PHOENIX COMMAND™

MECHANIZED

Combat System

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INTRODUCTION

The **Phoenix Command Mechanized Combat System** combines a detailed, accurate simulation of modern tank combat with quick, simple game mechanics to create a system that gives the player a fast playing game of unbeatable realism.

Phoenix Command Mechanized is a part of the **Phoenix Command** line. The components of the entire line are fully compatible, and many of the concepts, terms, and game mechanics used in other PCCS products appear unchanged in this one. One change in **Phoenix Command Mechanized** is that the focus is no longer on the individual combatant; this System covers each Vehicle on the battlefield, and full Squads of Infantry. The same techniques used in the **Phoenix Command Small Arms Combat System** have been applied on this larger scale, so that each Vehicle has a unique Hit Location and Damage Table, and a Platoon of tanks can be kept track of on a single Status Sheet. In addition, instead of 2 second Phases and 2 yard Hexes, the system uses 8 second Turns and 20 yard Hexes.

Because modern Mechanized combat is a complex and technology-dominated study, Technical Notes have been added in the margins of this book. These Notes expand on a few of the terms and concepts mentioned briefly in the text. Hopefully they will provide valuable information to players only moderately familiar with tanks and modern military technology.

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1

GAME MECHANICS AND VEHICLE STATUS SHEETS

This Chapter covers the basic concepts used in the game, and explains the Status Sheets that are used to define each Vehicle.

1.1

GAME SCALE AND PLAYING SURFACE

"There's a place in this war for everyone. Yours just happens to be six feet under."

Captain Austin D. Blackwell

The **PC Mechanized Combat System** uses **Turns** that are 8 seconds long. Each Turn is divided into a series of 4 **Phases**, in which all movement and fire are executed simultaneously. These Phases are exactly the same as the ones in the **Phoenix Command Small Arms Combat System (PCSACS)**, and players who want to use both games together can merge the two time scales without difficulty.

The physical scale is 20 yards per standard unit of distance. If a hex map is being used, then each Hex equals 20 yards; in table top play, the scale can be 20 yards for either one Inch or one Centimeter, depending on the amount of room available. To give an idea of the room used by each scale, a large hex map might be 40 hexes by 60 hexes, and would give a playing field of 800 yards by 1200 yards. If a scale of one Inch per 20 yards is used, then a 5 foot by 8 foot table would be 1200 yards across and 1920 yards long; the same table in Centimeter scale would be roughly 3000 yards across and almost 5000 yards long. In the rules, the standard 20 yard unit of distance is referred to as a **Mechanized Hex** (abbreviated MH), and movement is always given in **Mechanized Hexes Per Turn (MHPT)**.

This scale is different from the usual PCSACS scale of 2 yards per Hex or Inch. Players using the two games together can either play on the PCSACS scale and multiply all Mechanized movement speeds by 10, or use the 20 yard scale and divide all PCSACS movement speeds by 10. The same applies to target ranges. As an example, if the Mechanized scale of play is in use and two Vehicles are separated by 20 inches on the playing surface, the range is 20 Mech Hexes or 20 X 10 = 200 PCSACS hexes.

Another convention is the use of the letters **"H"** and **"K"** to shorten large numerical values. A number followed by an H indicates hundreds; one followed by a K represents thousands. For example, 12H indicates 1200, while 34K represents 34,000.

Game Setup and Play

Vehicles and combatants are represented on the playing surface by miniatures, counters, or other agreed-upon markers, and are set up on the playing surface whenever combat is imminent. The Referee simply draws the outlines of buildings and other terrain features, such as trees and ridgelines, directly on the surface. A variety of blank, erasable hex maps are currently available in hobby and gaming stores and are ideal for this purpose. If the players are using a table top, then butcher paper or something similar can be easily substituted, or prefabricated terrain sets (also available in hobby stores) can be used. As much detail as desired may be included, and the Referee should be careful to draw all features to scale and to note how steep slopes are. When the map is ready, vehicles and combatants are placed in their locations so that their exact movement can be tracked on the map.

1.2

TURNS AND PHASES

As stated above, all activity is handled within **Turns** that are 8 seconds long. Each Turn is divided into four **Phases** of 2 seconds each. During each Phase, each person in a Vehicle, called a Crew Member, performs his assigned Vehicle functions. For the Driver this includes maneuvering the Vehicle, for the Gunner aiming and firing the weapons, for the Loader preparing and loading rounds

into the Vehicle's Main Gun, while the Commander watches for targets and directs the action. The roles of each Crew Member vary with individual Vehicles and change with the situation, depending whether they are operating the Vehicle under normal conditions or abandoning a burning wreck; common sense should make Crew functions fairly obvious. In general, when the Crew Member is not serving his primary duty, he is watching for enemy forces, or Spotting. Spotting is done on a Turn by Turn or Phase by Phase basis and is discussed in Section 6.1.

Within a Phase, all action is considered to be simultaneous. For the sake of game play, however, the following Sequence of Play should be used. Players should perform all Movement for the Phase, then conduct all Spotting, and finally do any Fire and determine what damage has been done.

1.3

VEHICLE STATUS SHEETS

The bulk of this book is devoted to the Vehicles themselves, in the form of the Status Sheets at the back of the book. Each Vehicle has three Vehicle Status Sheets devoted to it, which define everything about the Vehicle. The Basic Game requires only Status Sheets 1 and 2, while Sheet 3 contains Advanced Game values. Many Vehicles have more than one Sheet 2; each Sheet 2 represents a different armor configuration or model of the basic vehicle. As an example, the Russian T80 has a Sheet 2 for its basic armor and one for basic armor plus Reactive Armor. The same Basic Sheet 1 and Advanced Sheet 3 are used with each configuration.

Basic Status Sheet 1

Crew and Armament Table

The **Basic Status Sheet 1** contains much of the Vehicle data used in play. At the top left is a table containing **Crew and Armament** data. Each Crew Member in the Vehicle is listed along with his Field of View in **Zones**. These Zones range from 1 to 6 and are shown on **Figure 1** on page 10; they are used for Spotting and Fire. Below the Crew data is a list of the Vehicle's Armament, including the Field of View, Field of Fire, and the Gun Elevation (Gun Elev) and Gun Depression (Gun Depr) Angles. The weapon's **Field of View** gives the Zones into which the weapon may be brought to bear, by traversing the Vehicle's Turret or the weapon mount. The **Field of Fire** is the angle centered on the weapon's Facing in which it may fire. A Dash in this entry means the weapon has a very limited Field of Fire and the Turret or mount as a whole must be traversed to bring it to bear. The **Gun Elevation** gives the angle the weapon can be elevated above horizontal. The **Gun Depression** gives the angle it can be depressed below horizontal. These values are used in the **Phoenix Command Mechanized Expansion**, and determine whether a weapon can be brought to bear when the target's elevation is not at the same as the shooter's.

Basic Hit Location Table

The **Basic Hit Location Table** is used in the Basic Game to determine the area of the target that is hit. Whenever the Vehicle is hit, refer to this table and find the Hull and Turret Facings on the two left columns. These are the Facings of each part of the Vehicle relative to the incoming fire as shown on **Figure 2** (page 20). Roll a 00 - 99 number and read across the row with the correct Hull and Turret Facings until you come to the column with the number rolled. This gives the target **Hit Area**. A **Face** hit indicates the shot hits the Vehicle's Front or Rear face depending upon situation. If the back of the target is towards the shooter, a Face hit indicates a hit into the Rear, while a Face hit on a target pointing at the shooter strikes the Front of the Vehicle. This Hit Area is used on **Status Sheet 2** to determine Vehicle damage as described in Section 3.5.

Equipment and Vehicle Data Table

The **Equipment and Vehicle Data Table** gives a list of the Vehicle's major auxiliary systems such as Smoke Launchers and Thermal Imaging Systems. It also contains a number of Modifiers used in the game, which are described below.

Fuel Hit Modifier: This Modifier is used to determine the chance that a hit penetrating a Fuel Tank will cause a fire or explosion. It is detailed in Section 3.6. The greater the Fuel Modifier, the greater the chance of an explosion.

Ammunition Hit Modifier: This Modifier is similar to the Fuel Hit Modifier and is used to determine the chance that a hit penetrating an Ammunition Storage area will cause a fire or explosion. It is detailed in Section 3.6. The greater the Modifier, the greater the chance of an explosion.

Spotting Modifier: This Modifier is used in the Spotting rules of Section 6.1. It is used to find the chance of Spotting targets from within the Vehicle. The greater the Spotting Modifier the poorer the visibility from within the Vehicle.

Coaxial Weapons

Most tanks are equipped with Coaxial Machine Guns. A Coax Machine Gun is mounted adjacent and parallel to the Main Gun (it has the same axis; hence, co-axial). It is elevated and Traversed with the Main Gun and is operated by the Gunner. The weapon is used to engage "soft" or unarmored targets, and saves Main Gun ammunition.

"Sometimes I question the wisdom of my decisions, but more often I seem to be acknowledging the stupidity of them."

Captain Axly

Hull Turning Rate: The Hull Turning Rate gives the angle, in degrees, over which the Hull's Facing may be changed in a Turn or Phase. The change of Facing can be made before, during, or after movement . Multiple Turns can be made, but the sum of all Facing Changes must be less than or equal to the Hull Turning Rate.

Turret Traverse Rate: The Turret Traverse Rate gives the angle, in degrees, over which the Turret's Facing may be changed in a Turn or Phase.

Acceleration VC: The Acceleration Velocity Change (VC) gives the amount by which the Vehicle's speed may be increased each Turn. It is in Mech Hexes Per Turn.

Deceleration VC: The Deceleration Velocity Change (VC) gives the amount by which the Vehicle's speed may be decreased each Turn. It is in Mech Hexes Per Turn.

Max Road Range: This entry gives the Vehicle's maximum Road Range, in miles, on its Internal Fuel Tanks. If two entries are given, the second entry is its Road Range with External Fuel Tanks.

Side Slope: The Side Slope capability gives the maximum Slope the Vehicle can traverse. Traversing a Slope is detailed in Section 2.2.

Ground Pressure: The Vehicle's Ground Pressure in pounds per square inch (psi). This is a measure of the pressure exerted by the tracks on the ground. The greater it is, the greater the depth the tracks will sink into soil. The effect of Ground Pressure is already included in the **Movement Speed and Stall Chance Table**, described below. Ground Pressure is used in the **PC Mechanized Expansion** to determine overall Vehicle mobility for scenario generation.

Moving Target Accuracy Modifier: The MTA Modifier measures the Vehicle's ability to fire at a moving target. The greater the MTA Modifier the better the Vehicle's Gun can be stabilized as it tracks a moving target, and the greater its chance of hitting a moving target.

Moving Shooter Accuracy Modifier: The MSA Modifier measures the Vehicle's ability to fire on the move and depends on the Vehicle's Turret and Gun stabilization system. The greater the MSA Modifier the better the Vehicle's Turret and Gun stabilization, and the greater its chance of hitting a target while moving.

Tank Mobility

A Vehicle's Ground Pressure and Engine Horsepower are the primary factors that determine how fast it moves and how it deals with bad terrain.

On flat, hard ground, a Vehicle's speed is limited by its horsepower. On soft soil, however, the tracks sink into the ground and a great deal of the available horsepower goes into plowing through the soil. The greater the Vehicle's Ground Pressure, the deeper it sinks into the soil and the greater its loss in available engine power.

These effects are factored into the Movement Speed Table of Status Sheet 1. This is why a heavy tank with high engine output such as the M1A1 is very fast on a road, but rapidly loses speed on soft soil, while a lighter tank with lower engine output can be slower on the road, but faster on soft soil.

Movement Speeds and Stall Chance

The **Movement Speeds and Stall Chance Table** gives the Vehicle's **Maximum Movement Speed** in Mechanized Hexes Per Turn versus Terrain Type and Ground Slope. At the left of the table is the Ground Slope (Grd Slp) column; cross index the appropriate Ground Slope with the Terrain Type listed across the top. The value at the left side of each column is the Maximum Speed, in Mech Hexes per Turn. To the right of the Maximum Speed is the **Stall Chance**. The Stall Chance is the percent chance per Turn that the Vehicle loses traction; if it is a dash (–), then there is no chance that the Vehicle will Stall. Detailed rules for Stalls and Recovery are found in Section 2.2.

