

NORTH AFRICA



D.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.

D.1A Emplaced Guns: Even if meeting the requirements of 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 or under a Trench counter. A Gun that sets up qualified for Emplaced status by virtue of being in Scrub/Sand (only) may nevertheless setup non-Emplaced, provided this fact is noted on a side record. This does not apply if Broken/Steppe Terrain (13.1-.2) is in effect.

D.1B Entrenching: All Entrenching Attempts on Desert Boards receive a +2 DRM (EXC: Sand; Steppe)

D.1C Routing: In any scenario, a broken unit forced to rout but unable to reach a woods/building hex in that RtPh may rout to any terrain hex, is not required to rout to the nearest woods/building hex. In a non-night scenario which uses only Desert Board(s) that are not Broken/Steppe Terrain (13.1-.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.

D.1D Desert Overlays: All rules specifically stated as applicable to Desert Boards also apply to the overlays provided in WEST OFALAMEIN unless stated otherwise.

D.2 DESERT TERRAIN CHART: Hex entry on a Desert Board uses the MF/MP costs given in the Desert Terrain Chart as well as those costs that remain applicable from the Infantry Movement Costs 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 hex and/or is Accessible to Hammada/Sand.

D.2A Board 25 Hill: When entering a board 25 hill hex that contains neither scrub, hammada nor a wadi, the normal Terrain Chart is used to determine the applicable MF/MP costs [EXC: Hammada Immobilization (3.31) and Sand Bog (7.31) can still apply]. If also using Overlay EI, see 12.51.

D.3 AXIS VEHICLES: All Axis vehicles [EXC: motorcycles] in North African scenarios set 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 (79.3) during that time period.

D.4 SURRENDER: In all scenarios set in North Africa, Surrender may not be refused (i.e., a surrendering unit may not be eliminated invoking 89.3).

D.5 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.

D.6 MINEFIELDS: See rules 55 and 136 for Mine Warfare.

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 WEST OFALAMEIN. These are termed Known Minefield counters, and are 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 is 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). 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.

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 particular type of board/scenario. Known minefield factors have the same BPV as hidden mines, and are indicated on the DYO Purchase

D.6B 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 enemy ground unit enters, its Location), simply remove it from play.

The number that may appear beneath a Dummy Minefield counter depiction in a printed scenario OB represents the number of Dummy counters allotted.

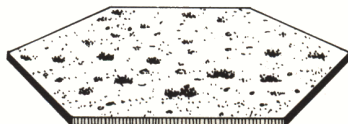
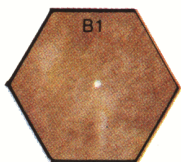
In a scenario that does not allot Dummy minefields (which includes all DYO scenarios), a player may add (at no extra BPV cost) one Dummy Minefield counter to his OB for every 24 Known minefield factors he sets up. In addition, in any scenario in which a player has received one Dummy Minefield counter, he may make a Secret dr (halved; FRD) and receives an additional number of Dummy mine counters equal to the result.

D.7 FREE FRENCH: Free French Personnel are generally considered elite use British and their OBA lands accurately on a DR of 1-2.

For scenarios set in or prior to 1943, Free French use (without Captured-weapon penalties) British SW, vehicles, Guns, and the rules covering them. For such DYO scenarios they also use the British SW and OBA Availability Charts.

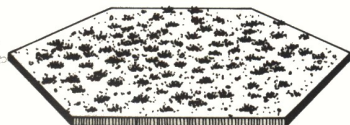
For scenarios set in or after 1944, Free French use (without Captured-weapon penalties) U.S. SW, U.S. vehicles, U.S. Guns, and the rules covering them [EXC: they receive 1944 BAZ in 1945 scenarios]. For 1944-45 DYO scenarios, Free French use the U.S. Army SW and OBA Availability Charts.

1.0 OPEN GROUND



1.1 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 (D.1A) and entrenching (D.1B) restrictions, and having different MP costs for some vehicles. See also D.2-.2A and 13.1. Scrub, Hammada and Sand are considered Open Ground for certain purposes; see 2.2, 3.2 and 7.2 respectively.

2.0 SCRUB



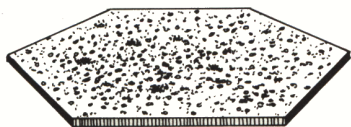
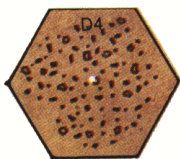
2.1 Scrub° is represented by a multitude of irregularly shaped olive/brown clumps and black lines/dots. Any hex containing such artwork is a scrub hex; e.g., 26E9.

2.2 Scrub is neither an obstacle nor a Hindrance to LOS, and is treated as Open Ground (1.1) for all purposes other than Gun Emplacement (D.1A), movement costs (2.21), concealment (2.3), Hammada Immobilization (3.31), and when Accessible to Broken Ground (13.1). Scrub does not negate the DRM modifier for open ground movement.

2.21 MF/MP: The following movement costs apply to entering a non-sand Location that contains scrub: Infantry, one MF; Cavalry or Wagon, two MF; full-tracked vehicle, two MP; halftrack three MP; armored car or motorcycle, four MP; truck, six MP. See 7.3 for entering a Location that contains both scrub and sand.

2.3 CONCEALMENT: Scrub is Concealment Terrain, but only for Infantry (and their possessed SW), Dummy stacks, entrenchments (including Sangars; 8.), and Emplaced Guns. A Gun that sets up hidden/concealed in scrub may be considered Emplaced (F.1A).

3.0 HAMMADA



3.1 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.

3.2 Hammada is neither an obstacle nor a Hindrance to LOS, and is treated as Open Ground (1.1) for all purposes other than movement costs (3.3), Hammada Immobilization (3.31), the resolution of certain attacks (3.4), Sand Bog (7.31), and when Accessible to Broken Ground (13.1). Hammada does not negate the DRM modifier for open ground movement.

3.3 MF/MP: The following movement costs apply to entering a Location that contains hammada: Infantry, one MF; Cavalry or Wagon, three MF; full-tracked vehicle, two MP; halftrack, three MP; armored car or motor-cycle, four MP; truck, six MP.

3.31 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 (9.1) or road]. If the Immobilization Final DR is ≥ 12 the vehicle is Immobilized [EXC: motorcycle; 3.32]. The following cumulative DRM can apply:

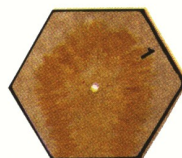
+1	If the vehicle is a Md/Hv non British Truck or motorcycle;
+1	If the vehicle did not expend twice the total MP necessary to enter;
-1	If the vehicle is in an Open Ground hex that is Accessible to a hammada hex.

Being thusly Accessible to more hammada hexes necessitates only one Immobilization DR.

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

3.4 TEM: A cumulative -1 TEM applies to any DC, or ordnance/OBA HE, attack vs an unarmored target in hammada.

4.0 DEIRS



4.1 A deir is a terrain feature of any overlay (12.) whose ID is prefixed by a "D", and is represented by a yellowish area enclosed by golden yellow shading (this shading being known as the Lip).

4.2 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 [EXC: if deir TEM applies; 4.5] except as altered by the presence of scrub (2.2) or sand (7.2).

4.3 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.]

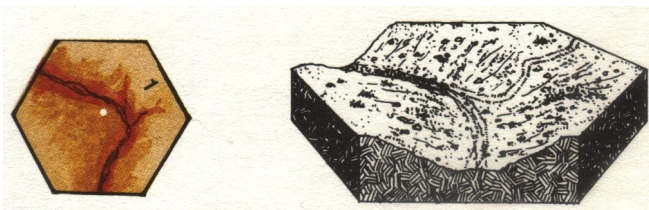
4.4 LOS: A deir's only effect on LOS is that, barring other LOS obstructions, an entrenched/Emplaced unit in a non-Lip deir hex has a LOS past a Lip Hexside only to a same-level hex formed by that Lip hexside, and to any hex at a higher elevation than that entrenched/Emplaced unit. See also 4.51.

4.5 TEM: A non passenger 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 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.

4.51 AFV/WRECK TEM & HINDRANCE: An AFV/wreck in a deir can provide a +1 TEM in the normal manner. Like-wise, 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 are at the same level and at least one of those units is in any deir; for deir LOS purpose, brush, bridge, wheat-fields, marsh, crag and an AFV/Wreck are defined as half-level hindrance

4.52 FIRE LANE: Infantry/Horses moving in a deir hex are immune to MG penetration in that hex if the Fire Lane crosses a Lip Hex-side.

5.0 WADIS



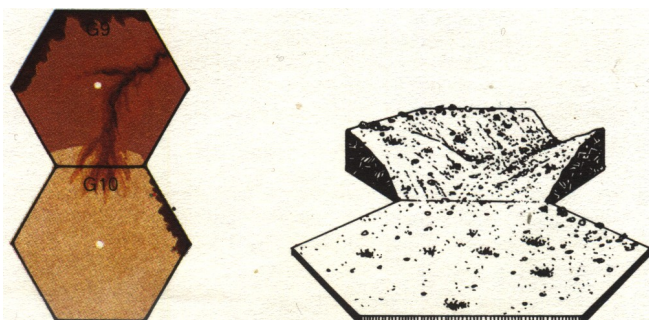
5.1 The term "Wadi" shall be used to refer to a streambed depression ranging from 5 to 10 meters in depth. An example of a wadi hex is 25C5. A hex containing a tiny portion of wadi along one of its hexsides (e.g. 25G10) is not a wadi hex (see fig. below)

5.2 The movement costs of a wadi hex are two-fold and based on both a cost to enter the hex and a cost to leave it. It costs infantry 1 MF to enter a wadi, plus the cost of the other terrain in the wadi hex. The cost of leaving a wadi hex is 2 MF plus the cost of the terrain of the hex moved into.

EX: It costs infantry 2 MF to enter hex 25C5 (an open ground wadi hex) and 3 MF to enter brush/wadi hex 25H2. It would cost 3 MF to leave 25C5 and enter 25C4.

5.21 The cost of entering a wadi hex remains the same even if the wadi hex is entered from an adjacent, connecting wadi hex. The cost of leaving a wadi hex does not apply if the unit leaves a wadi hex by entering an adjacent wadi hex (including bridges) through a connecting hexside containing the wadi symbol.

5.22 Units moving to a wadi hex from a wadi hex via a wadi hexside would still have to pay the additional movement cost of moving to higher terrain.



Exc.: unit moving from G10 (0 level) to G9 wadi hex does not move to an higher terrain because G9 is a Level 1-1 (for wadi) terrain

5.3 Vehicles moving to a wadi hex from a wadi hex through a wadi hexside cannot pass other vehicles/wrecks in the same hex at the normal cost of 2 MP's per vehicle/wreck + COT. In this case, only motorcycles and vehicles with a +2 size modifier (e.g. Jeep) may pass vehicles/wrecks (& vice versa).

5.31 Bypass movement (COD 106, 112) is not allowed in wadi hex.

5.32 Vehicle movement costs are specified on the Desert Terrain Chart.

5.4 Units in wadis may fire only at (and be fired at only by) units in adjacent hexes or those which have at least a three level height advantage.

5.41 For purposes of elevation determination as applied to 80.3, a unit in a wadi is said to be at an elevation one level lower than that of the surrounding terrain. Units moving from a wadi hex to a non-wadi hex, however, would not have to pay the cost for moving into terrain "higher" than previously occupied" in addition to wadi exit costs.

EX: A unit in a ground level wadi hex such as 25C5 is considered at level -1

(minus one). Were there a wadi in a Level One hill hex it would be considered at level 0 (ground level).

5.42 A target unit in a wadi hex does not receive any additional terrain effects modifiers for being in a wadi, nor is it considered hull down.

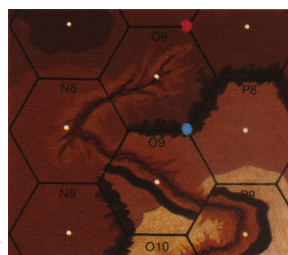
5.43 A wadi hex is considered open ground (unless brush) for purposes of applying the -2 Defensive Fire modifier for moving in the open.

5.44 A unit could rout through an open ground wadi hex unless the wadi hex entered is adjacent to an enemy unit or in the normal range and LOS of an enemy unit with at least a three level height advantage.

5.5 A wadi symbol in a hex automatically makes that hex a wadi hex regardless of the other terrain in or around the hex, only if the wadi symbol passes through two side of the hexagon. (Exceptions: Bridges).

5.51 A wadi hex containing a bridge (Example: 25R1) is considered a road hex, not a wadi hex, as long as the bridge is operable. Units moving beneath a bridge counter are considered still in the wadi.

5.6 WADI CLIFF: A cliff that form the side of a wadi (e.g. 25O9) represents a continuous cliff from the bottom to the top of that wadi.



