HOLLOW LEGIONS

**North Africa Rulebook
And The Italian OB**

HOLLOW LEGIONS:
NORTH AFRICA

Welcome to HOLLOW LEGIONS "North Africa", an UNOFFICIAL VSQL Extension module to the original Virtual Squad Leader gaming system also featuring the Italian Order of Battle [197]. It Is designed to utilize the Desert boards #25-31 under a VSQL environment found on the www.vassalengine.org website. The "North Africa" module was based and written entirely from the Advanced Squad Leader Rulebook Chapter F "North Africa". In addition, some smaller section parts from other Chapters in the ASL rulebook were used in the form of 'notes' and posted where necessary in order to help clearly define some areas and/or rule sections within the Module. The ASL Chapter F section was then modified in order to conform to the Original Squad Leader rules and the gamettes that followed. In short, it has been watered down. Some rules were deliberately omitted as they were considered strictly designed for ASL and therefore deemed as not required in an SQL-GIA environment. On the other hand, some ASL rules outside of Chapter F were used (as mentioned before, listed as notes) because it was determined that they helped to broaden or clarify a rule (in one way or another) in the original SL-GIA rules. [The ASL rules, which followed GIA, are considered by many to be better written and more consistent than the original sets of rules which were first laid down in SQL-GIA and was considered as containing many 'holes' that plagued the original game system.] Every effort was made to bring ASL Section F "North Africa" down to the level of Crescendo of Doom, however, the recommended level of play would be more along the lines of GI: Anvil of Victory. Adjust the rules as needed.

It should also be noted that The VSQL "North Africa" module was created solely for use with the online VSQL gaming system, which will allow players of the original SL system to play and enjoy scenarios based on the Italians and the North African campaign. There are no actual counters available of any kind, and there are no plans to make any, from MMP or anywhere else. But, if you wish to play face-to-face using real counters, you might consider purchasing the Italian Module 5 "Hollow Legions" from MMP.

The rules contained within "North Africa" should only be considered as guidelines for conducting play and not necessarily as written in stone. Although every effort has been made to smooth over any inconsistencies in regards to the rules, it must be said that these rules were not playtested in any way and on occasion there may be a disagreement due to a conflict of the rules, so it is suggested that a single die roll can easily resolve any disagreement during play, with the result noted down, and remain in effect only during the remainder of that particular game being played. The side note of the disagreement can be discussed later so an agreement can be laid out for future use between players. Once you've mastered "North Africa" you'll be just 1 step closer to being able to play the Advance Squad Leader game.

176.1 DESERT BOARDS: Desert Boards are defined as those numbered 25-31 and any with desert-color Open Ground, which may become available in the future. All buildings on board 25 are of stone construction.

176.2 EMPLACED GUNS: Even if meeting the requirements of GIA 145.3, a non-vehicular Gun that sets up on a Desert Board is considered Emplaced only if it sets up hidden/concealed in Concealment Terrain, or sets up in Sand (190.41) or under a Trench counter. A Gun that sets up qualified for Emplaced status by virtue of being in Scrub/Sand (only) may nevertheless set up non-Emplaced, provided this fact is noted on a side record. If Broken/Steppe Terrain (196.1-.2) is in effect then 176.2 does not apply.

176.21 ENTRENCHING[2]: All Entrenching Attempts on Desert Boards receive a +2 DRM *[EXC: Sand (190.43); Steppe Terrain (196)]*.

176.3 MINIMUM MOVE: An Infantry unit retaining at least one MF after deducting for portage costs exceeding its IPC, may declare a Minimum Move (a form of Assault Movement) of one hex during its MPh, even if CX or lacking the MF to pay the full entry cost of the hex *[EXC: Infantry pushing a Gun or loading/unloading may never make a Minimum Move]*. After a unit has entered a hex by Minimum Move and undergone all Defensive Fie, all unbroken survivors become both pinned {GIA 142.6 if used} and CX (even if CX previously). If the entry cost of a hex is defined as "all" of a unit's MF and there is still yet another cost to be paid beyond that, a Minimum Move can still be made. However, a Minimum Move cannot be made to enter terrain whose entrance cost is listed as NA (Not Allowed). In any case, the unit is considered to have spent the actual MF cost of entry.

EX: A CX Russian squad with a HMG in 3W3 lacks the necessary four MF to enter W4, but may do so anyway by claiming a Minimum Move and becoming both CX (and pinned in GIA). Consider it to have spent 4 MF.

EX: It takes all of a unit's MF to enter Marsh, but if entering it from a lower level hex (e.g., from 13J5 to K5) it would cost two times all of its MF and therefore could be entered only as a Minimum Move. An Inexperienced MMC would have spent 6 MF, while a SMC would have spent 12 MF.

176.31 ROUTING: In a non-night scenario which uses only Desert Board(s) that are not Broken/Steppe Terrain (190.1-.2), a unit can be eliminated for Failure to Rout only if the enemy unit(s) forcing it to rout is within six hexes of it.

176.32 LOW VISIBILITY (LV): LV is the term used to describe weather conditions (COD 111) and related camouflage (111.81) when Night/Fog/Mist/Rain/Falling Snow occurs in a scenario. A *LV Hindrance [EXC: Fog]* is treated exactly like a LOS Hindrance (111.22-.23) except that a LV Hindrance DRM is cumulative with any other Hindrances (Smoke etc) regardless of range and does not by itself: negate the –2 MOG DRM, inhibit Rout Interdiction, or prevent concealment loss *[EXC: Winter Camouflage (Snow Smocks 111.81)]*.

176.33 HINDRANCE LEVEL: In the course of relating LOS rules, the word "through" will be used only in relation to a LOS, which is actually traced through that terrain type at an elevation wherein the terrain has some effect. Tracing a LOS over a terrain type such that the terrain type has no effect is assumed to be understood and therefore is not continually referred to. Similarly, any wreck, AFV, or LOS Hindrance in a Blind Hex does not affect a LOS over that Blind Hex to a target beyond unless the Hindrance is of such height (SMOKE) to be able to affect a LOS over that hex.

176.331 LOS HINDRANCE BLOCKAGE: Any combination of SMOKE, vision (weather), and/or terrain LOS Hindrance DRM ≥ +6 blocks that LOS completely.

176.4 DESERT OVERLAYS: Normally all rules specifically stated as applicable to *Desert Boards* also apply to the overlays which can be found in MMP's ASL Module 5: WEST OF ALAMEIN unless stated otherwise. *Note: If using VSQL, these "Overlays" may already be conveniently built into a specialized board which has the overlay already placed within the board itself. There will be no need to place overlays on any of these specialized boards. Overlays for VSQL may be applied using the VSQL Built-in Board Terrain Editor. [see the Overlay Appendix which lists the available overlays for VSQL).*

176.5 *DESERT TERRAIN CHART:* Hex entry on a Desert Board uses the MF/MP costs given in the Desert Terrain Chart *[EXC: 176.52; see also Section 190]* as well as those costs that remain applicable from the Normal Terrain Chart (brush, crag, building, orchard, road, etc.). A hex comprising a Desert half-hex and a non-Desert half-hex is considered Desert Terrain only if it is also a Wadi (188) hex and/or is Accessible to Hammada (186) / Sand (190.).

176.51 EXAMPLE: The PSW 222(L) begins its MPh by expending three MP to enter D4 (Chapter B orchard MP cost), then enters C4 at a cost of one MP (Desert [i.e., Chapter F] Open Ground), then enters B4 at a cost of five MP (4 [enter wadi] +1 [Desert Open Ground] = 5). It cannot enter A4, which is a woods hex as well as a wadi hex (188.12, see Notes 1 & 2 below), because an AC must expend all of its MP allotment to enter woods (per Terrain Chart). So it exits the wadi by entering A5 at a cost of seven MP (4 [ascend a level] + 3 [Chapter B Open Ground] = 7), and expends two MP to change its VCA two hexspines counterclockwise. Next it uses VBM along hexside B5-A6 at a cost of two MP (Desert Open Ground ≥2) and enters B6 at a cost of seven MP (4 [ascend a level] + 3 [enter orchard] = 7). It then expends one MP to change its VCA one hexspine clockwise, and uses VBM along hexside A7-B7 at a cost of six MP. At this point it must again end its MPh in Motion. The PzKpfw IIIL now begins its MPh by expending three MP's (2 [enter wadi] + 1 [Desert Open Ground] = 3) and enters B4. Next it enters A4 at a cost of 8^1/2 MP (2 [enter wadi] + 6^1/2 [Desert COT, which in this case is half its MP allotment due to entering woods] = 8^1/2). With only 1/2 MP remaining, the tank must now end its MPh in Motion

unless it opts to risk ESB. For simplicity's sake, all Bog/Immobilization DR have been ignored in this example.

(Note 1: A combination gully-woods hex (5Z8) is still a one level obstacle, and a combination gully-brush hex (12CC9) is still a level 0 LOS Hindrance; assuming the woods/brush is on both sides of the gully depiction, the same is true at level -1.),

Note 2: CUMULATIVE TERRAIN EFFECTS: Terrain effects and movement costs of hexes containing more than one terrain feature (such as 2I9) are cumulative unless specified otherwise by the rules governing the involved terrain types.),

176.6 BOARD 25 HILL: When entering a Hill Hex on Board 25 that does not contain Scrub, Hammada or a Wadi, use the normal Terrain Chart to determine the applicable MF/MP costs *[EXC: Hammada Immobilization (186.14) and Sand Bog (190.31) can still apply; an Alternate Terrain Type (196) takes precedence].*

176.7 IMMOBILIZATION & BOG [RE: COI 75.8 or GIA 144.82]

176.71 IMMOBILIZATION: An immobilized vehicle cannot leave its current location or change it's VCA, but may change its TCA if otherwise able to. Immobilization can be repaired during play per (COI 66.3). [Immobilization usually occurs due to a variety of combat results [minefields (SQL 55.62, 66.4); AT mines (86.7); ordnance fire (66); Overruns (72.5)], but can also occur due to Bog Removal attempts (176.73), mechanical failure (79.3), or tracked vehicles attempting Excessive Speed (79).] After all Passengers/Riders/SW/Guns have been unloaded/unhooked, an unarmed and unarmored immobilized vehicle is flipped over to its Wreck side (or removed if it has no wreck side).

176.711 MULTIPLE IMMOBILIZATION: The Inherent crew of an immobilized vehicle, which receives another Immobilization result not from the result of an attack against it (such as ordnance capable of destroying it), is subject to an Immobilization Normal MC. Failure of this NMC results in the crew immediately abandoning the vehicle and is subject to the –2 drm for hazardous movement until the end of the current phase at which time they may be placed in the same hex beneath the vehicle or in an adjacent hex.

176.72 BOG: Bog occurs only when a vehicle fails a Bog Check DR. A vehicle must make a Bog Check as dictated by the Terrain Chart whenever entering, exiting, or making any VCA change (one Bog DR per hexspine) in certain terrain types deemed as Bog hexes. The Bog effect always takes place in the Bog hex, whether the vehicle is attempting to enter or (in the case of vehicles leaving a stream or tracks leaving a gully) leave it. A bogged vehicle may not exit its current Location or change its VCA until freed, and therefore is Immobile, but may change its TCA if otherwise able to.

EX: A PzKpfw IIA exiting a stream across a non-stream hexside into a woods hex would possibly be subject to two Bog Checks. If it passes the first in the stream hex (0 DRM), it must take a second in the woods hex adding the +1 DRM for gaining elevation while entering woods and (unless making a Minimum Move) the +3 DRM for entry of woods at half MP allotment.

176.721 BOG CHECK: If a Final Bog Check is ≥ 12, the vehicle bogs, is marked with a Bog counter, and must end its MPh immediately. The Original Bog Check DR is subject to the following cumulative DRM:

Bog Check Final DR is =12	
DRM	Cause
+1	Vehicle has Normal Ground Pressure
+2	Vehicle has High Ground Pressure
+1	Vehicle is towing ordnance1 or trailer
+1	Ground is specified as soft 2, mud 2, or snow-covered 3
+1	Ground is covered with Deep-Snow3/vehicle is crossing a Drift
+1	Vehicle is not fully-tracked
+1	Vehicle has Truck-type MP expenditure
+1	Making an Abrupt Elevation Change
+1	Exiting a Deep Stream & vehicle is neither amphibious nor water-proofed
+1	Gaining elevation and 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 within the same Factory	
1 NA if ordnance is 76-107mm MTR	
2 NA if on paved road or in building	
3 NA in building or on plowed road	

176.73 BOG REMOVAL: An otherwise-Mobile vehicle may attempt to eliminate its Bog status at the start of its MPh, provided it has not fired during its PFPh. Bog Removal is attempted by spending all of its MP's in the hex and rolling 1 die. A result of 1 (after applying any Leadership drm's) frees the vehicle from its Bog status. If the die result is a 6 (regardless of Leadership modifiers), the vehicle is again immobilized by Bog and the crew (or Leader if one is present) must undergo a normal Morale Check as per 196.11 above.

196.732 TOW: A towed Gun may be unhooked from a bogged/immobilized/Abandoned vehicle with no special penalty for the vehicle's status.

176.74 TARGET STATUS: A vehicle bogged/immobilized during a MPh due to having entered-a-new-hex/used-VBM/been-in-Motion in that MPh is considered a moving target for the rest of that MPh. However, a vehicle that begins its MPh bogged is considered a moving target only after it leaves its Bog hex/hexside, though the MP it expends in attempting Bog Removal will allow an enemy to Defensive Fire upon it in its Bog hex with no Case J TH DRM.

176.75 Assuming an Inherent crew that is not broken/stunned/shocked, a bogged/immobilized vehicle may still expend MP for "non-movement" purposes (e.g., to change TCA, unload PRC, fire Smoke Dispensers, etc.), and its firing capabilities are unchanged except as related to its inability to change VCA. However, after the phase in which it becomes thusly Immobile, its bow mounted weapon(s) may be used against a target in that vehicle's hex only during Defensive Fire (thus its BMG is unusable in CC), only if the target is entering that hex from within the vehicle's VCA, and only a number of times ≤ the MF/MP expended by the target to enter the hex.

177 DESERT VP: To reflect the increased importance of vehicles in the desert campaign, any scenario that specifies Desert VP (DVP) uses the following method of calculating VP for Guns and vehicles eliminated/captured/exited:

o Gun: a Gun's DVP value equals 10% (FRU) of its printed BPV (even if dm/malfunctioned);
o Vehicle: a vehicle's DVP value equals 10% (FRU) of its printed BPV (even if its MA is malfunctioned/disabled) [EXC: see 177.2].

For ease of use, each Gun's/vehicle's DVP value is printed in red in the upper left hand corner of its depiction on the scenario card. This number does not include the point value of whatever PRC the vehicle contains at scenario start. The point value of units/equipment other than Guns and vehicles are not changed by the use of DVP.

177.1 VICTORY POINT VALUES: The total VP value of a side's OB may be altered during play due to circumstances other than elimination/capture/exit (e.g., Leader Creation, a leader being replaced (Hero), malfunction of MA, etc.); the VP value of such units/equipment are awarded normally according to their new VP value if eliminated/captured/exited thereafter.

177.2 VARIABLE DVP VALUE: Any AFV which has as their Inherent MA a Gun that may be Removed or unloaded from the vehicle is considered to have a Variable DVP Value. If the Inherent MA of one of these vehicles is currently Removed/unloaded, the vehicle's DVP value is "2" if it is an AFV, or "1" if it is not; otherwise, its DVP value is calculated as per 177.1.

[EX: The SPW 250/7's DVP value is "2" if its mortar is currently Removed, or "5" if it is not. The 2pdr Portee's DVP value is "1" if its 40L AT is currently unloaded, or "4" if it is not. The DVP value of a vehicle not listed in F.3A—e.g., the Carrier 2-in. or 3-in. Mortar, or a 3-ton lorry porteeing a 57L AT (British Ordnance Note B)—is the same regardless of whether or not it is currently "carrying" that weapon].

178 AXIS VEHICLES: All Axis vehicles *[EXC: motorcycles]* set in North Africa (as defined in 194.2) scenarios prior to October 1941 are assumed to have their MP allotments printed in red. Hence even wheeled Axis vehicles are subject to Mechanical Reliability DR [79 ESB] during that time period.

179 SURRENDER: In all scenarios set in North Africa (as defined in 194.2), Surrender may not be refused *[EXC: Berserk]*—i.e., a surrendering unit may not be eliminated.

180 GERMANS: Due to their devotion to Rommel and to a miserly troop replacement rate, a high proportion of the infantry in the 15th and 21st Panzer Divisions and the 90th Light Division should be elite when used in 1942-43 DYO scenarios.

181 VEHICLES

181.1 REVERSE MOTION: "Reverse Motion" counters are provided in the "***North Africa***" module extension, the use of which enables a vehicle to end its Mph in Motion (COD 135) while using Reverse Movement *[EXC: NA if the vehicle is prohibited from using Reverse Movement]*. When using Reverse Motion, the principles of, and rules for, Motion and Reverse, applies unchanged except for obvious differences due to the vehicle's direction of movement.

EX: Assume a BT-7 is in Motion in 2FF5 with VCA FF4-GG5 and decides to Reverse move into hill hex EE6. It will cost 20 MP to reverse into EE6 (4 [Reverse Movement] x COT (+1[Open Ground] +4[move to higher elevation] =5) for a total MP expenditure of 20), Rather than stop, it could instead end the Mph in Reverse Motion - without expending any additional MP, since it does not have sufficient MP remaining to enter the next hex it desires to enter.

181.2 RADIOLESS AFV's [RE: COI Optional Supplemental Rule G]

[One of the reasons that French and early Russian armor was no match for the less numerous German panzers was the formers' lack of wireless equipment, which greatly hampered them in maneuver.]

181.21 AFV RADIO: All Italian AFV's are assumed to have an inherent radio unless they contain an ® on their reverse side. An AFV cannot use a radio counter to nullify its lack of an Inherent radio, nor can an AFV radio be used to call in OBA or otherwise spot for Indirect Fire.

181.22 PLATOON MOVEMENT: Radioless AFV's move in two- or three-vehicle platoons or pay penalties as per 181.223. Each such platoon moves in Impulses. The two or three AFV platoon (although not all of the platoon's AFV) must move one hex as a "multihex stack" of adjacent or same-hex units before any of them can be fired on with Defensive Fire at the end of that Impulse. The platoon moves at a MP cost equal to both that of the platoon's slowest AFV (in MP allotment and CE status), and that of the costliest terrain encountered by any AFV in the platoon - so that each AFV in the platoon has expended the same MP's of its total MP allotment as each Impulse ends. Although platoons can move in the same hex in each Impulse, it is highly inefficient in terms of mobility, attack, and defense due to the over stacking penalties. Not all members of a platoon have to be in LOS of each other as long as they are adjacent to or in the same hex with another platoon member at the end of each Impulse. Platoon movement may be used in conjunction Armored-Assault.

[ILLUSTRATION NEEDED HERE]

EX: If a tank moves into an Open ground hex at a cost of one MP, the second tank of its platoon to enter that hex in the same Impulse would do so at a cost of two MP, and the third tank of that platoon to enter that hex in the same Impulse would do so at a cost of three MP. This, in turn, would cost all three tanks three MP for this Impulse.

181.221 Each AFV in the platoon must set up or enter adjacent to at least one other of the platoon's AFV, and when moving, each must expend MP so as to maintain a position adjacent to one other AFV of the platoon at the end of each Impulse. Each platoon must Start/Stop/remain-in-Motion as a single entity. An AFV using platoon movement may not attempt ESB. An AFV may expend MP's equal to the highest MP expenditure of its platoon during that Impulse to hold its present position while the rest of the platoon moves, so as to maintain an adjacent position. If more than one AFV in the same platoon is subject to Bog or Mechanical-Reliability DR, only one such DR (with different DRM potentially applying to different AFV's) per condition is made for the platoon; if Bog/Immobilization occurs, Random Selection is then used to determine which applicable AFV is affected.

[ILLUSTRATION NEEDED HERE]

EX: A radioless Italian M13/40 (RED 11 MP) and two radioless M11/39 (RED 12 MP), whose ID letters are A, B, and C are in hexes 3AA6, Z5, and Y5 respectively. All have AA4 within their VCA, and they wish to exit the playing area via EE1 using platoon movement. The platoon makes a Mechanical Reliability DR (2.51), which it passes; this allows all three tanks to move. At the start of their MPh tank C expends one MP enter Z4. Tank B does likewise to enter AA5. Tank A can expend two MP to Bypass to vertex BB5-BB4-AA5, but if it does, then all three tanks will be assumed to have spent two MP to enter their present hex - so it instead does not leave AA6. Tank A is considered to have expended two MP in this Impulse and to be moving (even though it did not actually enter a new hex), since all elements of a platoon must move as a single entity. Only now, after all three tanks have expended MP in this Impulse (two MP in this case), are they subject to Defensive Fire (Vehicles must be fired on as they move). The first Impulse moves and MP expenditure are shown in red with Impulse MP expenditures due solely to being part of the platoon shown in

parentheses. Assuming no DF occurs, tanks C, B and A enter hexes AA4, BB4 and AA5 respectively (shown in blue). Since each tank paid one MP to do so, the platoon thus expends on MP for this Impulse, for a total expenditure of three MP so far in the MPh. No DF ensues, so tank B continues to move by expending five MP to enter CC4 (the third Impulse is again shown in red). Tank C changes VCA to BB3-BB4, enters BB4, and changes its VCA to hexside CC4-BB3, at a cost of three MP. Tank A remains in AA5. This Impulse costs the platoon five MP, for a total of eight MP expended so far in the MPh. The platoon's MPh is now completed, since further movement in the desired direction (into DD3, CC4 and BB4 for tanks B, C, A respectively) would force tank A to expend five MP, thus exceeding its 11 MP allotment. Therefore, all must now either be placed in Motion or stop.