Weapon Data Table

The **Weapon Data Table** contains all the weapon data required by the Basic Game. The top set of entries gives weapon data for the Main Gun with up to three different types of ammunition. Each ammunition type is abbreviated and briefly described below; many of these ammunition types do not appear in this product, but are included for completeness and will appear in future supplements. A "**T**" following the ammunition type indicates the round has a **Tracer**, which improves second shot accuracy and Sensing of the round's trajectory (Section 6.4). Further descriptions of the various Ammunition Types and how they work are given in the Basic Crew Damage Table (7).

AP: Armor Piercing: Solid shot projectile of the weapon's full caliber, which relies on its velocity and mass to penetrate the target. Once it penetrates, the projectile and armor fragments ricochet within the target Vehicle, possibly destroying equipment and incapacitating the Crew.

APC or APCBC: Armor Piercing Capped or Armor Piercing Capped / Ballistically Capped round. This is another full caliber solid shot projectile which penetrates and destroys a target the same way as a simple AP round. The round has been Capped to assist in penetration at high velocity, because at high velocities, solid shot tends to shatter rather than penetrate. The Capped round has a soft metal crown which helps position and protect the shot, reducing its tendency to shatter and improving its angle of strike on sloped armors. The term "Ballistically Capped" refers to an aerodynamic wind shield which covers the Capped round, providing better ballistic performance.

APHE or APCHE: Armor Piercing High Explosive round. These rounds are standard AP and APC rounds which have a grenade-size Explosive charge at their base. Once the round penetrates the explosive detonates, increasing the chance of destroying the Vehicle and incapacitating the crew. The explosive charge is small and is not very effective against infantry.

AP Round Bow Shock

The Fire Power value for an Armor Piercing round (AP, APFSDS, and all other non-explosive AP rounds) fired at infantry does not measure the chance of actually hitting a person with the round, but the chance that the round's Bow Shock will pass close enough to incapacitate. The round's Bow Shock is like the shock wave generated in front of a supersonic jet; the tremendous velocity of the round displaces a great volume of air, which does damage the same way the concussion wave of an explosion does.

APCR: The Armor Piercing Composite Rigid round is a full caliber solid shot penetrator which has a dense subcaliber penetrating core and a light alloy body. The light, full caliber body reduces the overall weight, allowing very high velocities to be attained. These high velocities combine with the dense subcaliber penetrating core to provide excellent penetration. APCR preceded the use of Discarding Sabot ammunition and is not penalized by tipoff errors associated with sabot ejection. It does not, however, have the ballistic performance of the Discarding Sabot round as it is penalized by the drag of its full caliber body. APCR has been replaced by APDS and APFSDS ammunition in modern inventories.

APDS or APDSHE: The Armor Piercing Discarding Sabot round has a subcaliber penetrating core with a light alloy sabot. The sabot is full caliber and is ejected from the penetrator after the round leaves the barrel. This leaves the subcaliber Penetrator traveling at high velocity to the target. An APDSHE round includes a small explosive charge at the base of the Penetrator whose function is similar to that of the APHE round.

APFSDS: Armor Piercing Fin Stabilized Discarding Sabot rounds are similar to APDS except that a long Fin Stabilized Penetrator is used. The Fin Stabilized Penetrator is not spin stabilized and when fired from rifled guns has a sabot with free rotating band to negate the spin imparted by the barrel. APFSDS rounds Penetrate armor by the tremendous pressure and energy exerted at the armor / Penetrator interface. This pressure and energy result in both molten armor fragments and the Penetrator entering the Vehicle. The combination of the Penetrator bouncing around the interior of the Vehicle and the wave of molten fragments generally disables the target.

HE: Standard High Explosive round. The round relies on the shell body for fragmentation or can contain its own fragmentation sleeve. This is the primary round used against infantry.

HEP, HESH: High Explosive Plastic and High Explosive Squash Head are two common types of high explosive ammunition. The HEP and HESH rounds contain plastic explosives and delay fuses which make them ideal for destroying concrete targets. The plastic explosive squashes on impact, placing it in close contact with the target at the time of detonation. The detonation is focused more effectively into the target and on monobloc armors can result in a pressure wave which breaks armor fragments free from the interior wall, causing damage to equipment and Crew. Modern Vehicles have been designed with multiple armor layers to prevent this type of armor penetration and the HEP and HESH round are no longer as effective. They remain effective against fortifications and infantry and are still in service.

HEAT: The High Explosive Anti-Tank round is normally a fin stabilized round with a high explosive shaped charge. A shaped charge focuses the blast around a metal cone and results in a high velocity jet of molten metal being focused against the armor. This jet cuts its way through armor, penetrating the target with molten fragments and blast effects. HEAT is effective against infantry and on many modern tanks a Multi-Purpose HEAT round takes the place of the HE round.

Data for the Main Gun firing these ammunitions, as well as supporting weapons on the Vehicle, is contained in the **Weapon Data Table**. This data includes the following values. Detailed rules covering the use of these values are in Chapters 3 and 4.

Capacity (Cap): The number of rounds carried in the Vehicle. For fully automatic weapons such as machine guns, it gives the total ammunition load carried by the Vehicle in Phases of fire.

Reload Time (RT) or Rate of Fire (ROF): The weapon's **Reload Time (RT)** gives the time in Phases (P) it takes to reload the weapon. Anytime after RT Phases the weapon may be fired. Unlike PCSACS, the Aim Time can generally begin during the Reload Time; since reloading is the job of the Loader, the Gunner is free to aim as the weapon is being loaded.

The **Rate of Fire (ROF)** applies to automatic weapons and gives their Rate of Fire in rounds per half second Burst, as in PCSACS. The asterisk preceding the ROF value indicates the weapon is capable of fully automatic fire.

Penetration (PEN): The Penetration values of each weapon measure the ability to penetrate armor, and are compared to the target's **Protection Factor (PF)**. The greater the PEN, the greater the weapon's armor penetrating ability.

Fire Power (FP): The Fire Power value measures the weapon's effectiveness against infantry targets. The greater the FP, the greater its effectiveness. The use of the FP value is detailed under Infantry Combat, in Section 5.3.

Nonpenetrating Impact Damage (NID): The NID measures the weapon's ability to damage a target by sheer force of impact. It determines the chance of disabling the Track and Suspension of a Vehicle as detailed in Section 3.6.

Sabot

The Fin Stabilized Penetrator of an APFSDS round is only about an inch in diameter, while the gun barrel is 4 to 5 inches across. Acceleration of this thin dart is made possible by the Sabot. The Sabot is made of a light alloy and surrounds the Penetrator like a collar. The Sabot's diameter is equal to the barrel's, and it falls away from the Penetrator in three or more pieces after the round leaves the barrel.

Saboted ammunition is not generally fired over friendly troops; the pieces of the Sabot are lethal out to 1000 meters and fall within an arc of about 8 degrees.

Armor Protection

The earliest types of armor were made of riveted metal plates, which provided marginal protection and could even fall off under pressure. The quality and sophistication of armor improved rapidly, of course, and sheets of roll hardened armor plate are now standard.

In addition, the concept of Spacing armor has been used since the creation of the tank. The idea behind Spacing is that a light, outer sheet of armor will detonate an explosive round before it can penetrate the primary armor, preventing the explosion from entering the Vehicle.

This concept is especially important as a defense against HEAT rounds. Layers of Spaced armor detonate the round and cause the HEAT jet to break up greatly reducing its Penetration.

Base Concussion (BC0): The BC0 measures the weapon's explosive blast. The greater the BC0, the greater the blast and the greater the chance of disabling a target Vehicle or infantry. The use of the BC0 is detailed in Sections 3.6 and 4.10.

"You want to try to hit many people with one bullet each, not one person with all of your bullets."

Lt. Derek

Pattern Accuracy Level Modifier (PALM): The PALM measures the size of the weapon's Arc of Fire for fully automatic fire. The greater the PALM, the greater the Arc of Fire. The PALM is used to determine the number of rounds which hit a target or Crew, as detailed in Sections 3.7 and 4.7.

Aim Time and Shot Accuracy (SA): The tank's accuracy is measured by its **Shot Accuracy**. The greater the SA, the greater the accuracy. This depends on the Gunner's Aim Time in Phases and the Vehicle's target acquisition system. The SA for each Gunner's Aim Time is given on the far right of the **Weapon Data Table**. Two SA values are typically given, one for each of two Vehicle models. This covers changes to Vehicle target acquisition systems such as the retrofitting of laser range finders and ballistic computers.

Platoon Roster and Status Table

The **Platoon Roster and Status Table** provides a convenient location to keep track of a number of Vehicles during play. Entries have been provided for recording the Crew's status, Ammunition expended, and Vehicle Equipment Status and Condition. Crew status is tracked by simply checking the boxes as Crew members Abandon the Vehicle, become Incapacitated, or are Killed. In a similar fashion, as the equipment on a Vehicle is disabled, it is also checked off. Ammunition expended is tracked by hash marks, adding one each time the weapon is fired.

1.4

STATUS SHEET 2: HIT LOCATION AND DAMAGE

The **Vehicle Hit Location and Damage Table** of **Status Sheet 2,** when combined with **Status Sheet 1,** provides all the Vehicle information required for the basic game. **Status Sheet 2** determines whether the opponent's weapon penetrates the Vehicle as well as what equipment and Vehicle functions are hit.

Status Sheet 2 is separated vertically into eight sections. Each of these sections is labeled in bold face type and gives the **Hit Area**. These sections correspond to the Hit Areas from the **Basic Hit Location Table** on **Status Sheet 1**; Turret Front, Side, Rear, and Top, and Hull Front, Side, Rear, and Top. Sheet 2 is also divided into 5 column sets from left to right. At the far left are two columns for the **Hit Location** and **Hit Roll**, which are used to determine where an incoming shell hits. Within each section the first column gives the basic armor locations or equipment that can be hit, while the second column gives a 00 - 99 Hit Roll within each section which is used to find the exact Hit Location.

Examples:

A Soviet T62 tank is hit in the Turret Front. A 40 is rolled for the Hit Roll indicating a hit to the Turret Nose on Status Sheet 2.

A T62 tank is hit in the Hull Side. If a 76 were rolled for the Hit Roll, the round would strike the Hull Upper Side at the Engine Compartment.

Buttoned Up

A Vehicle is Buttoned Up when it has its Hatches closed and locked. Crew Members use Vision Slots and Periscopes to see out of the Vehicle, and they are not exposed to small arms fire and are largely protected from artillery fire.

In non-combat conditions, the Crew operates with the Hatches open and the Commander and Driver routinely expose their heads for improved visibility. Some armies, like the Israelis, operate with the Commander's Hatch open even in combat conditions, feeling the improved visibility more than outweighs the potential danger to the partially exposed Commander.

Once the Hit Location has been determined, the next columns give the equipment or Vehicle Systems Hit and their armor **Protection Factors (PF's)**. Two PF values are given for each Hit Location; the first is the PF against most forms of ammunition, including AP, APCR, APDS, APFSDS, HE, HEP, and HESH, while the second is the PF against HEAT rounds. If the weapon's Penetration value (PEN) is greater than the PF value, the round may penetrate and disable the System Hit as defined in Section 3.6. If the round penetrates the first system, the next sets of columns give second and third Systems which are hit as the round goes through the Vehicle. In each of these additional Hit Locations, the AP and HEAT PF values are given. Note that these values are the total PF of the Vehicle for that particular Hit Location; the values in each column are not added together.

Example:

The T62 tank from the preceding example was hit in the Turret Nose. This hit strikes the Main Gun assembly which has a PF against AP ammunition and HEAT rounds of 198. If the weapon's PEN value is greater than 198, it can penetrate and disable the Main Gun. The second entry on Status Sheet 2 indicates a hit to the Turret Crew with an AP and HEAT PF of 1400. If the weapon's PEN is greater than 1400, it can not only penetrate and disable the Main Gun, but may penetrate the Turret Nose and enter the Turret Crew compartment as detailed in Section 3.5.