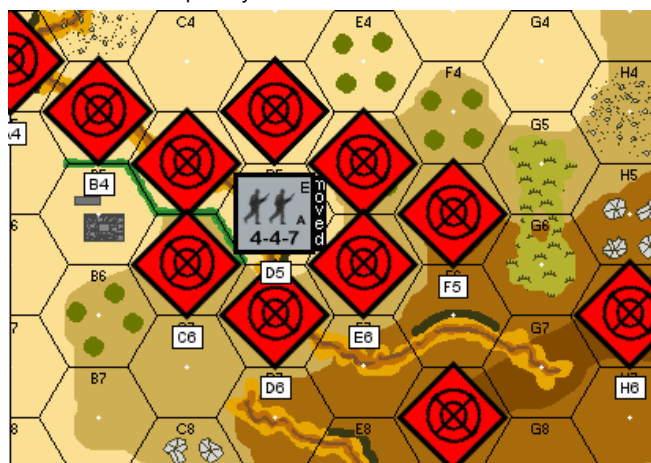
5.61 Wadi cliff are natural depressions with steeper sides than a wadi and act as a form of natural anti-tank ditch (COD 137.7) for vehicle movement purposes. Trenches/entrenchments/ bunkers may not be placed in a wadi cliff hex.

5.62 Units moving in a wadi cliff hex, that to reach the central hex dot must cross the cliff symbol are said to enter a wadi trough a cliff side.

5.63 It costs infantry and cavalry 3 MF's to enter a wadi hex across a cliff (instead of the normal 1 MF+COT); and 3 MF's plus the COT of the hex moved into, to exit a wadi across cliff (instead of the normal 2 MF). Vehicles and animal drawn transport may never enter or leave a wadi across wadi cliff. Infantry and cavalry may advance into, or out of, a wadi cliff normally during the APh.

5.64 Motorcycles may be portaged into and out of wadi cliff hexes at the normal cost.

5.65 Units in wadi hexes that trace a LOS through a cliff side, have a clear LOS only to units in adjacent hexes, to other wadi hexes of the same wadi, and to those hexes which have at least a four level height advantage (see also distance effects). Vehicles in a wadi hex may fire at an adjacent hex of higher elevation through a wadi cliff contour (and vice versa) only with those guns and MG's which have AA capability.



EX: The only hexes that a non crest unit in 25D5 could trace a LOS to would be the six hexes it is adjacent to, 25C5, B4, A4 on the same wadi and the third level of 25F7, H6.

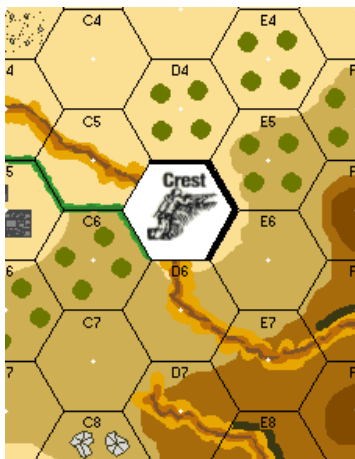
5.66 Infantry units in adjacent non wadi hexes would qualify for the +1 height advantage DRM (91.1) for fire coming from non-crest units in the wadi hex through cliff line.

5.67 A Unit in a wadi hex may not fire through a cliff line against an adjacent entrenched unit (and vice versa) unless it has achieved crest status.

6.0 CREST.



Any unbroken infantry unit already on foot in a wadi hex (sunken road, gully and stream hexes apply equally to crest status rules) may claim crest status in that same hex during their APh by remaining in that same hex, and moving on top of a crest counter. Units may begin a scenario already set up in crest status unless stated otherwise. Infantry units above a crest counter are considered entrenched at ground level against all direct fire attacks traced across the front three hexsides of that wadi hex as identified by placement of the crest counter. EXC: Entrenchment benefits do not apply if the firer has a four level height advantage which gives him a LOS to the wadi hex, or if the firer is in the same wadi and his LOS doesn't cross the brown contour. Crest counters must be placed so that the middle of the three hexsides it protects does not cover a hexside intersected by the wadi. Once placed, a crest counter cannot be altered until it is removed. Crest status provides no additional TEM to indirect fire.



Example: The crest infantry in 25D5 is considered a ground level target. It would be considered entrenched against any fire through 25D4, 25E5, and 25E6 hexsides, but not from fire traced through 25C5, 25C6, and 25E6 hexsides. It is in the LOS of any unit which could claim a LOS to D5 if D5 were an open ground, level 0 hex. A unit in D5 could not see a unit in E7 unless both were in crest status.

crest status.

6.11 Infantry may not move directly from one crest status to another (even in the APh). Crest infantry are always considered on one specific side of the wadi terrain feature as indicated by the placement of the crest counter beneath them with the top of the crest counter on the occupied side of the wadi on their crest front. Crest infantry may exit the wadi hex to a non wadi hex along the same side of the wadi which they occupy as if they were leaving an entrenchment (1 MF & COT). Crest infantry moving to any other hex must first move (or advance) out of crest status within the same hex they presently occupy as if they were entering it from an adjacent non wadi hex.

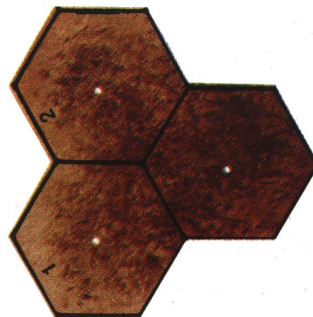
6.12 Crest infantry firing at any target not within their crest front must fire as Area Fire (ordnance must add +2 to the TO HIT DR). Crest infantry in CC would be subject to a -2 DRM for all attacks against them and a +2 DRM for any attacks they make (unless the attackers had just entered the hex through a crest hexside), but if they survive their initial round of CC, they may drop their crest status while held in melee.

6.13 The only weapons that crest infantry may fire other than their inherent FP are: LMG's, ATR's, DC's, molotov cocktails, PIAT's, bazookas, PF's, and PSK's. Infantry may not repair SW's while in a crest position.

6.14 If broken, crest infantry lose their crest status in the following RtPh.

6.15 Units in level -1 terrain must be in crest status to attempt DF Immobilization.

6.0 HILLOCKS



6.1 A hillock" is a terrain feature of any overlay whose ID letter is an "H", and consists of hexes shaded brown to reddish-brown. For the following rules it is important to remember that the term hillock refers collectively to ALL hillock hexes on the overlay, while a hillock hex is any with the appropriate terrain art.

6.2 A hillock is a somewhat different type of Half-Level Obstacle. Units on a non-Summit (6.6) hillock hex are at Level ½ (assuming the overlay is on Level 0 terrain). A hillock hex is a type of Inherent Terrain and does not contain a hill Crest Line.

6.3 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.

6.4 LOS: An hillock is an Half level obstacle that don't create blind hexes. LOS to/from/past/over a hillock is determined by the elevation of the viewing and viewed units, and by the presence of any intervening Hillock Summit (6.6). A non-Summit hillock hex does not block LOS to other hexes of the same hillock.

6.41 ON: A unit on a hillock has a LOS over that hillock, and also over the next hillock its LOS encounters and beyond such Locations to same or higher the viewing unit's elevation. [EXC to all: 6.43.]

6.411 A unit on a hillock has a LOS past all walls/hedges whose topmost height along that LOS is lower than the viewing unit's elevation. For a Dune Crest half-level obstacle, see 7.512.

6.412 A unit on a hillock has a LOS over all Rubble whose topmost height along that LOS is lower 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.

6.42 ABOVE: A unit (whether on a hillock or not) at a higher elevation than the topmost height of a hillock hex has a LOS over that hillock hex.

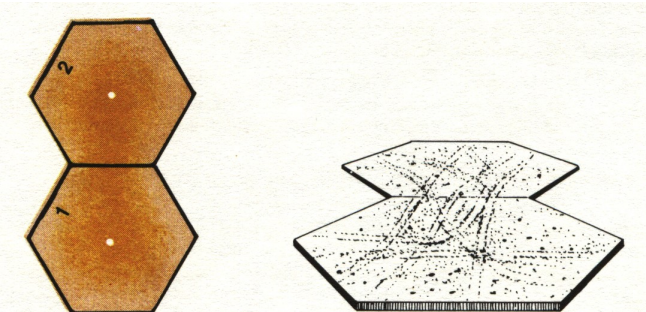
6.5 TEM: Being on a hillock does not by itself negate Open ground negative DRM.

6.51 HEIGHT ADVANTAGE: A unit on a hillock can claim Height Advantage vs Direct Fire (B10.31; D4.22) if at least one full level higher than the attacker, but cannot be HD to that attack.

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

6.6 HILLOCK SUMMIT: Overlays H1 and H4 each 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 1 level. A Hillock Summit is treated as a normal hillock that rises from Level ½ instead of from Level 0. Therefore, a unit on, above or behind a Hillock Summit can see to/from/past Hillock Summits using 6.4-.44, treating the Summits as higher-level hillocks.

7.0 SAND



7.1 Sand" is a terrain feature of any overlay whose ID letter is an "S", and is represented by golden-yellow terrain.

7.2 Sand isn't an obstacle [EXC: Sand Dune; 7.5] to LOS and, except as affected by the presence of other terrain such as scrub (2.2) or a Dune Crest (7.51), is treated as Open Ground for all purposes other than Hammada Immobilization, movement costs (7.3), Sand Bog (7.31), the resolution of certain attacks (7.4), Gun Emplacement (7.41), Fortifications (7.42-.421), and when Accessible to Broken Ground (13.1). Sand in the target hex does not by itself negate Open ground negative DRM unless a Dune Crest TEM applies.

7.3 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; full-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, regard-less 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]).

7.31 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 (9.1) or road]. The vehicle bogs if the Final DR is 12. Only the following cumulative DRM can apply:

+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 is a non British Md/Hv truck
+1	If the vehicle enter from a Dune Crest hillside
-1	If the vehicle is in an Open Ground hex that is Accessible to a sand hex
-1	If EC (Environmental Conditions) are Wet or Mud

Being thusly Accessible to more than one sand hex necessitates only one Sand Bog DR. A Sand Bog check is made only after passing any required Hammada Immobilization check (3.31).

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

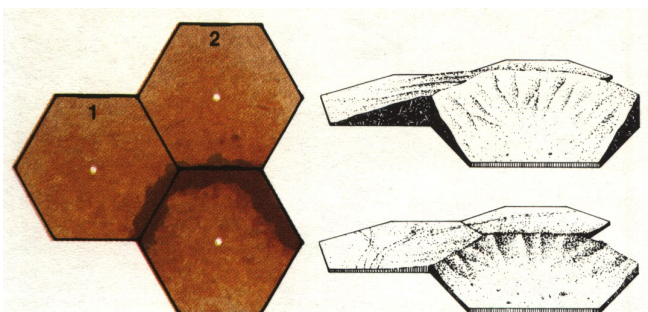
7.4 TEM: Sand has a 0 TEM, but any ordnance, or OBA, attack vs an unarmored target in a sand hex has its FP halved. If hit by Bombardment, units in sand receive a -2 DRM to their MC. [EXC to all: If EC are Wet or Mud, these penalties do not apply.]

EX: Assume EC are not Mud or Wet. An 80+mm OBA HE attacks a sand hex using the 6 FP column of the IFT. A 100+mm OBA HE attacks a sand hex using the 8 FP column (20 FP halved to 10FP rounded to 8FP).

7.41 EMPLACEMENT: A non-vehicular Gun may set up Emplaced in sand (F.1A); however, the Emplacement TEM (145.3) is halved to +1 [EXC: if EC are Wet or Mud it retains normal TEM].

7.42 FORTIFICATIONS: No trench or sangar (8.2) may be set up in sand. A foxhole 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].

7.421 ENTRENCHING: The +2 DRM for Entrenching Attempts (D.1B) does not apply in a sand Location.



7.5 SAND DUNES: Any sand overlay that has darker-yellow hexside markings, and whose ID is prefixed by "SD", 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 hexes and Dune Crest hexsides (7.51). A High Dune contains Dune Crest hexsides, but its sand hexes are treated as hillock (6.0) hexes as well as sand hexes. A Dune hex is any sand hex on a Sand Dune overlay. A High Dune is indicated by placing a High Dune counter on the overlay.

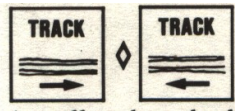
7.51 DUNE CREST: The darker-yellow artwork along certain hexsides of each Dune overlay indicates that Dune's Crest hexsides.

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



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9.0 TRACKS



9.1 Tracks are not depicted on the map-board; 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;
- Vehicle/Heavy (-or-denser) Dust (11.73-.74).

A crew pushing a Gun across a track hexside into a non-scrub sand hex expends may move 3 hex (63.45).