Assuming that the platoon opted for Motion status, in its next MPh tank B enters DD3, tank C enters CC4, and tank A enters BB4; thus the platoon (and each tank) expends five MP in its first Impulse (shown in red). No Defensive Fire ensues, so in the next Impulse tanks B; C and A enter EE3, DD3 and CC4 respectively - costing the platoon (and each tank) another five MP, for a total of ten MP expended so far in the MPh (shown in blue). A hidden AT Gun in FF3 (with CA EE3-EE4) now fires at tank B but misses, so tank B stops (and thus the entire platoon stops) in order to return fire. Regardless of the outcome, the platoon's MPh is now ended because any further movement will exceed tank A's 11 MP allotment.

EX: Continuing the previous example (we will assume all three tanks and the AT Gun survived unscathed), in the platoon's next MPh tank C expends a five MP to enter DD2, while tanks B and A enter EE2 and CC3 respectively. The platoon has thus expended six MP in its first Impulse (shown in red). The AT Gun now Defensive Fires at Tank C and destroys it (leaves a wreck in DD2). In the next Impulse (shown in blue), tank B (in order to be adjacent to tank A by the end of the Impulse) expends three MP to change its VCA to DD1-EE1, enter DD1, and change its VCA to DD0-EE1, while tank A merely enters CC2. The platoon has now expended nine MP in its MPh. In the next Impulse (again shown in red) tanks B and A use their tenth MP to enter EE1 and DD1 respectively. No Defensive Fire ensues, so using their 11th MP (shown in blue); tank B can exit while tank A enters EE1, where it must end its MPh in Motion. Since a platoon is a single entity, in its next MPh tank A must exit via the same hex exited by tank B or via a hex adjacent to it. Of course, tank A could instead leave the platoon and move normally if it first passes a NMC in this next MPh (181.223), but if it fails the NMC it would have to end its MPh in its present hex. If the AT Gun had destroyed tank B as well as tank C, then tank A would be free to continue its MPh going to EE1. In its next MPh it would have to pass a non-platoon movement NMC if it wanted to move.

181.222 If an AFV is destroyed, Recalled, uses non-platoon movement (181.223) or becomes Immobile, it is no longer considered part of the platoon, and the remaining AFV's continue to function as a platoon, ignoring the lost AFV for platoon functions, and (if necessary) immediately moving to close the range to each other by the end of the next Impulse. If ≥ one of the platoon's vehicles stalls, the remainder of the platoon must expend an equal number of MP without movement. A radioless AFV that suffers Recall is thereafter treated as if radio-equipped.

181.223 NON-PLATOON MOVEMENT: Radioless AFV's need not set up in platoons, but if at the start of its MPh such an onboard Mobile AFV is alone (i.e., not adjacent in platoon fashion - for any reason) or wishes to break off from its platoon (this is the only time it can do so voluntarily), it must first pass a +1NMC (a Crew with a normal morale level of 8 would need to roll 9 or lower), with any Armor Leader drm being applied, in order to move during that MPh. An offboard AFV may not use non-platoon movement *[EXC: if it is the only AFV entering that turn]*. If it fails the +1NMC it may not expend any MP during that MPh (even as part of a platoon) *[EXC: Passengers/Riders may unload as if the AFV had fired in the PFPh]*. If a Radioless AFV fails the +1NMC while in Motion at the start of its MPh, it must stop (and end its MPh) in its present hex during that MPh. A lone non-moving Radioless AFV, which attempts Motion without leaving its present hex, must still pass a +1NMC before being able to place itself in Motion. Lone radioless AFV may form/join platoons with other radioless AFV (up to a maximum of three per platoon) once they are in the necessary adjacent hexes. An AFV with radio can become part of a radioless AFV platoon, but is subject to all platoon movement penalties *[EXC: the AFV with radio can depart from the platoon at the beginning of its MPh without first passing a +1NMC]*. Two or three radio equipped AFV may move as a platoon if they declare their intention at the start of their MPh, but once they declare that option they are under the same restrictions as radioless AFV until the start of their next MPh.

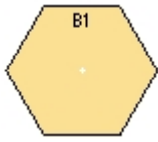**181.3** A radioless AFV pays no special penalties other than the above.

182 The various rules in conjunction with those in SL-GIA apply unless specifically stated otherwise herein. The "North Africa" rules assume the use of the most current

edition of Squad leader (4th Ed.), and each gamette, Cross of Iron (4th Ed.), Crescendo of Doom (1st Ed), and GI: Anvil of Victory (2nd Ed.).

183 PRESENTATTION OF DESERT TERRAIN AND FEATURES:

184 OPEN GROUND

184.1 *OPEN GROUND:* Desert Open Ground (e.g., hex 26B1 or the Open Ground portion of 25V2) is no different than normal Open Ground other than being colored yellowish-tan, having certain Emplacement and entrenching restrictions, and having different MP costs for some vehicles. See also Scrub (*185*), Hammada (*186*) and Sand (*190*).

185 SCRUB

185.1. *SCRUB:* Scrub is represented by a multitude of irregularly shaped olive/brown clumps and black lines/dots. Any hex containing such artwork is a scrub hex; e.g., 26E9.

185.2 Scrub is not an obstacle (nor a Hindrance) to LOS, and is treated as Open Ground for all purposes (other than for Gun Emplacement [GIA *145.3*]}, movement costs, concealment, Hammada Immobilization, and when Accessible to Broken Ground. Scrub does not negate the -2 Movement Open Ground penalty.

185.21 MF/MP: The following movement costs apply to entering a non-sand Location that contains scrub: Infantry, 1MF; Cavalry or Wagon, 2MF; fully tracked vehicle, 2MP; halftrack, 3MP; armored car or motorcycle, 4MP; truck, 6MP. See Sand *185.3* for entering a Location that contains both scrub and sand.

185.22 CONCEALMENT: Scrub is Concealment Terrain, but only for Infantry (and their possessed SW), Dummy stacks, entrenchments (including Sangars), and Emplaced Guns. A Gun that sets up HIP/concealed in scrub may be considered Emplaced {GIA *145.3*}).

186 HAMMADA

186.1 *HAMMADA:* Hammada is represented by a multitude of black dots and irregularly shaped angular objects with buff-colored interiors. Any such hex is a hammada hex; e.g., 26D4.

186.12 Hammada are neither an obstacle nor a Hindrance to LOS, and is treated as Open Ground (*184.1*) for all purposes other than movement costs (*186.3*), Hammada Immobilization (*186.31*), the resolution of certain attacks (*186.4*), Sand Bog (*190.31*), and when Accessible to Broken Ground (*196.1*). Hammada does not negate –2 MOG nor inhibits a unit from routing.

186.13 MF/MP: The following movement costs apply to entering a Location that contains hammada: Infantry, 1MF; Cavalry or Wagon, 3MF; fully tracked vehicle, 2MP; halftrack, 3MP; armored car or motorcycle, 4MP; truck, 6MP.

186.14 IMMOBILIZATION: Each vehicle that is not fully-tracked must make an Immobilization DR when it enters (or changes VCA in) either a hammada hex or an Open Ground hex that is Accessible to a hammada hex *[EXC to both: if following a Track (192.1) or road]*. If the Immobilization Final DR is ≥ 12 the vehicle is Immobilized *[EXC: motorcycle; 186.15]*. The following cumulative DRM can apply:

DRM	Cause
+1	If the vehicle expends MP as a Truck, weighs = 4 tons, and is not British-built *;6
+1	If the vehicle expends MP as a motorcycle;
+1	If the vehicle did not expend twice the total [EXC: Towing/Weather/Convoy] MP necessary to enter (or change VCA in) that hex †;
-1	If the vehicle is in an Open Ground hex that is Accessible to a hammada hex.

British-built is defined as being a British-color counter without "(a)" [which denotes American manufacture] or "(f)" [of French manufacture] in the info vehicle name (^-

I).

† The doubled MP cost is made as one expenditure.

Being thusly Accessible to > one hammada hex necessitates only one Immobilization DR. If changing VCA, one Immobilization DR is required for each hexside changed. In lieu of calculating the above DRM, players may find it easier to use the following table:

HAMMADA IMMOBILIZATION DR(a)				
Original DR ≥ # = Immobilized	In Hammada Hex		In OG (see note b) Hex Accessible To Hammada	
MP Type	COT	COT × 2	COT	COT × 2
Truck < 4 tons	11	12	12	NA
Truck ≥ 4 tons; British-built	11	12	12	NA
Other Truck	10	11	11	12
Armored Car	11	12	12	NA
Halftrack	11	12	12	NA
Fully-tracked	NA	NA	NA	NA
Motorcycle	10c	11c	11c	12c

a NA if following a track or road.
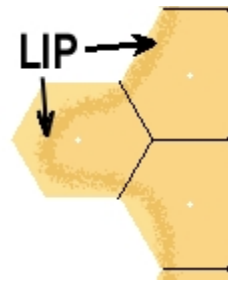b [EXC: scrub, hammada, sand.]
c The Rider breaks and is dismounted (as per 186.15). An Original DR > this # eliminates the motorcycle.

[EX: A German Opel Blitz truck (Wgt: 6-1/2 tons) enters an Open Ground hex that is Accessible to a hammada hex, expending two MP simultaneously (rather than expending one to enter and then another one in the hex) to do so. The DRM applicable to the ensuing Hammada Immobilization DR are +1 and -1, so it will be immobilized only on an Original DR of 12. (If it instead expends only the one MP necessary to enter the hex, it will receive another +1 DRM and will be immobilized on an Original DR of ≥ 11.) If it now enters the hammada hex with a simultaneous six MP expenditure (the minimum required), it will be immobilized on an Original DR of ≥ 10. Note that if the truck were moving thusly on board 25 hill hexes the procedure would apply unchanged, but its MP expenditures would differ (176.6). Note that scrub, hammada and sand are not considered Open Ground for Hammada Immobilization purposes.]

186.15 MOTORCYCLE: A motorcycle is not immobilized by a failed Hammada Immobilization DR; rather, if that Final DR is a 12, the Rider breaks and is automatically dismounted; if the Final DR is ≥ 13, the same result occurs but the motorcycle counter is then also eliminated.

186.16 TEM: A cumulative -1 TEM applies to any DC or ordnance/OBA HE attack vs. an unarmored target in hammada *[EXC: not to any type of HE Equivalency or Specific Collateral Attack, nor vs. a Partially-Armored AFV]*.

187 DEIRS

187.1 A Deir is a terrain feature represented by a yellowish area enclosed by golden yellow shading (this shading being known as the Lip).

187.11 A deir, including its Lip hexes (i.e., those hexes on the overlay that contain a Lip), is a slight concavity. Units in a deir are at level 0 (assuming the overlay is on level 0 terrain), but can receive certain protective benefits due to the deir's Lip. Each hexside that forms part of a Lip hex, while lying completely "outside" the Lip, is termed a Lip Hexside. All deir hexes are Open Ground (*184.1*) *[EXC: if deir TEM applies; 187.14]* except as altered by the presence of scrub (*185.2*) or sand (*190.2*).

187.12 MF/MP: A unit (regardless of type) pays no extra MF/MP cost for entering/traversing a deir Location other than the COT of the hex (which is usually Open Ground). *[EXC: a vehicle that exits a deir hex via a Lip Hexside must expend one extra MP to cross that hexside. For Defensive Fire purposes, this MP is assumed to be expended in the hex entered.]*

187.13 LOS: A deir's only effect on LOS is that, barring other LOS obstructions, an entrenched/Emplaced unit in a non-Lip deir hex has a LOS past a Lip Hexside only to a same-level hex formed by that Lip hexside, and to any hex at a higher elevation than that entrenched/Emplaced unit. *See also 187.15.*

187.14 TEM: A non-PRC target in a deir receives a +1 TEM (or may claim HD status) vs. Direct fire if the firer is at the same elevation as the target and that firer's LOF crosses a Lip hexside that does not form a part of that firer's hex *[EXC: if the*

firer and target are in separate deirs, and the firer is ADJACENT to the target across a Lip Hexside, that target still receives the deir's protective benefit]. Otherwise, a deir gives no protective benefit and is treated as flat level ground.

187.15 AFV/WRECK TEM & HINDRANCE: An AFV/wreck in a deir can provide a +1 TEM in the normal manner. Likewise, a LOS Hindrance in a deir can affect LOS in the normal manner *[EXC: a "half-level" Hindrance in a deir can affect LOS only if both the viewing and viewed units are at the same level and at least one of those units is in any deir; for deir LOS purposes, brush, bridge, grain, marsh, crag, and an AFV/wreck are defined as "half-level" Hindrances].*

187.16 MG PENETRATION: Infantry/Horses moving in a deir hex are immune to MG penetration (GIA *143.2*) attacks in that hex if that MG LOS crosses a Lip Hexside before or as it enters that hex. A vehicle/Vulnerable PRC *[EXC: Cavalry Personnel]* moving in a deir hex is immune to MG penetration in that hex if a Wreck in that hex would not hinder that LOS.

188 WADI

188 *WADI: [NOTE: For the most part, a Wadi* [7] *hex is nothing more than a Gully. If GIA rules are not being used, it is suggested that Gully rules be enforced instead of these that are presented here. However, for those brave hearted souls the use of the Wadi rules brings a more realistic desert element to the game.]* A Wadi[7] is a terrain feature represented by gully-like artwork in brown, black and yellow. In addition, each group of continuous hexes on board 25 which contains this same type of artwork is a wadi; e.g., 25D7, E8, E9, E10 and F10 are wadi hexes and together constitute a wadi. If the "end-hex" of a wadi/stream overlay is adjacent to another wadi/stream (whether the latter is an overlay or not), or if two wadi/stream "end-hexes" are on different boards but are adjacent to each other, each hexside common to both such wadi/stream hexes is treated as a wadi/stream hexside (i.e., the two wadis/streams are treated as one continuous wadi/stream) except where a wadi/stream cliff is present *[EXC: for LOS/LOF purposes, that hexside is considered a wadi/stream hexside only if the LOS/LOF begins in/IN one of those two wadi/stream hexes and ends in/IN the other].*

188.1 A hex containing a tiny portion of wadi along one of its hexsides (e.g. 25C7, G10, or Z10) is not a wadi hex, but that hexside is a wadi hexside.

188.12 A wadi is a Depression, and is the equivalent of a gully for all purposes *except as modified below*. Note that many of the wadi's printed on board 25 change elevation along their length, and some wadi hexes also contain a Hill Crest line that is not crossed by the wadi. Movement in such *hill depression hexes* (*188.121*) such as a Gully hex (*80.1*) requires frequent use of the rules for Double Crests (*166.2*) and special LOS considerations.

188.121 HILL DEPRESSIONS: The gully on board 24 changes elevation between hexes D8 and D9. D9 is termed a *Hill Depression* hex, since it contains both a Depression and a Crest Line. Hexside D8-D9 is termed a Crest Line-Depression hexside, which is always assumed to be at the same elevation as a unit IN the higher-level Hill Depression hex.

188.13 MF/MP: Normal gully movement rules apply to Wadi's *[EXC: 188.14].* In addition the following rules apply to movement in *Hill Depression* (*see Note: 188.13 below*) hexes. When a unit entering a Hill Depression hex crosses a higher Crest-Line Depression hexside (*80.1*), it pays the cost of moving to a higher elevation only if it actually increases its level. When a unit entering a Hill Depression hex crosses a higher Crest Line but not a Depression hexside, it always pays the appropriate cost of moving to a higher elevation (due to making an Abrupt Elevation Change). Please see the example at the top of the next page.

Note: Hill hexsides overprinting a darker, serrated, brownish-black colors are cliff hexsides representing near-vertical hillsides. Examples of cliff hexsides are 2W5-V4, 3D3-C4, 8X5-Y6, 9EE2-EE3, and 15N5-N6. Cliff hexsides can also occur along Depression hexsides (such as 24E6-E7). The serrated edge of a cliff is no more of an obstacle to LOS traced along that hexside than the elevation level it separates from the higher hill hex. For LOS purposes, the black art depiction of a Depression cliff is treated as part of the Depression artwork.
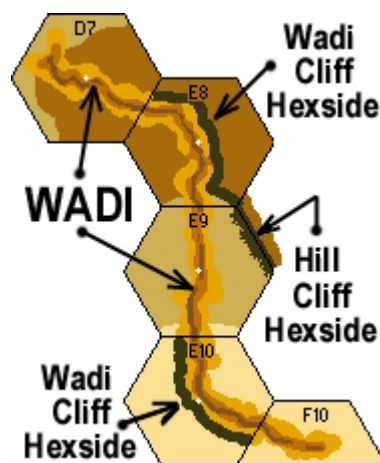
188.14 BOG: When exiting a wadi via a non-wadi hexside, a vehicle that expends MP as a truck need not undergo the Bog DR that is required of it *despite any vehicle notes to the contrary*.

188.15 WADI CLIFF: Is a cliff, the darker (at times serrated) brownish-black colors, that forms along the side of a wadi (e.g., 25F6) is a normal Depression Cliff (*COI 82.1*). A Depression Cliff on the same side of a wadi as a normal cliff hexside represents a continuous cliff from the bottom of that Depression to the top of that cliff.

188.16 CREST STATUS: Unlike a gully, Crest status in a wadi may be used by all types of Infantry, SW, vehicles and Guns, but only within certain restrictions. No type of unit may gain Crest status along a Depression Cliff; although the presence of a normal cliff or an Abrupt Elevation Change as a hexside of a wadi hex does not itself prevent Crest status along that hexside.

Notes:

1. Hill hexsides overprinting a darker, serrated, brownish-black colors are cliff hexsides representing near-vertical hillsides. Examples of cliff hexsides are 2W5-V4, 3D3-C4, 8X5-Y6, 9EE2-EE3, and 15N5-N6. Cliff hexsides can also occur along Depression hexsides (such as 24E6-E7).

   EX: A unit cannot enter 24D7 from E8 or E7 without Climbing. The 4-6-8 in E8 can enter only D8, E7, F7, or F8 without Climbing. Once IN E7 he can enter only F6, F7, or E8 without Climbing.

2. The serrated edge of a cliff is no more of an obstacle to LOS traced along that hexside than the elevation level it separates from the higher hill hex. For LOS purposes, the black art depiction of a Depression cliff is treated as part of the Depression artwork.

   EX: the 4-4-7 in 15U6 can see the 4-6-8 in V4.

3. Unlike normal Crest Lines, the Blind Hexes caused by a cliff hexside to a non-adjacent viewer can never be reduced below one regardless of elevation advantage.

188.161 Infantry gain Crest status in any Depression hex that contains neither a ford nor a bridge. However, Crest status is never allowed along a Depression Cliff hexside (*such as 24E7-E6*). One Crest counter may service all units in a hex or multiple Crest counters can be placed in a hex to allow different units Crest status in different directions.

188.17 SW: All types of Infantry-possessed SW (*as well as those SW that can be used while a Passenger/Rider*) may be used from a wadi Crest position; however, any Infantry-manned SW not allowed to fire from a gully Crest position (*see 188.171*) may fire from Wadi Crest only within the manning unit's protected Crest front (*see 188.172*), and Area Fire still applies for firing other Infantry-manned SW outside that manning unit's protected Crest front. Infantry may Place a DC vs. a Crest vehicle by expending the MF required for it to enter that Crest position but no unit may throw a DC at such a vehicle.

188.171 Other than their inherent FP, a Crest Infantry unit may fire only a LMG, DC, FT, and Light AT Weapon. Any unpossessed SW previously in Crest status falls INTO the Depression hex.

188.172 FIRE/CC: Crest Infantry firing at any target not within their protected Crest front must fire as Area Fire. Crest Infantry in CC are subject to a -2 DRM for all attacks against them and a +2 DRM for any attacks they make (unless the attackers had just entered the hex through a protected Crest hexside, but if they survive their initial round of CC, they must immediately drop their Crest status if held in Melee.

