STALINGRAD BATTLEFIELD WALKAROUND
(Dzerhezinsky Tractor Works— Grain Elevator—BG II SoS)

optional ATS playing aid   by Andrea Garello   14/07/2006

1.2 Land Forms—The land forms represented on the **Dzerhezinsky Tractor Works map** may be the simplest to comprehend among all ATS historical battlefields depicted to date.

It is, quite simply, flat as a billiard table. That is not to say it is open. Just flat, as in a plateau. Not one tree or hill to be found. In only one place does the land slope downward, the Ravine running along hexes **E4-E5-F6-F6** and to **F4-G5**.

The Dzerhezinsky Tractor Works battlefield is defined by that which is manmade, and in the case of the numerous shellholes and rubble, the stuff of man's destructive bent.

1.3 Terrain Forms—The terrain that makes up the urban moonscape of the Dzerhezinsky TractorWorks is like nothing experienced in the ATS system to date. There is very little Open Ground the majority of once open spaces now littered with Shellholes and a new ATS terrain type, Debris. Sewers make their appearance on this map, as do ornamental terrain known as Fountains. Railcars also appear in abundance, and there are also many Junkyard hexes found on the battlefield. It is the buildings that define urban warfare, and the Tractor Works contains every type of structure from small workers cottages to huge factories, many with holes smashed in their roofs and a labyrinth of interior 'black bar' walls that create havoc when trying to secure every hex of the extensive assembly halls.

1.3.1 Buildings—Every variety of building found in the ATS system can be found on the DZERHEZINSKY TRACTOR WORKS map. Small ones that only have a GROUND level location (and rise to obstacle height of +10 levels), and rubbled ones (that rise to the height of rubble, +5 levels high). Note that in some rubble hexes (**N22-M23**) the rubble goes across the hexside between adjacent hexes. In all cases any LOS that touches the rubble art is affected. There is no additional movement cost to cross a hexside that otherwise has rubble crossing it; the effect is one on LOS.

1.3.2 Other Man Made Terrain—Some hedge hexsides (e.g., **D35/E35**) are found, while these are a bit dark, they can be discerned from Walls by the 'square block' construction of the latter. Walls are also found along numerous hexsides (e.g., **G37/H37**). Note the Gate in the wall along the **W36/X36** hexside, allowing Personnel to move between these hexes without paying the cost to go over the Wall. Junkyards represent large piles (e.g., hex **H31**) while Debris (e.g., hex **G36**) represents small piles of battlefield detritus. A series of ornamental urban Fountains are found in hexrow E (e.g., hexes **E20; E22; E24; E32** and **E36**) while manhole covers that lead to Sewers are depicted by circles found near the hex center-dot in some hexes (e.g., hex **D35**).

1.4 Terrain Rules—The following rules are provided in addition to the terrain rules presented in the main rulebook and apply ONLY to the DZERHEZINSKY TRACTOR WORKS mapsheet.

1.4.1 Wooden Buildings and **Rubble**—Hex **A28** is an example of a Wooden building. Hex **U22** is an example of Rubble created from a Wooden building. In both cases, a +2 HPN DRM and TWO Left shift is applied for these terrain types instead of the usual +3|3L for Masonry buildings.

1.4.2 Road Through Debris—Unlike other terrain types, in hexes where a Road passes through Debris has no effect on the Debris terrain.

1.4.21 Minefield Lane—Anytime a FULLY tracked vehicle passes successfully enters a Debris hex (i.e., makes a roll on the Immobilization Table without becoming M-KILLed) place a Minefield Lane marker in the hex to signify subsequent entry by FULLY tracked vehicles does not require another roll on the table.

1.4.3 Fountains—Some ornamental urban Fountains (e.g., hex **E36**) are found on the map. They are Obscuring terrain, providing a +1 HPN DRM or 1L for any LOS that passes through their hex and touches the terrain art. Fountains are Level +5 high.

1.4.4 Fences—Some Wall hexsides actually represent wooden Fences (e.g., **C27/D26**). These are noted by their BROWN color. The ONLY difference between a Wall and a Fence hexside is that ALL types of vehicles may attempt to cross a Fence hexside (i.e., using the Immobilization Table).

1.4.5 Shellholes—Numerous Shellholes dot the map (e.g., hex **B33**). These are treated normally. See **ATS 8.25**

1.4.6 Dirt and Paved Road—Some roads depict Paved roads (gray art; e.g., **D30**) and Dirt roads (brown; e.g., **E35**). The ONLY difference between the two is that Hedgehogs, Foxholes, and AT Ditch emplacements may NOT be set up in a Paved road hex (including partial paved).

1.4.61 Roofless Buildings—Numerous Roofless buildings bear witness to the German bombing and shelling. Some have smaller holes in them (e.g., hex **C32**) and in the case of the Factories, large portions of their roofs have been entirely torn away (e.g., hex **S26-S27-S28**. In addition to opening the roof for attack on units in the Ground level of these hexes, there is no Roof level for units to move to in these hexes. Thus, a squad on the Roof in hex **R26** could move on the roof to hexes **R25, Q26, Q27** or **R27**. It cannot move to **S26** or **S27**.