The far right column sets contain Glancing Modifiers which are used in the Advanced Rules to correct armor PF for the Vehicle's Facing. This is detailed in Section 4.8.

STATUS SHEET 3: ADVANCED RULES

Status Sheet 3 contains data which is used by the Advanced Rules and for combining the Mechanized System with the **Phoenix Command Small Arms Combat System**. Each of the data tables is described briefly below. Detailed rules are contained in Chapter 4.

Advanced Weapon Data Table

The **Advanced Weapon Data Table** gives detailed information for all of the Vehicle's weapons. Included are:

Reload Time (RT): The Reload Time is the number of Phases "P" required to reload the weapon. Two Reload Times are given, each preceded by a number in parentheses. The number in parentheses gives the number of rounds which can be fired at each RT. The first RT entry represents **Ready Use** ammunition conveniently stationed for rapid reloading. The second RT entry gives the number of rounds carried in other parts of the Vehicle. These rounds must be manually accessed and loaded, which accounts for the increase in RT.

The Reload Time (RT) entry for Machine Guns gives the number of Action Counts required to reload the weapon. Action Counts are used in the **Phoenix Command Small Arms Combat System**. For players not using that system, the RT in Phases is 1/4 the RT in Action Counts.

Ammunition Capacity (Ammo Cap): The Ammunition Capacity gives the total number of rounds carried in the Vehicle. For Machine Guns, the Capacity gives the number of rounds of Ready Use ammunition. The total number of rounds carried by the Vehicle is often much larger and is listed in parentheses. Once the initial Ammo Cap has been used, it takes RT Phases to fully reload the weapon; the number of rounds in the Reload is equal to the original Ready Use ammunition.

Ammunition Weight (Ammo Wt): Ammunition Weights in pounds. For Machine Guns, the Ammunition Weight is the weight of the Ready Use ammunition.

White Phosphorus: The DFS is the Shell Index Number used in the **Direct Fire Supplement** and gives the table number from which detailed explosive data can be found.

The Smoke (Smk) value gives the diameter, in 2 yard PCSACS hexes, of the smoke cloud created by a White Phosphorus round. The Dur gives the duration, in Phases, the cloud remains. Detailed rules covering Smoke and wind are found in Section 6.5.

Phoenix Command Small Arms System Values:

For Machine Guns, three additional values are given; the Rate of Fire (ROF), Knock Down (KD), and Sustained Automatic Burst (SAB). These values are used in PCSACS and have been included here for completeness.

Aim Time and Aim Time Modifiers:

In these columns, the weapon's **Aim Time** and **Aim Time Modifiers** are given. The Aim Time Modifier is similar to the Basic System's Shot Accuracy and measures the weapon's accuracy as a function of the Gunner's Aim Time. The greater the Aim Time Modifier, the greater the accuracy of the shot. Two Aim Time Modifiers are often listed, each covering a specific model of the Vehicle. The player should select the Aim Time Modifier for the Vehicle he is using. When the Aim Times are shaded, they are in **Action Counts (AC)** rather than Phases. Action Counts are used in the **Phoenix Command Small Arms Combat System**. For players not using that system, the Aim Time in Phases is 1/4 the Aim Time in Action Counts, and the entries for 4, 8, and 12 AC are used for 1, 2, and 3 Phases of Aim, respectively.

Ballistic Data

The remainder of the table contains the weapon's Ballistic Performance as a function of Target Range in 20 Yard Mech Hexes. The data given in the **Basic Status Sheet 1 Weapon Data Table** corresponds to the Advanced Data at 30 Mech Hex range. Included in this section of the table are:

Penetration (PEN) The PEN measures the round's penetrating power.

Full Penetration (PENF): The Full Penetration (PENF) gives the penetrating capability of a **High Explosive (HE)** round prior to explosive detonation. The normal PEN value gives the penetration capability of the shell including explosive effects. If the PENF penetrates the target's armor, the shell detonates within the target rather than on the armor's outer surface, greatly increasing the damage inflicted (Section 4.10).

Ammunition

Most modern tanks carry both APFSDS and HEAT ammunition. HEAT now takes the place of the traditional HE round, and is effective against both lightly and heavily armored targets. At long range against a moving target, however, a HEAT round's lower muzzle velocity and longer Time of Flight limit its accuracy. Under these conditions, an APFSDS round with its very high muzzle velocity, and correspondingly shorter Time of Flight, becomes the preferred ammunition. At shorter ranges, both HEAT and APFSDS are comparable against heavily armored targets, and the type of round to fire is selected based on the particular target, its armor, and the desired effect.

Angle of Incidence (AOI) Measure of the angle at which the shell strikes the target in increments of 10 degrees. (An AOI of 1 means 10 degrees, AOI 2 means 20 degrees, and so forth.) The greater the AOI, the greater the angle from horizontal the round strikes the target. If there is no AOI entry, the round strikes horizontal to the target. This is the case with most high velocity tank and anti-tank weapons. The AOI is used in the **Top Hit Chance Table.**

Nonpenetrating Impact Damage (NID) The NID measures the weapon's ability to damage a target by the force of impact.

Direct Fire Error (DFE) The DFE is used to determine the distance by which a round misses the target. This is detailed in Section 6.3.

"Sterilization is highly overrated. I washed my hands before lunch – what more do you want?"

Dr. Oscar Schneiderbunk

Ballistic Accuracy (BA) The BA measures the accuracy potential of the round. The greater the BA, the greater the weapon's accuracy. This is used to determine overall weapon accuracy at extended range, as described in Section 4.5.

Time of Flight (TOF) The round's TOF in tenths of seconds.

Damage Class (DC) This measures the capability of the round to do damage to an individual target. It is used in the **Phoenix Command Small Arms Combat System**.

Minimum Arc (MA) The MA measures the Arc of Fire over which automatic fire is spread. It is used by the **Phoenix Command Small Arms Combat System**.

Pattern Accuracy Level Modifier (PALM) The PALM measures the size of the area into which automatic fire falls. It is used to determine the number of hits on a Vehicle or Vehicle crew as detailed in Sections 3.7 and 4.7.

Blast BC0

For Explosive Ammunition, the Blast BC0 value measures the explosive concussion of the shell. This value is used to determine Vehicle damage and is the explosion's Base Concussion (BC) at range 0 in the **PCSACS** and the **Phoenix Command Artillery System**.

Shell Index Numbers

The Shell Index Numbers are used in the detailed Crew damage rules of the **Mechanized Crew Damage (MCD) Supplement** and the **Direct Fire Supplement (DFS)**. They give the table number from which detailed Crew damage and explosion data can be found.

Target Size and Hit Area Table

The **Target Size and Hit Area Table** is similar to the Basic Hit Location Table of **Status Sheet 1**. Its left half gives the **Target Size Modifier (TS Mod)** of the Vehicle depending on the Turret's and Hull's Facing with respect to the shooter.

The Target Size Modifier is used in the Advanced Rules Odds of Hitting and measures the size of the target. The larger the TS Mod, the larger the target. The TS Mod is given for the Turret alone, Hull alone, Combined Turret and Hull (All), and complete Vehicle as viewed from the air (Air-Grd).

The right half of the table gives the **Hit Area** of the Vehicle based on the Turret and Hull Facings. To use this portion of the table cross-index the Turret and Hull Facing relative to the shooter and roll a 00 - 99 number. Read down the column with the correct Facings until you find the number rolled. This gives the Hit Area (Turret Face, Turret Side, Hull Face, or Hull Side), which is used to determine the exact Hit Location on **Status Sheet 2**.

"You were right, Nurse, I did already operate on him. Guess I should close him up again."

Dr. Oscar Schneiderbunk

Example: A T62 tank whose Hull is facing the shooter (Hull Facing <5°) but whose Turret front is 30° from the shooter would enter the Target Size and Hit Area Table with a Turret Facing of 30° and Hull Facing of <5°. This gives it a Turret Target Size of 14, Hull Target Size of 17, and combined Turret and Hull Target Size of 18. If the T62 were hit by the shot, and a 27 were rolled for the Hit Area roll, the right side of the table would be entered with the Turret Facing of 30° and Hull Facing of <5° giving a hit to the Turret Side.

Top of Vehicle Hit Chance Table

This table determines the chance that a round with an **Angle of Incidence (AOI)** of greater than 0 will strike the **Top** of the Vehicle rather than the vertical face. When a Vehicle is hit by a weapon whose AOI is greater than 0, first determine the Hit Area. Next enter the left or right side of the **Top of Vehicle Hit Chance Table**, depending on whether the Turret or Hull was hit, and enter the top or bottom line based on the shot's Facing relative to the target. Read across this line to the AOI value to find the **Top of Vehicle Hit Chance**. The player then rolls a 00 - 99 number. If less than the Top of Vehicle Hit Chance is rolled, the top of the Vehicle has been hit by the falling shot and the Top Hit Area should be used as the Hit Area on **Status Sheet 2**.

2

MOVEMENT

Maneuver is one of the most vital elements on the modern battlefield. A Vehicle that is moving fast is harder to hit, and Vehicles that can operate on broken terrain or in bad ground conditions have a substantial advantage over less versatile opponents. The rules in this Chapter cover the major issues relating to movement, maneuver, and terrain.

2.1

VEHICLE FACING AND FIELD OF VIEW

The figure or marker representing each Vehicle is always oriented in a specific direction; this determines where it can move and fire, and is called the Vehicle's **Facing**. Facing may be in any direction and is not limited by the hex grid, if there is one. Hexes are used only to regulate movement distance. Vehicles with Turrets should have the Facing of the Turret represented by a separate counter or marker in the same manner as the Vehicle's Hull. Note that most Miniatures for Vehicles come with a separate Turret.

A Vehicle's Facing can be changed by moving forward and turning, by backing and turning, or for tracked Vehicles only, by a Skid Turn. A Skid Turn is performed by moving the track on one side of the Vehicle forward while the other track moves backward, and allows a tracked Vehicle to turn in place. The **Hull Turning Rate** of a Vehicle is given on the **Equipment and Vehicle Data Section** of **Status Sheet 1**; the rate is given per Phase and per Turn for convenience. Turns can be performed before, during, or after movement, but the total Facing change in each Phase or Turn must be less than the Hull Turning Rate. The number of degrees in a particular Facing change can generally be estimated; if greater precision is needed, Players can use a protractor or the Referee can make any judgement calls.

The **Turret's Facing** is related to the Vehicle's Hull; as the Hull's Facing changes, the Turret's Facing changes with it. At the end of movement, the Turret's Facing can be changed by up to the **Turret Traverse Rate** given on the **Equipment and Vehicle Data Section** of **Status Sheet 1**. This is performed by rotating the Turret Facing marker on the Vehicle marker. If the Turret's Facing cannot maintain the target within its Field of Fire as defined below, aim is lost and fire for the Turn is canceled.

The Vehicle's Facings determine the **Fields of Fire**. The Fields of Fire are the areas into which the Vehicle can fire each of its Turret and Hull mounted weapons. A Hull mounted Machine Gun has a Field of Fire of 60°, while a Tank Main Gun has a very small Field of Fire. For Turret mounted Main Guns, the Turret must be rotated to bring it to bear on the target before finer aiming adjustments can be made. The Phase after the Turret has been brought to bear, the **Aim Time** begins.

The aiming and firing of a Turret coaxial Machine Gun, whose Facing is tied to the Main Gun, is handled in the same fashion as the Main Gun.

Machine Guns and weapons mounted to the top of a Turret or Hull are generally attached to a ring mount so the weapon can be rotated 360°, and are operated by a Crew Member standing out of an open hatch. They are manually tracked and aimed. The Field of Fire of the weapon is a 60° cone centered on the weapon's Facing. This Facing can be manually changed by 180° per Phase.