188.18 VEHICLES: [*Rules for Vehicle Crest status (77 is not the same in the Arid Desert of North Africa as it was elsewhere in the European Theater, therefore Crest rules (77) are appended as follows for scenarios fought in North Africa.*] Any type of vehicle may gain Crest status in a non-bridge wadi hex, and may do so from either

WITHIN that wadi hex or from an adjacent hex, but once it achieves Crest status it must immediately stop and declare crest status. To gain Crest status from WITHIN the wadi it must expend at least five MP (actually 4 higher elevation + 1 MP for moving forward but not entering another hex)—or alternatively it can reverse into Crest status by expending four times its Reverse multiplier. A vehicle may also enter a wadi hex via a non-wadi, non wadi-cliff hexside to directly gain Crest status without going INTO the wadi, and may do so using either forward or reverse movement. The MP cost using this method is the COT of the wadi hex (usually one MP for Open Ground—times that vehicle's Reverse multiplier if using Reverse movement) plus any cost for SMOKE, Dust, etc.in the wadi hex. A vehicle in Crest status is covered by a Vehicle Crest counter, which is placed with the words "HD (rear)" face-up if the vehicle directly gained Crest status by using forward movement across a non-wadi hexside without going INTO that wadi hex, or if it Reversed into Crest status from WITHIN that hex. A vehicle in Crest status may never change its VCA, but may change its TCA in the normal manner. A vehicle may gain Crest status by making a Minimum Move (even using Reverse Movement—i.e., making a Reverse Minimum Move), but only if that move begins IN the wadi hex in which the Crest status is gained, and once in Crest status the vehicle is assumed to immediately stop. A maneuver to/from Crest status is most easily visualized by imagining a Crest vehicle to be at the vertex that the Crest-side "tip" of its counter touches (hereafter referred to as its "Crest CAFP"). Note however, that for LOS purposes (188.21) the vehicle is not considered to be at the Crest CAFP. See also 188.19.

188.19 WADI CLIFF/HEXSIDE: A vehicle may not gain Crest status such that its Crest CAFP is on the same side of a wadi as a same-hex wadi cliff (i.e., the wadi cliff may not be "between" the wadi and the vehicle's Crest CAFP). Nor may a vehicle gain Crest status such that the two hexsides that form its Crest CAFP are both wadi hexsides.

188.191 EXITING: A Crested vehicle on a Wadi may not change its VCA (188.18), there are only two ways it can exit Crest status: It can move to a different hex by crossing a hexside that forms its Crest CAFP *[EXC: it may not enter a wadi hex which contains a wadi cliff on the same side of that wadi as the vehicle's Crest CAFP]* and is vulnerable to Underbelly Hits (191.51) as it does so; or it can move INTO the hex it presently occupies. Moving to a new hex incurs no cost for leaving the wadi hex, and moving INTO its present hex incurs just the cost of entering a wadi (i.e., it excludes the wadi's COT and any SMOKE, Dust, etc. costs). A vehicle may not exit Crest status by moving directly to Crest status in another hex. A vehicle may exit Crest status by making a Reverse Minimum Move, but must then immediately end its MPh in Reverse Motion (181).

188.2 TEM: A Crest(ed) vehicle is considered HD (*SQL 32.3, 37.41, 40.6, 41.1, COI 64.41, 66.23, 77.1, COD 137.3, GIA 144.22, & 145.2*) at the wadi's Crest level to fire from any direction *[EXC: not to Indirect Fire, OVR or Aerial attack, and not to Direct Fire that has a LOS INTO that wadi hex].* A Crest AFV (or Crest non-burning wreck) can provide a +1 TEM only to same-hex Crest Infantry who have at least one protected Crest hexside emanating from that vehicle's Crest CAFP—and, vs. Direct Fire, only if the attacker's LOF crosses that protected-Crest-CAFP hexside. This TEM is not cumulative with the Infantry's Crest (*or any other positive*) TEM. A burning Crest wreck provides no TEM to any unit.

188.21 LOS/HINDRANCE: LOS to/from a vehicle/wreck in Crest status is drawn to/from the center dot of its wadi hex. An AFV/non-burning wreck in Crest status never creates a LOS Hindrance. A burning Crest wreck creates a Smoke Hindrance/DRM in the normal manner, but only at ≥ that hex's Crest level.

188.22 MOVEMENT & STACKING: The extra MP's (2 per vehicle/wreck, double if functioning enemy AFV) incurred when a vehicle enters a Location that contains a vehicle/wreck (40.3) applies in a wadi hex only when both the moving vehicle and the in-hex vehicle/wreck are IN the wadi, or when the latter is in Crest status and either hexside connected to its Crest CAFP is being crossed by the moving vehicle. A vehicle may not "occupy" a Crest CAFP that is already occupied by another vehicle, wreck or Gun.

188.23 BOG & IMMOBILIZATION: A vehicle entering or leaving Crest status must make any terrain-related Bog/lmmobilization DR required for moving into/INTO/within that wadi hex (e.g., for being Accessible to hammada [186.14] or sand [190.31]) only if it is also paying the COT of that wadi hex.

188.24 PERSONNEL: Personnel may Abandon/unload-from their Crest vehicle in the normal manner. Those Personnel are then immediately placed in Crest status on the same side of the wadi as their vehicle. Use a 5/8" Crest counter for them in the normal manner. Personnel must be in Crest status to board a Crest vehicle *[EXC: if they are Capturing it during CC as per 188.25].*

188.25 FIRE/CC: Since a Crest vehicle is HD instead of having protected Crest hexsides, its vehicular/Passenger/Rider attacks (including the use of allowed SW) is never penalized as Area Fire (*as per GIA 151.52*). No Gun or vehicular weapon in

wadi Crest status may fire at a target that is one or more full levels lower than that wadi hex's Crest level; moreover, any type of Gun not normally (as per Vehicle/Ordnance Note) allowed to fire at a lower elevation may fire only to a higher elevation while in Crest status *[EXC to both: AAMG and mortars are not thusly restricted, nor is firing either INTO the firer's own hex or along only wadi hexsides, provided no VCA change is necessary in order to do so].* A Crest vehicle may be OVR by any vehicle that enters its hex (assuming the latter can otherwise OVR it). CC attacks by/vs. a Crest-status vehicle/PRC are always treated for all purposes as if the vehicle were not in Crest status (i.e., a vehicle's Crest status affects neither Capture attempts vs. it nor CC attacks by / vs. it/its-PRC). *See also 188.15-.17.*
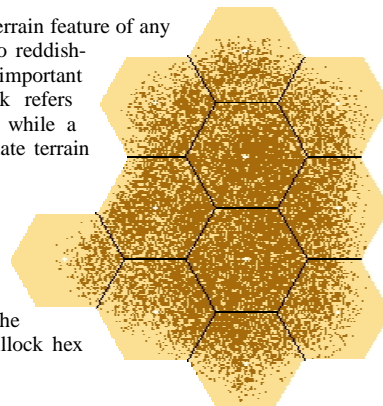
EX: A Crest AFV in 25O8 (with its Crest CAFP indicated by the blue dot) may fire to = level two only if it is firing a mortar or AAMG, or if firing INTO O8 or into/INTO N8—though in no case may it change its VCA (188.42). Enemy Infantry in/IN O8 could make CC attacks/Capture-attempts vs. the AFV at no penalty for the latter's Crest status, nor would there be any such penalty for the AFV's CC attack vs. those Infantry.

188.26 GUN & CREW: A non-vehicular Gun may utilize Crest status in a non-bridge wadi hex and, provided it is unhooked, gains such status automatically when its manning Infantry do (188.24). However, if those Infantry subsequently lose their Crest status the Gun still retains it for itself. A Crest-status Gun and its manning Infantry use a 5/8" Crest counter in the manner prescribed for Infantry; both receive the normal Crest Infantry entrenchment DRM, but only vs. Direct Fire attacks that lack a LOS INTO the wadi and cross a protected Crest hexside in the normal manner. Such a crew may claim a Gunshield's DRM in the normal manner. A Gun may be towed into/out-of Crest position; it may also be Pushed directly into, or out of, Crest status (i.e., either INTO the wadi, or into an adjacent hex) using normal Infantry Crest movement and Manhandling rules. A Gun may not set up Emplaced in Crest status (176.2). A Gun may change its CA while in Crest status *[EXC: a NT Gun must keep at least one protected Crest hexside within its CA]*, and is not penalized by Area Fire for firing outside of its protected Crest front (151.52). See 188.25 for the restrictions on what levels the Gun may fire to.

189.1 HILLOCKS: A hillock is a terrain feature of any hexes consisting of shaded brown to reddish-brown. For the following rules it is important to remember that the term hillock refers collectively to ALL hillock hexes, while a hillock hex is any with the appropriate terrain art.

189.12 A hillock is a somewhat different type of Half-Level Obstacle. Units on a non-Summit (Hillock Summit 189.23) hillock hex are at Level 1/2 (assuming the overlay is on Level 0 terrain). A hillock hex does not contain a hill Crest Line.

189.13 SMOKE GRENADES: Infantry (only) SMOKE grenades may be placed onto a hillock hex from an ADJACENT lower-level Location, and are not subject to the subsequent dr described in Note 19.

189.14 MF/MP: The following movement costs apply to entering a hillock hex from a lower elevation: Infantry/Cavalry/Wagon, COT (usually Open Ground); any non-Wagon vehicle, one MP + COT. If entering a hillock hex from the same or a higher elevation, the entry cost for any type of unit is just the COT. Weather (*rain, mud*) has no effect and does not apply to changing elevation via a hillock.

189.15 LOS: LOS to/from/past/over (*see note 24*) a hillock is determined by the elevation and entrenched/Emplaced status of the viewing and viewed units, and by the presence of any intervening Hillock Summit (189.23). A non-Summit hillock hex does not block LOS to other hexes of the same hillock. For LOS purposes, a unit is considered "adjacent" to a hillock only if the LOS in question to/from that unit crosses/touches a hexside/hexspine that is common to both a hillock hex and that unit's hex, and that hillock hex's topmost height along that LOS is exactly a half-level higher than that unit's elevation.

189.16 ON: A unit (whether entrenched/Emplaced or not) on a hillock has a LOS over (*see note 24*) that hillock, and also over the next hillock its LOS encounters. The viewing unit can also see along that same LOS past yet another hillock—but only to Locations that are behind but "adjacent" (189.15) to this other hillock, and beyond such Locations to ≥ the viewing unit's elevation. *[EXC to all: 189.171]*

189.161 A unit (whether entrenched/Emplaced or not) on a hillock has a LOS past all walls/hedges whose topmost height along that LOS is < the viewing unit's elevation. Such a viewing unit also has a LOS past the first wall/hedge whose topmost height along that LOS equals the viewing unit's elevation—and can also see along that same LOS past a second such wall/hedge but only to Locations that are behind but adjacent to this second wall/hedge, and beyond such Locations to ≥ the viewing unit's elevation. For a Dune Crest half-level obstacles see *190.51*.

189.162 A unit (whether entrenched/Emplaced or not) on a hillock has a LOS over all Rubble whose topmost height along that LOS is < the viewing unit's elevation. However, the LOS of such a viewing unit is affected by rubble whose topmost height along that LOS equals the viewing unit's elevation as if the rubble were instead a hedge along the second hexside of the rubble hex through which that LOS is traced; hence *186.19* apply to that LOS, and a unit properly positioned behind such a "hedge" hexside could claim hedge TEM in the normal manner vs. that viewing unit on the hillock.

189.17 ABOVE: A unit (whether entrenched/Emplaced or not, and whether on a hillock or not) at a higher elevation than the topmost height of a hillock hex has a LOS over (*see note 24*) that hillock hex.
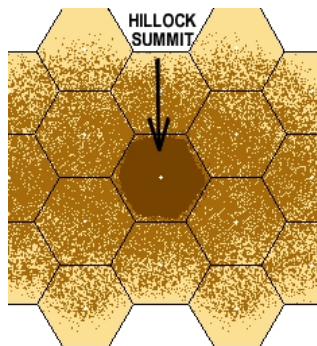
189.171 A unit must be higher than the topmost height of an intervening hillock hex in order to have a LOS past that hillock hex to an elevation one or more full levels lower than that hillock hex's topmost height. A unit must be at least as high as the topmost height of an intervening hillock hex in order to have a LOS past that hillock hex to entrenched/Emplaced units behind but "adjacent" to that hillock hex.

189.18 BEHIND: In addition to the applications of reciprocity *[meaning: the high-to-low LOS procedures are the converse of low-to-high, it follows that whenever a higher unit can see a lower unit that the lower unit can also see the higher unit]* for the LOS given in *189.15-.171*, a non-entrenched, non-Emplaced unit that is "adjacent" (*189.15*) to a hillock has a LOS past that hillock—and can also see along that same LOS past another hillock to Locations that are behind but "adjacent" to this other hillock. *[EXC to all: 189.171]*

189.19 TEM: Non-PRC unit(s) may claim a +1 TEM (or HD status) vs. Direct Fire that is traced across/along a hexside of a hillock as it enters their hex, provided that hillock hex's topmost height along that LOF is a half-level higher than the elevation of the target and the LOF did not go over that hillock hex. This TEM is not cumulative with any other positive TEM. A hillock (hex) provides no TEM or HD status vs. Indirect Fire. Being on a hillock does not by itself negate FFMO or Interdiction.
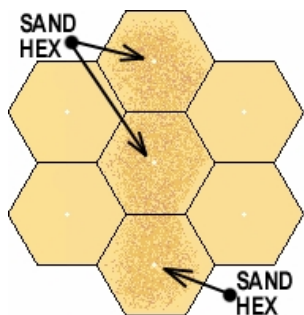
189.20 HEIGHT ADVANTAGE: A unit on a hillock can claim Height Advantage vs. Direct Fire (*COI 77 & 91.1*) if it is at least one full level higher than the attacker, but cannot make a HD maneuver.

189.21 AFV/WRECK TEM: An AFV/wreck on a hillock can provide a +1 TEM in the normal manner.

189.23 HILLOCK SUMMIT: Overlays contain a hex the color of level-one hill terrain. Such a hex is termed a Hillock Summit hex, and represents one hillock upon another with a total obstacle height of one level. A Hillock Summit is treated as a normal hillock that rises from Level $^1/2$ instead of from Level 0. Therefore, a unit on, above or behind a Hillock Summit can see to/from/past Hillock Summits using *189.15-.171*, treating the Summits as higher-level hillocks. Use a Hillock Summit counter or overlay to mark an SSR-specified Summit.

190 SAND

190.1 SAND: is a terrain feature used by an overlay and is represented by golden-yellow granular looking terrain.

190.2 Sand is neither a Hindrance nor an obstacle [EXC: Sand Dune; *190.5*] to LOS and, except as affected by the presence of other terrain such as scrub (*185.2*) or a Dune Crest (*190.51*), is treated as Open Ground (*184.1*) for all purposes other than Hammada

Immobilization (*186.14*), movement costs (*186.13*), Sand Bog (*190.31*), the resolution of certain attacks (*190.4*), Gun Emplacement (*190.41*), Fortifications (*190.42-.421*), and when Accessible to Broken Ground (*196.1*). Sand in the target hex does not negate FFMO or Interdiction unless a Dune Crest TEM applies.

190.3 MF/MP: The following movement costs apply to entering a sand hex:
- Infantry, one MF + COT (usually Open Ground);
- Cavalry or Wagon, two MF + COT;
- Fully-tracked vehicle, two MP +COT;
- Half-track, three MP + COT;
- Armored car or motorcycle, four MP +COT;
- Truck, six MP + COT.

[EXC: all these non-COT MF/MP Costs are reduced by one if EC are Wet or Mud.]

EX: It normally costs Infantry two MF to enter a sand hex (1 [sand] + 1 [Open Ground] = 2) however, if EC are Wet or Mud it costs only one MF (0 [Wet/Mud sand] + 1 [Open Ground] = 1). Likewise, a tank normally pays three MP to enter a sand hex, but if EC are Wet or Mud it pays two MP (1 [Wet/Mud sand] + 1 [Open Ground] = 2). If the sand hex also contains scrub, regardless of EC the Infantry MF costs remain unchanged (since Infantry expend the same MF for entering scrub as for entering Open Ground) but the tank must pay one extra MP (2 [scrub] instead of 1 [Open Ground]).

190.31 BOG: A sand hex is also a type of Bog hex. A vehicle (including a Wagon, but excluding a Motorcycle) must make a Sand Bog DR when it enters (or changes VCA in) either a sand hex (even if that hex also contains scrub) or an Open Ground hex that is Accessible to a sand hex [*EXC to both: if following a Track (192) or road*]. The vehicle bogs if the Final DR is ≥ 12. Only the following cumulative DRM can apply:

DRM	Cause
+2	If the vehicle has High Ground Pressure;
+1	If the vehicle has Normal Ground Pressure;
+1	If the vehicle is not fully-tracked;
+1	If the vehicle expends MP as a truck, weighs ≥ 4 tons, and is not British-built*;
+1	If the vehicle entered its present hex via a Dune Crest hexside (*190.51*);
-1	If the vehicle is in an Open Ground hex that is Accessible to a sand hex;
-1	If EC are Wet or Mud.

* British-built is defined as being a British-color counter without "(a)" [which denotes American manufacture] or "(f)" [of French manufacture] in the piece name.

190.311 Being thusly Accessible to > one sand hex necessitates only one Sand Bog DR. If changing VCA, one Sand Bog DR is required for each hexside changed. A Sand Bog check is made only after passing any required Hammada Immobilization check (*186.14*). In lieu of calculating the above DRM, players may find it easier to use the following table:

	SAND BOG					
	Original DR ≥ # ● = Bog					
Ground Pressure	Non-British-built truck†		British-built truck; AC; ht		Fully-tracked	
	In Sand*	In Accessible OGd Hex	In Sand*	In Accessible OGd Hex	In Sand*	In Accessible OG†† Hex
Low	10	11	11	12	12	NA
Normal	9	10	10	11	11	12
High	8	9	9	10	10	11

NA if following a track or road.
● Increase # by one if EC are Wet or Mud.
† (And weighing ≥ 4 tons).
†† [EXC: hammada; sand.]
* Lower # by one if the present hex was entered via a Dune Crest (190.51) hexside.

190.312 BOG REMOVAL: Normal Bog Removal procedures (75.8) apply to a vehicle that has become bogged due to sand.

190.4 TEM: Sand has a 0 TEM, but any ordnance *[EXC: use of the Vehicle Target Type or a Direct Hit vs. a Gun (GIA 145.32)]*, or OBA attack vs. an unarmored target in a sand hex has its FP halved (FRU) on the IFT after all other modifications *[EXC: the result of a CH is normal due to being halved (sand) then doubled (CH)]. [EXC to all: if EC are Wet or Mud, these penalties do not apply.]*

EX: Assume EC are not Mud or Wet. A 105mm Gun using the Infantry Target Type Direct-Fires HE at an Emplaced Gun in sand and gets a non-CH hit. The ensuing IFT DR is made on the 20 FP column to see if a Direct Hit (145.32) was achieved. If it was not, a Near Miss occurred and using the same DR is then resolved on the 8 FP column (using any applicable gunshield's DRM) vs. the manning crew (if any). If the Crew is required to sustain an IFT dictated MC the colored die determines the Near Miss vs. the Gun. If the colored die is ≤ the required MC sustained the gun is eliminated. If the 105 hit using the Area Target Type instead, the occurrence of a non-CH Direct Hit would be checked for on the 8 FP column and, if not achieved, the Near Miss would then be resolved on the 4 FP column.

EX: Assume EC are not Mud or Wet, and no CH. An 80+mm OBA HE concentration attacks a sand hex using the 8 FP column of the IFT. A 100+mm OBA HE concentration attacks a sand hex using the 8 FP column—but if it were a Barrage it would still be resolved on the 8 FP column (20 FP lowered to 16, then halved).
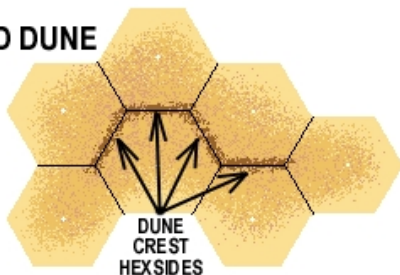
190.41 GUN EMPLACEMENT {GIA}: A non-vehicular Gun may set up Emplaced [*145.3*] in sand (*187*); however, the Emplacement TEM is halved to +1 [*EXC: if EC are Wet or Mud it retains normal TEM*] even vs. CH and for determining sniper targets.

190.42 FORTIFICATIONS: No pillbox, trench or sangar (*191*) may be set up in sand. An entrenchment in sand has its normal TEM halved (i.e., +2 vs. OVR and OBA; +1 vs. most other types of attack*) [EXC: if EC are Wet or Mud it retains normal TEM].* Moreover, a squad (or its equivalent) that is in an entrenchment in sand is eliminated by a HE [*EXC: AP HE Equivalency*] Final KIA result (or multiple KIA in a Random Selection tie dr) caused by Direct or Indirect Fire of ≥ 70mm, DC, or bomb attack, that entrenchment counter is eliminated.