1.4.61 Roofless Buildings Crestlines—Note a squad on the Roof level in hex R26 can see DOWN INTO the ground level of hexes **S26** and **S27**, but using normal LOS rules along terrain levels, it CANNOT see down into **S28** due to the lip of Roof level terrain that extends across the **R27/S27** hexside. Continuing along the lines of using normal LOS rules, a squad in hex **R26**, on the Roof, cannot see down into the ground level of hex **R22** or **R23**. Treat the edge of a Roofless building like a Crestline for purposes of tracing LOS to lower level units (and vice versa). See **ATS 7.3.3**

> **7.3.3 LOS and Hidden Set Up**—A Linear Depression doesn't block or obscure LOS crossing its hex. A Down unit in a Linear Depression hex may only see and be seen from an adjacent hex or any hex within the SAME Linear Depression in which the LOS does not leave the depression art. It is otherwise out of LOS to units in higher levels UNLESS they can sight into (and ALONG, i.e., the LOS does not leave the Depression artwork) the Depression across a **crestline** (also referred to as a 'contour') formed by a higher hex meeting an adjacent Depression. A unit may set up Hidden if down in a Linear Depression and out of the LOS of ALL enemy units (determined after all set up).

1.4.7 Building Levels—The Tractor Works map uses unique identifiers for multi-story buildings and factory heights. The large YELLOW dot referred to in the rules is replaced by a large WHITE dot with a '1' in its center (for +10). The large RED dot referred to in the rules is replaced by a white square with a '2' in its center (for +20).

1.4.8 Factories—Numerous factories dot the Tractor Works map. As defined by the rules, a Factory is a building that is entered at any point by a road or railroad depiction.
The following buildings are Factories: **H13; H24; H26; K8; K15; K17; M35; M6; M10; M28; O39; Q19; S22; V25**.

1.4.81 Debris Fields and Rubble—Treat all Roofless Factory hexes as if Debris exists in the ground level. Some Factory hexes are Rubble (e.g., hexes **M23** and **Q27**). These are treated as Rubble for all purposes, including a new Level +5 height. Some Wooden buildings are also Rubble (e.g., hex **C14**). Note that the effects of Debris in the ground level of an interior building hex ONLY affects LOS drawn between firing and target units that are BOTH inside the Factory. Example: The Debris inside hex **M18** has NO effect on the LOS drawn between a firing unit in hex **M19** and a target unit in hex **L17**.

1.4.9 Sewers—The Dzerhezinsky Tractor Works map includes a special terrain known as SEWERS. These are depicted in some hexes by a black 'manhole' circle (e.g., hex **W35**).

1.4.91 Sewer Infiltration—Sewers may be moved 'through' by Russian Personnel ONLY, using Infiltration. The units must be IN a Sewer hex (and ground level location if multiple locations exist in the hex). A unit eligible to Infiltrate may attempt to move to another Sewer hex within THREE hexes of its current hex. All units in a stack that wish to use Sewer movement from a hex may do so together. There is no requirement they do so. Following the announcement of the intention to use Sewer movement, a morale check is made, using the original (printed) morale of any ONE unit in the hex. If the units) fail this morale check, the impulse is considered used for the unit(s) and one of two events occurs at the OPPONENT'S behest: a) The unit(s) may not Infiltrate; b) Place the unit(s) in any Sewer hex within three hexes. When multiple units fail, the opponent may freely divide them among different Sewer hexes (or no move, i.e., end their Infiltration).
If a Commissar is chosen for the morale check, ONLY a '0' will result in failure and casualties are applied among the checking units (unless the Commissar is checking alone, in which case their is no further effect beyond a-b above) normally as per the Commissar rules.

1.4.92 Melee—Units that Infiltrate successfully into an enemy location are treated normally for Melee purposes.

1.4.10 Building Labels—Some buildings on the Dzerhezinsky Tractor Works map are numbered (e.g., building that includes hex **J8**) **1-9**. These are considered the 'numbered' buildings when referenced in some scenario Victory Conditions and SSRs. Building numbers are used for reference purposes only, and to assist gamers interested in following historical accounts using the map. Each numbered building, including any bearing identical numbers and a letter identifier **a-c**, are historically identified as follows:

   1) Iron Foundry;
   2) Assembly Hall One;
   3) Assembly Hall Two;
   4) Repair Shop;
   5) Construction Office;
   6) Laboratory Workrooms;
   7) Instrument Assembly Shop;
   8) Administration Buildings;
   9) Workstation Annex.

1.4.11 Railcars—This terrain type is found on the map in hexes like **V28**. See **ATS 8.18**

1.4.12 Black Bar Hexsides—Numerous 'black bar' hexsides are found on the map, in large factories. Example: The **S29** factory has numerous black bar hexsides (e.g., hexside between hexes **R25/R26**). See **ATS 8.3.11**

2.0 GRAIN ELEVATOR MAP

2.1 Land Forms—Building I6 (comprising hexes I7 and I8) is the **Grain Elevator**. Hex I6 has three locations (ground level, +10 and +20) and a rooftop (only the Grain Elevator's rooftops are in play), being a +30 LOS obstacle . Hexes I7 and I8 represent silos filled with grain. They may only be occupied at ground level and rooftop and are +30 LOS obstacles. Building I6 begins play as a FANATIC RESISTANCE NEST.