Some Vehicles have Cupola mounted machine guns which can be aimed and fired from within the Vehicle. Rules for aiming and firing this type of machine gun are similar to those for the Main Gun. Cupola mounted machine guns have a very small Field of Fire and the Cupola must be rotated to bring it to bear on the target before aim can begin. The Phase after the Cupola has been brought to bear, the Aim Time begins. A Cupola's Facing can be changed by 360° per Phase.

"Nurse, we're out of the 'Condolences to the Next of Kin' stationery. Order another ten gross."

Dr. Oscar Schneiderbunk

"You're not qualified to supervise. You don't have a whistle."

Schnurda

Field of View

The Crew's **Field of View** from a Vehicle depends on the design and whether the Crew is Buttoned Up or have their heads exposed. Each Crew Member's Field of View is given in the **Crew and Armament Section** of **Status Sheet 1** for a Buttoned Up condition. The Field of View has been divided into **Zones**. The Front Zone is the front 60° centered on the Hull or Turret Facing as shown on the following **Figure 1**. Zone 2 is from 30° to 90° in a clockwise rotation from the Facing, while Zone 3 is from 90° to 150°.

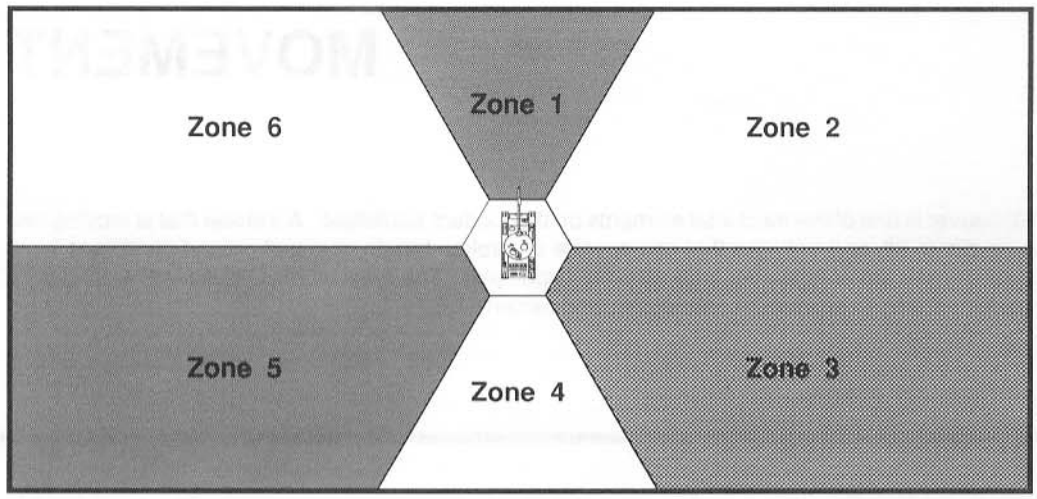


Figure 1: Field of View

Each Crew Member who is not occupied with duties requiring his attention inside the Vehicle is assumed to be looking out of the Vehicle's Periscopes or Vision Slots. Each Crew Member engaged in Spotting can look into 1 Zone each Phase. In the basic game, all targets within the Line of Sight are automatically Spotted. Spotting rules are contained in Section 6.1. The Field of View for an exposed Crew Member is 180° centered on their Facing.

2.2

MOVEMENT

Movement is generally handled on a Turn by Turn basis. Each Vehicle has its top speed in **Mechanized Hexes Per Turn (MHPT)** listed on the **Movement Speed and Stall Chance Table** of **Status Sheet 1**. This speed is determined by the kind of terrain the Vehicle is moving through and the terrain's slope. To determine the Vehicle's maximum speed, cross-index the **Terrain Type** and **Slope**. The left number is the Vehicle's **Maximum Speed** in MHPT, while the right number is the **Stall Chance**.

There are six basic **Terrain Types** in the **Movement Speeds and Stall Chance Table**; Paved Road, Hard Ground, Earth, Loose Soil, Mud, and Deep Mud. Descriptions of the Terrain Types are as follows.

Paved Road: This column is used for all types of hard-surfaced roads.

Hard Ground: Applies to packed earth or grated dirt roads.

Earth: Used for open farmland, topsoil, and grassland.

Loose Soil: Covers tilled farmland, loose earth, packed sand, and mild snow conditions.

Mud: This column covers loose sand, loose earth after a rain, deep or slushy snow, and swamp.

Deep Mud: This is used for the worst of conditions, including deep, water-saturated loose earth, muddy roads that have been churned into a quagmire by the passage of many Vehicles, and so forth.

Vehicles are moved on the playing surface by the Player using rulers each Turn. Each Vehicle may move up to its Maximum Speed each Turn, and as noted in the previous Section, changes to the Vehicle's Facing can be performed any time, up to the maximum Hull Turning Rate given on the **Equipment and Vehicle Data Section** of **Status Sheet 1**.

Acceleration and Deceleration

During each Turn, the player can increase a Vehicle's speed by its Acceleration VC, or decrease it by the Deceleration VC. The Acceleration and Deceleration VC's are given in Mech Hexes per Turn, and since Movement Speed is handled on a Turn by Turn basis, any Velocity Change applies for the entire Turn.

If players desire more detail, it is possible to prorate Acceleration and Deceleration through a Turn, but this is generally unnecessary and cumbersome.

Slopes

Terrain Slope is broken into six categories; flat or 0°, 10°, 20°, 30°, 40° and 50° Slope, as measured from horizontal. The larger the Slope, the steeper the terrain and the more difficult it is to cross. As a guide, normal roads have Slopes less than 15°, while steep jeep trails have Slopes of 10° to 40°.

Vehicle Stalls on Flat Terrain

While the Vehicle's Maximum Speed is an important battlefield factor, even more important is the Vehicle's ability to maneuver without becoming stuck. This is referred to as the Vehicle's **Stall Chance** and depends on ground conditions. To determine a Vehicle's Stall Chance on level ground, the player refers to the **Movement Speed and Stall Chance Section** of **Status Sheet 1** . Use the appropriate Terrain Type at 0 degrees of Slope, unless the Vehicle is making a Hull Facing change that Turn; if so, use the line for 10 degree Slope. The Stall Chance gives the chance per Turn that the Vehicle loses ground traction, becomes stalled, and cannot move. The player rolls a 00 - 99 number at the beginning of each Turn. If less than or equal to the Stall Chance is rolled, the Vehicle decelerates at double its normal Deceleration rate (Status Sheet 1) that Turn and has Stalled. For Phase by Phase play, the Vehicle Stalls on Phase 1 of the Turn.

If a Vehicle becomes Stalled, it may try to **Recover** during the next Turn. The player rolls another 00 - 99 number. If less than or equal to the Stall Chance is rolled the Vehicle remains Stalled. A Vehicle which has Stalled twice can try to free itself a final time after 2 Turns. If it fails this last attempt, its tracks have sunk so far into the soil that the bottom of the Vehicle rests on the ground. The Vehicle is **Stuck** and cannot be moved or turned until pulled free by an appropriate recovery Vehicle.

Vehicle Speeds and Stalls on Uphill Terrain

A Vehicle's Maximum Speed and Stall Chance while moving Uphill are also found on the **Movement Speed and Stall Chance Section** of **Status Sheet 1.** They are found as indicated above; the Terrain Type and Ground Slope are cross-indexed. If the Vehicle is making any Hull Facing change that Turn, the Stall Chance is taken at a Slope 10° greater than the terrain. A 00 - 99 number is rolled at the beginning of each Turn. If less than or equal to the Stall Chance is rolled, the Vehicle has lost ground traction and Stalls that Turn.

If a Vehicle becomes Stalled, the player may elect to abandon the uphill climb or continue to try and regain traction. If he abandons the climb, he can back down the slope 1 Mech Hex, move slightly to the left or right and attempt to climb again (over the same Mech Hex). If he tries to regain traction and continues to spin his tracks he should roll another 00 - 99 number on the next Turn. If he rolls above the Stall Chance he regains traction and resumes his climb. If he rolls less than or equal to the Stall Chance, he continues to be Stalled. This continues until the Vehicle either gains traction, slides down the hill, or becomes **Stuck** as defined in the preceding paragraph

Any time a Vehicle fails its Stall Chance and the number rolled is less than or equal to 1/2 the Stall Chance, the Vehicle actually slides downhill at 1 MHPT. While sliding downhill the player attempts to recover control, following the rules for Downhill motion in the next paragraph. If the recovery roll is failed by less than or equal to 1/2 the Stall Chance, the vehicle's Hull Facing rotates 90° during the slide.

Traversing Slopes

Vehicles may safely **Traverse**, or move across, slopes less than or equal to their **Side Slope** capability minus 10 degrees; the Side Slope capability is found on the **Equipment and Vehicle Data Section** of **Status Sheet 1**.

A Vehicle attempting to Traverse a Slope within 10° of its Side Slope capability should roll a 00 - 99 number at the beginning of each Turn. If less than or equal to a 05 is rolled, the vehicle **Overturns** and rolls downhill. A Vehicle which Overturns is completely Disabled and has its Crew Incapacitated.

A Vehicle may not Traverse slopes of greater than its Side Slope capability.

Vehicle Speed and Stalls on Downhill Terrain

A vehicle's **Downhill Speed** is equal to its Maximum Speed on the appropriate Terrain Type at a Slope of 0°. The major difference is that Facing changes and Deceleration on a downgrade become more difficult and the Vehicle is more likely to loose ground traction and Slide. Rules for Traversing a slope are identical to those of the preceding subsection.

Movement as Defense

In World War II, a tank's mobility provided much of its defense. The unstabilized guns, low velocity ammunition, and simple fire control of the time limited gun accuracy. Hitting a moving target at 500 meters was not an easy feat, and a tank could maneuver in the open with a degree of safety.

On the modern battlefield this is no longer the case. A tank in the open, whether moving or stationary, will probably be hit. Tanks on the modern battlefield must use cover and position to survive, and great reliance is placed on getting the first shot. With first round hit probabilities approaching 100%, tanks can no longer remain exposed on the battlefield. Like infantry, they must make use of cover.

"Well, I can't find the jumper cables. We'll have to push start it."

Tank Commander Axly

Each Turn a Vehicle moves Downhill, a 00 - 99 number is rolled. If less than or equal to the Stall Chance is rolled, the Vehicle begins to Slide downhill and continues its movement for the full Turn at the Turn's initial speed. On the next Turn, another attempt to roll above the Stall Chance is made. If this fails, the Vehicle continues its descent. If the number rolled is less than or equal to 1/2 the Stall Chance, the Driver has lost control of the slide and the Vehicle's Hull Facing rotates into line with the Slope. Additionally, if the Slope is greater than the Vehicle's Side Slope capability, the Vehicle Overturns and rolls down the hill, as described above under Traversing. A Slide Downhill continues until the Vehicle makes its Stall Chance roll or the Vehicle reaches the bottom of the hill.

If the Vehicle tries to brake while moving Downhill, the Stall Chance is found at a Slope 20° higher than the terrain. If it tries to change its Hull Facing while moving Downhill, the Stall Chance is found at a downgrade 10° higher than the terrain. If it brakes while changing Hull Facing and moving Downhill, the Stall Chance is based on a Slope 30° greater than the terrain.

2.3

TERRAIN AND MOVEMENT

The preceding Section covers Movement through open terrain. This Section covers Movement through trees, brush, and rocks as well as gullies and man made obstacles. These rules are summarized in the **Terrain and Movement Table (1A)**. **Table 1A** includes Woods, Rock, and Brush. The number and type of obstacles in each of the Terrain Types is defined in the Table Key. To move through each type of Terrain, the values in the three columns are used; they are labeled Clear Lane Chance, Maneuver Lane Chance, and No Lane Chance.

The **Clear Lane Chance** is the chance per MH that the Driver can find a path through the MH without making a course change or having to slow down. The Driver should roll a 00 - 99 number for each MH he attempts to cross. If less than or equal to the Clear Lane Chance is rolled he can move through the MH without slowing down or maneuvering. If greater than the Clear Lane Chance is rolled, there is an Obstacle in his path which he must go around; his speed is limited to 2 MHPT.

