtiss P-36C Hawk 75-A	F	5 or 6	-	+2	-	4620	39-6/40	TK = (3) Mg (1) 12.7 or (6) MG
Republic P-47D Thunderbolt	FB	16	22 (1) or 45 (1)	+6	-	9900	44+	TK = (8) 12.7 Free French
Bell P-39D Airacobra	FB	14	16 (1) or 22 (1)	+3	-	5462	43+	TK = (4) MG (2) 12.7 (1) 37L Free French
Germany								
Focke-Wulf Fw 190A-8	FB	20	32 (1)	+4	-	7000	5/41+	TK = (2) 12.7 (4) 20L
Focke-Wulf Fw 190D-9	F	12	-	+5	-	7694	11/43+	TK = (2) 12.7 (2) 20L
Focke-Wulf Fw 190F-3	FB	10	33 (1)	+4	-	7328	44+	TK = (2) MG (2) 20L
Messerschmitt Bf 109E	F	10	-	+2	-	4421	4/39+	TK = (2) MG (2) 20L
Messerschmitt Bf 109F	F	5	-	+3	-	4330	1/41+	TK = (2) MG (1) 15L
Messerschmitt Bf 109G	F	16	-	+3	-	5900	8/42+	TK = (2) 12.7 (3) 20L
Messerschmitt Bf 110C	F	12	-	+4	1	15300	9/39+	TK = (4) MG (2) 20L
Messerschmitt Bf 210A	FB	10	66 (1)	+6	1	15000 ?	10/41+	TK = (2) MG (2) 20L
Junkers Ju 87B "Stuka"	DB	2	21 (1)	+1	1	6084	38+	TK = (2) MG
Junkers Ju 87D-1 "Stuka"	DB	8	33 (1)	+2	2	6194	41+	TK = (2) 20L
Junkers Ju 87G "Stuka"	ATB	12	-	+3	2	7936	43+	TK = (2) 37L
Dornier Do 22	RecB		10 (1)	+2	1	5610	38+	TK = (2) MG, Float Plane
Great Britain								
Bristol Blenheim IVF	F	4	-	+4	1	9200	40+	TK = (4) MG
Bristol Blenheim IV	B	1	32 (1)	+4	2	9200	38+	TK = (1) MG
Bristol Beaufighter IF	F	22	-	+7	-	14069	7/40+	TK = (6) MG (4) 20L
Bristol Beaufighter VIF	F	22	-	+7	1	14600	1/43+	TK = (6) MG (4) 20L
Bristol Beaufighter TF Mk X	FB	22	22 (1) or *Rockets	+7	1	14600	4/44+	TK = (6) MG (4) 20L *Rockets 27 (1) Area target type
De Havilland Mosquito XIII	F	16	-	+9	-	15400	12/42+	TK = (4) 20L
De Havilland Mosquito VI	FB	20	44 (1) or *Rockets	+8	-	14300	11/43+	TK = (4) MG (4) 20L *Rockets 22 (1) Area target type
Gloster Gladiator	F	4	-	+1	-	3476	7/36+	TK = (4) MG
Hawker Hurricane I	F	8	-	+2	-	4670	9/39+	TK = (8) MG
Hawker Hurricane IIB	FB	12	32 (1)	+3	-	5500	9/40+	TK = (12) MG
Hawker Hurricane IIC	FB	16	32 (1)	+3	-	5800	41+	TK = (4) 20L
Hawker Typhoon	FB	16	44 (1) or *Rockets	+5	-	8800	9/41+	TK = (4) 20L *Rockets 22 (1) Area target type
Supermarine Spitfire IA	F	8	-	+3	-	4810	8/40+	TK = (8) MG
Supermarine Spitfire VC	FB	16	22 (1)	+3	-	5100	3/42+	TK = (4) 20L
Supermarine Spitfire VIII	FB	16	32 (1)	+4	-	5800	8/43+	TK = (4) 20L
Westland Whirlwind	FB	16	32 (1)	+4	-	7840	6/40 - 43	TK = (4) 20L
Whitley Whitworth Mk V	B	-	41 (2)	+7	2	19377	38+	-
Handley Page Hampton B I	B	-	63 (1) or 31 (2)	+5	1	11808	39+	-
Short Stirling Mk I	B	-	59 (2) or 18 (5)	+17	3	43304	5/40+	-
Handley Page Halifax Mk III	B	-	21 (4) or 50 (2)	+16	3	38332	10/40+	-
Curtiss P-40B Tomahawk	F	6 or 8	-	+3	-	5590	9/40+	TK = (2) MG (2) 12.7 or (4) MG (2) 12.7
Curtiss P-40N Warhawk	FB	12	39 (1)	+3	-	6200	3/44+	TK = (6) 12.7
Lockheed P-38F Lightning	FB	12	25 (1) or 45 (1)	+7	-	12264	12/41+	TK = (4) 12.7 (1) 20L
N American P-51B Mustang	FB	8	45 (1)	+5	-	6840	2/44+	TK = (4) 12.7

Republic P-47D Thunderbolt	FB	16	22 (1) or 45 (1)	+6	-	9900	44+	TK = (8) 12.7 Used in Burma
Brewster F2A Buffalo	FB	8	14 (1)	+2	-	4732	41+	TK = (4) 12.7 ANZAC
Douglas A-20 "Boston"	B	12	63 (1) or 31 (2)	+8	2	17200	5/42+	TK = (6) 12.7
<i>Greece</i>								
Potez 631	F	14	-	+3	1	6526	9/39+	TK = (6) MG (2) 20L
Bloch MB-151	F	4 or 10	-	+2	-	4374	3/40+	TK = (4) MG or (2) MG (2) 20L
PZL P.24	FB	10	10 (1) or 15 (1)	+1	-		38+	TK = (2) MG (2) 20L
<i>Hungary</i>								
Messerschmitt Bf 109G	F	16	-	+3	-	5900	44+	TK = (2) 12.7 (3) 20L
Fiat CR 32	FB	4	7 (1)	+1	-	3042	39+	TK = (2) 12.7
Fiat CR 42 Falco	FB	4	20 (1)	+2	-	3763	39+	TK = (2) 12.7
Reggiane RE 2000 Falco I	FB	4	21 (1)	+2	-	4585	40+	TK = (2) 12.7
<i>Italy</i>								
Fiat CR 32	FB	4	7 (1)	+1	-	3042	35+	TK = (2) 12.7
Fiat CR 42 Falco	FB	4	20 (1)	+2	-	3763	39+	TK = (2) 12.7
Fiat G 50 Freccia	F	4	-	+2	-	4442	38+	TK = (2) 12.7
Macchi C 200 Saetta	FB	4	27 (1)	+2	-	4175	38+	TK = (2) 12.7
Macchi C 202 Folgore	FB	6	27 (1)	+3	-	5181	8/41+	TK = (2) MG (2) 12.7
Macchi C 205V Veltro	FB	12	27 (1)	+3	-	5691	7/43+	TK = (2) 12.7 (2) 20L
Reggiane RE 2002 Ariete	FB	6	38 (1)	+3	-	5269	42+	TK = (2) MG (2) 12.7
<i>Japan</i>								
Kawanishi N1K1-J Shiden	F	18	-	+3	-	5598	early 44+	TK = (2) MG (4) 20L, "George 11"
Kawasaki KI-61 Hien	FB	12	33 (1)	+3	-	5798	4/43+	TK = (2) 12.7 (2) 20L, "Tony"
Mitsubishi A6M1-3 Zero-Sen	FB	10	16 (1)	+2	-	3704	7/40+	TK = (2) MG (2) 20L, "Zeke"
Mitsubishi A6M5-8 Zero-Sen	F	14	-	+2	-	4175	44+	TK = (3) 13.2 (2) 20L
Nakajima KI.27	FB	2	14 (1)	+1	-	2447	37+	TK = (2) MG, "Nate"
Nakajima KI.43 Hayabusa	FB	4	33 (1)	+2	-	3812	3/41+	TK = (2) 12.7, "Oscar"
Nakajima KI.84 Hayate	FB	12	33 (1)	+3	-	5864	4/44+	TK = (2) 12.7 (2) 20L, "Frank"
Mitsubishi KI.21 Type 97	B	-	47 (1) or 22 (2)	+6	3	13382	38+	-
<i>Manchuria</i>								
Nakajima KI.27	FB	2	14 (1)	+1	-	2447	37+	TK = (2) MG, "Nate"
<i>Netherlands</i>								
Fokker D.XXI	F	4	-	+1	-	3197	37 - 5/40	TK = (4) MG
Fokker G.Ia	FB	8	30 (1)	+3	1	7326	38 - 5/40	TK = (8) MG
Brewster F2A Buffalo	FB	8	14 (1)	+2	-	4732	East Indies 41+	TK = (4) 12.7
Curtiss P-36C Hawk 75-A	F	5 or 6	-	+2	-	4620	East Indies 40+	TK = (3) Mg (1) 12.7 or (6) MG
<i>Poland</i>								
PZL P.11	FB	2 or 4	7 (1)	+1	-	2524	9/39	TK = (2) MG or (4) MG
PZL P.24	FB	10	10 (1) or 15 (1)	+1	-	2924	9/39	TK = (2) MG (2) 20L
<i>Rumania</i>								
Potez 631	F	14	-	+3	1	6526	9/39+	TK = (6) MG (2) 20L
Dewoitine D.520	F	8	-	+2	-	4608	43+	TK = (4) MG (1) 20L

Bloch MB-151	F	4 or 10	-	+2	-	4374	42+	TK = (4) MG or (2) MG (2) 20L Received from Vichy
PZL P.11	FB	2 or 4	7 (1)	+1	-	2524	35-41	TK = (2) MG or (4) MG
PZL P.24	FB	10	10 (1) or 15 (1)	+1	-	2924	37+	TK = (2) MG (2) 20L
Heinkel He 112B	FB	10	11 (1)	+2	-	3571	39+	TK = (2) MG (2) 20L
Messerschmitt Bf 109G	F	16	-	+3	-	5900	Mid 43+	TK = (2) 12.7 (3) 20L
Bristol Blenheim IV	B	1	32 (1)	+4	2	9200	39+	TK = (1) MG
I.A.R. 80	FB	12	21 (1)	+2	-	3930	3/42+	TK = (4) MG (2) 20L
Russia								
Lavochkin LaGG-3	FB	8	22 (1) or *Rockets	+3	-	5776	3/41-42	TK = (2) MG (1) 12.7 (1) 20L *Rockets 9 (1) Area fire
Lavochkin La-5	FB	8	18 (1) or *Rockets	+4	-	6221	9/42+	TK = (2) 20L *Rockets 9 (1) Area fire
Lavochkin La 7	FB	12	21 (1) or *Rockets	+4	-	6295	43+	TK = (3) 20L *Rockets 9 (1) Area fire
Mikoyan-Gurevich MiG-1	FB	4	21 (1) or *Rockets	+3	-	5721	41+	TK = (2) MG (1) 12.7 *Rockets 9 (1) Area fire
Mikoyan-Gurevich MiG-3	FB	4	21 (1) or *Rockets	+4	-	6083	late 41+	TK = (2) MG (1) 12.7 *Rockets 9 (1) Area fire
Mikoyan-Gurevich MiG-5	FB	4	21 (1) or *Rockets	+3	-	5926	43	TK = (4) MG *Rockets 9 (1) Area fire
Polikarpov I-15	F	4	-	+1	-	2597	34+	TK = (4) MG
Polikarpov I-15bis	FB	4	15 (1) or *Rockets	+1	-	2880	35+	TK = (4) MG *Rockets 9 (1) Area fire
Polikarpov I-153	FB	4	18 (1) or *Rockets	+1	-	3168	36+	TK = (4) MG *Rockets 9 (1) Area fire
Polikarpov I-16	FB	10	*Rockets	+2	-	3285	36 - 43	TK = (2) MG (2) 20L *Rockets 9 (1) Area fire
Polikarpov I-17	FB	6	15 (1)	+2	-	3770	37 - 42	TK = (2) MG (1) 20L
Yakolev Yak-1	FB	6	* Rockets	+3	-	5137	3/42+	TK = (2) MG (1) 20L *Rockets 9 (1) Area fire
Yakolev Yak-9T	CSF	8	-	+3	-	6063	43+	TK = (1) 12.7 (1) 37L
Yakolev Yak-9U	FB	8	21 (1)	+3	-	5100	44+	TK = (2) 12.7 (1) 20L
Yakolev Yak-3	CSF	8	-	+3	-	5864	44+	TK = (2) 12.7 (1) 20L
Bell P-39D Airacobra	FB	14	16 (1) or 22 (1)	+3	-	5462	43+	TK = (4) MG (2) 12.7 (1) 37L
Bell P-63 Kingcobra	FB	14	39 (1)	+4	-	6375	44+	TK = (4) 12.7 (1) 37L
Hawker Hurricane IIB	FB	12	32 (1)	+3	-	5500	10/41+	TK = (12) MG
Ilyushin Il-2m3	FB	10	36 (1) or *Rockets	+4	1	9610	41+	TK = (2) MG (2) 23L *Rockets 9 (1) Area fire
Slovakia								
Avia B-534	F	4	-	+1	-	3218	6/41+	TK = (4) MG
Spain (Nationalist)								
Fiat CR 32	FB	4	7 (1)	+1	-	3042	8/36-3/39	TK = (2) 12.7
Fiat G 50 Freccia	F	4	-	+2	-	4442	38+	TK = (2) 12.7
Messerschmitt Bf 109E	F	10	-	+2	-	4421	4/37+	TK = (2) MG (2) 20L Flown by German "volunteers"
Heinkel He 112B	FB	10	11 (1)	+2	-	3571	38+	TK = (2) MG (2) 20L
Spain (Republican)								
Polikarpov I-15	F	4	-	+1	-	2597	10/36-3/39	TK = (4) MG
Polikarpov I-15bis	FB	4	15 (1)	+1	-	2880	10/36-3/39	TK = (4) MG
Polikarpov I-16	FB	10	?	+2	-	3285	10/36-3/39	TK = (2) MG (2) 20L
Thailand								
Curtiss Hawk 75	FB	3 or 5	8 (2) or 17 (1)	+2	-	3975	39+	TK = (1) MG (1) 12.7
USA								
Bell P-39D Airacobra	FB	14	16 (1) or 22 (1)	+3	-	5462	2/41+	TK = (4) MG (2) 12.7 (1) 37L

Bell P-63 Kingcobra	FB	14	39 (1)	+4	-	6375	10/43+	TK = (4) 12.7 (1) 37L
Brewster F2A Buffalo	FB	8	14 (1)	+2	-	4732	6/39+	TK = (4) 12.7
Curtiss P-36C Hawk 75-A	F	5 or 6	-	+2	-	4620	4/38+	TK = (3) Mg (1) 12.7 or (6) MG
Curtiss Hawk 75	FB	3 or 5	8 (2) or 17 (1)	+2	-	3975	37+	TK = (1) MG (1) 12.7 or (3) MG (1) 12.7
Curtiss P-40B Tomahawk	F	6 or 8	-	+3	-	5590	9/40+	TK = (2) MG (2) 12.7 or (4) MG (2) 12.7
Curtiss P-40F Warhawk	FB	12	26 (1)	+4	-	6590	3/42+	TK = (6) 12.7
Curtiss P-40N Warhawk	FB	12	39 (1)	+3	-	6200	3/44+	TK = (6) 12.7
Lockheed P-38F Lightning	FB	12	25 (1) or 45 (1)	+7	-	12264	8/41+	TK = (4) 12.7 (1) 20L
Lockheed P-38J Lightning	FB	12	32 (1) or 57 (1)	+8	-	12780	44+	TK = (4) 12.7 (1) 20L
N American P-51A Mustang	FB	8	22 (1) or 32 (1)	+4	-	6433	4/42+	TK = (4) 12.7
N American P-51B Mustang	FB	8	45 (1)	+5	-	6840	12/43+	TK = (4) 12.7
Grumman F6F-5 Hellcat	FB	12	45 (1)	+5	-	9042	1/43+	TK = (6) 12.7
Republic P-35A	FB	6	19 (1)	+2	-	4575	2/41	TK = (2) MG (2) 12.7 Used in Philipines
Republic P-47B Thunderbolt	F	16	-	+6	-	9346	4/43+	TK = (8) 12.7
Republic P-47D Thunderbolt	FB	16	22 (1) or 45 (1)	+6	-	9900	44+	TK = (8) 12.7
Republic P-47M Thunderbolt	FB	16	22 (1) or 45 (1)	+7	-	10423	1/45+	TK = (8) 12.7 Used in the Pacific Theater
Vought F4U Corsair	FB	12	45 (1)	+6	-	8694	9/42+	TK = (6) 12.7
Douglas A-20 Havoc	B	12	63 (1) or 31 (2)	+8	2	17200	5/42+	TK = (6) 12.7
<i>Yugoslavia</i>								
Dornier Do 22	RecB	2	10 (1)	+2	1	5610	39 - 4/41	TK = (2) MG, Float Plane
Ikarus IK-2	F	6	-	+1	-	3175	4/41	TK = (2) MG (1) 20L
Rogozarski IK-3	F	6	-	+2	-	4123	4/41	TK = (2) MG (1) 20L
Hawker Hurricane I	F	8	-	+2	-	4670	4/41	TK = (8) MG
Messerschmitt Bf 109E	F	10	-	+2	-	4421	4/41	TK = (2) MG (2) 20L
Bristol Blenheim IV	B	1	32 (1)	+4	2	9200	39 - 4/41	TK = (1) MG

Acquisition Player Aid Sheet

Target Type	Must Be Used	Notes/Restrictions	Affects	Resolution	Critical Hits (C3.7)	Acquisition Notes
Vehicular	When attacking one specific AFV (C3.31)	Cannot be used vs motorcycles (C3.31)	One specific vehicle; its Vulnerable PRC are affected Collaterally (A.14)	vs vehicle: use appropriate TK table for that ammo type and target type Collateral Attack vs Vulnerable PRC of the targeted vehicle: use TK DR on IFT (A.14)	Original TH DR = 2	1/2" Acquisition Only for Gun ≥ 20mm firing at known unit or Bridge Can only acquire a concealed target if the firing shot causes loss of concealment (C6.57)
Infantry		Can be used only when firing HE vs an unarmored target or AP/HEAT Equivalency vs an unarmored target in "hard" terrain (C8.31, C11.52) Can be used vs an empty Location (C3.41) but acquisition not gained unless that attack causes loss of HIP (C6.57) TEM applies to To Hit DR	All in-LOS enemy units in a Location, as well as friendly units in Melee in that Location (A7.4) No effect vs AFV's, but can affect their Vulnerable PRC's (C3.41)	vs AFV: No Effect vs * vehicle: use full FP of attacking ordnance on IFT and compare to * vehicle line for that FP (A7.308) vs Personnel: use full FP of attacking ordnance on IFT with no TEM	Final TH DR < half of Modified TH # or Original TH DR = 2 and subsequent dr of 1 or ≤ half of Modified TH #	Infantry Target Acquisition can track only one unit at a time as they leave the acquired Location (C6.51) Vehicular Target Acquisition tracks a single vehicle
Area	By Mortars (C3.33) When non-LATW ordnance fires SMOKE (LATW ordnance uses own TH Table)	Can be used vs an empty hex (C3.41); acquisition is gained regardless of the attack's result ROF only for MTR's TEM does not apply to To Hit DR NA when firing: • AP/HEAT Equivalency (C8.31) • At 0-hex range • As Bounding First or Motion Fire • A Deliberate Immobilization attempt (C5.71)	All non-Aerial units in the target hex. MTR hits all target-hex units that are out of the firer's/spotter's LOS if it hits the non-hidden enemy unit that was hardest for it to hit To Hit cases labeled with a † are NA	IFT, half FP of firing ordnance, adding TEM to DR. WP hits cause NMC (A24.31) C1.55 gives DRM for AFV and * vehicles	Original TH DR = 2	5/8" Acquisition Must be used by MTR's Cannot be transferred to another target type and used vs a concealed target (C6.52) Can be gained vs a hex not containing a Known Enemy Unit, regardless of the whether that attack caused loss of ?/HIP (C6.521) Cannot track units that move out of the acquired hex (C6.521)

Acquisition is NA:

- at Night unless the target is Illuminated (E1.74)
- for IFE shots (C6.54)
- to Deliberate Immobilization attempts, although acquisition can be gained by the DI shot (C5.71) for FT and LATW Main Armaments of vehicles (C6.5)

Acquisition is Lost:

- At Night if the target becomes un-Illuminated (E1.74)
- When SMOKE is fired, although the SMOKE shot can benefit from previous acquisition (C6.56)
- If the target leaves the firer's LOS after entering a new location/vertex. (Acquisition will remain in the last in-LOS Location which the target occupied.)
- If the firing Gun/its manning Infantry:
 - Leaves its present Location [EXC: Gyrostabilized Gun (D11.1, C6.55)]
 - Changes CA without firing on its acquired target
 - Uses its CMG to attack/interdict a different target
 - Are attacked in CC
 - Gun Malfunctions, fires SMOKE/Cannister/IFE, or is eliminated
 - Manning Infantry are eliminated/ not Good Order/ no longer possess the Gun/ fire their inherent FP/ use a SW/ Interdict/ (un)Limber the Gun

Beach Terrain (G13) Play Aid

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Terrain Type	Elevation Level	LOS	TEM (Direct/Indirect)	B-H Hexside Movement	Notes	Sand	Soft Sand Movement (or normal movement for other terrain types)	Hard Sand Movement	Fortifications
Slight Beach	-1 (0)	<ul style="list-style-type: none"> • LOS along/across \geq one Beach-Hinterland (B-H) hexside treats all Beach and OCEAN hexes as at Level 0. • No BH Crest Line. 	<ul style="list-style-type: none"> • 0/0 (Open Ground) • Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. • In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] 	Movement along/across \geq one B-H hexside treats all Beach and OCEAN hexes as at Level 0.	<ul style="list-style-type: none"> • Road Movement cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if hex contains Beach-OCEAN hexside; if EC is Wet, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: 1MF +COT • Cav/Wagon: 2MF +COT • Fully Tracked: 2MP +COT • Halftrack: 3MP +COT • Armored Car/Motorcycle: 4MP +COT • Truck: 6MP +COT 	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: COT • Cav/Wagon: 1MF +COT • Fully Tracked: 1MP +COT • Halftrack: 2MP +COT • Armored Car/Motorcycle: 3MP +COT • Truck: 5MP +COT 	<ul style="list-style-type: none"> • Pillbox, trench, sangar, tunnels NA • Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) • Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection • Effluent hexes: Entrenchments NA. • Coral Soil: +2 DRM for Entrenching Attempts.
Moderate Beach	-1 (0)	<ul style="list-style-type: none"> • LOS along/across \geq one Beach-Hinterland (BH) hexside treats all Beach and OCEAN hexes as Level O Deir (F4) hexes, with all B-H hexsides acting as deir's Lip. Thus an entrenched/emplaced unit in a non-B-H hex has a LOS past a B-H hexside only to a same-level hex formed by that B-H hexside and to any hex at a higher elevation than that unit. • A "half level" Hindrance (including AFV/wreck) in a Beach hex can affect LOS only if both viewing/viewed units are at same level and at least one of those units is in a Beach hex. • No BH Crest Line. 	<ul style="list-style-type: none"> • 0/0 (Open Ground) • Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. • In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] • A non-PRC target in a Beach hex receives a +1 TEM (or may claim HD status) vs. Direct Fire if the firer is at the same elevation as the target and the firer's LOS crosses a B-H hexside that does not form part of the firer's hex). • Infantry/Horses moving in a Beach hex are immune to a Fire Lane attack in that hex if the FL crosses a B-H Hexside before/as it enters that hex <i>and</i> that hex does not contain the Fire Lane counter. See E4.52 for Vulnerable PRC. 	Movement along/across \geq one B-H hexside treats all Beach and OCEAN hexes as Level O Deir (F4) hexes, with all B-H hexsides acting as deir's Lip. Thus a vehicle that exits via a B-H hexside spends 1 extra MP.	<ul style="list-style-type: none"> • Road Movement cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if hex contains Beach-OCEAN hexside; if EC is Wet, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: 1MF +COT • Cav/Wagon: 2MF +COT • Fully Tracked: 2MP +COT • Halftrack: 3MP +COT • Armored Car/Motorcycle: 4MP +COT • Truck: 6MP +COT 	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: COT • Cav/Wagon: 1MF +COT • Fully Tracked: 1MP +COT • Halftrack: 2MP +COT • Armored Car/Motorcycle: 3MP +COT • Truck: 5MP +COT 	<ul style="list-style-type: none"> • Pillbox, trench, sangar, tunnels NA • Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) • Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection • All Entrenchments NA for Effluent hexes. • Coral Soil: +2 DRM for Entrenching Attempts.
Steep Beach	-1	<ul style="list-style-type: none"> • As per normal Crest Line rules. • There is a Beach-Hinterland (BH) Crest Line 	<ul style="list-style-type: none"> • 0/0 (Open Ground) • Ordnance/OBA attack vs. unarmored unit [EXC: <i>Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack</i>] has FP halved on IFT after all other modifications [EXC: <i>CH doubled, not halved</i>]. • In Bombardments, units/weapons get -2 DRM to MC. [EXC: <i>if Hard Sand, these penalties are NA</i>] • +2 if Crest Status; see Notes column. 		<ul style="list-style-type: none"> • Inf in hex w/ B-H hexside may gain Crest status as if IN a gully (but may use any SW) • Road cost if through Road/Runway; Track cost if through Track hexside. 	Soft (Hard if EC is Wed, Mud, Snow; if Effluent hex)	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: 1MF +COT • Cav/Wagon: 2MF +COT • Fully Tracked: 2MP +COT • Halftrack: 3MP +COT • Armored Car/Motorcycle: 4MP +COT • Truck: 6MP +COT 	<ul style="list-style-type: none"> • Sand Bog (F7.31) • Infantry: COT • Cav/Wagon: 1MF +COT • Fully Tracked: 1MP +COT • Halftrack: 2MP +COT • Armored Car/Motorcycle: 3MP +COT • Truck: 5MP +COT 	<ul style="list-style-type: none"> • Pillbox/trench/sangar/tunnels NA • Foxhole (capacity may be reduced by HE KIAs; see F7.42) has normal TEM halved (EXC: Hard Sand) • Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection • All Entrenchments NA for Effluent hexes. • Coral Soil: +2 DRM for Entrenching Attempts.
B-H Cliff hexside	NA	<ul style="list-style-type: none"> • Normal Cliff rules apply • There is a Beach-Hinterland (BH) Crest Line 	Normal Cliff rules apply	Normal Cliff rules apply	—	NA	Normal Cliff rules apply	Normal Cliff rules apply	NA
OCEAN Hinterland/OCEAN-Island hexside	NA	OT	OT	OT	<ul style="list-style-type: none"> • Seawalls never exist along OCEAN-Hinterland hexsides. 	NA	Per other terrain.	Per other terrain.	NA

Beach Terrain (G13) Play Aid

Terrain Type	Terrain Level	Beach-Hinterland (B-H) Crest Line?	LOS	TEM (Direct/Indirect)	Notes	Soft Sand Movement (or normal movement for other terrain types)	Hard Sand Movement (if terrain is Sand)	Fortifications
Seawall (High)	NA	NA	Equivalent to one-level Cliff rising from level -1 Beach.	Per normal Cliff rules; see B11.42 for Climbing.	<ul style="list-style-type: none"> Per normal Cliff rules. Seawalls never exist along OCEAN-Hinterland hexsides. 	Commandos only; others NA (G13.61)	NA	NA
Seawall (Low)	NA	NA	Treated as a normal wall (B9) except as stated otherwise.	<ul style="list-style-type: none"> +2/+1 (not cumulative with +/- TEM in hex) A non-entrenched unit in a Hinterland hex containing a low-seawall hexside may claim WA in the normal manner, but cannot claim its TEM/HD benefits (EXC: may claim +1 TEM vs. Indirect Fire). 	<ul style="list-style-type: none"> Not considered a wall for purposes of firing HEAT. Seawalls never exist along OCEAN-Hinterland hexsides. 	<ul style="list-style-type: none"> Inf/Cav crossing from Hinterland to Beach do NOT expend 1MF normally required for crossing a Wall. Vehicles may only cross if Breached (or with Fascine); see G13.624, 13.625. 0+COT for all units if Breached. 	NA	NA
Pier	Pier: 0 Beach/ Ocean: -1	NA	<ul style="list-style-type: none"> Stone Pier: Inherent Terrain obstacle to LOS beginning and ending in non-adjacent water/Beach Locations. Wood Pier: Inherent Terrain +1 LOS Hindrance to LOS beginning and ending in non-adjacent water/Beach Locations. Piers aren't Hindrance or Obstacle to LOS beginning at ≥ Level 0 and ending in water/Beach Location (or vice versa) (EXC: if water/Beach location is adj. to pier hex crossed/touched by that LOS, it is blocked/hindered). Pier hex has no effect on LOS that neither begins or ends in a water/Beach Location. 	<ul style="list-style-type: none"> 0/0 (Open Ground) Can claim Height Advantage (B10.3) vs. an adjacent, in-LOS unit in a water/Beach Location (EXC: NA if that unit is a vehicle whose Target Size is -2, -3, -4). If LOS to/from a vehicle w/Target Size -2, -3, -4 would be blocked by intervening stone pier, unit/target is instead treated as being directly behind a stone wall and receives TEM/HD status thereof (even if not adjacent to that pier); this is not cumulative with any other +TEM (EXC: mud/deep-snow TEM). 	<ul style="list-style-type: none"> Rules for non-pontoon bridges apply except as stated otherwise. Considered Paved Road for setup purposes. Only Infantry/boats may set up/enter beneath a wood pier (EXC: Infantry NA in deep water). No unit may set-up/enter beneath a stone pier. See G13.731/13.732 for Loading/Unloading. 	<ul style="list-style-type: none"> Infantry: 2MP, or per Road cost. Inf. changing elevation while entering/exiting a Pier Location expend MF as if crossing a hill Crest Line (EXC: diving/jumping into deep water; E6.1). No Gun, vehicle, Horse may be moved to/from a pier Location directly from a water/Beach hex. Vehicles may enter only via road; MP penalties for entering hex with wreck/vehicle, or changing CA, are doubled. Only Inf./boats may enter beneath a wood pier; no unit may enter beneath a stone pier. 	NA	<ul style="list-style-type: none"> Pier as per non-pontoon bridges. No entrenchments or HIP mines.
Sandbar	-1	Dune Crest	Dune Crest hexside/hexspine is a Half Level Obstacle (affects LOS like Wall, except that entrenched/Emplaced units can see past to nonadjacent hexes)	<ul style="list-style-type: none"> 0/0 Non-PRC units may claim +1 TEM (or HD status) vs. Direct Fire (only) traced across/along Dune Crest hexside/spine, if their elevation is ≥ firer. Ordnance/OBA attack vs. unarmored unit [EXC: Vehicle Target Type/Direct Hit vs. a Gun/Specific Collateral Attack] has FP halved on IFT after all other modifications [EXC: CH doubled, not halved]. In Bombardments, units/weapons get -2 DRM to MC. [EXC: if Hard Sand, these penalties are NA] 	<ul style="list-style-type: none"> A Sand/Dune overlay that is partially/wholly surrounded by ≥ OCEAN hex. Treat as Low Dune. Wall advantage does not apply to Dune Crests. Underbelly Hits are possible while crossing Dune Crest hexside. 	To cross Dune Crest hexside: 1 MF/MP +COT	To cross Dune Crest hexside: 1 MF/MP +COT	<ul style="list-style-type: none"> Pillbox, trench, sangar, tunnels NA Foxhole (capacity may be reduced by HE KIAs; see F7.42) has TEM halved (EXC: Hard Sand) Emplacement TEM is +1 only (EXC: Hard Sand), even vs. CH or sniper target selection All Entrenchments NA for Effluent hexes. Coral Soil: +2 DRM for Entrenching Attempts.
Exposed Reef	-1	No	<ul style="list-style-type: none"> Per Hammada (F3), treated as Open Ground Inherent Terrain 	<ul style="list-style-type: none"> Per Open Ground; does not negate FFMO/Interdiction -1 TEM (cumulative) to DC, Bombardment, ordnance/OBA HE attack vs. unarmored target (EXC: NA HE Equivalency/Specific Collateral Attack, or vs. Partially-Armored AFV). Residual FP for attack increased by 1 IFT column. 	<ul style="list-style-type: none"> Per Hammada (F3), except Mud effects are NA; no Hammada Immobilization DR required of Watercraft in an Ocean hex adjacent to an Exposed-reef hex. Considered part of an Island for Drift purposes. All Ocean hexes between reef and shore are considered shallow (Heavy Surf effects of 13.441-447 will not apply). 	<ul style="list-style-type: none"> Infantry: 1MP Cav/Wagon: 3MF Fully Tracked: 2MP Halftrack: 3MP (Hamm. Immob.) Armored car/motorcycle: 4MP (Hamm. Immob.) Truck: 6MP (Hamm. Immob.) 	NA	<ul style="list-style-type: none"> Only Beach Obstacles (G14.5). Tunnels NA.
Submerged Reef	-1	No	<ul style="list-style-type: none"> Open Ground (per Water Obstacle) Inherent Terrain 	<ul style="list-style-type: none"> 0/0 (Open Ground) HE/DC halved vs. Wading Infantry/Cavalry/Horses (EXC: CH). Ordnance TH attempts vs. a Wading vehicle receive an extra Target-Based +2TH DRM. 	<ul style="list-style-type: none"> Considered a Shallow Ocean hex (EXC: a LC may neither set up in/enter a Submerged-reef hex, but may Beach across one of its hexsides) All Ocean hexes between reef and shore are considered shallow (Heavy Surf effects of 13.441-447 will not apply). 	As per Shallow Ocean (EXC: LC may not set up in/enter a Submerged-reef hex, but may Beach across one of its hexsides).	NA	Only Beach Obstacles (G14.5). Tunnels NA.

Terrain Type	Elevation Level	LOS	TEM (Direct/Indirect)	Notes	Movement	Fortifications
Shallow Water OCEAN	-1	As Open Ground (see Notes for SMOKE)	<ul style="list-style-type: none"> 0/0 (Open Ground) HE/DC halved vs. Wading Infantry/Cavalry/Horses (EXC: CH). Ordnance TH attempts vs. a Wading vehicle receive an extra Target-Based +2TH DRM. 	<ul style="list-style-type: none"> Shallow ONLY if w/in 3 hexes of Slight Beach hex, 2 hexes Moderate Beach hex, adj. to Steep Beach hex (EXC: Reef, G13.43). Shallow Water Locations are not considered Water Obstacles to Inf/Cav/Horses/Vehicles (EXC: Boats/LC), Rubble, AT-Mines. Wading Infantry/Cavalry may not form multi-hex FG, their Small-Arms/LMG attacks halved as Area Fire (cannot CC: G13.495). Wading SMC may not direct/modify any attack. Wading Infantry/Cavalry immune to PTC, LLMC, LLTC, booby traps; not subject to Pin/HOB results. Wading Inf/Cav that suffer a break/Step-Reduction for any reason suffer Casualty Reduction instead. Broken Inf may rout into a Shallow Ocean Location only to avoid Failure-to-Rout elimination (or to load during a Seaborne Evacuation). No SW (EXC: LMG)/non-Vehicular Gun may be fired or (un)Packed/Limbered/dismantled. Unpossessed weapons eliminated (unless on conveyance). No Concealment Gain for Infantry in Daytime scenarios May Boresight a Shallow Ocean hex. SMOKE may not be placed in Ocean hexes; only Drifting SMOKE has any effect. See 13.46 for special Acquisition rules. See G13.49 for Berserk, Paratroops, Gliders, Rubble, Frozen. 	<ul style="list-style-type: none"> 3 MP (per Shallow Stream) for Inf/Cav; ALL for horsedrawn Arm. Car: 4+COT; Tracked: 2+COT; Halftrack: 3+COT; Truck: 6+COT. Vehicles: COT= 1 (land) MP for Waterproofed vehicle; 2 (land) MP for non-Waterproofed vehicles (Ridden motorcycles cannot enter; may be pushed) Watercraft do not expend an extra MP to cross a Beach-OCEAN (or OCEAN-Hinterland) hexside, even if it is an all-water hexside. Watercraft (EXC: DD tank using amph MP) entering an OCEAN hex from offboard is considered for LOS/TH purposes ONLY to have expended 4MP to enter that hex. Non-waterproofed Wading vehicles entering a shallow-OCEAN Location may suffer from Swamping; see G13.4222. A Wading vehicle existing a shallow-OCEAN Location is subject to Bog (per B20.46) only if crossing an OCEAN-Hinterland hexside. D16.23 (Amphibians must check for Bog in waterline hexes when moving from Water Obstacle to land hexes) does not apply to Wading vehicles. However, Sand Bog (F7.31, G13.32) can apply. 	<ul style="list-style-type: none"> Only Beach Obstacles (G14.5). Tunnels NA.
Deep Water OCEAN	-1	As Open Ground (see Notes for SMOKE)	<ul style="list-style-type: none"> 0/0 (Open Ground) 	<ul style="list-style-type: none"> All OCEAN hexes are Deep unless fitting Shallow conditions above. Deep Water Locations are Water Obstacles. May not Boresight a Deep Ocean hex. See 13.46 for special Acquisition rules. SMOKE may not be placed in Ocean hexes; only Drifting SMOKE has any effect. See G13.49 for Berserk, Paratroops, Gliders, Rubble, Frozen. 	A Watercraft (EXC: DD tank using amph MP) entering an OCEAN hex from off-board is considered for LOS/TH purposes ONLY to have expended 4MP to enter that hex.	<ul style="list-style-type: none"> Only Beach Obstacles (G14.5). Tunnels NA.

BOMBARDEMENT EFFECTS

GENERAL COMMENTS:

- Bombardement affects hexes as per C 1.82. Inside this area, an hex is affected only at a firers option
- If MC DR = 12 make a subsequent dr.
 Subsequent dr =< 4 : Shellhole (if otherwise legal)
 Subsequent dr >= 3 : Flame (if otherwise legal)
- CH does not apply
- Foxhole and Trench have TEM= +4
- Marsh have TEM= +2

UNIT TYPE	MORALE	EFFECT	RESULT	COMMENTS
Horses / Motorcycles / Boats	Non	Eliminated	Eliminated	- Passengers/Raiders must Bail Out
Grey pillbox	11	MC	DR =< MC : No effect	- Takes MC before any unit inside do. If fails, units are eliminated. Otherwise units take MC normally
Brown pillbox	10		DR > MC : Rubble / Eliminated	
Stone building	9			
Wooden building	8			
Fortified building	+ 1			
Wire	9			
Roadblock	9			
Minefields	9			
Stone bridge	9			
Wooden bridge	8			
Pontoons	8			
CT AFV & any AF > 4	9	MC	DR = 1 < MC : Inmovilezed	
CT AFV & all AF =< 4	8		DR = 2 < MC : Destroyed & PRC rolls survival	- No Reverse TEM effect
OT AFV	8		DR = 3 < MC : Burning wreck	- PRC that survives does not roll for Bombardement
Unarmored Vehicle	6			
Unconcealed Personnel	As per counter	2MC + TEM	DR<MC# : Good order DR=MC# : Pin DR>MC# : Broken DR>MC# + doubles : C.Reduction DR=12 : C.Reduction	- +1 TEM of each non rooftop level building not apply - Leader applies - ELR failure applies - LLMC/LLTC applies
Concealed/Hidden Personnel	As per counter	2MC + TEM	DR<MC# : Good order & HIP/conc. DR=MC# : Pin & revealed DR>MC# : Broken & revealed DR>MC# + doubles : C.Reduction & revealed DR=12 : C.Reduction & revealed	- +1 TEM of each non rooftop level building not apply - Leader applies - ELR failure applies - LLMC/LLTC applies
Guns	7	MC	DR = 1 < MC : Malfunctions	- Takes MC only if unpossessed, owner breaks or owner suffers casualty reduction - If owner eliminated, Gun is also eliminated
SW	7		DR = 2 < MC : Eliminated	
Sangar	-		- Unit eliminated=Sangar eliminated - Unit not eliminated=Sangar not eliminated	

Campaign Game Roster



CG:			Side:			Player(s):				Victor:				
CG	CG	CPP	Weather		Moon	RG Purchased (RG ID; CPP cost)				CPP		Recon	Current	Win
- = ≡	Date	Start	Repl.	Total	(Mist Density)	Phase	SA	Spent	Left#	Loc	Init.	LVP	CG	

Reserves				FORTIFICATIONS												
ID	Unit(s)	Hex	CA	Mines				Misc. Fortifications			HIP Locations					
				Hex	Str.-Type	Hex	Str.-Type	Type	Hex	CA	Unit(s)	Hex	CA	Unit(s)	Hex	CA
				Total # of Factors								Squad:				
				A-P:								HS:				
				A-T:								Crew:				
												SMC:				

Attacking Infantry Advance into Defender's Location

- Advance NA for Berserk/Banzai/Human Wave/Pinned/TI units
- Infantry may not advance into Marsh, Swamp, or Water Obstacle.
- Resolve FFE/mines, check for Trip Flares/Panji MC vs advancing units
- Pillboxes cannot be entered while Defending units are still inside, but can be CC'd by entering their hex (all other enemy units outside the Pillbox must be eliminated before the Pillbox occupants can be CC'd).
- Foxholes/ Trenches can be entered by the attacker (their stacking limits are per side [B27.44]).
- Fortified Locations cannot be entered while a GO enemy squad-equivalent is inside.

- PAATC required for MMC to advance into a Location vs a manned Known enemy AFV or Armored Cupola. Multiple MMC in a stack need not predesignate their advances, but advances into AFV's Location must be made before the next PAATC is taken. [A11.6]
 - NA to IJA, SMC, Fanatic, Berserk units
 - Leadership applies even if the Leader does not advance in himself
 - 1PAATC for Inexperienced Infantry, non-Elite GMD Chinese, non-Elite Italians, Allied/Axis Minors
 - Fail PAATC ⇒ unit Pinned, cannot advance into AFV's Location
- Unpinned Attacking IJA Infantry squad/HS ADJACENT to an enemy AFV may attempt to create a T-H Hero [G1.421]

Place all Hidden units in the same Location with an enemy unit onboard beneath a ? counter. Temporarily reveal Concealed units in the same Location with an enemy unit, thus eliminating Dummy stacks [A11.19]

Complete this sequence for each CC Location before moving on to the next CC Location. Attacker specifies the order in which multiple CC Locations are resolved.

Check for Ambush if A11.4

- Attacking infantry advanced into CC (not into a Melee) in Bldg/Woods/Jungle/Bamboo/Kunai/RB Rubble
- Either side has a concealed unit
- Ambush occurs if either side rolls 3 less than the other [EXC: Attacker at Night need only roll 2 less than the Defender in un-Illuminated Locations [E1.77]]
- If Ambush occurs, the side being Ambushed loses all concealment [A11.4]
- Ambush is *not* automatic for Street Fighting [A11.8] [97 Q&A]

drm	Cause
+2	Cavalry, Vehicle, Pillbox
+2	Above a Bank counter
+1	BU or Stunned (each)
+1	CX, Broken, Pinned, Berserk (each)
+1	Lax (Inexperienced, GMD Chinese at Night, IJA Conscripts, Banzai/Human Wave, Berserk, non-Elite Italians) [A11.18]
+1	On Panji
+1	Attacker advancing into Jungle/Kunai/Bamboo
+x	Leadership of best GO unpinned leader if not alone
-1	Stealthy (ANZAC, Gurkhas, Finns, Heroes, Commandos, Partisans, IJA/RB Russian Elite/1 st Line) (only if GO) [A11.17]
-2	Concealed

* - only if the Pillbox itself is being attacked [J1 Q&A]

drm advantage	Chance of success*
+2	3%
+1	8%
+0	16%
-1	28%
-2	42%
-3	58%
-4	72%
-5	83%

* - in daytime. At Night, read across and down one row.