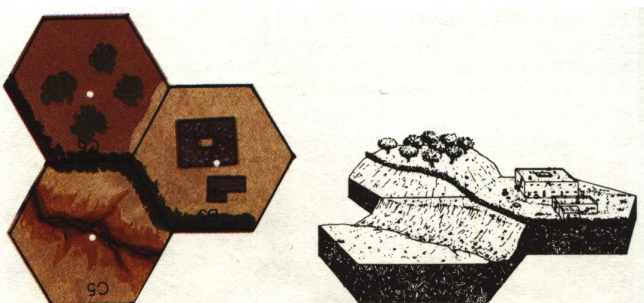
9.2 A track is not a road, but a track (as well as a road) eliminates the need for Bog/Immobilization DR due to sand (7.31) or hammada (D 3.31) [EXC: Bog can still apply during Mud; 11.8]. A track does not negate the IFT effects of hammada (3.4) or sand (7.4).

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 1 MF. Infantry crossing a track hexside while moving from level 0 to a level 1 Open Ground hex still expend 2 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 5 MP instead of 6; if the truck is towing a gun it expends 6 MP instead of 7. 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 tank crossing a track hexside while ascending to an Open Ground hillock hex expends 1 MP instead of 2.



9.3 ROADS: Barring SSR, the only roads on boards 25-31 are those printed on board 25 and Overlay E1. SSR-specified roads may be indicated by placing (Paved) Road counters as per 9.1.

10.0 HILLSIDE WALLS & HEDGES



10.1 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 25C5-C6, 25U3-U4, 25X4-X5. All normal wall/hedge rules apply to Hillside walls/hedges except as modified herein.

10.2 LOS: A Hillside wall/hedge (including both its depiction and its associated hexside) is ignored when determining whether or not a LOS exists between units whose elevations differ by \geq one full level. 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. 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.

10.3 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 a 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.



EX: The 4-6-7 IN 25B4 cannot claim Wall Advantage TEM over, the 4-5-8 in B5, nor can it claim wall TEM vs the 4-5-7 in C6; however, the 4-5-8 and the 4-5-7 could receive such benefits 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 case of the 4-5-7). Neither the 4-6-8 nor the Crest-status 4-4-7 in C5 can claim Wall Advantage over, the 4-5-7 because both German squads are lower than the C5-C6 hedge's base elevation.



Matilda MKII

11.0 ARID CLIMATIC CONDITIONS

11.1 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 (11.2) Arid EC Chart (11.4) Arid Wind Force Chart (11.5)	DYO scenario is set in an Arid Land (North Africa, Middle East, Mediterranean isles, or East Africa; see 11.2).
Time of Day Table (11.3)	DYO scenario uses one or more Desert Board (D.1).
Sun Blindness (11.61-.612)	Daytime scenario uses one or more Desert Board, and Weather is not Overcast (or Mud and Overcast).
(Intense) Heat Haze (11.62-.624)	Daytime scenario is set in North Africa (11.2), uses one or more Desert Board, and Weather is not Overcast (or Mud and Overcast).
Heavy, Very or Extremely Heavy Dust (11.73-732) Wind/Gust effects on Dust (11.76-.761)	Scenario uses only Desert Board(s), EC are Dry or Very Dry, and Steppe Terrain (13.2) is not in effect.
DYO Dust Table (11.701) Light/Moderate Dust (11.71-.72) Vehicle Dust (11.74) FFE Dust (11.75)	Scenario uses one or more Desert Board, and EC are Dry or Very Dry [EXC: Very Dry only, if Steppe Terrain is in effect].
Desert Mud (11.8)	Scenario is set in an Arid Land (see 11.2) Uses only Desert Board(s), and Mud is in effect (11.2; 11.4).

11.2 The following chart is used 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 & Gust	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

11.3 TIME OF DAY: In a DYO (only) scenario using one or more Desert Board, a Time of Day dr is made prior to setup (after rolling for Weather but before any DR for EC), invoking 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 (11.611) is in effect. If the scenario is set in Nov-Apr. Mist (E 3.32) is also in effect. EC are automatically Moist(or wetter) 11.6111.
2	Mid Morning	*† Intense Heat Haze (11.621) is in effect if the scenario is set in May-Sept. Otherwise Heat Haze (11.62) is in effect.
3	Midday	*† Intense Heat Haze (11.621) is in effect
4	Mid Afternoon	*† Heat Haze (11.62) is in effect.
5	Late Afternoon	* Sun blindness (11.612) is in effect.
6	Night (other)	Section E1 (or "None" if both players agree) is in effect.

11.4 ENVIRONMENTAL CONDITIONS: The following chart is used to determine the EC of a DYO scenario set in an Arid Land (11.2) 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		

11.5 WIND FORCE: The following table is used in lieu of the B25.63 Wind Force Table to determine the initial Wind Force of a scenario set in an Arid Land (11.2)-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

11.6 DESERT LOW VISIBILITY (DLV): DLV is the term used to categorize Sun Blindness (11.61), Heat Haze (11.62-.621), and Dust (11.71-72). A DLV Hindrance is treated exactly like a LV Hindrance unless stated otherwise. A DLV Hindrance does not apply (i.e., is not counted) when determining if LOS is blocked

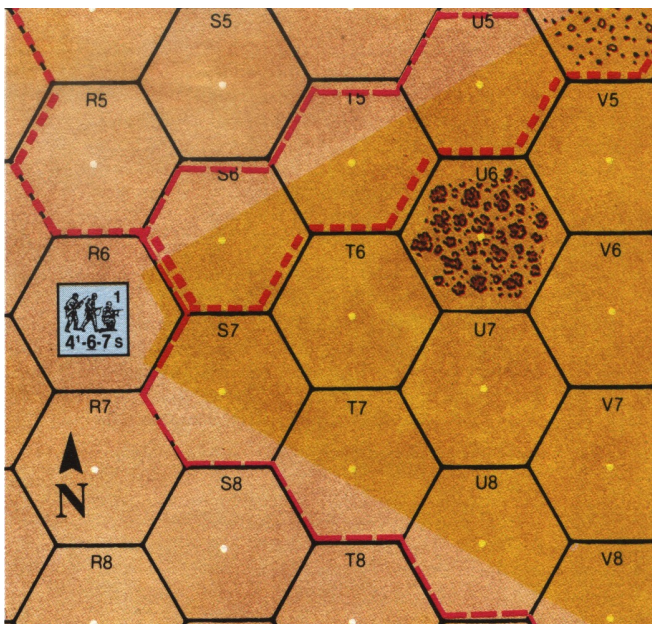
11.61 SUN BLINDNESS: Sun Blindness can occur only in a scenario that uses a one Desert Board and whose Weather is currently not Overcast (or Mud and Overcast). Whenever these conditions are met and a SSR or Time of Day dr (11.3) specifies Sun Blindness, the following rules are in effect:

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

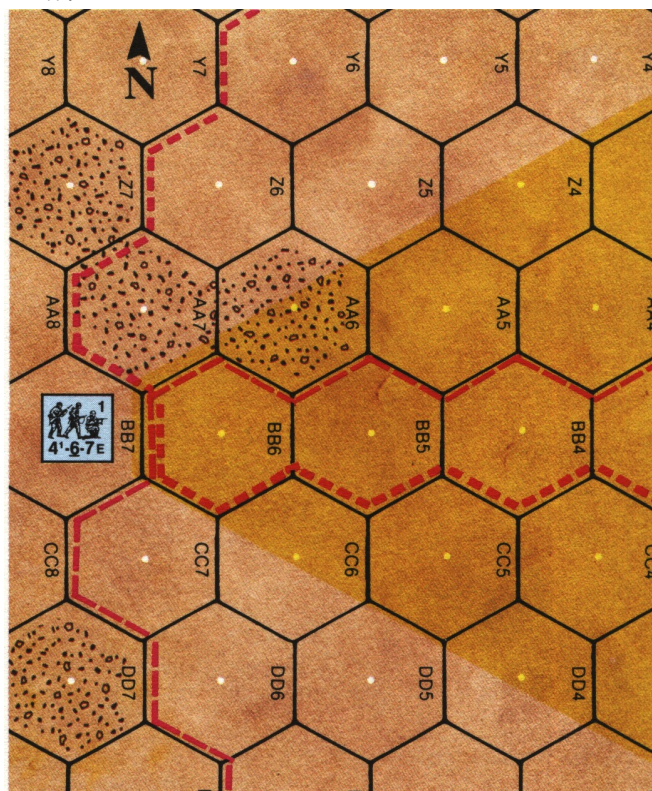
- Neither the firer nor the target is an Aerial unit;
- The LOS to the target is in an easterly direction, and that LOS lies completely within the shaded area (or an extension of it) in one of the accompanying illustrations;
- That LOS, when extended past the target to the edge of the playing area, is not blocked by an obstacle that is two or more levels higher than the target; and,

- The firer is not two or more levels higher than, nor in the same hex as, the target.

11.6111 EC: When Early Morning Sun Blindness is in effect, EC are automatically Moist [EXC: if it is raining or if Mud exists, EC are Wet or Mud respectively]



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, thin dashes. If the CA faced northeast (as shown by the short, thick dashes), 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 short thick, and long thin, dashes. 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

1.612 LATE AFTERNOON: If Late Afternoon, Sun Blindness applies as per 11.611 but in a westerly direction.

11.62 HEAT HAZE: Heat Haze can occur only in a scenario set in North Africa (11.2) that uses one Desert Board and whose Weather is not Overcast (or Mud and Overcast). Whenever a SSR or Time of Day dr (11.3) specifies that Heat Haze is in effect, a DLV Hindrance DRM applies at certain ranges to TH (and non-ordnance IFT) DR [EXC: OBA; attack vs an Aerial target]. Vs Infantry this DRM is +1 for each multiple of six hexes beyond the initial 12 hex range; vs a vehicular/ Passengers target it is +1 for each multiple of twelve hexes beyond the initial 24-hex range. [EXC: Aerial attacker; 11.622.]

EX: Heat Haze creates a +1 DLV Hindrance DRM vs Infantry at a range of 13-18 hexes, +2 at 19-24 hexes, etc. Vs a vehicle/PRC it creates a +1 DRM at 25-36 hexes, +2 at 37-48 hexes, etc.

11.621 INTENSE HEAT HAZE: Intense Heat Haze occurs in the same manner as normal Heat Haze, and has the same effects as given in 11.62 except that it applies to such fire vs Infantry beyond the initial six-hex range and to such fire vs a vehicle/ PRC beyond the initial twelve-hex range. [EXC: Aerial attacker; 11.622.]

EX: Intense Heat Haze creates a +1 DLV Hindrance DRM vs Infantry at a range of 7-12 hexes, +2 at 13-18 hexes, etc. Vs a vehicle/PRC it creates a +1 DRM at 13-24 hexes, +2 at 25-36 hexes, etc.

11.622 AERIAL: Heat Haze adds a +1 DLV Hindrance DRM to an Aerial unit's Ground attack, regardless of range. Intense Heat Haze increases this DRM to +2.

11.623 TARGET TYPES: If using the Area Target Type vs a hex that contains both Infantry/Cavalry and vehicular enemy targets, only the lesser of the applicable (Intense) Heat Haze DRM/ drmm applies. If firing HE or SMOKE at a hex that contains neither an enemy vehicle nor Known enemy Infantry/Cavalry, the DRM/ drmm that would apply if Infantry were in that hex is used.

11.7 DUST: Dust can occur in a number of ways: by SSR, DYO dr (11.701), or due to some specific occurrence during the course of play (11.74-.761). Dust [EXC: Vehicle/FFE Dust; 11.74-.75] can exist at any of five levels of density, ranging from Light to Extremely Heavy. Attacks at zero range (PBF) are immune from Dust DRM.

11.701 DYO: Prior to the start of the first RPh in a DYO scenario in which Light/Heavy Dust can exist (as per the conditions given in 11.71 or 11.73 respectively), make a dr on the DYO Dust Table after both sides have set up and after the Wind Force has been determined. The resulting Dust density (if any) is immediately in effect, but can be altered by the Wind Change DR (11.76). If Steppe Terrain (13.2) is in effect, a "Heavy" Dust result is treated as "Moderate" instead.

DYO DUST TABLE		
Final dr	Density	drm
5 or less	None	+1 If Mild Breeze is in effect.
6-7	Light (11.71)	+2 If Heavy Wind is in effect.
8-9	Moderate (11.72)	+3 Per each Bombardment available in the scenario.
10 or more	Heavy* (11.73)	

* [EXC: Moderate, if Steppe Terrain (13.2) is in effect].

11.71 LIGHT DUST: Light Dust can occur only in a scenario that uses one or more Desert Board, and only if EC currently are Dry or Very Dry [EXC: Very Dry only, if Steppe Terrain (13.2) is in effect]. While Light Dust is in effect, each TH and each non-ordnance IFT DR [EXC: OBA; DC; FT;] receives a Dust DLV Hindrance DRM equal to a subsequent dr that is halved (FRU - Fractions round up). See also 11.79-.794.

11.72 MODERATE DUST: Moderate Dust is treated exactly the same as Light Dust except that the subsequent dr is not halved.