Because of this danger, prior to entering a MH with Obstacles the Driver should probably slow to a speed from which he can decelerate to 2 MHPT in one Turn. If the Driver enters at a speed higher than 2 plus his Deceleration VC, he will not be able to slow to maneuver speed if he fails the Clear Lane Chance roll. Failure to decelerate to 2 MHPT results in the Vehicle striking the Obstacle which blocks his path. This collision can incapacitate the crew and may result in the Vehicle becoming Stuck, as detailed in Section 2.5.

If the Driver can slow the vehicle to 2 MHPT that Turn and fails his Clear Lane Chance roll, he should compare the number rolled to the number on the second column labeled **Maneuver Lane Chance**. The Maneuver Lane Chance is the chance the Driver can find a clear Maneuver Lane through the MH. This Maneuver Lane is a wide path through which he can drive the Vehicle, while always being able to turn around if the path later becomes blocked. If greater than the Maneuver Lane Chance was rolled, the only path through the MH is a narrow path in which the Vehicle cannot turn around once it enters. The Driver may choose to proceed down this narrow path at a speed of 1 MHPT, but if it becomes blocked he will not be able to turn around and must back out the way he came. Such backward motion is very slow and tedious, and the Driver may be better off attempting to cross an adjacent MH.

If the driver's Clear Lane Chance roll is greater than the Maneuver Lane Chance and he decides to proceed anyway, he should make another 00 - 99 roll. If less than or equal to the **No Lane Chance** is rolled, the path is blocked and he cannot proceed. He must now backout the way he came following the rules of Section 2.4 for Reverse Movement.

"A soldier's life may seem glamorous; mindless violence, endless drill, years of war and gut-wrenching hardship... but there's a lot more to it than that."

Sgt. Ingram

Turret Traverse in Obstructed Terrain

The second column set of **Table 1A** gives the chance of Traversing the Turret through a 60° Zone. For each 60° of rotation, the Gunner should roll a 00 - 99 number. If less than or equal to the **Turret Traverse Chance** is rolled, the gun has been Traversed through the Zone without hitting an Obstacle. If greater than the Turret Traverse Chance is rolled, the gun barrel hits an Obstacle and the gun cannot be traversed through the Zone. To clear the Obstacle, the Vehicle must move forward or back up at least .5 MH. This movement takes 1 Turn, after which another attempt to Traverse the gun can be made. Note that two Turret Traverse Chances are given; one for Short and one for Long Guns. A Short Gun is one whose barrel does not stick out more than 2 feet past the front of the Hull with the Turret facing forward. For Vehicles with extremely short barrels which do not reach the front of the Vehicle, such as the WW II German Pz IVA, there is no chance that the Turret cannot Traverse.

When a Vehicle takes up a Prepared Position in Obstructed terrain, it is assumed it has a clear Field of Fire into one Zone. For the Vehicle to Traverse its Turret into the Zone to either side, the Player should roll for the Turret Traverse Chance. In any particular MH, there are 4 potential positions which can be checked for Fields of Fire in this manner. Each position check takes 30 Turns.

2.4

REVERSE MOVEMENT

Most Vehicles have a gear that lets them move backward, but the Driver has no visibility in this direction. Acceleration and Deceleration in Reverse are the same as for forward movement, but the Maximum Speed is the lower of the speed from the Movement Speed and Stall Chance table of Status Sheet 1 or 1 / 5 the Vehicle's speed on flat Paved Road.

If there are Obstacles present and no one is guiding the Driver, the Hidden Obstacle rules of Section 2.5 apply for each MH crossed. If the Driver has someone guiding him using verbal commands (such as a Crew Member in an Unbuttoned posture), the standard rules of Section 2.5 for Hidden Obstacles are still used to determine if the Driver's course takes him toward an Obstacle. If a guide is present, the Driver is warned and comes to a halt that Turn. On the next Turn he can make a minor course change and proceed around the Obstacle.

It the terrain being crossed is narrow, such as a path through Trees where there is no Maneuver Lane or across a Bridge, the Reverse movement must be carefully directed by the guide. Such movement takes place at 5 Turns per MH. If the Driver refuses to take the time to carefully negotiate the Reverse movement, the chance he runs into an Obstacle (or off the Bridge) is found by having him roll a 1 - 6 number. If greater than the time in Turns spent per MH is rolled he hits the Obstacle or drives off the Bridge. As an example, if the Driver attempted to back up onto a Bridge in 3 Turns, he would roll a six-sided die. If he rolled a 4 - 6, he would miss the Bridge and end up off the road and down the river embankment.

2.5

HIDDEN OBSTACLES

The **Hidden Obstacle Table (1C)** gives the chance that a Vehicle will hit a hidden Obstacle with its Hull or Tracks while crossing one MH. These Obstacles range from Boulders to Tree Stumps to Mines. They could be deliberately hidden or covered by high grass or water.

When normal Hidden Obstacles are present, the lead Vehicle should roll a 00 - 99 number for each MH crossed. If less than or equal to the **Hidden Obstacle Hull Hit Chance** is rolled, the lead Vehicle has hit an Obstacle and been Stalled. Note that the Hidden Obstacle Hit Chance depends on the number of Hidden Obstacles in the MH. The greater the number of Obstacles, the greater then chance of hitting one. If an Obstacle is hit, movement comes to an immediate halt and the **Collision Rules** of Section 2.6 apply for Crew Incapacitation.

Recovery after Hitting an Obstacle

Once a Vehicle hits an Obstacle and is Stalled, it gets 1 chance to **Recover**. This Recovery takes 1 Turn and the odds of Stalling again are taken from the 50° slope Movement and Stall Chance table of **Status Sheet 1** for the appropriate Terrain Type. If the Vehicle fails this recovery roll it is **Stuck** and cannot be moved until pulled free by an appropriate Vehicle.

Mines

The Hidden Obstacle rules also apply to Mines. The chance of a Vehicle hitting a Contact Mine is found on **Table 1C**, based on the number of Mines in the MH and the **Hidden Obstacle Track Hit Chance**. For each Mined MH crossed, the Vehicle rolls a 00 - 99 number. If less than or equal to the Hidden Obstacle Track Hit Chance is rolled, the Vehicle ran over a Mine.

2.6

RAPID DECELERATIONS

Whenever a Vehicle suddenly slows down due to a mishap, there is a chance the Crew will be Incapacitated. This is called **Rapid Deceleration** and occurs each time a Vehicle has a Collision, hits an Obstacle, or has its Track or Suspension Disabled.

When this happens, the Vehicle immediately stops and the **Collision Table (1E)** should be consulted to find the **Crew Incapacitation Chance**. Enter the Table with the Speed the Vehicle was traveling, and read across to the appropriate Crew Incapacitation Chance column. In general, personnel in military Vehicles wear some sort of Helmet; for them, use the Helm column. Civilian personnel and others in special situations may not be wearing Helmets, and for them the No Helm column should be used. A 00 - 99 number is now rolled for each Crew Member. If less than or equal to the Crew Incapacitation Chance is rolled, the Crew Member has been incapacitated.

If two Vehicles have Collided, determine the approximate speed at which they hit each other and enter the Table with that as the Collision Speed. For example, if two Vehicles each moving 3 MHPT run head-on into each other, the 6 MHPT line of **Table 1E** would be used.

A Rapid Deceleration can also come when a Vehicle enters terrain where its Maximum Speed on the new terrain is much lower than its current speed. For example, if a Vehicle that is running at 8 MHPT on a Paved Road enters Loose Soil, where it has a Maximum Speed of 3.3, it will undergo Rapid Deceleration. When this happens, the Vehicle immediately slows to its Maximum Speed in the new terrain. In addition, subtract the Vehicle's Deceleration VC from its original Speed; if this value is higher than the Vehicle's Maximum Speed on the new terrain, then enter **Table 1E** with a Collision Speed of the Vehicle's original Speed minus its Deceleration VC minus its Maximum Speed in the new terrain.

Example:

A tank moving at 8 MHPT runs off the road into Loose Soil. The tank's Maximum Speed on Loose Soil is 3.3 MHPT and its Deceleration value is 2.4. The Tank immediately slows to a speed of 3.3 MHPT as it hits the Loose Soil and the Crew is thrown by the Rapid Deceleration. Entering the Collision **Table 1E** with a Speed of 8 (initial) - 2.4 (Deceleration VC) - 3.3 (Final Speed) = 2.3 MHPT. The Crew Incapacitation Chance is 00, so each Crew Member must roll greater than a 00 to avoid Incapacitation.

Had the tank run into a thick concrete containment wall, **Table 1E** would be entered with a speed of 8 - 2.4 = 5.6 MHPT and the Crew Incapacitation Chance would be 14.

2.7

STACKING

Stacking is only used when the game is being played with counters. Since the Game Scale of 20 yards per MH is larger than the Vehicles, multiple Vehicles can be put in the same MH; the counters should simply be Stacked one on top of the other. If no more than 2 Vehicles are in a MH, there is no limitation on movement, maneuvering, or Traversing Turrets. There can be as many as 4 Vehicles per MH with no limitations if they are all members of the same Platoon, or if at least 2 of them are parked.

If there are more than 2 Vehicles in a MH that are not part of the same Platoon, or more than 4 members of the same Platoon, the chance that each Vehicle can maneuver or Traverse its Turret is found on **Table 1A** as if the Terrain were one level more cluttered. For example, Medium Rocks should be treated as Heavy Rocks. Clear Terrain is treated as Light Woods. In addition, no more than two Vehicles can move during a given Turn.

The maximum number of Vehicles that can be in a MH is 8, and up to 4 can be parked side-by-side across the MH.

2.8

HULL DOWN POSITIONS

One of the primary defensive measures a Vehicle Crew can take is to make use of cover and terrain to hide from the enemy and to fire from positions exposing only a portion of the Vehicle. This is called being **Hull Down**; it minimizes the target size and decreases the chance of taking a mobility kill. The following rules provide a basic system by which a Vehicle's ability to find Hull Down positions can be determined. These rules handle both flat and hilly terrain and are a simplification of the Terrain, Elevation, and Line of Sight rules found in the **Phoenix Command Mechanized Expansion**.

Hull Down positions offer a Vehicle a number of levels of protection ranging from the Vehicle being completely hidden behind cover to nearly fully exposed. These positions result from natural depressions and elevations on the terrain or can be man-made firing positions. Each of these positions is discussed below.

Turret Down: A Turret Down position is one in which only the upper part of the Turret is exposed. This leaves only the Turret Upper Face, Cupola, and Gunner's Sight visible. The Vehicle cannot fire its Main Gun from this position, but the Turret Crew has visibility over the cover and can point the Main Gun toward a target; this means that when the Vehicle moves up out of the cover, it can begin Aiming immediately without having to Traverse the Turret. The Target Size for a Vehicle in a Turret Down position is its normal Turret Target Size - 8. Any hits to the Vehicle are run as hits to the Turret Upper Face, Cupola, Gunner's Sight, or to equipment exposed on the top of the Turret. The specific Hit Location should be rolled until a hit into one of these areas is generated.

Hull Down: In a Hull Down position the full Turret is considered exposed. The Turret can traverse and fire normally and the Turret Target Size applies.

Partial Hull Down: A Partial Hull Down position offers protection to the lower portions of the Hull. The Target Size for a Vehicle in a Partial Hull Down position is its normal Target Size - 4. Any hits to the Hull's Lower Glacis, Lower Hull, or Road Wheels should be rerolled until an exposed area is generated.

Natural Positions

When a Turret Down, Hull Down, or Partial Hull Down position is the result of natural terrain features, the Vehicle can move from one level of exposure to the next by moving forward or backward. From a Hidden position it can move forward into a Turret Down position. From there it can move forward into a Hull Down position, then into Partial Hull Down, and then fully exposed. The same applies to reverse motion. The distance moved during these position changes is usually small and the Vehicle is considered to remain in its Mech Hex. The time it takes to go from one position to the next is 2 Phases per increment; Hidden to Turret Down, Turret Down to Hull Down, etc. During the 1st Phase of this position change, the Vehicle is considered to remain in the initial position. On the 2nd Phase it is considered in the new position.