2.1.1 Railroads—Each railroad depiction is a +5 Obscuring Terrain.

2.1.2 Railcars—Hex D14 contains Railcars +10 Blocking Terrain (see 8.18 for a full description).

3.0 STREETS of STALINGRAD MAP

3.1 Land Forms—The SoS map has no special features except the Storage Tanks (i.e., hex **G3**), described under 8.3.123 and Sewers (i.e., hex **K12**), described in the DTW map section under 1.4.9. There are only two multilevel buildings: the one in hex E17 is a +20 LOS obstacle, with a ground and a +10 locations. In the north/west corner there is a multi hex building comprising hexes C1, E1 and D2. Those hexes are +30 LOS obstacles and have ground, +10 and a +20 locations. No rooftops are in play.
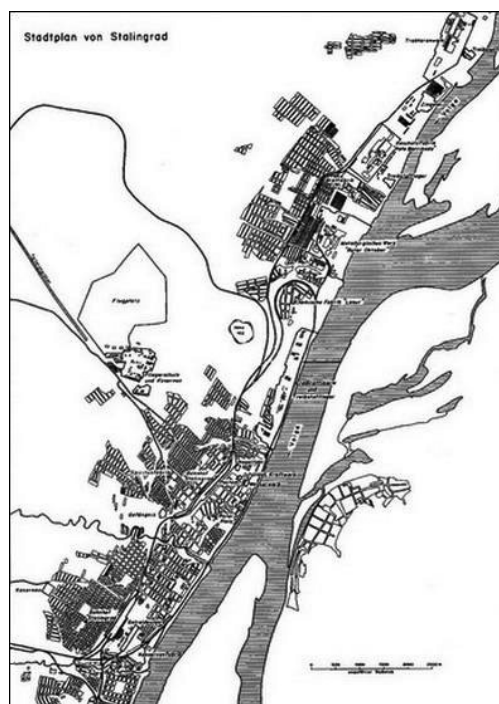
STALINGRAD TERRAIN FEATURES

8.3 BUILDINGS

8.3.1 Description—Buildings are a terrain feature found on maps and on overlays, the latter bearing a 'V' (for 'village') in their ID. Buildings are either depicted as brown or gray structures, and it is this coloring that determines the kind of COVER the building (or its Rubble) provides. Treat all buildings on overlays as 'gray' unless stated otherwise by SSR.

8.3.11 Building Colours and Cover—Brown buildings (and their Rubble) are considered somewhat less substantial and provide IMPROVED cover (i.e., 2L or +2 HPN DRM). They are referred to as 'Wooden' buildings. Gray buildings (and their Rubble) are considered more substantial, and provide MASONRY cover (i.e., 3L or +3 HPN DRM). They are referred to as 'Masonry' buildings. All building rules apply to both types.

8.3.12 Levels—A Building always contains a Ground level (the level of the ground on which it is situated) and may have higher 'floors' representing additional locations that rise +10 or more levels above the ground level of the hex. A great variety of other types of Buildings are depicted on historical maps or overlays, ranging from small cottages, to churches, large factories and major urban cathedrals. Buildings vary mainly by height, and other features noted below. STAIRWELLS exist only in multi-hex Buildings and hexes containing large center-dots.

8.3.121 HOUSE—A House is a Single hex Building that has a small white center dot. It is Level +10 Blocking terrain. It only contains a Ground level. It has a Stairwell that leads to its ROOF level if it is flat-roofed.

8.3.122 TOWER—A Tower is a SINGLE hex Building with a large yellow or white center dot. It has a Ground level and an additional Level +10 location (or story), and is Level +20 Blocking terrain. It contains a Stairwell.

8.3.123 STORAGE TANK—Storage tanks are +10 Blocking terrain. Use the other terrain in the hex (i.e., Debris) for any LOS through the hex that does NOT touch the Storage Tank art. Storage Tanks themselves provide no cover; use the terrain (i.e., Debris or Shellholes) in the hex normally. Movement cost is based on the OTHER terrain in the hex.

8.3.124 LARGE BUILDING—A multi-hex Building with normal center dots in EACH hex. It has a Ground level AND an additional level (+10) AND Stairwell in EACH hex. It is Level +20 Blocking terrain.

8.3.125 STAIRWELL BUILDING—A Stairwell Building is also a multi-hex Building, but at least ONE hex contains a large RED center dot (or large center-square on Stalingrad maps). It has a Ground level and two additional levels (+10 and +20), and is level +30 Blocking terrain. It has a Stairwell ONLY in hexes with a large red center dot (or square).

8.3.2 LOS—All Buildings are Blocking terrain of varying height. Units in an upper level (or floor) or rooftop location trace their LOS from that level. A LOS exists between one level and the NEXT up or down ONE level only if a Stairwell connects the locations. Thus, there is no LOS between the Ground level and Level +20 of the same hex, or between Ground level and Level +10 if there is no Stairwell connecting the hexes. There is also no LOS between different levels of adjacent locations of the same building or the same level of non-adjacent locations of the same building unless the LOS leaves the building (and reenters in the target hex).

8.3.3 Level Markers—3/4"-sized 'Level +10' and 'Level +20' markers are provided. Place Personnel inside Buildings on top of a Level marker according to its current level whenever they are not in the Ground floor of a Building.

8.3.4 Cover—Buildings provide IMPROVED or Masonry cover. Personnel units may set up marked with FC markers in a multi-hex Building hex.

8.3.41 Indirect Fire Effects—Any unit in a Building attacked by INDIRECT FIRE receives an ADDITIONAL column shift LEFT on the Casualty Table for each 'floor' (i.e., +10 in levels) of non rooftop locations ABOVE its location. Example: A unit on the Ground level of a Large Building adds one additional column shift LEFT to its cover because of the +10 non rooftop levels above it. These column shifts are ONLY applied on the Casualty Table, NOT as HPN DRM.