190.43 ENTRENCHING: The +2 DRM for Entrenching Attempts (*176.21*) does not apply in a sand Location.

190.5 SAND DUNES: Any sand overlay that has darker-yellow hexside markings, contains a Sand Dune (hereafter referred to as a Dune). A Dune can be SSR or DYO defined as one of two types: Low or High. A Low Dune comprises normal sand
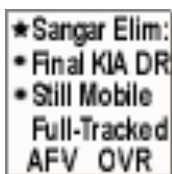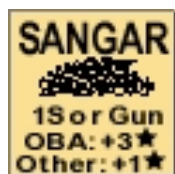

SAND DUNE

DUNE CREST HEXSIDES

hexes and Dune Crest hexsides (*190.51*). A High Dune contains Dune Crest hexsides, but its sand hexes are treated as hillock (*189*) hexes as well as sand hexes. A Dune hex is any sand hex on a Sand Dune overlay. Placing a High Dune counter on the overlay indicates a High Dune.

190.51 DUNE CREST: The darker-yellow artwork along certain hexsides of each Dune indicates that Dune's Crest hexsides.

190.511 MF/MP: Any type of unit crossing a Dune Crest hexside must expend one MF or MP to do so, plus the cost.

191 SANGARS

191.1 A Sangar is treated exactly like an entrenchment except as modified herein. Players may use entrenchment counters to represent a sangar.

191.2 PLACEMENT: A Sangar cannot be created during play, nor may it be set up in sand (7.42). No more than one Sangar may be placed per hex.

191.3 CAPACITY: A Sangar has the same capacity as an entrenchment [54], or 4 units. A non-vehicular Gun of any size/type may be placed in, and may fire out of, a Sangar. However. A Sangar that contains a Gun and its crew may never contain more than one additional squad/crew. The gun is considered the equivalent of 2 squads for this purpose.

191.4 TEM: A unit beneath a sangar receives a +3 TEM vs. OBA and a +1 TEM vs. other attacks *[EXC: CC, FT].* Only a crew manning a Gun in a sangar may claim the +2 TEM for the gun shield (if it has one) in lieu of the +1 sangar TEM.

191.41 A Final KIA (*prior to applying any Gunshield's DRM*) vs. a sangar/its-occupants results in elimination of the Sangar counter if caused by a DC, an OVR, an ordnance/OBA attack of HE ≥ 70mm, or any HE CH. *[EXC to all: AP HE Equivalency cannot cause such elimination.]* An OVR of a sangar by a fully tracked AFV will cause the automatic elimination of a sangar and any Gun in it, provided the AFV was still Mobile when it's OVR was resolved. All surviving pieces are thereafter left devoid of sangar benefits. [*EX: A squad and leader are in a sangar and are attacked by OBA. If a KIA occurs after applying the +3 sangar TEM, the sangar is eliminated along with its occupants. If the OBA had achieved a CH, the units thusly affected would receive a -3 TEM (the sangar itself a +3 TEM), and the sangar would still be eliminated if the result is still a KIA.*]

191.5 MOVEMENT: A vehicle may enter/traverse a hex that contains a sangar at no extra movement cost for the sangar's presence *[EXC: if a trench is Accessible to that sangar as per 191.6 the sangar hex's COT is doubled].*

191.51 UNDERBELLY HITS: A fully tracked AFV OVRing a sangar is vulnerable to Underbelly Hits (*144.6 Underbelly Vulnerability),* even from within that sangar. As an AFV crosses a wall/bocage/sangar hexside (not via a road hexside) or exits a gully/stream/wadi, DEFENDING ordnance within six hexes of the hex being entered, at the same level as (or lower than) that hex, and within that AFV's VCA (or "rear" VCA if the AFV is using Reverse movement), may (if otherwise allowed) use the Vehicle Target Type or a LATW TH Table to attempt an Underbelly Hit. Such Defensive Fire is conducted after the AFV expends the MP to cross-the-hexside/exit-the-gully but before it enters the next hex (and thus precedes any OVR vs. that hex); if the firer is in the hex being entered, TH Case E does not apply. The firer's LOS is traced to a specific vertex of the hexside being crossed (ATTACKER's choice *[EXC: if using VBM; COD 132],* though once he chooses the vertex he may not change it vs. another shot or to affect LOS). If the firer does have a LOS to that vertex, any such hit that would normally be a turret hit is instead an Underbelly Hit and conducts the TK as though it was a CH. A hull hit is treated in the normal manner. If the firer has Bore Sighted the Location being exited, that DRM applies to his TH DR. *[EXC: the AFV is considered to be in the sangar's Location, but the LOS for an Underbelly Hit attempt is drawn to a vertex of the hexside the AFV is crossing; if the AFV becomes Immobile or destroyed, it is left in the sangar's Location.]* Vulnerability to Underbelly Hits no longer applies after the OVR is resolved.

191.52 GUN: Provided it does not exceed sangar stacking capacity (*188.3*), a Gun may enter a sangar during play by being pushed (*63.43*) into it from the sangar's Location, using the sangar's +1 TEM. Hence a Gun must be pushed out of a sangar before it can be loaded-on/hooked-up-to a vehicle.

191.6 TRENCH: *Rules 137-137.72 Reprinted here for convenience:*

137.1 All rules governing entrenchments (*54*) apply to trenches except as modified below. Trench counters must be placed in a hex so that the word "trench" clearly lies along one hexside.

137.2 Trench counters may *not* be placed during a scenario with an entrenchment attempt. They must be in place prior to the start of play.

137.3 All types of ordnance (including AFVs) may be placed beneath a trench counter with normal hull down fire capabilities (*i.e.: bow MGs may not fire*) prior to the start of a scenario. Once placed, they may be moved only by reverse movement through the hexside along which the word "trench" is placed. AFVs and vehicular-sized guns are considered hull down, but may not be moved beneath a trench once play begins. Non-vehicular-sized guns so placed are still considered under the "Gun" category of the TO HIT Table even if moved there during the scenario (*107.22*), but their crew always receives the protective terrain benefits of the trench, in addition to any protective DRMs they may be eligible for from protective gunshields.

137.4 A trench counter is considered automatically connected to any adjacent trench counter *(EXCEPTION: Cliff hexsides).* Infantry already beneath a trench counter may move to an adjacent trench hex without paying the *extra* one MF to *enter* or *leave* the trench, which would apply under any other circumstances. Consequently, infantry is *never* subject to the -2 Defensive Fire DRM for moving in the open while moving from beneath one trench counter directly to beneath another. The cost to enter a trench from any adjacent trench is 1 MF regardless of other terrain in the hex *(EXCEPTION: Moving uphill in a trench costs two MFs).*

137.5 The terrain protective DRMs of a trench apply even if enemy units are in an adjacent trench hex.

137.6 Wheeled vehicles may not enter a trench hex. Tracked vehicles are not restricted by normal sized trenches in any manner.

137.7 In rare circumstances, a scenario may require placement of very formidable obstacles such as anti-tank trenches or obstacles in recreating extensively prepared defenses such as the Atlantic Wall. Trench counters may be used for this purpose with specific mention in the scenario's Special Rules section.

137.71 No vehicle may enter an anti-tank ditch or obstacle hex. Infantry must pay two additional MF to *enter* such a hex. Infantry in such a hex receive normal trench terrain protective DRMs.

137.72 A trench or obstacle counter may be removed by *placement (not thrown-103.1)* of a demo charge resulting in a KIA result on the IFT. There is no terrain DRM to such a demolition attempt. Such obstacles may also be removed by special engineer vehicles that will be described later.

192 TRACKS

192.1 Tracks are not depicted on the mapboard; instead they are defined by SSR and indicated by placing a Track counter at each end of the track (usually a board-edge hex). A track lowers the MF/MP costs of entering a hex by one to a minimum of one, after all modifications except any for:

- SMOKE;
- Infantry, Cavalry or Wagon entering a higher-elevation Location;
- Presence of an AFV/wreck;
- Weather;
- Towing a Gun (including Convoy movement);
- Vehicle/Heavy (or denser) Dust.

192.2 A track is not a road, but a track (as well as a road) eliminates the need for Bog/Immobilization DR due to sand (*190.31*) or hammada (*184.31*) [EXC: Bog can still apply during Mud; *194.8*]. A track does not negate the IFT effects of hammada (*186.16*) or sand (*190.4*). At night, a unit may "follow" a track as per *192*.

EX: Infantry entering a non-scrub sand hex across a track hexside expend one MF instead of two. Infantry entering a hammada hex across a track hexside still expend one MF. Infantry crossing a track hexside while moving from level 0 to a level 1 Open Ground hex still expend two MF (though they would have to expend three MF if that level 1 Location contained SMOKE). A truck entering a hammada hex across a track hexside expends five MP instead of six; if the truck is towing a Gun and/or moving in Convoy it expends six MP instead of seven. In neither case is the truck subject to Hammada Immobilization while in that hex (or while on a track in an Open Ground hex that is Accessible to hammada). A crew pushing a Gun across a track hexside into a non-scrub sand hex expends three MF instead of four (and three MF is used for Manhandling DR purposes). A tank crossing a track hexside while ascending to an Open Ground hillock hex expends one MP instead of two.

192.3 ROADS: Barring SSR, the only roads on boards 25-31 are those printed on board 25.

193 HILLSIDE WALL/HEDGE:

193.4 HILLSIDE WALL/HEDGE: A Hillside wall/hedge is one which lies along a hexside that is common to two adjacent hexes with different Base Levels, with none of the lower Base-Level's terrain appearing between the wall/hedge depiction and the higher Base-Level's terrain depiction. Examples of Hillside walls/hedges are 25B4-B5, 25C5-C6, 25U3-U4, 25V9-W9, 25X4-X5, 8M4-M5, 8X3-X4, 12X4-Y4, and 13S4-S5. All normal wall/hedge rules apply to Hillside walls/hedges except as modified herein.

193.41 LOS: A Hillside wall/hedge (*including both its depiction and its associated hexside; SQL 54*) is ignored (even along a Continuous Slope) when determining whether or not a LOS exists between units whose elevations differ by = one full level [EXC: a unit entrenched behind a Hillside wall/hedge still has its LOS restricted as per SQL 54 Entrenchments]. It is likewise ignored when determining the number of Blind Hexes created by a Crest Line. If a hill Crest Line ends at a Hillside wall/hedge, the line along which the hill depiction meets the wall/hedge depiction is considered to be the actual Crest Line.

EX: The 4-6-7 in 25W4, the 4-3-6 in W5, and the Crest-status 4-6-8 in V5 all have a LOS across one or more wall hexsides/hexspines to the following hill hexes: U7, V6, V7, W6, W7, W8, X5, X6, and X7 (although they could see entrenched units in V6/W6/X5 only if adjacent to them). A unit IN V5 would have a LOS to all those same hexes [EXC: not to any entrenched unit(s) in X5]. The 4-6-7 also has a LOS to the Crest level of Y7. The 4-3-6 also has a LOS to Y5. In no case could any of these units claim wall TEM vs. an attack coming from any of these in LOS hill hexes.

193.42 ELEVATION, TEM & WALL ADVANTAGE: A Hillside wall/hedge is always at the higher of the two Base Levels it lies between, and is treated as a normal wall/hedge when calculating the TEM of targets at = the wall/hedge's base elevation. However, a unit at any level lower than that on which a Hillside wall/hedge sits never

receives any benefit (including Wall Advantage; SQL *11.5*) from that wall/hedge hexside. A unit in Crest status may claim Wall Advantage over a Hillside wall/hedge that forms a hexside of that unit's hex only if both are at the same elevation and on the same side of the Depression. Otherwise, a unit's inability to claim Wall Advantage over a Hillside wall/hedge hexside does not prevent it from claiming Wall Advantage over another wall/hedge hexside provided the unit meets all the other Wall/Hedge criteria for doing so.

EX: The 4-6-7 IN 25B4 can claim neither hexside TEM vs., nor Wall Advantage over, the 4-5-8 in B5, nor can it claim hedge TEM vs. the 4-5-7 in C6; however, the 4-5-8 could receive such benefit, and the 4-5-7 could claim hedge TEM, vs. the 4-6-7 because both British squads are directly behind, and at the same level as, a Hillside hedge (hexside C5-C6 in the save of the 4-5-7). If the 4-6-7 were in crest status with its center protected Crest hexside at B4-A5 or B4-B5, then it could, if having Wall Advantage, claim hedge TEM vs. the 4-5-8/4-5-7 since it would be at the same level as, and directly behind, the hedge. If it claimed Wall Advantage it could not also claim entrenchment TEM vs. the 4-5-8 [54.6], but if it did not claim Wall Advantage while in Crest Status, the 4-5-7's attack vs. it would still be affected by the B4-B5 hedge TEM [SQL 11.5]. Regardless of whether or not the crest 4-6-7 claimed Wall Advantage, the 4-5-7's attack vs. it would not be affected by entrenchment TEM [SQL 54.6]. Neither the 4-6-8 IN C5 nor the Crest-status 4-4-7 in C5 can claim hedge TEM vs., or Wall Advantage over, the 4-5-7 because both German squads are lower than the C5-C6 hedge's base elevation. If the hero in B6 attacks the C5 Germans, the 4-4-7 (but not the 4-6-8) can claim the B5-C5 hedge TEM (SQL 11.5). (The C5-C6 level-one hedge cannot affect that attack by the hero). Provided neither the 4-5-8 nor the 4-5-7 were already marked with a Wall Advantage counter the 4-4-7 could claim Wall Advantage over the B5-C5 hedge even though it cannot claim it over the higher-level C5-C6 hedge. If the 4-5-8 fires at the Crest-status 5-4-8 in D5, the latter cannot claim hedge TEM since it is a level lower than hexsides C5-C6 and D5-C6.

193.7 CACTUS HEDGE: A SSR may specify that wall/hedges are cactus hedges. All hedge rules apply to such hexsides - except that Infantry may cross one only via Assault Movement (*142.71*) or Advance vs. Difficult Terrain (Addendum *142.23*), and that Cavalry, Horses and Wagons may not cross one at all.

194 ARID CLIMATIC CONDITIONS:

194.1 The rules in this Section may or may not be applicable to a given scenario, depending on a variety of circumstances (such as the scenario's EC and whether or not it is DYO). Listed below are the types of scenarios in which these rules can/do apply. See each individual rule for specifics on when and how it actually does come into effect.

ARID CLIMATE SUMMARY	
RULE	**MAY BE APPLICABLE/IN-EFFECT ONLY WHEN**
Arid Weather Chart (*194.2*) Arid EC Chart (*194.4*) Arid Wind Force Chart (*194.5*)	DYO scenario is set in an Arid Land (North Africa, Middle East, Mediterranean isles, or East Africa; see *194.2*).
Time of Day Table (*194.3*)	DYO scenario uses = one Desert Board (*178.1*).
Sun Blindness (*194.61-.612*)	Daytime scenario uses = one Desert Board, and Weather is not Overcast (or Mud and Overcast).
(Intense) Heat Haze (*194.62-.624*)	Daytime scenario is set in North Africa (*194.2*), uses = one Desert Board, and Weather is not Overcast (or Mud and Overcast).
Heavy, Very- or Extremely-Heavy Dust (*194.73-.732*) Wind/Gust effects on Dust (*194.76-.761*)	Scenario uses only Desert Board(s), EC are Dry or Very Dry, and Steppe Terrain (*196.2*) is not in effect.
DYO Dust Table (*194.701*) Light/Moderate Dust (*194.71-.72*) Vehicle Dust (*194.74*) FFE Dust (*194.75*)	Scenario uses = one Desert Board, and EC are Dry or Very Dry [EXC: Very Dry only, if Steppe Terrain is in effect].
Desert Mud (*194.8*)	Scenario is set in an Arid Land (see *194.2*), uses only Desert Boards, and Mud is in effect (*194.2; 194.4*).

194.2 The following chart is used in lieu of the COD (*111*) Temperate Weather Chart to determine the Weather of a DYO scenario set in an Arid Land (defined as North Africa [Egypt, Libya, Tunisia, Morocco or Algeria], the Middle East [Syria,

Lebanon, Palestine, Iraq or Persia], the islands of the Mediterranean, or East Africa)—even if it uses any/all non-Desert Board(s).

ARID WEATHER CHART			
DR	April	May-Sept	Oct, Nov	Dec-March
2	Mud	Clear	Mud	Clear & Gusty
3	Clear & Gusty	Clear & Gusty	Clear & Gusty	Clear & Gusty
4	Clear & Gusty	Clear	Clear	Clear
5	Clear	Clear & Gusty	Clear	Clear
6	Clear	Clear	Clear	Clear & Gusty
7	Clear & Gusty	Clear	Clear	Overcast
8	Clear	Clear	Clear & Gusty	Overcast
9	Clear	Clear & Gusty	Overcast	Mud
10	Overcast	Clear	Overcast	Mud & Overcast
11	Overcast	Clear	Clear	Mud & Overcast
12	Mud & Overcast	Overcast	Mud & Overcast	Mud & Overcast

Note: The ARID WEATHER CHART has five columns (DR, April, May-Sept, Oct Nov, Dec-March).

194.3 TIME OF DAY: In a DYO (only) scenario using = one Desert Board, a Time of Day dr is made prior to setup (after rolling for Weather but before any DR for EC), involving the appropriate rules as per the following table. If the Weather is Overcast, or Mud and Overcast, treat any result other than "Night" as "None". With mutual player consent, a "Night" result may be treated as a "None" result instead.

TIME OF DAY TABLE		
dr	Result	Effect
1	Early Morning	* Sun Blindness (194.611) is in effect. If the Scenario is set in Nov-April, Mist (111.2) is also in effect. EC are automatically Moist (or wetter); (194.6111).
2	Mid Morning	*† Intense Heat Haze (194.621) is in effect if the scenario is set in May-Sept. Otherwise, Heat Haze (194.62) is in effect.
3	Midday	*† Intense Heat Haze (194.621) is in effect.
4	Mid Afternoon	*† Heat Haze (194.62) is in effect.
5	Late Afternoon	* Sun Blindness (194.612) is in effect.
6	Night (other)	Night Rules (49.0) (or "None", if both players agree) are in effect.

`"None" in effect if Weather is Overcast (or Mud & Overcast).`
† "None" in effect if scenario is not set in North Africa (194.2).

194.4 ENVIRONMENTAL CONDITIONS: The following chart is used in lieu of the EC Chart [COI 102.3] to determine the EC of a DYO scenario set in an Arid Land (190.2)—even if it uses any/all non-Desert Board(s).

ARID EC CHART				
Dr	EC	EC DRM/drm	Month	drm
= 1	Mud	-3	Dec-March	-1
2	Wet	-2	April-Sept	+3
3	Moist	-1		
4	Moderate	0		
5	Dry	+1		
= 6	Very Dry	+2		

194.5 WIND FORCE: The following table is used in lieu of the Wind Force Table (COI 102.6) to determine the initial Wind Force of a DYO scenario set in an Arid Land (194.2)—even if it uses any/all non-Desert Board(s).

ARID WIND FORCE TABLE		
Dr	Wind Force	Result
1	No Wind	No Wind Direction DRM
2-5	Mild Breeze	Wind Direction DRM & Dispersed Smoke
6	Heavy Wind	Automatic Spread Downwind; None Upwind

194.6 DESERT LOW VISIBILITY (DLV): DLV is the term used to categorize Sun Blindness (194.61), Heat Haze (194.62-.621), and both Light and Moderate Dust (194.71-.72). A DLV Hindrance is treated exactly like a LV Hindrance (see *Fog/Mist COD 111.21*) unless stated otherwise. A DLV Hindrance does not apply (i.e., is not counted) when determining if LOS is blocked (as per SQL 43 and GIA 172.2).

194.601 HIP/CONCEALMENT: When any type of DLV is in effect, an entrenchment using HIP in Concealment Terrain is revealed solely due to LOS only if the enemy viewing unit is within six hexes of it, and Concealment Terrain = 17 hexes from all unbroken enemy ground units is treated as being out of LOS for Infantry/Emplaced-Gun "?" gain (only) purposes. *[EXC: if the only DLV in effect is*

Sun Blindness (194.61), this rule (194.601) applies only if the HIP entrenchment/unit seeking "?" is in the Sun Blindness Zone of all such enemy units.]

194.61 SUN BLINDNESS: Sun Blindness can occur only in a scenario that uses = one Desert Board and when the Weather is currently not Overcast (or Mud and Overcast). Whenever these conditions are met and a SSR or Time of Day dr (194.3) specifies Sun Blindness, the following rules are in effect:

194.611 EARLY MORNING: If Early Morning, each TH (and non-ordnance IFT) DR *[EXC: OBA; DC; FT; Fire Lane; Specific Collateral Attack]* receives a +2 Sun Blindness DLV Hindrance DRM, provided all the following conditions are met:

- Neither the firer nor the target is an Aerial unit;

- The LOS to the target is in an easterly direction, and that LOS lies completely within the shaded area (or an extension of it) in one of the accompanying illustrations;

- That LOS, when extended past the target to the edge of the playing area, is not blocked by an obstacle that is two or more levels higher than the target; and,

- The firer/Spotter/(offboard) Observer is not two or more levels higher than the target; and if in the same hex as the target, it is currently the MPh during which the target has entered the Location across a hexside (or from a vertex) that lies within the firer/Spotter/Observer's Sun Blindness Zone.