"If the attack works, we're all heroes. If not, we'll get a group discount at the cemetary."

Draclod McDraco

Prepared Positions

When the Vehicle is in a Prepared Firing Position it can also go through the range of exposures. Whether the position provides Hidden or Turret Down protection is up to the engineers who built it, but in general most Prepared Firing positions will offer at least Hull Down protection. A Hull Down Prepared Firing position typically takes a dozer-equipped Vehicle 20 to 40 minutes to prepare and is a trench of varying depth into which the Vehicle drives. The Vehicle cannot make Hull Facing changes once it is in the position, but the Turret is given full traverse ability in the Hull Down position. Because of the nature of the position, it has a Facing which is the same as the Hull. It provides 360° protection and is entered through a ramp at the rear. To leave the position, the Vehicle backs out as discussed below.

The Vehicle moves from a Hidden position to Hull Down by moving forward. Again, the distance moved during these position changes is small and the vehicle is considered to remain in its Mech Hex. The time it takes to go from one position to the next is 1 Phase per increment; Hidden to Turret Down, Turret Down to Hull Down, etc.

To leave the position, the Vehicle first moves into its least exposed position. From there it backs out of the bunker. This takes 2 Phases. On the first Phase the Vehicle becomes Hull Down. On the second it becomes fully exposed, at which point it is out of the trench and can make Hull facing changes.

2.9

FINDING HULL DOWN POSITIONS

Finding Hull Down positions is an important defensive function of the commander and driver. On flat terrain, Hull Down Positions are often found behind man-made obstacles such as road and railroad embankments, drainage ditches, low walls, or prepared firing positions. These types of positions depend on the situation and are left to the referee.

Natural Hull Down Positions can be attained by making use of local ground features such as low hills and depressions. The following system provides a way of determining how successful a Vehicle is in finding cover.

Whenever a Vehicle looks for a Hull Down Position, the Player should roll 0 - 9 number; the higher the roll the better. This gives an idea of what the prospects are of finding cover in the forward Field of View. On flat terrain, roll a 1 - 10 number to find the distance ahead (in Mech Hexes) the potential Hull Down Position is located. This location is in the driver's forward 60° Field of View and provides potential cover from an enemy firing from one specific 60° Facing. The actual placement of the position along the 60° arc can be found randomly or assumed straight ahead. When a hill crest or terrain feature provides the Hull Down position, its location is as marked on the playing surface.

Once the Driver gets to the location and stops he rolls another 0 - 9 number and adds it to the first roll. He then consults the following **Hull Down Position Table** with the sum to see what level of protection is afforded. If cover is available, the position's type and Facing should be marked on the map. The cover is large enough for 1 to 3 Vehicles. In general, on flat terrain, one chance at finding such cover is given in each 10 X 10 Mech Hex area. Multiple Vehicles operating in the same area will have to disperse if they all want to find cover.

Finding a Hull Down Position

Sum	Position Type
18+	Turret Down
16 - 17	Hull Down
12 - 15	Partial Hull Down

"I'd like to think I was being shot at by a better class of person."

Trebor Nawoc

Crew Skill and Hull Down Positions on a Hill

The preceding gives the chance of finding Natural Hull Down positions. The following modifiers can be added to the Vehicle's two 0 - 9 rolls before entering the **Hull Down Position Table**. These modifiers adjust the odds of finding a Hull Down position for the Crew's skill and terrain features.

Crew Skill	Hull Down Modifier	Position	Hull Down Modifier
Untrained	- 3	Opponent Above	- 2
Militia	- 2	Opponent Below	4
Green	- 1	On a Hill Crest	6
Line	0		
Crack	1		
Elite	2		
Guard	3		

3

BASIC COMBAT SYSTEM

This Chapter covers the most important aspects of Mechanized Combat with a very high level of realism but a minimum amount of work required for the Players. Later Chapters go into additional detail, covering issues like the Ballistic Accuracy of the weapons, Anti-Tank Missiles and Infantry Squad Combat, and the effects of Morale, but the rules in this Chapter are enough to cover almost all tank combat situations. It is strongly recommended that players who are learning the game use these rules at first, before moving on to the later Chapters.

3.1 BASIC FIRE

There are several factors which affect the accuracy of a shot; the basic accuracy of the gun itself, the amount of effort spent aiming, and the range are obviously all very important. Each is considered when determining the chance of hitting a target, using the following simple system.

The Vehicle and Crew's weapon accuracy is represented by the weapon's **Shot Accuracy (SA)**. The SA depends on the Aim Time and is found on the right side of the **Weapon Data Table** of **Status Sheet 1**. A shot using 1 Phase of aim is the quickest, while a shot using the maximum number of Phases shown in the Aim Time column is the most accurate possible for that weapon. Note that the act of firing is included in the Aim Time; it does not take extra time to pull the trigger. Additionally, the Loading process is also separate for most weapons, and can be performed at the same time the weapon is being Aimed. The Range is the distance between the shooter and the target in 20 yard Mech Hexes.

These factors are all included in the **Basic Odds of Hitting Table (2A)**. The left column is labelled Shot Accuracy (SA). The SA is cross-indexed with the target Range to determine the Odds of Hitting. The Gunner rolls a number from 00 to 99; if the number rolled is less than or equal to the Odds of Hitting, the gunner has hit the target.

There are other factors which can be included in figuring the Odds of Hitting. If the Referee and players would like a greater degree of realism, the optional Shot Accuracy Modifiers of Section 3.4 can be used.

Example: A T62 tank spots a target 30° to its left. The Tank Commander orders the Gunner to engage and fire. On the Phase the target is Spotted the Turret is traversed 30° left to bring the gun to bear. On Phase 2 the Gunner begins to Aim. On Phase 7 the gunner has 6 Phases of Aim Time and fires. The Shot Accuracy for this shot with 6 Phases of Aim Time is 16. If the target were at 50 Mech Hexes (1000 yards), the Odds of Hitting from Table 2 would be 80. The shooter rolls a 09 and hits.

3.2 FLOW OF COMBAT

At the beginning of each Turn, the combatants determine what they will do for the Turn. Sometimes it will be important to determine what order everything happens in. For ease of play, the Referee can break each Turn into three parts; Movement, Spotting, and Fire. The appropriate Actions occur in each step, with all Movement going first, then Spotting and similar activities, and finally all Fire.

A more accurate method is to follow the action Phase by Phase, with each Phase broken into steps for Movement, Spotting, and Fire. This greatly increases the accuracy of the game without sacrificing much convenience.

The most accurate method is detailed in the Advanced rules. In those rules, all Movement and Fire take place simultaneously within each Phase, and Spotting takes place at the beginning of each Phase. These rules are discussed in Section 6.1.

3.3

VISIBILITY, CONCEALMENT, AND EXPOSURE

One of the most important things in combat is whether a Vehicle is visible to the enemy or is under cover. On most battlefields, there is a variety of possible cover; trees, hills, buildings, and so forth. Sensible commanders will conceal their Vehicles behind these obstacles. Each Vehicle must be in one of three possible situations relative to each enemy Vehicle: Concealed, which means it is completely behind cover and cannot be seen by the enemy; Partially Exposed, meaning that the Vehicle is in a Hull Down position (see Section 2.8) firing over cover, and some but not all of the Vehicle can be seen by the enemy; and Exposed, meaning that the Vehicle is largely or completely visible to the enemy. A Vehicle can only be in one of these states per Phase, and the most visible state of the Phase should be used. For example, if a Vehicle crosses an open area in clear view of the enemy and moves behind a building where it is out of sight, it would be considered Exposed for the entire Phase. Vehicles must obviously be next to or behind the cover they wish to use; common sense should be applied here, and the Referee's decision is final if there is any question as to whether cover can be used.

Naturally, a Gunner has to be able to see a target to shoot at it. The Referee should establish if there is a clear line of sight between a Gunner and a prospective target accounting for the firing Vehicle's Facing and the Gunner's Field of View. All Exposed or Partially Exposed targets which are within a gunner's Field of Fire and which are not blocked by an obstacle are visible for the entire Phase, and may be fired upon. Again, this is a common sense issue. It is quite possible for an Exposed combatant to be visible to one Vehicle and not to another.

"Many are called, but few survive."

Motto over King's Men Induction Center

Spotting Through Blocking Terrain

The far right columns of the **Terrain and Movement Table (1A)** give the Spotting Modifier, Spotting Depth, and Clear Shot Chance through Woods, Rocky terrain, and Brush, collectively called Blocking Terrain. The **Spotting Modifiers** are used in the Spotting Rules of Section 6.1 and are not needed in the basic system. The **Spotting Depth** gives the distance, in Mech Hexes, through the Blocking Terrain that a Vehicle can be seen. In the basic system, any Vehicle which has less than or equal to this amount of terrain between it and the spotter is Visible. The **Clear Shot Chance** is the chance a round fired through the terrain can pass through a Mech Hex without hitting an obstacle or detonating. When a shot is fired through Blocking Terrain, the shooter rolls a 00 - 99 number for each Mech Hex it enters. If less than or equal to the Clear Shot Chance is rolled, the shot passes through that Mech Hex. If greater than the Clear Shot Chance is rolled an explosive round strikes a substantial obstacle and detonates in the hex. A non-explosive round strikes an obstacle and is deflected away from the target.

Example: A Tank is hidden off a road which runs through Medium Woods; the Spotting Depth in this terrain is 2 Mech Hexes, as shown on Table 1A. The distance between the road and the Tank is greater than 2 Mech Hexes, except for a place where a bend in the road passes 2 MH away. The Tank can only see and be seen by Vehicles as they pass through this bend. A Truck enters this section of the road and is fired upon. The chance that the round passes through the 2 MH to the target is given by the Clear Shot Chance; it is 65 per MH. The shooter rolls a 34 for crossing the first MH and a 68 for the second. The round strikes a tree in the second MH and does not hit the target.

3.4

OPTIONAL ACCURACY MODIFIERS

There is naturally far more to the chance of hitting a target than the factors mentioned above; some of these factors are covered on the **Optional Accuracy Modifiers Table (2B)**. If desired, any or all modifiers which apply are added to or subtracted from the Shot Accuracy before determining the Odds of Hitting.

Crew Skill

A Crew's skill and training are a major factor in weapon accuracy. The Basic Shot Accuracy listed on **Status Sheet 1** is for a Line or average crew. Less or more qualified Crews have Shot Accuracy Modifiers to adjust this basic value. The Crew Skill classes are self-explanatory; experienced Crews would be Crack, while top-quality formations might be Elite or Guard.

Target Size

Vehicles which are behind cover are harder to hit than those which are in the open. The Target Size Modifiers deal with these situations as well as the difference in Target Size versus Target Position in relation to the shooter.

The **Hull Down** modifiers are applied to Vehicles which are in Hull Down firing positions exposing only their main gun and upper hull or turret. There are modifiers for the various target Positions with respect to the shooter; Front-Rear, Oblique, and Side. In addition to the Odds of Hitting modifiers, targets which are Hull Down can only be hit in the upper Hit Area (Turret) of the Hit Location Damage Tables on **Status Sheet 2.**

Moving Target

A moving target is harder to hit than a stationary one. In the Basic system, the Shot Accuracy Modifier for firing at a Moving Target is given opposite the target's speed in Mech Hexes Per Turn (MHPT). For reference, a Vehicle's speed in miles per hour (mph) is five times the MHPT value. This modifier is based on the Vehicle's **Moving Target Accuracy Modifier (MTAM)**, which is found on the Equipment and Vehicle Data Section of **Status Sheet 1**. The total modifier cannot be greater than 0. The MTAM adjusts accuracy for gun stabilization and fire control. The larger the MTAM, the greater the ability to correct for target speed. A more accurate system which accounts for target motion, gun tracking, and weapon accuracy is included in the Advanced rules of Section 4.3.