11.73 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 (13.2) is not in effect. While Heavy Dust is in effect, a LOS Hindrance DRM equal to half the range (FRU) plus a Light Dust DLV Hindrance DRM, applies to each type of attack. In addition, each vehicle/Cavalry unit must expend one extra MP/MF to enter a new hex. Being a LOS Hindrance, Heavy Dust negates the -2 DRM for moving in open ground.

11.731 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, plus a Light Dust DLV Hindrance DRM. A BU AFV must expend one extra MP to enter a new hex (in addition to the extra MP required by 11.73), use of Double Time Movement and Cavalry charge is prohibited, attacks by/vs Aerial units are not allowed.

11.732 EXTREMELY HEAVY DUST: Extremely Heavy Dust is treated exactly the same as Very Heavy Dust, except that 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.

11.74 VEHICLE DUST: In a scenario that uses one or more Desert Board, if EC currently are Dry or Very Dry [EXC: Very Dry only, if Steppe Terrain (13.2) is in effect] 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 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 or if Heavy-Winds/Gusts are in effect]. That Dust counter is immediately removed from that hex when one of the following occurs:

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

Vehicle Dust is otherwise treated as normal Dispersed Smoke (148.52) in all respects and hence is a two-level 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 MPPh in Motion.

EX: A vehicle starts its MPPh 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 is not considered when determining whether that Dust counter should be placed. (The vehicle could have made an expenditure of a 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 four MP to enter the SMOKE hex without create Vehicle Dust.) If the vehicle was destroyed, the last Vehicle Dust counter it placed will be removed at the start of that next friendly PFPh (along with white Dispersed smoke; however, if it ends its MPPh in Motion, that Dust counter will be removed immediately upon the vehicle's initial MP expenditure in its next MPPh (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).

11.75 FFE DUST: Whenever Light Dust can exist (as per the conditions given in 11.71), all FFE of ≥ 70 mm generates a +1 DRM

LOS Hindrance in all the hexes of its Blast Area. This Hindrance DRM never exceeds +1, regardless of the number of HE blast hexes it is traced through. Wind-Force/Gusts have no effect on FFE Dust.

11.76 WIND & GUSTS: [Note: these rules are applicable only when Heavy Dust can occur (as per the conditions given in 11.73).] 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).

11.761 HEAVY WIND: During any level of Dust density (11.71-.732), an attack [EXC: Aerial Ground Support; E7.4] 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 hex, crosses or lies along a hexside of the adjacent hex that lies directly upwind from the firer's hex (i.e., the adjacent hex that corresponds to a -1 on the Wind Direction counter).

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

11.78 NIGHT: The current level of Dust density (11.71-.732) reduces the ability of Fire/Burning AFV and starshells to Illuminate Locations as follows:

- Light/Moderate (only): a starshell illuminates its own hex and all others within two hexes; a Fire/Burning AFV illuminates its own hex and all others adjacent hexes.
- Heavy: a starshell illuminates its own hex and all adjacent hexes; a Fire/Burning AFV illuminates only its own hex.
- Very Heavy: starshells and Fire/Burning AFV illuminates only its own hex.
- Extremely Heavy: neither a starshell nor Fire/Burning AFV causes any illumination.

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

11.791 IN BUILDING: Neither DLV nor Vehicle/FFE Dust affect a LOS that lies entirely within the same building.

11.792 CC: Dust, regardless of type(s)/level(s), has no effect on CC attacks

11.793: Heavy (or denser) Dust negates the -2 DRM for Open Ground Movement.

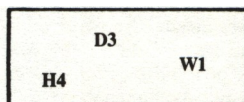
11.8 MUD: When Mud exists (as per the Arid Weather Chart or SSR) in a scenario set in an Arid Land (11.2) using only Desert Board(s), the normal method of determining its effects on Bog is used, but only Open Ground [EXC: not scrub, hammada or sand] hexes Accessible to hammada count as hexes entered for purposes of the dr. Such Open Ground hexes cannot cause Hammada Immobilization (though 3.32 still applies for motorcycles). This possibility of Bog is negated only by the use of a paved road in the hex. If Broken/Steppe Terrain (13.1-.2) is in effect and/or non-Desert Board(s) are being used, normal Bog rules are applied.

12.0 DESERT OVERLAYS

12.1 [Note: Many of the following rules do not apply to Overlays XI and EI. See 12.43 and 12.5 before cutting out these two overlays.] A number of overlays have been included in WEST OF ALA-MEIN. Each must be cut out before it can be used. When doing so, cut just inside the edges of the overlay's exterior hexsides. This is important because, along the exterior edge of the overlay, only the mapboard's hexsides and vertices matter for rules purposes. The overlays contain no hex coordinates, but the front of each multi-hex overlay contains a small "1" in one hex and a small "2" in an adjacent hex; these numbers are used to orient the overlay on its board. Pressing a few small pieces of plastic adhesive (such as PLASTI-TAK® or PLAS-TIC®, which are usually available where office/school supplies are sold) onto the back of the overlay is an easy and effective method of attaching it to a board for the duration of a scenario. Alternatively, a sheet of appropriately sized plexiglass may be laid over the playing area after the overlays have been placed. Note that several over-lays contain one or more hexes which lack that overlay's major terrain type.

12.2 SSR PLACEMENT: When a SSR calls for the use of one or more overlays, it will specify the board on which it will go and, if a multi-hex overlay, will also list the coordinates of two adjacent hexes that determine the overlay's orientation. The first hex listed is covered by the overlay hex that contains the "1", and the second is covered by the overlay hex that contains the "2". On the scenario card, the "board configuration" will contain the over-lay's ID in its approximate placement location.

EX: A SSR states "Place Overlay H1 on 27H6-G7". The hex of Overlay H1 that contains the "1" is therefore placed over hex 27H6, and that containing the "2" is placed over hex G7.



12.3 RANDOM PLACEMENT: When preparing a DYO desert scenario, overlays can be placed randomly if both players agree—but only on board(s) 26-31 and/or on the level 4 portion of Overlay E1 (12.5). First, set up the boards as they will be used and determine which direction is North. Then make a dr to find the Overlay Density drm, using the following table:

dr	Overlay Density drm
2 or less	-2
3-4	-1
5 or more	0

Then make a dr for any one board in play, using the following table and the Overlay Density drm:

Final dr	Result
1 or less	Two overlays will be placed on each half of that board;
2	One overlay will be placed on each half of that board
3	One overlay will be placed on the northernmost or easternmost half of that board;
4	One overlay will be placed on the southernmost or westernmost half of that board;
5 or more	No overlays will be placed on that board

Then, for each half of that board receiving an overlay, make a DR (or two DR if the Final dr just made was a "1"), reading individually the colored and white dr of each DR, and consult the following table to find the overlay(s) selected. Place each such overlay up-side-down on the appropriate half-board, then repeat the 12.3 procedure for each other pertinent board in the playing area.

DYO DESERT-OVERLAY TABLE

cdr	wdr	Overlay	cdr	wdr	Overlay
1	1	W1*	4	1	D1
1	2	W2*	4	2	D2
1	3	W3*	4	3	D3
1	4	W4*	4	4	D4
1	5	S1	4	5	D5
1	6	S2	4	6	D6
2	1	S3	5	1	SD1**
2	2	S4	5	2	SD2**
2	3	S5	5	3	SD3**
2	4	S6	5	4	SD4**
2	5	S7	5	5	SD5**
2	6	S8	5	6	SD6**
3	1	H1	6	1	SD7**
3	2	H2	6	2	SD8**
3	3	H3	6	3	X2†
3	4	H4	6	4	X3†
3	5	H5	6	5	X4†
3	6	H6	6	6	X5†

12.31 HEXROW: After all overlays have been selected, each must be positioned. Turn one rightside-up and make a DR, the sum of which yields the hexrow where that overlay's "1" will be placed as per the following table:

DR	Hexrow	DR	Hexrow
2	D or DD	8	J or X
3	E or CC	9	K or W
4	F or BB	10	L or V
5	G or AA	11	M or U
6	H or Z	12	N or T
7	I or Y		

12.32 ORIENTATION: After determining the hexrow that contains the randomly selected overlay's "1" hex, make another DR to determine the over-lay's exact position. The colored dr plus two equals the coordinate number of the hex over which the overlay's "1" hex is placed. The white dr is treated as a Random Direction dr (B.8) to position the overlay's "2" hex relative to its "1" hex. Then repeat the 12.31-.32 procedure for each other overlay. One-hex overlays may be oriented in any way agreeable to both players, since in the wide open terrain of the desert boards their effect on LOS is not that critical.

12.33 PROBLEMS: If a 12.3 DR calls for an overlay that has already been selected, roll again for one that is available. If one overlay overlaps or is adjacent to another, the one placed last is rerolled for hexrow/orientation (12.31/.32) [EXC: if possible, each "end-hex" of a wadi overlay should be adjacent to a wadi hex—preferably an "end-hex"—of another wadi; see also 12.41]. Any portion of an overlay which extends beyond the playing area is unplayable (or its position can be rerolled for, if both players agree). Obvious terrain conflicts can occur when randomly placing an overlay on Overlay E1; if this happens, use common sense and mutual player consent to resolve it.

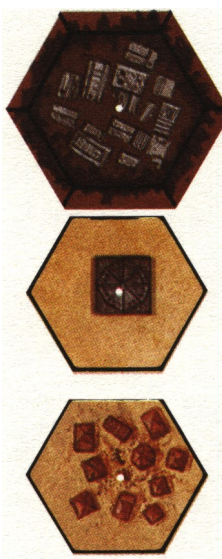
12.4 SPECIAL CONSIDERATIONS: Some overlays require further rules for placement/use, as are detailed below. These rules apply to both printed and DYO scenarios unless specified otherwise.

12.41 WADIS: If the "end-hex" of a wadi overlay is adjacent to another wadi (whether the latter is an overlay or not), or if two wadi "end-hexes" (whether overlay hexes or not) are on different boards but are adjacent to each other, all hexsides common to both such wadi hexes are treated as wadi hexsides (i.e., the two wadis are treated as one continuous wadi) except where a wadi cliff is present. For DYO purposes, when the first wadi overlay has been placed, others may be added immediately (without making any 12.3 DR) to make the wadi run continuously from one edge of the playing area to some other edge (at least insofar as is possible); their exact layout must be decided upon by mutual player consent.

12.42 SAND DUNES: When a sand dune overlay has been selected, an extra, Final dr of 1 or less must be made in order to place it. Each already-selected sand overlay adds a -1 drm to that dr, as does each already-selected sand dune overlay [EXC: this drm becomes -2 if the already-selected sand/dune overlay is on

the same half-board as, or on a half-board adjacent (even diagonally) to, the half-board being rolled for]. If the Final dr is 2 or more, no overlay is placed. If it is 1 or less, place the overlay and then make another dr; a Final dr ≤ 1 makes the dune a High Dune (7.5), while any other result yields a Low Dune. Each already-selected High Dune adds a -1 (or -2, as given above) drm to this dr.

12.421 D6: Overlay D6 contains a non-Lip hex that is also a sand (7.0) hex distinguishable by its darker-yellow color. This hex is treated as normal Open Ground if Broken/Steppe Terrain (13.1-2) is in effect.



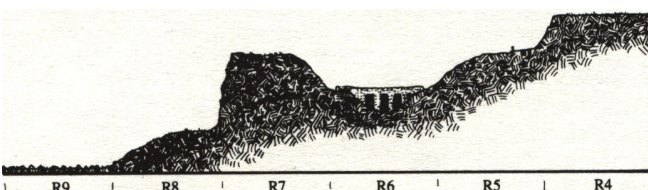
12.43 X1: Overlay X1 represents a tight cluster of Single-Story stone buildings, completely surrounded by cliffs. The TEM of these buildings is +4. However, all Small Arms fire from this Location to another hex is halved as Area Fire prior to all other modification. When cutting out X1, cut along the outer edge of the cliff artwork.

12.44 X2: Overlay X2 represents a Single-Story stone mausoleum building. Its TEM is +1. It is not considered a building for rally/rout purposes, and is not susceptible to Flame.

12.45 X3: Overlay X3 represents the tents of a Bedouin camp. It is treated exactly like in-season wheat-field with an entry cost of one MF/MP for all units.

12.46 X4 & X5: Overlays X4 and X5 each represent a cluster of normal, Single-Story stone buildings.

12.5 ESCARPMENT: The large overlay whose ID is "E1" represents part of an escarpment. When cutting out E1, cut along the outer edges of the cliff artwork and as given in the instructions printed on the overlay sheet; otherwise, cut inside the exterior hexsides as given in 12.1. This overlay is used only on board 25, and is positioned on it as per A2.7. When placed, the terrain rises from Level 0 on board 25 to Level 4 on the overlay—and if another board is butted against the long Level 4 edge of the overlay, this added board is also at Level 4. If the hexsides printed on E1 do not align properly with those on the mapsheet, crease the overlay along its fold line to follow the depressed contour of the mapsheet fold. This will shorten the overlay's length to match the mapsheet's.