EX: The first illustration shows the yellow Sun Blindness-Zone of a squad looking east during Early Morning Sun Blindness when the lettered hexrows run north south. If the squad were also manning a Gun that faced east, its CA would be as shown by the long, thick dashes. If the CA faced northeast (as shown by the dotted line), part of the Sun Blindness Zone would still be within that CA, as indicated. If the squad's/Gun's LOS to any ground target leaves the indicated Sun Blindness Zone, that Zone's +2 DRM would not apply.

EX The second illustration shows the yellow Sun Blindness Zone of the squad looking east during Early Morning Sun Blindness when the lettered hexrows run east west. If the squad were also manning a Gun that faced northeast or southeast, the two CA the Gun could possibly establish are shown respectively by the thick dashes, and the dotted lines. If the squad's/Gun's LOS to any ground target leaves the indicated Sun Blindness Zone, that Zone's +2 DRM would not apply. Note that in both examples the "outer" hexes of the Sun Blindness Zone have vertices that are not in the Zone even though the center dots of those hexes are.

194.71 LIGHT DUST: Light Dust can occur only in a scenario that uses = one Desert Board, and only if EC currently are Dry or Very Dry *[EXC: Very Dry only, if Steppe Terrain (196.2) is in effect]*. While Light Dust is in effect, each TH (and each non-ordnance) IFT DR *[EXC: OBA; DC; FT; Collateral Attack]* receives a Dust DLV Hindrance DRM equal to a subsequent dr that is halved (FRD). *See also 194.79-.794.*

194.711 INTERDICTION: Being a type of LV Hindrance, neither Light nor Moderate Dust negates MOG. However, when either is in effect, a subsequent dr[19] is made for each Interdiction DR; this dr generates a Dust DRM as per 194.71 or 194.72 (as applicable) but with its sign reversed, which modifies the Original Interdiction DR. The routing unit suffers Casualty Reduction only if it fails its NMC via the Final DR *[EXC: an Original 12 still eliminates the unit]*. Heavy and Very/Extremely Heavy Dust, and Vehicle/FFE Dust, are LOS Hindrances which prevent Interdiction.

EX: A routing unit is interdicted during Light (only) Dust. If the subsequent dr[19] is a 6, it receives a -3 DRM; if a 4 or 5, a -2 DRM; if a 2 or 3, a -1 DRM; and if a 1, it receives no DRM. Hence if the Interdicted unit has a 7 Morale, and rolls an Original 8 for its NMC but an Original dr of = 4, it will be unaffected.

194.72 MODERATE DUST: Moderate Dust is treated exactly the same as Light Dust except that the subsequent dr[19] is halved (FRU).

194.73 HEAVY DUST: Heavy Dust can occur only in a scenario that uses only Desert Board(s), and only if EC currently are Dry or Very Dry and Steppe Terrain (196.2) is not in effect. While Heavy Dust is in effect, a LOS Hindrance DRM equal to half the range (FRU) applies to each type of attack that can receive a Light Dust DRM. In addition, Light Dust is in effect, and each vehicle/Cavalry unit must expend

one extra MP/MF to enter a new hex. Being a LOS Hindrance, Heavy Dust negates FFMO.

194.731 VERY HEAVY DUST: Very Heavy Dust is treated exactly the same as Heavy Dust—except that its LOS Hindrance DRM is equal to the range of the attack, a BU AFV must expend one extra MP to enter a new hex (in addition to the extra MP required by 194.73), use of Double-Time/Gallop is prohibited, attacks by / vs. Aerial units are not allowed, and all Recovery dr receive a +1 drm.

194.732 EXTREMELY HEAVY DUST: Extremely Heavy Dust is treated exactly the same as Very Heavy Dust, except that Moderate Dust (194.72) applies instead of Light Dust and all B/X numbers for non-Aerial units are lowered by one.

> *EX: A squad firing with four FP at a range of three hexes during Heavy Dust receives a +2 LOS Hindrance DRM plus a Light Dust DLV Hindrance DRM of 0, +1, +2 or +3. If firing during Very Heavy Dust, the Light Dust DRM is applicable in the same manner but the LOS Hindrance DRM is +3. If firing during Extremely Heavy Dust, the LOS Hindrance DRM is still +3 but the Moderate Dust DRM will be +1, +2 or +3. If the attack has a range of zero (TPBF), only the Light Dust DRM will apply during Heavy or Very Heavy Dust, and only the Moderate Dust DRM will apply during Extremely Heavy Dust. Assuming the squad's attack leaves two Residual FP, if another unit is later attacked by that Residual FP no DLV DRM will apply but FFMO/FFNAM may. Remember that DLV DRM is not applicable to determining if LOS is blocked (194.6).*

194.74 VEHICLE DUST: Whenever Light Dust can exist (as per the conditions given in 194.71), Vehicle Dust can also occur. In such a scenario, as a vehicle of any type enters a new hex at a cost of = two MP, a Vehicle Dust counter is immediately (i.e., prior to Defensive/Bounding First Fire attacks) placed at the Base Level of the hex it has just exited *[EXC: no Dust counter is placed if the vehicle expended a Start MP in the hex just exited, if it exited that hex via a paved-road hexside, if in exiting that hex it also exited the playing area, if it is/was using a form of Armored Assault [23] in its current MPh, or if Heavy Winds/Gusts are in effect]*. That Dust counter is immediately removed from that hex when one of the following occurs:

- o   The vehicle leaves its present hex;
- o   The Wind Change DR results in Heavy Wind/Gusts/Rain;
- o   The vehicle begins the next friendly PFPh not in Motion; or;
- o   The vehicle begins its next MPh already in Motion, and expends a MP for any reason.

Vehicle Dust is otherwise treated as normal drifting Dispersed Smoke in all respects, and hence is a two-level +1 LOS Hindrance rather than a type of DLV. Since a vehicle is not prohibited from expending more MP to enter a hex than the minimum required, it may, as it enters a new hex, declare a higher-than-necessary MP expenditure in order to not create Vehicle Dust. Vehicle Dust created by a vehicle that was then destroyed is removed at the start of its owner's next PFPh (or sooner, as per one of the conditions listed above). The reverse side of the Vehicle Dust counter is placed face-up if the vehicle both creates dust and ends its MPh in Motion.

> *EX: A vehicle starts its MPh by expending a Start MP and then one MP to enter a Desert Open Ground hex. No Vehicle Dust occurs in the hex it just exited. It then enters a Desert Open Ground hex that contains SMOKE, expending two MP to do so. A Vehicle Dust counter is now immediately placed in the hex it just exited. Any further MP expenditure by that vehicle in its present hex—e.g., VCA change, OVR cost, sD usage, Stop MP, etc.—is not considered when determining whether that Dust counter should be placed. (The vehicle could have made an expenditure of = three MP to enter the hex, which would have prevented creating Vehicle Dust in the hex being exited. But if it were towing a Gun it would have had to expend at least three MP to enter the SMOKE hex and thus could not have created Vehicle Dust.) If the vehicle begins the next friendly PFPh Stopped (or if it was destroyed in the interim), the last Vehicle Dust counter it placed will be removed at the start of that next friendly PFPh (along with white Dispersed smoke A24.4); however, if it ends its MPh in Motion, that Dust counter will be removed immediately upon the vehicle's initial MP expenditure in its next MPh (unless it is destroyed/stunned/shocked/immobilized in the meantime, in which case that Dust counter will be removed at the start of the next friendly PFPh)*

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194.741 PLATOON/CONVOY MOVEMENT: When using platoon/convoy movement, Vehicle Dust is placed/shifted only at the end of each Impulse before Defensive/Bounding First Fire attacks.

194.75 FFE DUST: Whenever Light Dust can exist (as per the conditions given in 194.71), the following changes occur to a FFE LOS Hindrance (194.8):

- •   That of an HE Concentration becomes +1 per hex of the Blast Area;
- •   That of a Harassing Fire FFE generates a normal FFE Hindrance DRM (i.e., as per 194.8) in all the hexes of its Blast Area;
- •   Wind-Force/Gusts have no effect on FFE Dust.

194.76 WIND & GUSTS: [Note: these rules are applicable only when Heavy Dust can occur (as per the conditions given in 194.73).] Wind-Force/Gusts can cause Dust and can also increase or decrease its density; any such change occurs immediately upon making the Wind Change DR. In each Player Turn that Heavy Winds and Gusts are in effect, the Dust density increases one level; if both of these conditions are in effect for successive Player Turns, this increase is cumulative per Player Turn. Whenever Heavy-Winds/Gusts cease to be in effect, the Dust density decreases one level. No other Wind/Gust occurrence affects Dust density.

> *EX: Assume a scenario that uses only Desert Boards begins with Dry EC, a Mild Breeze and no Dust. The first Wind Change DR causes Gusts—but this will not create Dust. On the second Wind Change DR, the Gusts cease but Heavy Winds occur; still there is no Dust. However, the third Wind Change DR causes Gusts again; now Light Dust is in effect (due to the presence of Heavy Winds and Gusts). If the fourth Wind Change DR causes Gusts yet again, the Dust density will increase to Moderate (due to Gusts being in effect for two successive Player turns). If the fifth Wind Change DR ends the Heavy Winds or the Gusts, or both, the Moderate Dust becomes Light—but will not be further reduced in density by the sixth Wind Change DR (unless rain occurs).*

194.761 HEAVY WIND: During any level of Dust density (194.71-.732), an attack *[EXC: Aerial Ground Support]* directly into Heavy Wind vs. a target in another hex (even if PBF applies) incurs an extra +1 DLV Hindrance DRM. "Directly into" is defined as occurring when the LOS/LOF, as it exits the firer's (or Spotter's/Observer's) hex, crosses or lies along a hexside of the adjacent hex that lies directly upwind from the firer's (or Spotter's/Observer's) hex—i.e., the adjacent hex that corresponds to a -1 on the Wind Direction counter.

194.77 RAIN: Whenever rain commences, all forms of Dust instantly cease to exist, and none can occur again for the remainder of the scenario.

194.78 NIGHT: The current level of Dust density (194.71-.732) reduces the ability of Starshell, IR and Blazes to illuminate Locations as follows:

- •   *Light/Moderate (only):* a Starshell illuminates its own hex and all others within two hexes; an IR illuminates its own hex and all others within four hexes; a Blaze is unaffected.
- •   *Heavy:* a Starshell Illuminates its own hex and all adjacent hexes; an IR Illuminates its own hex and all others within two hexes; the Illuminated Zone of a Blaze equals the number of Blazing non-rooftop levels in the hex.
- •   *Very Heavy:* a Starshell Illuminates no hexes and an IR Illuminates only its own hex; a Blaze is treated the same as it is for Heavy Dust.

194.79 MISCELLANEOUS: Dust's effects (if any) on other aspects of play are given below.

194.791 OBA ACCURACY: Like other Hindrance types, all DLV DRM can apply as drm to OBA Accuracy dr (SQL 46.21), based on the (Offboard) Observer's LOS. *[EXC: neither Sun Blindness (194.61) nor Heavy-Wind-and-Dust (194.761) affects the LOS from an Observation Plane (E7.6). See also 194.623-.624.]*

194.792 IN BUILDING: Neither DLV or Vehicle/FFE Dust affect a LOS that lies entirely within the same building.

194.793 AERIAL: Any type(s)/level(s) of Dust adds only a total +1 DRM to AA Aerial Observation Sighting DR (GIA 150) but, except as specified otherwise, all types/levels add cumulative DRM to attacks by / vs. Aerial units.

194.794 CC: Dust, regardless of type(s)/level(s), has no effect on CC attacks *[EXC: Heavy (or denser) Dust negates MOG; 194.73-.732]*.

194.8 MUD: When Mud exists (as per the Arid Weather Chart or SSR) in a scenario set in an Arid Land (194.2) using only Desert Board(s), the normal method of determining its effects on Bog (176.8) is used, but only Open Ground *[EXC: not scrub, hammada or sand]* hexes Accessible to hammada count as hexes entered for purposes of the Bog DR. Such Open Ground hexes cannot cause Hammada Immobilization (though 186.15 still applies for motorcycles). The possibility of Bog is negated only by the use of a paved road in the hex. If Broken/Steppe Terrain (196.1-.2) is in effect and/or non-Desert Board(s) being used, COI 75.8 or GIA 144.82 (depending on the level of rules in play at the time) applies in the normal manner in lieu of 194.8.

196 ALTERNATE TERRAIN TYPES

196.1 BROKEN TERRAIN: If a SSR specifies that Broken Terrain exists on a Desert Board, all scrub becomes brush while all hammada hexes become crag hexes that are also Half-Level Obstacles (thus affecting LOS just like rubble [58.3]). In addition, each non-Depression Open Ground,

[EXC: not scrub, hammada or sand] hex Accessible to a hammada (now crag) hex becomes a Broken Ground hex; i.e., it is treated as Concealment Terrain with a +1 TEM (but is neither an obstacle nor a Hindrance to LOS), uses doubled Open Ground MF/MP costs, and becomes a Bog hex for all vehicles *[EXC 186.15 still applies for motorcycles]*. In all other respects the board is still considered a Desert Board *[EXC: 176.2, 176.3, and 194.8 do not apply]* and overlays may be used on it.

196.2 STEPPE TERRAIN: If a SSR specifies that Steppe Terrain exists on a Desert Board, all hammada becomes brush and all scrub becomes woods. In addition, Desert LV (*194.6*) *[EXC: not (Intense) Heat Haze; 194.62-.624]*, Vehicle Dust (194.74) and FFE Dust (*194.75*) can apply but only if EC are Very Dry. Lastly, Sand overlays may be used to represent grain fields. In all other respects the board is still considered a Desert Board *[EXC: 176.2-176.3 and 194.8 do not apply]* and other overlays may be used on it. (Wadi's and gullies would be considered wadis.) See also 194.1.
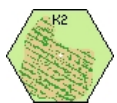
196.3 CACTUS HEDGE: A SSR may specify that wall/hedges are cactus hedges. All hedge rules apply to such hexsides - except that Infantry may cross one only during the MPh by expending all of their MF's in the hex occupied prior to crossing the cactus hedge. Place a TI counter (-2 hazardous movement) on the units attempting to move across the cactus hedge. If the units are still in Good Order (ie not broken, locked in melee, etc) at the beginning of their *next* Movement phase, they may then remove the TI counter and again must spend all of their MF's and cross the cactus hedge. Units crossing a cactus hedge may not carry more SW's than there normal PP capacity allows them to. Cavalry, Horses and Wagons may not cross a cactus hedge at all.

196.4 CACTUS PATCH: A SSR may specify that orchard hexes are cactus patch hexes instead. All orchard rules apply to such hexes, except that a cactus patch is a Half-Level Obstacle (thus affecting LOS just like rubble), has a +1 TEM, has Kindling and Spreading fire numbers of 12 and 10 respectively, its MF/MP costs are triple those of an orchard, and it is never out of season.

196.5 OLIVE GROVE: A SSR may specify that orchard hexes are olive grove hexes instead. All orchard rules apply to such hexes, except that an olive grove also has a +1 TEM, its MF/MP costs are double those of an orchard, and it is never out of season.

196.6 VINEYARD: A SSR may specify brush (or some other terrain) as being a vineyard. A vineyard hex is treated exactly the same as brush and a Bog hex. No boards contain these terrain features and must be placed on the board using the VSQL Terrain Overlays or Board Editor features.

196.7 PALM TREES: Same rules as Orchards. No boards contain these terrain features and must be placed on the board using the VSQL Terrain Overlays or Board Editor features. Will usually be found near an oasis, desert town/village, and less arid areas of the North Africa coastline.

196.7 INHERENT TERRAIN: Certain terrain depictions (i.e., orchard, crag, graveyard, shellholes, etc.) and counter contents of a hex (i.e., SMOKE, rubble, etc) *[EXC: Bypass AFV/Wreck (COD 132)]* identify the entire hex (exclusive of hexsides) as having the characteristics of that terrain type. It is not necessary that a LOS actually crosses such a symbol within the hex to be affected - mere **entrance** of the hex (even if only to trace a LOS to or through a vertex of such a hex) *[EXC: a LOS traced exactly along one of its hexsides does NOT suffice unless that LOS passes BETWEEN two such hexes containing Inherent Terrain]*. A LOS traced exactly along such a hexside is considered to have passed through only one such hex - not two - if that hexside is shared by another LOS Hindrance hex *[such as Smoke in two adjoining hexes in which the LOS passes between the two Smoke filled hexes]*. If the Hindrance DRM of two such hexes differs, the larger of the two DRM is used.

142.2 *ADVANCE PHASE: [ADD:]*

142.23 Advance *vs.* **DIFFICULT TERRAIN:** An advance into any hex whose MF cost (excluding SMOKE) is ≥ four MF or all of a unit's available non-Double Time MF allotment (whichever is less) may not be made if the unit is already CX *[EXC: Climbing, Deep Stream Entry]*; otherwise it may advance but becomes CX in the process. In no case may a unit advance if it retains no MF after deducting for portage costs.

[EX: A Russian squad carrying five PP has only two MF and therefore must become CX to advance into a hex requiring two MF to enter during the MPh (unless it is accompanied by a leader who adds two MF and one IPC to the squad; thereby leaving it with five MF)]

55.8 KNOWN MINEFIELDS: Due to the often mobile nature of the war in North Africa, minefields were usually well marked so friendly troops would not accidentally enter them. Hence, special minefield counters have been included in this module. These are termed Known Minefield counters, and treated as normal mines except as specified otherwise. Known Minefield counters have the normal depiction on the front but list no attack strength; the reverse side has the same but with the strength shown. When Known Minefields are called for in any scenario, during his setup the owner places the desired number of these counters onboard (with their strength-side down). Once the strength of such a counter has been revealed, it is flipped over. Known Minefield counters may represent minefields previously discovered by reconnaissance or in a previous engagement; therefore, Known Minefields are set up onboard even in night scenarios. If a Known Minefield counter has its strength reduced or eliminated by OBA/Bomb attack, that counter is replaced by one having the appropriate new strength (or by a Dummy Minefield counter [55.82] if its strength was eliminated); if its strength was unrevealed at the time, its new strength remains unrevealed. Known Minefield factors may not be exchanged for booby trap capability, nor may Known A-P mines be exchanged for any type of A-T mines or vice-versa. The use of Known mines is not restricted to any type of board/scenario. Known minefield factors have the same BPV as hidden mines, and are indicated on the DYP Purchase Roster by adding "Kn" in the "TYPE" column of "Fortifications" section where the purchase was recorded.

EX: A player whose OB contains 24 Known minefield factors may set up two Known Minefield counters with 12 factors each, or three of 8 factors each, or four with 6 factors each, or two with 6 factors each plus one with 12 factors, etc.

55.81 A second type of Known Minefield counter contains an arrow. Whenever a player wishes to have a multi-hex Known minefield along a Hex Grain (or Alternate Hex Grain), he may place two such counters along it with the arrow on each counter pointing towards the other in the same manner as if they were Barrage counters, but with no limit tot he number of hexes allowed between them. Such placement indicates that each hex between (and inclusive of) them along that (Alternate) Hex Grain contains a Known minefield. The type(s) and strength(s) of mines (if any; 55.82) in each such hex must still be recorded. A hex containing Known mines can incorporate only one A-P/A-T minefield, regardless of how many multi-hex Known minefields that hex is part of.

55.82 DUMMY MINEFIELDS: Some Known Minefield counters have "Dummy" printed on their reverse side in lieu of a FP factor, thus representing Dummy minefields. When the opponent discovers that it is a Dummy (which must be announced when any ground unit enters, or successfully Searches/Scouts, its Location), simply remove it from play *[EXC: if an un-mined hex is thusly discovered in a minefield laid out as per 55.81, mark that hex with a Dummy Minefield counter]*. A Dummy minefield is unaffected by a K/KIA resulting from bomb/OBA attack. The number that may appear beneath a Dummy Minefield counter depiction in a printed scenario OB represents the number of Dummy counters allotted. In a scenario that does not allot Dummy minefields (which includes all DYO scenarios), a play may add (at no extra BPV cost) one Dummy Minefield counter to his OB for every 24 Known minefield factors he sets up. In addition, in any scenario in which a player has received ≥ one Dummy Minefield counter, he may make a Secret dr (halved; FRD) and receives an additional number of Dummy mine counters equal to that result.