Example: A stationary T62 is firing at a moving tank at 50 Mech Hexes (1000 yards) range. The target is moving at 5 MHPT (25 mph) and the T62 takes a shot after 6 Phases of Aim. The Moving Target SA Mod is 6 (MTAM, Status Sheet 1) - 9 = -3. The adjusted Shot Accuracy is 16 (basic SA) - 3 (target moving 5 MHPT) = 13. The Odds of Hitting are 60.

Moving Shooter

Gun accuracy from a moving Vehicle is seriously reduced. To find a moving shooter's accuracy, add the Moving Shooter SA Modifier given opposite the shooter's speed in Mech Hexes Per Turn (MHPT) to the Shot Accuracy. This modifier is based on the Vehicle's **Moving Shooter Accuracy Modifier (MSAM)**, which is found on the Equipment and Vehicle Data Section of **Status Sheet 1**. The total modifier cannot be greater than 0. The MSAM adjusts accuracy for gun stabilization and fire control. The larger the MSAM the greater the ability to correct for the shooter's speed. A more detailed system accounting for gun stability, movement speed, and terrain is included in the Advanced Rules of Section 4.4.

Moving Aim Time to Stationary Aim Time

Vehicles in the open will sometimes stop to fire and then resume movement. When moving, a Vehicle is a harder target to hit, and can reload the gun and begin aiming for the next shot. When a Vehicle accumulates Aim Time while moving but stops before firing, the shot is from a stationary shooter, but the **Stationary Aim Time** is one half the Moving Aim Time; round fractions up. As an example, if a tank spent 3 Phases Aiming while moving and then stopped on the next Phase to fire, it would have 4 Phases of Moving Aim Time when it fired. The Stationary Aim Time of the shot would be 4 / 2 = 2 Phases. This penalty in Aim Time is due to the errors in aim induced as the vehicle comes to a halt. Overall accuracy is often better than the vehicle's moving shot accuracy especially for early tanks without gun stabilization.

Once the Vehicle has stopped, it can continue to aim and improve its Stationary Aim Time normally. As an example, if the tank in the preceding example stopped with 2 Phases of Stationary Aim Time, it could wait another 3 Phases to fire and would have 2 + 3 = 5 Phases of Stationary Aim Time when it fired.

Rubble, Shell Holes, and Rough Terrain

Whenever a Vehicle hits or crosses an Obstacle such as a ditch, low wall, rubble, or shell crater, it loses all accumulated Aim Time and cannot fire. Aim Time begins from 0 once the rough terrain has been crossed or the Vehicle comes to a halt. If the Obstacle presents a substantial impediment, the Collision and Rapid Deceleration rules of Sections 2.5 and 2.6 should also be used.

Mobility Kill

This term is used when a Vehicle loses its ability to Maneuver, regardless of the cause. A Mobility Kill can result from damage to the Power Plant, Tracks, Suspension, or Driver. The Vehicle may still have functioning weapon systems.

3.5

HIT LOCATION AND DAMAGE

Whenever a Vehicle is hit, the **Basic Hit Location Section** of **Status Sheet 1** determines the Hit Area. This naturally depends on the Vehicle's position and exposure.

Hit Area

The **Basic Hit Location Section** of **Status Sheet 1** determines whether the shot strikes the Vehicle's Turret or Hull. The Turret or upper location is generally exposed when the Vehicle is in a Hull Down firing position, while the Hull or lower portion includes the rest of the Vehicle. To use

this table, just roll a 00 - 99 number and enter the row of the table with the correct vehicle Turret and Hull Facing. Note that the Facing of both the Turret and Hull are used, and these Facings are with respect to the shooter. As an example, a target with its Turret Front and the Side of the Hull facing the shooter would use the Turret Front, Hull Side row. Move right on the appropriate row until the column with the number rolled is found. This gives the shot's placement and determines whether the Face or Side of the target are hit. The Face is either the Front or Rear of the target, depending on whether the Vehicle is Facing toward or away from the shooter. The following diagram shows several sample Facings.

Internal Volume, Armor, and Target Size

A key factor in the design of Armored Vehicles is Internal Volume. This term refers to the amount of space taken up by the Crew, Fuel, Ammunition, and Power Plant. What makes it so important is that the smaller the Internal Volume is, the smaller the area that must be armored, and the smaller target the Vehicle becomes on the battlefield.

Examining the Soviet T64 and the USA M1A1 Abrams shows two very different approaches. The T64 has a 3 man Crew with a minimum amount of Crew volume (due to a Soviet policy of recruiting only very short men for Tank Crews), and co-locates the Ammunition and Fuel storage. The M1A1, on the other hand, has a 4 man Crew, separate storage for Ammunition and Fuel, and can easily accommodate Crew members who are 6 feet tall. The result is that the M1A1 requires a gross weight of 66 tons to provide about the same armor protection as the 46 ton T64. Also, the T64 is about 7.2 feet tall, 11 feet wide, and 21 feet long; the M1A1 is roughly 9 1/2 feet tall, 12 feet wide, and 26 feet long, making it a much larger target.

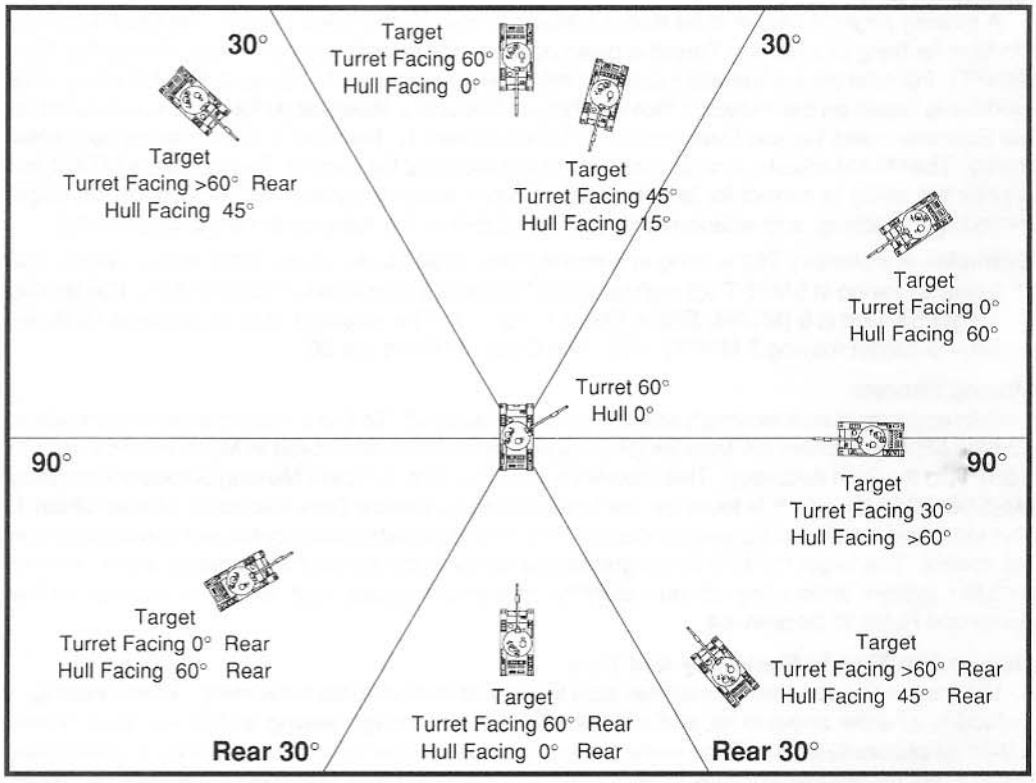


Figure 2: Target Facing

Once the shot's Basic Hit Location is determined, the **Hit Location and Damage Table** of **Status Sheet 2** is used to determine the actual Hit Location. **Status Sheet 2** is divided into eight vertical sections, as described in Section 1.4. The upper portions are for hits to the Turret while the lower portions are for hits to the Hull.

There are eight sets of Hit Location Rolls on the table. The proper set used is given by the Hit Area defined on the **Basic Hit Location Section** of **Status Sheet 1**. The shooter rolls a 00 - 99 number and enters the Hit Roll column to read off the Hit Location in the first column. This gives the actual Hit Location on the Vehicle; to the right of the Hit Roll is the first System Hit column, which lists the equipment and Crew that are in direct line of fire. To the right of the System Hit description is the **Protection Factor (PF)** against Armor Piercing and High Explosive rounds (PF AP) and Protection Factor against HEAT rounds (PF HEAT).

Glancing

One of the most important factors in armor protection is Glancing. Armor protection is not simply a matter of thickness, but also depends on the angle at which the projectile strikes. To account for variations in armor and shot angles, the **Base Armor PF** of **Status Sheet 2** is corrected for glancing effects. The player rolls a 0 - 9 number and cross indexes the number rolled with the Base PF from **Status Sheet 2** on the **Effective Protection Factor Table (4)** to find the **Effective PF**. When entering **Table 4**, the PF line whose value is closest to the Base PF value should be used. Note that only a portion of the right hand page of **Table 4** is used. The rest of **Table 4** is used with the Advanced Glancing Rules of Section 4.8.

The rules for Effective PF apply only to Hit Locations from **Status Sheet 2** which do not have an **asterisk (*)** following their description. Hit Locations followed by an asterisk have an Effective PF equal to their Base PF from **Status Sheet 2**, and the Glancing rules are not used.

Example: An M60A1 is hit by a HEAT round. The target has a Base PF of 12H from Status Sheet 2. The player rolls a 6 for the 0 - 9 roll and the Effective PF is taken from Table 4 on the 12H PF line and is 16H.

Now that both the Hit Location and Protection Factor are known, whether the round penetrates can be determined by simply comparing the weapon's PEN value to the Effective PF. If the round's PEN value is greater than the Effective PF, the round penetrates and the System Hit can be disabled. If the PEN is high enough, it can carry through to the second and third System Hit columns; the same Glancing Roll is used for all columns. The specific effects on each Vehicle System are defined in Section 3.6. These effects and any special rules take place immediately.

Example: A T62 tank is hit by an AP round; its Turret is Facing the shooter, but its Hull is Oblique to the shooter. The shooting player refers to the Hull Facing Oblique and Turret Facing Front row of the Basic Hit Location Table on Vehicle Status Sheet 1 and rolls a 00 - 99 number. He rolls a 54, and the target is hit in the Hull Side.

Status Sheet 2 is now checked for a hit to the Hull Side. Another 00 - 99 roll is made, resulting in a 47. This indicates a hit to the Road Wheels, potentially disabling the Tracks and Suspension (first System Hit). Note also that this Hit Location has an asterisk, so the Glancing Roll is not used; the armor Protection Factor covering this Hit Location has a PF against AP of 86. Note that against HEAT rounds the PF would also be 86. If the incoming round's AP PEN value is greater than 86, the Track and Suspension have been penetrated and the round may continue to penetrate the target. The next System Hit column shows a Fuel Tank whose Base AP PF is 236. Since this Hit Location's description is not followed by an asterisk, the shooter rolls a 0 - 9 number and enters Table 4 to find the Effective PF. If a 4 were rolled, the Effective PF against AP attack would be 298. If the weapon's PEN is greater than this it continues on, possibly striking the Track and Suspension on the far side of the Tank. The Base AP PF there is 563; with a Glancing Roll of 4, the AP PF would be 656.

The effects of penetrating each of these Hit Locations would be determined using the rules of Section 3.6. Any effects would take place immediately.

Crew Damage

In the basic system, whenever a Crew compartment is penetrated, the Crew Members are assumed to have been Incapacitated or Killed, or to have bailed out of the Vehicle. More detailed Crew injuries are the subject of the Crew Damage rules of Section 4.9. For the majority of game situations involving Tank and Anti-Tank weapons, once a Vehicle is penetrated its Crew has been Disabled or will immediately abandon the Vehicle. Special consideration for small arms fire against light Vehicles should be made using the Automatic Fire Crew Hit Chance rules of Section 4.7.