- Prisoners of broken Guards in CC (not Melee) must pass an NTC in order to attack their Guard [A20.55]
- Both sides (Attacker first) declare attempts to Withdraw from Melee (*not* CC) [A11.2]
- Both sides (Attacker first) declare each SMC's solo status or pair it with another SMC or MMC [A11.14]

Simultaneous CC exists

Resolve All Simultaneous CC's in the Location

- Simultaneous CC attacks must be predesignated before any are rolled
- Attacker rolls all of his attacks first [A11.12], so the Attacker's CC results always apply, even if the Defender rolls a 2

Sequential CC exists

Resolve All Sequential CC's in the Location

- Sequential CC attacks need not be predesignated – one can see the results of previous attacks before declaring new ones.
 - Any unit which is captured/withdrawn/eliminated before it attacks forfeits its attack opportunity
 - If more than one sequential situation exists in a CC Location, preference is given in order 1-3:
- Prisoners** attack their broken Guards first [A11.33, A20.55]
 - Ambush:**
 - Ambushing side may withdraw some/all of its unpinned units [A11.41]
 - Ambushing side resolves all of its attacks
 - Survivors of non-Ambushing side resolves all of their attacks
 - If they did not eliminate/capture their targets, ambushing units lose concealment
 - Unpinned surviving Ambushing units may Withdraw from Ambush
 - Vehicle** in the CC Location:
 - Non-vehicular side resolves one attack
 - Survivors of vehicular side resolve one attack
 - Repeat i-ii with survivors of both sides taking turns

- Berserk units that participated in an attack that eliminated all Known Enemy units in its Location return to normal [A15.46]
- Flip/remove CC or retain/remove Melee marker as appropriate
 - Units which have retained concealment by not making/directing a CC attack and not being Casualty Reduced by enemy CC are not held in Melee and do not hold opposing units in Melee [A11.19]
 - Vehicles/PRC cannot be held in Melee but non-Motion vehicles do hold Known enemy Infantry in Melee [A11.7]
 - Cavalry, cyclists, and skiers are *not* Infantry; these units can be in Melee but are *not held* in Melee. In their MPH, they can dismount in the Melee hex or move out of the Melee [A11.71]
 - Melee NA to Pillboxes [B30.6]
- Dare-Death Infantry remain Berserk only if in Melee [G18.6]

Original DR of 2:

1. If an MMC rolled the 2, check for Leader Creation [A18.2] and recalculate the odds for attacks by and against that MMC as if the leader had been present all along.
2. Resolve the attack (Possible Unlikely Kill vs a vehicle [A11.501])
3. Owner may Withdraw unpinned Infantry/Cavalry that rolled the 2 without their being attacked [EXC: in simultaneous CC, Defenders rolling a 2 are still subject to the results of the Attacker's CC DR]

Original DR of 12:

1. Resolve the attack (Possible Crew Small Arms if vehicle was attacked [A11.621])
2. Owner of units being attacked by the 12 may immediately Withdraw unpinned Infantry/Cavalry survivors of the attack (in simultaneous CC, Defenders attacked by a 12 must withdraw immediately before resolving their attacks)

SW/Gun Destruction A11.13

If a unit is eliminated with an original cdr = 1, do a subsequent dr. If that dr ≤ the black kill # of that CC attack, that SW/Gun is eliminated.

Hand to Hand CC G1.64, G18.62, J2.31

- NA by/vs Pillboxes, Vehicles/PRC [G1.64]
- Uses red numbers on CC table
- HtH mandatory with:
 - DASL Berserk units attacking Infantry/Cavalry
 - IJA Infantry/Cavalry or Chinese Dare-Death MMC are not Ambushed/Withdrawing/Pinned and:
 - Ambushes the enemy in CC, or
 - Is the Attacker in CC/Melee
- HtH optional for:
 - DASL attacker which is not Ambushed [J2.31]
 - RB scenarios [SSR RB11]
- Once declared, HtH exists in that Location until either/both sides are eliminated/withdrawn/captured
- IJA/Dare-Death HtH attack receives an extra -1 CC DRM unless every such attacking unit is Pinned

FAQ's

- Attacks vs a Melee hex [EXC: Sniper] affect both sides [A11.15]
- Broken units in Melee do not Rout; they must Withdraw from Melee unless Disrupted or Guarding Prisoners. Broken units in CC (ie, the start of Close Combat in that Location) cannot Withdraw or attack; they must hope to survive one CCPh and then Withdraw from the Melee that develops.
- Berserk/Human Wave/Banzai units do not make a CC Location eligible for Ambush; they did not *advance* into the Location.
- Ambush is NA when units reinforce a Melee (Ambush is only for the first occurrence of CC).
- A CC/Melee marker is immediately removed when only one side remains in the Location [Q&A]
- All units do not have to attack or be attacked in CC [A11.12], but no unit may attack or be attacked more than once [EXC: by/vs vehicles, which can attack and be attacked multiple times]
- Positive leadership modifier can be declined when a SMC+MMC stack attacks in CC [Q&A]
- LLMC/LLTC are NA in CC/Melee [A11.141]
- All units making/directing a CC attack lose Concealment [EXC: Ambushing units do not lose concealment if they successfully capture/eliminate their target, A11.4]

Odds:	<1-8	1-8	1-6	1-4	1-2	1-1	3-2	2-1	3-1	4-1	6-1	8-1	10-1	>10-1
CC Kill #	0	1	2	3	4	5	6	7	8	9	10	11	12	13
HtH Kill #	2	3	4	5	6	7	8	9	10	11	12	13	14	15

*CCV: Squad: 5 TH-Hero: 5 Crew: 4 HS: 3 SMC: 2

*CCV Modifiers: Assault Engineers: +1, Inexperienced: -1, extra SMC +1, halved FP: -1 per each application

CC DRM:

vs Concealed unit [A11.19].....x ½	Heroic DRM [A15.24].....-1
by Guarding/Motion/Pinned (per application).....x ½	by Gurkha vs Infantry/Cavalry/PRC [A25.43].....-1
by Ambush (NA during Melee) (vs Ambush: +1).....-1	by armed/unpinned IJA/Dare-Death in HtH [G1.64].....-1
vs Crest/skiers/Truck Passengers (by same: +2).....-2	by Dare-Death MMC in non-HtH [G18.62].....-1
vs boat/amphibious Passengers [E5.6] (by same: +2).....-2	by vehicle on a Narrow Street [P5.132].....+1
vs CX/Tr/Riders (by same: +1).....-1	*vs Motion/Non-Stopped vehicle [A11.51].....+2
vs Wire unit [B26.31] (by same: +1).....-1	*vs unarmored vehicle [A11.51].....-3
vs Bank [G8.212]/Panji [G9.21] unit (by same: +1).....-1	*vs vehicle with no manned/usable MG [A11.51].....-1
Capture Attempt [A20.22] (vs Inexperienced Inf: -1).....+1	*per escorting Personnel HS/Crew [A11.51] (squad: +2).....+1
vs Withdrawing Infantry [A11.2] (per Covering unit: +1).....-2	*vs OT/partially armored AFV [A11.61].....-2
vs Overstacked per excess squad [A5.131] (by same: +1).....-1	*vs CE CT or abandoned AFV [A11.61].....-1
Leadership (unpinned GO leader not alone) [A11.141].....+ x	*vs Immobile AFV [A11.61].....-1
vs broken unit [A11.16].....-2	*with ATMM [C13.7].....-3

* - applicable only to CC vs vehicles

Withdrawing from CC/Melee/Ambush

A11.21, A11.41

- NA to Berserk/Pinned/Disrupted units
- Withdrawing unit can carry only ≤ its IPC
- OK to become CX for entering Difficult Terrain [A4.72]
- Withdrawing units are subject to FFE/minefield/Trip Flares/Panjis
- Location withdrawn into cannot be occupied by a Known Enemy Unit. OK to withdraw into an Unknown enemy unit's Location [EXC: broken units cannot withdraw into any enemy unit's Location], but if that enemy can show a real unit, all withdrawing units are KIA and at least one enemy unit must become Known.
- Unbroken/unpinned Street Fighting units must withdraw to the same Locations they came from [A11.8]. VBM Street Fighting units must remain in the Bypassed obstacle (unless they Ambushed the opposing side and can withdraw from Ambush)

Vehicular CC attack vs Infantry/Cavalry

A11.62

- Shocked/Stunned vehicles may not attack in CC [C7.42/D5.34]
- CC NA between units in a Pillbox and vehicles/PRC
- Vehicle FP forms an odds ratio vs defending unit's CCV
 - Use black CC #'s
 - Vehicle FP halved for Motion, vs concealed units, by Pinned firers
- Vehicle can combine in any number of attacks:
 - CMG/ RMG/ IFE from 12.7 or 15mm MA
 - AAMG fired by CE crew or Heroic Rider [A15.23]
 - Riders and CE HT Passengers
- sN Close Defense Weapon System (July '44+) [A11.622]
 - AFV must be BU
 - Can only be used after the vehicle/its Personnel Escort has been attacked in that CCPh or if the vehicle has ambushed the opponent.
 - Attacks **all** unarmored units in the Location (even friendly units) with 16 FP on the IFT [TEM, Armor Leader, half FP for Motion all NA]. NE if the Original IFT DR is greater than the vehicle's sN #.

ATMM

C13.7, G1.4231, SSR RB13

Available to: '44-'45 Germans, RB Elite German Infantry, IJA TH-Heroes

dr	Result	drm	Cause
1-3	Succeeds, -3 CC DRM*	+2	SMC (not TH-Hero)
4-5	no ATMM	+1	HS/Crew
		+1	CX
6	no ATMM, unit Pinned**	+1	pre-44 TH-Hero
		+1	vs non-armored vehicle

* - Succeeds only on a dr of 1 for RB Elite German Infantry – *no drm apply*
 ** - CCV lowered by 1 for being Pinned. NA to IJA TH-Hero.

Close Combat vs. a Vehicle in the CC Phase.

Involves Infantry Advancing into a hex containing ≥ 1 vehicle (or already in a hex containing \geq vehicle). **This includes hexes with abandoned vehicles (treated as belonging to last owner).**

- PAATC:** In order to *advance* into a Location w/known enemy AFV, must make TC. NA for SMC or Fanatic/Berserk. Must make 1TC for Inexp. Infantry, non-Elite GMD Chinese & Italians, and Allied/Axis Minors. Leadership applicable (leader himself need not advance). **Failure causes unit to be pinned.**
- Ambush:** Check for Ambush (NA Melee) if either side has concealed unit or if CC takes place in Bldg/Woods/Jungle/Bamboo/Kunai/RB Rubble. *Remember +2 drm for vehicle, +1 BU/Stunned.*
- Street Fighting:** Infantry advancing into a vehicle road location ADJACENT to bldg hexes on both sides of road qualify for Street Fighting Ambush $-1/+1$ DRM (not cumulative w/normal Ambush DRM), unless actual Ambush occurs, even if vehicle is accompanied by escorting Personnel. Following CC attack, units are returned to their starting Locations, unless they choose to remain (EXC. Broken, pinned, on top of wire may not return). *Any vehicle in stationary bypass is also subject to street fighting from any infantry in bypassed obstacle.* Normal PAATC still apply.
- Procedure:** Close Combat vs. a Vehicle is sequential, not simultaneous. If one side has Ambush, it goes first, with **all** of its attacks, followed by survivors of other side. Otherwise, if both sides have Vehicles in a hex, ATTACKER goes first, then DEFENDER, then repeat. Otherwise, non-Vehicular side makes first attack, then survivors of Vehicular side make attack, then repeat.
- To Resolve Attacks by Infantry:** For attacks vs. a vehicle, **the CCV of a Squad is 5, TH-Hero 5, Crew 4, HS 3, SMC 2.** (*Mods: Assault Engineers +1, Inexperienced -1, extra SMC +1, halved FP -1/application*). **All applicable DRM for CC can apply; see Close Combat Table. CC DR that = CCV immobilizes vehicle; CC DR < CCV eliminates vehicle; CC DR \leq half of CCV creates burning wreck.** Inf vs. inf CC attacks are resolved normally. PRC are eliminated w/no chance

- of survival if vehicle dies, but may also be attacked separately.
- Check for unusual results:** *Original 2 DR* may kill vehicle even if modified DR would not. Make subsequent dr. A 1 results in Burning Wreck. A 2 eliminates the vehicle. A 3 immobilizes it. Attacking unit may also Withdraw. *Original 12 DR* vs an AFV results in "Crew Small Arms" fire. If vehicle is crewed, non-abandoned, and not under Shock/Stun result, attacking unit suffers Casualty Reduction.
 - To Resolve Attacks by Vehicles:** Vehicle attacks vs. Infantry (Shocked/Stunned Vehicles cannot attack). Vehicle totals attack numbers, forms odds ratio, uses black CC numbers. **Vehicle may include manned AAMG, CMG, IFE of turreted MA $\leq 15mm$, RMG, and CE halftrack Passengers.** BMG NA but does negate "no usable MG" DRM. May total for one number or may divide up into separate attacks. CCV cannot be reduced below 1 (anything that would do so applies as DRM instead). An original 12 DR may allow Infiltration (A11.22).
 - Close Defense Weapon System (sN):** July 1944+. If AFV is BU, can make 16FP attack on IFT, but only after it or escorts have been attacked (EXC: can fire w/o being attacked if it is the Ambusher). Attacks all unarmored units in location. If Original IFT DR > Usage Number, no effect. TEM/SMOKE/Hindrance NA.
 - Aftermath:** Vehicles/PRC (EXC. PRC of immobile vehicles) cannot be held in Melee, but non-Motion vehicles do hold Known enemy Infantry in Melee. Cav/Cyclist/Skiers not held in Melee.

ATMM, C13.7, G1.4231, SSR RB13

Available to: 1944-45 Germans, RB Elite German Inf, TH-Heroes.

dr	Result	drm	Condition
1-3	Succeeds, -3 CC DRM	+2	SMC (not TH-Hero)
4-5	No ATMM	+1	HS/Crew
6	No ATMM, unit Pinned	+1	CX
RB Elite Inf succeed only on dr 1; no drm apply. CCV lowered by 1 for Pinned units; na TH-Hero.			
		+1	Pre-44 TH-Hero
		+1	Vs. non-armored vehicle

Close Combat vs. a Vehicle Cheat Sheet (Front)

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Close Combat vs. a Vehicle in the Movement Phase.

Involves Vehicles moving into (CC Reaction Fire) or ADJACENT to (Street Fighting) a hex containing qualified units.

1. **PAATC:** In order to conduct any CC attack against AFV, must make TC. NA for SMC or Fanatic/Berserk. Must make 1TC for Inexp. Infantry, non-Elite GMD Chinese & Italians, and Allied/Axis Minors. Leadership applicable (leader himself need not advance). Failure causes unit to be pinned. **No pinned unit can attack** (EXC. FPF CC Reaction Fire). Concealed units in hexes entered by vehicle must take PAATC or be revealed and pinned (may take *combined* PAATC using lowest current morale level, modified by best leader); this exempts them from a later PAATC to attack vehicle. Dummy stacks use “7” printed on counter.
2. **Street Fighting:** Infantry in a bldg hex may conduct CC Reaction Fire (D7.21-7.211, see below) against an ADJACENT vehicle on a road hex if there is another bldg hex on other side of road, and moreover, qualify for Street Fighting Ambush -1/+1 DRM (not cumulative w/normal Ambush DRM), even if vehicle is accompanied by escorting Personnel. Street Fighting may not be attempted by unit that is, or possesses a SW/Gun that is already marked with First/Final/Intensive/No Fire counter. Mines/FFE/Residual Firepower can attack—see D7.211. Following CC attack, units are involuntarily returned to their starting Locations (EXC. Broken, pinned, on top of wire may not return). **Any vehicle using VBM is also subject to street fighting from any (qualified) infantry in bypassed obstacle.** Normal PAATC still apply.
3. **CC Reaction Fire:** Used against vehicle in own hex; Ambush NA (EXC: Street Fighting Ambush). Units may use CC Reaction Fire if unbroken/unpinned/Armed/not in melee; may use Reaction Fire as often as may use First/Final Fire. **Units marked with First/Final Fire counter (inc. SW) have CCV reduced by one.** Fire vs. an OVRing vehicle is resolved immediately **AFTER** resolution of OVR. Fire vs. non-OVRing vehicle entering hex is as normal (and before Bounding Fire attacks).
4. **Others in Hex:** Attacker Personnel Escort are not affected by CC Reaction Fire (EXC. PRC). Escort and PRC may not engage

in CC; nor with Bounding FF until after Defender CC action.

5. **Procedure:** See Steps 4-8 on reverse.
6. **FPF CC Reaction Fire:** Each Defender unit (even if pinned) otherwise eligible to use CC Reaction Fire, but marked with Final Fire when OVR, *must* attempt a CC attack vs. that vehicle (EXC. May use FPF Non-CC Reaction Fire if eligible) following OVR. Must take PAATC, but must still attack if pin results. CC Reaction Fire attack DR acts as NMC.
7. **Non-CC Reaction Fire:** Applicable for TBF/ordnance/FT/Thrown-DC. See D7.22 & D7.221, D7.23.
8. **Aftermath:** After attack, mark with CC counter, to prohibit non-CC Reaction Fire attacks, and First or Final Fire counter as appropriate. Surviving units are eligible to attack in CCPh if able.

Odds	Kill	Common CC vs. Vehicle DRM		CCV Values	
<1-8	0	By Ambush (vs Ambush +1)	-1	Squad	5
1-8	1	By Guarding/Motion/Pinned unit	x 1/2	Crew	4
1-6	2	By vehicle on Narrow Street	+1	HS	3
1-4	3	With ATMM	-3	SMC	2
1-2	4	Vs. Motion/Non-stopped vehicle	+2	Ass. Eng. +1;	Inexp. -1; Extra SMC +1; 1/2 FP -1/appl.
1-1	5	Vs. OT/partially armored AFV	-2		
3-2	6	Vs. CE CT or abandoned AFV	-1	Personnel Es-	- ort: Any unbroken, unpinned armed Personnel MMC in the same Location as a vehicle (not in act of Withdrawal & not BU in half-track).
2-1	7	Vs. Vehicle with no usable MG	-1		
3-1	8	Vs. unarmored Vehicle	-3		
4-1	9	Per escorting Personnel HS/Crew	+1		
6-1	10	Per escorting Personnel Squad	+2		
8-1	11	Vs. Immobile AFV	-1		
10-1	12	Leadership (if not alone)	+x		
>10-1	13	Heroic DRM	-1		

Close Combat vs. a Vehicle Cheat Sheet (Back)

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Demolition Charges (A23)

DC Firepower: 30FP Factors for Placed/Thrown; 36FP Factors for Set.

Modifications: Not subject to FP modification for PBF/TPBF, use in the AFPh, Area Fire (EXC: Concealment). TEM applies to resolution; LOS hindrances do not. If placing/throwing unit is CX, +1 penalty applies. Wall/hedge TEM is NA for DC attacks (EXC: if thrown across a wall/hedge hexside, TEM applies to both target and thrower's locations).

Usage: Non-elite Personnel (all Leader are Elite) suffer captured SW X# penalty (doubled if DC is captured). Squad attacking with DC may also use inherent FP, but only in same phase in which DC explodes. Berserk units may throw DCs but never place or set. Infantry on top of a Wire counter may not place/throw/set DC.

Set DC Clearance: May be Cleared (B24.75), not Recovered. Searching reveals & Random SW Destruction eliminates hidden Set DCs.

Breaches (B23.711, B23.9221): Unpinned, Good Order Infantry with a DC in a Rowhouse hex may try to breach the black bar to another Rowhouse hex. It costs 1 MF to place a DC during the MPH for this purpose. If successfully placed, the DC attack is resolved vs. the *hexside* (with normal TEM) during the AFPh. Any NMC or better result will Breach the wall (and using same DR will attack any units in the location behind the wall as Area Fire (12FP if unconcealed; 6FP if concealed) with full TEM. Place a Breach counter on the location. Thereafter, normal bldg-to-bldg LOS and movement options exist between the two location. A DC may be used in the same way to create a breach in a Fortified Building hexside.

Fortified Building Locations: A DC may be placed in a Fortified Building hex even if the placing unit may not be able to enter it, using the normal building entry costs.

Pillboxes: If placing/throwing unit occupies an adjacent hex in CA of pillbox or the pillbox itself, the attack is modified by CA Defense Modification. If placed/thrown from any other hex, it is modified by NCA Defense Modification. DC may not be Thrown into adjacent hex from inside a pillbox, but may be Thrown into its own hex, with both the +3 DRM for Thrown DC and NCA TEM of pillbox applying to the Thrower. A DC cannot be placed from inside to outside a pillbox. Any DC detonating inside (such as being thrown into) a pillbox is resolved as Set DC.

Wire: A Placed DC can remove a Wire counter with an Original KIA result on IFT. The Placing unit cannot be in the same location with the Wire to remove it (EXC: Japanese). The MF of placing the DC in a Wire Location is normal; there is no additional cost due to the wire. A Set DC will eliminate Wire with a Final KIA result.

Roadblock: DC KIA removes roadblock. A DC attack can affect a roadblock only if placed/thrown through the roadblock hexside into either hex formed by that hexside, or set in the roadblock counter's location.

Caves (Placing/Throwing): A DC may be placed into a cave by an unpinned, Good Order, non-Climbing Infantry that expends two MF (plus SMOKE MF, if any) while ADJ. A DC may be Thrown into a cave by an adjacent, unpinned, Good Order, non-Climbing Thrower not more than one level lower than cave, which has a LOS to the cave, and which make a Cave Thrown DC dr (see chart). When a placed/thrown DC is detonated in a cave, it attacks only that cave/its contents and receive no DRM of any kind (EXC: A Placed DC receives a -4 DRM if no unconcealed Good Order Japanese MMC was in the cave when placed). An unpinned, Good Order Infantry unit at a higher elevation than the cave (but not in its CA) may attempt to place a DC into it by moving onto a Climb counter whose arrow touches a vertex of that cave's CA Hexside (or for a cave IN a Depression, touches a vertex of the hexside the Cave counter's arrow points directly away from). This type of climbing is allowed even along a non-cliff hexside (no Falling DR is made unless the unit is actually Climbing a cliff hexside and must change level). The Climbing unit may attempt to Place its DC only when it is one level above the cave, even though no LOS exists. No extra MF expenditure is required, but the attacker must make a Thrown DC dr (G11.833). If unsuccessful, dC is eliminated w/o detonating.

Caves (Setting): A DC may be *set* in a cave even if a unit cannot enter it (G11.8332). Normal Set DC rules apply, but the unit must spend its entire MPH to Set the DC while ADJ to the cave. If the cave's CA Hexside is also a hill/cliff Crest Line hexside, the Setting unit must be declared to be occupying a specified vertex of the cave's CA Hexside at the same level as the cave (this may sometimes require Crest Status/Climbing; a unit Setting a DC while on a Crest counter cannot claim its entrenchment TEM and a unit on a Climb counter may Set a DC only vs. a cave. When set, the DC is put in the cave Location. If no unconcealed Good Order Japanese MMC is in the cave when the set DC dr is made, the DC receive an extra -4 DRM for IFT purposes.

Japanese A-T Set DC (G1.6121): During onboard setup of 1945 scenarios vs. non-Russians, Japanese player may set up to 25% (FRU) of OB-provided DCs unpossessed in paved/unpaved road locations (EXC: bridge). Treated as normal Set DC, but always use HIP (even if road location has no concealment terrain). Never revealed by enemy LOS, but eliminated by OBA as per A9.74 or when its location I searched. May be detonated only by one pre-designated Infantry unit (even a HIP T-H Hero); not a "?" loss activity. Can be detonated only a Defensive First Fire v. a vehicle entering location via road. Successful detonation results in Blazing Wreck. Accompanying Infantry using Armored Assault are attacked as by normal Set DC.

DC Hero (G1.424): A Japanese unit allowed to create a T-H Hero may, if possessing a DC, attempt during its own MPH to create a DC Hero. Must be w/in 8 MF of and LOS to any enemy unit/gun or enemy-controlled hex w/fortification counter. Creation successful on dr 1-5; dr 6 results in unit being pinned. A DC hero may not place/throw a DC, or make a CC attack. Instead, it must make a Banzai Charge against its designated target. When in that location/hex, during or at end of its MPH, provided it has survived all Defensive First Fire allowed by his immediately previous MF expenditure, it may detonate its DC. It is resolved as a Placed DC (EXC: by a unit on a Rice Paddy Bank Counter, versus targets beneath a Bank Counter, is resolved as a Thrown DC; same for unit above a Panji counter vs. target beneath Panji counter). DC Hero is then eliminated.

Other Japanese Usage: Any unbroken Japanese Infantry unit possessing a DC may, in lieu of normally Placing it, detonate it immediately during or at end of its own MPH as per DC Hero (and is eliminated). If it is above a Bank counter, detonation vs. any target beneath that counter is resolved as a Thrown DC; the same is true for Panjis (detonation may damage Panji; see G9.72).

DC Throwing Procedure	
Throw DC (PFPh, Defensive First Fire, DFPh, AFPh)	Unpinned, Good Order/Berserk unit (unmarked by First/Final fire counter) may throw DC into ADJ location in its LOS (including stairwell) or down to a ground-level, in-LOS location of adj hex (ex: down a cliff or from upper level building location). May not be thrown to a full-level higher location. May not throw in same location unless thrower is Japanese or target is vehicle in bypass.
Explode vs. Target (immediately)	30FP attack on IFT. +2 DRM (+3 if Thrown from nonstopped/Motion vehicle or by Cavalry). +1 DRM if thrown in AFPh (unless Opp. Firer). Original KIA destroys Cave; may cause Flame (see B25.13); and/or Rubble (see B24.11; can also rubble a sewer). May damage Panji (see G9.72).
Explode vs. Firer (immediately; separate die roll from Target)	30FP attack on IFT. +3 DRM (+4 if Thrown from nonstopped/Motion vehicle or by Cavalry). +1 DRM if thrown in AFPh (unless Opp. Firer). Firer not affected if thrown from elevation ≥ 2 levels higher than target. Original KIA may cause Flame (see B25.13); and/or Rubble (see B24.11; can also rubble a sewer). May damage Panji (see G9.72). DC thrown from AFV does not affect AFV but affects Vulnerable PRC.
Vs. AFV	First, make DC Position DR (C7.346). Vs. AFV in AFPh, +1 penalty applies to Position DR instead. Target facing of AFV based on hexside through which DC was thrown. If DC comes from w/in same hex, it attacks Rear Target Facing. Second, roll on HE & Flame To Kill Chart (C7.34).

DC Placing Procedure	
Place DC (MPh)	Unpinned unit may place DC on ADJ location in its LOS (EXC: Cave; G11.8331) in MPh by carrying unit pending extra MPh = amount required to enter target location (w/o bypass). Considered movement expended in placing unit's hex, not target unit's hex. If enemy AFV occupies target hex, PAATC is required. To affect AFV, must predesignate it as target.
Survive Fire (MPh)	Placing unit must survive all DFF, SFF, and FPF unbroken and unpinned (berserk ok). If broken/pinned/elim, DC is not placed and stays with placing unit (or in its hex if unit is elim). Afterwards, if it has sufficient MP, can even move away or subsequently suffer adverse results.
Explode (AFPh)	30FP attack on IFT. Original KIA destroys Cave; may cause Flame (see B25.13); and/or Rubble (see B24.11; can also rubble a sewer). May damage Panji (see G9.72).
Vs. AFV (AFPh)	First, make DC Position DR (C7.346). Target facing of AFV based on hexside through which DC was placed (even if AFV changes CA after placement but prior to detonation). If DC comes from w/in same hex, it attacks Rear Target Facing. Second, roll on HE & Flame To Kill Chart (C7.34).

C7.346 DC Placement vs. AFV DR (DR also serves as hit location DR)	
≤ 5	Use Aerial AF
6-8	Use AF
9-11	Specific Collateral Attack only (Requires new effects DR)
≥ 12	Area Fire Attack vs. non-armored units only
DRM:	
+2	Motion/Non-Stopped AFV or concealed Target
+2	Thrown DC (+3 if Thrown from Non-Stopped/Motion vehicle)
+1	CX
+1	Placed/Thrown through hull front Target Facing
+1	AFV target is CE
+1	Thrown in AFPh (not Opportunity Fire)
-1	Placed/Thrown through hull rear Target Facing
-2	Immobile/OT AFV target (each)
-2	Vehicle target is in Bypass in same hex
-1	C7.22 Elevation Advantage (-2 for OT)

DC Setting Procedure	
Set DC Prior to Play (SSR Only)	No penalty or restriction. Must assign to a setting unit. SSR may allow hidden DC.
Set DC During Play (MPh)	Infantry unit may set in its location by spending all MF (using Hazardous Movement) and making $dr \leq US\#$ (leadership drm allowed). Must survive all defensive fire w/o pinning or breaking.
Detonate Set DC (any friendly fire phase)	Setting unit (or derivative HS) may detonate, if Good Order, w/in 2-6 hexes of DC, in LOS of DC, and if it passes a NTC.
Resolve Explosion—Malfunction	Malfunctions only on DR of 12, but +1 DRM to DR (for malfunction purposes only) for each enemy Infantry unit currently in Location.
Resolve Explosion—Detonation	Resolved on 36FP column (18FP vs concealed units), with -3 DRM and NO TEM (including vs. vulnerable PRC, but +2 CE DRM applies). Final KIA will destroy any bridge or affected building level in hex. See A23.71 for multihex bridges. Original KIA destroys Cave; may cause Flame (see B25.13); and/or Rubble (see B24.11). May damage Panji (see G9.72).

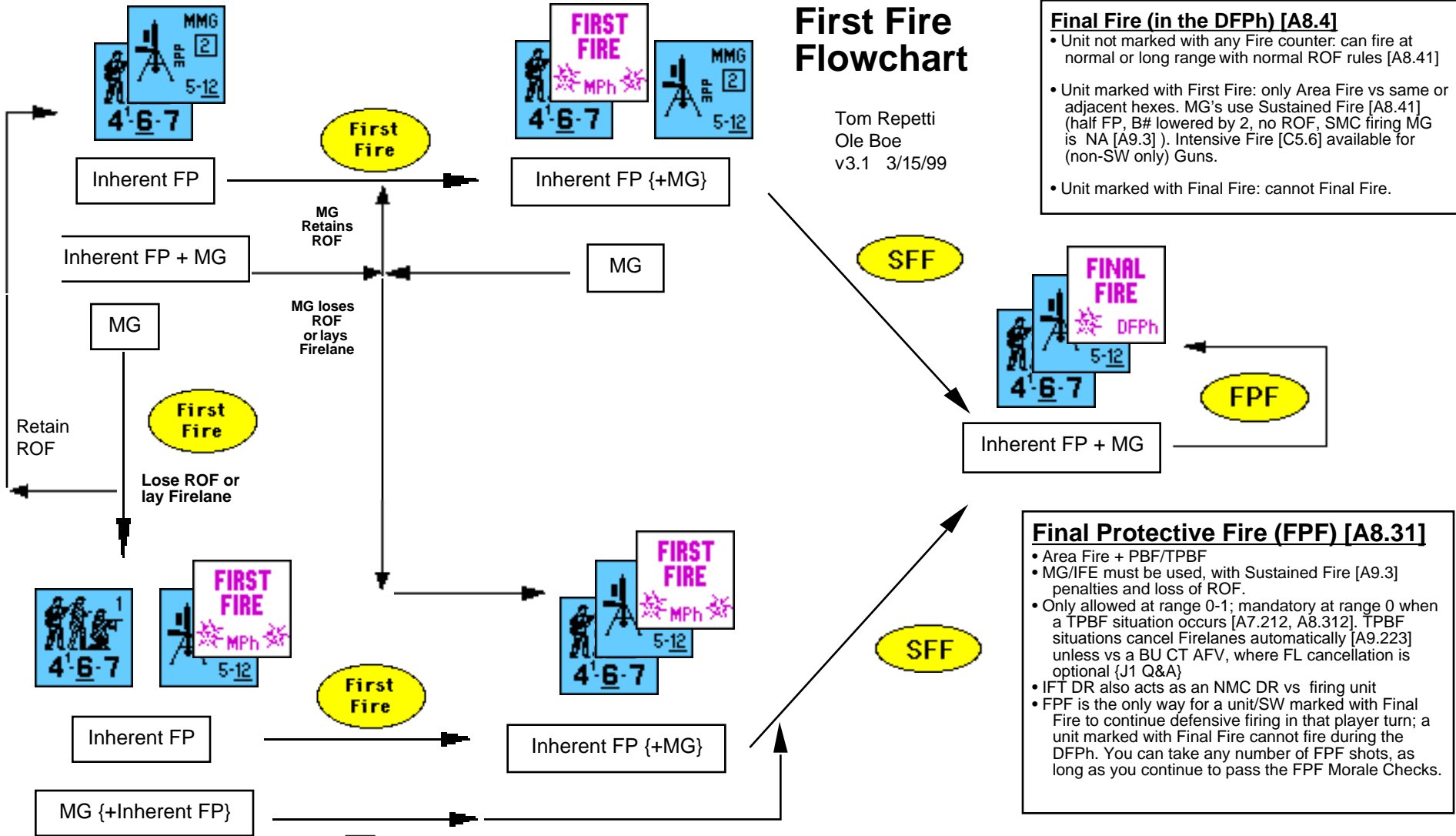
Thrown-DC (vs CAVES) dr	
≤ 3	Successfully Thrown ¹
≥ 4	Unsuccessful ²
drm	
+1	Cave's level > that of Thrower
+1	Thrower in moving/Motion vehicle
-1	Thrower ADJ to cave
-1	Thrower is Heroic/Fanatic
Notes	
1. DC attacks cave/contents, with no DRM of any kind.	
2. DC falls unpossessed to Base Level of Entrance Hex and attacks that cave, its contents and Entrance Hex (and Thrower's Location, if not in that Entrance Hex) with all DRM (including +4 Cave TEM). Attack vs. cave/contents NA if DC and cave now at different levels; attack vs. other cave/contents in Entrance Hex NA.	

DC vs. Gun Destruction Table (C11.6)	
\leq Final KIA	Gun & Crew Elim
= Final K	Gun Malf; Crew suffers CR
Final DR is prior to applying Gunshield DRM (C11.4).	

Aerial Armor Factor & DC To Kill	
AFV's Worst AF	0 1 2 3 4 6 8 11
Aerial AF	0 0 1 2 3 3 4 4
DC To Kill # = 16 (use IFT for unarmored vehicles).	

First Fire Flowchart

Tom Repetti
Ole Boe
v3.1 3/15/99



Final Fire (in the DFPh) [A8.4]

- Unit not marked with any Fire counter: can fire at normal or long range with normal ROF rules [A8.41]
- Unit marked with First Fire: only Area Fire vs same or adjacent hexes. MG's use Sustained Fire [A8.41] (half FP, B# lowered by 2, no ROF, SMC firing MG is NA [A9.3]). Intensive Fire [C5.6] available for (non-SW only) Guns.
- Unit marked with Final Fire: cannot Final Fire.

Final Protective Fire (FPF) [A8.31]

- Area Fire + PBF/TPBF
- MG/IFE must be used, with Sustained Fire [A9.3] penalties and loss of ROF.
- Only allowed at range 0-1; mandatory at range 0 when a TPBF situation occurs [A7.212, A8.312]. TPBF situations cancel Firelanes automatically [A9.223] unless vs a BU CT AFV, where FL cancellation is optional {J1 Q&A}
- IFT DR also acts as an NMC DR vs firing unit
- FPF is the only way for a unit/SW marked with Final Fire to continue defensive firing in that player turn; a unit marked with Final Fire cannot fire during the DFPh. You can take any number of PPF shots, as long as you continue to pass the PPF Morale Checks.

General

- If DR = doubles and no leader is directing, the shot Covers [A7.9]. Mark the firing unit and all of its SW with Final Fire; no Firelane is laid [A9.22]
- Once an MMG/HMG First Fires from a Woods/Rubble/Bldg, it may continue to First Fire only within that Covered Arc [A9.21]
- {MG} or {Inherent FP} means that inclusion of this firepower is optional.

Subsequent First Fire (SFF) [A8.3]

- Area Fire; only Small Arms/MG/IFE can be used
- Target must be within firer's Normal Range and \leq the range to the closest Known Enemy Unit.
- MG/IFE must be used or forfeited for the remainder of the Player Turn unless used in PPF [EXC: MG's whose restricted CA is outside of the SFF shot, A9.21].
- MG/IFE are subject to Sustained Fire penalties (half FP, B# lowered by 2, no ROF, SMC firing MG is NA) [A9.3]
- SFF is NA if a Firelane has been laid in First Fire (barring TPBF, which cancels the Firelane anyway {97 Q&A}, unless the TPBF situation is against a BU CT AFV, in which case the Firelane does not have to be canceled {J1 Q&A})
- A unit gets ONE SFF attack, then it and its SW are marked with Final Fire, regardless of what got used in First Fire (its IFP or its SW) and regardless of whether ROF was retained. This is because a squad's Inherent FP cannot be split from its MG/IFE in (separate) SFF attacks.

* - Here, the MG is using SFF (and if included, the squad is using First Fire) and so technically the MG should be marked with Final Fire and the squad should be marked with First Fire. However, since the squad can't SFF again (it has already SFF'd once, with the MG), it is under all of the restrictions of Final Fire, so it really should be marked with Final Fire.

Fire Cheat Sheet

Firestarting

- Kindling Attempts (B25.11):** Any unpinned, Good Order Infantry stacked with a leader (or an SMC alone) may attempt to start a flame in Burnable Terrain during PFP; SMC NTC required. Treat as Prep Fire attempt. Leaders may direct more than one Kindling Attempt if they are all pre-designated. Final Kindling $DR \geq K\# = \text{Flame}$. See Kindling Table.
- WP:** WP can cause Fires if Environmental Conditions are Dry or Very Dry. Player who placed WP must make a $DR \geq \text{Kindling Number of the terrain during his MPh}$ (even if placed during that phase) in order to start a Flame in the WP hex. Normal EC DRM do NOT apply, but there is a -1 DRM if EC are Dry. A -2 DRM always applies to buildings. WP may not be used to burn vehicles or wrecks.
- HE/HEAT (inc DC):** After non-Rubble Original KIA, make Kindling DR & add EC DRM (if not bldg); $\geq K\# = \text{Flame}$. Ordnance attack vs. a vehicle cannot cause a Terrain Fire itself.
- FT:** If FT rolls Original K or KIA against unarmored target in Burnable Terrain, make DR (with EC DRM). If $DR \geq \text{Kindling \#}$, place Flame. Wreck Blaze possible.
- Wreck Blaze:** If vehicle is eliminated by FT or MOL $K <$ required Kill #, by a To Kill $DR \leq 1/2 \text{ Final TK\#}$, by IFT $DR \leq$ half of unarmored vehicle IFT #, by CC attack $DR \leq 1/2 \text{ highest DR needed for kill}$ (or possibly by Unlikely Kill). Place Blaze counter on Wreck; it can spread to Burnable Terrain in same Location; if it does so and becomes Blaze, remove Wreck counter. Wreck Blazes do not prohibit movement into Location, but does require the smoke MP/MF expenditure. See LOS/Hindrance section.
- MOL:** If Original colored dr of IFT $DR = 6$, a Flame is placed in thrower's Location. If Original colored dr of IFT $DR = 1$, Flame is placed in target Location. In both cases, Flame placed only if Location contains Burnable Terrain. There are other consequences and possible modifiers; see A22.611. In addition, any unit with a MOL may add $+2$ to a Kindling Attempt DR. Unlike other uses of MOL, this has no chance of breaking the using unit.
- Huts:** Flames can be created in Huts, even if Collapsed, by any Small Arms PBF/TBF, MOL, MG, IFE, DC or HE (EXC: HE Equivalency or a Collateral/Residual FP attack) vs. a hut location. It causes a Flame if Original colored dr = 1. Use Random Selection if a Flame result occurs and more than one hut Location could be affected. FT attacks vs. hut Locations automatically cause flame if Original Effects $DR < X\#$. For WP, make subsequent DR as per A24.32 even if EC are not Dry or Very Dry. When flames in huts become Blazes, the huts immediately Collapse. Once Rain has occurred, flames cannot be created in

Collapsed huts. Also, PF/Pfk/BAZ/PSK/RCL may be fired in a hut without using Case C³ TH DRM, and without Desperation Fire consequences (C13.81), but doing so automatically creates a Flame in the hut. Firing from a Collapsed hut causes neither Flame nor C13.81 consequences.

Kindling (B25.11)/Spreading (B25.6)	B25.5 Environmental Conditions (EC)
<ul style="list-style-type: none"> Must roll $\geq \text{Kindling \#}$ for Kindling. SMC NTC required. Must roll $\geq \text{Spread \#}$ for Spreading. (every AFPh). Each hex checks only once but with highest applicable DRM. 	EC EC DRM/drm Snow -3 (PTO na) Mud -3 Wet -2 Moist -1 Moderate 0 Dry +1 Very Dry +2 (PTO na)
7/8 Wooden Bldg (EC DRM NA)/Rubble	
8/9 Stone Bldg (EC DRM NA)/Rubble	
9/7 Woods	
9/6 Brush, Vineyards	
10/6 Grain	
11/9 Orchards, Olive Groves	
12/10 Cactus Patch	
12/12 Light Jungle	
12/12 Dense Jungle	
10/10 Bamboo (EC DRMx2)	
11/11 Palm Trees	
Wind Direction Spread	
6/7 Hut	Mild As Per Wind Direction Diagram (& Dispersed Smoke) Heavy Automatic Flame Spread Downwind to 3 adjacent hexes Gusts (DR 12) Flame spreads to adjacent hex; one Blaze spreads Flame two hexes (B25.651)
9/8 Kunai	
10/6 In-season Paddy	
8/9 Wooden Pier	Kindling DRM: Leadership $-x \text{ DRM}$; Fortified Bldg -1 DRM ; EC DRM; HS/Crew -1 ; SMC -2 ; MOL $+2$ Spreading DRM: To higher elevation $+1$; to lower elevation -1 ; not directly attached -2 ; to Fortified Bldg -1 ; EC DRM $+X$; Wind Direction if Mild $+Y$.
<ul style="list-style-type: none"> Kindling DRM: Leadership $-x \text{ DRM}$; Fortified Bldg -1 DRM; EC DRM; HS/Crew -1; SMC -2; MOL $+2$ Spreading DRM: To higher elevation $+1$; to lower elevation -1; not directly attached -2; to Fortified Bldg -1; EC DRM $+X$; Wind Direction if Mild $+Y$. 	

Flame Clearance

- Unpinned Good Order Inf. may attempt to extinguish a Flame in own Location during its MPH/DFPh as Hazardous movement if it has not already moved/fired/directed fire during that Player Turn. Becomes TI. Each Flame must be cleared separately with own DR, but all extinguishing units may try each Flame.
- Make DR. 1-2 Clears Flame. 3-6 Hampers Flame—prevents it from becoming a Blaze that turn (signify by placing under PIN counter). Blazes cannot be extinguished during play.
- **DRM:** Labor Status+*x*; Leadership +*y*; -1 for Clearance by 1 squad; each add. HS/crew (-2/each squad) beyond first MMC/Dozer -1; EC DRM +*z*; each Dozer -5.