8.3.5 Fire restrictions—Mortars, Bazookas, Panzerfausts, and Panzerschrecks may not fire from a non-Rooftop building location. Vehicle armament and Heavy weapons may not fire at a different location of the building hex they are in (i.e., may not fire 'up-' or 'downstairs'). Only Personnel and their Light and Medium weapons may fire at units occupying the next level above or below in the same Building hex and only through a Stairwell, treating those targets as if inside a Building normally (even if occupying the roof location above). No unit may fire at a different level of an adjacent hex of the same Building unless the LOS leaves the Building first.

8.3.6 Movement—All eligible units pay 2 MP to enter any level of a Building hex or 1 MP to move up or down to the next existing level through a Stairwell. A unit may only exit a Building from a Ground level location. From a level other than the Ground level, it can only move Up or Down to the next connected level of the same hex through a Stairwell or enter a connected, adjacent hex of the same level of the same Building (or may move across adjacent connected rooftop hex locations).

8.3.61 Movement restrictions—FULLY tracked AFVs and APCs and Heavy weapons may enter or set up only in the Ground level of a Building. Any eligible Vehicle that ENTERS a Building location during play must roll on the Immobilization Table AFTER entering. Vehicles that set up in Buildings do not risk Immobilization.

8.3.7 FLAT-ROOFED BUILDINGS—All Buildings in desert scenarios, unless stated otherwise via SSR, are Flat-Roofed and thus have a top level called a Rooftop. Buildings in other theatres are Flat-Roofed only by SSR or as specified in the "Terrain Walk-around" booklet for a specific game. The level of the Rooftop is the same as the obstacle level of the Building. Flat-Roofed Buildings allow Personnel to move onto the Rooftop level through a Stairwell.

8.3.71 Rooftop Spotting—Use the Improved column on the Spotting Range Table to spot units in Buildings unless occupying a Rooftop, which is considered GOOD cover from same and lower level units and Stationary to higher firing units (apply DRM and shifts normally for units on a Rooftop that are moving).

8.3.72 Rooftop Cover—Rooftop positions provide GOOD Cover, from lower level fire ONLY and do not block LOS from along the same-level (e.g., roof to roof LOS).

8.3.73 Rooftop Firing Restrictions—Only Personnel and their Light and Medium weapons may fire from Rooftop level. Mortars and SCW fire without restrictions.

8.3.74 Rooftop movement Restrictions—Units may move from one Rooftop location to an adjacent one of the same Building (unless roofless) at a cost of 1 MP. Units may move to a Rooftop location to the next lower level of the same hex and vice-versa if there is a Stairwell in the hex.

8.3.8 Building as Targets—A unit may opt to fire at a Building INSTEAD when units within it are beyond Spotting Range or at the firing player's option. When firing at the Building (including forts) target only, use the Spotting Range found in the "B SM I" column on the Spotting Table. Do NOT apply any HPN DRM for the building itself. Example: If a 75|B gun was fired at a Personnel unit in a Masonry building location at a range of 2 hexes, a +3 HPN DRM would be applied, resulting in a hit on a roll of 6 or less. If the same shot was fired at the BUILDING instead, a 9 or less would result in a hit on the building.

8.3.81 LOS—When firing at the building an LOS may be established to any level of the building, i.e., no specific unit must be seen.

8.3.82 Attack Resolution—For any hit obtained attack all units in any non cellar location of the building at HALF the FRAG factors and apply column shift for Improved/Masonry (or 1L for Flimsy huts) on the Casualty Table with one exception: If the units being attacked in this manner are out of the LOS of the firing unit, apply an additional 1L shift for each 'floor' (i.e., level) between the location of the building that is in the LOS of the firing unit and the attacked location.

8.8.83 BOT Placement—For the purposes of BOT placement, a BOT marker may be placed in ANY level of the building that has enemy units within the firing unit's LOS If none are in LOS, no BOT marker may be placed. All other BOT rules apply normally.

8.3.9 Building Destruction—Any hit obtained by Direct or Indirect HE Fire on the HPT, by off-board artillery, or Satchel Charge may destroy (or 'rubble') a Building location(s) (Exception: As long as it isn't Direct fire against target(s) on a rooftop). When a 'C5' or greater is rolled on the Casualty Table in a building location (including un-occupied locations attacked by Indirect fire), the Building location is changed into 'Rubble' (and marked accordingly with a rubble marker). When using Direct fire at a unit on a specific level, all units in that location and ABOVE (and higher 'floors', including any roof location) are eliminated. Rubble at the Ground level also eliminates any Cellar location (i.e., the building is now considered Ground level rubble (which rises to +5 levels high in the hex). Indirect fire creates rubble in the highest non-rooftop level (no matter where in the building hex affected units are) of the hex and ONE roll is made in each building hex (i.e., not one roll per location for a multi-story building). Place a Rubble marker in the hex, on top of a Level +10 or +20 marker as appropriate.

8.3.10 Flame—A 'C6' or greater result on the Casualty Table from an attack that causes (or is eligible to cause rubble [for non Building flammable terrain]) rubble in any level of a Building hex may also cause the Building to burst into Flame. Make a subsequent die roll. On a die roll of 1-3, place a Flame marker ALSO in the hex (with the rubble marker). A Flamethrower may also place a Flame marker in a building or flammable terrain (in addition to buildings, Woods and Crops terrain are flammable) location attacked.