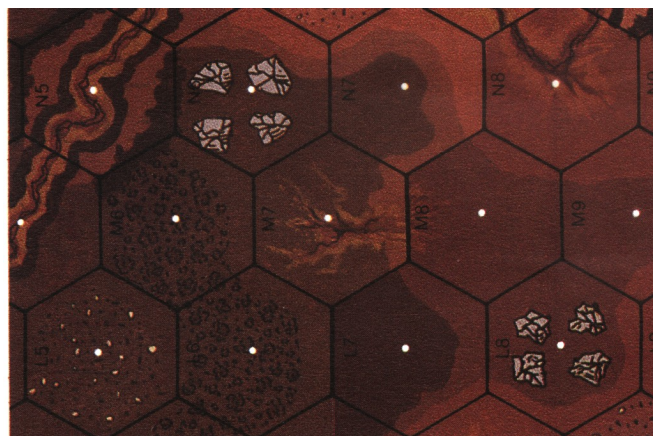


Partial cross section of hexrow R, board 25, with Overlay E1 in place.

12.51 MF/MP: When using Overlay E1, F.2A applies unchanged there-on [EXC: Desert Terrain Chart MF/MP apply to level 4 hexes—i.e., those with a Base Level (or Crest Level, if one is present) of \geq Level 4—unless such a hex is being entered from a lower, non-wadi level].



M3 Stuart



EX: A truck moving from 25M8 to L7 expends eight MP (4 [ascend a level]+4 [Open Ground] = 8). However, if moving from M7 to L7 it expends five MP (4 [ascend a level]+1 [Desert Open Ground] = 5). If moving from L7 to M7 (or if moving from M8 to M7) it expends seven MP (6 [enter wadi]+1 [Desert Open Ground] = 7). If moving from L7 to M8 it expends four MP (for Open Ground).

12.52 SCRUB: When using Overlay E1, treat all brush on board 25 as scrub unless Broken Terrain (13.1) is in effect.

13.0 ALTERNATE TERRAIN TYPES

13.1 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; see also 6.412). In addition, each non-wadi 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 does not block the LOS), uses Open Ground MF/MP costs, and becomes a Bog hex for all vehicles [EXC: 3.32 still applies for motorcycles]. In all other respects the board is still considered a Desert Board [EXC: D.1A, D.1C and 11.8 do not apply], and overlays may be used on it. See also 12.421 and 12.52.

13.2 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, DLV (11.6) [EXC: not (Intense) Heat Haze; 11.62-624], Vehicle Dust (11.74) and FFE Dust (11.75) can apply but only if EC are Very Dry. Lastly, Sand overlays may be used to represent grainfields. In all other respects the board is still considered a Desert Board [EXC: D.1A-1C and 11.8 do not apply], and other overlays may be used on it. (Wadis and gullies would be considered wadis.) See also 11.1 and 12.421.

13.3 CACTUS HEDGE: A SSR may specify that walls/hedges are cactus hedges. All hedge rules apply to such hexsides, except that for Infantry movement is considered a wire hexside and that Cavalry, Horses and Wagons may not cross one at all.

13.4 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; see also 6.412), 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. A parachute landing in a cactus patch must immediately take a NMC.

13.5 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. A parachute landing in an olive grove must immediately take a NMC.

13.6 VINEYARDS: A SSR may specify some terrain as being a vineyard. A vineyard hex is treated exactly the same as brush except for also being a bog hex. Parachute landing in a vineyard must immediately take a NMC.

FOOTNOTES

ENTRENCHING: In many areas of the desert a 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.

AXIS VEHICLES: This rule is included because early in the campaign these vehicles were not properly modified to cope with the harsh conditions of the desert. Of primary importance were special air and oil filters for engines—the lack of which, in combination with the tremendous clouds of dust raised by moving vehicles and the great distances rapidly traversed, caused engines to overheat/seize-up and led to the premature breakdown of other components.

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 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.

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 movement DRM), 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.

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.

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.

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.

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).

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.

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 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.

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".

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.

TRENCH-SANGAR MOVEMENT: These rules have been included to reflect the fact that in a fortified line (which is what trenches usually represent) communication trenches linked the various defensive positions. It wouldn't make much sense to fortify a hilltop but not provide a protected access route to it. Sangars were included to further emphasize the benefits inherent in a well-planned position.

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 travelled 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.

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.

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.

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 (hence rule 11.74). A mass of moving vehicles, or a heavy artillery bombardment, could reduce visibility in the affected area to fifty yards or less.

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.

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).

WIND vs DUST: Another wind-related aspect of the North African environment is the desert sandstorm, or khamsin in Arabic. Chapter D 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 sand-blasting 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).

OVERLAY X1: This overlay is intended for use in a HOLLOW LEGIONS scenario.

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 scene of heavy fighting, especially where crossed by a road or motorable track.

AB 41



ITALIAN VEHICLE NOTES

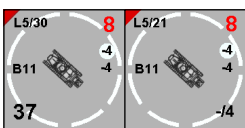
In the late 1930s the Italian Army officially committed itself to a program of mechanization, believing that if so equipped it could win swift and decisive victories, thereby avoiding the stalemates and appalling casualties of the Great War. Unfortunately for those ultimately involved in the impending 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 little experience in AFV design, a general lack of funds due to the financial stringencies of the 1930s, and the conservatism of certain highranking officers and officials. In the autumn of 1939 the army possessed about 1,500 hundred "tanks", but the overwhelming majority of them were marginally useful L3 tankettes. When Mussolini declared war in June 1940, his army was far from ready. Its total number of "tanks" had increased only to some 1,660, while the army's rapid expansion had created widespread equipment shortages in areas from those as crucial as motor transport to items as normally taken-for-granted as helmets. Moreover, the approximately 11,700 infantry, artillery and AA guns of > 65mm in service included less than 250 modern (i.e., '30s-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 AFV. From June 1940 to August 1943 it produced only about 3,300 tanks, SP guns and armored cars. The highest monthly total was but 170 vehicles, of which 65 were medium tanks. There was 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 and industrialists.

Italian AFV were characterized by their light weight, generally low horsepower-to-weight ratio and thin armor (the latter 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 loss in production that extensive retooling would cause. Indeed, 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. And 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.

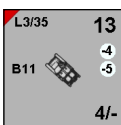
At the start of the war, the nomenclature for Italian tracked AFV followed the format "letter ###". The letter classed the vehicle as either light ("L"; ≤5 tons), medium ("M"; > 5 but ≤15 tons) or heavy ("P"; > 15 tons). The first number indicated the design weight in tons, and the second the year of 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 his OB were British. He treats such vehicles as non-Captured.]



1) L5/21 & L5/30: Also known respectively as the Fiat 3000 A Model 1921 and Fiat 3000 B 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 world in 1921.) The L5/21 carried two coaxially mounted machine guns; the L5/30 carried one. Both were intended as platoon and company tanks, and 48 L5/30 were built. The Italians referred to them as carri d'assalto, and until mid 1939 considered them light tanks. The L5/21 was first used in 1926 against the British in 1936 during the conquest of Ethiopia, and subsequently participated in attacks along the French-Italian border in 1940. Two L5 companies, each of nine tanks, landed there; one, in XII Corps, was destroyed, while the other, in XVI Corps, was destroyed in 1941. An L5 platoon comprised four such tanks.

† Availability for WW2 scenarios is limited to 6/40 (France) and 7/43 (Sicily).



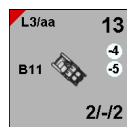
2) L3/35: Derived from the British Carden-Loyd Mk VI tankette, this AFV first appeared in 1933. The original model, designated the CV 33 (Carro Veloce; fast tank), carried a single 6.5mm MG, but later versions were equipped with two tandem-mounted 8mm MG (and the older models were thusly retrofitted). In 1935 the CV 35 went into production, featuring

a number of minor modifications (but both types are equivalent in game terms). In 1938 minor designations were changed to L3/33 and L3/35. When Italy entered the war in June 1940, 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. L3 acquired several nicknames, among which were "Scatoletta" (little can) and "Cassa da Morto" (death box). Between 2,000 and 2,500 (including all 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 1939; 6/40 in France; in North Africa (where in June 1940 about 320 were present, constituting all the armor there at that time); 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. L3 imported during the 1930s were used in combat by the Greeks, Hungarians and Chinese. In the Balkans, captured/seized L3 were used by the Germans, Croats and Yugoslavians.

† Dates and RF for use in North Africa are 6-12/40 (.9), 1/41 (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 (1.4). For Italy they are 9/43 (1.2), and 44-5/45 (1.3; 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 (1.1), and 44-5/45 (1.3; Fascist use only).



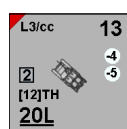
3) L3 aa: Some L3 were equipped with an AA mount on the superstructure roof in front of the commander-gunner's hatch. One of the AFV's MG could be moved to this mount, giving the vehicle a limited AA capability. Apparently not many were thusly equipped.

† 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's VCA. These are signified respectively on the counter by the MA being given 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 does 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 in neither Motion nor Melee, and its Inherent crew is/becomes CE. If all these conditions are still met during the APH, he may then exchange the Malfunction/Disabled counter of one MG for that of the other.

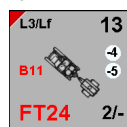
EX: Assume an L3 as has a malfunctioned AAMG. If the above-mentioned rules are followed, and the conditions are still being met in the APh, its owner may at that time remove the AAMG Malfunction counter and replace it with a BMG Malfunction counter.

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



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 AT capability, but the mobility of the ATR and its crew's survivability as well. Apparently all the L3 cc were lost during the course of Operation Compass, the British counter-2/40-2/41.

† RF is 1.5 in 1940 and 1.6 in 1941.



5) L3 Lf: Development of a flamethrower (Lanciafiamme) variant of the L3 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 Balkans, North Africa and Italian East Africa. Examples of the L3 Lf remained in service after 1941 but apparently did not see significant combat again. Each L3 battalion was authorized one flamethrower platoon (of four L3 Lt) per L3 company; however, the cavalry's squadron groups did not use the FT version. It is not known how many L3 Lf were built, but it 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 at the start of its MPH—but only if the AFV is not Motion, 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 Delay, then exchanging the L3 Lf counter for an L3 as marked with an AAMG Disabled counter: the AFV may then complete its MPH.

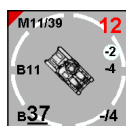
† Dates for use in France are 6/40, for North Africa 6/40-41, for East Africa 7/40-6/41, and for the Balkans 10/40-4/41. RF is always .3 higher (1.6 maximum) than the corresponding (for date and area) RF of the L3/35.



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 flame-thrower 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 3rd Celere Division; they were the heaviest Italian tracked AFV used on that front. In Yugoslavia, L6/40 were employed by the "San Giusto" Gruppo Squadroni Carri L of the 1st Celere Division. Some saw combat in Italy during September 1943, and later were used there by Italian Fascists and the Germans. The latter also employed them in the Balkans, but most of those they seized in September 1943 were exported to Croatia. The Yugoslav partisans also used a small number of captured L6. In Italian use an L6/40 platoon comprised four such AFV.

† Dates and RF for use in North Africa are 12/41-6/42 (1.6), 7-9/42 (1.4), 10-11/42 (1.5), 12/42-1/43 (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).



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 (Battaglioni Carri M), were sent to Libya in the summer of 1940 (but by early February 1941 all 70 had been destroyed or captured by the British). An M11/39 platoon comprised four such tanks.

† B11 applies only to the 37 SA (as indicated by "B11: SA only" on the counter). All 1MT penalties apply to the CMG MA, which has 360° traverse independent of the bow-mounted NT 37 SA.

† Dates and RF for North African use are 8-12/40 (1.2), 1/41 (1.4), and 2/41 (1.6). For East Africa they are 7/40-1/41 (1.4), 2-3/41 (1.5), and 4-6/41 (1.6).



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 "Centaurio" (Centaur) and 133rd "Littorio" (Bundle of Fates) Armored Divisions in the Greek-Yugoslav campaigns during January-April 1941. For a short time in early 1941 one British armored regiment (the 6th RTR) in Libya was equipped with captured M13/40, but lost them all during Rommel's first offensive. In September 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 M14/41) platoon comprised four such tanks until late August 1941 when five were authorized.

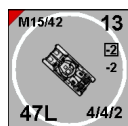
† This AFV has no radio in scenarios set prior to 11/41 (see D14). As of 11/41 it is radio-equipped.

† 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), and 44-5/45 (1.6; Fascist use only).



9) M14/41: This tank, which entered production in the latter half of 1941, was actually the M 13/40 with certain modifications to increase horsepower and enhance its reliability in the desert. The M 14/41 saw combat only in North Africa, equipping the tank battalions of the "Littorio" and "Centaurio" armored divisions—but first went into action with the XI Medium Tank Battalion of the 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. Only one was seized by the Germans in September 1943.

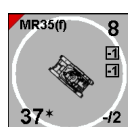
† RF is 1.2 for 1-6/42, 1.0 for 7-11/42, 1.5 for 12/42-1/43, and 1.1 thereafter.