Flame/Blaze Spread

- **Flame to Blaze:** A non-Hampered Flame may become Blaze in AFPh of every Player Turn (except one in which it first appears) by making Final DR \geq Spread # of terrain in its Location. If Final DR \leq 2, Flame is extinguished.
- **Blaze Spread:** Blazes spread to any adjacent Burnable Terrain Location at the end of each AFPh. Refer to Spreading Fire table. Each Burnable Terrain Location is subject to only one DR.
- **Heavy Winds:** If Wind Force is “Heavy Winds,” Blaze spreads automatically to Burnable Terrain in the 3 adjacent downwind hexes as a Flame, but cannot spread to 3 upwind hexes. Wreck Blaze would automatically spread to own location. Smoke has no effect during Heavy Winds.
- **Gusts:** For that Player Turn only, all Terrain Blazes to automatically spread to Burnable Terrain in direction of the Wind. In addition, at least one terrain Blaze will spread 2 hexes if possible; determine which one by Random Selection. Flame appears at ground level in new hex. Wreck Blazes automatically spread to own hex, and may possibly spread one more hex.
- **Building Collapse:** On Original Wind Change DR of 12, a bldg in which a Blaze exists (and all levels above it) will collapse (determine bldg by Random Selection).
- **Mud/Snow:** Fires spread to adjacent hexes only if connecting hexside crosses a bldg/woods/brush/grain/orchard (in season) symbol or by Gusts. During Ground/Deep Snow, will spread only if connecting hexside crosses a bldg/woods/brush symbol [EXC: brush NA in Deep Snow] or by Gusts.
- **Rubble:** For spreading Fire, rubble is considered “part of the same bldg” as any ADJACENT rubble. A bldg level containing a Blaze which rubbles and falls into Burnable Terrain immediately places a Blaze in that terrain. Any rubble which falls into a Blaze is automatically set ablaze. A Flame, however, is extinguished by Falling Rubble (regardless of whether it was falling or landed upon). **No attack that creates rubble can also create a Flame; rubble creation always takes precedence.**

Entrance/Exit

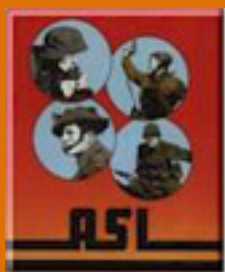
- Flames have no effect other than possibly becoming Blazes.
- Infantry in terrain Blaze must leave by end of next RtPh or be eliminated. Unbroken units can voluntarily break to rout out. Non-pinned units that can't voluntarily break may move into Accessible Location as if Withdrawing from Melee, even if berserk. **Units in Melee/Pinned may not leave during RtPh and are eliminated.** Vehicular/Cavalry units in terrain blaze must leave in next friendly MPH or be eliminated. Pillbox occupants are fully affected by any Blaze in ground level of hex. A Blaze in a cave/Cave Complex hex (which is outside the

LOS/Smoke

- **Hindrance:** Smoke creates a Hindrance DRM (+3 DRM for Terrain Blaze) in its Location, which is cumulative with normal TEM/LOS Hindrance effects. The total Hindrance DRM of smoke for any one Location can never be more than +3. Fire traced out of or within a smoke Location must add another +1 Hindrance DRM.
- **Height:** Smoke *in* a terrain/wreck Blaze hex is a 4-level LOS Hindrance (2-level in a mild breeze). Dispersed smoke emanating from a Blaze is a 2-level Hindrance.
- **Burning Wreck Hindrance:** Burning Wreck smoke Hindrance is a +2 DRM; it replaces normal Wreck Hindrance DRM except for already established Fire Lanes and in Heavy Winds, in which cases only Wreck Hindrance DRM would apply.
- **Drift:** During a mild breeze, smoke drifts from a Blaze location at the start of the game's first RPh and at the start of every AFph. Drifting smoke consists of dispersed smoke counters equal to Hindrance DRM of Blaze hex. When wind changes direction or force, remove drifting smoke counters immediately.

Fire & Victory

- A player forfeits to opponent Control of any Location/hex/building he has deliberately set on fire by Kindling, even if it spread there from elsewhere. If because of Fire deliberately Kindled, parts of playing area become unenterable, opponent immediately gains Control of all such Locations/hexes/buildings, even if area is unenterable partly by other causes too [EXC: if Fires started by both sides become joined], regardless of the presence of enemy units or other circumstances. Control may possibly be regained if Fire is extinguished.
- Players are not held responsible for Fires started randomly while firing, by burning wrecks, or Fires existing at start of play. If accidentally created Blazes create unenterable [by both sides] Locations, they are controlled by side controlling their hex; control of an unenterable building is gained by controlling all of its building hexes.

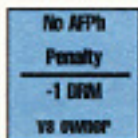


ASL First Fire

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Wednesday, April 28, 2004



"Your New Flamethrower"



Aaah, [flamethrowers](#), one of the most fearsome weapons of the Second World War, and in ASL as well. Flamethrowers (FT) are a wonderful weapon for both close-in city fighting or the complex terrain in PTO. They have the very useful trait of being immune to TEM effects, making them very valuable in the high-TEM terrain found on the city boards. The hardest part sometimes is simply getting them into position to use, due to the inherent vulnerability of a unit armed with one.

Who can use them? Any unit can, but only elite units can use them without the penalties for non-qualified use. Remember that SMC are generally considered elite and so may use these weapons

accordingly, although they are probably not ideal for such use. For non-elite units, the X# is reduced by two (or four if the weapon is also captured). With an already low X10 for FT, use by non-elite units is highly likely to result in a permanently disabled weapon, but in most scenarios containing FT you will be given appropriate elite units to go with them. Some players have advocated giving the FT to half-squads to limit the damage to your forces when that unit inevitably draws a large amount of fire. However, one Casualty Reduction will leave your FT unpossessed and lying in the open. A crew can be used (remember, all crews are also considered elite), which has the advantage of self-rally, but still is vulnerable to Casualty Reduction. A squad then may be the best choice, as one bad roll is less likely to take your FT out of action before

even being fired.

How are they fired? Simple enough, they have a FP of 24 at one hex range, and 12 FP at two hexes, and cannot be fired beyond 2 hex range (although some vehicle-mounted FT have a normal range of 2 hexes and can fire as Long Range fire out to 3 hexes). They have two very important characteristics which make them quite different from other support weapons. First, fire during the AFPh is not halved as Area Fire, even if the unit has moved during that turn. Other forms of Area Fire do apply however (e.g., halving the FP for firing against a concealed target). The other big difference with FT is that there is no DRM for TEM. Hindrances do still apply, which with the limited range of FT mostly means the effects of smoke (since smoke applies as a Hindrance whether present in the firer's hex, the target hex, or anywhere in between). Obviously though that stone building is no longer quite as secure a defensive position as it would otherwise be, one of the reasons why flamethrowers are nice to have in the big city, and a huge potential threat to the defensive player.

What are the hazards of flamethrowers? Aside from the fact that a unit carrying a flamethrower will be a magnet for the opposing player's bullets, the flamethrower makes the unit more vulnerable to that fire by applying a -1 DRM to all attacks against it.

So how do you make best use of a flamethrower? Here's the problem. The FT's short range (along with the -1 DRM for attacks against the carrying unit) is its greatest drawback. There's no possibility of a standoff attack here. The firing unit has to get to one or two hex range to make use of the weapon, and it's getting to that point that is the hard part. The FT-equipped unit will likely attract as much fire as the opponent can muster, particularly as it closes in on a critical location (such as a victory location or a fortified building). To use the FT at full FP, the unit has to be adjacent to its target, which obviously makes it even more vulnerable to return fire. This is another reason why a city is a great place to use these, since it provides enough cover to get close to the target. However, what do you do if you have to cross some open ground (such as a street) to get to the target? And how do you use this might weapon to greatest effect?

One thing to keep in mind is that the FT is a very disruptive weapon even without ever firing. Once your opponent knows where it is, he will concentrate his troops and firepower to protect his own forces and his critical locations from the flames, or move units accordingly to keep them out of harm's way. The FT's presence alone may be enough to disrupt his otherwise well-planned defense, or at least divert part of that defense from another critical point.

If you do have to get in close and use the FT though, there are several ways to accomplish this task, using tactics that are helpful in many situations. Say you have to cross a street with your FT-toting unit but a MG-laden enemy squad is covering that street, skillfully placed so as to lay fire down the length of the boulevard. One option is to use half-squads (deploy as much as possible). Run a half-squad or two at his strongpoint. If he shoots at them, you may lose those units, but you will have limited his further defensive fire options for that turn. If your unit survives, then his SFF options will likely be limited by the presence of that half-squad (see A8.3 for the range limitations on SFF). For instance, if the surviving half-squad is closer to the enemy MG than where your unit with the FT wishes to cross the street, it will be immune to SFF from that MG. If your opponent is wise, he will hold his fire against those initial half-squads. However, by doing so he allows those units to close with his strongpoint, putting it under greater threat. Meanwhile, if he ignores too many units, he will have defeated the purpose of placing that MG in that location in the first place by letting too many units pass unmolested. (Another thing he could do is lay a Fire Lane down the street if your half-squad scouts approach from that angle, but at least this reduces the effectiveness of the fire he could direct at your FT unit.)

This may be effective in taking care of peripheral units, but does nothing for the defending units your FT unit is gunning (flaming?) for. Again, moving up adjacent to them will invite point blank fire, and drawing their fire with other units won't necessarily help because of both SFF and FPF possibilities if you try to move your important unit adjacent to the target location. One option here is to stay at two hex range which at least avoids the point blank fire modification for defensive fire. Your subsequent attack will be halved to 12 FP, but this is still a pretty good shot to take since no TEM will apply (a 12 FP attack with no DRM has an 83% chance of at least a NMC). If you simply must move to point blank range, then you can try distracting him with other units first to draw fire (as described above), which means his attacks against you will at best be normal firepower (halved for area fire and doubled for point blank fire) as SFF or FPF. Another option is to throw smoke grenades from other units (or even the FT unit). This will get your FT unit out in the street and adjacent with the protection from the smoke to limit the damage from any defensive fire. Also, the smoke will dissipate before the AFPh allowing you to fire (assuming you survived) at full 24 FP strength with no hindrance modifiers.

Ultimately, though, the best way to protect your FT is to mount it on an AFV. The -1 vulnerability DRM for a FT-equipped unit does not apply to PRC of a vehicle with a FT. Some vehicular FT have a normal range of 2 (with a Long Range of 3 hexes).

FT are great weapons, but can be hard to get into position to use effectively. Remember that the threat of the FT is sometimes worth enough by itself to significantly affect your opponent's tactics, so don't throw them away needlessly by taking unnecessary risks with the carrying unit or firing them against low-yield targets at the risk of permanently disabling the weapon. And if you are lucky enough to be given a vehicular FT, it's time to play a little "Crocodile Rock" for your opponent. Enjoy.

posted by peter @ 6:05 PM / [Comments](#)



First Fire Articles

- "Your New Flamethrower" - *How to use these fearsome weapons*
- OOTW - The ASL Starter Kit - *Review of Introductory ASL*
- Storage Solutions - *How to store all those counters*
- Wall Advantage (pdf) - *Hedgerows, Part 1*
- Bocage (pdf) - *Hedgerows, Part 2*

The Germans in ASL

Class	Squad	Broken Morale	Half Squad	Broken Morale	ELR Progression	Notes
E (SS)	6 ² -5-8	9	3-4-8	8	ELR= 2 broken half squads	1. Disrupt/RtPh-Surrender NA vs. Russians (A15.5); may Massacre (A20.4); Squad Assault Fire 1944+ (A25.11) 2. Weapons/AFVs have +1 to Depletion #s because Elite (A25.11; C8.2).
E	8 ³ -3-8	8 (SS 9)	3-3-8	7	ELR= 2 broken half squads	8-3-8 have ELR 5 regardless of ELR of other MMC. However, only considered Assault Engineers by SSR (A25.12).
E	4 ² -6-8	8 (SS 9)	2-4-8	7	4 ¹ -6-7 > 4-4-7 > 4-3-6	
E	5 ² -4-8	8 (SS 9)	2-3-8	7	4-4-7 > 4-3-6	
1	4 ¹ -6-7	7	2-4-7	6	4-4-7 > 4-3-6	
2	4-4-7	7	2-3-7	6	4-3-6	
C	4-3-6	5	2-3-6	4	Disrupted	1. Lax (A11.18). 2. MF 3 (EXC: mounting/dismounting). 3. SW Breakdown # reduced by 1. 4. Covers 2 columns. 5. Must take IPAATC; -1 to CCV; -1 DRM to CC Capture attempts against.

APCR Gun Size	1941	1942	1943	1944	1945
50L	A5	A6	A5	A4	—
37L, 47L, 50, 88L	A4	A5	A4	A3	—
75L, 76L	—	A5	A4	A3	—

H1.531 AIR SUPPORT AVAILABILITY TABLE						
Year	1939-40	1941	1942	1943	1944	1945
Avail #	7 ⁵	6 ⁵	5 ⁴	4 ³	3 ³	2 ³

In pre-1944 scenario, if German player rolls < exponent, he receives 1 or more Stuka Dive Bombers; if he rolls = exponent, he receives 1 or more FB.
*Air Support Availability Number vs. Russians is one higher.

German OBA:
Black #s, 8B/3R
Radio Contact # 8; Phone # 11.

HEAT HE Equivalency
PSK/Pfk: 12
H# [9]: 12 (German 37mm AT/AA guns)
PF: 16
(only PSK can leave Residual FP)

HOB DRM: 0
Leader Creation drm (A18.2): -1
Night: Pre-1943 German MMC are Lax.
Extreme Winter: Before April 1942, any Original Rally DR ≥ 11 (when unit is not in building/pillbox) suffers Casualty Reduction. Also, B#/X# of all ordnance/SW (EXC: DC) -2.
SS: Disrupt/RtPh-Surrender NA vs Russians (A15.5); may Massacre (A20.4); Squad Assault Fire 1944+ (A25.11)
PF Inherent: 10/43+ (7-9/43 by SSR; C13.3)
ATMM Inherent: 1944+ (C13.7)
Smoke Grenades: Smoke
MMG: German dismantled MMG/HMG may fire as LMG.

PF/Pfk/PSK Chart (C13)					
Type	PF (C13.3)			Pfk ⁵ (C13.3)	PSK (C13.48)
Range	10/43+	6/44+	45		
0	10	10	10	10	11
1	8	8	8	8	9
2	NA	6	6	NA	8
3	NA	NA	4	NA	7
4	NA	NA	NA	NA	4
TK	31	31	31	22	26
HE equiv	16 ^{1,3,4}	16 ^{1,3,4}	16 ^{1,3,4}	12 ^{1,3,4}	12 ³
Backblast	Y	Y	Y	Y	Y
Leader	Y ⁶	Y ⁶	Y ⁶	Y ⁶	Y
Notes	2, 7	2, 7	2, 7	2, 7	7

ATMM C13.7, SSR RB13			
Available to 1944-45 Germans, RB Elite German Inf.			
dr	Result	drm	Condition
1-3	Succeeds, -3 CC DRM	+2	SMC (not TH-Hero)
4-5	No ATMM	+1	HS/Crew
6	No ATMM, unit Pinned	+1	CX
		+1	Vs. non-armored vehicle

RB Elite Inf succeed only on dr 1; no drm apply. CCV lowered by 1 for Pinned units.

PF/Pfk Availability Final dr	Result
≤ 3	Successful
4-5	No effect
6	Pinned

PF/Pfk Availability dr Modifiers	Result
+1	Date is 8/43-9/43 (Pfk only)
-1	Date is 1945
+1	Target not AFV
+1	CX firer
+1	Firer is HS/Crew
+2	Firer is SMC

Vehicles
ESB DRM: German +2, Czech(t) 0
Mechanical Reliability (Red MP): Start DR 12 = Immobilization. All Axis vehicles (EXC: Motorcycles) in North African scenarios prior to October 1941 are assumed to have Red MP allotments (even wheeled vehicles).
Extreme Winter (E3.744): In scenarios prior to April 1942, for each motorized vehicle set up onboard and not in motion, must make a dr before vehicle expends 1st Start MP. On a 6, it is immobilized.
sN/Nahverteidigungswaffe (July '44+; A11.622): Can be used in CPh after it or its Escort has been attacked (EXC: if it ambushes the enemy). Makes 16 FP HE attack on IFT (AFV must be BU) on all unarmored units in Location (including friendly). Cannot combine with other FP. If IFT DR > Usage #, then no effect (see D13.34). TEM/SMOKE/LOS Hindrances are NA.
sN as vehicular smoke dispenser: Must be BU (but still has +1 DRM for BU status). Places white dispersed smoke at Base Level of AFV's own hex (EXC: use during CC).
Sz/Schuerzen (March 43+; D11.2): Only by SSR. Any HEAT round (including all SCW) hitting a Target Facing protected by Sz causes x2 of lower dr on To Kill DR. Turreted Sz AFVs have them on hull sides and turret sides and rear. NT Sz AFVs have them on sides of hull and superstructure. LOSS: automatically lost if AFV enters rubble/building/woods (EXC: trailbreak, road hexside).

PF/Pfk: Any unbroken German Infantry unit. Inherent capability—must make dr to use; see chart. **Original 6 dr pins firer (even Heroic, Beserk) or breaks firer already pinned (Casualty Reduction if Heroic, Berserk).** Total # PF/Pfk available depends on date: pre-1944 = # of squads in OB; 1944 = 1 1/2x # of squads in OB; 1945 = 2x # of squads in OB. NA as Subsequent First Fire or Final Protective Fire. Attempts to fire PF/Pfk counts as use of a SW; thus a squad may attempt to fire a second PF if it has not yet fired its inherent FP (but would thus lose its inherent FP because it fired two SW). If a dr results in availability, PF/Pfk **must** be fired.

PF/Pfk/PSK NOTES:

- Cannot leave Residual FP.
- Original TH DR 12 (≥ 11 for Inexperienced Infantry) results in Casualty Reduction for firer.
- HEAT may only be fired at vehicle/Gun or at Inf/Cav receiving a wall/roadblock/bldg/rubble/pillbox TEM.
- Barring Random Selection ties, only 1 Inf/Cav unit is affected if fired at a non-vehicle. Firer may choose unit to be affected if Known and manning a SW/Gun.
- Available 8/43+, by SSR only.
- A leader stacked with a PF firer may apply leadership DRM to the TH DR of one PF, but this would be his sole fire direction for that phase.
- Backblast/Desperation Penalty (C13.8): Units firing PF/Pfk/PSK from inside vehicle, rubble, pillbox, cave, sewer, or building (EXC: factory, rooftop) hex must take Desperation Penalty due to the backblast. All occupants in firing Location undergo attack on the **1 FP column** of the IFT **using only the colored dr of that TH DR. No DRM apply.** If unpinned firing unit is in ground-level rubble or ground floor of a bldg (ONLY), unit may avoid penalty by 1) using Opportunity Fire or 2) applying the Case C3 +2 To Hit DRM.

GLIDER LANDING CHART (E. 8)

	PP	Model	Gun / Vehicle	
German	14	DFS230	no % counter	All SW/Guns dm if possible
U.S.	19	Waco CG-4A	Vehicle note 51 (LVT4)	
British	29	Horsa II	Vehicle note 51 (LVT4)	

<p>MPh → Gliders placed on board Facing Wind Direction on Avenue of Approach to the ILH (Intended Landed Hex) Hex Grain different of Paratroopers in same phase</p>	
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	<p>DFP → (From light AA E7.5; E7.511) Change to AA mode (AAMG free) is a CA position.</p> <p>Not from building, pillbox, blind hex. Only DFP (marked w/ Prep Fire) Use IFT DR ★ Vehicle Kill Number DR=★ → Damaged & Evasive Action DR=★+1 → Evasive Action Damaged = (Wound counter) → 2nd Damaged = Eliminated</p>	 	
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<p>Evasive Action → Location Random DR Color dr → direction Maintain Avenue of Approach direction White dr → distance Approach direction</p>	
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<p>Landing (Δ) DR Flip Glider on Green side</p>	<p>Colored dr ≤ 1 → lands in ILH Colored dr > 1 → miss ILH by dr-1 hexes</p> <p>White dr ≤ 3 miss large White dr ≥ 4 miss short</p>
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<p style="text-align: center;">Landing colored drm</p> <p>-1 Per each consecutive hex along the avenue of Approach that is clear of an Obstacle whose topmost height is ≥ one level higher than the Base Level of the ILH. There can be no such Obstacle between the ILH and any of the non-Obstacle hexes for which a drm is claimed. Half-Level Obstacles and SMOKE do not apply</p> <p>+1 Per each full level above the Base Level of the ILH of the highest Obstacle that is within the Avenue of Approach.</p>	<p style="text-align: center;">-1 drm x 1 consecutive no +1 higher hex Highest obstacle over ILH Bldg:+2; Woods:+1 = +2 drm drm= -1 (no higher ILH hex consecutive) +2 (higher obstacle over ILH) = +1 drm (colored)</p>
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<p>Offboard Landing (Use reverse terrain E9.41 for landing drm) Moving Offboard → 1 Hex x MPh (Aph only to enter in board)</p>	
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<p>CRASH dr</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Final dr</th> <th style="width: 65%;">Condition</th> <th style="width: 20%;"></th> </tr> <tr> <td style="text-align: center;">≤ 6</td> <td>Avoid crash</td> <td></td> </tr> <tr> <td style="text-align: center;">= 7</td> <td>Damaged</td> <td style="text-align: center;"> </td> </tr> <tr> <td style="text-align: center;">≥ 8</td> <td>Eliminated (Truck Wreck).</td> <td style="text-align: center;"> </td> </tr> </table>	Final dr	Condition		≤ 6	Avoid crash		= 7	Damaged		≥ 8	Eliminated (Truck Wreck).		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 10%;">drm</th> <th style="width: 90%;">Condition</th> </tr> <tr> <td style="text-align: center;">+1</td> <td> <ul style="list-style-type: none"> ○ Not landing in final ILH ○ Glider is damaged ○ Night landings ○ Landing during Gusts ○ Landing on Shellholes, trench, hedge, marsh, fordable river, sangar, cactus hedge, huts, rice paddy (if landing across a bank hexside), panji (if landing across a Covered hexside), vineyard, Crest Line or Location that contains a vehicle/wreck/previously-landed glider. </td> </tr> <tr> <td style="text-align: center;">+2</td> <td>Landing in orchard, stone wall, graveyard, bocage, Depression, roadblock, cactus patch, olive grove, palm trees</td> </tr> <tr> <td style="text-align: center;">+3</td> <td>Landing in woods, building/rubble, bridge, crag, cliff, jungle, bamboo, or in a Blind Hex* as determined by the avenue of Approach (* Bocage not create blind hex in this rule).</td> </tr> <tr> <td style="text-align: center;">+4</td> <td>Landing in a Swamp Blaze, Water obstacle no fordable → ELIMINATION</td> </tr> </table>	drm	Condition	+1	<ul style="list-style-type: none"> ○ Not landing in final ILH ○ Glider is damaged ○ Night landings ○ Landing during Gusts ○ Landing on Shellholes, trench, hedge, marsh, fordable river, sangar, cactus hedge, huts, rice paddy (if landing across a bank hexside), panji (if landing across a Covered hexside), vineyard, Crest Line or Location that contains a vehicle/wreck/previously-landed glider. 	+2	Landing in orchard, stone wall, graveyard, bocage, Depression, roadblock, cactus patch, olive grove, palm trees	+3	Landing in woods, building/rubble, bridge, crag, cliff, jungle, bamboo, or in a Blind Hex* as determined by the avenue of Approach (* Bocage not create blind hex in this rule).	+4	Landing in a Swamp Blaze, Water obstacle no fordable → ELIMINATION
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<p>DFPh → Use IFT DR ★ Vehicle Kill Number 0 size cs#7 Glider Hdrance (no TEM)</p>	
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<p>AFPh/CCPh → Infantry on board Vehicle/Gun → Removed next MPh</p>	<p>Damaged Glider → Casualty Reduction (random) and Passengers NMC All SW Malfunction Vehicle bogged</p>	
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Goliath (H93) Cheat Sheet

- **Errata:** Counter should have three white stars on the Limbered side.
- **Stacking:** For stacking purposes, a Goliath is considered a SW (A5.4).
- **Towing:** Towable by any vehicle w/ $T\# \leq 11$. To be (un)hooked, must be (un)limbered as a non-QSU Gun.
- **Remote Control:** Can move under own power by remote control. Controller can only be its unpinned, Good Order, associated HS (in DYO, Goliath's BPV includes a 3-3-8 HS). To be controlled, Goliath must start MPh in LOS of controller. Control is considered use of a SW; it does not cause loss of concealment/HIP, but if controller becomes pinned/broken/BU, Goliath must immediately stop and cannot be detonated until controller free of condition. If controller becomes berserk/captured/eliminated, Goliath is immediately eliminated. A controller cannot move in same MPh as Goliath moves; however, he can advance.
- **Range/LOS:** Goliath has range of 16 hexes while unlimbered. If for any reason, range becomes greater, Goliath is immediately eliminated. If Goliath enters hex to which LOS from controller is Hindered, must undergo a Bog DR with all applicable modifiers. Bugged Goliath treated like any other Bugged vehicle. If Goliath moves out of controller's LOS, must also take Bog DR; if it fails, it is immediately eliminated. If it passes, it can continue to move, but if the next hex it enters is also not in controller's LOS, it is immediately eliminated.
- **Movement:** Treated like fully-tracked AFV for movement purposes (EXC: no MP for VCA change; immediately eliminated if it enters a non-dry stream; can enter a wire/rubble hex or cross a wall/roadblock/hedge/bocage hexside, but is immobilized when it does so). Cannot carry PRC/PP or make OVR.

Goliath (H93) Cheat Sheet

- **Attacks:** Goliath attacks as (and may attack the same targets) as a Placed DC, but with 36 FP.
- **AFPh:** Can be detonated in a friendly AFPh, but only if its controller can use a SW, is unpinned/non-BU/Good Order, and has a LOS to both the Goliath and ≥ 1 enemy unit/bridge that can be affected.
- **Other Fire Phases:** A Goliath can be detonated at any time during another friendly fire phase, as long as above conditions are met. This includes a +2 Effects DRM, regardless of whether or not Goliath or target are moving/in Motion.
- **CC Phase:** CC vs. a Goliath is always sequential. Goliath can attack in CCPh (in its sequential order) by its controller detonating it (above +2 DRM does not apply). A Goliath cannot be captured in CC.
- **Detonation:** If Goliath becomes a Burning Wreck or is detonated, it explodes as a 36 FP Placed DC attack (EXC: has X11, as per A23.4) vs. all unarmored units in hex, and a 16FP DC attack vs. such units in each hex adjacent to it. The same effects DR is used to resolve all attacks.
- **Positioning:** Placement is at same level as Goliath; treat as Successfully Positioned (C7.346) vs. the weakest rear AF of each AFV in Goliath's hex. If the designated target in hex is a single stopped AFV, can treat as Optimally Positioned (C7.346). Treat as Poorly Positioned vs. any AFV in the adjacent hexes, using Target Facing that AFV presents to Goliath's hex. A Goliath can affect a Fortification counter (or minefield; uses B28.62) only if in same hex with it.
- **Defense:** Always treated as unarmored vehicle. If it becomes a burning wreck, it instead automatically detonates. However, the term "immediately eliminated" in ASL rules implies removal from play before any chance to detonate Goliath. A Goliath detonated by Defensive First Fire does not leave Residual FP.

Terrain	Halftrack MP Cost	Terrain	Halftrack MP Cost	Terrain	Halftrack MP Cost
Open Ground	1	Water Obstacle	NA	Kunai	2
Road	1/2 [BU: 1]	Stream/Woods	M [4 if IN Stream]	Swamp	NA
Woods/Pine Woods	All Bog R	Stream/Brush	6 [4 if IN Stream]	Cactus Hedge	W
Wall	NA	Stream/Orchard	5 [4 if IN Stream]	Vineyard	2 Bog R
Hedge	2 + COT Bog	Crag	NA	Cactus Patch	3 R
Brush	2	Graveyard	NA [1 via g-y road]	Olive Grove	2 R
Orchard	1 R	Valley	DOT	Desert Open Ground	1 bb 1 R
Wooden Building	NA	Cliff	NA	Scrub	3 bb R
Stone Building	NA	Sunken Road	NA R D	Hammada	3 1 R
Marsh	NA	Elevated Road	5 R D	Deir	DOT bb 1 h
Grain	1	GL Railroad	2 [1+COT crossing non-RR hexside]	Wadi	3+COT bb R
Hill	DOT H	Em Railroad	2 Z D [2+COT crossing non-RR hexside]	Hillock	DOT bb 1 L
Bocage	NA	El Railroad	2 Z D O [5+COT, +1 Bog crossing non-RR hexside]	Sand	3+COT b R (Wet/Mud EC: 1 less)
Shellholes	COT	Su Railroad	2 S [NA crossing non-RR hexside]	Dune Crest	1 + COT
Rubble	NA	Tower	NA	Sangar	COT (x2 if accessible trench present; F8.5)
Entrenchment [Trench]	COT [NA]	RB Debris	NA	Track	T
Minefield	COT	RB Factory	NA	Broken Ground	2 b R
Roadblock	NA	Culvert	NA	Slope Hexside	1+COT for Upslope
Pillbox	COT	RB Storage Tank	VBM Only	Barbed Wire Fence	Bog (+1 Bog DR)
Fire (Blaze)	NA	RB Railway Embankment	1 + COT	Narrow Street	1/2 VBM Cost
Wire	4 & COT Bog	Light Jungle	All Bog	Irrigation Ditch	3+COT Bog
Wreck	DOT +1/veh [+2 by road]	Dense Jungle	NA	Partial Orchard	As Orchard or Open Ground, as per hexside entered
Bridge	NA R D	Bamboo	NA	Irrigation Ditch/Partial Orchard	4 Bog
Runway	1 R	Palms	1	Stream/Partial Orchard	Via Stream: normal Stream cost Via Orchard: cumulative
Sewer	NA	Hut	2		

Notes

Bog: Requires Bog DR to enter or change VCA within.

R: or per road cost if through Road/Runway, or track cost if through track, hexside.

D: MP penalties if changing VCA or hex contains wreck/vehicle are doubled.

W: Entry as per wall/hedge.

DOT: Dependent on Other Terrain in Hex.

H: Add 4 MP for each full level higher elevation entered (EXC: via road add 2 MP).

COT: Cost of Terrain.

BB: Requires Bog DR to exit via non-depression hexside.

M: Minimum Move Required.

bb: May require Sand Bog DR if Accessible to Sand; F7.31.

I: Hammada Immobilization DR required unless on road or track; F3.31.

h: 1 MP + COT if leaving deir hex via Lip hexside; otherwise cost is COT (usually OG).

L: 1 MP + COT if entering a higher elevation; otherwise cost is COT (usually OG).

b: Requires Sand Bog DR to enter/change VCA within unless on road or track.

T: If crossing Track hexside, reduce *total* MP cost by 1 before adding any Weather/Towing/Convoy/SMOKE/Dust cost; F9.1.

Z: +1MP if entering a half-level higher elevation.

O: One-Lane Bridge rules (6.4-6.431) apply [EXC: VCA not restricted] when crossing RR hexside.

S: Sunken Lane rules apply (4.43).

Halftrack Cheat Sheet

Armor Status: *Passengers can be either BU or CE.*

1. **BU:** If BU, they share AFV's invulnerability to Small Arms Fire. May not be attacked separately from vehicle unless firer has elevation advantage > the range to the halftrack (in which case +2 CE DRM applies, but reduced by 1 per full level elevation adv > range; if so, either CE or BU passengers may fire back). BU passengers may not fire (EXC: see above), Spot/Observe, attack in CC, provide Personnel Escort DRM. Broken/shocked Passengers are automatically BU.
2. **CE:** Entitled to +2 CE DRM. Not subject to Stun; instead, become BU (and broken if they fail a MC). Must be CE to fire (EXC: see above), direct attacks, attack in CC, or Spot/Observe.

In and Out

1. **#PP:** Squad 10 PP, HS/Crew 5 PP, ≤ 4 SMC 0 PP.
2. **Abandonment:** Crew can abandon by expending all MF; vehicle/crew may not have moved/fired. Considered Infantry & subject to FFNAM.
3. **SW Removal:** Crew abandoning halftrack may remove weapons (placed appropriate Disabled counters on vehicle). SW must be dm if possible. **MG takes form of MG counter ≤ FP as available to vehicle.** Passengers, if allowed by particular vehicle notes, may remove SW as part of normal unloading cost. *Scrounged (as opposed to Removed) MG are represented by LMG of halftrack's nationality (British LMG for U.S., Free French); see D10.5.*
4. **Loading (D6.4):** Halftrack must be stopped, may not move in MPH prior to loading. Costs 1 MF to board (only during MPH, not APH), plus 1/4 halftrack's MP. Unloading costs 1/4 MP for halftrack and 1 MF for unit (considered to have spent 1 MF for every 1/4 MP spent by halftrack). May leave halftrack that fired earlier in turn, but cannot leave halftrack's location that phase. FFNAM applies for loading/unloading. Can unload in enemy occupied hex (place CC counter). Units that fire or add FP to OVR may not unload.
5. **Riders:** Only 1 SMC and its 2 PP. See D6.2 for rules on Riders.
6. **Broken:** Passengers may remain in halftrack even if broken (even if enemy units are ADJACENT, in the same hex, or vehicle is moving towards an enemy unit), or may rout beneath a Stopped vehicle per D5.311. If inherent crew is eliminated, breaks, or abandons the vehicle, broken Passengers must rout beneath the vehicle.

Leaders

1. See #3 under Firing for leader direction.
2. CE Passenger leader may provide a leader MF bonus to Infantry if they all move as a stack throughout their MPH.
3. Passenger leader can only affect Rally/MC/TC of other Passengers in same vehicle unless he is CE in a halftrack that has not entered a new hex/hexside or been in Motion. Armor Leader can affect only inherent crew. Non-Passenger leader in hex may only affect Passengers of non-moving vehicle (CE status doesn't matter).

Combat

1. **FP (Passengers):** FP not halved for Mounted Fire for *armored* halftracks. It is halved for Bounding(First) Fire/Motion.
2. **SW:** Passengers can only use LMG, PIAT, and Thrown DC. EXC: Desperation attacks by SCW/RCL per C13.8-13.81. PRC may not Recover SW not already in their halftrack, but they may transfer SW to other Inf/Cav in same Location or other PRC on same halftrack. Otherwise, SW must be Recovered by Infantry and loaded as Infantry loads—cannot be loaded onto halftrack by themselves. However, SW can be left alone in halftrack by themselves.
3. **Leaders:** Either Armor Leader or leader Passenger can direct a fire-group consisting of its CE halftrack and Passengers/Infantry/Cavalry. Passenger leader must be CE to direct fire; may not direct fire of other units in hex if that halftrack has entered a new hex/hexside or been in Motion during that phase. Passenger leader may not direct the halftrack alone. Armor Leader cannot direct Passengers/others separately—only

if their FP is added to halftrack's FP. Armor Leader/Passenger Leader can either direct an OVR.

4. **FG, Halftrack:** Halftracks (not just Passengers/Riders) can be part of a multi-unit FG. Each must be CE and using vehicular-mounted non-ordnance weapons (EXC: FT, IFE). Such a FG must be composed only of Halftracks, Carriers, Infantry, and/or Cavalry. This can include CE halftrack Passengers.
5. **FG, Halftrack Passenger:** Passengers can be part of a FG composed only of other Passengers/vehicular-mounted non-ordnance weapons, and only if all elements are on the same vehicle.
6. **VR:** CE armored halftrack Passengers can add 1/2 of their printed FP to an OVR (this is subject to TPBF).
7. **Close Combat:** AFVs may attack in CC with CE Passengers in a half-track (can combine with other applicable attacks or be resolved alone); can be halved due to Motion.

Miscellaneous

1. **DM:** Broken Passengers are DM'd by any ordnance hit or by any attack against halftrack or PRC capable of possibly inflicting an NMC on a hypothetical CE target (even though such fire is not normally effective vs. a BU target).
2. **Unarmored halftracks:** Both vehicle and Passengers are subject to all forms of attack (always Vulnerable). Passengers halved for Mounted Fire.

Special Halftracks

German.

1. **SPW 250/sMG & 251/sMG (entry 58).** Has inherent crew and 2-4-7 HS as passenger. Has 7 FP CMG removable as LMG & a 3 FP AAMG removable (by crew or passenger) as a dm HMG. Both may be Scrounged, but only as LMG.
2. **SPW 250/7 & 251/2 (entry 59).** Manned by 2-2-8 Inf. crew. Has onboard 81mm MTR, removable dm (leaves inherent driver).
3. **SPW 251/10 (entry 65).** Carries ATR or (9/43+) a PSK; inherent crew may fire either LATW or normal armament. Can be Removed by crew or Passenger, or Scrounged.

U.S.

1. **M3 (entry 28).** MA removable as MMG.
2. **M3A1 (entry 29).** Removable latest model BAZ. Inherent crew may fire either BAZ (per C13.8-13.81) or normal armament. May be Removed by crew or Passenger, or Scrounged.
3. **M3(MMG) & M3(HMG) (entry 30).** Starts each scenario with inherent crew and a 6-6-6 squad (or that squad's two HS; owner's option) as a Passenger. Very complicated MG; see Entry, plus Veh. Notes E & H.
4. **M4 MC (entry 31), M4A1 MC (entry 32), M21 MC (entry 33).** Manned by 2-2-7 Infantry crew. Mortar removable dm; halftrack retains inherent driver. AAMG is .50 cal HMG if 4 or 6 FP or MMG if 2 FP, and may be Removed as such.
5. **T30 HMC (entry 35), T19 HMC (entry 36).** AAMG is .50 cal HMG if 4 or 6 FP or MMG if 2 FP, and may be Removed as such.

British

1. **White (a) Scout Car (entry 69).** Vehicle can retain any unpossessed SW aboard it. Its Passengers' FP is not subject to halving for Mounted Fire.

Free French

1. **U.S. Halftracks (entry 47).**
 - M5A1 halftracks carry a BAZ 44(a) (regardless of date). Otherwise, treat like U.S. M3A1 halftrack.
 - M9 halftrack's MG armament treated like that of M2.
 - M5(MMG) and M5(HMG) have 4-5-8 at-start Passenger squad (or 2 HS; owner's option). Otherwise, treated like U.S. M3 (MMG) and M3(HMG).
 - M21/M4A1 MC halftracks have Inherent infantry crew (2-2-8).

Polish/Belgian

1. **CK P17(f) & P19(f) (entry 35).** In addition to normal 10% deployment, owning player may freely Deploy # squads sufficient to provide one Passenger HS for each CK/P19 in his OB, excluding vehicles that will set up towing a gun or carrying a crew. These HS may Recombine as if they were Carrier HS.

HUTS

Single Story Wooden house with \geq two building depictions but no partial building depictions

Non-Collapsed Hut:

- One-level +1 LOS *Hindrance* like an out-of-season orchard (but only if the LOS crosses $>$ one building depiction in that hex)
- +1 TEM (non-collapsed only)
- Not a Heat target

Collapse

- AFV enters (not VBM) hut location. AFV may set up in a hut, but that hut will immediately Collapse if the AFV exits it or changes any CA.
- KIA caused by DC or HE attack
- Becomes Blazing (G5.6)
- Glider entry.

Effects of Collapse

- Every occupying Infantry unit (and any AFV crew that caused the collapse) must take a separate PTC (A)
- (All units assumed to have a morale of 8, CT AFV crew get -1 DRM)
- No longer has any TEM
- Normal +1 hindrance across the building depiction(s) [hence it is NOT open ground]
- Does not Hinder LOS/LOF to a unit Bypassing in that hut's Location if the viewing/firing unit's elevation is $>$ that of the Bypassing unit and that LOS/LOF does not lie along a continuous slope.
- Non-tracked vehicle must check for bog
- Only wire/minelfields or panjis fortifications
- Concealment Terrain for Infantry, Dummy stacks and Emplaced Guns.
- Still counts toward hut/building Control Victory Conditions

Creating a Flame in a Hut Location:

- Any small Arms PBF/TPBF (even if only one unit of multihex FG) if colored dr = 1
- MOL, MG, IFE, DC or non-AP equivalency HE attack vs. any hut Location if the Original colored dr of its Effects DR is a 1.
- A FT attack if its Original Effects DR is $<$ FT X#.
- WP is placed in any hut Location, make a subsequent DR as per A24.32 (using the applicable DRM listed therein) even if EC are not Dry or Very Dry.
- PF/PFk/BAZ/PSK/RCL fired from inside a *non-Collapsed* hut. [Note Case C3 TH BACKBLAST DRM never applies to this shot]
- However, once rain has occurred, Flame creation as per G5.6 no longer applies to Collapsed huts.

ISQA (IFP & SW Attacks QRC)

Attacker / SW type	General	Terrain	PFPh	By Moving	DFP	SFF	FPF	DFPh	AFP	CCPh
<i>Specific for All:</i>	IF	bCcFFMpRSw							½⊗	
Truck Passenger (D6)	⊗½ (D6.1)	LP	•	∞/⊗/⊗T	•	½	½	•	½⊗	•
HT Passenger (D6)	⊗ (D6.63)	LP	•	∞/⊗/⊗T	•	½	½	•	½⊗	•
Rider (D6)	⊗½ (D6.22)	LP	•	∞/⊗	•	½	½	•	½⊗	±1 DRM
Cavalry (A13)	½⊗ (MOL, ⊗T)		•	∞	•	½	½	•	½	½ is NA
Berserk (A15.4)	never GO		na	na	•	½	½	•	½	•
Inherent FP (A1.21)		CcpR	•	na	•	½	½	•	½⊗	•
LMG (A9)	∇↔▪	CcpR	•	na	⊥	½	½	•	½⊗⊗	na
MMG / HMG (A9)	∇↔⊗▪	BCDG	⊕	na	⊕⊥	½⊕	½	⊕	½⊗⊗%⊕	na
Light Mortar (C9.2)	ATT⊗†	BDG	⊕⊕	na	⊕⊕	na	na	⊕⊕	%⊗⊕⊕	na
FT (A22) †	⊗Δ7⊗	cpR	•	na	•	na	na	•	•	na
DC (A23) †	⊗Δ⊗ (US, Br, Jap)	cW	T	•P/•S/Jap	T	na	na	•	T	na
½" WP (A24.3) †	⊗Δ⊗ (US, Br, Jap)		na	⊗	na	na	na	na	na	na
PF / Pfk (C13.31)	⊗↔→⊗ (Ge)	cpR	⊗	na	⊗	na	na	⊗	⊗+2⊗	na
PSK / BAZ (C13.4-.5)	⊗↔→⊗		•	na	•	•	na	•	+2⊗	na
PIAT (C13.6)	⊗↔→⊗	CcpR	•	na	•	•	na	•	+2⊗	na
MOL-P (O10) †	⊗Δ		•	na	•	•	na	•	+2⊗	na
MOL (A22.6) †	⊗⊗ (A22.611)	cpR	⊗	na	⊗	⊗	⊗	⊗	⊗	na
ATR (C13.2)	⊗∇	CcpR	•	na	⊗	½	½	•	+2⊗	na
RCL (½") (C12) † (C12.4)	∇Δ↔→		⊕	na	⊕	na	na	⊕	⊕%⊗	na

Ammo	HE Eqv.
PF	16
Pfk	12
PSK	12
Baz	8
PIAT	8
H#[9]	12
HEAT	HE<< 1
AP< 37	1
AP≥37	2

Only vs. Inf in Building, Pillbox, Rubble or behind Wall.

† **Aquisition** is lost if: owner (not GO, Fire IFP, fire IFE/Cannister, interdict with IFP, moves [EXC: Gyro], (un)limber Gun, change CA w/o firing at ⊕ target, interdict other target}, Wpn malfunctions.
 ⊗ **ROF na** if {AFP, cowering, Pinned, Non-MTR fire Smoke/Area-Target Type, Firing IR}, **ROF -1** if {IFE, Light AA Fire, Spotted Fire, unqualified use, captured use}.

Red = na or penalty. Purple = restricted. Blue = Area Fire / Area Target Type / Case B / halved FP for other reason. Green = overrides restriction in box on same line..