8.3.11 INTERIOR WALLS—Some Buildings have a **BLACK BAR** Running along the interior hexsides of some hexes. There is no movement (including Infiltration) or fire permitted across these hexsides and they block LOS. Do not treat adjacent units as 'adjacent' for the purposes of Morale Table modifiers or Firegroups.

8.3.12 CELLARS—If stated by SSR, some Buildings have a building location level below their Ground level known as a Cellar. In addition to other Stairwells in the building, buildings with Cellars are treated as if they contain a Stairwell in each ground level hex, heading ONLY into the cellar. Cellars are at Level –10. Place units in a Cellar UNDER a +10 LOS marker.

8.3.121 Cellar Fire Restrictions—Only Direct Fire is allowed from a Cellar, and then only between the Cellar and Ground level of the same Building hex, or against adjacent units in hexes that are not part of the same building. This same restriction applies for Direct Fire INTO a Cellar location. Only Light weapons and Personnel Gunfire Factors, including Grenades/Satchel Charges/Gammon Bombs may be fired from a Cellar. Add ALL levels above the Cellar for Indirect Fire against Cellar occupants.

8.3.122 Cellar Movement Restrictions—Only Personnel and their carried Light and Medium weapons may set up in or enter a Cellar. A Cellar may be entered from the Ground level of the same hex (and vice-versa) at a cost of 2 MP. Units may also move directly to a Cellar location from an adjacent Hedgehog, AT Trench, Blockhouse or Bunker directly from UNDER those Emplacements. No movement or fire is allowed between adjacent Cellar hexes.

8.3.14 FACTORIES

8.3.141 Factory Defined—A 'Factory' is any Building with a Road or Railway physically depicted as 'entering' it at some point. Factories are treated in the same manner as Buildings for all purposes except where noted below.

8.3.142 Levels—Factories ONLY have a Rooftop location above Ground level and it is located at their highest Obstacle level. Factories with at least one large RED center dot (representing the Stairwell; or a large white square) are Level +20 Blocking terrain. All other Factories are Level +10 Blocking terrain, with a Stairwell in each hex that connects to the Rooftop. As there is no level above the Ground level, Factories do not provide additional Fire modifiers against Indirect Fire for units in the Ground level.

8.3.143 Rooftops—Factories ALWAYS have Rooftops (Exception: Roofless hexes).

8.3.144 Roofless Factories—Factories are depicted on some ATS maps with some Rooftops bearing battle damage. Known as 'Roofless' hexes, there is no Rooftop in these hexes. Roofless hexes may not be created during play. For fire from the roof or within the Factory, treat these hexes according to the other terrain in the hex, usually Debris (Airbursts may occur). Mortars may fire from these hexes. LOS to (and from, i.e., within the building) roofless hexes is treated as if across a CONTOUR hexside.

8.3.1441 Other Roofless Buildings—Treat non Factory buildings that are roofless NORMALLY for all purposes with the exception of any LOS that is created in the Roofless hex.

8.3.145 LOS—Factories are different from other Buildings in that as long as a LOS INSIDE the same building does not cross an 'black bar' hexside, it is NOT blocked. Unless rubbled, or filled with Debris in the case of a Roofless hex, ignore intervening hexes ALONG an LOS within a Factory and treat the hex of the target unit as JUNKYARD for inside-to-inside fire ONLY.

8.3.146 Entry and Exit—Personnel enter Factory hexes normally from the outside (i.e., like buildings). When moving from one interior hex to another, treat each non Rubble or Debris hex as if it is a JUNKYARD hex. Unlike normal Buildings, all vehicles may enter Factories using Road or Railway 'entrances' in the first hex where they enter the Factory without rolling on the Immobilization Table in the FIRST Factory hex entered (unless the hex is Rubble or roofless (i.e., Debris). Vehicles already inside a Factory move to new interior hexes as if entering JUNKYARD hexes. Vehicles enter non-entrance Factory hexes from OUTSIDE in the same manner as normal buildings.

8.5 DEBRIS

8.5.1 Description—Debris terrain is only found on Stalingrad maps and is depicted by random specks.

8.5.2 LOS—Debris is level +5 Obscuring terrain.

8.5.3 Cover—Debris provides Good cover to units within and create Airbursts. Units may set up Hidden in Debris.

8.5.4 Movement—Debris terrain costs 2 MP to enter. Personnel may not use Running movement in a Debris hex. Vehicles must roll on the Immobilization Table after entering a Debris hex.

8.10 HEDGE

8.10.1 Description—Hedge terrain is depicted by an irregular green hexside.

8.10.2 LOS—Hedge is level +5 Blocking Hexside terrain.

8.10.3 Cover—Hedges provide Good cover for LOS traced across their hexsides. See 7.2 for the ability of higher level ADJACENT units to negate cover.

8.10.4 Movement—All eligible units pay an additional 1 MP + CoT to cross a Hedge hexside. Wheeled Vehicles may cross Hedge hexsides but must roll on the Immobilization Table BEFORE crossing the Hedge. Heavy weapons may never be Pushed or Towed across a Hedge hexside unless through a Gate. When an opening in the Hedge hexside art is depicted, representing a Gate, all units may cross the Hedge without any restrictions and without MP cost supplement. A Gate is treated for all other purposes as a Hedge hexside.