10) M15/42: This, the last version of the M13 series, was slightly longer than the preceding models and featured a higher-velocity gun, more powerful engine and improved armor. 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 M 15/42 which carried four turret-mounted 20mm guns; some sources claim this gave them the idea for the Wirbelwind. An M15/42 platoon comprised five such tanks.

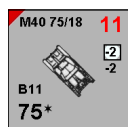
† Dates and RF are 9/43 (1.2), and 44-5/45 (1.4; Fascist use only).



11) MR35(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 Carri M, both of which were destroyed in Sicily in the summer of 1943.

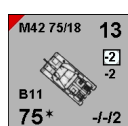
† The CE DRM is +1 vs Indirect Fire, as well as vs Direct Fire that emanates from within the turret's rear Target Facing—as signified by "CE: +1RT" on the counter.

† "(f)" in the piece name stands for "French" for ESB, etc., purposes. tRF is 1.2 for 7/43 and 1.4 for 8/43.



12) Semoventi M40 & M41 da 75/18: Inspired by the Sturmgeschuetz III, the Italians 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), 7-11/42 (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).

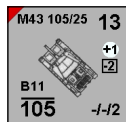


13) Semoventi M42 da 75/18 & 75/32: The last model of the SMV 75/18, ordered in October 1942, was based on the M15/42 tank and originally was intended to carry the new 75/34 gun. However, by March 1943 this gun was still in development so it was decided to install the

75/18 howitzer in the interim. Instead of equipping only Gruppi Semoventi, some SMV M42 75/18 were issued to tank battalions pursuant to 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 German occupation of Italy) is a generally accepted approximation.

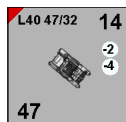
In mid 1943 about 25 SMV M42 were equipped with a version of the 75/32 field gun. In September of that year they saw combat in the Rome area as part of the 135th "Ariete II" Armored Division. Subsequently, a number of those confiscated by the Germans were turned over to the Fascist Italians [as were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

† SMV M42 75/32 Dates and RF are 9/43 (1.5), and 44-5/45 (1.6; Fascist use only).



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 (see German Vehicle), 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. See also German Vehicle.

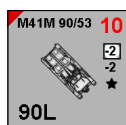
It was envisioned that, once the newest AFV types were available in numbers, SMV 75/34 would be used as TD while SMV 105/25 would provide close support for P26/40 (see German Vehicle) tank units. The SMV 105/25 would also be used for counterbattery fire, while the older (and shorter-ranged) SMV 75/18 would be relegated to infantry support.



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 47/32), 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 1943-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. At 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 Carrier (as signified by "Always CE" on 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 (1.3) and 8/43 (1.4). For Italy they are 9/43 (1.4), and 44-5/45 (1.5; Fascist use only).

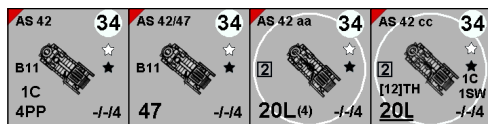


16) Semovente M41M da 90/53: This AFV consisted of the 90mm AA gun mounted on the rear of a lengthened M14/41 hull and chassis, with the engine moved forward from the rear of the vehicle to a central position. It was hurriedly designed and put into production in early 1942 but, due to the large gun's overstressing the chassis and engine, its manufacture was halted after only 30 of the vehicles ordered had been completed. Another drawback was its lack of space for ammo stowage, only six rounds being carried on the SMV; consequently it was accompanied into action by a turretless L6/40 ammunition carrier. Despite having been conceived and built specifically for AT use on the Eastern Front, due to their 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 fire at all if a Known enemy unit occupies its Location, and receives only a + 1 DRM for being CE (no DRM if attacked through its unarmored Target Facing) as signified by "CE: + 1" on the counter. See also Italian Vehicle Note D.

† When an Ammo Vehicle is called for by SSR or DYO purchase, use an SMV 47/32. This ammo vehicle has no Gun (place a Gun Disabled counter on it); instead its MA is a 2 FP AAMG which may fire only at a target that lies within its VCA. (Place an AA counter on it to signify the AAMG.)

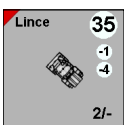
† RF for use in Sicily is 1.3 for 7/43 and 1.6 for 8/43.



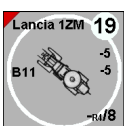
17) AS 42, AS 42 aa & AS 42 cc: The AS 42 (AS stands for Auto Sahariana) was derived from the AB 41 armored car but, unlike the latter, was unarmored and lacked a rear driving position. Designed specifically for long-range reconnaissance in North Africa, it had an excellent cross-country range of almost 500 miles. It was also known as the Camionetta Desertica mod. 42 (Desert Weapons Carrier model 1942), and was nicknamed la Sahariana (the Saharan). Its armament varied, so four 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 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). AS 42 aa and AS 42 cc Dates and RF are the same, but with .1 added to the RF.



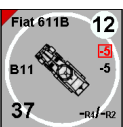
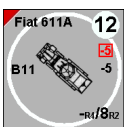
18) Lince: The Lince (Lynx) was a close copy of the British Daimler "Dingo" scout car. It was first considered in 1941, and was accepted for service at the end of March 1943. Production, however, did not start until 1944; hence all went to the Germans, who handed over some to the Fascist Italians. It was used for reconnaissance and liaison. 263 chassis were built, but only 129 vehicles were completed.



19) Lancia 12M: 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 1915 the Lancia 1Z appeared; then in 1917 came the 12M, derived from the 1Z. Both Lancia types saw action in WW1. In 1928 the 12Ms' MG were replaced by more modern types. Afterwards, 12M 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 12M was equipped with special rails to enable it to drive through and cut wire.

† This AFV may clear wire as if it were fully tracked (B26.53).

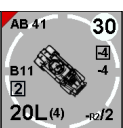
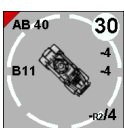
† Availability for WW2 scenarios is limited to East Africa, with Dates and RF of 7/40-1/41 (1.4) and 2-6/41 (1.5).



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. Fiat 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).

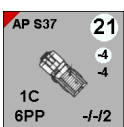


21) AB 40 & AB 41: These two automotively advanced designs filled the requirement for modern AC in the Italian Army. They featured a 4x4 layout with four wheel steering and fully independent suspension, freely rotating spare wheels (midway along the sides of the hull) to

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. 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 also 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.

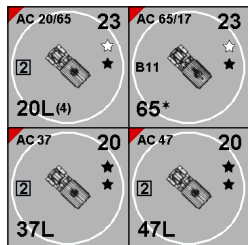
† AB 41 Dates and RF for use in North Africa are 8-10/41 (1.5), 11/41-5/42 (1.4), and 6/42-5/43 (1.3); for Russia they are 12/41-8/42 (1.5); for the Balkans they are 42-9/43 (1.4), and 44-5/45 (1.4; Fascist use only); for Sicily they are 7-8/43 (1.4); for Italy they are 9/43 (1.3), and 44-5/45 (1.4;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



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 as an armored car for movement (and all related) purposes [EXC: Reverse Movement costs it four times its normal hex entry cost (as signified by "REV x4" on the counter)]; otherwise it is treated as an armored halftrack.

† Dates 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).

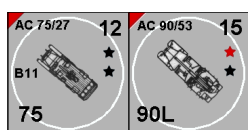


23) Autocannoni da 20/65(b) & 65/17(b): These were Morris CS 8 15-cwt trucks captured from the British in North Africa and modified to carry a 20mm AA or 65mm INF gun. Two Gruppi (the XIV and XV) Autocannoni da 65/17 were formed, each of three four gun batteries, and to each Gruppo was attached a section 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 Hammada Immobilization and Sand Bog purposes. All 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 counter.

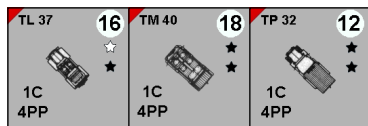
† Autocannone da 20/65 use in 1945 is limited to Fascist Italians only. Autocannone da 65/17 RF for use in North Africa is 1.5 for 11/41-6/42, 1.6 for 7-12/42, and 1.5 in 1943.



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 remounted on more modern Ceirano vehicles, and these are what

the game pieces represent. 24 were used by the Italians in Spain 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 4 x 4 (or, later a Breda Dovunque 6 x 6) heavy truck modified to carry the 90/53 AA gun. 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. For both the 75/27 and 90/53 Autocannoni, a battery comprised four vehicles.

† Autocannoni da 75/27 CK RF for use in North Africa is 1.5 for 6/40-2/41 and 1.6 for 3-11/41. 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).



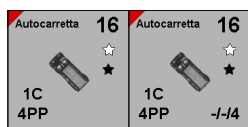
25) TL 37, TM 40 & TP 32: From about 1926 the Italians produced various light, medium and heavy prime movers (which they called tractors) specifically for towing artillery. Three of the

more common models were, respectively, the Fiat-Spa Trattore Leggero 37 and Trattore Medio 40, and the Breda Trattore Pesante 32. All 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, Italian artillery tractors were used by the Germans in Italy and elsewhere in Europe.

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

7P 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 (1.4), 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).

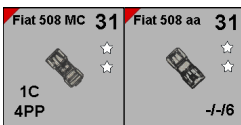


26) Autocarretta: As the portee method of trans-
-porting light guns lost favor, certain types of light trucks were produced/adapted to tow them. These are generically represented by the Auto-carretta or "little truck". (The Autocarretta was actually a specialized vehicle originally

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 (1.1), 12/43 (1.3), 1944 (1.2), and 1945 (1.2; Fascist use only). Elsewhere [EXC: NA in East Africa] they are 8/41-9/43 (1.2), 10-11/43 (1.5), and 44-5/45 (1.2; Fascist use only).



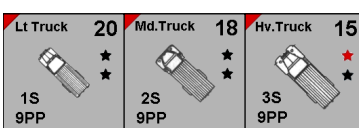
27) Fiat 508 MC: Derived from the civilian Fiat 1100, the 508 MC (Militare Coloniale) was one of the more common field cars used by the Italians. Of 4 x 2 configuration, it was produced in large numbers and several different variants.

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 MF in the vehicle's Location (and declared to be assisting its unbogging) thereby allows the owning player to subtract two (one per cerew/HS) from the colored dr of its immediately subsequent unbogging DR.

† The optional AAMG (i.e., the Furgone 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 counter). It may not be Removed, but may be Scrounged as one or two LMG. The Furgone has no Passenger capacity. See also Italian Vehicle Note A.

† Availability in 1945 is limited to Fascist Italians only.



28) Autocarri L, M & P: The Italian Army possessed many diverse types and makes of trucks, and for this reason the game pieces generically represent the light (Leggero), medium

(Medio) and heavy (Pesante) classes. The payload capacity and minimum top speed of the latter two were standardized in 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 motor-cycles), 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 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 to 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 7-11/41 (1.6); RF for 44-5/45 use in Italy is 1.2, and 1945 availability is limited to Fascist Italians only].

ITALIAN MULTI APPLICABLE VEHICLE NOTES

A. Make two To Kill DR when using the AP To Kill Table; only one DR (firer's choice) is used. This is signified on the counter by "2 TK DR".

B. The 4-FP BMG may be Scrounged as one or two LMG (as per D10.5); however, it is considered one MG for malfunction, repair and disablement purposes.

C. If this AFV is non-turreted, its AAMG may fire only at a target that lies within its VCA—as signified by "AAMG: VCA only" on the counter. If optional, the AAMG is always available with a 1.4 RF.

D. The MA may not use neither Motion Fire.

E. If Stunned, this AFV may not regain CE status, may not fire any weapon, and is treated as a KIA per 64.44; these are signified by "Stun=KIA & CE/FP NA" on the counter. The BMG, if present, may fire while the vehicle is HD (as signified by "BMG HD FP ok" on the counter).

F. The MA and all MG have B11. This is signified by "B11" in red on the counter (bold in the Vehicle Listing). If the vehicle is equipped with a hull Rear MG, that MG may be Removed as a dismantled MMG.

G. The MA may not Motion Fire, through its VCA

H. HEAT becomes available in September 1942, as signified by the superscript "s2+",

I. The CMG of the MR/35, and the hull Rear MG of the AB 40, may be repositioned as a 2-FP AAMG. This can be done only 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 (as signified by "AAMG: TCA only" on the counter). The AAMG may be repositioned as the MR/35 CMG, or AB 40 hull Rear MG, by using these same principles to remove the AA counter.

J. The 20L MA is an ATR, has a maximum To Hit range of 12 hexes (as signified by "[12 TH]" on the counter), and may be Scrounged/Removed. It fires through its given CA in the normal manner. The MA of the L3 cc may not be used if it is CE, as signified by "CE use NA" on the counter.

K. If armed, this vehicle has an Inherent crew and thus a CS#.

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 cost (as signified by "REVx3" on 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, 11/42-5/43 (within the limits of its own given Dates).