- Normal attack.
- Critical Hit on TH DR's na.
- ⊗ Attack doesn't leave Residual Firepower.
- ⊗ Mandatory Fire Direction if range ≥ 17 hexes (A9.4).
- ↔ May use Spraying Fire (A9.5).
- ⊥ May place Firelane.
- ⊗ blue penalty does not apply if Opportunity Fire (A7.25).
- ⊗ May use LMG, PIAT, Thrown DC only (D6.1) or SCW / RCL with desperation penalty (C13.8).
- ⊗ May not use any [for MOL: other] SW.
- ⊗ Use is na by PINned unit.
- ⊗ FG restrictions applies (FT A22.31, PRC D6.64).
- Δ Leadership DRM na.
- ∞ Cavalry Charge. TPBF applies (A13.6).
- ∞ Overrun. TPBF applies (D7).
- ⊗ Bounding First Fire PRC (D3.3).
- P = placed, S = set, T = thrown. P + S detonated in AFP.
- ⊗ Add -1 per FT carried on IFT attack DR vs. owner.
- ↗ Half FP vs targets 2 lvls higher (A22.32).
- Cannot fire at targets 2 lvls higher in adjacent hex or directly above in same hex (C13.8).
- ↘ Cannot fire at targets lower in same or adj. hex (C13.61).
- ⊗ No long range.
- ∇ May not use Area Target Type.
- ⊗ Captured Use penalty for non-elite use.
- ↘ Captured Use penalty for Squad / Half-Squad use.
- ⊗ Subject to Backblast (C13.8) [EXC: Huts G5.62]. RCL also rear hex (C12.3).
- † May possibly cause Flame.
- ⊗ May possibly cause Rubbling ().
- ⊕ Target acquisition may be used. It is na if also using ⊕ or if RCL vs. Motion / moving target.
- ⊕ Bore sighting may apply (C6.4) **MG ⊕ vs. Infantry only as DFF (C6.44).**
- % na if moved to new location [EXC: german dm MMG/HMG & US RCL57 with Case C³] (A4.41, C12.22).
- ⊗ Requires check.
- +2 +2 on To Hit (or ½ to IFT) applies.
- ½ Area Fire applies.

Terrain Restrictions - see *The Ordnance Attacks QRC*.

Light Anti-Tank Weapons (C13)												
Type	BAZ (C13.4)			PF (C13.3)			PFK ¹⁰ (C13.3)	PSK (C13.48)	PIAT (C13.6)	MOL (C13.5)	ATR (C13.2) ¹⁵	
	'43	'44	'45	10/43+	6/44+	'45					Reg	20L
Range												
0	11	11	11	10	10	10	10	11	11	10	10	10 (8)
1	9	9	10	8	8	8	8	9	9	9	10	10 (8)
2	8	8	9	NA	6	6	NA	8	7	8	10	10 (8)
3	7	7	8	NA	NA	4	NA	7	5	6	10	10 (8)
4	4	4	6	NA	NA	NA	NA	4	NA	4	10	10 (8)
5	NA	NA	4	NA	NA	NA	NA	NA	NA	NA	10	10 (8)
6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	10	10 (8)
7-12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9	9 (7)
TK	13	16	16	31	31	31	22	26	15	6 ¹	5/6 ^{3,4}	6 ⁴
HE equiv	8 ⁶	8 ⁶	8 ⁶	16 ^{2,6,7}	16 ^{2,6,7}	16 ^{2,6,7}	12 ^{2,6,7}	12 ⁶	8 ⁶	4	0 ² (1 IFT)	1 ² (or 1 IFT)
Backblast	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	N
Leader	Y	Y	Y	Y ¹¹	Y ¹¹	Y ¹¹	Y ¹¹	Y	Y	N	Y	Y
Notes	—	—	12	5	5	5	5	—	14	13	8	8,9

Notes:

- +1 if target OT, -1 rear Target Facing hit.
- Cannot leave Residual FP (for ATR, not even if part of Firegroup).
- TK # = 6 for Russian, Finnish, Japanese ATR.
- Don't forget Case D TK# Change based on range.
- Original TH DR 12 (≥ 11 for Inexperienced Infantry) results in Casualty Reduction for firer.
- HEAT may only be fired at vehicle/Gun or at Inf/Cav receiving a wall/roadblock/bldg/rubble/pillbox TEM.
- Barring Random Selection ties, only 1 Inf/Cav unit is affected if fired at a non-vehicle. Firer may choose unit to be affected if Known and manning a SW/Gun.
- ATR can be used vs. Guns w/gunshields as per C11.52 (HE Equivalency) without using AP To Kill Table.
- Can use Infantry Target Type and AP HE Equivalency.
- Available 8/43+, by SSR only.
- A leader stacked with a PF firer may apply leadership DRM to the TH DR of one PF, but this would constitute his sole fire direction for that phase.
- Has option of firing WP; normal ammo depletion rules apply (C8.9).
- Not HEAT; may be fired from bldg/pillbox/rooftop. In PFP and DFP must fire before any other weapon than SMOKE; this restriction does not apply in enemy MPH. May not fire at target at a different elevation than firer if elevation difference exceeds range. No Bore Sighting, Acquisition, Intensive/Sustained Fire, Deliberate Immobilization. Achieves Critical Hit on Original 2 TH DR (C3.7, C13.56 vs. Inf/Gun). A Hit causes 4-FP collateral attack on an AFV's vulnerable PRC. AFV hits are as by a MOL (A22.612). Can cause Flame (C13.57); creates a white Dispersed Smoke counter. Original TH DR 12 eliminates Projector and creates Flame in location if terrain is Burnable.
- Cannot be fired at a target ≥ 1 level lower in same or adjacent hex.
- ATR use Black TH # unless captured. Given numbers for ATR are for Vehicle Target Types; Infantry Target Type in ().

ATR To Kill DR DRM			
Range	0-1	2-6	7-12
DRM	+2	+1	0

LATW TH Modifiers	
Moving Target (Case J)	+2
DFF ≤ 3 MP in LOS (Case J¹)	+3
DFF ≤ 1 MP in LOS (Case J²)	+4
Target Size	+/- x
Desperation (Case C³; avoid backblast)	+2
Pinned (Case D)	+2
TEM/Hind	+x
Leadership (if app.)	+/- x
Firing in AFPh	+2
Del. Imm. (Case G)	+5
Point Blank (Case L; ATR only) 1 hex/ 2 hex range	-2/-1
Under an Area Fire Penalty (EX: LATW in stream)	+2
Others: CX +1, Encircled +1, by/vs Overstacked +1/-1 per squad overstacked, Captured/non-qualified Infantry +2/+2 (and Red TH #s), Motion/Non-Stopped Firer (firing from vehicle) C/C ¹ /C ² & lower dr x 2, FFNAM/FFMO -1/-1, Concealed Target +2, Hazardous Movement -2, vs Motorcyclist -1, vs Cavalry -2, vs Wading vehicle -2.	

This ASL Play Aid is brought to you by Mark Pitcavage.

It was inspired by an earlier LATW play aid designed by Jeff Newell.

For other ASL play aids, see <http://www.desperationmorale.com>

LATW USAGE

- **ATR, BAZ, PSK, PIAT:** Any unbroken Infantry unit, including SMC; counts as use of a SW. For BAZ/PSK, requires 2 SMC to fire at full effect; one Hero may fire w/+1 TH drm. SMC may use PIAT/ATR w/no penalty. Only 20L ATR has a ROF.
- **PF/Pfk:** Any unbroken German Infantry unit. Inherent capability—must make dr to use; see chart. **Original 6 dr pins firer (even Heroic, Berserk) or breaks firer already pinned (Casualty Reduction if Heroic, Berserk).** Total # PF/Pfk available depends on date: pre-1944 = # of squads in OB; 1944 = 1 1/2x # of squads in OB; 1945 = 2x # of squads in OB. NA as Subsequent First Fire or Final Protective Fire. Attempts to fire PF/Pfk counts as use of a SW; thus a squad may attempt to fire a second PF if it has not yet fired its inherent FP (but would thus lose its inherent FP because it fired two SW). If a dr results in availability, PF/Pfk **must** be fired.
- **MOL-Projector:** Any Russian crew (or two Russian SMC); a Russian non-heroic leader may use with non-qualified-use penalties. Russian heroes use with +1 TH DRM. For others, captured/non-qualified modifiers apply.

PF/Pfk Availability	Final dr
≤ 3	Successful
4-5	No effect
6	Pinned

PF/Pfk Availability	dr Modifiers
+1	Date is 8/43-9/43 (Pfk only)
-1	Date is 1945
+1	Target not AFV
+1	CX firer
+1	Firer is HS/Crew
+2	Firer is SMC

Final Effects DR	Direct Fire	FT/MOL	MG
A ≤ Half TK#	Burn	Burn	Burn
A < TK#	Elim	Burn	Elim
=TK#	Im ^H /Sh ^T	Elim	Stun
Non-HE/HEAT 1 > Final TK#	P. Sh.	NA	NA

A = -1 DRM to Final To Kill DR, for Burning Wreck determination (only) IF AFV has **Red CS#**.
H = Hull T = Turret

FT vs. AFV Stats	TK# DRM
AFV CE	+1
AFV OT (cumulative w/above)	+2
Range	TK #
1 hex	8
2 hex	4

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MGs vs. AFVs

- MGs (not AFV MGs) may attack AFVs on the Ordnance To Hit Table using the Black To Hit #s (regardless of nationality).
- Must fire alone (not part of FG) & must pre-designate AFV as target.
- Target must be within Normal Range, without any form of halved FP penalty.
- Deliberate Immobilization NA.
- Critical Hits (C3.7) & Multiple Hits (C3.8) not possible.

MG vs. AFV Stats	Range	DRM
MG To Hit Range DRM	0-12	+0
	13-16	-2
MG To Kill Range DRM	0-1	+2
	2-6	+1
MG AFV TK #	4	
.50 Cal AFV TK #	5	

Miscellaneous LATW Rules:

- Non-Mortar SW vs. AFV: Acquisition, Bore-sighting NA.
 - Case E Fire w/in Hex penalties NA for SW.
 - Multiple Hits (C3.8) not possible.
 - CH possible for LATW on Original TH DR 2.
- Other SW vs. AFV**
- MOL: See A22.6, C7.344.
 - DC: See C7.346.

Backblast/Desperation Penalty (C13.8):

Units wishing to fire a PF/Pfk/PSK/BAZ from inside a vehicle, rubble, pillbox, cave, sewer, or building (EXC: factory, rooftop) hex must take a Desperation Penalty due to the backblast of the weapon.

All occupants in firing Location undergo attack on the **1 FP column** of the IFT **using only the colored dr of that TH DR. No DRM apply.** If unpinned firing unit is in ground-level rubble or ground floor of a bldg (ONLY), unit may avoid penalty by 1) using Opportunity Fire, or 2) applying the Case C3 +2 To Hit DRM.

Blind Hex Equation

Obstacle	Number of Blind Hexes Created by a Firer at higher elevation shooting over an Obstacle at a Target at lower elevation	or	Minimum # Of Blind Hexes	
Non-Cliff Crest Line	$2 * \text{Height of Obstacle} + \frac{\text{Range (FRD)}}{5} - \text{Height of Firer} - \text{Height of Target}$	or	0	Whichever is Larger
All Others	$2 * \text{Height of Obstacle} + \frac{\text{Range (FRD)}}{5} - \text{Height of Firer} - \text{Height of Target} + 1$		1	

- Height of an Obstacle = base level of Obstacle's hex + full-level height of that terrain type (FRD) [EX: Woods rising from a Level 1 hex has an Obstacle Height of 2 levels. A Two-Story House (B23.22) rising from a level -1 hex has an Obstacle Height of 0.]
- Range is range in hexes from Firer to Obstacle.
- LOS is reciprocal (A6.5), so this applies even if Firer is at lower elevation and Target is at higher elevation.

LOS Never Exists If

- Combination of Smoke/LV/LOS Hindrances is ≥ 6 (B.10)
- Target unit is outside NVR (E1.101) [EXC: Gunflash (E1.81), Illuminated Locations (E1.9), moving vehicles at Night (E1.14); units in Illuminated Locations have LOS only to other Illuminated Locations and Gunflashes]
- LOS crosses unbreached Rowhouse Bar (B23.71) or Factory Interior Wall (O5.3)
- Intervening obstacle height > height of firer *and* target (A6.2) unless obstacle is in firer or target's hex
- Units inside Pillbox have no LOS to Aerial targets (E9.31, B30.2), outside the Pillbox CA, or Locations in their own hex that are not at the same level (B30.2)

Half-Level Obstacles (A6.21)

- Cactus Hedge/Patch, Dune Crest, Hedge, Hillock, Hillside Wall/Hedge, Roadblock, Rubble, Seawall, Wall
- Block **same-level** LOS *through* (not *into* or *out of*) that hex [EXC: a unit Entrenched behind a Half-Level Obstacle or Paddy Bank has no LOS to same-level non-adjacent hexes (B27.2)]
- Do not cause Blind hexes or block LOS to/from a higher level hex

Depressions (A6.3)

- Gully, Stream, Sunken Road, Wadi
- LOS exists to unit IN a Depression only if the Depression Location is not Blind to the firer and either:
 - The LOS goes through continuous Depression hexsides, or
 - The firing unit has a height advantage in levels which is \geq the range in hexes, not counting intervening Depression hexsides, or
 - The firer is Aerial (E7.25)

LOS-Specific Fire Attack Effects

- Across a cliff to adjacent lower level hex: vehicle armament, IFE, ordnance NA (B11.31) [EXC: LATW other than PIAT]
- Across a cliff hexside to adjacent higher level hex: only AA weapon, MG counter, ATR, PIAT, Inherent Small Arms (B11.32)
- PIAT firing at lower-level target in same or adjacent hex is NA (C13.61)
- Units inside a Pillbox firing at own hex are limited to CC, Thrown DC, vertices of the Pillbox CA, or PBF vs units currently crossing the CA hexsides.
- PBF is NA when firing at adjacent unit that is 2 or more levels higher than the firer
- OT AFV crews have CE DRM reduced by 1 for Air Bursts (B13.3) and for each level of firer's height advantage > the range (D6.61); such an AFV is treated as unarmored (D5.311). If the CE DRM is reduced to 0, the crew is Vulnerable even if BU and is subject to IFT attack results instead of normal stun/Recall.

Aerial LOS (E7.25)

- Aerial Range = 2x normal range (E.5); LV hindrances do apply
- Aerial firer can always see into a Depression, barring LOS obstacles creating a Blind Hex
- Full-level Obstacles create only one Blind hex; the Blind Hex created by Bocage is the hex the Bocage is in
- Aerial LOS crossing a full-level obstacle always creates only one Blind Hex (E7.25)

Atypical LOS - LOS drawn to:

- A hex vertex [EX: Bypass Movement (A4.34, D2.32), Rowhouse Bypass (B23.71), Climbing (B11.42)]
- An entire hexside [EX: Underbelly Hits (D4.3), Snap Shot (A8.15)]
- Some other in-hex point [EX: Road Movement (A4.132)]

Proof that the Blind Hex Equation Really Works:

This simple formula comes from adding up the contributions from four separate rules (A6.4-.43) and simplifying the terms. To my mind, spelling out the separate contributions from each of those four rules is a hassle, does little to improve players' insight into the Blind Hex process, and doesn't look as nice on paper. In my opinion, it's much easier to use a simple equation that you know is correct rather than suffer through explicitly calculating each Blind Hex contribution from A6.4-.43 and then adding them up.

The # of blind hexes created by an obstacle is spelled out in rules A6.4, 6.41, 6.42, and 6.43. Rule B10.23 really doesn't add anything, as far as I can see, except some examples of Crest Line Blind Hexes. Let's go through each of A6.4-.43 one by one and then add up all the contributions at the end.

First, a note. The height of an obstacle (Ho) is equal to the height of that obstacle terrain type (Htt) plus the height of the base level that the obstacle sits on (Hb). $Ho = Htt + Hb$

EX: a single-story building sitting on a Level 2 hex has an obstacle height of 3. A Bamboo hex sitting in a Level -1 valley has an obstacle height of 1, since Bamboo is a 2-level LOS obstacle.

Another note - since LOS is reciprocal, I'm going to simplify my life and say that the firer is sitting at the higher level and the target is sitting on the lower level. It's much easier to say "Firer's Height" than "Higher level Height". OK, now we run through the factors in A6.4-.43

A6.4 - Creates blind hexes equal to the full-level height equivalent of the obstacle. Although not specifically spelled out here, I'm betting dollars to donuts that "height equivalent of the obstacle" refers to the height of that obstacle's terrain type, or Htt, rather than Ho. You'll see why in a minute.

A6.41 - The Range factor. Creates blind hexes equal to the range from the firer to the obstacle, divided by 5, FRD. No problem.

A6.42 - Firer Height Advantage. For every elevation advantage > 1 level over an obstacle, reduce the number of blind hexes by 1, to a minimum of one. Unless the obstacle is a non-Cliff Crest Line, in which case you can reduce the number of blind hexes to zero.

This works out to be $Ho - Hf + 1$, with the minimums being tacked on at the end of the calculation, where we say "it's either this number of blind hexes or 0 for non-Cliff crestlines or 1 for all other obstacles, whichever is larger". So a level 2 firer firing over a level 1 obstacle does not reduce the number of blind hexes due to this rule. Level 3 firer firing over a level 1 obstacle reduces the number of blind hexes by one, since $3-1-1 = 1$.

A6.43 - Target Height Deficit. For every level difference between the base level of the obstacle and the target height, add one to the number of blind hexes. Unless the obstacle is a non-Cliff crest line, in which case you ignore the first level of difference. This works out to $Hb-(Ht + 1)$ blind hexes for non-cliff crestlines and $Hb-Ht$ for all other obstacles.

OK, let's add up all of these contributions.

	[A6.4 + A6.41 + A6.42 + A6.43]	or Minimum
non-cliff	+ Range/5	
Crestline	Htt (FRD) +Ho-Hf+1 +Hb-Ht-1	0
All others	Htt + Range/5 +Ho-Hf+1 +Hb-Ht	1
	(FRD)	

OK. Now we add up all the terms and use the fact that $Ho = Hb + Htt$. Let's call the Range term R because it's pretty simple.

$$\begin{aligned}
 \text{Non-cliff Crestline} &= Htt + R + Ho -Hf +1 +Hb -Ht -1 \quad \text{or } 0, \text{ whichever is larger.} \\
 &= Htt + R + Ho +Hb -Hf -Ht \quad (\text{etc}) \\
 &= Htt + R + Ho +Ho - Htt -Hf -Ht \quad (\text{etc}) \\
 &= 2*Ho + R -Hf -Ht \quad (\text{etc})
 \end{aligned}$$

$$\begin{aligned}
 \text{All Others} &= Htt + R + Ho -Hf +1 +Hb - Ht \quad \text{or } 1, \text{ whichever is larger.} \\
 &= Ho + R + (Hb+Htt) -Hf -Ht +1 \quad (\text{etc}) \\
 &= Ho + R + Ho -Hf -Ht +1 \quad (\text{etc}) \\
 &= 2*Ho + R -Hf -Ht +1 \quad (\text{etc})
 \end{aligned}$$

So that's where the blind hex equation comes from.

Now. If A6.4 refers to Ho when it talks about the "height of the obstacle", then the above equations become:

$$\begin{aligned}
 \text{Non-Cliff Crestline} &= 3*Ho +R -Hf -Ht \\
 \text{All Others} &= 2*Ho + R -Hf -Ht + 1
 \end{aligned}$$

Unfortunately, this is simply wrong. For the case where a Level 2 firer shoots over a level 1 crest line 5 hexes away at a target at level 0, the first equation above would give $3*1 + 1 - 2 - 0 = 2$ blind hexes, which is not correct. The simple form of the blind hex equation above gives $2*1 + 1 - 2 - 0 = 1$ blind hex, which is correct.

DRAFT Advanced Squad Leader (Non-building) Location Primer

Note: This ASL Play Aid contains an array of useful information about the ASL concepts of "Locations" and "Quasi-Locations," which represent multiple same-hex terrain features that may result in some units being treated differently from other units in the hex. These concepts are difficult to grasp, and the rules governing them are scattered throughout many chapters. This Play Aid gathers and condenses much of this information. It is NOT a comprehensive guide to all rules governing these terrain types, especially the most complicated types. It concentrates on rules governing movement and interaction between hexes and locations within them.

General Concepts

Location: A hex or any of the following sub-divisions of a hex: sewer, upper/lower building or bridge level, pillbox, cave.

Quasi-Location: Terrain types that create different "terrain features" in a hex, but not separate Locations. Examples include: Shellhole, Foxhole/Trench, Wire, Paddy. Units in Quasi-Locations engage in CC normally.

In/Into (A.6): Depression hexes can contain units either/both at ground level (Crest status) and at the bottom of the Depression. Units at the bottom are referred to as being IN or going INTO the Depression hex (as opposed to "in" or "into"). Similarly, many other terrain types (Paddies, Culverts, etc.) may possess similar distinctions between different Locations/Quasi-Locations in their hex; these are also referred to as IN/INTO.

ADJACENT (A.8): Locations are considered "ADJACENT" only if there is LOS between the two Locations and a player could hypothetically move an Infantry unit between them during the APH. In advance phase (A4.7), units may not change both Locations and hexes.

Leadership: A leader in one location cannot affect the performance of units on another level (Examples: fire direction, movement bonus).

DFF: MF/MP expenditure to enter/leave a Location or Quasi-Location qualifies it as a target for DFF.

Enemy Units: Infantry may not move into the same Location containing an uncealed enemy unit during the MPh (there are exceptions; see A4.14), but may do so during the APH. This implies that Infantry may move into a hex whose only enemy units are in a Location within that hex, such as a cave.

TPBF: TPBF applies only vs. units in the same Location as the attacker, or vs. PRC in the same HEX.

Snipers: If a target hex (landed on by Random Location DR, not Alternate Target) contains > one Location occupied by eligible targets, the Sniper player selects which Location to attack. Units in subterranean locations (EXC: Caves) are not eligible.

Target Selection Limits: Units may not attack units in other Locations while its own Location is occupied by a Known enemy unit. Whenever a unit is eligible for TPBF vs. Known enemy units, it can attack only those units.

Control: Subterranean enemy units do not prevent a side from gaining Control of a Location/hex/building (A26.11). Bridges: A Good Order Infantry MMC in either Bridge/Depression Location of a bridge hex can gain Control of that hex. Pillbox Hex: Control is gained by controlling pillbox Location and occupying hex with armed Good Order Infantry MMC while hex is devoid of armed enemy ground units.

Recombining: Units in an entrenchment w/a leader may not Recombine with units outside that entrenchment in the same hex, even though they are in the same location (A2.8).

Berserk: Berserk units in the same Location must move as a combined stack, unless they will require different MF expenditures to exist their location (such as units in and out of a foxhole). When determining Berserk charge path, Wire counters are counted as 1 MF only.

Specific Location/Quasi-Location Terrain Types (*Italicized* Terrain Types are Locations; non-italicized Terrain Types are Quasi-Locations)

Bridges (B6; see R1 for Arnhem Bridge): Units on bridges (other than pontoon) are in a separate Location from units not on the bridge. There is no LOS between units on bridge and units beneath it. Entrance/exit from a bridge Location can occur only by crossing a road hexside on that bridge (EXC: Scaling). Units beneath bridge are depicted by placement beneath a bridge counter.

Caves (G11): Cave counters represent separate subterranean Locations with above-ground entrances in/IN their hexes. See G11.2 for Cave Complexes. Caves are rally bonus and concealment terrain. The CA of a Cave counter EXCLUDES all (even Aerial) Locations in that Cave Counter's hex, other than that of the cave itself (EXC: the CA of a Cave counter IN a depression includes the area IN its hex). A hex half in/half out of a CA is considered completely w/in CA for purposes of C.5B only. Broken Japanese units may rout to caves.

Setup: See G11.1 for placement restrictions. Only Infantry/SW/non-vehicular Guns may set up in a cave. The non-hidden contents of a cave are placed onboard beneath a Cave counter, while all aboveground contents of the hex are placed above all Cave counters in that hex.

Stacking: Each cave has a stacking capacity of 1 squad-equivalent (overstacking is possible). Stacking limits of a Cave Complex equal 2x # of Cave counters in its boundaries. Overstacking can occur in a Cave Complex (NA setup) but no unbroken unit/stack may enter an already overstacked complex. Cave/tunnel/pillbox stacking within the boundaries of a Cave Complex are NOT part of that complex and don't count towards stacking.

Adjacent/Accessible: A unit is ADJACENT to a cave if Japanese Infantry in/IN that unit's Location would have a LOS to that cave and could advance directly into it. Each cave is accessible to all other caves that lie in/IN the same hex with it AND w/in one level of it. Each cave is also accessible to its Cave Complex, if any, and vice versa. Cave Complexes are also accessible to each other Complex it touches and to each other

Location connected to it by a tunnel. However, a unit may not move from one Cave Complex to another via the APH.

Entry: A cave may be entered from aboveground only from its Entrance Hex, and below ground only from an Accessible cave/cave complex. Only Japanese Infantry may enter caves; this normally costs 2 MF (infantry that enter a non-hidden cave expend NO MF to do so if they remain hidden [G11.75] when they enter it. Infantry entering hidden caves expend no MF) Entry of a cave complex costs no MF. See G11.71 for entering a cave from other caves in the same hex.

Exit: Infantry caves in non-Depression hexes exit directly to above-ground; normal hex-entry principles and MF costs apply. Exiting directly to above-ground from a cave IN a Depression leaves Infantry IN that hex; this costs 1 MF.

Caves and Pillboxes/Tunnels: See G11.932-933.

Crest Status (B20.9): Can be gained by any Infantry in any Depression hex (EXC: ford, bridge, Depression Cliff hexside), creating a separate Location.

Gaining Crest Status: Good Order Infantry IN a Depression hex may claim it during APH or during MPh by expending two MF. Good Order Infantry outside a Depression hex may claim Crest Status in hex it enters (along the hexside it enters) by expending one less than normal COT of hex (middle of Crest counter must be hexside through which hex was entered). This option cannot be used when entering a Depression via a Depression hexside. Units may begin a scenario already in Crest status.

Effect: Infantry in Crest status are considered entrenched (per foxhole/trench) one level higher than the Depression against Direct Fire attacks across front three hexsides, if not crossed by a Depression hexside. Benefits do not apply to indirect fire, OVR, or to Direct Fire from a position w/LOS INTO the Depression hex, or to fire at Crest target that is not traced through protected Crest hexside. Crest Infantry firing at target not w/in their protected front fire as Area Fire; may fire only inherent FP, LMG, DC, LATW, FT. Crest Infantry in CC are subject to -2/+2 vs/by DRM. Non-vehicular guns may utilize Crest status in Wadis; see F5.43.

Movement: Infantry may not move directly from one Crest status to another (even in APH) Crest Infantry may exist the Depression hex to a non-Depression hex on same side of Depression as if they were leaving a foxhole (1 MF & COT). Crest Infantry moving to any other hex must first move/advance out of Crest status in their hex. Broken units must leave Crest Status during RPh.

Stacking: Unlike other separate same-hex locations, both Depression and Crest units count towards total hex stacking limits.

Culvert (Red Barricades, O7; Kampfgruppe Peiper, P4.2): Red Barricades has a Culvert (D38-E39) representing a subterranean gully (but Crest status may never be gained in a Culvert or gully-Culvert hexside). It is open ground at Level 0. A unit IN a Culvert is placed beneath a Culvert counter and has LOS only to ADJACENT gully/Culvert locations. Overstacking may never occur IN a Culvert. Infantry enter a Culvert as if entering INTO a gully but may do so only from IN an ADJACENT gully/Culvert location. No Vehicle/Cavalry/Horse/mounted-Cycle may enter INTO a Culvert. Cycles may be portaged INTO a Culvert, but not mounted. MTRs and small target INF/AT guns are the only Guns that may be setup-in/Manhandled INTO a Culvert. A Mortar may not fire from IN a Culvert; Indirect Fire does not affect units IN a Culvert (nor are they targets for Sniper attacks). **Kampfgruppe Peiper** has Stream Culvert hexes (EX: ChLL7; LgL5) representing a man-made subterranean passage for a stream. A unit IN a Stream Culvert is placed beneath a Culvert counter. It is open Ground and has LOS only to ADJACENT stream and Stream Culvert Locations. The normal stacking limit in a Stream Culvert is one squad-equivalent. No unit/Equipment/ Fortification may be set up IN a Stream Culvert. Infantry may enter as if entering INTO another hex of that stream; entry is allowed only from IN an ADJACENT stream (or Stream Culvert) Location (EXC: entry NA if stream flooded). No 5/8" vehicle/gun counter may enter a Stream Culvert. Crest status may not be gained in a Stream Culvert hex nor along a stream and Stream Culvert hexside. Units IN a Stream Culvert at the end of a Player Turn are subject to Replacement/Disruption just as if they were IN a frigid Water Obstacle. Nothing IN a Stream Culvert is affected by Indirect Fire or Aerial attack; units IN a Stream Culvert are not eligible for Sniper attack.

Foxholes/Trenches (B26, B27; see T6.33 for Tarawa trenches): Do not create a different Location within the hex. Nevertheless, solely for purposes of weapon Recover or TEM, a unit in a foxhole is not considered in the same Location as a unit outside it. To move beneath a foxhole counter in a Location, Infantry must pay one additional MF *separately* after payment of COT to enter the hex (and after suffering any DFF for entering hex, with FFMO if applicable). However, *during the RPh*, the cost to enter/exit a foxhole/trench *may* be combined with the entrance cost of the *next* hex, thereby escaping interdiction in the foxhole/trench. A unit may move/advance beneath a foxhole even if an enemy unit exists in that foxhole; the capacity of a foxhole counter is per side. **Trenches:** Because adjacent trench counters are considered connected, infantry may move between them w/o paying any extra MF; such infantry are never subject to FFFAM/FFMO, Snap Shots, Interdiction, or minefield attacks. Cost to enter a connecting trench is always one MF (EXC: x2 for higher elevation), regardless of Wire, walls, hedges. Units may use non-Assault Movement w/o loss of concealment. See B27.6 for lower level locations.

Panjis (G9): Panji counters are similar in concept to Wire counters, but are in some respects nastier. Panji counters do NOT create a new Location in its hex; a “panji Location” simply refers to a Location that contains a Panji counter. Panjis have covered hexsides much like HD hexsides or Crest hexsides. Broken units need not rout through Panji hexsides if they have alternate legal rout paths.

Entry: A Panji counter does not alter MF/MP cost of its Location (EXC. Prohibits road bonus), except that it prohibits Bypass and Bank counters. Non-Dummy units that enter a Panji location are placed above the Panji counter if they cross a Panji covered hexside (EXC: trench, subterranean passage). Each Infantry unit so entering must IMMEDIATELY (before fire, mines, other attacks) take a Panji MC unless using Assault Movement, Armored Assault, Low Crawl, or a normal advance, or was forced back out of location because of a concealed unit, required to take a Panji TC (see below), or entered via trench/subterranean passage. After this is resolved, all other attacks/actions occur; afterwards, units that can do so may spend 1 extra MF to be placed under Panji counter.

Exit: Units above Panji counters cannot directly exit those hexes; they must first move beneath counter, then may exit as if no Panji counter were present.

Stacks: If a non-Aerial stack moving/advancing across a road/path/depression/TB hexside is required to take a Panji MC, the ATTACKER randomly selects one non-prisoner unit in stack to take it; after resolution, other units in stack not exempt from PTC must take a normal PTC that leadership can modify (EXC: for berserk/human wave/banzai charge, normal Panji MC rules apply).

Above/Beneath: Only fully tracked AFV/dozers, Infantry, “led” horses, and Cavalry may change position above/below Panji counters. The cost is 1 MF/MP; this does not cause a Panji MC or other panji-caused penalty. Infantry may not advance/withdraw off a Panji counter. Items unpossessed above a Panji counter remain above it. Infantry above a Panji may not recover/transfer, (un)dismantle, repair, or voluntarily malfunction/disable a SW/Gun. A vehicle above a Panji counter may not change VCA and cannot be scrounged (see G9.52 for gun). Units above Panji counter are always uncealed. Fortifications are considered beneath Panji counters and can only be entered/existed from beneath Panji counter (EXC: trench, subterranean passage).

Other Rules: Guns/Vehicles/Horses/Bicycles/PRC, G9.411-9.423; Columns, G9.44; Bypass G9.46; Aerial (parachute), G9.47.

Pillboxes (B30); see R5 for Arnhem Bridge Blockhouse; T6.31-6.51 for Tarawa

Pillboxes: Units in a pillbox are placed beneath the Pillbox counter. Overstacking in a Pillbox NA. Units in an adjacent, ground-level Location within a Pillbox’s CA are treated as ADJACENT to units in pillbox for PBF, FPF, DM, rout, and DC Placement vs. pillbox.

In-hex: Fire from inside a pillbox to its own hex is limited to CC, SMOKE grenade placement, Thrown DCs, or to vertices of its CA, or to PBF vs. units currently crossing CA hexsides of its own hex. *Because enemy units never co-exist in the same Location with a friendly-occupied pillbox, TPBF and Target Selection limits do not apply.*

Movement: MF expenditure (1 MF; exc: tunnel, bunker) to enter/exit a Pillbox Location is a separate action and uncombinable with other MF expenditures (EXC: *during RtPh*, cost to enter/exit a pillbox may be combined with the entrance cost of the next hex, thereby escaping interdiction in the pillbox hex). If a unit becomes pinned/broken outside pillbox, it cannot enter pillbox Location during current MPH. Pillboxes are equivalent to a building for rout/rally purposes, but broken units in pillboxes are never forced to rout. **Attacks:** Since a pillbox is a separate Location, each attack (EXC: bombardment, residual FP, area target type, aerial bomb, OBA) can only affect pillbox/contents if pillbox is predesignated target. A predesignated attack vs. the pillbox Location cannot affect other Locations in hex (EXC: spraying fire, cannister). OVR has no effect. A pillbox Location may never contain SMOKE, but pillbox contents are affected normally by non-Indirect-Fire WP CH in hex if placing/firing unit is ADJACENT/within-CA-of the pillbox. **Enemy Units:** A unit may not move/rout/advance/withdraw into/out of a pillbox Location if an enemy ground unit exists in same hex outside pillbox (EXC: units may advance out of pillbox into pillbox hex; also very narrow exceptions; see B30.42, B30.6). Infantry, even berserk, may never enter a pillbox Location with enemy Infantry. A Berserk unit must remain in pillbox hex and attack until it eliminates enemy or is eliminated itself. CC: CC is resolved normally between Infantry in and outside a pillbox, even though they are separate Locations. However, Hand-to-Hand CC is NA and Melee is NA. Units in pillboxes cannot be attacked in CC if there are friendly ground units in the hex outside the pillbox. CC is NA between vehicle/PRC and units in a pillbox.

Rice Paddies (G8): Rice Paddies consist of two parts: the interior and the banks. Units in the interior of a paddy are IN it, while those on its banks are placed above a Bank counter in the hex. A Bank counter does not create a new location or change stacking limits. Being “in” a paddy hex refers to being in either/both positions. A unit above a Bank counter may not recover/scrounge anything IN a paddy, nor transfer, set a DC, or guard a prisoner IN the paddy. Nor may it ever become TI.

Penalties: Infantry units above a Bank counter are subject to Hazardous Movement. Units above Bank counters that become broken/pinned, enters into Melee, or its column disbands, are forced INTO the paddy hex; it is no longer subject to Hazardous Movement, but unless pinned is subject to FFNAM. Infantry above a Bank counter may use only Inherent FP, LMG, LATW (EXC: 20mm AATR), FT, and/or Thrown DC. Non-CC attacks by such units are treated as Area Fire (EXC: Thrown DC). Units above Bank counters receive +2 drm to Ambush dr, and +1/-1 CC attack by/vs DRM.

Entry: A unit enters a paddy hex either onto its banks or INTO its interior. Generally, the only units that may set up In or enter INTO a paddy are Infantry/Cavalry/Cycle Riders/fully tracked vehicles. COT of paddies depend on Rice Paddy State. The only

units that may cross a bank hexside are those allowed to enter INTO a paddy (EXC: bicyclists; see G8.21). Low-Crawl onto a Bank counter NA. Infantry may freely enter-onto/exit-off Bank Counters during Aph.

Movement (Infantry; see G8.21, G8.2112 for bicycles)

Units in a non-paddy hex 1) may enter directly onto a Bank counter in adj paddy hex provided it crosses a bank hexside as it enters that hex (cost: 1 MF to cross bank hexside + 1MF to enter onto Bank counter; mud can apply); 2) may enter directly INTO an adj paddy hex (cost: 1 MF if crossing a bank hexside plus the in-hex COT of hex; mud can apply).

Units currently IN a paddy 1) may enter directly onto a Bank counter in adj paddy hex provided it crosses a bank hexside as it enters that hex (cost: 1 MF to cross bank hexside + 1MF to enter onto Bank counter; mud can apply); 2) may enter directly INTO an adj paddy hex (cost: 1 MF if crossing a bank hexside plus the in-hex COT of hex; mud can apply); 3) may directly enter an adjacent non-paddy hex (cost: 1MF to cross bank hexside plus COT of non-paddy hex; mud can apply); 4) may enter directly onto a Bank counter in that same hex (cost: 1MF; mud never applies).

Units currently on a Bank Counter 1) may enter directly onto a Bank counter in an adjacent paddy hex, provided it crosses a bank hexside as it enters that hex (cost: 1MF; mud can apply); 2) may enter directly INTO an adjacent paddy hex, provided it crosses a bank hexside as it enters that hex (cost: 1MF to cross bank hexside, plus IN-hex COT of that hex; mud can apply); 3) may directly enter an adjacent non-paddy hex (cost: 1MF to cross bank hexside, plus COT of non-paddy hex; mud can apply); 4) may enter directly INTO that hex (cost: IN-hex COT of that hex; mud never applies).

Sangars (F8): Generally, as per 1S foxholes. A Sangar’s capacity is the *total* number of units/Guns allowed beneath it, rather than “per side.” A Sangar may contain one non-vehicular Gun; if so, it may not contain more than one half squad or crew as well. See B27.6 for lower elevation locations. Trenches and Sangars accessible to each other provide the same movement, etc., benefits as if both were trenches; see F8.6.

Sewers (B8): By SSR only. Entrance/exit limited to Manhole Locations (which only occur in hexes marked with black Manhole circle on Deluxe Boards, and on other boards, also in paved road hexes in which 3 hexsides are crossed by roads). The only effect of Manhole Locations is to allow movement in/out of Sewer Locations; they are not separate Locations within hexes. Sewer Locations are 1 level lower than Manhole Locations; they are out of LOS of enemy units other than those in an above Manhole Location (IF enemy unit has “discovered” them; B8.42) and/or units in Sewer Locations in same/adjacent hex. Units in a sewer can attack units in Manhole Location only during AFPH and if “discovered.” Units can enter into Close Combat with adjacent sewer units; since they are always concealed, they are never locked in Melee—during next MPH, ATTACKER must move to a new Sewer Location. Sewer locations may never be overstacked; units in a Sewer may not portage more than 1PC or push a Gun; cannot be used to move beneath a Water Obstacle hex. **Sewer Entrance:** Start of MF from Manhole Location at cost of all MF. **Sewer Movement Procedure:** See B8.41-8.42. **Sewer Exit:** If allowed by Sewer Emergence dr, emerge concealed during Aph.

Shellholes (B2): Units may enter a shellhole hex by paying 1 MF (in which case it is not using shellholes for cover and is subject to FFMO/Interdiction) or 2 MF (in which it is considered in a shellhole and not subject to FFMO). Units STARTING the phase in a shellhole are considered in a shellhole. It does not cost extra to leave a shellhole, nor may units “enter” or “leave” shellholes in their hex by expending MF.

Sunken Roads (B4): Sunken Roads/Lanes are Depression hexes; units within may claim Crest status.

Tunnels (B8.6): Exist by SSR, w/Japanese pillboxes (G1.632), or by forfeiting an allowed Fortified Bldg Location to have access to a tunnel. A tunnel consists of two entrance Locations w/in 3 hexes of each other (see rules for allowable hexes). Movement: Only Good Order/dummy Infantry of owning side may enter tunnel; at start of its MPH is placed beneath a “Sewer?” counter in the *other* entrance hex at cost of all MF; must advance out, concealed, during subsequent Aph (even if occupied by enemy units and Fortified). Tunnel may not be overstacked; units in a tunnel may not portage more than 1PC or push a Gun. If Location left was Encircled, units become pinned & CX upon advancing out. See B8.62 for routing.

Wire (B26): Units on Wire counter and Units beneath Wire counter are in the same Location; a leader on Wire can still direct/rally/etc. a unit beneath Wire & vice versa. No additional cost to enter a Wire Location, but entering units are placed *on top* of the Wire counter and must remain there until they expend MF sufficient to move *beneath* the Wire. Units may move beneath Wire only during MPH/RtPh. Only units beneath Wire may exit hex. **Moving Beneath Wire:** A unit must make a dr and expend that number of MF to move beneath wire; remaining MF may be used normally. *Double Time/Dash NOT allowed.* It may declare Assault Movement but if it uses all its MF to get beneath Wire, this status is voided. If Exit dr > MF, unit is hung up on Wire and cannot leave that phase. A unit may decide *after* an Exit dr whether to leave excess PP on top of wire in order to move beneath it. SW/Gun on Wire counter is not recoverable by unit beneath, & vice versa. **Routing (B26.41):** Units prevented by Wire from routing away from an ADJACENT enemy may be eliminated/subject to surrender. A broken unit in Open Ground w/in Normal Range of a Known enemy unit or ADJACENT to a known/armed/unbroken enemy unit, which fails to pass Wire exit dr w/enough MF remaining, is eliminated for Failure to Rout.

ADVANCED SQUAD LEADER INFANTRY FIRE TABLE (IFT)												
	Back- blast ATR		MOL	PFk C37 [A-P Minefields]			PF sN	C75	C105	DC	A-T Mine Set DC	
FP/DR	1/20	2/30	4/37	6/50	8/60	12/70	16/80	20/100	24/120	30/150	36+/200+	FP/DR
≤ 0	1KIA	2KIA	2KIA	3KIA	3KIA	3KIA	4KIA	4KIA	5KIA	6KIA	7KIA	≤ 0
1	K/1	1KIA	1KIA	2KIA	2KIA	2KIA	3KIA	3KIA	4KIA	5KIA	6KIA	1
2	1MC	K/1	K/2	1KIA	1KIA	1KIA	2KIA	2KIA	3KIA	4KIA	5KIA	2
3	1MC	1MC	2MC	K/2	K/2	K/3	1KIA	1KIA	2KIA	3KIA	4KIA	3
4	NMC	1MC	1MC	2MC	2MC	3MC	K/3	K/4	1KIA	2KIA	3KIA	4
5	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	1KIA	2KIA	5
6	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	1KIA	6
7	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	7
8	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	8
9	—	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	9
10	—	—	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	10
11	—	—	—	—	—	—	PTC	NMC	1MC	1MC	2MC	11
12	—	—	—	—	—	—	—	PTC	NMC	1MC	1MC	12
13	—	—	—	—	—	—	—	—	PTC	NMC	1MC	13
14	—	—	—	—	—	—	—	—	—	PTC	NMC	14
≥ 15	—	—	—	—	—	—	—	—	—	—	PTC	≥ 15
Vehicle	3	4	5	6	7	8	9	10	11	12	13	Vehicle
FP or DR Modifiers:				x½: AFPh Fire (<i>FT NA</i>)				-2: vs Cavalry				
x½: Area Fire (concealed target)				x2: Critical Hit				-2: Hazardous Movement				
x½: Motion/Bounding (First) Fire (<i>FT NA</i>)				x2: PBF vs adj hex ≤ 1 higher (<i>FT NA</i>)				-3: Set DC				
x½: From IN Deep or Shallow Stream				x3: TPBF vs same Location				+1: From Encirclement				
x½: HE vs Forging Infantry or Marsh				-1: vs overstacked units; per squad				+1: By unit on Wire				
x½: By Forging Infantry				-1: Heavy Payload per 50mm/8 FP excess				+1: By overstacked unit; per vehicle/squad				
x½: Mounted Fire (<i>EXC: ht & Charge</i>)				-1: vs. Personnel unit with FT				+1: By CX unit				
x½: Firer pinned				-1: FFMO/FFNAM (each)				+2: OVR vs Motion Vehicle				
x½: From marsh				-1: vs Motorcycle				+x: TEM/LOS Hind. (<i>FT NA</i>)				
x½: Long Range Fire				-1: OVR vs Infantry in Open Ground								

This ASL play aid brought to you courtesy of Mark Pitcavage.