55.83 HIDDEN MINES: Known Minefield counters may also be used to mark

hexes containing hidden mines whose presence (but not strength) is discovered by either Searching/Scouting or by a unit's being subjected to a mine attack DR therein. In addition, any "normal" Minefield counter is considered to indicate the presence of Known mines when placed onboard. Normal mines may not be otherwise exchanged for or converted to Known Mines.

NOTES:

1. *ENTRENCHING:* In many areas of the desert solid bedrock of limestone lies a few inches beneath the surface. In such ground a man was lucky if he could dig even a "slit trench", which was a shallow excavation in which to lie prone. The construction of deep entrenchments almost always required drilling and blasting equipment; hence such fortifications were rarely found in hastily organized positions.

2. *OPEN GROUND:* The northern stretches of the Sahara Desert are not, for the most part, vast areas of rolling sand dunes but rather an extremely flat, barren and stony waste, with no cover for miles at a time save for the occasional slight undulation unnoticed to any but the trained eye. Of course, other types of terrain do exist there—some of which are enlarged upon in Chapter F—but generally the panorama was so devoid of landmarks that units could become lost quite easily, and so relied heavily on navigation by the sun and stars.

3. *SCRUB:* Scrub represents the camel thorn bush, which grows in the North African desert. Since it rarely attains a height of even two feet it offers little in the way of cover (which is why it doesn't negate FFMO), but it can aid in the camouflage of positions. It also imparts a jolting ride to the occupants of vehicles, forcing them to greatly reduce their speed.

4. *HAMMADA:* Hammada is a type of desert terrain whose surface is strewn with loose rocks and stones. It reduced the speed of vehicles to a crawl and severely punished their tires and suspensions, while increasing the fragmentation effect of exploding shells, thus providing an extra danger to infantry and soft-skinned vehicles in the vicinity.

5. *HAMMADA IMMOBILIZATION:* Trucks of British design had several advantages in the desert, one of which was the use of a single tire per side on their rear axles. Double tires (i.e., two tires side by side per axle) frequently trapped rocks between them, leading eventually to a puncture. Moreover, even normal desert terrain rapidly ruined tires due to the many cuts and gouges they sustained from the stony surface. Hence, the ability of hammada to cause immobilization is not an entirely literal representation of this terrain type; to a certain extent it is a game mechanism intended to randomly show some of the desert's deleterious effects by providing a possibility of unexpected breakdowns.

6. *DEIRS:* This terrain feature is an area of ground slightly lower than the surrounding terrain. A deir in the game is not a marked concavity in the landscape but rather an inconspicuous indentation—albeit one that could provide a welcome degree of protection if the enemy were not too near or at a higher elevation. The Lip is more a tool of the game than an easily identifiable terrain feature.

7. *WADIS:* Wadis are similar to gullies but, being formed by the rushing waters of winter's downpours, are more prone to have vertical, cliff-like sides. In some spots however, they slope up to ground level less abruptly and could provide excellent hull down positions. The wadis on board 25 represent eroded ravines gouged into the sides of the djebel (mountain).

8. *VEHICLE EXITING CREST STATUS:* Exiting directly to a different hex incurs no cost for leaving the wadi hex because that was either paid as the vehicle ascended the wadi to gain Crest status, or did not apply due to the vehicle's never having been IN the wadi (since it entered Crest status directly from another hex).

9. *VEHICLE EXITING CREST STATUS:* Exiting by moving INTO its present hex incurs no expenditure for COT because that was paid either when the vehicle originally moved INTO the wadi (i.e., prior to assuming Crest status) or when it entered Crest status directly from another hex.

10. *HILLOCKS:* A desert hillock was usually not much more than a swell in the flatness of the landscape, and was sometimes referred to by the British as a "pimple". It could provide vital cover and power of observation; hence the presence of one could dominate a tactical situation. A hillock has no Crest Line, and costs less to ascend than a hill, because its slope is so slight in comparison.

11. *HILLOCK LOS:* While the rules for hillock LOS might look intimidating, don't despair. An easy way to visualize their general effects when attempting to see "past" one is to picture it as a very thick wall. Hence a non-entrenched/Emplaced unit adjacent to a hillock "wall" can see past it to those hexes directly behind the next hillock "wall", but if not thusly adjacent to it the unit can see past it only to those hexes immediately "behind" it. The exceptions to this are: units at > the height of a hillock treat all hillocks at that elevation as flat ground (due to their low height and lack of significant slope); units on a hillock treat it and the next (only) hillock along their LOS as flat ground; and entrenched/Emplaced units directly behind a hillock cannot see past it to = their own elevation. The latter is not meant to imply that entrenched units are somehow lower than those who are prone; it's simply an abstracted way of enabling units to adopt a reverse-slope defense, which was commonly done to keep from being seen by the enemy until he was at close range. Obviously, if troops wished to dig in where they had a more commanding view, they would do so higher up on the hillock.

12. *SAND:* A sure way to add to one's problems in the desert was to drive through an area of soft sand. Not only would precious fuel be consumed at a much higher rate, but also bogging down in it became a distinct possibility. Sandy areas—even when level—were usually identifiable by experienced drivers, but occasionally the sand's surface was baked into a crust that was virtually indistinguishable from hard ground; such a trap could fool even the most veteran driver.

13. *BOGGING IN SAND:* British-built trucks were less prone to bogging down in sand because they were usually fitted with specially designed desert tires. Such tires were not available to the U.S. Army until after the North African campaign had ended. The Italians built several types of vehicles specifically for use in the sands of the Sahara (one was even designed to exert the same ground pressure as a camel), but most were used only as artillery prime movers. That British trucks had superior mobility in sand was even attested to by Rommel, who at one point directed that all trucks used on recon missions should be captured British types "because ours stick in the sand too often".

14. *SANGARS:* In the desert, proper entrenchments and trench systems could rarely be just "dug"; usually they needed to be cut, drilled and/or blasted out of the rocky limestone ground. When the specialized equipment or necessary time for this was lacking, defenses of a more improvised nature were constructed. Known as sangars (a Pushtu word for stone-built breastworks), these consisted of rocks, gathered from wherever they could be found, piled into a low circular wall. Though less than ideal cover, sangars were infinitely preferable to being "naked" in the open desert.

15. *TRACKS:* Desert tracks were trails used by the Bedouin. They cannot by any stretch of the imagination be considered the equal of roads. In fact, trails that were frequently traveled became thoroughly rutted and covered with fine powdery dust a foot or more deep; consequently they were usually avoided, with vehicles instead moving parallel to them at a distance.

16. *TIME OF DAY:* Desert assaults were sometimes coordinated to come "out of the sun" when it was just above the horizon, using its blinding brightness as "cover" for the attack. Alternatively, as the sun rose, the heat reflected from the desert's surface created a shimmering heat haze that could make target recognition almost impossible at a distance. Heat haze tended to shrink in apparent size anything that was at or just above ground level, while taller objects appeared greatly increased in height and seemed to dance about in midair.

17. *EARLY MORNING MIST:* In the winter night, the near-freezing temperature caused dew to form. The next morning a thick mist often formed as the sun evaporated it again. This could happen even in the summertime under the proper environmental conditions, but since this was a much less frequent occurrence it has been ignored.

18. *DUST:* Moving vehicles, artillery bombardment, bombing, the weather, and other factors could all distinctly impair visibility during a desert battle by creating a ubiquitous pall of dust. In fact, dust was probably the single most effective type of "cover" available in that theater. Vehicles fleeing from the enemy often escaped destruction thanks to the dust they raised, which effectively acted as a smoke screen. A mass of moving vehicles, or a heavy artillery bombardment could reduce visibility in the affected area to fifty yards or less.

19. *SUBSEQUENT dr:* Players will probably find it more convenient to instead add a third, different-colored die to this TH/IFT DR, using it to determine the Dust DRM. The familiar term "subsequent dr" was used in the rule because it obviates the need to explain a "new" concept—i.e., that of rolling a third die simultaneously.

20. *VEHICLE DUST:* In effect, the Dust counter "follows" the vehicle as it moves from hex to hex (provided it expends = two MP each time it does so).

21. *WIND vs. DUST:* Another wind-related aspect of the North African environment is the desert sandstorm, or khamsin in Arabic. This Module ("***North Africa***") includes no special rules for it because, with visibility cut by the storm to as little as three yards, all activities generally were reduced to seeking cover from the sandblasting wind and choking dust. However, the game does not ignore the possibility of a khamsin's occurrence. The proper combination of Weather, EC, Wind and Gusts in a DYO scenario can create its effects, and the probability of its occurrence is greatest in a scenario set in spring or summer—the time when khamsins occurred most frequently.

22. *ESCARPMENT:* The famous North African escarpments are similar to cliffs, but with less steep (and very eroded) slopes. Some are six hundred feet high, though generally their heights range from one hundred to two hundred feet. Their significance in the desert war lay mainly in that they were commanding heights, provided good defensive positions for infantry, and greatly restricted vehicular movement across them. Hence they were often the scenes of heavy fighting, especially where crossed by a road or vehicular accessible track.

23. ARMOURED ASSAULT: Infantry may take advantage of the +1 TEM afforded by a friendly AFV in the same hex to move in a combined stack with that AFV, provided they begin their MPh beneath that AFV. If Infantry move in a stack with the AFV, that AFV cannot move farther than if it were accompanied by that same Infantry through the entire move - even if that Infantry fails to end its MPh in the same hex with the AFV. Infantry moving with an AFV across otherwise Open Ground is not subject to the -2 MOG penalty *(-1 Movement Penalty in GIA [142.7] but is subject to the –1 Non-Assault Movement (NAM) penalty [142.71], unless Assault Movement is declared)* and +1 for the AFV for a combined DRM of –1 (0 if using NAM). A Stopped AFV continues to provide the +1 TEM during the DFPh to the units that moved with it.

24. HINDRANCE LEVEL: In the course of relating LOS rules, the word "through" will be used only in relation to a LOS that is actually traced through that terrain type at an elevation wherein the terrain has some effect. Tracing a LOS over a terrain type such that the terrain type has no effect is assumed to be understood and therefore is not continually referred to. Similarly, any wreck, AFV, or LOS Hindrance in a Blind Hex does not affect a LOS over that Blind Hex to a target beyond unless the Hindrance is of such height (SMOKE) to be able to affect a LOS over that hex.

197 THE ITALIANS

Italy was a country woefully unprepared for the total war into which her leaders cast her. Despite a serious lack of raw materials, inadequate heavy industry, an unprepared military, and a less than fervently bellicose population, Mussolini and his cohorts deemed it necessary to forge ahead with their new Roman Empire before Hitler had conquered everything worth ruling – a tragic miscalculation. The Italian soldier has been much maligned for his lack of fighting spirit and tendency to surrender en masse, but it must be remembered that his training was generally sparse, his equipment poor, his officers insulated by class and tradition, and his will weakened by lack of conviction. The Italian soldier fought bravely when well led and equipped but usually one or the other (if not both) of these factors were lacking. Elite squads should generally be used only in scenarios recreating actions of the Grenadiers of Sardinia, the Folgore or Julia Divisions, the Alpini, or the San Marco Marines. Bersaglieri formed the full infantry complement (one regiment) of the armored divisions and one regiment of each motorized and cavalry division, and v ere also used in the recon role in these divisions. The 3-3-6 squads represent Colonial troops and Blackshirts. Colonial troops were merely native levies trained and armed only for tribal warfare, unaccustomed to maneuver, with mostly Italian officers. Due to its need for manpower, the Army, grudgingly accepted the Fascist Militia, "or Blackshirts", as fighting forces. They were summarily trained and only lightly armed. Blackshirts were usually assigned on the basis of one Legion (two weak battalions) per division, from 1940 on.

197.1 *Support Weapons & Ordnance:* Except for ATR's and MG's all Italian ordnance uses the red To Hit Numbers.

197.2 Infantry:

(GIA Counters)   **(COD counters)**

197.21 ELITE: 4-4-7 squads, their 2-4-7 HS, and 2-2-7 crews are the only elite Italian MMC. Only elite Italian squads may deploy (GIA). (A 4-4-7 that suffers ELR failure is replaced by a 3-4-6).

(GIA Counters)   **(COD counters)**

197.23 1ˢᵗ LINE: The 3-4-7 squads represent the Bersaglieri, which were light infantry transported by trucks, motorcycles, or bicycles. [In GIA: a Conscript squad, not a lower quality 1st Line squad, replaces a 3-4-7 that suffers an ELR failure, while a Conscript squad that Battle Hardens becomes a 3-4-6.]

(GIA Counters)   **(COD counters)**

197.24 2ⁿᵈ Line and Conscripts: 2ⁿᵈ Line Italian units are considered to be substandard reservists recently called up. Conscripts are hastily prepared troops; therefore, all rules covering Inexperienced Infantry [94] apply to Italian Conscripts.

197.25 Civilian Partisans: These units are only available by SSR. They have NO broken side. If called upon to pass an IFT generated MC and fail, they are removed from play.
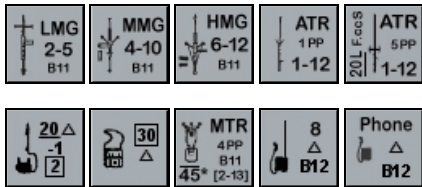
197.3 SURRENDER: The +1 CC DRM for a capture attempt does not apply vs. non-elite Italian defenders. Once captured, no Italian unit will attempt escape (GIA).

197.4 *PAAMC:* Whenever required to take a PAAMC all *non-elite* Italian troops (including Inexperienced units) must pass a 1PAAMC rather than a normal PAAMC.
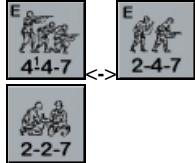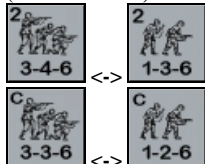
198 AXIS MINORS

198.1 AXIS MINORS: The Rumanian, Hungarian, Slovakian, and Bulgarian troops that composed Germany's Minor Allies were neither well equipped, nor particularly ardent practitioners of Hitler's war. As such the broken Morale Level of all such squads is one less than their normal Morale Level *(EXC: elite sejwads)*. Hungarians fighting in Hungary should be represented by elite squads.

198.2 PAAMC: Non-elite Axis Minor troops (including Inexperienced units) must always pass a 1PAAMC rather than a normal PAAMC whenever called upon to take a PAAMC.

Introduction:

In the late 1930s the Italian Army officially committed itself to a program of mechanization, believing that if so equipped it could win swift and decisive victories, thereby avoiding the sta1emates and appalling casualties of the Great War. Unfortunately for those ultimately involved in the impending conflict. The implementation of this program was severely impeded by a number of factors. Among these were a basic lack of raw materials, a relatively small industrial base with 1ittle experience in AFV design, a general lack of funds due to the financial stringencies of the 1930s, and the conservatism of certain high-ranking officers and officials. In the autumn of 1939 the army possessed about 1,500 "tanks," but the overwhelming majority of them were marginally useful L3 tankettes. When Mussolini declared war in June l940, his army was far from ready. Its total number had increased only to some 1,660, while the army's rapid expansion had created widespread equipment shortages in crucial areas 1ike motor transport to items as mundane as he1mets. Moreover. The approximately 11,700 infantry, artillery and AA guns of = 65mm in service included less then 250 modern (i.e. 1930s-era) pieces – the newest of the remainder being World War One veterans.

The small Italian armaments industry could not, in view of everything working against it, provide prodigious numbers of AFVs. From June l940 to August l943 it produced only about 3,300 tanks, SP guns and armored cars. The highest monthly total wag but 170 vehic1es, of which 65 were medium tanks. There wag some discussion with the Germans of building the PzKpfw III, IV and V in Italy – but this withered on the vine for a number of reasons, including the opposition of several high Italian officials end industrialists.

Italian AFVs were characterized by their lightweight, generally low horsepower-to-weight ratio and thin armor (the 1atter a policy resulting at least in part from the constant shortage of funds and raw materials). The armor plate was of poor quality, tending to crack and split when hit, and was attached by rivets, which further diminished its overall integrity while increasing the danger to the crew inside. The design of new and radically better tanks was not accorded a high priority, due to both military conservatism and the lost production that extensive retooling would cause. Even so, Mussolini (who, unlike Hitler, neither fully understood the correct priorities in tank design nor took much interest in such matters) had to order the development of a tank with a 75mm gun (the P26/40), as the army saw no need for one. Yet, despite the absence in the field of more combat-effective tanks and SP guns until nearly the end, Italian AFV crews continued to fight bravely in their obsolete vehicles even when hopelessly outmatched.

At the start of the war, the nomenclature for Italian tracked AFVs followed the format "X 0/0". The letter classed the vehicle as 1ight (L; = 5 tons), medium (M; > 5 but < 15 tons) or heavy (P; = 15 tons). The first number indicated the design weight in tons, and the second the year of acceptance.

[Note: All Allied Italian combat formations were re-equipped by the British in early 1945, therefore, for DYO scenarios set in that year, the Allied Italian player may purchase British SC/LRC/APC/PC/trucks (only; as per their "Type" in the Listing) as if the OB were British. Treat such vehicles as non-Captured.]
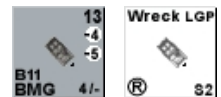
1. L5/21 & L5/30: Also known respectively as the Fiat 3000 A Model 1921 and Fiat 3000 9 Model 1930, these were Italy's first series-produced tanks. They were based on the French Renault FT-17 but incorporated numerous improvements. (Indeed, the 3000 A was the fastest tank in the world in 1921.) The L5/21 carried two coaxially mounted 8 mm MG, as did some of the L5/30; however most L5/30 carried a medium-velocity 37mm gun and were intended as platoon and company command tanks. Approximately a total of 100 L5/2l and L5/30 were built. The Italians referred to them officially as assault tanks (carri d'assalto) and until mid 1939 considered them first-line AFV. The L5/21 was first used in 1926 against the Senussi in Libya. The L5 saw action in 1936 during the conquest of Ethiopia, and in June 1940 a few apparently participated in attacks along the French-Italian border in the Moncenisio region.

There were Two L5 companies, each had nine tanks, in Sicily when the allies landed there; one, in XII Corps, was deployed dug-in as a pillbox, while the other, in XVI Corps, was destroyed in the counterattack on Geia. An L5 platoon comprised four tanks.

† The availability for WWII scenarios is limited to 6/40 (France) and 7/43 (Sicily).
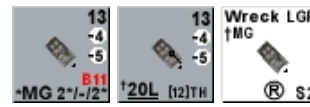
See also Italian Vehicle Note A.

2. L3/35: Derived from the British Carden-Loyd Mk Vl tankette, this AFV first appeared in 1933. The original model, designated the CV 33 (*Carro Veloce*; fast tank), carried a single 6.5mm MG, but later versions were equipped with two tandem-mounted 8 mm MG (and the older models were retrofitted). In 1935 the CV 35 went into productions featuring a number of minor modifications (but both types are equivalent in game terms). In 1938 their designations were changed to L3/33 and L3/35. When Italy entered the war in June 1940, the L3 were by far the most common Italian AFV, equipping all but two of the

tank battalions in the three Italian armored divisions. The tank battalion allotted to each motorized division, the light tank squadron group (equivalent to a battalion) in each *Celere* ("rapid"; i.e., cavalry) division, and numerous independent tank battalions. The L3 acquired several nicknames, among which were "Scatoletta" (little can) and "Cassa da Morto" (death box). Between 2,000 and 2,500 (including 411 variants) were built, A platoon comprised four vehicles.

L3 were used at one time or another almost everywhere Italian units fought: 10/35-4/36 in the conquest of Ethiopia; 2/37-3/39 in Spain (149 were sent), in the Balkans from l939; 6/40 in France; in North Africa (where in June 1940 about 320 were present, constituting all the armor there at that timed); in Italian East Africa (39 were present in June 1940): 9/41-1/42 in Russia (with the 3rd "San Giorgio" Gruppo Squadroni Carri L of the 3rd Celere Division); 7-8/43 in Sicily; and in Italy where after the 9/43 armistice they were used by Italian Fascists and the Germans. The Greeks, Hungarians, and Chinese used imported L3's during the 1930s in combat. In the Balkans, the Germans, Croatians and Yugoslavians used capture/seized L3's.

† Dates and RF for use in North Africa are 6-12/40 (.9), 1/1 (1.1), 2/41 (1.2), 3/41 (1.4), 4-11/41 (1.2), 12/41 (1.4), 1/42 (1.5), and 2/42 (1.6). For East Africa they are 7/40-1/41 (1.3), 2-3/41 (1.4), and 4-6/41 (1.5). For Russia they are 9-10/41 (1.2), 11/41 (1.3), 12/41 (1.4), and 1/42 (1.5). For Sicily they are 7-8/43 (l.4). For Italy they are 9/43 (1.2), and 44-5/45 (l.3; Fascist use only). For France they are 6/40 (1.1). For the Balkans they are 10/40-4/41 (.9), 5/41-9/43 (l.1), and 44-5/45 (1.3; Fascist use only).

See also Italian Vehicle Notes A, B, E, N, and R.