R. This vehicle was used in Russia at some time from 8/41 to 3/43 (within the limits of its own given Dates).

AA. The MA has AA capability—as signified by "MA: AA" on the counter.

ITALIAN ORDNANCE NOTES

Italian ordnance used a "###" system of nomenclature, with the first number giving the caliber size in mm and the second the barrel length in calibers. If additional identification was needed, the model year was added as a suffix.

[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 75*-MTR/AT/88-ART/40L-AA (only), as if his OB were British. He treats such Guns as non-Captured.]



1) Mortaio da 45 "Brixia".. This weapon, the standard "assault and support" mortar of the Italian Army, was accepted for service in 1935 and first saw action in East Africa that same year. Its design embodied a number of unusual (and overly complex) features. Instead of being fired by simply dropping a round down the muzzle, a lever arm was pulled to open the top of the breech, and the projectile (a standard grenade with a finned attachment at the rear) was hand-loaded through the opening; the lever was then pushed to insert a firing cartridge (from a ten-round magazine) and close the breech. Firing was accomplished by squeezing a trigger. Range could be varied by the normal method of setting elevation, and also by an adjustable gas port which vented a portion of the propellant gas. In action the firer normally lay prone, with his chest on a padded frame cushion attached to the mortar's rear leg. For transport, the legs folded and the entire weapon was worn like a backpack, with the cushion easing the load on the bearer's back.

The "Brixia" (its designer's name) was normally used in mortar squads of three weapons each. Three such squads formed a platoon, two of which were authorized in the SW company (compagnia armi di accompagnamento) of an infantry battalion. The battalion often assigned one or two of these squads to each of its rifle companies. In an Alpini battalion, each company usually contained an inherent Brixia squad instead. Bersaglieri, cavalry and Libyan units were not normally authorized 45mm mortars. Some divisional 81mm mortar battalions contained a company of three Brixia platoons in lieu of one 81mm company until such time as the latter could be provided. Early in the war the Italians also received a number of ex-French 60mm mortars.

Frontline use of the Brixia declined as the war progressed, especially in North Africa where by 1942 it was no longer even authorized in first-line divisions. However, in late 1943 when the first Allied Italian units were being formed, each battalion was authorized 18 Brixias. Large numbers of Brixias and other types of Italian SW were used by partisans in the Balkans.



2) Mortaio da 81/14: First used in Ethiopia in 1936, the 81/14 was a close copy of the French Brandt 81mm mortar. It fired both light (7-lb) and heavy (15-lb) bombs, and had the longest range of any medium mortar used during the war. Its ammunition was interchangeable with that of U.S. and French 81mm mortars, and it could also fire German 81mm rounds to just over 2000m. Blackshirt legions, and the infantry regiments in normal, motorized and "truckable" (autotrasportabile) infantry divisions were usually au-

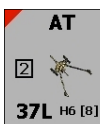
thorized one company of 81/14s each. However, 1942 "North-Africa Type" (Tipo AS) infantry regiments, as well as Alpini regiments, were authorized a company in each battalion instead. Cavalry, Libyan, parachute and Bersaglieri regiments normally contained no 81/14s (though in North Africa some of the latter actually did at one time or another). Both infantry and autotrasportabile divisions (except those designated Tipo AS) were also authorized a divisional mortar battalion of three companies. The "Pasubio" and "Torino" autotrasportabile divisions each had two such battalions in Russia. An 81mm mortar company comprised three platoons of two (sometimes three, especially later in North Africa) mortars each. A number of Polish prewar M28 81mm mortars were also supplied to the Italians.

† Dates and RF for use in North Africa are 6/40-5/41 (1.3), 6/41-4/42 (1.2), 5-12/42 (1.1), and 1-5/43 (1.0). For East Africa they are 6/40-6/41 (1.3) and 7-11/41 (1.4). For Russia they are 8/41-1/43 (1.1), 2/43 (1.3), and 3/43 (1.5). Elsewhere they are 6/40-9/43 (1.2), 10-11/43 (1.3), 12/43 (1.2), 1944 (1.1), and 1945 (1.1; Fascist use only).



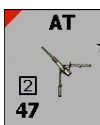
3) Fucile-cc S: Like several other nations, Italy adopted a Swiss 20mm ATR—in this case the s18-1000 (and the very similar s18-1100) which in Italian service was designated the Fucile-contracarro S (anti-tank rifle Solothurn). It was capable of single-shot and semi-automatic fire (or full-auto in the 1100 version) from either a small two-wheeled carriage or an attached bipod. It was first issued in 1940, two per battalion, to troops in North Africa (especially Bersaglieri and Libyan units). Later, as its availability increased, its employment became more widespread and as many as six per battalion were authorized. Fucile-cc S were often manned by the ex-crews of 45mm mortars being taken out of frontline service. Another ATR used by the Italians was the Polish Maroszczek wz 35. The Germans captured about 2,000 of these in September 1939, and during the winter of 1941-42 they turned over the bulk of them to the Italian forces in Russia.

ERRATA: The AP Basic To Kill number of the 20L ATR is "6"; that of the 1PP (ex-Polish) ATR is "5"



4) Cannone-cc da 37/45: This was a license built version of the German 3.7cm PaK 35/36. Apparently it was not widely used, and little has come to light regarding its employment. (Indeed, even Italian documents rarely mention it.) North-African-type Bersaglieri truck borne and motorcycle companies were each authorized a platoon of two 37/45, and some (carried and usually fired en portee) were encountered by the British during the early fighting in Cyrenaica. Apparently this use in North Africa was its only significant combat service (though in the 1930s two companies had been used by Italian troops in the Spanish Civil War).

† Dates and RF for use in North Africa are 6/40-2/41 (1.4) and 3-12/41 (1.5).



5) Cannone da 47/32: This was the Boehler M1935, designed in Austria, which the Italians produced in several licensed versions. They used it as an AT gun, for infantry support and as pack artillery, while modified versions were used in the M13-M14 tanks and SMV 47/32. One drawback to its design was the lack of a gunshield; another was that those built prior to 1939 lacked a towing eyelet, so had to be manhandled or carried en portee. Overall it was a good gun, but due to the lack of a suitable replacement it had to soldier on long after becoming obsolete. In mid 1940 there were 928 in Italian service (including 127 in Libya); by Sept. 1943 more than 3,000 had been produced.

47/32 were employed in the divisional AT company generally authorized in each normal and "truckable" (autotrasportabile) infantry, Celere, Black-shirt and Libyan division. Each motorized infantry regiment was authorized a company, as was each Bersaglieri regiment; however, by mid 1941 many of the latter had one company per battalion instead. Since it was planned that 47/32 eventually would replace all 65/17 in the infantry support role, some regiments possessed a 47/32 company instead of their 65/17 battery—and, from early 1942, infantry regiments in North Africa were each authorized twelve 47/32 instead. Since the gun could be para-dropped, the "Folgore" parachute division used it as divisional artillery—and some of this division's regiments and battalions contained a 47/32 company apiece. A number of 47/32 AT battalions also existed; aside from being used at corps level, by mid 1941 one was generally attached to each armored division. Most divisions sent to Russia contained at least two divisional AT companies.

A 47/32 company usually comprised eight guns in four platoons. Apparently no 47/32 were sent to Italian East Africa.

Other AT guns used by the Italians included a small number of German 7.5cm PaK 97/38 (36 were turned over to the 8th Army in Russia), 7.5cm PaK 40 (a few) and 8.8cm FlaK (a small number were used in North Africa), and the French 25mm mle 1934.

† The 47/32 may not be towed in any scenario set prior to August 1941 (as signified by "Towed A1+" on the counter).

† Dates and RF for use in North Africa are 6/40-5/41 (1.2), 6-10/41 (1.1), 11/41-4/42 (1.0), and 5/42-5/43 (.9). For Russia they are 8/41-1/43 (1.0), 2/43 (1.2) and 3/43 (1.4). Elsewhere [EXC: NA in East Africa] they are 6/40-9/43 (1.3), 10-11/43 (1.6), 12/43 (1.3), 1944 (1.2), and 1945 (1.2; Fascist use only).



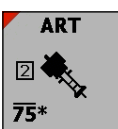
6) Cannone da 65/17: This was an Italian-made mountain gun dating from 1913. Alpini units used it in WW1, but by 1940 it had been relegated mainly to infantry support. In mid 1940 there were 700 in service, including 146 in Libya and 312 in Italian East Africa. Blackshirt legions, and the infantry regiments in both normal and "truck-able" (autotrasportabile) infantry divisions, were each authorized one battery of four 65/17 (though some used 47/32 instead; see Note 5 above). In a few rare cases (mostly in East Africa) 65/17 were employed as divisional artillery. (They had also been used thusly by the Nationalists during the Spanish Civil War.)

† Dates and RF for use in North Africa are 6-12/40 (1.1), 1-10/41 (1.2), 11/41-4/42 (1.3), 5-12/42 (1.4), and 1-5/43 (1.5). For East Africa they are 6/40-6/41 (1.0) and 7-11/41 (1.1). For Russia they are 8/41-42 (1.1), 1/43 (1.5) and 2-3/43 (1.6). Elsewhere they are 6/40-9/43 (1.1), and 1944-45 (1.3; Fascist use only).



7) Cannone da 70/15: This ancient gun, which lacked any type of recoil mechanism, was first produced in 1902 as a mountain artillery piece for Alpini units. It was later superseded by the 65/17 and passed to the infantry. Its only significant use in combat during WW2 occurred in Italian East Africa, where 92 were present in July 1940. It was probably employed at the regimental level, like the 65/17.

† RF for use in East Africa is 1.2 for 6/40-6/41 and 1.3 for 7-11/41.



8) Obice da 75/13: The Skoda 7.5cm vz 15 was one of the most successful mountain howitzers ever produced. Many were taken over by the Italians after WW1 and, designated the 75/13, were issued to Alpini units to replace their 65/17. In mid 1940 the army had 1,187 75/13 in service, including 32 in Italian East Africa. An Alpini regiment, whose structure allowed it to operate independently whenever necessary, often had a 75/13 battalion (gruppo) directly attached, one battery (four guns) of which could in turn be assigned to each of the regiment's battalions. Each of the three Alpini divisions sent to Russia in 1942 contained two 75/13 battalions in its artillery regiment. 75/13 were occasionally used as divisional artillery by other types of divisions as well.

† Dates and RF for use in Russia are 9-12/42 (1.3), 1/43 (1.2), 2/43 (1.5), and 3/43 (1.6). For East Africa they are 6/40-6/41 (1.5) and 7-11/41 (1.6). Elsewhere [EXC: NA in North Africa] they are 6/40-9/43 (1.2), 1944 (1.4), and 1945 (1.4; Fascist use only).



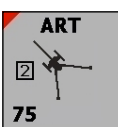
9) Cannone da 75/27: This was the standard light field piece in the artillery regiment of most Italian divisions. The game piece actually represents four different pre-WW1 guns that are equivalent in game terms and historical role: the 75/27 m06, m1 I and m12, and the 77/28. The m06 was a license-built Krupp product, 51 of which were later modified by the Italians, becoming the m12. The m1 I was an import from France, notable for being the first service artillery piece in the world to have split trails. The 77/28 was a Skoda-built combination field/mountain gun; among other uses it was issued to Italy's two Libyan divisions. In mid 1940, there were 3,091 75/27 in army service (including 499 in Libya and 24 in Italian East Africa), plus 245 77/28. A battery comprised four guns. During the Spanish Civil War the 75/27 was employed by some Nationalist units as divisional artillery.

† Dates and RF for use in East Africa are 6/40-6/41 (1.3) and 7-11/41 (1.4). Elsewhere they are 6/40-9/43 (1.2), and 1944-45 (1.4; Fascist use only).



10) Obice da 75/18: This game piece represents two guns: the 75/18 m34, which was a modern mountain howitzer derived in 1934 from the 75/13; and the 75/18 m35, a normal field howitzer derived from the m34. In June 1940 only 114 m34 were in service, and by Sept. 1942 only 230 m34 and 68 m35 had been produced. (Another 54 of the latter were built by mid 1943.) Both types were employed as divisional artillery in a few select units, mostly in North Africa and Russia. A battery comprised four guns. This ordnance was also used as the MA of the Semovente 75/18, which is one reason relatively few of the towed versions were built.

† Dates and RF for use in North Africa are 11/41-5/43 (1.4). For Russia they are 7-12/42 (1.3), 1/43 (1.5) and 2-3/43 (1.6). Elsewhere they are 42-9/43 (1.5), 12/43 (1.5), 1944 (1.4), and 1945 (1.4; Fascist use only).



11) Cannone da 75/32: The 75/32 was virtually identical to the 75/18 m35, but possessed a longer barrel for increased muzzle velocity and range. It was accepted in 1937 but did not enter production until 1940. By Sept. 1942 only 39 had been

built—and by mid 1943 only 98 more had been produced. Though intended as an artillery piece, the 75/32 was used primarily as an AT gun—most notably in Russia where 36 were employed in the three battalions (gruppi) of the 201st Motorized AT Regiment, with four guns per battery. Apparently only a very small number were sent to North Africa, and saw little if any action there.