Look for more play aids at <http://www.sff.net/people/pitman/asl/asl.htm>

A11.11 Close Combat Table (CCT)																												
Odds Ratio	<1-8	1-8	1-6	1-4	1-2	1-1	3-2	2-1	3-1	4-1	6-1	8-1	10-1	>10-1														
Kill Number:	0	2	1	3	2	4	3	5	4	6	5	7	6	8	7	9	8	10	9	11	10	12	11	13	12	14	13	15
Red Kill #s apply to Hand-to-Hand CC only; NA by/vs vehicles/PRC/pillbox-occupants																												
Sequential CC: Ambush, AFV, Prisoner CCV: Squad 5, Crew 4, HS 3, SMC 2 (app only to CC vs. vehicles; DR ≤ CCV)																												
CCV Modifiers: Assault Engineers: +1, Inexperienced: -1; extra SMC: +1; halved FP: -1 per each application																												
CC or Firepower DRM:																												
+x/-1: Leadership (if not alone)/Heroic DRM						-1/+1: vs/by Bank/Panji unit																						
-1: by unpinned Gurkha/Japanese vs. Inf/Cav in HtH, unless ambushed						2/+2: vs/by boat/amphibious passengers																						
-2: vs Withdrawing Infantry (per Covering unit +1)						x½: vs Concealed unit																						
-2: vs Broken Unit						x½: by Guarding/Motion/Pinned unit (per application)																						
-2: Cavalry in HtH CC (unless ambushed)						+2: vs Motion/non-stopped vehicle (CCV)																						
-1: by Dare-Death MMC vs. Personnel						-2: vs OT/partially armored AFV (CCV)																						
+1: Capture Attempt (vs Inexperienced Infantry -1)						-1: vs CE CT or abandoned AFV (CCV)																						
+1: by vehicle on Narrow Street						-1: vs vehicle w/no manned usable MG (CCV)																						
1/+1: by/vs Ambusher (NA during Melee)						-3: vs unarmored vehicle (CCV)																						
-2/+2: vs/by Crest/ski/Truck Passengers						-3: With ATMM (CCV)																						
-1/+1: vs/by CX/II/Wire unit/Riders						+1: per escorting Personnel HS/Crew (squad +2)(CCV)																						
+1/-1: by/vs Overstacked per excess squad						-1: vs Immobile AFV (CCV)																						
A15.1 Heat of Battle: DR follows any Original 2 MC/Rally DR																												
NA TO: Banzai, Berserk, Climbing, Crew, Hero, Human Wave, Panji MC, Parachute, PRC, Self-Rally, Swimming, Unarmed, Wading Inf/Cav																												
1 Treat as Battle Hardening if: No known enemy units in LOS; Japanese in Pillbox; in a Cave; its closest Known enemy unit is in Ocean.																												
2 Surrender if: Non-elite Italian/Axis Minors surrender on final Heat of Battle DR ≥ 10.																												
3 Treat as Berserk if: Japanese, Gurkhas, Partisans, Fanatics, Commisars, SS vs Russians, or subject to No Quarter.																												
4 Treat as Battle Hardening if: Japanese in Pillbox, Cave; or Assaulting/Evacuating side in a Beach Location.																												
		DR	Result																									
		≤ 6	Hero Creation																									
		5-8	Battle Hardening																									
		9-11	Berserk ^{1,2}																									
		≥ 12	Surrender ^{2,3,4}																									
A11.4 Ambush																												
<enemy dr by at least 3 (by at least 2 if non-illuminated ATTACKER at night)																												
		drm	Cause																									
		+2	Cavalry, vehicle, pillbox																									
		+2	Above Bank counter																									
		+1	Bu or Stunned (each)																									
		+1	CX, Broken, Pinned (each)																									
		+1	Lax, Berserk (each)																									
		+1	Above Panji counter																									
		+1	ATTACKER in Jungle, Kunai, Bamboo																									
		+x	Leadership if not alone																									
		-1	Stealthy																									
		-2	Concealed																									
HOB DRM																												
-1 Elite, British, Finnish																												
+1 Broken, Inexperienced																												
+1 French, Partisan																												
+2 Russian, Allied Minor																												
+3 Axis Minor, Italian																												
+4 Japanese																												

C5 Firer-Based Hit Determination (Mortars) DRM:	
A	T: +1/+1/+1 Firer outside CA (per hexspine changed) ST: +2/+1/+1 (x2 if firer in woods/bldg/rubble) (NA to BFF) NT: +3/+1/+1
B	+2 Fire in AFPH w/o entering hex that player turn
C	Case B plus Bounding Firer [Stabilized Gun: +1] [T/ST: +2] [NT: +3]
D	+2 Pinned Firer/Spotter (Multiple ROF NA) (C5.4)
F	+2 Intensive Fire (B# -2; Case B, AFPh, stunned firer are NA; NA for SW)
H	+2 Captured/Non-qualified Inf. (B# -2, red TH #) (+4 if both apply)
I	+1 BU AFV (MA only; RST/1MT must be BU to fire MA)
Other Firer Based DRM:	
+1	per vehicle/squad Overstacked
+1	Bypass TCA Change to/through side Target Facing (D2.321)
+TH	Case A, unless Bypass TCA equals side Target Facing
+1	Stun (per each Stun result)
+1	Firer in Ocean during Heavy Surf if attack is on IFT
+x	Leadership
+2	Spotted Fire (C9.31)
+1	CX (A4.51)
+1	Encircled (A7.7)
C6 Target-Based Hit Determination DRM	
J	+2 Moving/Motion Vehicle or Dashing Infantry
J¹	Case J +1 DFF vs. Moving Vehicle (≤ 3 MP in Firer's LOS)
J²	Case J +2 DFF vs. Moving Vehicle (≤ 1 MP in Firer's LOS)
J³	-1 FFNAM (Case J is NA)
J⁴	-1 FFMO (Case J is NA)
K	+2 vs. Concealed Target (or Area Fire; C.4)
M	-2 Bore Sighted Location (Case N, E is NA)
N	Per Acquisition Counter Acquired Target (NA to Case G)
O	-2 Hazardous Movement
P	Per target counter Target size modifier (-2 to +2)
R	Per hindrance LOS/LV Hindrance
Other Target Based DRM:	
-1	per overstacked squadvs. Overstacked Personnel
-1	vs. Motorcyclist
-2	vs. Cavalry
+2	vs. Wading Vehicle (G13.422)
+1	Target in Ocean during Heavy Surf if attack is on IFT

C3.9 Vehicular Hit Location	
Turret	TH DR colored dr < white dr
Hull	TH DR colored dr ≥ white dr

ROF (C2.5, C9.31) : 1) Non-Vehicular NT Gun (EXC: 76-82mm Mortar) reduces ROF (for next shot in same phase) by 1 for CA change. 2) Spotted Mortar Fire reduces ROF by 1.

C3 MORTAR TO HIT TABLE (Area Target Type with * Gun Modification)										
Range	0-6	7-12	13-18	19-24	25-30	31-36	37-42	43-48	49-54	>54
TH#	7	7	7	7	6	6	5	5	4	4

C4Gun & Ammo Basic To Hit Number Modifications:										
SMOKE	+2	+2	0	0	0	0	0	0	0	0
≤ 57mm	0	0	-1	-1	-2	-2	-3	-3	-4	-4
≤ 40mm	0	0	-1	-1	-1	-1	-1	-1	-1	-1

FP/DR	1/20	2/30	4/37	6/50	8/60	12/70	16/80	20/100	24/120	30/150	36+/200+	FP/DR
≤ 0	1KIA	2KIA	2KIA	3KIA	3KIA	3KIA	4KIA	4KIA	5KIA	6KIA	7KIA	≤ 0
1	K/1	1KIA	1KIA	2KIA	2KIA	2KIA	3KIA	3KIA	4KIA	5KIA	6KIA	1
2	1MC	K/1	K/2	1KIA	1KIA	1KIA	2KIA	2KIA	3KIA	4KIA	5KIA	2
3	1MC	1MC	2MC	K/2	K/2	K/3	1KIA	1KIA	2KIA	3KIA	4KIA	3
4	NMC	1MC	1MC	2MC	2MC	3MC	K/3	K/4	1KIA	2KIA	3KIA	4
5	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	1KIA	2KIA	5
6	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	1KIA	6
7	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	K/4	7
8	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	4MC	8
9	—	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	3MC	9
10	—	—	—	—	—	PTC	NMC	1MC	1MC	2MC	2MC	10
11	—	—	—	—	—	—	PTC	NMC	1MC	1MC	2MC	11
12	—	—	—	—	—	—	—	PTC	NMC	1MC	1MC	12
13	—	—	—	—	—	—	—	—	PTC	NMC	1MC	13
14	—	—	—	—	—	—	—	—	—	PTC	NMC	14
≥ 15	—	—	—	—	—	—	—	—	—	—	PTC	≥ 15
Vehicle	3	4	5	6	7	8	9	10	11	12	13	Vehicle

FP or DR Modifiers:
x½: Area Fire x2: Critical Hit
-1: Heavy Payload per 50mm/8 FP excess
+x: TEM/LOS Hind.
-1: Airburst

C1.55 Indirect Fire vs. AFV IFT DRM	
DRM	Cause
-1	All AF ≤ 4
-1	OT AFV
+1	All AF ≥ 8

C7.7 AFV Indirect Fire Destruction Table	
Use Original IFT DR for Hit Location (C1.55)	
Final Effects DR	Result
^≤ Half K/1KIA	Burn
^<K/1KIA	Elim
=K/1KIA	IM ^H /SH ^T
1 > K	IM ^H /SH ^T
A: -1 DRM to Final TK DR for Burning Wreck determination (only) if AFV has Red CS# . IM : Immobilization SH : Shock.	
H : Hull Hit T : Turret Hit	
K : DR required for K result on IFT	
1KIA : DR required for 1KIA on IFT	

C3.7 Critical Hits (Area Target Type): Original Dr of 2. Double Full FP and reverse TEM (unless originally negative). Versus AFV, no TEM of any kind.

This play aid was created by Mark Pitcavage. You can find more Advanced Squad Leader play aids available for download at <http://www.sff.net/people/pitman/asl/asl.htm>.

ADVANCED SQUAD LEADER MORTAR PLAY AID

Special Mortar Rules

- **Light Mortars:** ≤ 60mm; such mortars are SW. Do not require crews to fire with full efficiency. Leadership can apply. Two SMC can fire w/no detriment; 1 SMC can fire with no ROF.
- **Medium Mortars:** 76-82mm. Can be dismantled (A9.8) and portaged as a 5pp SW.
- **Area Target Type (C3.33):** Must be used at all times by mortars. All (including friendly) units in target hex can be hit (even by WP). Does not lose ROF for Area Target/SMOKE. A mortar can hit target hex units out of its firer's/spotter's LOS if the shot hit the non-hidden enemy target that currently was the hardest for it to hit. All units are attacked on IFT using a single DR and half FP of ordnance. **TEM applies to IFT DR, not TH DR.**
- **Firing Limitations:** Cannot be used in firer's own hex, as Bounding First Fire, or Motion Fire. No mortar which moved during movement phase may fire during Advancing Fire Phase (A4.41). Vulnerable PRC are attacked Collaterally.
- **Terrain Restrictions:** Fire NA from Bldgs unless Rooftop (B23.423) or Roofless Factory (O5.45); Caves (except Japanese light mortar; G11.83); Crag; Dense Jungle; Bamboo.
- **Miscellaneous Terrain:** Mortars may fire from fox-holes, trenches; may fire from graveyards (but not man-handled into one—only assembled in one from dismantled state)
- **Spotters (C9.3):** One Good Order Personnel unit in same/adjacent hex (regardless of vertical distance/LOS) can be a Spotter for a mortar (or multiple mortars if they all fire on same hex). Spotting is equivalent of using a SW; must be predesignated by owning player during his PFPh/DFPh (if hidden, must be recorded as spotter). As long as Spotter is Good Order, mortar(s) can fire on any target in Spotter's LOS. A Pinned Spotter in effect pins the mortar crew for Spotted attacks. A new Spotter may not be designated until original Spotter is eliminated/broken/captured, and not until start of owner's MPH following the loss. **Spotted fire is subject to +2 DRM and ROF -1.**

Particular Mortar Rules

- **U.S. M2 60mm Mortar:** For every 3 M2 mortars the U.S. player receives in his OB, he may exchange them for a radio (or field phone) and a 4 FP OBA battery that can fire only HE (and WP in 1945)/IR. This battery receives a -2 Radio Contact Maintenance DRM (C1.22) and uses standard U.S. Battery Access draw pile. As OBA, has max range of 40 hexes from center of friendly board edge.
- **US M2 4.2-in. (107mm) Mortar:** Has Area Target FP of 12, rather than 8.
- **Japanese Type 89 Heavy Grenade Launcher (50mm):** This mortar has HE, Smoke, and WP. ROF is 2 and Range is 1-16, but 1) when firing HE at range of ≤ hexes, ROF is lowered to 1 for that shot and Air Bursts are NA; 2) when firing WP, range is only 1-5, ROF is 1 for that shot, Air Bursts are NA, and the SMOKE is considered Dispersed even when fired in the PFPh; and 3) Smoke can fire only at a range of 3-10 hexes.
- **Chinese Type 27 Grenade Launcher:** Air Bursts NA. Because it is 40mm, it has a chance of Multiple Hits (C3.8) on a non-CH original *doubles* TH DR. Firer is entitled to 2 DR on IFT table and may choose one to use.
- **Chinese Type 89 Heavy Grenade Launcher (50mm):** As per Japanese version above (note Depletion Numbers are less, though).
- **Chinese M2 60mm Mortar:** May exchange 3 such mortars as per U.S. version above.
- **Chinese M2 4.2-in. (107mm) Mortar:** As U.S. version above.
- **Free French M2 60mm Mortar:** May exchange 3 such mortars as per U.S. version above.
- **Belgian DBT (50mm):** Air Bursts NA.

NIGHT RULES CHEAT SHEET (E1)

Pre-Game

Scenario Defender:

1. May HIP 25% (FRU) squad equivalents (crews count only for Japanese). Receives Dummy counters = squad equivalents. All units may set up concealed.
2. Place NO MOVE counters on Defenders.
3. Remember Defenders can Bore Sight! (see also E1.71)
4. PTO 1944-45: US Defender may set up trip flares (see Starshells/IR/Trip Flares) if in OB.
5. Fortifications HIP until 1) TEM is used; 2) non-Dummy unit enters; 3) extra MP used to enter/exit it within LOS.

Scenario Attacker

1. Scenario Attacker gets one Cloaking counter for each squad equivalent (inc. Jap. crews). Cloaked units can carry 5 PP w/o penalty but must be dm if possible. PRC cannot be Cloaked. SW PP>3 cannot fire the player turn they lose Cloaked status.
2. Printed SAN actually TWO higher (mark on scenario card). Also: captured MG cause auto SAN.

Rally Phase

1. Weather DR (not on first player turn): 6 on colored dr results in 1 hex change of NVR. If white dr ≤ 3 , it lowers; dr = 4, no change; dr ≥ 5 , it goes up (max 6). Before first starshell/IR, dr 4 increases NVR. **If Ground/Deep Snow, Max NVR is 9; Min NVR is 2.** See E1.12 for scattered clouds, half/full moon.
2. +1 all Recovery attempts.
3. DM counter stays unless Original Rally DR \leq morale.

Prep Fire Phase

1. Attacker can fire Starshells.
2. +1 LV Hindrance DRM, except against TEM due to HA or if target has any terrain whose topmost height is a full level higher than firer, or in same hex. Does not nullify FFMO. Cumulative with LV Hindrances and Smoke. Does not reduce Residual.
3. ACQ NA unless target Illuminated.
4. Multi-Location FG NA.

Movement Phase (E1.5)

1. Defender can fire Starshells at beginning of phase.
2. Inf/Cav: +1 MF per Concealment Terrain Location. Vehicles: +1 MP/MF per hexside. NA for entry of caves/cave complexes.

3. +1 Recovery drm.
4. **Straying:** (NA if LOS to Known enemy unit or Beach/Ocean; if on/ADJ road, gully, stream, path, river bank, cave or cave complex, illuminated location) Stray on cdr = 6 for Lax units. If wdr also 3-6, Normal strays; if 5-6, Stealthy Strays. Straying DR; cdr = hex grain of stray; move far as possible. Stop straying if enter Location of Good Order friendly unit (can continue movement).
5. **JITTER FIRE ON DOUBLES; SEE REVERSE, E1.55**—must roll for malf, sniper, ROF; marked with first/final counter.
6. NVR = 0: Attacker moving into concealed defender location is not returned to original location (but is vulnerable to TPBF). If attacked, it cannot leave. No Double Time, Infantry Road Bonus, Gallop or Vehicle MP expenditure.
7. **No Move Counters:** Remove if unit has been attacked (exc OBA/sniper) or has seen Known enemy unit.
8. Scenario Defender, after any attack, may make dr < ELR for his best leader to gain Freedom of Movement (thereafter, any unit beginning MPh with it can move).
9. No extra cost to enter/exit pillbox/entrenchment unless in LOS of Good Order enemy unit.
10. **Cloaked Units:** 6 MF; 5 PP (dm if possible); *no night MF penalty.*

Defensive First Fire/Defensive Fire

1. Defender can fire IR.
2. +1 LV Hindrance DRM (see Prep Fire).
3. Fire Lane can be beyond NVR. Can create Fire Lane to bore-sighted location; see E1.71.
4. ACQ NA unless target Illuminated.
5. Multi-Location FG NA.

Advancing Fire Phase

1. +1 LV Hindrance DRM (see Prep Fire).
2. ACQ NA unless target Illuminated.
3. Multi-Location FG NA.

Rout Phase (E1.54): Low Crawl only. Can move ADJACENT to, but not towards, Known enemy unit. No elimination for failure to rout.

Advance Phase: Don't forget +1 MF/Concealment Terrain Location.

Close Combat Phase (E1.77): Attacker Ambush on dr 2 < than defender, **unless Illuminated.** CC causes Gunflash.

Night Rules Cheat Sheet (Front)

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Concealment/Cloaking (E1.3-1.43)

Concealment Gain: As normal, but automatic when dr needed during day.

Concealment Loss:

1. Non-Assault Movement: Only when entering Illuminated location or enemy unit's location.
2. Assault Movement: Only when entering unit's Location.
3. Firing: Only when in Illuminated Location or Enemy NVR.

Cloaking Loss:

1. As if concealment.
2. For making an attack (EXC: Successful Ambush).
3. Successfully placing Starshell
4. Suffers Sniper attack.

Line of Sight (E1.1-1.15)

1. LOS from non-illuminated to: 1) within NVR (1/2 NVR for BU AFV); 2) Illuminated Location; 3) Moving vehicles(at 1.5 NVR, or 2 NVR if tracked); 4) Gunflashes (treat as concealed if beyond NVR).
2. LOS from illuminated to: 1) Illuminated Locations; 2) Gunflashes (treat as concealed).
3. Blazes cause illuminated zone equal to twice # of Blazing levels in hex (Heavy & Very Heavy Dust: # of levels, Extremely Heavy Dust only own location). Fires cannot be deliberately set. Kindling causes loss of concealment and gunflash if within LOS Good Order enemy unit. Terrain obstacles of ≥ 1 level within Illumination Zone of Blaze cause quasi-Blind hexes that block Illumination. Flames illuminate their own location only.
4. Dense Jungle, Bamboo: No LOS at night between adjacent

Jitter Fire Table

DR	Result
2	Closest Def. JFs
4	Closest Def. JFs unless Stealthy
6	Closest Def. JFs if Lax
8	Moving unit JFs unless Cloaked, Stealthy, or Normal
10	Moving unit JFs unless Cloaked or Stealthy
12	Moving unit JFs

- dense jungle hexes except due to Illumination/Gunflash.
5. Neither starshells nor IR illuminate non-Aerial portion of a jungle hex (but illuminate Bypass area of Light Jungle hexes).
 6. Cave Illuminated only if its hex AND its Entrance Hex are Illuminated. No Cave Complex can ever be Illuminated.
 7. OBA: see C1.6., E1.87. SR always in LOS of Observer.

Starshells/IR/Trip Flares (E1.92-1.93)

1. Starshell Initial Use only (during PFPh, MPH, DFPh) if: A) LOS to enemy unit; B) Moving enemy vehicle within 16 hexes if no friendly vehicles on board; C) Friendly Gunflash; 4) Enemy FFE.
2. Subsequent Use only at beginning of PFPh (Att), MPH (Defender Starshell), DFPh (Defender IR). **Leaders can fire any time during phase.**
3. Usage dr: ≤ 4 for leader or mortar IR; ≤ 2 for MMC or CE AFV.
4. Do not lose concealment, but do lose HIP or Cloaking.
5. **Placement Methods:** A) in hex (starshells only) w/1-hex drift; B) along LOS to Known enemy unit or Gunflash (< 9 hexes for Starshell) w/drift 1/2 dr (FRU); C) 3 hexes away (multiple of 6 for IR) w/drift 1 dr.
6. **IR:** Uses ROF and causes Gunflash. No Usage dr for OBA. OBA must have Radio Contact & Battery Access but chits used for IR are reshuffled into pile once Fire Mission completed. OBA fires IR as SR, not as FFE. Onboard MTR must make To Hit DR (only for mal/Low Ammo/SAN); placement is Auto. Target hex need not be in CA (which does not change). IR is like starshell but 6-hex range.
7. **Trip Flares.** 1944-45 PTO, US Defender. Record trip flares up to # in OB in any jungle/bamboo/wire/panji Locations. Record hex and # of trip flares. Any non-Dummy (even friendly) unit that spends MF/MP causes trip flare dr (rare exceptions see E1.95) for each separate qualifying expenditure (not for each MF/MP expended). Trip flare dr occurs *before* Defensive First Fire.
8. If Final dr is \leq # trip flares in Location, trip flare is set off. Drm -4 if unit entered using road or path (not created during play). Trip Flare illuminates accessible ground-level locations in that hex. Flare counters placed during RtPh, APh, CCPh are removed at end of next Player Turn's AFPh. Allows subsequent use of starshells/IR. Once one has been set off, # remaining is reduced by one (or by two for vehicle with -4 dr).
9. **NOBA** ≥ 150 mm with Radio Contact and Battery Access may fire an IR in PFPh/DFPh even during/at start of an HP/WP Fire Mission. Place IR, then proceed with HE/WP in normal manner.
10. **DUST:** Light/Moderate Dust reduces starshell illumination by 1 hex & IR by two; blaze unaffected. Heavy Dust: starshell 1 hex range, IR two hex range. Very Heavy Dust: starshell no hexes & IR its own hex. Extremely Heavy Dust: none for starshell/IR.

Night Rules Cheat Sheet (Back)

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OAQ (Ordnance Attacks QRC)

Attack type	General	Terrain	PFP	By Moving	DFF	SFF	FPF	DFPh	AFPh	CCPh
<i>Specific for All:</i>		CEGRPSM							Ⓜ	
FFE:1 / FFE:2 (C1.5) †	Δ	•	•	na	⇨	na	na	•	na	⇨
FFE:C (C1.34) †	Δ	•	na	na	⇨	na	na	na	na	⇨
Fighter (E7)	Δ	•	na	na	⊙⇩★	na	na	⊙★	na	na Dogfight
Light AA (E7.51)	ⓂⓂ[EXC: IFE]	DF	na	•	na	na	na	•	na	na
Heavy AA (E7.52)	rd CA change	DF	•	na	na	na	na	•	na	na
Smoke 5/8" (A24)	‡Ⓜ		Ⓜ	na	na	na	na	Ⓜ	na	na
WP 5/8" (A24.3, C8.6) †	‡Ⓜ		Ⓜ	na	Ⓜ⇨	na	na	Ⓜ	Ⓜ	na
Cannister (C8.4)	TH NA, mg 2 or 3	HLR	•	⊙ / ∞	•	na	na	•	⊙	na
IR (E1.93)	OBA/MTR only, Ⓜ		•	na	•	na	na	•	na	
sD (D13)			na	•	•	na	na	na	na	na
RCL (5/8") (C12) † (C12.4)	†∇ⓂΔⓂ	Bbcpw	ⓂⓂ	na	ⓂⓂ	na	na	ⓂⓂ	ⓂⓂ%	na
Gun (C2)	†, Δ, ❖	BbcDFpw	ⓂⓂ	na	ⓂⓂ	na	na	ⓂⓂ	ⓂⓂ%	na
IF Gun ()	ⓂⓂ	BbcFpw								
Veh. FT (D1.8, A22.1) †	#1Δ7Ⓜ	L	•	⊙ ∞	•	na	na	•	⊙	na
IFE (C2.29)	†#16↔ⓂⓂ	BbcHLpRw	∅ Ⓜ	⊙ ∞	Ⓜ	na	na	Ⓜ	Ⓜ⊙	na
Vehicular Gun (C2.03)	†∇❖Δ	DHLR	∅ⓂⓂ	∇, ⊙ ∞	ⓂⓂ	na	na	ⓂⓂ	%ⓂⓂ⊙Ⓜ	na
BMG / CMG (D1.8)	#8 / #12↔Δ▪	HLR	∅	⊙ ∞ ∇	•	na	na	•	⊙∇	na
AAMG (D1.83)	CE, Hero, #8↔Δ▪	CDLR	∅	⊙ ∞	•	na	na	•	⊙	na

LATW To Hit

#	PF	PSK	Piat
0	10	11	11
1	8	9	9
2	6	8	7
3	4	7	5
4	na	4	na

Baz To Hit

#	43	44	45
0	11	11	11
1	9	9	10
2	8	8	9
3	7	7	8
4	4	4	6
5	na	na	4

† **Aquisition** is lost if: owner {not GO, Fire IFP, fire IFE/Cannister, interdict with IFP, moves [EXC: Gyro], (un)limber Gun, change CA w/o firing at Ⓜtarget, interdict other unit}, Wpn malfunctions.
 Ⓜ **ROF na** if {AFPh, cowering, Pinned, Non-MTR fire Smoke/Area-Target Type, firing IR} **ROF -1** if {IFE, Light AA Fire, Spotted Fire, CA change (non-vehicular NT Gun [EXC: 76-82 mm MTR]) (if no ROF place IF)), unqualified use, captured use, firing H#[9] (*German Ordnance Note B*).

Red = na or penalty. Purple = restricted. Blue = Area Fire / Area Target Type / Case B / halved FP for other reason. Green = overrides restriction in box on same line..

- Normal attack.
- Critical Hit on TH DR's na unless MA.
- ↔ May use Spraying Fire (A9.5). ↔ only if vehicle MA.
- ❖ Multiple Hits possible for 15mm - 40mm (C3.8)
- ⊙ blue penalty does not apply if Opportunity Fire (A7.25).
- Δ Leadership DRM na [EXC: Δ Armor leader only].
- ∅ na if in Motion.
- Ⓜ Firegroup na.
- ⊙ Bounding [First] Fire Penalties (Cx.xx).
- ∇ CMG with Gyro is not halved vs. Acquired target (Dx.xx).
- ∞ Overrun Δ. RMG na. TPBF applies [EXC: FT] (D7.11).
- 7 Halv FP vs targets 2 lvls higher (A22.32). Long Range = Normal range +1 hex.

- ∇ ATT is na. ∇ ATT is na if in Motion / Bouding First Firer.
- ⊙ Subject to Backblast (C13.8) [EXC: Huts G5.62]. RCL also rear hex (C12.3).
- † May possibly cause Flame.
- # Normal range in hexes. Vehicular FT normal range is 2 if FT FP value is underscored.
- ⇨ Upon hex entry or changing Location within hex. This also applies during RtPh / APH (OBA C1.51).
- ∇ Affect both moving and non-moving units in hex.
- ★ Fighter MG/Bomb TH roll applies vs all targets in hex even if using ITT / VTT (E7.41, E7.42). Napalm: ▪, -1 TH DRM, treat as 24FP FT (G17.41).
- Ⓜ Bore sighting may apply (C6.4). *na if using* Ⓜ or ↔.

- Ⓜ Acquired Target DRM may apply (C6.5). *na if using* Ⓜ or RCL vs. moving/Motion target.
- ‡ Looses any Ⓜ but may use it for first TH [EXC: firing Smoke att Caves uses ITT, Ⓜ and ROF].
- % na if moved to new location for non-vehicular Gun [C2.8].
- ⊙ Requires check.
- Ⓜ Smoke must be fired before Non-Smoke in same Phase. Dispersed unless fired in PFP (C8.5, C8.6)

Terrain Restrictions **B** Mortar and AA fire is NA from in a Building; NA to 5/8" Guns [EXC: guns that are a small target; AT/INF gun that is not a large target; Mortar ≤ 82mm on Rooftop; ART/AT/INF Guns ≤ 76mm in Fortified buildings] (B23.423). **b** only IFP/ISW, LMG, LATW [EXC: 20mm ATR], T☉ may be used from on a Bank counter (G8.212). **C** only AA, SW MG, ATR, PIAT, IFP may fire through Cliff hexside to adj., higher level hex (B11.32). **c** only IFP, LMG, DC, LATW, FT, ISW may be fire from Crest status [EXC: from Wadi Crest they may only fire through the protected Crest front; vehicles are unrestricted] (B20.95, F5.41, F5.42). **D** Mortar and AA is NA from Dense Jungle / Bamboo [G2.2, G2.24]. **E** Mortars are the only 5/8" counter that may fire from Entrenchment [EXC: one Gun may set up in a Sangar] (B27.1, F8.3). **F** only IFP may be fired by Forging units & only as Area Fire & AFPh (B21.42). **f** FG restrictions for Dense Jungle / Bamboo / Kunai / Swamp (G.3). **G** One Gun per Cave. AA / Mortar from Cave is NA [EXC: IJA light Mortar] (G11.4, G11.83, G11.92, Manhandling G11.76). **H** Bow mounted use NA if HD [EXC: MA] (D4.223). **L** OVR NA in Lumberyard (B23.211). **M** only IFP, LATW, LMG, DC, FT, ISW may be used in a Marsh & is treated as Area Fire (B16.32). **P** no Vehicle / PRC / Animal may enter / fire from Pillbox (B30.111). **p** only IFP, ISW, LMG, LATW, FT may be used on a Panji counter. All attacks receive +1DRM (G9.21). **R** only IFP, LMG, DC, LATW, FT, ISW may be fire from Shallow / Deep Stream (B20.6). **S** NA in Sewer (B8.4). **W** DC use NA on Wire (B26.45). **w** Wading Infantry/Cavalry is treated as **S** + may not form multi-hex FG and IFP / LMG fires is halved as Area Fire (G13.421).

Rice Paddies (G8)

Rice Paddies have two parts: **interior** and **banks**. Units in the interior are IN the paddy, while those on its banks are placed above a Bank counter in the hex. Being "in" a paddy refers to being in either/both positions. A unit can either enter onto a paddy hex's banks or INTO its interior. *Only Infantry, Cavalry, Cycle Riders and fully tracked vehicles may set up IN or enter INTO a paddy.* Such Infantry may not ride bicycles but may lead horses.

Banks: A Bank counter does NOT create a new Location or change stacking units. Only units allowed to enter INTO a paddy may cross a bank hexside (EXC: bicyclists may cross bank hexside if entering onto a Bank counter or a road). The only units that may set-up/enter/remain above a Bank counter are Infantry (even if riding bicycles/leading horses, but not manhandling a gun/boat), Cavalry, and Cycle Riders.

Paddies may be in one of three states: Drained, Irrigated, In-Season:

PADDY MOVE- MENT CHART	Unit IN paddy	Unit in non-paddy hex	Unit on Bank counter
To enter directly onto Bank counter in adjacent paddy hex (provided it crosses bank hexside):	1 MF (3 MP cycle) to cross bank hexside, plus 1 MF (3 MP cycle) to enter onto Bank counter (<i>Mud MF/MP can apply if EC are Mud</i>) G8.2101	1 MF (3 MP cycle) to cross bank hexside, plus 1 MF (3 MP cycle) to enter onto Bank counter (<i>Mud MF/MP can apply if EC are Mud</i>) G8.2101	1 MF (3 MP cycle). (<i>Mud MF/MP can apply if EC are Mud</i>) G8.2106
To enter directly INTO adjacent paddy hex:	1 MF/MP (3 MP cycle) if crossing a bank hexside, plus IN-hex COT of hex. (<i>Mud MF/MP can apply</i>) G8.2102	1 MF/MP (3 MP cycle) if crossing a bank hexside, plus IN-hex COT of hex. (<i>Mud MF/MP can apply</i>) G8.2102	Provided it crosses bank hexside, 1 MF (3 MP cycle) to cross bank hexside, plus IN-hex COT. (<i>Mud MF/MP can apply</i>) G8.2105
To enter directly into adjacent non-paddy hex:	1 MF/MP (3 MP cycle) to cross bank hexside plus COT of non-paddy hex. (<i>Mud MF/MP can apply if EC are Mud</i>) G8.2103	NA	1 MF (3 MP cycle) to cross bank hexside, plus COT non-paddy hex. (<i>Mud MF/MP can apply if EC are Mud</i>) G8.2107
To enter directly onto Bank counter in same hex:	1 MF (3 MP cycle). (<i>Mud MF/MP never apply</i>) G8.2104	NA	NA
To enter INTO same hex:	NA	NA	IN-hex COT (<i>Mud MF/MP never apply</i>) G8.2108

- **Drained:** The interior is Open Ground (aside from cover provided by banks). **Entry Cost INTO: 1 (hexside cost) + Open Ground MF/MP cost.**
- **Irrigated:** Paddy is flooded; the interior is Mud and Bog Terrain (+1 Mud DRM, +2 Irrigated Paddy DRM). No Fortification (EXC: mines/wire/panjis) is allowed IN a paddy. No unhooked non-vehicular Gun (unless dm/animal-packed), Galloping/Charging Cavalry, Pushed/Ridden Motorcycle, or Ridden bicycle is allowed IN a paddy. Unpossessed equipment IN an Irrigated paddy is eliminated unless in a vehicle/animal-packed. SW ≥ 3PP IN Irrigated paddy has a restricted field of fire (A9.21). FP of all DC, ordnance/OBA HE attacks (EXC: HE-Equivalency/Vehicle Target Type/Specific Collateral Attack) vs. Irrigated paddy hex are halved on IFT. A *white* SMOKE counter may not be placed in an Irrigated paddy hex. MF cost of Manhandling a boat is not doubled as per C10.3. **Entry Cost INTO: 1 (hexside cost) + 2x Cost of Open Ground Mud.**
- **In-Season:** Interior is Grain, but is Concealment Terrain only for Infantry, Dummy stacks, Fortifications, Emplaced Guns. Mud can exist IN In-Season paddies even though not Open Ground. **Entry Cost INTO: 1 (hexside cost) + Grain MF/MP.**

TEM: Bank hexsides are treated as hedges for TEM purposes (EXC: TEM reduced to zero if firer is at elevation > target's; if target is above a Bank counter; or if target unit is not Infantry). Cannot confer HD/Wall Advantage status. Interior of a paddy hex is Open Ground if its bank-hexside TEM is zero (EXC: Interior is grain if In-Season). A Bank counter is always Open Ground.

LOS: Entrenched Infantry treat bank hexsides as hedges for LOS purposes. LOS to/from unit on Bank counter is drawn to/from paddy hex's center dot. An AFV/wreck IN a paddy retains its normal Hindrance effects. Hindrance effect of **In-Season** paddy differs from grain in that +1/hex Hindrance is **halved** (FRD) and the grain is considered Inherent Terrain.

MUD: Mud can exist IN/in paddy hexes if they are Irrigated and/or EC are Mud. Irrigated paddies are mud only IN those hexes, unless EC are Mud. If EC are Mud, mud rules apply in and IN all paddy hexes, even if In-Season. Extra MF/MP cost of mud applies to entry onto a Bank counter only if EC are mud AND the unit is changing hexes. When mud is in effect for any reason, its +1 TEM applies normally in and IN those hexes.

FIRES: No (Terrain) Flame/Blaze can occur in Drained/Irrigated paddy. In-season paddies are treated as grain for Fire purposes (but do not qualify for "directly attached" DRM if their common hexside is a bank hexside).

FORTIFICATIONS: All types of Fortifications may set up IN Drained/In-Season paddy hexes. No Fortification may be set up above Bank counter. None but minefields/wire OR panjis may be set up in Irrigated paddy hexes. Mines occupy both interior/banks. Use of Bank counter NA if hex contains Wire/Panji. Each unit/SW/Gun above Wire/Panji counter in paddy hex is IN that hex, but Infantry above Wire/Panji counter cannot claim bank-hexside TEM nor paddy's non-Open Ground status, and are subject to all attack limitations (G8.212) as if above Bank counter, in addition to prohibitions of Wire/Panji counter. Shellholes can occur IN Drained/In-Season paddies, in which case IN-hex terrain characteristics change appropriately (banks unaffected). Infantry can ignore bank hexside movement costs when crossing from one Trench counter to another.

BREACH: Mobile dozer can breach bank hexside of a Drained/In-Season (only) paddy just like a bocage hexside, except that it expends only 1/4 (FRU), not all, of its MP allowance. All unit types may enter INTO a Drained/In-Season paddy via a breached or non-bank hexside.

AERIAL: Parachutes/gliders land IN paddy hexes. A 5/8" parachute landing IN an Irrigated paddy must take a NMC per E9.42. Paratroops appearing onboard as per E9.6 may not enter onto a Bank counter during same APh. A glider landing IN a paddy receives the +1 "hedge" Crash drm if it lands across a bank hexside, as per E8.231.

Bank Counter Penalties

- May not Recover/Scrounge anything IN paddy
- May not participate in Transfer with unit IN paddy
- May not Set DC IN paddy
- May not Guard prisoner that is IN paddy
- May not voluntarily become TI (thus may not entrench, clear, search, pack, unpack)
- Infantry subject to Hazardous Movement penalties
- Infantry cannot gain "?"
- Infantry enters INTO hex if broken/pinned/Melee/Column Disbands. If forced INTO hex by breaking/pinning during MPH, it is assumed to expend COT for such infantry (even if exceeding remaining MF; this does not make it CX) & is no longer subject to Hazardous Movement (but unless pinned is subject to FFFAM).
- Infantry may only use Inherent FP/SW, LMG, LATW (EXC: 20mm ATR), FT, Thrown DC. Non-CC attacks treated as Area Fire (EXC: Thrown DC).
- CC: +2 drm to Ambush dr; +1 DRM to CC attack, -1 DRM to CC attack against it.
- Unbroken Japanese Infantry above Bank counter may detonate its DC as per G1.424, but it is resolved as Thrown DC for any targets beneath Bank counter.
- Cavalry may not Gallop/Charge on/off a Bank counter.
- Only Personnel above Bank counter may mount horse/cycle that is above Bank counter; may disembark from such a horse/cycle only onto Bank counter (EXC: may Bail Out INTO hex; surviving cycle also placed IN hex—unless paddy is Irrigated; then cycle is eliminated). (same principle applies for units IN paddy)
- Unpossessed SW above Bank counter placed IN paddy (eliminating it if Irrigated), unless Animal-Packed (unpossessed Animal Packed Guns also remain)
- A unit above Bank counter cannot claim TEM of AFV/wreck IN that hex.

PARATROOPER LANDING CHART (E. 9)

Set up → 1.) Establish Wind Direction 2.) Grouping → Wings of 5 Sticks 3.) Pre-designate DROP POINT per Wing – Distant ≥5 hex any drop point	1 STICK	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Parachute</td> <td style="width: 33%;">5/8"</td> <td style="width: 33%;">≤ 1 1/2"</td> </tr> <tr> <td>Content</td> <td>1 Squad equivalent + 1SMC</td> <td>1 SW</td> </tr> </table>	Parachute	5/8"	≤ 1 1/2"	Content	1 Squad equivalent + 1SMC	1 SW											
Parachute	5/8"	≤ 1 1/2"																	
Content	1 Squad equivalent + 1SMC	1 SW																	
Pre-1942 German Paradraps Partially Armed until locate arms canister Each End MPH that moves ≥1 hex make dr(Δ) ≤ 1 [-1 drm per hex moved] [+1 drm CX]	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Status</th> <th>Squad</th> <th>HS</th> <th>Crew</th> </tr> <tr> <td>Normal</td> <td>5-4-8</td> <td>2-3-8</td> <td>2-2-8</td> </tr> <tr> <td>Partially</td> <td>2-2-8 [8]</td> <td>1-2-8 [7]</td> <td>1-2-8 [8]</td> </tr> </table> Mark with counter (acquired or any)	Status	Squad	HS	Crew	Normal	5-4-8	2-3-8	2-2-8	Partially	2-2-8 [8]	1-2-8 [7]	1-2-8 [8]						
Status	Squad	HS	Crew																
Normal	5-4-8	2-3-8	2-2-8																
Partially	2-2-8 [8]	1-2-8 [7]	1-2-8 [8]																
RPh → Each Wing dr (Δ) = 1-3 Drop Point predesignate 4-6 Drop Point Random Selection Random Selection dr per select Board Drift placement procedure (E3.75) of Drop Point 1.) Draw drift counter 2.) Put in coordinate number 5 of his hexrow 3.) Random Location for definitive hex Place Wing – 1 Stick in drop Point and 2 sticks each side of Hexrow DRIFT At end of MPh → Drift DR (Random Location DR) German 1/2 white dr – Russian +50% FRU white dr SW own drift [British retain LMG, Lt mortar, Radio] [U.S. retain Lt mortar]																			
Adjust wind drift	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>Wind Drift</th> <th>Downwind</th> </tr> <tr> <td>Mild Breeze</td> <td>2 hex</td> </tr> <tr> <td>Gusts</td> <td>3 hex</td> </tr> <tr> <td>Heavy Wind</td> <td>4 hex</td> </tr> </table>	Wind Drift	Downwind	Mild Breeze	2 hex	Gusts	3 hex	Heavy Wind	4 hex	Drift DR 									
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;"> </td> <td style="width: 50%; text-align: center;"> </td> </tr> </table> DFF & SFF → (Small Arms & light AA IFE) Affects 1 Stick per Hex 1 only MC/TC per Stick ML=7.			LOS blocked by blind hex ; Hidrance LV/Smoke only Hazardous move DRM (-2) No Sniper in effect. No PTC, PIN, HoB																
Landing Paratroops may move 1hex [EXC: German] 5/8" → KEU 1/2" → Flipped (until be recovered)																			
Offboard Landing (Use reverse terrain E9.41 for landing drm) Moving Offboard → 1 Hex x MPh (APh only to enter in board) SW recovered only by offboard Paras	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th>INJURIES</th> <th>No Wind</th> <th>Mild Breeze</th> <th>Heavy Wind/Gust</th> </tr> <tr> <td>5/8" landing on woods, forest-road, crag, building, shadow stream, cactus hedge, cactus patch, olive grove, Jungle(see G2.213), Bamboo, Swamp (see G7.32), Inngated Rice Paddies, or marsh hex</td> <td>NMC (Δ) 7 ML</td> <td>1MC (Δ) 7 ML</td> <td>2MC (Δ) 7 ML</td> </tr> <tr> <td>5/8" landing on LANDING ON Building Hex</td> <td>NMC & move 1hex downwind</td> <td>1MC & move 1hex downwind</td> <td>2MC & move 1hex downwind</td> </tr> <tr> <td>All 5/8"</td> <td>NTC</td> <td>1TC</td> <td>2TC</td> </tr> </table>			INJURIES	No Wind	Mild Breeze	Heavy Wind/Gust	5/8" landing on woods, forest-road, crag, building, shadow stream, cactus hedge, cactus patch, olive grove, Jungle(see G2.213), Bamboo, Swamp (see G7.32), Inngated Rice Paddies, or marsh hex	NMC (Δ) 7 ML	1MC (Δ) 7 ML	2MC (Δ) 7 ML	5/8" landing on LANDING ON Building Hex	NMC & move 1hex downwind	1MC & move 1hex downwind	2MC & move 1hex downwind	All 5/8"	NTC	1TC	2TC
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All 5/8"	NTC	1TC	2TC																
AFPh / RtPh No Attack / No Rout rules apply to Paratroopers APh → Place on board Paratroopers (no move if not already deployed)	Landing in building 																		

by David Galán

"If there's a bustle in your hedgerow..."