3. L3 aa: Some L3 were equipped with an AA Mount on the superstructure roof in front of the commander-gunner's hatch. One of the AFV'S MG could be moved to this mount, giving the vehicle a limited AA capability. Apparently not many were so equipped.
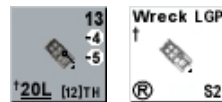
† Either MG may be used as the MA. However. The BMG may not be used while the crew is CE, and the AAMG may fire only at a target that lies within the L3 aa VCA. These are signified on the counter by the MA as "MG", by "BMG: CE FP NA", and by "AAMG: VCA Only".

† If this AFV is marked with one or more Malfunction/Disabled counters; the owning player may in effect switch the positions of its two MG. He may do this by marking the AFV with a TI counter at the start of its MPh provided it has neither fired nor expended MP in the current player turn, is neither in Motion nor Melee, and its Inherent crew is or becomes CE. If all these conditions are still met during the APh, he may then exchange the Malfunction/Disabled counter of one MG for the other. EX: Assume an L3 has a malfunctioned AAMG. If the above mentioned rules are followed, and the conditions are still being met in the APh, its owning player may at that time remove the AAMG Malfunction counter and replace it with a BMG Malfunction counter.

† RF is always .4 higher (1.6 maximum) than the corresponding (for date and area) RF of the L3/35.

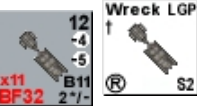See also Italian Vehicle Notes C, E, F, N, and R.

4. L3 cc: During the early months of the war a small number of L3 in Libya were modified by replacing their MG with a Solothurn 20mm ATR. This combination enhanced not only the AFV'S A-T capability, but also the mobility of the ATR and its crew's survivability as well. Apparently all the L3 cc was lost during the course of Operation Compass, the British counteroffensive of l2/40-2/41.

† RF is 1.5 in 1940 and l.6 in 1941.

See also Italian Vehicle Notes E, J, and N.

5. L3 Lf: Development of a flame-thrower variant of the L3 (Lanciafiamme) began in 1935. The flame nozzle replaced one of the AFV's MG and the FT fuel was carried in a lightly armored trailer. The design of the trailer was less than satisfactory however, and before long new versions of the L3 Lf appeared with the FT fuel carried in a shallow, box-shaped tank above the engine compartment. (But apparently not many of the new types saw action.) The L3 Lf first saw combat during April 1936, in Ethiopia, It was used in the Spanish Civil War, and later in France, the Balkan's, North Africa and Italian East Africa. Examples of the L3 Lf remained in service after 1941 bad apparently did not see significant combat again. Each L3 battalion was authorized one flamethrower platoon (of four L3 Lf) per L3 Company; however, the cavalry's squadron groups did use the FT version. It is not known how many L3 Lf were built, but in was the most numerous L3 variant. One example of the trailered version captured by the British was sent to England for evaluation, and probably was the inspiration for the Churchill Crocodile.

† "B11" applies to the BMG; "X11" applies to the FT.

† The trailer's AF is "0". It may be voluntarily disconnected (unhooked) only it the start of its MPh - but only if the AFV is in neither Motion nor in Melee, has not

fired in the preceding PFPh, and its Inherent crew is/becomes CE. Under these conditions, unhooking is accomplished by declaring such, expending six MP in the hex as if it were moving, then exchanging the L3 Lf counter for an L3 aa marked with an AAMG Disabled counter; the AFV may then complete its MPh.

† Dates for use in France are 6/40, for North Africa 6/40-41, for East Africa 7/40-6/41, and for the Balkans 10/40-4/41. RF is always .3 higher (1.6 maximum) than the corresponding (for dates and area) RF of the L3/35.

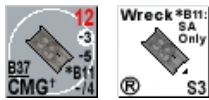See also Italian Vehicle Notes E, N.

6. L6/40: designed to replace the L3 in its cavalry and reconnaissance roles, the L6 was based on a much-modified L3 chassis, retaining the latter's two-man crew while providing increased firepower, protection and mobility. It was accepted for service in early 1940, though even in 1939 it would have been a barely adequate recon tank. By the time it went into general use in 1942 it was hopelessly obsolete, so after 283 had been built its production was cancelled in favor of the Semovente L40 47/32. A flamethrower version of the L6/40 was developed but did not enter service.

L6/40 were authorized in the RECo (Raggruppamento Esplorante Corazzato; armored reconnaissance task force) in the armored and motorized divisions and were also used in several independent recon units. A total of 72 were sent to North Africa. 55 went to Russia where they equipped the LXVII Battaglione Motocorazzato Bersaglieri in the Third Celere Division; they were the heaviest Italian tracked AFV used on that front. In Yugoslavia, the "San Giusto" Gruppo Squadroni Carri L of the 1st Celere Division employed L6/40. Some saw combat in Italy during September 1943, and later were used there by Italian Fascists and the Germans. The Germans also used them in the Balkans, but most of the seized vehicles were exported to Croatia. The Yugoslav partisan's also used a small number of captured L6. In Italian use an L6/40 platoon comprised four AFV.

† Dates and RF for use in North Africa are 12/41-6/42 (l.6), 7-9/42 (1.4) 10-11/42 (l5), l2/42-l/43 (1.6) and 2-5/43 (1.5). For Russia they are 2-6/42 (1.3), 7-8/42 (1.2), and 9-12/42 (1.3). For Yugoslavia they are 4/41 (1.3) and 5/41-9/43 (1.5). For Italy they are 9/43 (1.3), and 44-5/45 (1.4) Fascist use only).

See also Italian vehicle Notes N, R.

7. M11/39: This tank carried a small turret with two 8mm MG, plus a medium-velocity 37mm gun in the right-front superstructure. It was intended to be the standard tank in the armored divisions' medium tank battalions, but the positioning of the gun in a limited traverse mount proved shortsighted and soon the idea of a tank with a proper turret-mounted gun gained favor. As a result, only 100 were built. 24 were sent to Italian East Africa where, as the Medium Tank Special Company (*Compagnia Speciale Carri M*) they served in the East African armored task Force (*Raggruppamento Corazzato Africa Orientale*). Another 70, comprising the I and II Medium Tank Battalions (*Battaglione Carri M*), were sent to Libya in the summer of 1940 -- but by early February 194l all 70 had been destroyed or captured by the British. Four tanks made up in an M11/39 platoon.
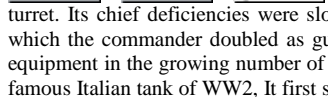
† "B11" applies only to the 37 SA—as indicated by "B11 SA only" on the reverse side of the counter. All 1MT penalties apply to the CMG MA, which has a 360° traverse independent of the bow-mounted NT 37 SA.

† Dates and RF for North African use are 8-l2/40 (1.2), 1/41 (1.4), and 2/41 (l.6). For East Africa they are 7/40-1/4l (1.4), 2-3/41 (1.5), and 4-6/41 (1.6).

She also Italian Vehicle Notes A, N.

8. M13/40: Replacing the unsatisfactory M11/39 was the M13/40, which retained the main mechanical features of the M11 but carried a more powerful gun in a fully rotating turret. Its chief deficiencies were slow speed, unreliability, and a two-man turret in which the commander doubled as gunner, Nevertheless, in 1941 it became standard equipment in the growing number of medium tank battalions, and is perhaps the most famous Italian tank of WW2, It first saw action with the III Battaglione Carri M in the Sollum-Halfaya area of Libya, and later equipped the 132nd "Ariete" Divisione Corazzata (132nd "Ram" Armored Division) in North Africa. The M13/40 also saw action with the 131st "Centauro" (Centaur) and 133rd "Littorio" (Bundle of Fasces) Armored Divisions in the Greek-Yugoslav campaigns during January-April 1941. For a short time in early 1941 one British Armoured regiment (the 6th RTR) in Libya was equipped with captured M13/40, but lost them a11 during Rommel's first offensive. In September a 1943, 22 were confiscated by the Germans who subsequently handed them over to the Fascist Italians. Sources conflict as to the total number of M13/40 produced, due to a number later being rebuilt as M14/41; some state as many as 1,049 while others claim only 710, but the figure most often given is 785. An M13/40 (or M14/4l) platoon comprised four tanks until late August 1941 when five were authorized.
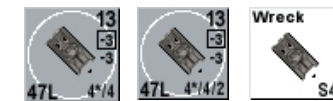
† This AFV has no radio in scenarios set prior to 11/41. As of 11/41 it is radio-equipped.

† Dates and RF for use in North Africa are 12/40 (1.3), 1/41 (1.2), 2/41 (1.0), 3/41 (1.5), 4-5/41 (1.3), 6-10/41 (1.5), 11/41-6/42 (1.0), 7/42 (1.1), 8-11/42 (1.2), and 12/42 (1.6). For the Balkans they are 1-4/41 (1.3) and 5/41-9/43 (1.6). For Italy they are 9/43 (1.6), 44-5/45 (1.6; Fascist use only).

See also Italian Vehicle Notes B, C, and N.

9. M14/41: This tank, which entered production in the latter half of 1941, was actual1y the M13/40 with certain modifications to increase horsepower and enhance its reliability in the desert. The M14/41 saw combat only in North Africa, equipping the tank battalions of the "Littorio" and "Centauro" armored divisions--but first went into action with the XI Medium Tank Battalion (101st "Trieste" Motorized Division, which arrived in North Africa with a mixture of M13/40 and M14/41. Sources vary as to the number of M14/41 produced, ranging from 695 to 895--the latter being the most commonly stated figure--the Germans seized only one in September 1943.

† RF is 1.2 for 1-6/42, 1.0 for 7-11/42, 1.5 for 12/42-1/43, and 1.1 thereafter.

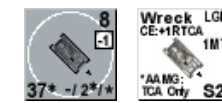See also Italian Vehicle Notes B, C, and N.

10. M15/42: This, the last version of the M13 series, was slightly longer than the proceeding models and featured a higher-velocity gun, more powerful engine and improved armor. About a total of 112 were built before production was switched to the Semovente M42 da 75/18, and of that number 82 had been issued by September 1943. Their only use in combat by the Italian Army was against the Germans in that same month-most notably by the 135th "Ariete II" Division in and around Rome. The Germans subsequently confiscated 92 and in 1944 oversaw the production of another 28, some of which they turned over to the Italian Fascists. The Germans also confiscated a prototype AA tank based on the M15/42 that carried four turret-mounted 20mm guns; some sources claim this gave them the idea for the Wirbelwind (German Vehicle Note 86). An M15/42 platoons comprised five such tanks.

† Dates and RF are 9/43 (1.2), and 44-5/45 (1.4; Fascist use only).

See also Italian Vehicle Notes B, C.

11. MR/35(f): the Germans provided Italy with a quantity of ex-French equipment in 1941-42, the most significant of which was 124 Renault R35 tanks. The Italians installed radios in them and renamed them MR/35. They were used to form the CI and CII Battaglioni Carry M, both of which were destroyed in Sicily in the summer of 1943.

† The CE DRM is +1 vs. Indirect Fire, as well as vs. Direct Fire that emanates from within the turrets rear Target Facing--as signified by "CE: +1RTCA" on the counter.

† "(f)" in the piece name stands for "French" for ESB, etc., purposes.

† RF is 1.2 for 7/43 and 1.4 for 8/43.

See also Italian Vehicle Note I.

12. Semovente M40 & M41 da 75/18: Inspired by the Sturmgeschuetz III the Ita1ians designed a similar AFV in early 1941 using the M13/40 hull and chassis with a box-shaped super-structure and 75/18 Howitzer. Apparently 60 were built before production was switched in the latter half of that year to the same vehicle based on the M14/41 tank of which 162 were ordered. Unlike the StuG III, the SMV 75/18 was intended to provide support and flank protection for medium tank units. In addition, it was often pressed into service as a TD, since compared to the M13 and M14 its armor was somewhat thicker and its gun had a longer effective range. Two SMV 75/18 battalions (*Gruppi Semoventi* 75/18) were assigned to the artillery regiment of each armored division, and several independent gruppi existed as well. Each contained two (sometimes three, in 1943) batteries of four (sometimes six) SMV each.

† SMV M41 75/18 Dates and RF for use in North Africa are 1-6/42 (1.5), 7-11/47 (1.3), 12/42-1/43 (1.5), and 2-5/43 (1.3); for Italy they are 9/43 (1.6), and 44-5/45 (1.6; Fascist use only).

See also Italian Vehicle Noses C, F, H, and N.

13. Semovente M42 da 75/18 & 75/32: The last model of the SMV 75/18, ordered in October 1942, was based on the M15/42 tank and originally was intended to carry the new 75/34 guns. However, by March 1943 this gun was still in development so it was decided to install the 75/18 Howitzer in the interim. Instead of equipping only Gruppi Semoventi, some SMV M42 75/18 were issued to tank battalions pursuant do a change in the tables of organization of these units at the end of 1942; whereas the old organization had consisted of three medium tank companies, the new TO&E comprised one such company plus two companies of SMV 75/18. In September 1943, SMV M42 75/18 saw action in Italy against the Germans who subsequently confiscated a number of them. The exact number of SMV 75/18 produced is unknown, but 250 (inclusive of those built during the Germen occupation of Italy) is a generally accepted approximation.

In mid 1943, about 25 SMV M42 were equipped with a version of the 75/32 field gun. In September of that year they saw combat in the Rome area as part of the 135th "Ariete II" Armored Division. Subsequently, a number of those confiscated by the Germans were turned over to the Fascist Italians--as were some SMV 75/34.

† SMV M42 75/32 Dates and RF are 6/43 (1.5), and 44-5/45 (1-6; Fascist use only).

See also Italian Vehicle Note C.

14. Semovente M43 da 105/25: Nicknamed the "*Bassotto*" (Dachshund), the SMV 105/25 was the most potent Italian-designed AFV of WW2. Originally it was to be built on the hull and chassis of the P26/40 heavy tank, but due to delays in the development of the latter a much-modified version of the M15/42 was utilized instead. Apparently its only Italian combat use was with the DCI Gruppo Semoventi in the 235th AT/SPA Regiment of the 135th "Ariete II" Armored Division during the defense of Rome. A battery of SMV 105/25 comprised four such AFV. About three dozen were built prior to the armistice. It was envisioned that, (once the newest AFV types were available in numbers, the SMV 75/34 would be used as a TD while the SMV 105/25 would provide close support for the P26/40 tank units. The SMV 105/25 would also be used for counter battery fire, while the older (and shorter-ranged) SMV 75/18 would be relegated to infantry support.

See apical Italian Vehicle Note C.

15. Semovente L40 da 47/32: The SMV 47/32 was derived from the L6/40 in order to increase the mobility of the 47mm gun. It was employed mainly as a TD in SMV 47/32 battalions (*Gruppi Semoventi* 47/72), but was usually relegated to infantry support due to its mediocre AT performance. A squadron of nine was authorized in the RECo (*Raggruppamento Esplorante Corazzato*, armored reconnaissance task force) in the armored and motorized divisions, as were two platoons in the NEC (Nucleo Esplorante Celere; fast recon group) of certain l943-type infantry divisions. It saw action in Russia (19 vehicles in the XIII Gruppo Semoventi 47/32 of the 3rd Celere Division), Tunisia, Sicily and Italy. As least 78 were confiscated by the Germans, who retained a small number for themselves, handed over some to the Fascist Italians, and exported the rest to Croatia. About 300 were built, and a platoon comprised four such AFV (two, in an NEC).

† The Inherent crew is always CE (with all this entails|) in the same manner as a British Bren Carrier--as signified by "Always CE" on the reverse side of the counter.

† Dates and RF for use in Russia are 7-8/42 (1.5) and 9-12/42 (1.6), For Tunisia they are 12/42-5/43 (1.2). For Sicily they are 7/43 (1.7) and 8/43 (1.4). For Italy they are 9/43 (1.4), and 44-5/45 (1.5; Fascist use only).

See also Italian Vehicle Notes N, R.

16. Semovente M41M da 90/53: This AFV consisted if the 90mm AA gun mounted on the rear of a lengthened M14/41 hull and chassis, with the engine moved forward from the rear of the vehicle to a central position. It was hurriedly designed and put into production in early 1942 but, due to the large gun overstressing the chassis and engine, its manufacture was halted after only 30 of the vehicles ordered had been completed. Another drawback was it lack of space for ammo storage, only six rounds being carried on the SMV; consequently a turretless L6/40 ammunition carrier accompanied it into action. Despite having been conceived and built specifically for A-T use on the Eastern Front, due to stair unreliability none were ever sent there, instead, 24 were formed into the 10th Raggruppamento Semoventi (comprising the CLXI, CLXII and CLXIII Gruppi) which remained in Italy until June 1943 when it was sent to Sicily, There it fought against the U.S. 7th Army in the Licata area, where all but two of its SMV 90/53 were lost. The two survivors were ultimately abandoned in Messina. The few left behind in Italy were later seized and used by the Germans. A SMV 90/53 battery contained four such AFV plus four ammo vehicles.

† Most of the crew actually stood outside of and behind the AFV while serving the gun. Therefore, it cannot use TH Case E (i.e., it cannot fire at all if a Known enemy unit occupies its Location), and receives only a + 1 DRM for being be (no DRM if attacked through its unarmored Target Facing) as signified by "CE: +1" on the counter.

† When an Ammo Vehicle is called for by SSR or DYO purchase, use an SMV 47/32. This ammo vehicle has gun (place a Gun Disabled counter on it); instead its MA is a 2 FP AAMG (1 ROF; B11), which may fire only at a target that lies within its VCA. (Place an AA counter on it to signify the AAMG) It also has a red CS#.

† RF for use in Sicily is 1.3 for 7/43 and 1.6 for 8/43.

See also Italian Vehicle Note D.

17. AS 42, AS 42 aa & AS 42 cc: The AS 42 (AS stands for Autosahariana) was derived from the AB 41 armored car but, unlike the later, was unarmored and packed a rear driving position, Designed specifically for long-range reconnaissance in North Africa, it had an excellent cross-country range of Almost 500 miles. It was also known as the Camionetta Desertica model 47 (Desert Weapons Carrier model 1942), and was nicknamed *la Sahariana* (the Saharan). Its armament varied, so three different versions have been included in the game. AS 42 saw action in North Africa, Sicily and Italy. After the armistice some were used by both the Fascist Italians and by the Germans (including on the Eastern Front and in the battle of the Bulge). In all, about 200 were built.

†All versions of the AS 42 are termed Scout Cars in deference to their historical role. However, they are considered trucks for all purposes [EXC: see Italian Vehicle Note L].

† AS 42 Dates and RF for use in North Africa are 11-12/42 (1.5) and 1-5/43 (1.4). For Sicily they are 7-8/43 (1.4). For Italy they are 9/43 (1.4), and 44-5/45 (1.5; Fascist use only). A5 42 aa and AS 42 cc Dates and RF are the same, but with .1 added to the RF.

See also Italian Vehicle Notes G, 1, L, M, N, and AA.

18. Lince: The Lince (Lynx) was a close copy of the British Daimler "Dingo" scout car. It was first considered in 1941, and was attempted for service at the end of March 1943. Production, however, did not start until 1944; hence all went to the Germans, who handed over some to the Fascist Italians. It was used for reconnaissance and liaison. 263 chassis were built, but only l29 vehicles were completed.

See also Arabian vehicle Note E.

19, Lancia 1ZM: In late 1912 Italy became the first nation to use armored cars in true war operations when several fought in North Africa during the Italo-Turkish conflict, Later, in l915, the Lancia IZ appeared; then in l9l7 came the 1ZM, derived from the lZM. Both Lancia types saw action in WW1. In 1928 more modern types replaced the MG. Afterwards, IZM were used by the Italians from 1937 in the Spanish Civil War, in the conquest of Ethiopia in 1935-36, and later in Italian East Africa. Some were also exported to China in 1937. A squadron comprised six cars; a section two. Each IZM was equipped with special rails to enable it drive through and cut wire.

† This AFV may clear wire as if it were a fully tracked vehicle.

† Availability for WW2 scenarios is limited to East Africa, with Dates and RF of 7/40-1/41 (1.4) and 2-6/41 (1.5).

Sec also Italian Vehicle Notes A, F, and M.

20. Fiat 611A & 611B: These armored cars, sometimes also referred to as AB 611 or AB 34, were built on the chassis of Fiat 6x4 military trucks. The 611A had two MG in the front of the turret, while the 611B carried a medium-velocity 37mm gun instead. Both types had a MG in the rear of the turret and another in the rear hull. Fiats 611 were used operationally in the 1935-36 conquest of Ethiopia and later in Italian East Africa. A total of 46 were built.

†For both types, availability for WW2 scenarios is limited to East Africa, with Dates and RF of 7/40-1/41 (1.5) and 2-6/41 (1.6),

See also Italian Vehicle Notes A, F, and M.