8.14 JUNKYARD

8.14.1 Description—Junkyard terrain is depicted by a pile of gray or brown shapes.

8.14.2 LOS—Junkyard is level +5 Obscuring terrain.

8.14.3 Cover—Junkyard provides Good cover. It creates Airbursts. Units may set up Hidden in Junkyard.

8.14.4 Movement—Junkyard terrain costs 2 MP to enter. Personnel may not use Running movement in Junkyard hexes. Vehicles must check Immobilization AFTER entering a Junkyard hex.

8.18 RAILCARS

8.18.1 Description—Railcars are found on maps depicting industrial complexes, such as in Stalingrad.
8.18.2 LOS—A Railcar is Level +10 Blocking terrain. The traced LOS must actually touch a Railcar artistic depiction within the hex to be affected.
8.18.3 Cover—A Railcar provides Good cover to units in the hex. ONLY Personnel and their carried L and M weapons (not H weapons) may set up Hidden in Railcar hexes.
8.18.4 Movement—Personnel enter a Railcar hex at a cost of 2 MP. Only fully tracked vehicles may enter at the cost of 2 MP and they must roll on the Immobilization Table AFTER entering a Railcar hex.

8.22 RUBBLE

8.22.1 Description—Rubble represents shattered buildings, printed on-map (left, above) or using markers (at right) to depict building hexes destroyed during play. Unless stated otherwise via SSR, a Rubble location is treated as a building location for Victory Condition purposes.
8.22.2 LOS—Rubble is Level +5 Blocking terrain (noting it may rise above the level of a level marker in a building hex NOT 'rubbled' at Ground level).
8.22.3 Cover—Rubble provides Improved cover if created (or printed on map) from a Wooden (i.e., brown) building and Masonry cover if created (or printed on map) from a gray one. It creates Airbursts. Units may set up Hidden in Rubble.
8.22.4 Movement—Only Personnel and their Light and Medium weapons, and FULLY tracked vehicles may set up in or enter Rubble, at a cost of 2 MP. Personnel may not use Running and vehicles may only enter using Assault movement, requiring a roll on the Immobilization Table AFTER entry. Heavy weapons may set up in Rubble hexes but may not ENTER during play.
8.22.5 Creation—Rubble is created by attacks using the HPT only, by HE (including HE payloads delivered by aircraft) The creation of rubble is treated elsewhere in these rules.

8.25 SHELLHOLES

8.25.1 Description—A Shellhole hex is depicted as two or more 'holes', with a dark brown center and light brown, irregular edges.
8.25.2 LOS—Shellhole is Clear Terrain.
8.25.3 Cover—Shellholes provide Good cover to Personnel units and their Light and Medium weapons (i.e., not to Personnel manning Heavy weapons).
8.25.4 Movement—Shellhole terrain costs 2 MP to enter. Wheeled Vehicles must check Immobilization AFTER entering a Shellhole hex.

8.30 WALLS

8.30.1 Description—Some map and overlay hexsides contain Wall artwork.
8.30.2 LOS—Walls are Level +5 Blocking Hexside terrain.
8.30.3 Cover—Personnel units and Heavy weapons behind Wall hexsides receive Improved cover. Walls create Hull-Defilade for all Vehicles. See 7.2 for the ability of higher level ADJACENT units to negate cover.
8.30.4 Movement—Unless using a Gate, all eligible units pay ONE MP + CoT when crossing a Wall hexside. Unless using a Gate, Wheeled Vehicles may not cross Wall hexsides. Half-Tracked Vehicles may, but must check Immobilization BEFORE crossing the hexside. Fully-Tracked Vehicles may cross wall hexsides at no risk of Immobilization. Heavy weapons may never be pushed or towed across a Wall hexside unless using a Gate.
8.30.41 Gates—An opening in a Wall hexside represents a 'Gate'. All units may use Gates to cross Wall hexsides without extra MP cost. A Gate is treated for all other purposes as a Wall hexside.
8.30.42 Floorpan hits—AFVs are subjected to Floorpan Armor Hits when crossing a Wall hexside unless using a Gate.

EMPLACEMENTS

9.6 HEDGEHOG

9.6.1 Description—Hedgehogs represent a network of trenches that provide all-round protection for Personnel units. Hedgehogs have two positions:

On Top Effects—Personnel and their Light and Medium weapons are in Improved cover. No other units receive a cover benefit.

Under effects-Only Personnel units and their Light and Medium weapons may be placed Under a Hedgehog marker during movement and Infiltration. Personnel may also 'drop' into Full cover when stacked on top of a Hedgehog. Units UNDER a Hedgehog receive Full cover.

9.6.2 Set Up restrictions—Hedgehogs may not be placed in a Building, a Linear Depression, or Bridge hex.

9.6.3 Entry—Personnel pay ONE MP to enter a Hedgehog when stacked ON TOP of a Hedgehog marker or from UNDER an adjacent Hedgehog hex (this latter without having to move out from under, i.e., exit FULL cover). Entry may also be conducted from under-to-under or on top to under via Infiltration. Personnel under a Hedgehog may also move and Infiltrate to directly under an adjacent AT Trench, Bunker, Blockhouse, Weapons Pits, and a Building Cellar and vice-versa. When UNDER, and moving between Hedgehogs, ignore the cost of any hexside terrain (e.g., Bocage).

9.6.4 Movement restrictions—Hedgehogs do not affect movement for FULLY or HALF-tracked vehicles. Wheeled vehicles must check Immobilization AFTER entering a Hedgehog hex. To pick up a weapon left un-attended under a Hedgehog, a Personnel unit must move under the marker. Personnel may not use Running movement when moving from one under one emplacement to under another.