† Dates and RF for use in Russia are 8-12/42 (1.4) and 1-3/43 (1.6). For Italy they are 9/43 (1.5).



12) Obice da 100/17: Another old Austro-Hungarian howitzer—in this case the Skoda 10cm vz 14. A large number were taken over by Italy in 1918, some of which were used in the Spanish Civil War. In mid 1940 there were 1,524 in Italian service (including 172 in Libya and 14 in Italian East Africa), plus 181 Skoda 10cm vz 16, which was a mountain version.

In addition, the Germans later gave the Italians 400 of the vz 14/19 (which the latter designated the 100/22), an improved version of the vz 14. The Italians used the 100/17 as a companion piece to the 75/27 in the artillery regiment of various divisions; however, as the war progressed it tended to be supplanted by the 105/28. In Russia the 100/17 was employed only by the "Pasubio" and "Torino" autotrasportabile divisions and the 3rd Celere Division; the first two each contained one battalion (gruppo) throughout the campaign, while the latter contained one only in 1942. An artillery gruppo normally comprised twelve guns in three batteries.

With its M# changed to "9", the game piece also represents the 105/11, a French mountain gun used by the Alpini divisions sent to Russia.

† Dates and RF for use in North Africa are 6/40-41 (1.3) and 42-5/43 (1.4). For East Africa they are 6/40-6/41 (1.5) and 7-11/41 (1.6). For Russia they are 9/41-42 (1.3), 1/43 (1.4), and 2-3/43 (1.6). Elsewhere they are 6/40-9/43 (1.3), 10-12/43 (1.6), 1944 (1.5), and 1945 (1.5; Fascist use only).



13) Cannone da 105/28: This was a license-built version of the French 105mm mle 1913 (also known as the L 13 S). The Italians used it as corps artillery, though it was also employed at divisional level in place of the 100/17. The game piece also represents the 105/32, a modified version of the old Skoda 10.4cm vz 15; it too was used at corps level. In mid 1940 there were 956 105/28 and 227 105/32 in Italian service, including (respectively) 97 and 0 in Libya, and 59 and 4 in Italian East Africa. The 105/28 was also used as a corps-level gun in the Spanish Civil War.

† Dates and RF for use in North Africa are 6/40-41 (1.4) and 1/42-5/43 (1.3). For East Africa they are 6/40-6/41 (1.4) and 7-11/41 (1.5). For Russia they are 9/41-6/42 (1.3), 7-12/42 (1.2), 1/43 (1.3), 2/43 (1.5), and 3/43 (1.6). Elsewhere they are 6/40-9/43 (1.4), 10-12/43 (1.6), 1944 (1.5), and 1945 (1.5; Fascist use only).



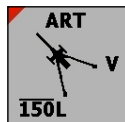
14) Obice da 149/13: This piece represents two old Skoda howitzers—the 15cm vz 14 and vz 14/16—taken over by the Italians from the Austro-Hungarian Empire after WW1. The first they designated the 149/12, and the second the 149/13. Some were sent to Spain where they were used by the Nationalists as corps/army artillery. In mid 1940 there were 592 149/12 and 490 149/13 in Italian service, including 37 in Libya and 4 in Italian East Africa (all 149/13s). Both types were used as corps artillery. Five battalions (gruppi) of 149/13 (48 guns total, four per battery) served in the three corps of the 8th Army in Russia. The Italians referred to corps-level guns and howitzers as "heavy field" (pesanti campali) artillery. Another corps gun used by the Italians was the 6-in. howitzer imported from Great Britain after WW1; in June 1940, 88 were in Italian service. Italy also produced a modern, efficient corps howitzer—the 149/19—but its rate of production was low and it apparently saw little combat. The Germans kept it in production after 1943 for their own use.

† Dates and RF for use in North Africa are 6-12/40 (1.5) and 1/41-5/43 (1.4). For East Africa they are 6/40-11/41 (1.6). For Russia they are 7/42-1/43 (1.4) and 2-3/43 (1.6). Elsewhere they are 6/40-9/43 (1.5), and 1944-45 (1.6; Fascist use only).



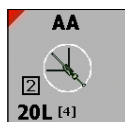
15) Cannone da 149/35: Another ancient gun still in service during WW2 was the 149/35, which was first produced around the turn of the century. It lacked a recoil mechanism, so ramps were placed behind its wheels to keep it from rolling farther backward each time it was fired. To further inhibit rolling, large flat plates were strapped around the rims of its wheels (as was commonly done during WW1), even though this reduced its towing speed to only 4-5mph. In June 1940 there were 895 in Italian service. 149/35 were employed at army level in the Balkans and North Africa, with four per battery.

† Dates and RF for use in North Africa are 6-12/40 (1.5), 1-10/41 (1.6), and 11/41-11/42 (1.5). For the Balkans they are 10/40-4/41 (1.5). For Sicily they are 7-8/43 (1.6).



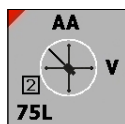
16) Cannone da 149/40: To replace the 149/35 and miscellaneous other old, large-caliber guns, the 149/40 was produced from about 1935. However, as in so many other cases, the Italian arms industry was unable to effect rapid production, and by June 1940 only 39 were in service. In Sept. 1942 there were 36 in Russia, 12 in North Africa and three in Italy. A companion piece to the 149/40 also existed. This was the 210/22, accepted for service in 1938. Again, the number built was small: 16 were in service in June 1940, and only 20 in Sept. 1942. Apparently the 210/22 saw combat only in Russia, with the LXXIII Gruppo (15 guns). The Germans considered the 149/40 and 210/22 good designs, and kept both types in production after 1943. In 1941 the Italians received 38 German 15cm sFH 18 howitzers; designated the 149/28, 24 were used in Russia (in the XXIV and L Gruppi) and 14 in North Africa (in the CXXXI and CXLVII Gruppi). In Russia, all three of these gun types were employed in the 9th Army Artillery Brigade of the 8th Army, with four guns per battery. The Italians referred to army-level guns and howitzers as "heavy" (pesanti) artillery.

† Dates and RF for use in North Africa are 6/41-11/42 (1.6). For Russia they are 8-12/42 (1.5) and 1-3/43 (1.6).



17) Cannone-mitragliera da 20/65: This was the standard Italian light AA gun, which the Italians also viewed as a heavy machinegun (mitragliera) and light AT gun. Adopted in 1935, it was exported to China in the late 1930s, and about sixty were used in the Spanish Civil War. By mid 1940 there were 1,088 in army service, including 209 in Libya and 24 in Italian East Africa; by Sept. 1942 its total number had increased to 2,788 (including 326 on static mounts). An artillery regiment was normally authorized one battery of 20/65 if in an infantry division, or two batteries in most other types of divisions. By mid 1941 in North Africa, at least some motorized infantry and Bersaglieri regiments contained a 20mm battery as well (or instead). All divisions sent to Russia contained two 20/65 batteries (except for the "Vicenza" occupation division), which had none. A squadron of eight 20/65 (two per platoon) was authorized in the RECo (Raggruppamento Esplorante Corazzato; armored recon task force) of armored and motorized divisions. The 1942 armored division was authorized one battery each in its tank and Bersaglieri regiments, and two more (plus an additional section) in its artillery regiment. After 1943 the Germans kept the 20/65 in production for their own use. A 20/65 battery comprised four two-gun sections.

† Dates and RF for use in North Africa are 6/40-5/41 (1.2), 6/41-4/42 (1.1), and 5/42-5/43 (1.0). For East Africa they are 6/40-6/41 (1.5) and 7-11/41 (1.6). For Russia they are 8/41-1/43 (1.2), 2/43 (1.4) and 3/43 (1.6). Elsewhere they are 6/40-11/43 (1.3), 12/43 (1.4), 1944 (1.3), and 1945 (1.3; Fascist use only).

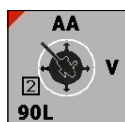


18) Cannone aa da 75/39: This was a pre-war Vickers AA gun captured by the Germans during their 1940 campaign in the West. Later they turned over 54 to the Italians who used them as AT guns in Russia, each division in that theater (except for the "Vicenza" occupation division) receiving a battery of six.

† RF for use in Russia is 1.3 for 7/42-1/43, 1.5 for 1/43, and 1.6 for 2-3/43.

19) Cannone-aa da 75/46: Design work on this Italian AA gun started in 1926, and it was adopted in 1934. In mid 1940 there were 76 in army service (including 8 in Libya and 24 in Italian East Africa), but by late 1942 only 226 had been produced. Two 75/46 battalions (gruppi) were included in the CSIR (Corpo Spedizione Italiano in Russia—Italian Expeditionary Corps in Russia) in 1941; on that front in 1942 the 8th Army contained five such battalions. The 75/46 was sometimes called on to double as an AT gun, a role it performed most effectively. After September 1943 the Germans used a number of 75/46, including on the Eastern Front.

† RF for use in North Africa is 1.5 prior to 1942, and 1.4 for 1/42-5/43. Elsewhere it is 1.5 for 6/40-9/43 [EXC: 1.6 for East Africa, 7-11/41], 1.6 for 10-11/43, and 1.6 for 1944-45 (Fascist use only).



20) Cannone-aa da 90/53: This gun originated in 1939; by June 1940, 1600 had been ordered but none were yet available. It was an excellent weapon, comparable in many ways to the German "88". Indeed, its maximum range exceeded, and its armor penetration roughly equalled, that of the German gun. Unfortunately for the Italians the 90/53 was never available in sufficient quantity, there being only 539 available in July 1943—the majority of which were in static emplacements. No 90/53 were employed in Russia. A battery comprised four guns. After Italy's capitulation, the Germans not only seized all the 90/53 they could but also kept it in production for their own use; at the end of 1944 they had 315 in service.

† Dates and RF are 5/42-9/43 (1.5) [EXC: NA in Russia], 10-11/43' (1.6), and 1944-45 (1.6; Fascist use only).

ITALIAN MULTI APPLICABLE ORDNANCE NOTES

A. This Gun may be Animal-Packed. Rules for this capability will be provided in the ASL Japanese module.

B. This Gun may not use Target Acquisition (COI 69) as signified by "Acq. NA" on the counter.

C. This Gun may be carried en portee, which means it may be loaded onto a vehicle (during setup/play) and carried as Passenger PP. As a Passenger, the Gun, its crew and its ammo together use all of the vehicle's transport capacity. The Gun may be porteed only by an Autocarro L [EXC: an Autocarro M for the 65/17; an Autocarro P for the 75/27] that, prior to setup, was noted on a side record as being able to portee a Gun of that particular Caliber Size.

The gun was sometimes damaged by the battering it received when being towed long distances across the rock-strewn desert. The solution to this problem was to mount the gun unlimbered on the bed of a truck specially modified for this purpose, the result being called the Portee. This arrangement both saved wear and tear on the gun and increased its mobility. Consequently the Portee became the standard method of transporting some type of guns in North Africa.

When a Gun has been thusly loaded, it is marked with an En Portee counter. A vehicle porteeing a Gun that becomes Immobilized, may unload the gun. If a vehicle porteeing a Gun is eliminated, the Gun is eliminated too. A vehicle may not simultaneously have one Gun en portee and another hooked up for towing.

The 37L AT (only) may be fired by its Passenger crew while being porteed. While loaded on the vehicle, it is treated as a NT Gun able to fire only at a target that lies within its portee's "rear" VCA.

The gunshield provides no protection for the Portee, but Direct (only) Fire attacks vs it which emanate from within its TCA, and which do not destroy it, affect its crew as if they were manning a non-Emplaced, non-vehicular AT.

The Gun can be unloaded only after a crew counter in the Gun's Location has spent its entire MF allotment as unpinned, non-entrenched Good Order Infantry in a declared attempt (which makes it subject to Hazardous Movement) to do so. If this has been accomplished, the Gun is considered unloaded (place an appropriate gun counter), and it, the crew and Portee (that is marked as gun disabled) become TI. The crew and Gun are loaded aboard the Portee using these same principles; however, a Gun may not be (un)loaded onto/from any Portee that has expended MP in the same MPH. A voluntarily Abandoned Portee retains an Inherent Driver.

† In a pre-8/41 DYO scenario, The Italian player may not purchase a towing vehicle for a Gun that is capable of being porteed; however, he may purchase a portee vehicle for it if the scenario is set in North Africa. Otherwise he may use only Wagons to tow his Guns in a pre-8/41 DYO scenario.

H. HEAT becomes available in September 1942 (as signified by the superscript "S2+"). ERRATA: 65mm HEAT use the 37H column of AFV Kill Table.

N. This weapon was used in North Africa at some time from 6/40 to 5/43, within the limits of its own given Dates.

R. This Gun was not used in Russia.

Module Artillery Selection Table	
Die Roll	Module
1	70mm
2	80mm
3	80mm
4	100mm
5	100mm
6	150mm