Wall Advantage & Bocage

Part 1 - Wall Advantage

If you polled owners of the 1st edition of the ASL Rulebook as to what were the most confusing rules, the odds were good that the answers would include Human Waves, Bocage and Wall Advantage. These have all been revised since then to clarify things. Human Waves were erraticized with the release of Doomed Battalions, while Wall Advantage and Bocage had to wait until the release of the 2nd edition of the Rulebook.

Wall Advantage (WA) and Bocage are much more understandable now than in their original format. However, they still can be tricky rules to apply. This is a shame, especially if it makes players shy away from certain scenarios. Four of my favorite ASL boards are deluxe boards e thru h, released in "Hedgerow Hell." Unfortunately, these boards (and the scenarios originally released in that module) are most vulnerable to any stigma against WA and Bocage. This will then be a two part article that will attempt to help clarify these rules in the hope that this will help people reevaluate any bias against those boards and scenarios and reconsider giving them a chance.

A more detailed analysis of the WA and Bocage rules, as well as their evolution from the 1st to the 2nd edition of the Rulebook is given in Journal 3. This article should be considered more of a primer, written with the idea that there can never be enough explanation or examples for difficult rules. Besides, it's not enough to just be given a laundry list of when you can declare WA. It helps to have it pointed out to you what the implications of that list are. Hopefully this will fulfill that goal.

What is Wall Advantage? WA refers to a situation where opposing units are in adjacent hexes with a wall or hedge hexside between them. Only one side can claim the TEM of that wall (+2) or hedge (+1) and that side is said to have WA over that hexside. To picture this, it's easy to imagine two combat units with a wall between them. The one with WA would be arrayed against the wall, able to fire over the wall at their opponents but at the same time having protection from the wall against return fire. Obviously this is a significant advantage to the side with WA who receives the appropriate TEM when fired on by the adjacent unit(s) but can fire back without that TEM. It should be noted though that a unit without WA could still claim the hexside TEM against firing units (whether adjacent or not) who do not have WA over that hexside. An important effect of WA is that in ASL, a unit either has WA over all of the hexsides of its hex or none at all. In other words, if a unit has WA over a hexside shared with an adjacent enemy unit, the enemy unit cannot claim WA over any of its other hexsides. Note though that Deluxe ASL is handled differently. Here, WA status is claimed/forfeited on a hexside-by-hexside basis. Thus a unit in

DASL could have WA over some of its hexsides, but not have it over others.

Who can claim WA? Generally any infantry unit can claim WA as long as it is not in an entrenchment, pillbox or above wire. The main requirements of the unit itself is that it be armed and not broken (although a broken or unarmed unit can claim WA if other friendly units in the same hex have WA). There are a couple of other exceptions, given in rule B9.32. A vehicle can also claim WA as long as it is not eligible to claim an in-hex TEM of +1 or greater.

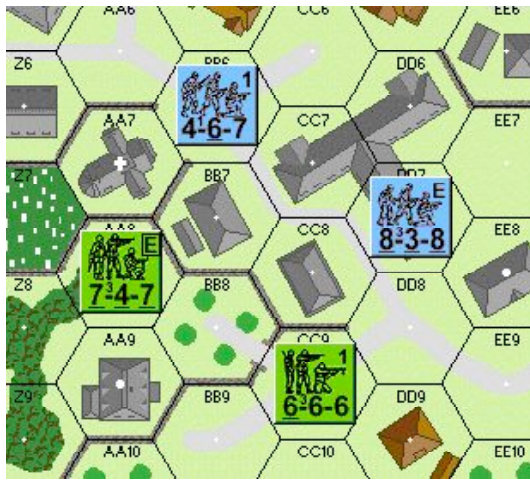
When can a unit claim WA? This is somewhat tricky. Rule B9.322 lists five specific times a unit can voluntarily claim WA:

1. During setup
2. At the end of **any** Rally Phase
3. During the unit's Movement Phase or Advance Phase
4. When a unit loses HIP
5. When all adjacent enemy units lose/forfeit WA over any shared hexsides.

Note that the opponent's MPh is **not** one of the times listed. Thus a unit cannot suddenly lay claim to WA at the moment an enemy unit moves into the adjacent hex, something that I think a number of players miss. However Mandatory WA (B9.323) helps bail out the forgetful player. While the preceding rule says "Wall Advan" counters must be placed to indicate WA status, this rule states that a unit automatically gets WA status **if possible** if it is unable to claim any in-hex TEM of +1 or greater. No counter is needed unless an enemy unit moves adjacent, at which point the counter clarifies which side has WA. Thus if you have a unit in open ground and an enemy unit moves adjacent on the other side of a wall/hedge, your unit is already assumed to have claimed WA, even if you forgot to do so.

When is WA lost or forfeited? Note that per B9.323, a unit without an in-hex TEM of +1 or greater **cannot** voluntarily forfeit WA (not that you'd likely want to do so anyway). Otherwise WA is lost if the conditions of B9.32 no longer apply (i.e., if a unit is no longer armed and unbroken, if it claims an in-hex TEM, or if an enemy unit occupies the same Location, such as an enemy vehicle passing through). Unlike claiming WA, voluntary forfeiting of WA can be done at any time. Thus, if a unit has WA over a wall/hedge, but an enemy unit has LOS to that hexside clear of obstacles (and thus clear of any TEM), the unit may choose to take any in-hex TEM (e.g., if there was a building in the hex) and forfeit the WA so that any attack against it would get that TEM. However, this decision cannot be made after declaration of an attack until that attack is resolved.

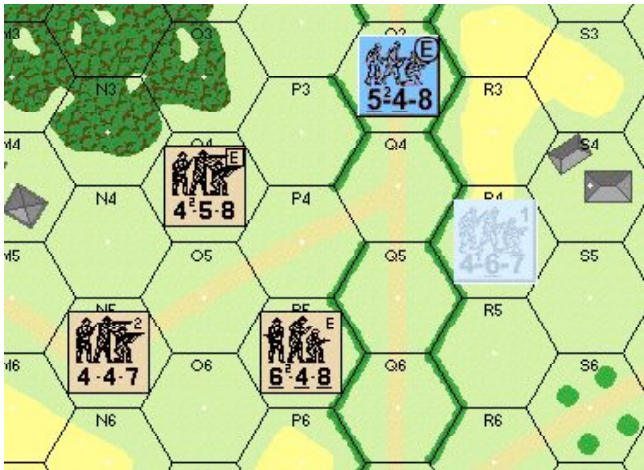
So, here are the examples.



Example 1

German MPH. The 6-6-6 is in open ground, while the 7-4-7 is in woods. The 8-3-8 Assault Moves into the building in CC8. The 6-6-6 automatically has WA (B9.323 Mandatory WA) since it has no in-hex TEM of at least +1 (and should now place a WA counter on CC9 so that there will be no confusion). The 8-3-8 would still receive building TEM for any Defensive fire but could not claim WA itself because the 6-6-6 already has WA.

The 4-6-7 now Assault Moves into the church in AA7. The 7-4-7 would like to have WA as it would provide the +2 wall TEM against any fire from AA7 rather than the +1 the woods provide. However, the American doesn't qualify for Mandatory WA (having a +1 in-hex TEM already) and cannot claim WA because it is the German's MPH. The 4-6-7 meanwhile has several choices. It could claim WA immediately upon entering AA7, giving it a +2 TEM for any Defensive fire from AA8. It could stay in the church, receiving a +3 TEM for any Defensive fire and then claim WA during its APH, or advance into BB7 or Z7 and likewise claim WA during the APH. It could also advance into AA8 in which case neither unit would have WA. Finally, if it stayed in the church, or advanced into BB7 or Z7 without claiming WA, then the 7-4-7 would be eligible to claim WA during its subsequent RPH (the German could also claim WA during the American RPH, but only if the American did not claim it first as per B9.322).



Example 2

British MPH. The 5-4-8 is in open ground and the 4-6-7 is in grain. The shading on the 4-6-7 indicates HIP. The 4-5-8 assault moves into P3. The 5-4-8 has Mandatory WA since it is in open ground (and again should now place a WA counter), and thus can fire against the British unit with a -1 DRM for FFMO. The German will also receive the +1 hedge TEM for any AFPH fire from the 4-5-8.

The 6-4-8 assault moves into Q5. Now the German has a choice. Unlike the American 7-4-7 in Example 1, the 4-6-7 actually could claim WA once the British unit moves adjacent because a HIP unit becoming revealed is eligible to claim that status. (This seems realistic, indicating an ambush set up by the German.) Thus by revealing itself, the German would have WA and could fire on the British with the FFMO DRM, just like the 5-4-8 could against the 4-5-8. Of course, the German could also simply keep HIP. If the British unit subsequently advanced into R4, the German would be placed under a "?" counter at the beginning of the CCPh, with a -2 drm on its ambush die roll.



Example 3

Japanese MPH. All units are in open ground except for the 3-3-6 and the 4-4-7 which are in stone buildings. There is a leader (not pictured) stacked with the 3-4-8 squad.

The 3-4-7 assault moves into DD1. The 5-3-7 automatically has WA as it is in open ground (Mandatory WA). The 3-4-7 would still receive wall TEM for any Defensive fire from the 3-3-6 in FF1 if it wanted (although it would likely take the +3 TEM for being in the building instead).

The 4-4-8 assault moves into DD4. The 3-3-7 cannot claim WA since the 4-4-7 in FF3 has WA already, and a unit cannot have WA over some hexsides and not others (except in DASL). The 4-4-8, upon entering DD4, has the option of claiming WA immediately, or may remain in the building to receive the +3 stone building TEM for any Defensive fire. For this example, assume it claims WA immediately. Note that even though the Chinese 3-3-7 unit does not have WA, it would still be eligible for wall TEM against fire from the 3-4-8 in DD2.

Because the 4-4-7 has WA, he cannot claim in-hex TEM vs. any shot. Realizing that the Chinese 5-3-7 in EE1 has a clear LOS (and thus would suffer no TEM on a shot), the Japanese player drops WA for the 4-4-7 so it would be eligible for the +3 TEM for any shot against it. However, despite the 4-4-7 forfeiting WA, the 3-3-7 still cannot claim WA because of the 4-4-8 which now occupies DD4 and which has WA over the common hexside.

The 3-4-8 now declares a Banzai Charge (remember, there is a leader stacked with this squad), and picks the 5-3-7 in EE1 as its target. It survives Defensive fire in EE2 and enters EE1. As soon as it enters that Location, the 5-3-7 automatically forfeits WA. The 3-4-7 in DD1 could then immediately claim WA if it wanted to.

Congratulations. You've finished Lesson 1. Reread the examples in the ASL Rulebook to further reinforce the WA rules. Next up will be the terror of Normandy: Bocage.

"If there's a bustle in your hedgerow..."

Wall Advantage & Bocage

Part 2 – Bocage

Okay, now that you've mastered walls, hedges and Wall Advantage, it's time to move on to the next level of difficulty. Bocage was a tremendous impediment to the Allied forces following the Normandy invasion. For the first 15 years of ASL's existence, Bocage was just as much of an impediment to ASL players as well. The original rules were difficult to understand and apply (both for Bocage itself as well as the Wall Advantage rules discussed in the previous article) and many players just stayed away from any scenario involving Bocage. In retrospect, the decision to dedicate an entire DASL module ("Hedgerow Hell") to the topic may have been one of the things (along with the emphasis on miniatures) that prevented DASL from ever catching on with a large segment of the ASL community. Fortunately the revised rules in the 2nd edition of the Rulebook have helped clarify things. Despite this, Bocage rules still require some specialized interpretations of the rules to understand and apply correctly, and it is hoped that this article will help get more players to investigate what can be a truly enjoyable ASL experience.

What is Bocage? These generally represented "hedges" grown on top of earthen and rock walls. These had the effect of subdividing the Normandy battlefield into small areas, ringed fields with very limited LOS beyond that field. The hedgerows were tremendous defensive terrain (in close quarters) and very difficult to traverse quickly. The new version of the Bocage rules do a nice job of bringing these problems to ASL. Note that in the following discussion, a "Bocage hex" generally refers to a unit in a hex formed by a Bocage hexside(s) and with any applicable LOS crossing that hexside(s).

Who can use Bocage? Well, everybody, essentially. The effects of being behind a Bocage hexside apply to any unit. However, movement across Bocage hexsides is restricted to infantry units and fully tracked vehicles. There are also restrictions on Guns (not mortars or vehicular ordnance), which cannot change CA and fire in the same fire phase through a Bocage hexside (due to the difficulty in repositioning these weapons to a new firing position). A vehicle with the famous Culin device can breach a hedgerow (see B9.541) which aids movement across that hexside but otherwise changes none of the effects of that hexside.

How does Bocage affect Line of Sight (LOS)? Here's where the going starts getting tricky. In understanding this, remember that LOS is pretty much always reciprocal (if unit A can see unit B, then unit B can see unit A as well).

1. A unit behind a Bocage hexside can see over that hedgerow only into the adjacent hex (unless it has WA). Thus a unit without WA can only see into the adjacent hex. More importantly, that unit can only be seen from the adjacent hex.

More on that later. (Note that this is different from being able to see into a Location. Clearly from the rules a unit without WA and behind a Bocage hexside cannot be seen except from the adjacent hex. A Q&A from MMP has confirmed though that LOS can exist into a Bocage Location from a non-adjacent unit. This means that a non-adjacent unit can see into a Location behind a Bocage hexside [a "Bocage Location"], even if no actual units in that Location have WA and are thus out of LOS. Thus, an entrenchment behind a Bocage hexside can be seen (and thus revealed) by a non-adjacent unit, even though any units in that Location without WA cannot be seen, whether they are in the entrenchment or not.)

2. A unit with WA can see over the hedgerow and beyond the adjacent hex. Again, since the unit has WA, it can now see beyond the adjacent hex, but can also be seen by units beyond the adjacent hex.

3. LOS cannot be traced along a Bocage hexspine. That complicated sentence in B9.2 explaining that LOS can be traced along a hedge/wall hexspine if being traced to or from a hex that that hexspine touches does not apply to Bocage. No LOS.

4. Bocage blocks LOS as a one-level obstacle. Well, well, here is where things get even more confusing. The rulebook recommends treating Bocage like a one-story building. We already know that LOS extends into a Bocage hex under the right circumstances (i.e., if adjacent or when WA exists). However, LOS never extends beyond that hex for same-level LOS, just as if a one-story building were in the Bocage hex. Makes sense so far. What's trickier is how LOS to/from a higher elevation is handled. Again, use the building analogy. Pretend a one-story building were present within the Bocage hex. If a unit could see over that building to a hex beyond, then LOS exists to that farther hex. Thus, a unit on level one (i.e., either on a level-one hill or on the first level of a building) can never see beyond a Bocage hex, anymore than it could see ground-level beyond a woods hex or any other one-level obstacle.

Got it? The example should help.

How does Bocage affect fire attacks? Essentially the same as with walls (thus, a +2 TEM, not the +1 of a hedge hexside). As long as LOS exists, attacks can be made. What changes are the effects of WA status on that LOS, as will be explained later.

How does Bocage affect Concealment? Here's where the cool effects of Bocage really come into play, especially if you are the defender. If a unit would receive Bocage TEM vs. all enemy units with LOS to it (i.e., all LOS would cross a Bocage hexside), then two special rules apply:

1. That unit is treated as being in concealment terrain for all "?" loss/gain purposes. Not a big deal in and of itself. It's in

concealment terrain. Fine.

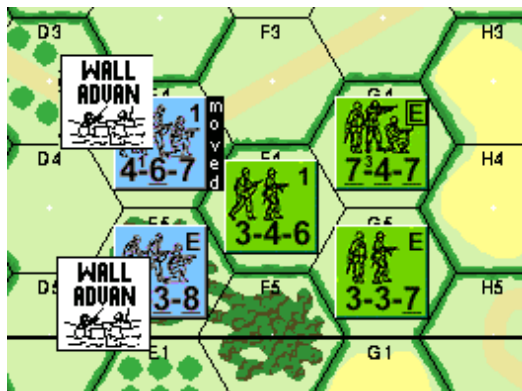
2. That unit is treated as being **out of LOS** for being able to gain "?" and also for "?" loss purposes related to MPh and RPh activities. This is big. "?" gain when out of LOS is much easier than would otherwise be the case as a quick perusal of the concealment table would indicate. Essentially, when out of all LOS a good-order unit can always automatically gain "?" unless within 16 hexes of an enemy unit while not in concealment terrain. But the first part above already said the unit is treated as being in concealment terrain. Thus a good-order unit behind Bocage can **always** gain concealment if no enemy unit has LOS clear of Bocage. Wow.

The second part of this means that those pesky RPh activities (e.g., rallying, deploying or recombining) that usually risk "?" loss now no longer affect concealment status, even with LOS. More importantly, movement behind a Bocage hexside **does not**

cause "?" loss, so reposition your troops at will. Of course, firing over the Bocage hexside will still cause "?" loss, but that's okay. As we've already seen, regaining concealment will be very easy once your next CCPh rolls around.

What's the sneakiest way to use Bocage? That's easy. Fire during your PFP and then drop WA. Your opponent won't have the chance to fire during Defensive fire. You can even reclaim WA during your subsequent APh. Bocage at its finest as defensive terrain! Of course, this only works as long as no enemy unit is adjacent. More importantly, remember Mandatory WA? You can only do this if you have in-hex of at least +1. If you don't, then you can't voluntarily give up WA, even in a Bocage hex.

Now for an example. I only have one, which seems to me to cover most of the major points. Perusing the examples in the Rulebook of course will further enlighten.



Example 1

All hedges are Bocage. Hex E5 (with the German 8-3-8) has woods, the other hexes with units have no terrain other than the bocage hexsides. No other units exist. Both German units have WA.

The 3-4-6 has LOS to both German units, regardless of WA status, because it is in the adjacent hex. The 7-4-7 has LOS to the 8-3-8 (because of the German's WA status) but no LOS to the 4-6-7 because LOS can't be traced along a Bocage hexspine. For the same reasons, the 3-3-7 can see the 4-6-7 but not the 8-3-8.

The 4-6-7 and 8-3-8, because they can claim bocage TEM vs all enemy units with LOS, are treated as being in concealment terrain (even though the 4-6-7 has only open ground in its hex) for "?" gain/loss issues and out of LOS for all "?" gain purposes and for "?" loss related to any RPh activities or MF expenditure. Since both are considered in concealment terrain and out of any LOS, both would automatically gain concealment, and would not require a dr. This

is true even with the 3-4-6 unit in the adjacent hex, because the German units have WA and thus the bocage TEM. If the 3-4-6 instead had WA, then the two German units would no longer receive the bocage TEM and the above would not apply.

And of course, the 8-3-8 can drop WA anytime, so could Prep Fire and then drop WA and disappear from view, since the 3-4-6 couldn't claim WA itself (because of the 4-6-7 which still has WA).

Now assume the 3-4-6 in F4 doesn't exist. The 4-6-7 can't voluntarily drop WA because it has no in-hex TEM of at least +1 (per Mandatory WA), so it remains in the LOS of the 3-3-7. The 8-3-8 can give up WA status because of the woods terrain in its hex, and would then be out of LOS of both remaining American units. If there was an entrenchment in the hex with the 4-6-7, that unit **could** drop WA to enter the entrenchment, and would be out of LOS of the 3-3-7 (but the 3-3-7 could see the entrenchment itself).

Okay, end of Lesson 2. Happy hunting, and don't forget your Culin Hedgerow Cutter.

Primosole Bridge Terrain Chart

Terrain	LOS								Bomb. 2MC		Sight TC DRM	Fort.	Notes	
	Obs	Hind	TEM/Indirect	Infantry	Fully Tracked	Halftrack	Armored Car	Jeep/Truck	ML	DRM				
Barbed-Wire Fence (I23-J24)			0	1*+COT	COT ^{BW}	COT ^{BW}	COT ^{BW}	COT ^{BW}						*1/2 if breached; NA to CX
Bridge (N22)		Yes	0 or +1	NA R	NA R D	NA R D	NA R D	NA R D				M ^P		Indestructible bridge
Brush (H20)		Yes	0	2	2	2	4	6		-1		E ^{GM}		
Foxhole (counter)			+2/+4 [©]	COT*	COT	COT	2+COT	4+COT		-4				*1MF to enter/exit
Irrigation Ditch (P26, Q25)			+1* [©]	1 or 2	2+COT ^B	2+COT ^B	NA R	NA R		-1		GM		*Like OG if entered at 1 MF
Irrigation Ditch+Brush (Q20)		Yes	+1* [©]	2 or 3	2+COT ^B	2+COT ^B	NA R	NA R		-1	+1	GM		*Like Brush if entered at 2 MF
Irrigation Ditch+Vineyard (R19)		Inh	+1* [©]	2 or 3	2+COT ^B	2+COT ^B	NA R	NA R		-1	+1	GM		BAATC; Bog+3; *Like Vineyard if entered at 2 MF
Olive Grove (W17)	1*	Yes	+1	2	2 ^{WA} R	2 ^{WA} R	6 ^{WA} R	8 ^{WA} R		-1	+3	E ^{GM}		Ambush terrain; BAATC; *Only to upper level viewer
Open Ground (X27)			FFMO:-1	1	1	1	3	4				E ^{GM}		
Pillbox (counter)			+5/+7	COT*	COT	COT	COT	COT	11	-7				360 ^U CA; Encirclement OK; Gun NA; SW Field of Fire *1MF to enter/exit
River (Q22)			0	5*										Haz Move; Fordable in MPH and Aph; no Low Craw dm SW; Pin NA; *TC for 3 River hexsides
Road (paved: O19, dirt: O25)			DOT*	1	1 [1/2]	1 [1/2]	1 [1/2]	1/2				E ^{GM} ^P		*FFMO at road rate
Stone Building (W26)	1		+3	2	Z B				9	-3	+3	GM		
Sunken Road (O9)	Dep		*	2 R	NA R D	NA R D	NA R D	NA R D						*FFMO vs unit not in crest status
Trench (counter)			+2/+4 [©]	COT*	COT ^B					-4				Connect to adj Sunken Road; *1MF to enter/exit
Vineyard (H16)	1/2*	Inh	0	2	2 ^B R	2 ^B R	4 ^B R	6 ^B R		-1	+1	E ^{GM}		Ambush terrain; BAATC; *to entrenched unit
Wall (T27-U27)	1/2		+2/+1 [©]	1+COT	1+COT					-1				

concealment terrain
rally & concealment terrain

Not Applicable
rally terrain

version 2.4

- © Not cumulative with other terrain in hex
- B Bog Check (calculate DRM normally)
- BAATC British Armoured Assault Task Check
- BW Barbed-Wire bog check: +1 for not fully-tracked, +2 for Truck-type MP expenditure
- D MP penalties for vehicle/wreck, or changing VCA, are doubled
- Dep Depression
- Inh Inherent
- NA Not Allowed
- R or per road cost if through Road hexside
- WA Vehicles may gain Wall Advantage
- Z Half of MP allotment

Fortification notes:

- E Entrenchment allowe
- G Gun Emplacement allowe
- M A-T mine
- P Only non-hidden AT mines on Paved Roads

Terrain	ETO	LOS	TEM(ind)	Inf.	Fully Tracked	Halftrack	Notes
Light Jun.	Woods	2-level obs	+1/-1	2	1/2 or all/Bog	All/Bog	Treat as woods
Dense Jun.	Woods	2-level obs Inherent	+2/-1	2	1/2 or all/Bog No carrier/ tankette	NA	Stack 2; +2 bog No bypass Interior stray Res fg; no mtr
Bamboo	Brush	1-level obs Inherent	+1/-1	minmov/ advdif	1/2 or all/Bog No carrier/ tankette	NA	Dense Jungle -1 vs DC/HE No rally bonus Interior stray
Palms	Orchard	1-level hin/obs Inherent	0	1	1	1	Always in seas.
Hut	Wood Bldgs	1-level hin	+1	2	2	2	Attacks flame if colored dr = 1
Kunai	Grain	hin	0	2	2	2	Treat as Brush Res FG AMBUSH
Swamp	Marsh adj. Jun.	2-level obs	+1/-1	All (Aph NA)	NA	NA	DC or HE is halved on IFT Res FG
Marsh	Marsh	hin	0	All (Aph NA)	NA	NA	HE 1/2ed on ift Only inherent FP, LATW, LMG, DC, FT & res. as area fire

- Other Terrain Changes:** No roads; woods-roads are Paths w/no Open Ground; bridges are Fords.
- Fortifications/Entrenchments:** In daytime scenarios, fortifications in jungle, kunai, bamboo remain hidden until TEM is used. Entrenchments w/HIP obstacles revealed when enemy enters location only if an occupant is revealed, too. Pillboxes are revealed if any occupant fires. Japanese pillboxes in concealment terrain always may HIP, inc. occupants. Can have tunnels (B8.6). Opponents of Japanese get +2 Search drm unless the only Concealment Terrain being searched is bldg/rubble terrain.
- Detection:** Does not necessarily apply when in MPH an Attacker enters a jungle, kunai or bamboo Location with Hidden, Stealthy Defenders (who are not in pillbox or manning hidden Gun). Defender can maintain HIP status or can attack using TPBF.
- SW:** Recovery attempts get +2 dr in jungle, kunai, bamboo, unless in vehicle, trench, bldg, or pillbox.
- Ambush:** In jungle, kunai, bamboo, ATTACKER must add +1 drm to Ambush dr. Also, +1 ambush dr for jungle, kunai, bamboo.
- Radio:** In PTO, all radio Contact & Maintenance DR get +1 DRM.
- No Quarter/Prisoners:** In Chinese vs. Japanese scenarios set in/after 1938, No Quarter always in effect. In other scenarios involving Japanese, No Quarter is always in effect in/after 6/42. When this applies, Mopping Up is NA.

Banzai Charges

- Any Good Order Japanese, even SMC, may Banzai, even if ADJACENT to enemy unit. Units in different hexes must start ADJACENT. Leader must be in any Banzai with 1 or more MMC. One unit must have LOS to enemy unit within 8 hexes.
- Uses rules applicable to Human Waves (A25.23) except as stated otherwise. Banzai units are lax, exempt from HOB, PAATC, Pin. Morale +1. 8 MF. No assault move, dash, search, carrying more than IPC. Move in impulses, spend MF as per greatest.

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Japanese Unit Rules

- **Leader:** ML/rally/berserk as Commissar; NO ELR replacement. Exempt from LLMC/LLTC. Units with leader immune to DM status. MMC failing to rally replaced with lower quality unit. If goes berserk, all other units auto become berserk. **SMC:** PTC/Pin NA. **Elite & First Line:** Stealthy. Elite may place WP.
- **Penalties:** ATR/MMG/HMG fired by squad or hs have B# and ROF lowered by one. NO leader creation.
- **NA:** Disruption; PAATC; RtPh Surrender; Encircled lower ML (only if unbroken).
- **Bonuses:** LLTC instead of LLMC if unbroken; 10% HIP (25% night, plus extra dummy counters if defender); -2 concealment dr. May Place/Throw DC in own Location (see G1.612).
- **CC:** If Japanese is ATTACKER or AMBUSHERS, CC/Melee becomes HtH, unless victim of ambush. HtH can't be used vs PRC, vehicle, pillbox. Reduced Strength units retain Full Strength CCV. **Get -1 DRM in HtH combat.**
- **Tank Hunter Hero (G1.421):** Squad or half squad may attempt to create one: 1) *during its Mph* if within 8 MF and LOS to AFV; 2) during Aph if ADJACENT to AFV; 3) during enemy Mph if able to use CC Reaction Fire; 4) at start of CCPh if MMC is Defender. **Make dr. 3 or less creates THH; original 6 pins. DRM: +2 conscript, +1 HS, -2 with DC.** THH has ATMM on dr 3 or less, +1 drm if pre-1944. Total # may not exceed 10% of Japanese squads (only) pre-1943; 20% 1943; 33% 1944; 50% 1945, FRU. In 1944-45 scenarios, THH may set up HIP before play (G1.422). When created or voluntarily unHIPed, must 1) make Banzai Charge (morale not increased by 1; subtract 2MF per MF previously expended) at Designated Target AFV if it is Japanese MPh (and may make CCV attack in Target's Location during own MPh); or 2) make CC Reaction Fire attack vs. that AFV if it is opponent's MPh; or 3) advance into AFV's location if it is Japanese APh; or 4) remain in AFV's location if it is CCPh.
- **DC Hero (G1.424):** Unit w/DC may make T-H Hero attempt in its own MPh if w/in 8 MF of and LOS to *any* enemy unit/Gun and/or to any enemy-Controlled hex w/a Known Fortification counter; a successful attempt creates a DC hero. Must Banzai Charge designated enemy unit/gun/fortification that allowed its creation. When in Target's Location (or hex, for pillbox), if Hero has survived all DFF, may detonate DC (need not spend MF to Place); resolved as if Placed (EXC: above Bank/Panji counter; see G8.212 & G9.211). **Also, any unbroken Japanese infantry unit w/DC may choose to detonate it during or at end of its own MPh in same manner as DC Hero (and is eliminated).**
- **Ordnance:** Black TH numbers; OBA have 5 black and 2 red; Accuracy on Final dr of 1 or less.

Chinese Unit Rules (GMD & Communist)

- **GMD:** Cannot Deploy; always Lax at Night; non-elite (not just Inexperienced) must take 1PAATC rather than a normal PAATC. 5-3-7 squads may place WP smoke grenades. 3-3-7s may only Battle Harden to 5-3-7 if 5-3-7s are majority squad type in scenario OB.
- **Communist:** Use Partisan counters & Russian crew counters. All Communist units are considered Partisans for all purposes, but are immune to Cowering. May use Commissars as 10/42 Russians, but if a Commissar fails to rally a unit, that unit is NOT Replaced/eliminated; it just remains broken.
- **Both:** Do not treat each other's SW/Guns as captured. May make Human Wave attacks as if Russians. A Chinese gun, dm 76-82mm MTR, or vehicle which is Captured by opponent has regular VP value quadrupled at end of play.
- **Ordnance:** Red TH numbers; OBA have 5 black & 2 red. If Majority Squad Type is 5-3-7, OBA has Plentiful Ammunition & Radio Contact # 8; if Majority Squad Type is 3-3-7/3-3-6, it has Scarce Ammunition and Radio Contact # 6. If Majority Squad Type is 4-4-7, it has Radio Contact # 7.
- **Dare-Death Squads:** During setup, Chinese player may designate ≤ 10% (FRU) of squads (only) as Dare-Death Squads (EXC: may not designate a 5-3-7). Each armed, Good Order Infantry DDS (or surviving HS) that at start of *its* MPh is in/ADJ to an unpinned, Good Order, friendly non-armor leader, and is w/in 8 MF of an enemy ground unit to which it & leader both have LOS, may go berserk *voluntarily* (EXC: not if marked with Prep/Bounding/Pin/TI or if marsh/swamp/cliff/water obstacle would prevent it from reaching target hex in MPh. Leader may but need not also go berserk; heroes may accompany such units (and have 8 MF, but may not Advance). Such units return to normal at end of that Player Turn (EXC: if in Melee). Such units may not Human Wave. **DDS enter into Hand-to-Hand CC as Japanese (including -1 DRM). In addition, each NON-Hand-to-Hand CC vs. Personnel with a DDS also receives -1 DRM.**

US Unit Rules

- 7-6-8 Marines may deploy freely during setup or in RPh with NTC. Marines are elite, do not disrupt.
- In scenarios vs. Japanese, US inherent AFV crews have morale of 8, non-AFV morale of 7.

Terrain	LOS	TEM(ind)	Inf.	Fully Tracked	Half-track	Notes
Debris	Half-level LOS Hindrance, Inherent, Concealment	+1/+1 Case A TH DRM not doubled	1+COT	1/4 MP + Bog	NA	<ol style="list-style-type: none"> Hin. cum. w/Factory TEM/Hin. No kindling, can't catch fire. Cleared like Fallen rubble (O3.2, B24.71), but contra B24.71, can't be totally Cleared. +1 Bog DRM (add. +1 DRM for entry of factory location, if applicable). Dash, road bonus, veh. road rate NA except via TB. Fortifications possible unless other terrain prevents. Manholes usable.
Roofless Factory Hex/ Factory Debris	Factory Debris is Half-Level LOS Hindrance, Concealment	See Note 3.	1+COT	As regular Debris	NA	<ol style="list-style-type: none"> Not inherent; exists only in bldg. Unclearable. Bldg. TEM applies to Direct Fire attack traced from outside Factory. Indirect Fire and Fire from w/in Factory are subject to Factory TEM (+1) and Factory debris TEM (+1). Debris Hindrance cumulative with Roofless Factory Hex Hindrance. EC & Weather apply to Roofless Factory Hex; see O5.441 for Wind/Smoke.
Printed Rubble	1/2 Level LOS obstacle, Inherent, Concealment	+2/+2 Wood +3/+3 Stone	3	1/2 MP allotment +Bog	NA	<ol style="list-style-type: none"> Only printed Rubble considered Fallen is that in road or gully Location (B24.71). Can't be totally cleared. No Cellar Locations.
RB Factories	2 1/2 Level LOS obstacle w/ printed stairwell; 1 1/2 LOS obstacle w/o stairwell. No upper floors. +1 half-level Hindrance for LOS traced w/in factory	+3/+3 (if stone) for fire from outside factory; +1/+1 for fire from inside factory.	2 from outside factory; 1 w/in factory. 1 if through vehicle entrance	1/4 MP +Bog (to exit, must pay normal bldg costs +bog/rubble, unless exiting through vehicle exit)	NA	<ol style="list-style-type: none"> RB bldg with ≥ 1 road entering it is a Factory. Normal Factory rules (B23.74) apply except as amended. +1 Bog DRM. Interior Walls similar to Rowhouses; block LOS (EXC: breach, rubble, possibly roofless). Can "bypass" except outside building. Can be breached by DC or AFV; see O5.331 for breach effects. If hexes on both sides of Interior Wall are rubble, Wall ceases to exist along that hexside. No Cellars. Gutted factory is roofless, can't catch fire. All categories of Guns can set up in an RB Factory. See O5.6 for movement.
Culvert	LOS to ADJ locations only	0; FFMO Indirect Fire has no effect	2	NA	NA	<ol style="list-style-type: none"> D38/E39. Subterranean gully; open ground. No Crest status. Not a sniper target. No overstacking. See E1/923 for rules on subterranean units/Locations. Only small INF/AT Guns, and MTRs, may be set up in/Manhandled INTO a culvert.
Storage Tanks	1 1/2 Level LOS obstacle	+1/+1	1	VBM only	VBM only	<ol style="list-style-type: none"> Gun cannot setup or enter. Unscalable. Can't catch fire. Not a bldg for any purpose.
Railway Embankment	1/2 level LOS obstacle	+2/+1	1 + COT	1 + COT	1 + COT	<ol style="list-style-type: none"> Treat as wall. No Roadblock allowed. All units cross at 1 + COT with no Bog. Exempts Straying as road/path/etc.

Red Barricades Cheat Sheet (Front)
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Red Barricades Special Rules for all RB Scenarios. Unless noted, all SSR apply in all RB scenarios—both CG and non-CG type.

RB1. EC are moist, with no wind at start.

RB2. Sewer Movement is allowed. Russians may use it freely; Germans may use it only if a leader passes a 4TC (B8.4). A unit may use Sewer Movement to cross from one side of a gully to the other only if it ends its MPH in the Sewer Location of a gully-Manhole hex (e.g., hex Y38). A unit entrenched in a Manhole Location (see SSR RB 5) may not enter that hex's Sewer Location, since a unit may enter a Sewer only at the very start of its MPH (B8.4).

RB3. Rooftops (B23.8) are in effect. Control of a Rooftop/Sewer Location *never* counts as Controlling a building Location.

RB4. The river (i.e., the Water Obstacle hexes in the northeast corner of the map area) is Flooded (B21.122; B21.21) with a Heavy current flowing north to south. Hex CC31 contains a one-lane wooden bridge; all other bridges are two-lane stone.

RB5. Hidden-Mines/Entrenchments (including A-T Ditches; B27.56, O11.621) may be placed in a paved-road hex that also contains shellholes; mines set up thusly can attack regardless of whether or not the unit entering their Location is using the road rate/bonus. A roadblock may also be set up IN a gully or Culvert to block a gully/Culvert hexside. A roadblock IN a gully or Culvert may be crossed by Infantry only via a Minimum Move, does not affect Bypass in adjacent Level 1 Locations, and for LOS purposes is treated as a wall at Level 0 (the level of a unit IN a gully on the RB map).

RB6. Trenches (including A-T Ditches) are considered to “connect” (as per B30.8) all ADJACENT building/rubble Locations (EXC: not to a Location that is rubble *during* play of that scenario) (see also O6.21 and O6.6, last sentence). Infantry entering such a building/rubble Location need not pay an extra MF to leave the trench in that Location, but must still pay applicable building/rubble COT. Infantry *leaving* such a building/rubble Location need not pay an extra MF to enter a “connecting” trench. Infantry may not enter such a trench while using Bypass Movement; nor may they use Bypass Movement while in such a trench; nor may they exit such a trench to directly use Bypass Movement. A unit entering/leaving a building/rubble Location via a “connecting” trench is not subject to Snap Shots as it does so. A vehicle must pay the appropriate MP costs/penalty to cross such a trench while using VBM; hence those vehicle types not allowed to cross a trench may not do so while using VBM. Infantry may enter a Fortified Building Location as if that Location were not Fortified provided they enter it from a trench/AT-Ditch that is “connected” to that building Location.

RB7. Due to superior German aerial reconnaissance, Entrenchments/Wire given-in/purchased-for any Russian OB may not be set up using HIP.

RB8. Rubble is treated as a building for Ambush (A11.4) and Street Fighting

(A11.8) purposes.

RB9. German Air Support, when available, is *always* in the form of Stuka M42 with bombs. The actual number received and their turn of arrival is still determined as per E7.2-7.21.

RB10. All Locations (EXC: Aerial; IN a Sewer or Culvert) are eligible sniper target Locations.

RB11. Hand-to-Hand CC (J2.31) is allowed in all RB scenarios.

RB12. For both sides: neither 150-mm OBA nor any Rocket OBA may fire Smoke; no OBA may fire WP; only MTR OBA and German 100+mm OBA may fire IR.

RB13. ATMM (C13.7) are available to elite (only) German Infantry, but only on an ATMM Check *Original* dr of 1 (i.e., no drmm apply). The effects of an Original 6 dr remain unchanged.

RB14. No Quarter (A20.3) is in effect for both sides.

RB15. Russians always have a Level C Booby Trap capability (EXC: in the CG they may increase it to Level A or B by CPP expenditure). Booby Traps are active over the entire RB map, but are activated only by appropriate German TC. Mines factors may not be exchanged for Booby Traps. Germans have no Booby Trap capability.

RB16. A tunnel entrance/exit may cross a cliff hexside provided that tunnel begins or ends in the lower-level hex and “crosses” that cliff hexside, and the Base Level of that cliff hex is one level lower than that of the hex at the other end of the tunnel.

RB17. Any road exiting a map edge on the RB map is considered, for purposes of A2.51, to extend off that map edge along that lettered hexrow (if off the north or south edge), or in the hexes of the same coordinate (if off the west or east edge).

The off-map road is considered of the same type (paved/dirt) as the road hex it is connected to on the map. For instance, paved roads extend off the north edge along hexrows D, V and Y, and dirt roads extend off the east edge along hexes with a coordinate of 38, 40 and 43. All terrain on the off-map setup area is still considered Open Ground. If units are set up to enter (as per A2.51) they must enter during that Player Turn or be forfeit (EXC: in the RB Campaign Game such unentered units may not enter during that scenario but are Retained for the next CG scenario).

RB18. All Good Order Russian elite and first line Infantry are Stealthy.

RB Cellars (O6): All multi-hex, non-Factory bldgs have Level -1 cellar location (bldg location even for falling rubble and VC purposes). Considered Fortified Bldg loc with TEM +4 (+3 if wooden); all Fortified Bldg rules apply. Only Inf/SW may setup/enter. LOS traced outside to non-ADJ location do so as if entrenched (B9.21). Can never claim WA. *Inherent* FP of unit in Cellar is halved as Area Fire for outside targets if US# of unit is ≥ 3 .

Red Barricades Cheat Sheet (Back)

Mark Pitcavage

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Sewers & Sewer Movement (B8)

Sewer Use: NA except by SSR (in a scenario that grants Sewer movement to one side, units of the other side may use it if an accompanying leader passes a 4TC). Sewer movement limited to Manhole Locations. Sewer Locations may never be overstacked. Only Good Order Infantry (& dummy stacks) may use Sewer Movement.

Manhole Locations: Any ground level Location marked with a black circle AND any paved road hexes that intersect with other roads such that at least three hex-sides of that hex are crossed by a road (EXC: DASL only uses black circles). Manhole Locations covered by rubble/Blaze are NA (but Sewer location still exists). If DC attack in a Sewer Location results in rubble, all units therein are eliminated. Sewers do not connect to any other subterranean locations, such as Caves. Fortifications NA in Sewer.

LOS: Unit in a Sewer Location out of LOS of all units other than those occupying same/adjacent Sewer Location hex or by any unit directly above it in a Manhole Location which has discovered it via a Sewer Emergence dr (B8.42) earlier that player turn. Units in a Sewer are always Concealed.

Attacks: All fire vs. a unit in a Sewer is PBF & Hazardous Movement (-2 DRM), regardless of fire phase. Vehicles/IFE/ordnance/OBA may not fire into a sewer. Use of PF/PFK, BAZ, PSK, or RCL from within sewer requires Desperation penalty (C13.81).

Broken/Berserk: Any unit that becomes broken/berserk while in a Sewer is eliminated.

dr	Sewer Emergence Chart	Cumulative drm:
≤ 4	May emerge concealed (at owner's option) during Aph; not subject to Defensive Fire in interim	-1 Manhole Location occupied by other friendly unit(s). -1 Manhole in building Location unoccupied by enemy units or in non-building Location not in LOS of enemy (or all such LOS is Hindered by ≥ +2).
5-6	Cannot emerge this turn; not subject to Defensive Fire.	+1 Sewer units are currently lost.
≥ 7	Discovered. Cannot emerge this turn; subject to Defensive Fire from enemy Infantry in Manhole location (without benefit of concealment, although concealment is not lost).	+1 Per enemy Good Order MMC in Manhole Location. +1 Enemy non-dummy unit(s) in adjacent Sewer Location.

Sewers in HASL Modules	Phase	Action
<p>Red Barricades: Russians may use freely; Germans may use only if a leader passes a 4TC. A unit may use Sewer Movement to cross from one side of a gully to the other only if it ends its MPH in the Sewer Location of a gully-Manhole hex. A unit entrenched in a Manhole Location may not enter that hex's Sewer Location. May use Manhole in Rubble location only in street with a full trailbreak. May use Manhole in Debris location normally. Not allowed after Game Turn 4 of a Campaign Game (units in a sewer location at start of turn 5 are eliminated but do not count toward CVP tally).</p> <p>Valor of the 37th Guards: As per Red Barricades.</p> <p>Dzerhezinsky Tractor Works: As per Red Barricades.</p> <p>Berlin Red Vengeance: Allowed normally per B8.4 (EXC: Germans may enter a Sewer location only after a leader passes a 2TC). NA under Spree River, but can be used to pass under Hohenzollern Canal.</p>	Start of MPH.	Enter Sewers: May enter Sewers at cost of all MF. May not portage more than IPC, nor push a gun.
	MPH	Choose Destination: Sewer movement must end in a Sewer location ≤ 3 hexes away. Units in a Sewer MUST move during MPH; they cannot remain motionless (if unable to move, they are eliminated). May not move beneath Water Obstacle. May not enter enemy occupied Sewer location (during MPH). Units must move together as stacks, not separately. Place Sewer Concealment counter on moving units.
	MPH	Sewer Movement dr: Before actual movement, make dr. On dr 6-7, units become lost and must move to allowable Sewer Location designated by DEFENDER (flip ? counter to "Lost" side). When a lost unit's dr is ≤ 5 , flip ? counter back to "Sewer" side, and ATTACKER can move stack.
	End of MPH	Upon ending their MPH, units in a Sewer location must make Sewer Emergence dr.
	DFPh	May fire at units in ADJACENT Sewer location.
	AFPh	May fire at units in ADJACENT Sewer location. Can attack units in above Manhole location only if "discovered" by Sewer Emergence dr.
	RtPh	Any unit broken while in a sewer is eliminated.
	APh	Emergence: May advance vertically (concealed) out of Sewers into Manhole location, even if enemy occupied (EXC: fortified building). If they had left an Encircled non-Sewer location that turn, they become pinned and CX upon advancing out. May advance into CC with enemy units in an ADJACENT Sewer location.
	CCPh	Since units in Sewers are always concealed, opposing sides in CC in sewers are never held in Melee.