9.6.5 Morale effect—Hedgehogs add '1' to the Morale value for Personnel units that receive cover benefits from the Hedgehog. Personnel units in Full cover under a Hedgehog counter do not suffer the +4 DRM to their Morale during an Overrun. They still check morale when being Overrun.

9.7 MINEFIELDS

9.7.1 Description—Minefield markers depict a combination of AP and AT mines. Some depict AT mines only (marker depicted at right, above).

9.7.2 Set Up Restrictions—Minefields may not be set up in Water or Swamp hexes. They may be set up in hexes containing other types of emplacements.

9.7.3 Minefield Density—On the back of each Minefield marker, the field Density is indicated in the form of a number. The Density is never revealed to the Opponent.

9.7.4 Minefield Quantity—In some scenarios the Defender is given a quantity of Mines in his OOB. This quantity corresponds to the total (using the values on the back of each Mine marker) Mines the Player may use for that scenario. Any quantity of Mine markers may be used, as long as this number is not exceeded. Once a total quantity of markers is selected, up to the quantity given for that scenario, the markers are then placed on the map (unless set up Hidden) by the Defender with the number face down until a Forcing is attempted.

9.7.41 AT Minefields—Some Minefield markers only show Anti-Tank Teller mine art on them. Personnel units ignore such AT Minefields, i.e., they are not attacked when entering. Only Vehicles are attacked.

9.7.42 Remove AT Mines—A Personnel unit of at least two Stacking Points may 'pick up' a non-hidden AT Minefield marker as if it is a Light weapon. The AT Minefield marker is immediately removed from play.

9.7.5 Units entering a friendly Minefield—Most Minefields contained secret lanes through which the laying side could safely pass. Crawling or Assault moving Personnel units, or Assault moving vehicles, enter a friendly minefield hex without any effect. Running Personnel units or Cross-Country moving Vehicles must make a Forcing attempt when entering a friendly minefield.

9.7.6 Entering Enemy minefields—Crawling, Assault moving or Infiltrating Personnel units, or Assault moving Vehicles, enter an enemy Minefield hex without any effect if moving along a Minefield Lane as do Personnel using non Running movement from under-to-under an emplacement. All other units that are not Running or using Cross-Country movement require a 'Forcing' die roll upon entry of a mine hex.

9.7.61 Automatic Attack—Running Personnel units and Cross-Country moving vehicles are automatically attacked by the Minefield when entering an enemy Minefield hex.

9.7.7 Forcing a Minefield—When resolving a Forcing attempt, roll a die immediately. A die roll greater than the Minefield Density value means the unit has successfully 'Forced' the Minefield. If the die roll is equal to or less than the Minefield Density, the Forcing attempt has failed and any unit(s) entering that triggered the forcing roll is attacked by the Mines. If more than one Personnel unit enters, ONE forcing roll is made and the resulting casualties are distributed normally.

9.7.71 Hidden Minefield—There is a -1 DRM for any Forcing attempt when entering an enemy Hidden Minefield.

9.7.8 Creating Lanes—Assault moving FULLY tracked vehicles may create a Minefield Lane. A Lane is created if a vehicle successfully enters the hex without being attacked by the mines. Place a Minefield Lane marker in the hex.

9.7.9 Minefield Attacks—Units unsuccessful in Forcing a mine hex or attacked automatically while entering suffer the following damage:

9.7.91 AFVs—Are M-KILLed and must perform a check on the AFV Bail Out Chart. Any Personnel units transported on that AFV are placed on the hex, and suffer automatic minefield attack unless the mines in the hex were ONLY AT mines.

9.7.92 APC and Trucks—Are K-KILLed and replaced by burning wrecks. Any units being carried are placed in the hex and suffer an attack unless the mines in the hex were ONLY AT mines. Units being Towed are unaffected unless a Towed Gun, which is marked with an F-KILL marker.

9.7.93 Personnel Units—They are attacked on the Casualty Table by FRAG Factors equal to the Minefield Density number multiplied by four, using STATIONARY cover. These attacks are conducted immediately upon entry, and may ALSO take place during the Infiltration Phase.

9.7.10 Dummy Minefields—Dummy Minefields, marked fields containing no mines, were often laid between real ones to increase coverage. To simulate this, some scenarios provide 'Dummy' minefield markers via SSR. If enemy units attempt to Force a Dummy Minefield, the true nature of the Minefield marker must be revealed. The marker stays in place, face down, challenging the Opponent to remember its location.

9.7.11 Hidden Minefields—Minefields are set up Hidden by SSR only. The location of Hidden Minefields is recorded, including the Minefield Density in the hex. A Hidden Minefield is treated normally in every respect and is placed on map when an enemy unit enters the hex or finds it via searching. Apply a –1 DRM for any Forcing attempt in a Hidden minefield. Dummy Minefields may not be set up Hidden. Minefields may not be Hidden in Paved Road hexes or on a Bridge.

9.7.12 Searching For Mines—Any Personnel unit may spend a full Movement Segment in its current hex to 'search' for Hidden minefields. The unit is considered to use Crawling movement although it does not exit its hex. Any Hidden Minefield marker(s), adjacent to the Searching unit, is (are) placed on map. No attack is made against the Searching unit—it does not enter the Mine hex.