21. AB 40 & AB 41: These two automotively advanced designs filled the requirement for modern AC in the Italian Army. They featured a 4x4 layout with four-wheel steering and fully independent suspension, freely rotating spare wheels (midway along the sides of the hull) to help prevent "bellying" when crossing obstacles, and a rear driving position. The AB 40 carried two coaxial MG in the turret and a third MG in the rear of the superstructure; the AB 41 had a 20MM gun in place of one turret MG. as well as an increase in engine horsepower. A total of 24 AB 40 and about 560 AB 41 were built. They were issued to the reconnaissance units of armored, motorized and cavalry divisions, and were so used in independent recon companies and platoons. An AB platoon comprised four such vehicles. The AB 40 was apparently used only in North Africa, while the AB 41 saw action on all major fronts (including 30 sent to Russia).

The Germans confiscated 37 completed AB 41 plus another 20 in production. They also seized prototypes of the AB 43, a new model with a larger turret, 47mm gun and more powerful engine. After ordering certain modifications (including a reversion to the 20mm gun), they had 102 of this type built for them, which they designated AB 41/43.

† AB 4l Dates and RF for use in North Africa are 8-10/41 (1.5), 11/41-5/42 (1.4), and 6/42-5/43 (1.3)', for Russia they are 12/41- 8/42 (1.5)) for the Balkans they are 42-9/43 (1.4), and 44-5/45 (1.4; Fascist use only); for Sicily they are: 7-8/43 (1.4); for Italy they are 9/43 (1.3), and 44-5/45 (1 .4; Fascist use only).

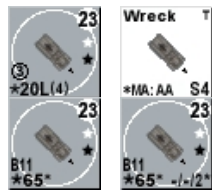See also Italian Vehicle Notes A, 1, N, and R.

22. Autoprotetto S37: This APC was based on the AS 37 truck, which in turn derived from the TL 37 AS, the desertized version of the TL 37 artillery tractor. The S37 was not intended as a carrier for armored infantry, but rather as a battlefield command/supply vehicle. However, it came to be used mainly for the escort of convoys in partisan-infested areas, predominantly in the Balkans. Apparently few if any were sent to North Africa. About 200 were built.

† This vehicle is treated is an armored car for movement (and all related) purposes (EXC: Reverse Movement costs it four times its normal hex entry cost - as signified by "*REVx4" on the reverse side of the counter; otherwise it is treated as an armored halftrack.

† Date's and RF for use in Russia are 10-12/42 (1.5) and 1-3/43 (1.6). For the Balkans they are 10/42-9/43 (1.4), and 44-5/45 (1.5; Fascist use only).

See also Italian Vehicle Note R.

23. Autocannoni da 20/65(b) & 65/17(b): these were Morris CS 8 15-cwt trucks captured from the British in North Africa and modified to carry a 20mm AA or 65mm INF gun. Two Gruppi (the XIV and XV) Autocannoni da 65/17 was formed, each of them four-gun batteries, and to each Gruppo w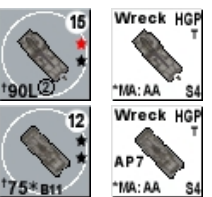as attached a section of four Autocannoni da 20/65. They were assigned to the artillery of RECAM (Reparto Esplorante del Corpo d'Armata di Manovra, the Italian corps recon unit), later to the North African Fast Task Force (Raggruppamento Celere AS) and still later to the 136th "Giovani Fascisti" (Young Fascists) Division. Autocannoni da 20/65 based on various other truck types also existed. The Italians apparently also designed other Autocannoni carrying 75mm and 100mm artillery pieces but little has come to light regarding their development and use.

† "(b)" in the piece name stands for "British" for Hamada Immobilization and Sand Bog purposes. A1I Inherent armament on the vehicle is Italian - not British.
(The optional AAMG of the Autocannone da 65/17 is always available and has a 1.2 RF. It may fire only at a target that lies within its VCA - as signified by "MG: VCA Only" on the reverse side of the counter.

† Autocannone da 70/65 use in 1945 is limited to Fascist Italians only. Autocannone da 65/17 RF for use in North Africa is 1.5 for 11/41-6/42, 1.6 for 7-12/42, and 1.5 in 1943.

See also Italian Vehicle Notes G, H, N, R, and AA.

24. Autocannoni da 75/27 CK & 90/53: The Autocannone da 75/27 CK (Cannone-Krupp) originated during WW1 when the Italians mounted Krupp 75mm AA guns on trucks. In 1927 the same guns were mounted on more modern Ceirano vehicles, and these are what the game pieces represent. The Italians in Spain used 24 late in that country's civil war. Some also saw action in North Africa during the early stage of that campaign. The Autocannone da 90/53 was a Lancia 3 RO 4x4 (or, later, A Breda Dovunque 6x6) heavy truck modified to carry the 90/53 AA guns. Designed for a multi-purpose AA-AT role, it appeared in 1941 and first entered combat in two Gruppi of the Ariete division's 132nd Artillery Regiment. Apparently no more (and quite possibly less) than 57 were built. A battery comprised four vehicles for both the 75/27 and 90/53 Autocannoni.

† Autocannoni da 75/27 CK RF for use in North Africa is 1.5 for 6/40-2/41 and 1.6 for 3-1 1/4l. Autocannone da 90/53 Dates and RF for use in North Africa are 5-11/42 (1.4|, 12/42 (1.6), 1-2/43 (1.5), and 3/43 (1.6); for Sicily they are 7/43 (1.5) and 8/43 (1.6).

See also Italian Vehicle Notes D, N, and AA .

25. TL 37, TM 40 & TP 32: From about 1926 the Italians produced various light, medium and heavy prime movers (which they called tractors) specifically for towing artillery. Three of the more common models were, respectively, the Fiat-Spa Trattore Leggero 37 and Trattore Medio 40, and the Breda Trattrice Pesante 32. A11 were 4x4 vehicles with large, oversize wheels and four-wheel steering (the latter to make them more maneuverable on narrow mountain roads), most also had fully independent suspension. By 1942 the TL 37 was the authorized divisional-artillery prime mover for Italian units in North Africa. The TP 32 also represents other less common artillery tractors built in the early and mid 1930s. After September 1943, the Germans in Italy and elsewhere in Europe used Italian artillery tractors.

† TL 37 Dates and RF for North-Africa/the ETO [EXC: the Balkans] are 6/40-6/41 (1.3), 7/43-5/47 (1.2), 7-8/43 (1.3), 9/43 (1.2), 10-12/43 (1.6), 1944 (l.5), and 1945 (1.5; Fascist use only). For the Balkans they are 10/40-4/41 (1.3), 5/4 1-9/43 (1.4), and 44-5/45 (l.5; Fascist use only). For East Africa they are 6/40-6/41 (1.5) and 7-11/4l (1.6).

† TM 40 dates and RF for North-Africa/the ETO [EXC: the Balkans] are 9-11/40 (1.6), 12/40-3/41 (1.5), 4-6/41 (1.4), 7/41-5/43 (1.3), 7.5/43 (1.4), 9/43 (1.3), 10-11/43 (1.6), 32/43-44 (1.5), and 1945 (1.6: Fascist use only). For the Balkans they are 10/40-9/43 (1.6), and 44-5/45 (1.6; fascist use only).

† TP 32 Dates and RF for North-Africa/the ETO [EXC: the Balkans] are 6/40-41 (1.5), 42-5/43 (1.4), 7-9/43 (l.4), and 10-11/43 (1.6). For the Balkans they are 10/40-4/41 (1.5) and 5/41-9/43 (1.6). For East Africa they are 6/40-11/41 (1.6).

† Ammunition being carried by this vehicle reduces its Portage capacity by 4 PP.

See also Italian Vehicle Notes L, M, N, and R.

26. Autocarretta: As the portee method of transporting light guns lost favor, certain types of light trucks were produced/adapted to tow them. The Autocarretta or "little Truck" generically represents these. (The Autocarretta was actually a specialized vehicle originally intended for use in the mountains. Thus its designation applied to the game piece is somewhat of a misnomer, but is used in this broader sense for the sake of convenience.)

† The optional AAMG is always available and has a 1.4 RF.

† Dates and RF for use in North Africa/Russia/Italy are 8/41-5/43 (1.1), 9/43 (l.l), 12/43 (l.3), 1944 (l.2), and 1945 (1.2) Fascist use only), elsewhere [EXC: NA in East Africa] they are 8/41-9/43 (l.2), 10-11/43 (1.5), and 44-5/45 (1,2; Fascist use only).

See also Italian Vehicle Notes K, N, and R.

27. Fiat 508 MC & Fiat 508 Furgone: Derived from the civilian Fiat 1100 the 508 MC (Militare Coloniale) was one of the more common field cars based by the Italians, Of 4x2 configuration, if was produced in large numbers and several different variants. However, its use was limited mainly to HQ units, (e.g., a normal infantry regiment was authorized only one for the regimental CO). In German service it was designated the 1100 Mil. The AAMG version actually represents the Furgone - a conversion of the 508 to somewhat the equivalent of a modern-day "mini-pickup" truck - with twin fiat MG mounted on it. About 50 Furgoni were thusly armed and were used for the AA defense of convoys in North Africa.

† When this vehicle is bogged, one (only) CX squad (even a Prisoner-but not a guard) on foot expending four or more MF in vehicles location (and declared to be assisting its unbogging) thereby allows the owning player to subtract two (one per crew/HS) from the immediately subsequent unbogging DR.

† The optional AAMG (i.e., the Forgone version) has a 1.4 RF, but is available only for 1942-43 scenarios set in North Africa.

It may fire only at a target that lies within its VCA -as signified by "*MG: VCA Only" on the reverse side of the counter. It may not be removed, but may be scrounged as one LMG. The Furgone has no Passenger capacity.

† Availability in 1945 is limited to Fascist Italians only.

See also Italian Vehicle Notes A, K, N, and R

28. Autocarri L, M & P: The Italian Army reassessed many diverse types and makes of trucks, and for this reason the game pieces generically represent the 1ight (Leggero), medium (Medio) and heavy (Pesante) classes. The payload capacity and minimum top speed of the latter two were standardized it 1937, but otherwise the manufacturers were largely free to use whatever engines, tires, etc. they wished. This, along with the existence of many vehicles produced prior to the standardization policy, caused no end of problems with spare parts. Italy began the war with some 42,000 vehicles (excluding cars and motorcycles), and through mid 1943 produced about 108,000 cars, trucks and artillery tractors. Generally speaking, motor transport was in short supply at all levels throughout the war. Efforts were made to keep at least the forces in North Africa and Russia at full establishment, but production could not keep up with losses do despite receiving Opel Blitz and French Citroen trucks from the Germans. Even pressing into service as much captured British transport as possible could not greatly alleviate the transport shortage in Africa. Aside from a few specialized types, the Italians generally did not use trucks do tow their artillery.

† RF for all three types is 1.3 for an 8/41-9/43-scenario set in North Africa/Russia/Italy, and for a 12/43 scenario set in Italy. Otherwise it is 1.4 *[EXC: Dates and RF for use in East Africa are 6/40-6/41, (1.5) and 7-l1/4l (l.6), RF for 44-5/45 use in Italy is 1.2, and 1945 availability is limited to Fascist Italians only].*

See also Italian vehicle notes N, R.

A. May make two To Kill DR's when using AP on the To Kill Table, only one DR (firers choice) is used. This is signified on the wreck side of the counter by "*2 TK DR"

B. The 4-FP BMG may be scrounged as one LMG (a dismantled MMG).

C. If this AFV is non-turreted its AAMG may fire only at a target that lies within its VCA. It is signified by "AAMG: VCA Only" on the reverse side of the counter. If optional, the AAMG is always available with an l.4 RF.

D. The MA may not fire after moving to a new hex.

E. If Stunned, this AFV may not regain CE status, nor may it fire any weapon, and is required to exit the board immediately after the Stun expires. "CE/FP NA" signifies this on the counter. The BMG, if present, May fire while the vehicle is hull down - as signified by "*BMG HD FP ok" on the reverse side of the counter.

F. The MA and all MG have Bl1. This is signified by "B11" in red on the reverse side of the counter (red in the Vehicle Listing). If the vehicle is equipped with a hull Rear MG, that MG may be removed as a LMG (or dismantled MMG) during any friendly fire phase provided it has not fired any armaments.

G. The MA may not fire while in Motion.

H. HEAT Becomes Availably in September 1942, as identified before the 'H' by the superscript "†" (ie †HE).

I. The CMG of the MR/35, and the hull Rear MG of the AB 40, may be repositioned as a AAMG with 2-FP. This is done by placing an AA counter on the AFV at the end of any friendly fire phase (not MPh) in which its Inherent crew is CE and could have fired the MG (even if malfunctioned) but did not. This AAMG may fire only at a target that lies within the AFV's TCA -- that's signified by "*AAMG: TCA only" on the reverse of the counter. The AAMG may be repositioned as the MR/35 CMG, or AB 40 hull Rear MG by using the same principles to remove the AA counter,

J. The 2OL MA is actually an ATR. It has a maximum To Hit range of only 12 hexes (as signified by "[12] TH" on the counter. It may be Scrounged or Removed from the vehicle during any friendly fire phase. It fires through its given CA in the normal manner. The MA of the L3cc may not be used while in a CE state, as signified by "CE use NA" on reverse side of the counter.

K. If armed, this vehicle has an inherent crew and thus it rolls the Crew Survival #.

L. This vehicle is treated as an Armored Car for movement (and all related) purposes. [Exc: It may not cross a hedge. Note M below also applies.

M. Reverse Movement costs this vehicle three times its normal hex entry (as signified be the "*REVx3"' on the reverse side of the counter.

N. This vehicle was used in North Africa at some time from 6/40 to 5/43 (within the limits of its own given dates). If the superscript "T" appears its use in North Africa was limited to Tunisia, 11/42 to 5/43 (within the limits of its own given dates).

R. This vehicle was use in Russia at some time from 8/4 l to 3/43 (within the limits of its own availability Dates).

AA. The MA has AA capability -- as signified by "MA: AA" on the reverse side of the counter.

ITALIAN VEHICLE LISTING

NAME	®	WGT	TYPE	BPV	RF	DATES	SZ	AF	TA	OT	CS	MP	GP	T	MA	ROF	B#	IF	MG B	MG C	MG AA	SA	AMMO	# / PP	Notes
L5 / 21	®	5.5	Tt	19	1.5	23-7/43†	+1	-4			2	**8**	L	1MT	CMG†		11			4					1 A
L5 / 21	®	6	Tt	22	1.6	30-7/43†	+1	-4			2	**8**	L	1MT	T37		11								1
L3 / 35	®	3.5	Tt	20	.9-1.6†	34-5/45†	+2	-4 / -5			2	13	L		BMG†		11		4						2 A B E N R
L3 aa	®	3.5	Tt	18	1.3-1.6†	34-5/45	+2	-4 / -5			2	13	L		MG†		**11†**		2†		2†				3 C E F N R
L3 cc	®	3.5	Tt	20	1.5-1.6†	6/40-2/41	+2	-4 / -5			2	13	L		B20L†										4 E J N
L3 Lf	®	5	Ttv	48	1.2-1.6†	36-41†	+2	-4 / -5			2	12	L		BF32		**B/X11†**		2†						5 E N
L6 / 40		7	LT	28	1.6-1.3†	4/41-5/45†	+1	-2 / -4	+F		2	14	L	1MT	T20L	1(4)				2					6 N R
M11 / 39	®	11	MT	29	1.2-1.6†	39-6/41†	+1	-2 / -4			3	**12**		1MT	CMG†					4		B37			7 A N
M13 / 40	®†	14	MT	34	1.0-1.6†	12/40-5/45†	0	-2			4	**11**		ST	T47				4	4	Opt2				8 B C N
M14 / 41		14	MT	36	1.0-1.5†	42-5/43	0	-2			4	12		ST	T47				4	4	Opt2				9 B C N
M15 / 42		15	MT	39	1.1-1.4†	9/43-5/45	0	-2	+F		4	13		ST	T47L				4	4	Opt2				10 B C
MR35(f)		10	MT	27	1.2-1.4†	7-8/43	+1	-1	+FSR		2	8	L	1MT	T37*				2†		†				11 I
SMV M40 75/18		14	AG	35	1.4	1-11/42	+1	-2	+F		3	**11**		NT	B75*					Opt2†		H7†			12 C F H N
SMV M41 75/18		14.5	AG	36	1.3-1.6†	1/42-5/45†	+1	-2	+F		3	12		NT	B75*					Opt2†		H7†			12 C H N
SMV M42 75/18		15	AG	37	1.1	9/43	+1	-2	+F		3	13		NT	B75*					2†		H7			13 C
SMV M42 75/32		15	AG	41	1.5-1.6†	9/43-5/45†	+1	-2	+F		3	13		NT	B75					2†		H7			13† C
SMV M43 105/25		15.5	AG	47	1.6	9/43	+1	+1 / -2	+SR		4	13		NT	B̄105		◆†			2†		H7			14 C
SMV L40 47/32		6.5	TD	29	1.2-1.6†	7/42-5/45†	+2	-2 / -4		●†	3	14	L	NT	B47	2									15 N R
SMV M41M 90/53		16	TD	32	1.3-1.6†	7-8/43†	+1	-2/-2/	+F	●†	5	**10**		NT	B90L†							HE7			16 D
AS 42		4.5	SC†	27	1.4-1.5†	11/42-5/45†	+1				3	34†	L		AAMG		11				4			1C/9PP	17 L M N
AS 42 aa		4.5	SC†	35	1.5-1.6†	11/42-5/45†	+1				4	34†	L	T	T20L†	3(4)					4				17 G L M N AA
AS 42 cc		4.5	SC†	30	1.5-1.6†	11/42-5/45†	+1				4	34†	L	T	T20L†	2					4			†1C/5PP	17 G J L M N
Lince		3	SC†	28	1.6	44-5/45	+2	-1 / -4	-F		2	35	L		BMG				2						18 E
Lancia 1ZM	®	4	AC	26	1.4-1.5†	17-6/41†	0	-5			6	19†	H	ST	CMG†		**11†**		R4†	8		†			19 A F M
Fiat 611A	®	7	AC	25	1.5-1.6†	35-6/41†	-1	-5	+F		5	12†	H	ST	CMG†	2	**11†**		R4†	8R2					20 A F M
Fiat 611B	®	7	AC	24	1.5-1.6†	35-6/41†	-1	-5	+F		5	12†	H	ST	T37		**11†**		R4†	R2		HE7			20 A F M
AB 40		7	AC	27	1.6	41	0	-4			4	29		1MT	CMG†		11		R2†	4	†				21 A I N
AB 41		7.5	AC	29	1.3-1.5†	8/41-5/45†	0	-4	+F		4	30		1MT	T20L	1(4)	11		R2	2					21 N R
Autoprot S37		5.5	APC	25	1.4-1.6†	10/42-5/45†	+1	-4		●	4	21†	L		AAMG									1S/7PP	22 R
Autocann 20/65(b)		3	AAtr	29	1.6†	11/41-5/45	+1				4	23		T	T20L†	3(4)					†				23 G N R AA
Autocann 65/17(b)		3	SPAtr	30	1.5-1.6†	11/41-5/43	+1				4	23		T	T65*†		11			Opt2†		H7†			23 G H N
Autocann 75/27		7	AAtr	27	1.5-1.6†	28-11/41	0				4	12	H	T	T75*†		11				†		AP7		24 D N AA
Autocann 90/53		12	AAtr	53	1.4-1.6†	5/42-8/43†	-1				4	15		T	T90L†	2					†				24 D N AA
TL 37		3.5	tr	11	1.2-1.6†	38-5/45†	+1				5	16†	L											1S/5PP	25 L M N R
NAME	®	WGT	TYPE	BPV	RF	DATES	SZ	AF	TA	OT	CS	MP	GP	Tur	MA	ROF	B#	IF	MG B	MG C	MG AA	SA	AMMO	PP	Notes

NAME	®	WGT	TYPE	BPV	RF	DATES	SZ	AF	TA	OT	CS	MP	GP	Tur	MA	ROF	B#	IF	B	C	AA	SA	AMMO	PP	Notes
TM 40		7.5	tr	12	1.3-1.6†	40-5/45†	0				5	18†	L											†1C/5PP	25 L M N R
TP 32		8.5	tr	11	1.4-1.6†	33-11/43†	0				5	12†	L											†1C/5PP	25 L M N R
Autocarretta		2.5	tr	10	1.1-1.2†	8/41-5/45†	+1				5†	16			AAMG†		11				Opt4†			†1C/5PP	26 K N R
Fiat 508 MC		1	tr	10	1.3	39-5/45†	+2				2†	31	†		AAMG†	2	11				Opt6†			1C/5PP	27 A K N R
Autocarro L		4.5	tr	12	1.3-1.6†	30-5/45†	0				6	20												1S/6PP	28 N R
Autocarro M		7.5	tr	14	1.3-1.6†	30-5/45†	0				7	18												2S/9PP	28 N R
Autocarro P (Hvy)		11	tr	15	1.3-1.6†	33-5/45†	-1				7	15	H											3S/13PP	28 N R