Slopes Play Aid

Slope Locations: Defined by presence of ≥ 1 slope hexsides; there are two types: Up-Slope and Down-Slope Locations. Down-Slope Locations are those containing the Slope representation. Locations can be both Up- and Down-Slope across different hexsides. Slope hexsides do not change hex's Base Level Elevation.

Movement: Moving Up-Slope costs Infantry/Cavalry/Wagons $\frac{1}{2}$ MF + COT. Slopes do not negate B3.4 MF road bonus. Vehicles must pay 1 MP + COT to move Up-Slope. During rain/snow, E3.54 applies as if moving unit was in fact changing elevation. Infantry on skis receive $\frac{1}{2}$ MF bonus for each Down-Slope hexside crossed (cumulative with other bonuses). *KGP/PB*: No vehicle/charging cavalry may cross a combination Crest-Line-slope hexside. *O/VHS*: During each (CG) scenario which occurs on Feb 19, moving Up-Slope into a plowed field hex requires a Bog Check in hex entered.

LOS: Neither obstacles nor hindrances. An Up-Slope Location is $\frac{3}{4}$ Level higher specifically to LOS that 1) *BEGINS* or *ENDS* in that location and 2) crosses the relevant Slope hexside [EXC: entrenched/wall/hedge LOS restrictions still apply (B9.21, B9.3)]. Slopes are IGNORED for LOS traced *through* a slope hex or *along* a slope hexside, as well as for blind hex calculations.

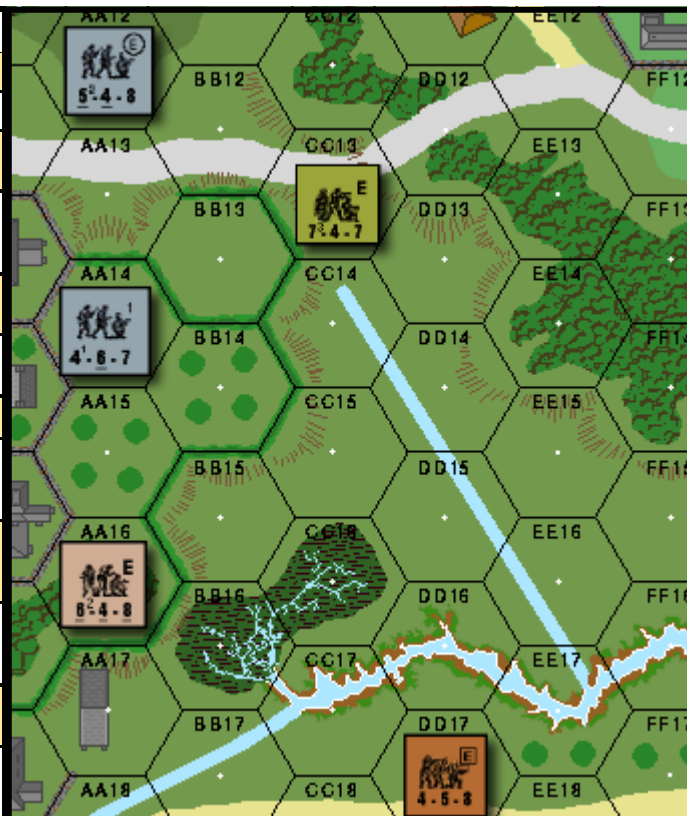
Orchards: Because Up-Slope units are treated as being at a different elevation than their Base Level, in-season orchards are same-level LOS *obstacles* to units in hexes with the same Base Levels as those orchards, if the units are Up-Slope to the target.

TEM: Infantry in a hex with ≥ 3 (or 2 non-contiguous) Down-Slope hexsides may claim a +1 TEM vs. Direct Fire [EXC: FT], if attack originates from non-adjacent firer that 1) has elevation advantage $<$ range of attack, and 2) attacker's LOS crosses one of target's Down-Slope hexsides. Noncumulative except with Mud/Deep Snow TEM. Being Up-Slope provides no TEM advantage, does not negate FFMO/FFNAM, and allows no HA status/HD attempts.

Fire Lanes: Infantry attacked by Fire Lane receives a +1 DRM if firer is 1) Up-Slope from target, 2) $\frac{3}{4}$ level higher than target, and 3) not adjacent to target. If attack is a Fire Lane Snap Shot, DRM applies only if these conditions apply to both hexes of Snap Shot hexside. For Fire Lane LOS/LOF purposes, assume term "same-level" means "same-Base-Level."

A Desperation Morale Central ASL Play Aid available from www.desperationmorale.com.

LOS	
<i>AA16 to DD17</i>	Allowed.
<i>AA14 to CC13</i>	Allowed (not if AA14 was entrenched).
<i>AA12 to CC13</i>	Disallowed. If AA12 unit were on level 1, not level -1, then it would be allowed.
<i>AA16 to CC13; EE15 to DD13; AA14 to CC15</i> (ignoring Orchards)	Allowed. Intervening slope hexsides do not affect LOS.
<i>EE13 to AA15</i> (ignoring Orchards)	Allowed; EE13's 3/4 level can see over intervening wall.
<i>EE13 to AA15</i> (with in-season Orchards)	Disallowed; EE13's 3/4 level invokes same-base-level in-season orchard rule.
Fire	
<i>AA16 to DD17</i>	Allowed, with no hindrances/obstacles. Marsh is a same level hindrance, but AA16 is 3/4 level higher than DD17.
<i>AA14 to CC13</i>	Allowed, but defending unit could claim Down-Slope TEM (not cumulative with hedge TEM).
<i>AA12 to CC13</i>	Allowed, with no penalties. Unit in CC13 cannot claim Down-Slope TEM because LOS does not cross a slope hexside.
<i>CC13 to AA16</i> (ignoring orchards)	Allowed, with +1 TEM for hedge or woods. Intervening slope hexsides have no effect.
<i>AA13 to BB13</i>	Allowed, with no penalties. Up-Slope status confers no Height Advantage TEM.



Small mortars, a lethal killer or a waste of time?

By Morten Ketting

As a new player, you are introduced to a lot of new weapons as you move further and further into the ASL universe. It is simple to understand the rules of some weapons, and some are quite difficult, but in either case there is always a precise answer. The rules are not the toughest part about new weapons. It is how you use them and get the most out of them on the battlefield. This is where the experienced player stands out, compared to us beginners. Experience from gaming, and good advice from more experienced players, is needed to get the feeling of a new weapons. But statistics can also be a good tool for new players, to help them decide how and when to use to the weapon. This article tries to explain how players can utilize statistics when gaming.

In my case the new weapon is the small mortar. I was thrilled when I encountered the mortar for the first time. First of all it has a very high ROF, which gives it an average of two shot per turn. Secondly it has a very long range for a SW, and it even has the opportunity to use a spotter to direct the fire. All in all it seemed like an awe-inspiring weapon at first sight.

But as I learned from experience, it has its weakness. The small mortar cannot fire while in a building, which means loss of potential good cover. More seriously is the lack of firepower versus infantry (other types in units are not taking into consideration), which makes it very hard to damage units in good cover. This is especially true if you are the offensive part of the conflict, and your opponent has the opportunity to take good cover.

The TEM modifiers effects on the chance to damage units

The first calculation I made was on the possibility to hit and damage one unit under different TEM modifiers. The calculations were not made for each shoot, but per fire phase (for further details on the calculations I refer to the last chapter).

As it can be seen from figure I, the TEM has a very large influence on the probability to damage units. Each time a TEM modifier is improved by one, the chance of success is approximately improved by 40% for the 60mm, and 45% for the 50mm.

It is not only the chance to damage that has to be taken into consideration, the negative effects also has to be taking into account. The breakdown probability for both mortars is 6%, and the chance to

activate your opponent's sniper is 4% in both cases. The SAN used in this article is three. In this perspective the +3 TEM for the 60mm and the TEM +2 and +3 for the 50mm seem like shoots only to be taken when it is extremely important or the mortars is going to have no better targets throughout the game.

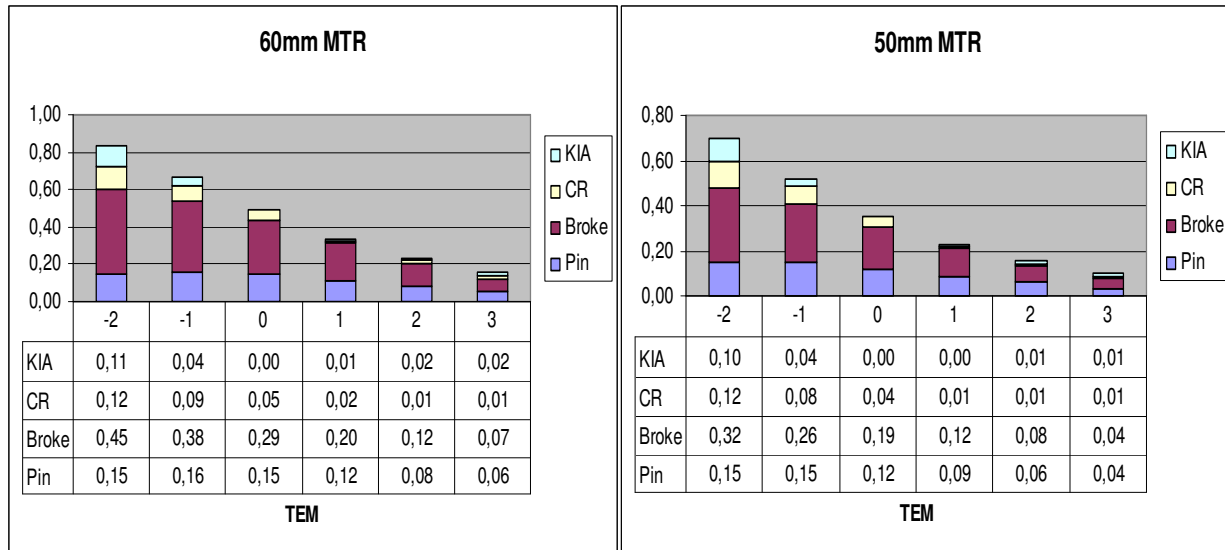


Figure I: The probabilities are calculated with no “to hit” modifier and against a single unit with a moral number of seven. The chance of breakdown is 0,06 and the chance of the opponent sniper getting active is 0,04.

The “To Hits” modifiers effects on the chance to damage units

Lets now move on to the “To Hit” statistics, which is shown in figure II.

In contrast to the TEM modifier, the chance to do damage is not increased linearly with the “To Hit” modifier. The largest increased is gained with the highest modifiers, given an 50% increase in the chance to damage when going from a +3 to a +2 “To Hit” modifier. The chance decreases with approximately 10% each time the modifier is lowered.

Once more it seems that a +3 “To Hit” modifier for the 60mm, and +2 and +3 for the 50mm are shoots only to be taken if the target is very important. But this is not the whole truth, since the chance to activate your opponent's sniper now varies from 6% if the “To Hit” modifier is -2 and drops by 1% for each time the modifier is increased. The reason for this variation is that the sniper can be activated on both the “To Hit” and the damage roll. So if the mortar doesn't hit the target, the chance of activating the sniper is also lowered. It also has to be kept in mind, that bonus for

acquired target is gained after each shoot. A low “to hit” chance shoot can thereby become a good shoot, when the -2 “To Hit” bonus is gained.

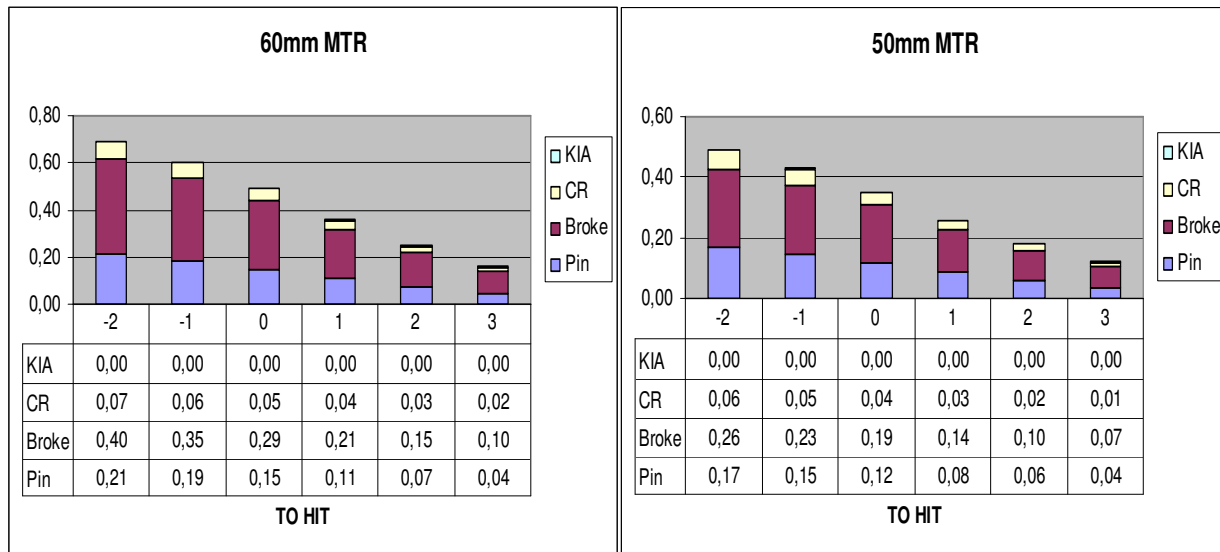


Figure II: The probabilities are calculated with no TEM modifier and against a single unit with a moral number of seven. The chance of breakdown is 0,06 and the chance of the opponent sniper getting active, varies from 0,06 to 0,01 depending on the “To Hit” modifier.

Comparing between TEM and ”To Hit” modifier

If we compare the TEM and “To Hit” modifiers, it is the TEM that generally has the largest effect on the final outcome. The reason for TEM modifiers larger effect on the results, are the consequence of two things.

First, the basic number that is modified around is important. When a modifier is changed by one, the effect is much larger if the DR has to be below six, than if the DR was to be lower eight. This is not very important in the calculation shown in the figures, since both numbers needed to get a “To Hit” and Pin check (without CH) is almost the same if unmodified. But this effect can potentially have a great impact, if the roll is already modified. The effect is best illustrated by the large improvement in the chance “To Hit” if the original modifier is +3, and then improved to +2, a 50% improvement is then gained.

A second and more serious reason for the TEM modifiers larger effect, is the increase in damage on the IFT table, as the TEM modified DR gets lower. There is no such effects for the “To Hit” modified result, where a hit is a hit (except CH) and no effect is gained from a lower “To Hit” roll.

Spotter effect on damage

This last section surveys the spotter's effect on damage. A spotter adds +2 to the "To Hit" modifier and reduces the ROF by one. As it can be seen in figure III the chances of successfully damaging a unit using a spotter, is now approximately only 40% of the original chance. There is also a bit of good news. The breakdown number and the chance to activate your opponent's sniper are both reduced. For both mortars, the chance of breakdown is reduced from 6% to 4%, and the chance to activate your opponent's is reduced from 4% to 1%.

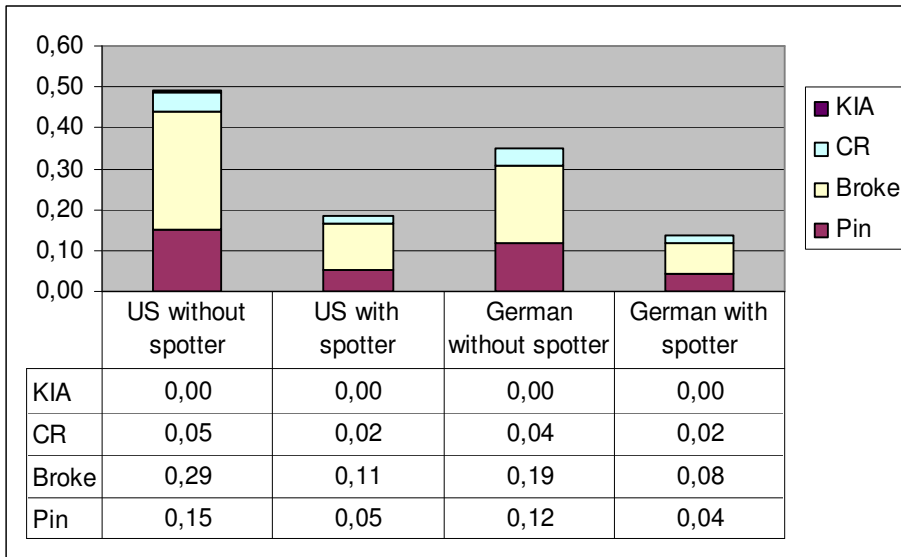


Figure III: The probabilities are calculated with no TEM and "To Hit" modifiers, and against a single unit with a moral number of seven.

This ends the statistical part of the article.

Statistics in ASL

Hopefully this article has given new ASL player some inside into the use of the small mortar, and the experienced players some exact probabilities to use in their future games. But the focus of this article might as well have been on any other weapon or unit in the game. The idea was to show how statistics is a useful tool to improve your game, since probabilities are such a large part of ASL.

The last chapter is a note, giving some details surrounding the calculations.

Notes to the calculations

The chances to damage have got a small upward bias, since the calculations do not take the breakdown possibility into account when calculation the chance to damage. Another thing to be noted, is that damage to the opponents units and the changes of the opponent sniper being activated, are positively correlated. The opposite is the case for the breakdown of the mortar, which is negatively correlated.

All the calculations are made using the IFT table and one unit with a morale number of seven. If the number of units located in the hex increases, the chance of doing damage will of course increase.

As mentioned earlier the SAN used in this article is only three, if the SAN was higher, it would dramatically increase the chances of activating the opponent's sniper. For example if the SAN were four, the chances of activating the sniper would increase by 50%.

ASL Starter Kit #1 Tip Sheet

unofficial

Inexperienced = Green (w/o Leader) or Conscript

- 3 MF
- Cover = Shift 2 columns left on IFT
- B# / X# = -1
- +1 ambush dr modifier

Special DR/dr Rolls to Watch For

- Doubles during (non-leader directed) attack Covers Attacker (shift one or two columns left on IFT)
- 12 on MC or Rally = Casualty reduction or elimination
- 2 during first MMC Self Rally or any MMC CC DR = Possible leader creation
- Unbroken unit fails MC (morale check) by >ELR = drop in unit quality
- Rolling *exact morale* during MC = *Pin*
- Rolling \geq SW X (*breakdown*) number during fire = Broken SW
- Rolling \leq SW ROF number on red die when firing = Maintain ROF success

Sequence of Play

3.1 Rally Phase [RPh]

BOTH players attempt to rally their broken units, fix broken equipment, or transfer equipment to another unit in the same location.

Start of Phase

- Attacker: Roll for provisional (SSR) reinforcements and set up off board units entering this turn.
- Recover unpossessed SW in same hex: $dr < 6$ (Attacker first)
- Repair broken SW: $dr < R\#$, 6=eliminate SW (Attacker first)
- Transfer SW within same location (Attacker first)

Original DR of 2 = Possible leader creation
Original DR of 12 = Casualty reduction

Rally

- Self Rallies (e.g., leaders, also one attacker MMC), +1 DRM for all attempts (Attacker first)
- Unit Rallies (Attacker first). Attempt to rally broken units.

End of Phase

- Remove all DM counters (unless adjacent to Known enemy unit. May opt to keep unless in woods or building).

3.2 Prep Fire Phase (PFPh) and Fire Attacks

ATTACKER fires eligible units and firegroups.

- Mark units (or stacks) that fire with *Prep Fire* markers.

Note: Be aware of special dr/DR rolls during course of all fire attacks (attacker and defender).

3.3 Movement Phase (MPH)

ATTACKER moves all, some, or none of his units provided they did not fire during the PFPh and are neither broken nor held in melee. Remove CX counters as a unit moves (unit cannot CX this turn). DEFENDER may fire on moving units (see 3.3.1).

- Attacker may use CX to increase a unit's movement points.
- Attacker may use Assault Movement for a one hex move (avoids FFNAM -1 DRM).
- Attacker may attempt to make smoke: $dr \leq$ smoke exponent (1MF in same hex, 2MF in adjacent hex. 6=stop move).
- Attacker may attempt to recover SW in same hex as unit: Cost 1MF and $dr < 6$.

Cowering causes immediate placement of *Final Fire* marker.

3.3.1 Defensive First Fire

- Defensive First Fire: DEFENDER may fire on moving attacker units (only). Mark any units that fire with a *First Fire* marker. Leave *Residual FP* counter in hex.

- Subsequent First Fire: DEFENDER may fire on moving attacker units (only) with units already marked with a *First Fire* marker. Enemy units within normal range, no closer target, ½ FP. Flip *First Fire* counter to *Final Fire* side. MGs B# -2. Leave *Residual FP* counter in hex.
- Final Protective Fire (FPF): DEFENDER may fire on moving attacker units (only) in adjacent hex to units with a *Final Fire* marker. ½ FP, double FP for PBF, Defender makes NMC. Leave *Residual FP* counter in hex.

End of Phase

- Remove all *Residual FP* counters.
- Remove all *Smoke* markers.

3.4 Defensive Fire Phase (DFPh)

DEFENDER may fire any units not marked with *First Fire* or *Final Fire* markers. Defender may also fire any units marked with *First Fire* markers at adjacent enemies.

- Fire any units not marked with *First Fire* or *Final Fire* markers. Mark units with *Final Fire* counter.
- Fire any units marked with *First Fire* counters at adjacent units at ½ FP. Mark units with *Final Fire* counter.

End of Phase

- Remove all *First Fire* and *Final Fire* markers.

3.5 Advancing Fire Phase (AFPh)

ATTACKER may fire units not marked with Prep Fire markers at ½ FP

- Eligible units may use Assault Fire (underlined FP).
- HMG/MMGs that moved may not fire.
- MGs cannot make ROF.

End of Phase

- Remove all *Prep Fire* markers.

3.6 Rout Phase (RtPh)

BOTH players rout eligible units.

- Attacker routs first.
- Check for DM. Mark affected units with a *DM* counter.
- Broken units not in melee under *DM* must rout away or be eliminated.
- Check for Interdiction while units rout.

3.7 Advance Phase (APh)

ATTACKER may move uninned and Good Order units one hex, including into enemy-occupied hexes.

- Attacker may transfer SW between Good Order units.
- Attacker may move units.
- Place *CC* counter on units that advance into an enemy-occupied hex.

3.8 Close Combat Phase (CCPh)

BOTH players resolve Close Combat between units in the same hex.

- Attacker specifies the order in which multiple hexes containing CC situations are to be resolved.
- Check for possible Ambush.
- Attacker designates all his attacks for a hex first then the Defender.
- Place *Melee* counter on hexes where CC continues.

Natural 2 DR = Possible leader creation

End of Phase

- Remove all *Pin* markers.

3.9 Turn Record Chart

The previous DEFENDER now becomes the ATTACKER and inverts the counter being used to track the turn and, if he was already the ATTACKER this game turn, advances the turn counter one box on the Turn Record Chart.

The ASL Tank Commander's Bible

SET UP

Hull Down Attempt (D4.22): May make attempt dr during setup (with -1 drm to a setup attempt) if in a hill Crest-Line hex.

Bore Sighting (C6.4): MA/SA (but not other weapons) of vehicles may Bore Sight (-2 TH DRM). As long as vehicle doesn't leave setup Location or change its VCA, it retains this DRM. It can still fire at other targets.

Motion (D2.4): Any vehicle that sets up *off-board* may set up in Motion.

BU/CE (D5.2-3): Vehicles may set up either BU/CE.

RALLY PHASE

Repair (D3.7): Remember to repair AFV weapons. *However, any vehicle whose MA and all SA (if any) are all permanently disabled is immediately Recalled (D5.341) unless it has Passenger/Towing Capacity. Sometimes having an AFV with no MA is better than running the risk of having it Recalled altogether.*

PFPh/DFF/DFPh

Starshells (E1.92): AFVs and CE Armor Leaders may fire Starshells. Usage dr for AFV is ≤ 2 ; CE AL is ≤ 4 . Starshells may be fired in the PFPh or DFF/DFPh (by player performing that phase's functions).

ADVANCE PHASE

BU/CE (D5.2-3): A vehicle may go BU or CE in its APh.

DEFENSIVE TACTICS

YOUR TURN:

BU Open-Topped AFV (D5.3): OT AFVs may still be BU (and thus protect their crews). The limitation is that the only weapon it may use is a bow-mounted MG/FT.

Extra MP Expenditure (D2.18): A vehicle may expend more MP to enter a hex than minimum required by declaring a higher-than-necessary MP expenditure as it enters a new hex. *This may be useful if you do not wish to expend unused MP in a future hex (for example, one in enemy LOS).*

Hull Down attempt (D4.22): Must spend two extra MP in a hill Crest-Line hex to make attempt dr. DFF must await outcome of dr before resolution. Regardless of outcome, if still Mobile, vehicle must immediately end MPh

by expending a Stop MP.

Vehicular Smoke Dispenser (D13): One attempt per Player Turn during MPh if not stunned/shocked/broken and AFV/PRC have not yet fired any weapon. Costs 1 MP (no MP if unsuccessful). During enemy MPh, attempt can be made following any MP/MF expenditure by an opposing unit in LOS. BU AFV must add +1 to DR. *A good defensive tactic is to use an AFV's last MP to attempt to place Smoke in its own hex.*

Platoon Movement Sleaze (D14.2): Radioless AFVs must, and any other AFVs may, use Platoon Movement. Radio-Equipped AFVs must declare their attention to move as a Platoon at the start of their MPh; this lasts until start of their next MPh. *A peculiar feature of Platoon Movement rules is that all units in a Platoon's "multihex stack" must move one hex before any of them can be First Fired on at the end of the impulse. This means that enemy units cannot fire on you when you expend any other MP, such as starting up, changing CA, etc.—only after you enter a new hex.*

Gun Duel (C2.2401): If a non-concealed defender declares DFF against a vehicle, it may attempt to BFF its weapons at the defender first, provided 1) it need not change CA; 2) is not conducting OVR; 3) its total Gun Duel DRM (Firer-Based + Acquisition TH DRM) is less than Defender's; 4) Defender's attack is not Reaction Fire. If DRM are equal, the lower Final TH/IFT DR fires first (and voids opponent's return shot by eliminating/breaking/stunning/shocking it). If the DR are equal, shots are simultaneous.

ENEMY'S TURN:

Vehicular Smoke Dispenser (D13): During enemy MPh, attempt can be made following any MP/MF expenditure by an opposing unit in LOS, if not stunned/shocked/broken and AFV/PRC have not yet fired any weapon. BU AFV must add +1 to DR.

Motion Attempt (D2.401): Declarable by defending mobile vehicle (not marked with First/Final counter; limit one per turn) during enemy movement phase; must make Motion attempt dr \leq #MF/MP expended in LOS by enemy unit. Enemy unit must be one that had not been in vehicle's LOS prior to entering it during that MPh. *Motion Status gives you a free VCA/TCA change. Even a vehicle already in Motion may make a Motion attempt to get this free change.*

Gun Duel (C2.2401, C5.33): The only time a defender may declare a Gun Duel is if a Bounding First Firer vehicle declares a shot prior to any MP expenditure.

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OFFENSIVE TACTICS (MOVEMENT)

BU/CE Status (D5.2-3): Must be CE to get road movement rate. May go BU or CE in MPh. *One slick trick is to CE in your movement phase to get extra road movement, then BU in Advance Phase to protect crew.*

Overruns (D7): Be on lookout for Overrun possibilities—especially enemy units in Open Ground (-1 IFT DRM) or low TEM. Cost: 1/4 MP + COT. FP Base: 4 FP (if MA is manned, functioning, and not MG/FT/MTR/ATR/IFE-capable) + FP of all manned/functioning MG/IFE (tripled, then halved). See D7.11 for FT/Passengers. Armor Leader DRM applicable.

Protecting Your Infantry

Vehicular Smoke Dispenser (D13): One attempt per Player Turn during MPh if not stunned/shocked/broken and AFV/PRC have not yet fired any weapon. Costs 1 MP (no MP if unsuccessful). BU AFV must add +1 to DR. *A good use of Smoke Dispensers is to place Smoke in key hexes to protect other units, such as infantry, that may move later in the phase.*

Armored Assault (D9.31): Infantry may move with AFV in combined stack if they begin MPh beneath that AFV. *AFV cannot move farther than accompanying infantry, but it need not move with infantry through their entire movement. It can diverge, as long as it does not move farther than it could if it were accompanied by the same Infantry throughout the move.* Infantry armor assaulting is not subject to FFMO but is subject to FFNAM (unless it declared Assault Movement). Gets +1 AFV TEM for total DRM of 0, even in subsequent DFPh (if AFV is Stopped).

Vehicle Bypass Sleaze (A7.212): A unit may not attack units in other Locations while its own Location is occupied by a Known enemy unit. *A slick trick is to use an AFV to prevent enemy units in a woods or building hex from firing outside that hex (allowing your other units to approach it or move past it, etc.). This is done by moving the AFV into that hex using bypass movement (to avoid MP costs, bog effects, etc.).* Enemy units may use CC Reaction Fire in response, so this shouldn't be attempted against dangerous enemy stacks.

Getting Off/Out of Vehicles

Loading/Unloading (D6.4-5): During MPh only; cost 1 MF per 1/4 of vehicle's MP spent. FFNAM applies.

Bailing Out (D6.21, 6.24): A turreted AFV may force its Riders to Bail Out by changing its TCA; *this can be a slick trick to squeeze some extra distance for your Riders.* Can even Bail Out in an enemy-occupied hex. Subject to FFNAM; must take a NMC; can't move/fire further during that phase (and is marked with Prep/Final Fire counter as appropriate). See 6.24 for effect on SW.

Abandonment (D5.4): Only during MPh, costs all crew's MF. Subject to FFNAM. Vehicle may not have moved/fired. May remove weapons: see D6.631 for halftracks, D6.83 for carriers, 10.5-.52 (Scrounging) for others.

FIRING HINTS

Smoke (C8.5): Don't forget SMOKE may be fired only at *start* of owner's PFPh/DFPh (WP may also be fired at *start* of any friendly fire phase). All SMOKE fired other than in PFPh is placed as white Dispersed SMOKE.

LOS (D3.51): A vehicle may use MG fire on a target it cannot affect; *you can use this to check a tricky LOS before firing your MA at the target.*

Armor Leader (D3.4): Don't forget your (possibly offboard) Armor Leader for MA DR, OVR DR.

Special Ammunition (C8): Don't forget to declare special ammo shots.

Elite Ammo Bonus (C8.2): Don't forget Depletion Number is increased by one for Elite forces: include SS, Russian Guards, and units specified by SSR.

ROF (C2.24): Don't forget to check your colored dr to see if you maintained your ROF. No ROF in AFPh. For BFF, a vehicle must expend at least one MP between shots.

Acquisition (C6.5): Don't forget to increase your acquisition (NA for Bounding First Fire w/o Gyrostabilizer) after firing. IFE cannot place/use/retain acquisition. Concealed target acquired only if using Area Target Type. *Warning: Be careful about firing a CMG at a target other than the acquired target; this causes loss of acquisition.*

Deliberate Immobilization (C5.7): Don't forget the option to make a Deliberate Immobilization TH DR. Like normal TH DR, but with +5 Case G To Hit DRM. Can only attempt if weapon's Basic TK# (for ammo type) is > target's lowest hull AF. Must have a hull hit at range ≤ 6 hexes. Not allowed against HD target or with MG/IFE or using Area Target Type. Acquisition DRM are NA (but this shot can be used to gain acquisition). A successful hull hit results in automatic immobilization and causes a Crew TC.

HE vs. AFV (C1.55): If you can't penetrate an AFV's armor, maybe firing HE (Area Target Type) can work. A Final KIA results destroys the AFV (Final DR ≤ half of the DR that corresponds to a K/# result creates a Burning Wreck). A Final DR that is a K/# or 1 > a K/# creates an automatic Shock (turret hit) or Immobilization (hull hit). Other results have no effect (EXC: Vulnerable PRC). IFT DR determines hit location; TEM applies to IFT DR (per C1.52/3.331); HD status has no effect. Other DRM: -1 if all AF ≤ 4; -1 if OT; +1 if all AF ≥ 8.

Intensive Fire (C5.6): Never forget to consider if Intensive Fire is warranted. You get one extra shot, but it comes with a Case F +2 TH penalty, and the weapon's B# is lowered by 2. A weapon fired during the AFPh cannot use Intensive Fire (EXC: Opportunity Fire).

Advanced Squad Leader Tank (Fully Tracked Vehicle) Play Aid

Terrain	Tank MP Cost	Terrain	Tank MP Cost	Terrain	Tank MP Cost
Open Ground	1	Water Obstacle	NA	Kunai	2
Road	1/2 [BU: 1]	Stream/Woods	M Bog/Z & 3 [3 if IN Stream]	Swamp	NA
Woods/Pine Woods	All Bog Z D R	Stream/Brush	5 [3 if IN Stream]	Cactus Hedge	W
Wall	1 + COT	Stream/Orchard	4 [3 if IN Stream]	Vineyard	2 Bog R
Hedge	1+ COT	Crag	NA	Cactus Patch	3 R
Brush	2	Graveyard	Z Bog [1 via g-y road]	Olive Grove	2 R
Orchard	1 R	Valley	DOT	Desert Open Ground	1 bb R
Wooden Building	Z Bog	Cliff	NA	Scrub	2 bb R
Stone Building	Z Bog	Sunken Road	NA R D	Hammada	2 1 R
Marsh	NA	Elevated Road	5 R D	Deir	DOT bb h
Grain	1	GL Railroad	2 [1+COT crossing non-RR hexside]	Wadi	2+COT bb R
Hill	DOT H	Em Railroad	2 Z D [2+COT crossing non-RR hexside]	Hillock	DOT bb L
Bocage	Z & COT Bog	El Railroad	2 Z D O [5+COT, +1 Bog crossing non-RR hexside]	Sand	2+COT b R (Wet/Mud EC: 1 less)
Shellholes	COT	Su Railroad	2 S [NA crossing non-RR hexside]	Dune Crest	1 + COT
Rubble	Z Bog	Tower	Z Bog	Sangar	COT (x2 if accessible trench present; F8.5)
Entrenchment [Trench]	COT [Bog]	RB Debris	1/4 MP + Bog	Track	T
Minefield	COT	RB Factory	1/4 MP + Bog (ZZ)	Broken Ground	2 b R
Roadblock	NA	Culvert	NA	Slope Hexside	1+COT for Upslope
Pillbox	COT	RB Storage Tank	VBM Only	Barbed Wire Fence	Bog (No DRM)
Fire (Blaze)	NA	RB Railway Embankment	1 + COT	Narrow Street	1/2 VBM Cost
Wire	2 & COT Bog	Light Jungle	1/2 or all/Bog	Irrigation Ditch	2+COT Bog (Q1.43)
Wreck	DOT +1/veh [+2 by road]	Dense Jungle	1/2 or all/Bog xx	Partial Orchard	As Orchard or Open Ground, as per hexside entered
Bridge	NA R D	Bamboo	1/2 or all/Bog xx	Irrigation Ditch/Partial Orchard	3 Bog
Runway	1 R	Palms	1	Stream/Partial Orchard	Via Stream: normal Stream cost Via Orchard: cumulative
Sewer	NA	Hut	2		
Hillside Wall/Hedge	W				
Gully	2 & COT				
Stream	2 & COT BB				

NOTES

Bog: Bog DR to enter/change VCA in.

BB: Requires Bog DR to exit via non-depression hexside.

Bb: Requires Sand Bog DR to enter/change VCA w/in (even if scrub is present), unless on road or track.

Z: Half of MP Allotment.

R: or per Road cost if through Road/Runway, or track cost if through track, hexside.

D: MP penalties for entering a hex with wreck/vehicle (or changing VCA in) are doubled.

H: +4 MP per full level higher elevation entered (+2 MP via road).

W: Entry as per wall/hedge.

M: Minimum Move required.

ZZ: To exit, must pay normal bldg costs +bog/rubble, unless exiting through vehicle exit.

I: Hammada Immobilization DR required unless on road/track (F3.31).

h: 1 MP + COT if leaving deir hex via Lip hexside; otherwise, cost is COT (usually Open Ground).

L: 1 MP + COT if entering a higher elevation; otherwise COT.

T: If crossing Track hexside, reduce *total* MP cost by 1 (to min of 1) before adding any Weather/Towing/Convoy/SMOKE/Dust cost; F9.1.

xx: No tankettes.

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Tank Notes		(D3) AFV PHASE/MOTION FIRE MODIFIERS						D4.22 Hull Down Maneuver Attempt	
C3.9 Vehicular Hit Location (TH DR)	Turret Hit: colored dr < white dr Hull Hit: colored dr ≥ white dr	Phase	Status	MG	Ordnance	FT⁹	Notes	2 extra MP, plus 1 MP to Stop	
C3.6 Improbable Hits (Original TH DR 2)	<i>Subsequent dr:</i> 1: Critical Hit 2: Turret Hit 3: Hull Hit 4-6: Miss	PFPPh	Stopped	Full FP	No DRM	Full FP	—	1:	3 or less hexsides are HD
C3.8 Multiple Hits	Any non-Critical Hit TH DR (Gun must be ≤ 40 of Doubles yields choice of mm or U.S. and two resolution DR. British Vehicle Note R, Chinese Vehicle Note 7)	MPh	Stopped	½ FP	C, C ¹ , or C ²	Full FP	1,2	dr	2 or less hexsides are HD
Lowered ROF	-IFE (C2.29) -Captured/non-qualified use	DFPh	Stopped	Full FP	No DRM	Full FP	4	2:	1 hexside is HD
Lost ROF	-Non-Mortar using Area Target -Non-Opportunity Fire in AFPh	AFPh	Stopped	½ FP	B or C	Full FP	5,6	3:	drm: +1 BU; +2 Russian CT AFV; +x Armor Leader DRM; -1 in Setup
C3.7 Critical Hits	-Area/Vehicle Target Type: Original TH DR of 2 (NA Deliberate Immob) -Infantry Target Type: Final TH DR < half of Modified TH#, or 2 TH DR & subsequent dr of 1 or ≤ half of Modified TH#	CCPh	Stopped	Full FP	NA	NA	—		
C2.21 Ammo	Overscore: AP NA Underscore: HE NA	Motion	Motion	½ FP	C ⁴	½ FP	1,3,4		
Minimum Move	All MP plus end MPh in Motion Status	Motion	Motion	¼ FP	C ⁴	½ FP	1,3,6		
Reverse Move	4 x MP Entrance Cost	Motion	Motion	½ FP	NA	NA	7,8		
OVR Attack	¼ MP (FRU) allotment (D7.1), plus COT to enter hex	Notes: 1: Area Target Type NA (C3.33), Acquisition lost unless Stabilized Gun (C6.55). 2: To Hit DRM Case A NA (CA must be changed by expending MP) (D3.51). 3: To Hit DRM Case L NA 4: This line also applies to units using Defensive First Fire. 5: Ordnance uses Case B if vehicle has not moved to a new hex/or used VBM during that Player Turn. If it has moved, vehicle uses Case C (C5.3). 6: Multiple ROF/Intensive Fire NA (C5.2, C5.6). 7: Enemy Infantry not held in Melee (A11.7). 8: FP of Nahverteidigungswaffe (sN) not halved (A11.622). 9: FT TK # unaffected.							
		Armor Factors: 0, 1, 2, 3, 4, 6, 8, 11, 14, 18, 26							
		Gun Elevation/Depression: Range must be ≥ Elevation Difference unless AA capable or MTR.							
		D28.21 Bog Check DRM (Fully Tracked Vehicles Only)							
		DR + DRM ≥ 12 results in Bog							
		DRM Cause							
		+1 Normal Ground Pressure (no symbol around Vehicle ID)							
		+2 High Ground Pressure (circled Vehicle ID)							
		+1 Towing ordnance ¹ or trailer							
		+1 Ground is soft ² , mud ² , or snow-covered ³							
		+1 Ground is Deep Snow ³							
		+1 Abrupt Elevation Change							
		+1 Exiting Deep Stream & vehicle is neither amphibious nor waterproofed							
		+1 Gaining elevation & entering woods							
		+2 Moving into Wire							
		+3 *Entry of woods, graveyard, wooden building, or rubble at half MP allotment							
		+4 *Entry of stone building at half MP allotment							
		*+1 instead if moving from Factory hex to non-rubble hex w/in the same Factory (B23.742).							
		¹ NA if ordnance is 76-107mm MTR.							
		² NA if on paved road or in bldg hex.							
		³ NA if in bldg hex or on plowed road.							
		D8.3 Bog Removal		D2.5 Excessive Speed Breakdown DRM					
		Freed on Colored dr of 1-4 Start MP = Colored dr x White dr or ALL MP		MP Gain ≤ ¼ MP Allotment (FRD)					
		Colored dr Result		Breakdown: DR + MP Gain + ESB DRM ≥ 12					
		1-4 Freed		Black MP (FRD) Red MP (FRU)					
		5 Mired		ESB Manufacturer Nationality DRM					
		6 Immobilized		0 U.S.(a), Czech (t)					
		Mired: +1 drm to colored dr		+1 Russian (r)					
		CE AFV Assistance: -1		+2 British (b), German (g)					
				+3 French (f), Italian (I), all others					