9.7.13 Mine Clearance—Remove any mines in a hex attacked by Indirect Fire obtaining a 'C6' or higher result in its location.

9.11 WIRE

9.11.1 Description—Wire represents rolled or staked concertina wire used to hinder enemy movement on the battlefield.

9.11.2 Setup restrictions—Wire may not be placed in a Building hex. Wire may be placed in the same hex as other Emplacements (e.g., Mines).

9.11.3 Movement restrictions—No Wheeled vehicle may enter a hex containing Wire. Tracked and Half-Tracked Vehicles must check for Immobilization AFTER entering a Wire hex. Personnel units may only enter Wire hexes by Crawling or Infiltration. All may EXIT freely.

9.11.4 Clearing Wire—A wire counter is removed by Indirect Fire HE receiving a 'C6' result or greater. A LANE may be created through a wire hex by a TRACKED (not Half-Track) vehicle that uses Assault Movement and successfully enters AND exits the wire hex. There is no effect to the wire when a vehicle enters and becomes M-KILLed.

Advanced
TOBRUK
System

TERRAIN COMBAT MODIFIERS

In Hex terrain	Emplacements	Obscuring terrain	Hexside terrain
Building – Brown 2/L	Hedgehog – On Top 2/L +1 Morale	Debris 1/L	Hedge 1/L
Building – Gray 3/L (May set up in FC)	Hedgehog – Under 3/L (FC) +1 Morale	Flames/Smoke 4/L	Fences 1/L
Debris 1/L (Air Burst)		Fountain 1/L	Wall 2/L
Junkyard 1/L (Air Burst)		Junkyard 1/L	
Rail Car 1/L			
Rubble (Air Burst) Wooden 2/L Masonry 3/L			
Shellholes 1/L			
Storage Tank Treat as other terrain in hex			
Flame/Smoke 4/L			

IMMOBILISATION TABLE

Die Roll	Result
1-6	-
7-0	M-KILL
Type	**DRM**
Fully Tracked	-1
Half-Tracked	0
Wheeled	+1

Elite Tank Commander -1 DRM

TERRAIN ENTRY COST

BUILDING DESTRUCTION

RUBLE	FLAMES
C5 HE/FRAG	**C6** HE/FRAG + die roll 1-3
Direct Fire: all units in rubbled location and above are eliminated	**C6** Flamethrower

Building	P 2	T 2*	HT 2*	W -
Debris	P 2°	T 2*	HT 2*	W 2*
Junkyard	P 2°	T 2*	HT 2*	W 2*
Rail Car	P 2	T 2*	HT no	W no
Rubble	P 2°	T 2*	HT no	W no
Shellholes	P 2	T 2	HT 2	W 2*
Hedge	P 1 + CoT	T 1 + CoT	HT 1 + CoT	W 1 + CoT*
Fences	P 1 + CoT	T 1 + CoT	HT 1 + CoT*	W 1 + CoT*
Wall	P 1 + CoT	T 1 + CoT	HT 1 + CoT*	W gate only
Wire	P crawl/infiltrate	T 1*	HT 1*	W no

* Require roll on immobilisation table   ° May not use running

SoS TERRAIN CHART

◆ = Requires roll on Immobilization Table

TERRAIN	Type	Cover	Entry Cost Personnel	Entry Cost AFV	Im	AirB	H-D	Notes
BUILDING, MASONRY	B	M	2	2	◆	-	-	Gray colored buildings
BUILDING, WOOD	B	I	2	2	◆	-	-	Brown colored buildings
DEBRIS	O	G	2*	2	◆	●	-	*no Running
FACTORY	B	S*|M	2	2**|2	◆	-	-	*LOS and move within usually Junkyard; **Road/RR entry hex no IMMOB
HEDGE HEXSIDE	B	G	1+CoT	1+CoT	-	-	-	Gates allow passage through
INTERIOR WALLS	B	Blocks all LOS and movement across						Interior Factory hexsides
JUNKYARD	O	G	2*	2	◆	●	-	*No Running
OPEN GROUND	C	-	1	1	-	-	-	No effect on LOS
OPEN ROOFED	B|O	G	2	2	◆	●	-	O = Debris for inside building LOS
RAILCARS	B	G*	2	2	◆	-	-	*Personnel and weapons only
RAILROAD	C	Treat as other terrain in the hex; usually open ground, Debris or Shellholes						
ROAD	C	-	1*	HALF	-	-	-	Apply Debris/Rubble/Shellholes in hex
RUBBLE	B	I|M	2*	2**	◆	●	-	*No Running; **No Cross-Country
SEWERS	C	Treat as other terrain in the hex						
SHELLHOLES	C	G*	2	2	-	-	-	*No cover benefit for H weapons and vehicles
STORAGE TANK	B	Treat as other terrain in the hex;usually Debris or Shellholes						
WALL HEXSIDE	B	I	1+CoT	1+CoT	-	-	●	Hull-Defilade across Wall hexside
WRECK/VEHICLE	O	G*	CoT	2 x CoT	-	-	-	*From non burning wrecks ONLY
WRECK BURNING	O	+4|4L	1+CoT	1+CoT	-	-	-	For LOS into/through burning wreck hex

B = BLOCKING | O = OBSTRUCTING | I = IMPROVED | G = GOOD | M = MASONRY | L = LEFT SHIFT | CoT = COST OF TERRAIN | C = CLEAR | S = SPECIAL RULES APPLY; see Notes and rules for that terrain type