Did You Remember? An ASL Checklist. <i>Especially important items to remember are marked with a “▶” symbol.</i>	Coding Key ATTACKER ONLY DEFENDER ONLY BOTH PLAYERS	MOVEMENT PHASE (& DEFENSIVE FIRST FIRE)	ADVANCING FIRE PHASE
PRE-GAME SETUP		<input type="checkbox"/> ▶ Did you attempt to fire Starshell? (Beginning of MPH) (E1.91-.921) <input type="checkbox"/> Did you make Freedom of Movement dr (Night, Scenario Defender)? (E1.21) <input type="checkbox"/> ▶ Did you move Berserk units first? (Beginning of MPH) (A15.43-.431) <input type="checkbox"/> Did you create Tank Hunter Hero? (G1.421) <input type="checkbox"/> Did you enter a Sewer? (B8.4) Tunnel? (B8.6) (at start of unit’s movement) <input type="checkbox"/> Did you attempt to Clear things? (B24.71, B24.73, B24.74, B24.75, B24.76, G2.7, G9.71, O1.5) <input type="checkbox"/> Did you Recover weapons? (A4.44) <input type="checkbox"/> Did you Dash? (4.63) <input type="checkbox"/> Did you attempt to place SMOKE grenades? (A24.1; D13.35) or use Smoke Dispenser? (D13) <input type="checkbox"/> Did you claim Wall Advantage? (B9.322) <input type="checkbox"/> Did your vehicles go CE/BU? (D5.33) <input type="checkbox"/> Did you make your Straying DR? (E1.53; G2.22; G3.21; G13.83) <input type="checkbox"/> ▶ Did you make a Motion Attempt for your AFV? (D2.401) Smoke Dispenser attempt? (D13.2) <input type="checkbox"/> ▶ Did you place residual FP? (A8.22; A9.22) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) Fire Lane Option (Defender) (A9.22)? Snap Shot? (A8.15) <input type="checkbox"/> Did you use Reaction Fire, Street Fighting? (D7.2) (A11.8) <input type="checkbox"/> Did your Sewer unit make its emergence dr? (End of MPH) (B8.42) <input type="checkbox"/> Did your Unarmed units attempt to Scrounge Small Arms (A20.552; G17.14) (End of MPH)?	<input type="checkbox"/> ▶ Did you resolve SMOKE drift? (A24.61) Did you resolve Gusts? (B25.651) (Start of AFPh) <input type="checkbox"/> Did you fire Ordnance Dispersed WP? (C8.6) <input type="checkbox"/> Did you (un)limber Guns? (C10.21) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> ▶ Did you resolve Blaze Spread (B25.15-.151; B25.6; B25.651)?
<input type="checkbox"/> Did you exchange a leader for a Commissar? (A25.22; G18.31; O11.6206) <input type="checkbox"/> ▶ Did you deploy up to 10% (FRU) of your at start forces? (A2.9; A5.5; A25.2; A25.61; A25.7; G14.311; G17.11; G18.2) <input type="checkbox"/> ▶ Did you Boresight? (C6.41-42) Did you pre-register OBA? (C1.73; E12.71) <input type="checkbox"/> Did you make Hull Down attempts for AFVs? (D4.22-.221) <input type="checkbox"/> ▶ Did you record HIP/Tank Hunter Heroes/Dare-Death Squads? <input type="checkbox"/> Did you claim Wall Advantage? (B9.322)		DEFENSIVE FIRE PHASE	ROUT PHASE
RALLY PHASE		<input type="checkbox"/> Did you check NVR Change, Civilian Interrogation, in Wind Change DR? (E1.12, E2.4) <input type="checkbox"/> ▶ Did you make your Self-Rally attempt (or attempts, for ABtF SSR CG14, BRT SSR CG14, KGP SSR CG18, RB SSR CG17)? (A10.63; A18.11) <input type="checkbox"/> Did you Recombine? (A1.32) <input type="checkbox"/> ▶ Did you Recover SW/Guns? (A4.44; D6.31; G.5) Did your leaders Recover SW possessed by friendly broken units? (A4.44) Did you Repair SW? (A9.72; D3.7) Did you Transfer them? (A4.431; A9.72; A13.33; A20.5; D3.7) <input type="checkbox"/> Did you Deploy? (A1.31-32; G17.11) <input type="checkbox"/> Did you Scrounge vehicles/wrecks? (D10.5) <input type="checkbox"/> Did you claim Wall Advantage? (Attacker first, end of phase) (B9.322)	<input type="checkbox"/> Did you voluntarily break? (A10.41)
PREP FIRE PHASE		<input type="checkbox"/> Did you fire Dispersed SMOKE? (C8.5) <input type="checkbox"/> ▶ Did you attempt Radio Contact? (C1.2; G.7) Battery Access? (C1.21; G14.63) <input type="checkbox"/> Did you attempt to fire Starshells (Leaders, or MMC/CE AFV if no Starshells have been fired in previous turns)(E1.921)? <input type="checkbox"/> Did you declare clearing attempts? (B24.72-76, G2.7, G9.71) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> Did you Dismantle/Reassemble weapons? (A9.72; A9.8) <input type="checkbox"/> Did you (un)limber Guns (C10.21)? <input type="checkbox"/> Did you change CA of guns able to fire without Intensive Fire? (C3.22)	ADVANCE PHASE
<input type="checkbox"/> Did you fire Starshells? (E1.91-.921) <input type="checkbox"/> ▶ Did you fire SMOKE (at start of PFPPh)? (C8.5-.51) <input type="checkbox"/> ▶ Did you attempt Radio Contact? (C1.2; G.7) Battery Access? (C1.21; G14.63) <input type="checkbox"/> Did you Mop Up? (A12.153) Entrench? (A25.21; B27.11) Kindle? (B25.11) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> Did you Dismantle/Reassemble Weapons? (A9.73; A9.8) <input type="checkbox"/> Did you (un)limber Guns (C10.21)? <input type="checkbox"/> Did you change CA of guns able to fire without Intensive Fire? (C3.22)		<input type="checkbox"/> Did you fire Dispersed SMOKE? (C8.5) <input type="checkbox"/> ▶ Did you attempt Radio Contact? (C1.2; G.7) Battery Access? (C1.21; G14.63) <input type="checkbox"/> Did you attempt to fire Starshells (Leaders, or MMC/CE AFV if no Starshells have been fired in previous turns)(E1.921)? <input type="checkbox"/> Did you declare clearing attempts? (B24.72-76, G2.7, G9.71) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> Did you Dismantle/Reassemble weapons? (A9.72; A9.8) <input type="checkbox"/> Did you (un)limber Guns (C10.21)? <input type="checkbox"/> Did you change CA of guns able to fire without Intensive Fire? (C3.22)	CLOSE COMBAT PHASE
<input type="checkbox"/> Did you check NVR Change, Civilian Interrogation, in Wind Change DR? (E1.12, E2.4) <input type="checkbox"/> ▶ Did you make your Self-Rally attempt (or attempts, for ABtF SSR CG14, BRT SSR CG14, KGP SSR CG18, RB SSR CG17)? (A10.63; A18.11) <input type="checkbox"/> Did you Recombine? (A1.32) <input type="checkbox"/> ▶ Did you Recover SW/Guns? (A4.44; D6.31; G.5) Did your leaders Recover SW possessed by friendly broken units? (A4.44) Did you Repair SW? (A9.72; D3.7) Did you Transfer them? (A4.431; A9.72; A13.33; A20.5; D3.7) <input type="checkbox"/> Did you Deploy? (A1.31-32; G17.11) <input type="checkbox"/> Did you Scrounge vehicles/wrecks? (D10.5) <input type="checkbox"/> Did you claim Wall Advantage? (Attacker first, end of phase) (B9.322)		<input type="checkbox"/> Did you fire Dispersed SMOKE? (C8.5) <input type="checkbox"/> ▶ Did you attempt Radio Contact? (C1.2; G.7) Battery Access? (C1.21; G14.63) <input type="checkbox"/> Did you attempt to fire Starshells (Leaders, or MMC/CE AFV if no Starshells have been fired in previous turns)(E1.921)? <input type="checkbox"/> Did you declare clearing attempts? (B24.72-76, G2.7, G9.71) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> Did you Dismantle/Reassemble weapons? (A9.72; A9.8) <input type="checkbox"/> Did you (un)limber Guns (C10.21)? <input type="checkbox"/> Did you change CA of guns able to fire without Intensive Fire? (C3.22)	<input type="checkbox"/> Did you transfer SW/Guns/Prisoners? (A4.43; A20.5) <input type="checkbox"/> Did you create Tank Hunter Heroes (G1.421)? <input type="checkbox"/> Did you go CE/BU? (D5.33) <input type="checkbox"/> Did you claim Wall Advantage? (B9.322) <input type="checkbox"/> Did your Sewer units emerge? (B8.44) Tunnel units? (B8.6)
<input type="checkbox"/> Did you check NVR Change, Civilian Interrogation, in Wind Change DR? (E1.12, E2.4) <input type="checkbox"/> ▶ Did you make your Self-Rally attempt (or attempts, for ABtF SSR CG14, BRT SSR CG14, KGP SSR CG18, RB SSR CG17)? (A10.63; A18.11) <input type="checkbox"/> Did you Recombine? (A1.32) <input type="checkbox"/> ▶ Did you Recover SW/Guns? (A4.44; D6.31; G.5) Did your leaders Recover SW possessed by friendly broken units? (A4.44) Did you Repair SW? (A9.72; D3.7) Did you Transfer them? (A4.431; A9.72; A13.33; A20.5; D3.7) <input type="checkbox"/> Did you Deploy? (A1.31-32; G17.11) <input type="checkbox"/> Did you Scrounge vehicles/wrecks? (D10.5) <input type="checkbox"/> Did you claim Wall Advantage? (Attacker first, end of phase) (B9.322)		<input type="checkbox"/> Did you fire Dispersed SMOKE? (C8.5) <input type="checkbox"/> ▶ Did you attempt Radio Contact? (C1.2; G.7) Battery Access? (C1.21; G14.63) <input type="checkbox"/> Did you attempt to fire Starshells (Leaders, or MMC/CE AFV if no Starshells have been fired in previous turns)(E1.921)? <input type="checkbox"/> Did you declare clearing attempts? (B24.72-76, G2.7, G9.71) <input type="checkbox"/> Did you use Spraying Fire option? (A7.34) <input type="checkbox"/> Did you Dismantle/Reassemble weapons? (A9.72; A9.8) <input type="checkbox"/> Did you (un)limber Guns (C10.21)? <input type="checkbox"/> Did you change CA of guns able to fire without Intensive Fire? (C3.22)	<input type="checkbox"/> Did you create a Tank Hunter Hero? (G1.421) <input type="checkbox"/> Did you declare escape attempts for Prisoners? (A20.55) <input type="checkbox"/> Did you declare a Capture attempt? Did you Interrogate new Prisoners? (E2.1; G1.621; G18.71) <input type="checkbox"/> Did you make ATMM dr (Germans, Japanese Tank Hunter Heroes)? <input type="checkbox"/> Did you resolve all non-Flame Clearance attempts (B24.7; B28.7; G2.7; G9.71; O1.5) and place Labor counters if unsuccessful? <input type="checkbox"/> ▶ Did you check for concealment for your units? (A12.12-.122; E1.32; E3.712; F11.601; G1.63))

The "Dutch Trucks" Play Aid

Other To Kill	
AP/APCR /APDS to Kill	
IFE/MG-15mm	★ Line IFT
ATR-28mm	7
37-57mm	8
65-77mm	9
85-95mm	10
100+mm	11
HEAT To Kill	11 (x2 if CH)
CCV DRM	-3

IFT Fire vs. Unarmored Targets ★ (no To Hit DR needed for MG attack)

	Backblast ATR					C37 [A-P Minefields]	PF sN					A-T Mine Set DC	
FP/DR	1/20	2/30	4/37	6/50	8/60	12/70	16/80	20/100	24/120	30/150	36+/200+	FP/DR	
Vehicle	3	4	5	6	7	8	9	10	11	12	13	Vehicle	

FP or DR Modifiers:												
x½: Area Fire (concealed target)						x½: Long Range Fire			+1: From Encirclement			
x½: Motion/Bounding (First) Fire (FT NA)						x½: AFPh Fire (FT NA)			+1: By unit on Wire			
x½: From IN Deep or Shallow Stream						x2: Critical Hit			+1: By overstaked unit; per vehicle/squad			
x½: By Forging Infantry						x2: PBF vs adj hex ≤ 1 higher (FT NA)			+1: By CX unit			
x½: Mounted Fire (EXC: ht & Charge)						x3: TPBF vs same Location			+2: OVR vs Motion Vehicle			
x½: Firer pinned						-1: Heavy Payload per 50mm/8 FP excess			+x: TEM/LOS Hind. (FT NA)			
x½: From marsh						-1: vs Motorcycle						
						-3: Set DC						

HE/Flame to Kill vs. Unarmored Targets (no mortars)

Gun	20+	30+	40+	50+	70+	80+	100+	120+	150+	DC	FT	MOL	MOL-P
TK#	6	8	9	10	12	14	16	18	20	[★ Vehicle: IFT]			9

Double if CH (EXC: DC, FT, MOL)

Unarmored Vehicle Destruction Table

Final DR	Bomb/Ordnance/Direct Fire	FT/MOL	AP Mine/Non-Ordnance/Indirect Fire/DC	AT Mine¹	CC
≤ ½TK#/ ★ IFT#/1KIA/CCV:	Burn	Burn	Burn	Burn	Burn
< TK#/ ★ IFT#/1KIA/CCV:	Elim	Burn	Elim	Burn	Elim
= TK#/ ★ IFT#/1KIA/CCV:	Im	Elim	Im	Burn	Im
¹ >KIA = Elim (B28.52)					

Defensive Rules

- 1. Non-Ordnance Direct Fire vs. Unarmored vehicles.** Use ★ line of IFT; same DR affects other Personnel in same location, including Infantry and other vehicles/horses [EXC: Bypass vehicle out of firer LOS cannot be affected, nor can more vehicle/horse counters be affected than the highest KIA# of that column—so a 6/8/12FP attack could affect no more than 3 vehicles; a 2/4FP attack can affect up to 2 vehicles; a 1 FP attack can affect only 1 vehicle].
- 2. Hull Down.** If HD, an unarmored vehicle is unaffected by Im-mob result.
- 3. Unlikely Kill.** An original 2 IFT DR can possibly have an effect even if DRM raise Final DR above Kill Number. Make subsequent dr; on 1 it is burning wreck, on 2 it is eliminated; on 3 it is immobilized; on 4-6 no effect. Regardless of subsequent dr, if original 2 DR would have a better effect, use that DR instead.
- 4. Target Type.** Vehicle target type is used, but Infantry Target Type can be selected for HE, AP, or HEAT vs. an unarmored target.
- 5. AP to Kill.** Barrel length, range, and AF have no effect on the TK# of a hit vs. an unarmored vehicle.
- 6. Minefields.** For A-P, use ★ Vehicle line of IFT (see B28.42 for passengers). For A-T, use 36+ column; elimination is automatic, but

Burning Wreck occurs only on 1KIA or better.

7. Air Bursts. Unarmored vehicles are susceptible to -1 Air Burst DRM.

PRC

- 1. Survival.** PRC of a non-burning wreck can check for survival and are not subject to further effects. However, vulnerable PRC of an uneliminated vehicle may be subject to Collateral Attack (D.8).
- 2. Sniper.** Sniper dr of 1 breaks Inherent crew of unarmored/partially armored vehicle; immobilizes unarmored vehicle; dr of 2 pins Inherent crew of unarmored/partially armored vehicle. Unarmored vehicle and PRC cannot be attacked by same Sniper dr; an attack vs. vehicle itself can only immobilize it.
- 3. Inherent/Temporary Driver.** Unarmed vehicles manned only by Inherent Driver (represented by lower case cs#, used only for Passengers/Riders). Not subject to Stun/Recall; instead PTC/MC/K/KIA. Vehicle automatically stops if crew breaks (if Inherent Crew, rather than Driver, must rout from vehicle). Crew/Driver morale for unarmored vehicle = best unbroken 1st Line Infantry. A captured *unarmored* vehicle gets a free inherent driver (A21.21), unless captured by SMC, who would be removed (temporarily).
- 4. Passengers.** Squad=10pp; HS/Crew=5pp; ≤ 4SMC=0pp. Passengers may remain in vehicle while broken or may rout beneath a Stopped vehicle, unless the inherent crew (if any) is eliminated, breaks, or abandons, in which case broken Passengers must rout beneath vehicle. Broken passengers may remain in vehicle even if enemy units are ADJACENT or in same hex or vehicle is moving towards an enemy unit (even to OVR).
- 5. Passenger Fire.** FP halved for Mounted Fire. LMG, PIAT, Thrown DC and SCW/RCL Desperation Attacks are the only SW that can be fired by Passengers.
- 6. Vehicle TEM.** An unarmored vehicle exerts no TEM for infantry in same hex until it becomes a wreck. It can be a LOS hindrance. Eliminated vehicles with no vehicle depiction on reverse side leave no wreck.

The “Dutch Trucks” Play Aid: Trucks & Unarmored Vehicles

Terrain	Truck MP Cost	Terrain	Truck MP Cost	Terrain	Truck MP Cost
Open Ground	4	Water Obstacle	NA	Kunai	6
Road	1/2	Stream/Woods	M [10 if IN Stream]	Swamp	NA
Woods/Pine Woods	All Bog R	Stream/Brush	16 [10 if IN Stream]	Cactus Hedge	NA
Wall	NA	Stream/Orchard	14 [10 if IN Stream]	Vineyard	6 Bog R
Hedge	NA	Crag	NA	Cactus Patch	12 R
Brush	6	Graveyard	NA [1 via g-y road]	Olive Grove	8 R
Orchard	4 R	Valley	DOT	Desert Open Ground	1 bb 1 R [reg OG costs if Board 25 hill hex]
Wooden Building	NA	Cliff	NA	Scrub	6 bb R
Stone Building	NA	Sunken Road	NA R D	Hammada	6 1 R
Marsh	NA	Elevated Road	NA R D	Deir	DOT bb 1 h
Grain	5	GL Railroad	5 [5+COT crossing non-RR hexside]	Wadi	6+COT bb R
Hill	DOT H	Em Railroad	5 Z D [6+COT crossing non-RR hexside]	Hillock	DOT bb 1 L
Bocage	NA	El Railroad	5 D Z [NA crossing non-RR hexside]	Sand	6+COT b R (Wet/Mud EC: 1 less)
Shellholes	4 & COT	Su Railroad	5 S [NA crossing non-RR hexside]	Dune Crest	1 + COT
Rubble	NA	Tower	NA	Sangar	COT (x2 if accessible trench present; F8.5)
Entrenchment [Trench]	4 & COT [NA]	RB Debris	NA	Track	T
Minefield	COT	RB Factory	NA	Broken Ground	2 b R
Roadblock	NA	Culvert	NA	Slope Hexside	1+COT for Upslope
Pillbox	COT	RB Storage Tank	VBM Only	Barbed Wire Fence	Bog (+2 Bog DR)
Fire (Blaze)	NA	RB Railway Embankment	1 + COT	Narrow Street	1/2 VBM Cost
Wire	4 & COT Bog	Light Jungle	All Bog D R	Irrigation Ditch	3+COT Bog
Wreck	DOT +1/veh [+2 by road]	Dense Jungle	NA	Partial Orchard	As Orchard or Open Ground, as per hexside entered
Bridge	NA R D	Bamboo	NA	Irrigation Ditch/Partial Orchard	[No entry/exit via non-road hexside]
Runway	4 R	Palms	4 R	Stream/Partial Orchard	Via Stream: normal Stream cost Via Orchard: cumulative
Sewer	NA	Hut	NA [5 Bog for collapsed]		
Hillside Wall/Hedge	NA				
Gully	6 & COT BB				
Stream	6 & COT BB				

Notes

Bog: Requires Bog DR to enter or change VCA within.
 R: or per road cost if through Road/Runway, or track cost if through track, hexside.
 D: MP penalties if changing VCA or hex contains wreck/vehicle are doubled.
 DOT: Dependent on Other Terrain in Hex.
 H: Add 4 MP for each full level higher elevation entered (EXC: via road add 2 MP).
 COT: Cost of Terrain.
 BB: Requires Bog DR to exit via non-depression hexside.
 M: Minimum Move Required.
 bb: May require Sand Bog DR if Accessible to Sand; F7.31.
 I: Hammada Immobilization DR required unless on road or track; F3.31.
 h: 1 MP + COT if leaving deir hex via Lip hexside; otherwise cost is COT

(usually OG).
 L: 1 MP + COT if entering a higher elevation; otherwise cost is COT (usually OG).
 b: Requires Sand Bog DR to enter/change VCA within unless on road or track.
 T: If crossing Track hexside, reduce *total* MP cost by 1 before adding any Weather/Towing/Convoy/SMOKE/Dust cost; F9.1.
 Z: +1MP if entering a half-level higher elevation.
 S: Sunken Lane rules apply (4.43).

Movement & “Offensive” Aspects

1. Target Selection Limits: NA if only known enemy unit in Location is unarmored/unarmored vehicle (A7.212). Thus, no “bypass sleaze.”
2. Control/VP. Can only control a hex if armed. VP=1; 2 if possessing MA (plus possible crew VP).
3. Reverse Movement. Tripled for trucks.
4. Overruns. FP base is 1 for an unarmored vehicle (4 if it has a manned functioning MA that is not a MG, FT, MTR, ATR or IFE-capable); passengers can add one-fourth their fire-power value. MG/IFE are tripled & halved. An unarmored vehicle may be the target of an OVR.

This ASL play aid brought to you courtesy of Mark Pitcavage.

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Advanced Squad Leader *United States Tank (Fully Tracked Vehicle) Play Aid*

Terrain	Tank MP Cost	Terrain	Tank MP Cost	Terrain	Tank MP Cost
Open Ground	1	Water Obstacle	NA	Kunai	2
Road	1/2 [BU: 1]	Stream/Woods	M Bog/Z & 3 [3 if IN Stream]	Swamp	NA
Woods/Pine Woods	All Bog Z D R	Stream/Brush	5 [3 if IN Stream]	Cactus Hedge	W
Wall	1 + COT	Stream/Orchard	4 [3 if IN Stream]	Vineyard	2 Bog R
Hedge	1+ COT	Crag	NA	Cactus Patch	3 R
Brush	2	Graveyard	Z Bog [1 via g-y road]	Olive Grove	2 R
Orchard	1 R	Valley	DOT	Desert Open Ground	1 bb R
Wooden Building	Z Bog	Cliff	NA	Scrub	2 bb R
Stone Building	Z Bog	Sunken Road	NA R D	Hammada	2 1 R
Marsh	NA	Elevated Road	5 R D	Deir	DOT bb h
Grain	1	GL Railroad	2 [1+COT crossing non-RR hexside]	Wadi	2+COT bb R
Hill	DOT H	Em Railroad	2 Z D [2+COT crossing non-RR hexside]	Hillock	DOT bb L
Bocage	Z & COT Bog	El Railroad	2 Z D O [5+COT, +1 Bog crossing non-RR hexside]	Sand	2+COT b R (Wet/Mud EC: 1 less)
Shellholes	COT	Su Railroad	2 S [NA crossing non-RR hexside]	Dune Crest	1 + COT
Rubble	Z Bog	Tower	Z Bog	Sangar	COT (x2 if accessible trench present; F8.5)
Entrenchment [Trench]	COT [Bog]	RB Debris	1/4 MP + Bog	Track	T
Minefield	COT	RB Factory	1/4 MP + Bog (ZZ)	Broken Ground	2 b R
Roadblock	NA	Culvert	NA	Slope Hexside	1+COT for Upslope
Pillbox	COT	RB Storage Tank	VBM Only	Barbed Wire Fence	Bog (No DRM)
Fire (Blaze)	NA	RB Railway Embankment	1 + COT	Narrow Street	1/2 VBM Cost
Wire	2 + COT Bog	Light Jungle	1/2 or all/Bog	Irrigation Ditch	2+COT Bog (Q1.43)
Wreck	DOT +1/veh [+2 by road]	Dense Jungle	1/2 or all/Bog xx	Partial Orchard	As Orchard or Open Ground, as per hexside entered
Bridge	NA R D	Bamboo	1/2 or all/Bog xx	Irrigation Ditch/Partial Orchard	3 Bog
Runway	1 R	Palms	1	Stream/Partial Orchard	Via Stream: normal Stream cost
Sewer	NA	Hut	2	Orchard	Via Orchard: cumulative
Hillside Wall/Hedge	W				
Gully	2 + COT				
Stream	2 & COT BB				

NOTES

Bog: Bog DR to enter/change VCA in.
BB: Requires Bog DR to exit via non-depression hexside.
Bb: Requires Sand Bog DR to enter/change VCA w/in (even if scrub is present), unless on road or track.
Z: Half of MP Allotment.
R: or per Road cost if through Road/Runway, or track cost if through track, hexside.
D: MP penalties for entering a hex with wreck/vehicle (or changing VCA in) are doubled.
H: +4 MP per full level higher elevation entered (+2 MP via road).
W: Entry as per wall/hedge.
M: Minimum Move required.
ZZ: To exit, must pay normal bldg costs +bog/rubble, unless exiting through vehicle exit.
I: Hammada Immobilization DR required unless on road/track (F3.31).
h: 1 MP + COT if leaving deir hex via Lip hexside; otherwise, cost is COT (usually Open Ground).
L: 1 MP + COT if entering a higher elevation; otherwise COT.
T: If crossing Track hexside, reduce *total* MP cost by 1 (to min of 1) before adding Weather/Towing/Convoy/SMOKE/Dust cost; F9.1.
xx: No tankettes.

D2.5 Excessive Speed Breakdown DRM

MP Gain \leq 1/4 MP Allotment (FRD)
Breakdown: DR + MP Gain (FRD) + ESB DRM \geq 12
 US Manufacturer ESB DRM: +0

D4.22 Hull Down Maneuver Attempt

2 extra MP, plus 1 MP to Stop
dr 1: 3 or less hexsides are HD
dr 2: 2 or less hexsides are HD
dr 3: 1 hexside is HD
drm: +1 BU; +2 ; -1 in Setup; +x Armor Leader DRM

F7.31 Sand Bog DR (Full Track)

Original DR \geq # = Bog (increase # by 1 if EC are Wed or Mud

Ground Pressure	In Acc. Open Ground ¹	
	In Sand	Hex
Low	12 ²	NA
Normal	11 ²	12
High	10 ²	11

¹(EXC: hammada; sand)
²Lower # by 1 if present hex was entered via Dune Crest (7.51) hexside.

D28.21 Bog Check DRM (Fully Tracked Vehicles Only)

DR + DRM \geq 12 results in Bog

DRM	Cause
+1	Normal Ground Pressure (no symbol around Vehicle ID)
+2	High Ground Pressure (circled Vehicle ID)
+1	Towing ordnance ¹ or trailer
+1	Ground is soft ² , mud ² , or snow-covered ³
+1	Ground is Deep Snow ³
+1	Abrupt Elevation Change
+1	Exiting Deep Stream & vehicle is neither amphibious nor waterproofed
+1	Gaining elevation & entering woods
+2	Moving into Wire
+3	*Entry of woods, graveyard, wooden building, or rubble at half MP allotment
+4	*Entry of stone building at half MP allotment

*+1 instead if moving from Factory hex to non-rubble hex w/in the same Factory (B23.742).

¹NA if ordnance is 76-107mm MTR.

²NA if on paved road or in bldg hex.

³NA if in bldg hex or on plowed road.

Canister (C8.4): No TH DR required; halved for BFF, in-Motion/non-Stopped, Intensive Fire, vs HIP("??"). Resolved on IFT using DRM for TEM/LOS/Hindrance/CA changes. IFT DR also Ammo Depletion DR & ROF DR. Fired at common vertex & elevation shared by 3 hexes, closest of which are two hexsides from firer's hex. Affects all occupants of all target hexes at that elevation (and in firer's LOS; LOS to vertex is not required; if firer has LOS to both vertex and a Known enemy unit in a target hex, then vulnerable units in other two Locations which are out of LOS due only to SMOKE/LV Hindrances/NVR are attacked with halved FP (halved again for HIP("??")). Instead of firing at vertex, can also fire at 3 contiguous levels of bldg hex 2 hexes away.

D8.3 Bog Removal

Freed on Colored dr of 1-4
 Start MP = Colored dr x White dr or ALL MP

Colored dr	Result
1-4	Freed
5	Mired
6	Immobilized
Mired: +1 drm to colored dr	
CE AFV Assistance: -1	

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C5 Firer-Based Hit Determination (Fully Tracked Vehicles) DRM:	
A	T: +1/+1/+1 ST: +2/+1/+1 NT: +3/+1/+1 Firer outside CA (per hexspine changed) (x2 if firer in woods/bldg/rubble) (NA to BFF)
B	+2 Fire in AFPH w/o entering hex that player turn
C	Case B plus [Stabilized Gun: +1] Bounding Firer [T/ST: +2] [NT: +3]
§ C¹	Case C +1 BFF, Restricted Aim (2.5-3 MP in LOS of target)
§ C²	Case C +2 BFF, Limited Aim (≤ 2 MP in LOS of target)
§ C⁴	[Stabilized Gun: C/C ¹ /C ² + 1] Motion/Non-Stopped Firer [Other: C/C ¹ /C ² & lower dr x 2]
§ E	+2 Fire w/in hex (x2 in woods/bldg/rubble; Cases J ³ , J ⁴ , L, M NA)
F	+2 Intensive Fire (B# -2; Case B, AFPH, stunned firer area NA)
§ G	+5 Deliberate Immobilization (Range ≤ 6 hexes; Case N NA)
H	+2 Captured/Non-qualified Inf. (B# -2, red TH #) (+4 if both apply)
I	+1 BU AFV (MA only; RST/1MT must be BU to fire MA)
Other Firer Based DRM:	
+1 per vehicle	Overstacked
+1	Bypass TCA Change to/through side Target Facing (D2.321)
+TH Case A, unless Case N applies	Bypass TCA equals side Target Facing
+1	Stun (per each Stun result)
+1	Firer in Ocean during Heavy Surf if attack is on IFT
+x	Leadership
C6 Target-Based Hit Determination DRM	
J	+2 Moving/Motion Vehicle or Dashing Infantry
J¹	Case J + 1 DFF vs. Moving Vehicle (≤ 3 MP in Firer's LOS)
J²	Case J + 2 DFF vs. Moving Vehicle (≤ 1 MP in Firer's LOS)
J³	-1 FFNAM (Case J is NA)
J⁴	-1 FFMO (Case J is NA)
K	+2 vs. Concealed Target (or Area Fire; C.4)
§ L	[-2: 1 hex range][-1: 2 hex range] Point Blank Range (Non-Stopped/Motion target NA)
M	-2 Bore Sighted Location (Case N, E is NA)
N	Per Acquisition Counter Acquired Target (NA to Case G)
O	-2 Hazardous Movement
P	Per target counter Target size modifier (-2 to +2)
§ Q	Per TEM TEM
R	Per hindrance LOS/LV Hindrance
Other Target Based DRM:	
-1 per overstacked squad	vs. Overstacked Personnel
-1	vs. Motorcyclist
-2	vs. Cavalry
+2	vs. Wading Vehicle (G13.422)
+1	Target in Ocean during Heavy Surf if attack is on IFT
Notes	
§ NA when using Area Target Type	HH Hull Hit required

Case D TK # Change (U.S. Tanks)																
Range	0-1	2	3-6	7-12	13-18	19-24	25-30	31-36	37-42	43-48	49-54	55-60	61-66	67-72	73-78	79+
AP TK# Change 37mm	+1	+1	0	0	0	-1	-2	-2	-3	-4	-4	-5	NA	NA	NA	NA
≥ 65mm	+1	0	0	0	0	-1	-1	-2	-2	-3	-3	-4	-4	-5	-5	NA
APCR TK# Change ≥ 75mm	+3	+2	+1	0	-1	-3	-4	-5	-6	-7	NA	NA	NA	NA	NA	NA

C3 To Hit Table (U.S. Tanks)											Red To Hit #s Pre 1944									
Target Type	0-6	7-12	13-18	19-24	25-30	31-36	37-42	43-48	49-54	>54										
Vehicle	10	10	9	8	8	7	7	6	6	5	6	4	5	3	4	2	3	1	2	0
Infantry	8	8	7	6	6	5	5	4	4	3	3	2	2	1	1	0	0	-1	-1	-2
Area (SMOKE)	7	7	7	8	8	7	7	7	6	6	6	6	5	5	5	5	5	5	5	5
C4 Gun & Ammo Basic To Hit # Modifications																				
* Gun	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1	-1
L Gun	0	0	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1	+1
LL Gun	0	0	+1	+1	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2	+2
APCR	0	0	-1	-1	-2	-2	-2	-3	-3	-3	-3	-4	-4	-4	-4	-4	-4	-4	-4	-4
SMOKE	+2	+2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
37mm	0	0	-2	-2	-3	-3	-3	-4	-4	-4	-5	-5	-5	-5	-5	-5	-5	-5	-5	-5

C7.31 To Kill Table (U.S. Tanks)							
Gun Size	37LL	75 Grant	75	76L	90L	105	FT
AP TK#	11	13	14	17	21	—	—
APCR TK#	—	—	—	22	27	—	—
Flame TK#	—	—	—	—	—	—	8
HEAT TK#	—	—	—	—	—	15	—
HE TK#	—	—	—	—	—	10	—
FT: Half if Long Range; +1 if CE; +2 if OT							

Hit Location: [Turret Hit: colored dr < white dr] [Hull Hit: colored dr ≥ white dr]
Multiple Hits: Gun ≤ 40mm or US Vehicle Note R; any non-CH TH DR of Doubles yields choice of two resolution DR.
Ammo: Overscore = AP NA; Underscore = HE NA.
OVR Attack: ¼ MP (FRU) allotment (D7.1), plus COT to enter hex.

Armor Factors: 0, 1, 2, 3, 4, 6, 8, 11, 14, 18, 26

(D3) AFV PHASE/MOTION FIRE MODIFIERS					
Phase	Status	MG	Ordnance	FT ⁸	Notes
PPPh	Stopped	Full FP	No DRM	Full FP	—
	Motion	Cannot fire any weapon			—
MPh	Stopped	½ FP	C, C ¹ , or C ²	Full FP	1,2
	Non-Stopped	¼ FP	C ⁴	½ FP	1,2,3
DFPh	Stopped	Full FP	No DRM	Full FP	4
	Motion	½ FP	C ⁴	½ FP	1,3,4
AFPh	Stopped	½ FP	B or C	Full FP	5,6
	Motion	¼ FP	C ⁴	½ FP	1,3,6
CCPh	Stopped	Full FP	NA	NA	—
	Motion	½ FP	NA	NA	7

AFV Phase/Motion Notes:
1. Area Target Type NA (C3.33), Acquisition lost unless Stabilized Gun (C6.55).
2. To Hit DRM Case A NA (CA must be changed by expending MP).
3. To Hit DRM Case L NA.
4. Also applies to units using DFF.
5. Ordnance uses Case B if vehicle has not moved to a new hex/or used VBM during that Player Turn. If it has moved, vehicle uses Case C (C5.3).
6. Multiple ROF/Intensive Fire NA (C5.2, C5.6).
7. Enemy Infantry not held in Melee (A11.7).
8. FT TK # unaffected.

White Phosphorus (WP) ASL Play Aid	C3 To Hit Table (SMOKE)											
<p>Infantry WP Smoke Grenades (A24) Usage: Must make usage dr. WP dr is 1 < printed Smoke exponent. Must announce attempt before dr. Cost: 1 MF in own Location; 2 MF in ADJACENT Location. Must immediately end movement in current Location w/usage dr 6. Placement: NA in Water Obstacles (EXC. [Non-Foot] Bridges), sewer, marsh, adjacent Location \geq 2 levels higher. NA during Heavy Winds/Rain/Mud/Deep Snow. Can place in ADJACENT hex if no wind. If mild breeze exists, cannot place in 3 adjacent upwind hexes. Placement in ADJACENT hex of <i>higher</i> location allowable only across single Crest Line (Cliff NA) or bldg stairwell and only on subsequent dr of 1-3 (if dr 4-6, must place in placing unit's Location). Success: Place 1/2" WP counter which is removed at end of ATTACKER's MPh. This WP is a +1 Level 4 LOS hindrance. All units, including friendly units (EXC: non-CE CT AFV) in a Location when WP is placed in it must take NMC (EXC: non-moving units during MPh). NA for drifting WP or if units later move into WP hex. NA if WP doesn't rise to elevation level of units (A24.4). WP NMC: Causes DM status, loss of concealment (if in LOS of Good Order enemy unit). Applicable (as negative) DRM: Leadership, CE status, TEM. WP Critical Hit: If colored dr of WP MC is 6, CH occurs: TEM applied as positive DRM to NMC instead of negative.</p> <p>Ordnance/OBA WP Usage Placement: WP may be placed by OBA only at START of owner's PFPh/DFPh. Ordnance can fire WP at start of any friendly fire phase. Placed with full-strength side face-up only if placed by ordnance/OBA as first attack of PFPh. All other placement uses Dispersed WP side. Unlike Smoke, WP can be fired during any friendly fire phase (but before any other unit firing anything other than SMOKE), but placement in other than in PFPh results in Dispersed WP. For Ordnance, firing WP consumes ROF (EXC: MTR). Counters: Use 5/8" white counter for original WP sources & 5/8" gray counter for Dispersed WP. Drifting WP consists of 2 Dispersed WP counters (1 if original WP source was dispersed) placed directly downwind from WP source. (see A24.61/24/62 for Drift & Gusts). WP 5/8" counters are +2 Level 4 LOS hindrances (even in mild breeze; +1 hindrance for Dispersed). They are never a hindrance below the Location of original source. OBA: Treated like equivalent HE FFE, but places WP counter in each Blast Area Hex. WP Blast Area is hex containing FFE counter and all hexes adjacent to it. During PFPh and DFPh, a WP FFE subjects all vulnerable units/PRC in every Blast Area hex—not just those in Locations where WP counters are placed—to WP NMC. May not be placed in Mud, Deep Snow, Marsh, Water Obstacle (EXC: bridge), or during rain/heavy-wind. Critical Hits: Ordnance WP gets CH on original DR 2. OBA WP gets CH on FFE Original resolution DR 2 (C3.76). Make one DR for each Blast Area hex attacked and for each unit/stack attacked. This DR always precedes WP NMC DR (and is also used to determine if a Flame occurs per A24.32). Effect of CH is as per smoke grenade WP CH. Bazooka WP: US BAZ 45 has WP6 capability; range of 5 (use normal Bazooka TH #s). SMOKE TH Modification applies. Miscellaneous: Japanese 50mm Knee Mortar has WP6 with a range of 1-5 hexes. However, when it fires WP, its ROF is reduced to 1 for that shot, Air Bursts are NA, and the WP is considered Dispersed even when fired in the PFPh. In KGP (SSR 16), US 60mm Mortars fire WP as if it were 1945. In ABTF (SSR 18), German squads have WP grenade capability as if 1944 British. Also, German ordnance w/Smoke Depletion Number are also considered to have WP6 Depletion Number. For purposes of Kindling, EC are always considered Very Dry and -2 Kindling DRM for bldgs is NA. NOBA (G14.67): NOBA batteries of 120mm-150mm may fire WP concentrations.</p>	Range	0-6	7-12	13-18	19-24	25-30	31-36	37-42	43-48	49-54	>54	
	SMOKE	7	7	8	8	7	7	6	6	5	5	
	C4 Gun/Ammo To Hit # Modifications (not DR modifications)											
	SMOKE	+2	+2	0	0	0	0	0	0	0	0	0
	* Gun	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1
	L Gun	0	0	+1	+1	+1	+1	+1	+1	+1	+1	+1
	LL Gun	0	0	+1	+1	+2	+2	+2	+2	+2	+2	+2
	\leq 57mm	0	0	-1	-1	-2	-2	-3	-3	-4	-4	-4
	\leq 40mm	0	0	-1	-1	-1	-1	-1	-1	-1	-1	-1

WP Fires: If EC dry/very dry, flames can occur. Make DR \geq Kindling # of burnable terrain (during MPh). Normal EC DRM do NOT apply, but if EC is dry, there is a -1 DRM. A -2 DRM always applies to bldgs. May not burn vehicles/wrecks. Always make Kindling # for WP in a **hut** location, even if EC not dry/very dry.

WP vs. Caves: When a 5/8" WP counter in cave is flipped to Dispersed side (and when ANY WP counter in cave is removed from play, even via elimination Cave counter), all other hidden caves Accessible to that cave, plus all other hidden caves w/in boundaries of that same Cave Complex, plus above-ground entrances/exits of all tunnels connecting to that Complex, are immediately revealed (regardless of LOS), provided they are at HIGHER level than that cave. Hidden pillboxes not revealed just because a tunnel entrances/exits are. Indirect Fire can't place WP in caves normally, but places WP in cave IF it achieves WP CH vs. that non-hidden cave Location. WP successfully placed (by any means) in a cave is automatically WP CH therein. See G11.85 for placing SMOKE in Caves.

WP in ASL

Squad WP SMOKE Grenades

*WP Grenade Usage dr is 1 < Normal
Smoke Grenade Usage dr.*

Japanese: (Elite 4²-4-8)

US Squads: (All)

British/Commonwealth/Free French:
(All, 1944+)

Chinese: (Elite 5²-3-7, if Majority Squad
Type is 5²-3-7)

SW/Vehicle/Ordnance WP

UNITED STATES

US SW with WP

BAZ 45 **WP6**

M2 60mm MTR (ON1) **WP75**

US Vehicles with WP

M4 Medium Tank (VN 8) **WP7J⁴⁺**

M4A1 Medium Tank (VN9) **WP7J⁴⁺**

M4A2 Medium Tank (VN10) **WP7J⁴⁺**

M4A2(L) Medium Tank (VN11) **WP7**

M4A3 Medium Tank (VN12) **WP7J⁴⁺**

M4A3(75)W Medium Tank (VN13) **WP7**

M4A3E2 Medium Tank (VN14) **WP7**

M4(105)/M4A3(105) Medium Tanks
(VN17) **WP9**

M4 Tankdozer (VN18) **WP7**

T1E3 (VN19) **WP7**

Sherman Crab (VN20) **WP7J⁴⁺**

M4 MC HT (VN31) **WP8**

M4A1 MC HT (VN32) **WP8**

M21 MC HT (VN33) **WP8**

T30 HMC HT (VN35) **WP9**

T19 HMC HT (VN36) **WP8**

M8 HMC (VN43) **WP9**

M7 HMC (VN44) **WP8**

M12 GMC (VN45) **WP8**

LVT(A)4 (VN47) **WP9**

M4 DD Medium Tank (VN48) **WP7**

US Ordnance with WP

M19 60mm MTR (ON 2) **WP6⁵**

M1 81mm MTR (ON3) **WP8**

M2 4.2-in. MTR (ON4) **WP10**

T25 155mm MTR (ON5) **WP8**

M18 57mm RCL (ON10) **WP6**

M20 75mm RCL (ON11) **WP7**

M1A1 75mm Pack ART (ON12) **WP8**

M1897A2 75mm ART (ON13) **WP8**

M2A1 105mm ART (ON14) **WP8**

M3 105mm ART (ON15) **WP8**

M1918 155mm ART (ON17) **WP8**

M1 155mm ART (ON18) **WP8**

M1918M1 155mm ART (ON19) **WP8**

M1A1 155mm ART (ON20) **WP8**

BRITISH/Commonwealth/Free French

British Vehicles with WP

Sherman II(a) (VN12) **WP6J⁴⁺**

Sherman III(a) (VN13) **WP6J⁴⁺**

Sherman V(a) (VN14) **WP6J⁴⁺**

Sherman IB(a) (VN17) **WP9**

Cromwell IV/VII (VN19) **WP6**

Sherman Dozer(a) (VN23) **WP6**

Sherman Crab(a) (VN24) **WP6**

Churchill VI (VN34) **WP6J⁴⁺**

Churchill VII (VN35) **WP6**

Churchill Crocodile (VN38) **WP6**

AEC III (VN53) **WP6**

Priest(a) (VN56) **WP7**

M3 GMC(a) HT (VN58) **WP7J⁴⁺**

IP Carrier, 3-in. MTR (VN71) **WP7**

Sherman III DD(a) (VN74) **WP6**

British Ordnance with WP

OML 3-in. MTR (ON2) **WP7**

OSB 4.2-in. MTR (ON3) **WP7**

OQF M1A1 75mm Pack ART (ON9) **WP7**

OQF 18-Pdr ART (ON11) **WP7**

OQF 3.7-in. ART (ON14) **WP7**

OQF 4.5-in ART (ON15) **WP7**

JAPANESE

Japanese SW with WP

Type 89 50mm MTR (knee MTR)
(ON1) **WP6**

Japanese Vehicles with WP

Type 1 Gun Tank HO-NI I (VN12)

WP5

Type 4 HO-RO SP Howitzer (VN13)

WP6

Japanese Ordnance with WP

Year-11 70mm MTR (ON2) **WP5**

Type 97 81mm MTR (ON3) **WP5**

Type 97 90mm MTR (ON4) **WP5**

Type 92 70mm INF (ON10) **WP5**

Year-41 75mm Mountain INF

(ON11) **WP7**

Year-38 75mm ART (ON12) **WP6**

Type 90 75mm ART (ON13) **WP6**

Year-4 150mm ART (ON18) **WP5**

Type 96 150mm ART (ON19) **WP5**

CHINESE

Chinese SW with WP

Type 89 50mm MTR (knee MTR)

(ON2) **WP5**

Chinese Vehicles with WP

M4A4(a) (VN7) **WP7J⁴⁺**

Chinese Ordnance with WP

M1 81mm MTR (ON5) **WP7**

M2 4.2-in. MTR (ON5) **WP9**

M1A1 75mm Pack ART (ON10)

WP7

OQF 18-Pdr ART (ON11) **WP5**

M2A1 105mm ART (ON12) **WP7**

Obice da 149/13 150mm ART (ON
14) **WP6** (Burma only)