Armor Slope

Most modern Main Battle Tanks make use of Sloped Armor to improve protection. The armor is not simply a flat plate, but is angled away from the vertical. This Slope increases the armor's effective thickness and the tendency to deflect a round. The greater the Slope, the greater the improvement in protection.

As the Slope increases, the length of the armor required to cover a given height also increases. Volume and weight constraints combined with Slope lead to an optimum armor configuration. The front Hull armor on most MBT's have armor Slopes of 40° to 60°.

3.6

VEHICLE SYSTEM DAMAGE

The following are brief descriptions of the typical equipment and systems within a Vehicle, as well as rules for determining whether they are Disabled by a penetrating hit.

Ammunition

This indicates a hit into an Ammunition Bay which may result in Explosion or Fire. Refer to the **Fuel and Ammunition Hit Table (3B)** and find the **Ammunition Modifier** from the right side of the table. Add the Vehicle's **Ammunition Hit Modifier** from the **Equipment and Vehicle Data Section** of Status Sheet 1 to find the **Fire Modifier**. Enter **Table 3B** with the Fire Modifier to find the Explosion and Fire Chance. Roll a 00 - 99 number. If less than or equal to the **Explosion Chance** is rolled, the ammunition detonates and the Vehicle is destroyed. On the same roll, if less than or equal to the **Fire Chance** is rolled, the Ammunition burns and the Vehicle must be Abandoned within 1 to 6 Phases. For those who are keeping track of Crew survival, it takes an uninjured Crew Member 3 Phases to Abandon a Vehicle through a top hatch. This includes opening the hatch, climbing out, and jumping off the Vehicle. The Referee should use this time as a guide in determining the times it takes each Crew Member to escape. Any Crew Members who cannot Abandon the Vehicle in time are killed.

The Ammunition Hit Modifier adjusts the Explosion and Fire Chances for the Vehicle's Ammunition storage and fire extinguishing capabilities. Some special rules are used to handle Vehicles with sophisticated **Halon Extinguishers**. A Vehicle with an Ammunition Hit Modifier followed by an asterisk indicates that it has an advanced Halon type extinguishing system. These systems are designed to identify a Fire within milliseconds and automatically respond before the Fire can

develop. This provides excellent Fire protection, but once the Halon gas and particle system has been activated within a Crew compartment, the Crew must abandon the Vehicle since the Halon makes the atmosphere unbreathable. When a Vehicle with a Halon system is hit, enter **Table 3B** with the Ammunition Modifier and Ammo Hit Modifier. If the 00 - 99 roll indicates no Fire or Explosion at the Ammo Mod plus Ammo Hit Mod, but the roll would have indicated a Fire or Explosion at the basic Ammo Mod alone, the fire extinguishing systems has been activated to suppress the Fire. If this happens and the Crew compartment has been penetrated, the Crew must Abandon the Vehicle.

Vehicles with separate ammunition compartments with blow out panels, such as the USA M1A1 Abrams, have been designed to protect the Crew from an Explosion in the Ammunition Bay. When a Vehicle with this design is encountered, the Hit Location call out on **Status Sheet 2** has **(Exp Proof)** printed next to it. When a Fire or Explosion takes place in such a Location, the blast is directed through blow out panels without destroying the Vehicle. An explosion of an Ammunition Bay will Incapacitate but not kill the Crew. A Crew which has been Incapacitated can roll for recovery following normal rules (Section 4.9) with a -30 to the 00 - 99 roll. Note that not all Ammunition hits are followed by the (Exp Proof) label. A round penetrating through the Loading Door between the Crew compartment and the Ammo Bay defeats the isolation of the Crew compartment, and normal rules for an Ammunition Explosion and Fire apply.

Example: An Ammunition bay of a T62 tank is hit by an APDS-T round. The AP type round has a Tracer, as indicated by the T, and has an Ammunition Modifier of 5 from Table 3B. The T62 has a Ammunition Hit Modifier of +5 from Status Sheet 1, so the Fire Modifier is 5 + 5 = 10. A 00 - 99 number would now be rolled; if less than or equal to a 03 were rolled the Ammunition would Explode. If less than or equal to a 08 were rolled, the Ammunition would burn. In case of Fire, the Vehicle would have to be abandoned within 1 to 6 Phases.

Crew Hits

This entry includes the Crew, Driver, Driver-Crew, and Turret Crew entries. A Crew entry includes all members of the Vehicle's Crew. A Driver-Crew entry also indicates all Crew members but identifies that the round enters the Crew compartment through the Driver's area. A Driver entry indicates Crew damage to the Driver only. The Turret Crew entry indicates damage to the Turret Crew which normally includes the Commander, Gunner, and Loader.

Cupola

The Cupola is an extension from the Turret roof which is designed to give the Commander an improved Field of View using Periscopes or Vision Slots, and also contains the Commander's Hatch. It is lightly armored and is a weak point in the Turret.

Engine

When the Engine or Power Plant is hit and penetrated, the Vehicle's mobility can be lost. This hit location includes the engine, transmission, cooling system, hydraulics, brakes, and steering. To determine if a hit Disables these functions, the shooter first determines the amount by which the shot Overpenetrates (Over PEN). For AP and HEAT rounds, the **Over PEN** is the weapon's PEN value minus the PF value (after Glancing) of the Engine compartment. Against **High Explosive (HE)** round's, the Over PEN is the round's BC0 value divided by 100. Enter the **Engine Hit Table (3C)** with the Over PEN to find the **Engine Disable Chance**. When using this table, the Over PEN must be greater than or equal to the lowest entry (100) for there to be any chance of Disabling the Engine. As an example, an Over PEN of 150 would use the 100 entry and have a Engine Disable Chance of 04. Once the Engine Disable Chance has been determined, a 00 - 99 number is rolled. If less than or equal to the Engine Disable Chance is rolled, the Engine has been Disabled.

If the Engine is Disabled, the Vehicle loses all mobility, and it also loses its hydraulic system. With the hydraulic system out, the Turret and Gun can only be traversed and elevated manually. Turret traverse in manual mode is limited to 10° per Turn, and once the Turret is pointed toward the target Aim Time takes twice as long as normal. This means that to get 1 Phase of Aim, the Vehicle must spend 2 Phases in manual mode. In manual mode, the Vehicle may not shoot while moving or at moving targets. In some Vehicles the Turret is designed to be operated manually. These Vehicles do not have Turret performance reduced by a Disabled Engine; this is mentioned in the Vehicle description.

In addition to the loss of Turret mobility, the Vehicle's overall mobility is lost if the Engine is Disabled. If the Vehicle is moving, it slows to a halt at its maximum Deceleration VC value from **Status Sheet 1**. During this time the Vehicle moves in a straight line.

Example: A Vehicle takes a penetrating hit into the Engine Compartment. The PEN is 18H and the armor PF is 559. The Over PEN value is 1800 - 559 = 12H. This results in an Engine Disable Chance of 91. A 34 is rolled and the Engine is Disabled, immobilizing the Vehicle.

"Targets can't be choosers."

Corley Norris

Cupola

Most modern MBT's have a commander's Cupola. The Cupola is designed to give the Commander a full 360° Field of View, but to do this it must rise up above the level of the Turret roof and have numerous Vision Slots. This results in a weak point in the Turret, but is required to provide overall Visibility from within the Vehicle. This Visibility is considered essential to a tank's survival. With first round hit probabilities approaching 100%, the tank that gets the first shot off is often the tank that survives.

The Israelis have a different doctrine regarding Cupolas, however. They have removed the Cupola from their tanks, and instead have the Commander watch the battlefield through the Turret roof hatch. The idea behind this is apparently that there is no substitute for good, clear visibility, and that a hit to the Cupola is just as lethal as a hit to an open hatch.

Fuel

Hits into a Fuel compartment can often result in Fire or Explosion. Whenever a Fuel compartment is hit and penetrated, the player should refer to the **Fuel and Ammunition Hit Table (3B)**. The chance of a Fire or Explosion is determined using the rules for an Ammunition Hit, except with the **Fuel Hit Modifier** from **Status Sheet 1**. If the Fuel compartment Explodes, the Vehicle is considered destroyed and the Crew is Killed. If the Fuel burns, the Crew must Abandon the Vehicle. The Crew has 1 - 6 Phases to abandon the Vehicle. Any Crew member not out of the Vehicle after that time is killed. It takes 3 Phases for uninjured Crew members to Abandon the Vehicle.

Many Vehicles have provisions for carrying **External Fuel Tanks**. These Tanks extend the Vehicle's range and can often be released prior to combat. Whenever an External Fuel Tank is hit and penetrated, normal Fuel Explosion and Fire chances apply. The Vehicle's Fuel Hit Modifier does not apply to External Fuel Tank hits, but a resulting Fire or Explosion is contained outside the Vehicle. If the tank Explodes or catches Fire, the Crew must Abandon the Vehicle. The Crew has the sum of two six-sided dice in Phases to Abandon the Vehicle. It takes 3 Phases for uninjured crew members to Abandon the Vehicle.

The Referee should note that Fuel is normally drawn from the External Fuel Tanks before switching to the Internal Fuel Tanks. In most cases the Vehicle has expended the Fuel in its External Fuel Tanks before arriving at the combat zone. Empty External Fuel Tanks do not pose a risk of Fire or Explosion and may be ignored.

Graze

A Grazing Hit is a hit into an area of the target that consists entirely of armor or non-critical equipment. It usually indicates a shallow grazing hit into the edge of the target, which strikes only armor.

Gunner's Sight

The Gunner's Sight is required for proper sighting and accuracy and is destroyed by any penetrating hit. If the sight is lost, the Vehicle's **Shot Accuracy** has a maximum value of 0. When using the Advanced Rules, the Vehicle's **Moving Target Accuracy Modifier** and **Moving Shooter Accuracy Modifier** are halved.

Machine Guns

The Machine Gun entry covers the heavy and light Machine Guns typically mounted on the Turret, coaxial Machine Guns mounted parallel to the Main Gun, and bow mounted hull Machine Guns. When a Machine Gun is hit and penetrated it is destroyed.

Main Gun

The Main Gun is the vehicle's primary weapon; the Hit Location includes the weapon's Barrel and Breech, as well as the Recoil and Elevation systems. If the Main Gun Location is hit and penetrated, the Main Gun is destroyed.

Mortar Ammunition

This entry indicates a hit into the Mortar Ammunition Bay. Normal Ammunition hit rules apply.

Periscope

These entries cover all Crew Periscopes. If a Periscope is hit and penetrated, the vision of the Crew Member in that Zone is lost; there is assumed to be one Periscope per Field of View Zone. Damage to the Periscope is considered total for the duration of a battle. Most modern periscopes are designed for field replacement of their optical elements. This is assumed to be completed when the Vehicle is resupplied.

Spot Lights

Spot Light entries indicate hits to external spotlights. Any hit penetrating one of these entries destroys the unit. The Infra Red (IR) Spotlight is required for IR Sighting of the Main Gun. A Spotlight entry not preceded by an IR indicates a conventional white light spotlight.

Track and Suspension

This entry includes the Road Wheels, Track, and Suspension. Any time this System is hit and Disabled, the Vehicle loses mobility. To determine the chance of Disabling the Track and Suspension, refer to the **Track and Suspension Disable Chance Table (3A)**. **Table 3A** is divided into two parts. The left part is used for non-explosive rounds such as AP, while the right is used for explosive rounds like HEAT and HE.

When nonexplosive rounds hit the Track, Idler, Drive Sprocket, Road Wheels, or Suspension, first determine whether the round will penetrate. If it does, select the proper column of **Table 3A** based on the Hit Location to find the **Disable Chance**. Move down the appropriate column to find the

Deep Fording Equipment

During World War II, rivers and streams became major obstacles to the Soviet advance. As a result, the Soviet military has placed a high priority on river crossings. Unlike their western counterparts, Soviet MBT's are equipped with Deep Fording Equipment.

A modern MBT is naturally much heavier than water, and crosses streams and rivers by running along the river bottom. The Vehicle can be completely submerged, and its Engine and Crew use Snorkels for air. Water as deep as 18 feet can be crossed, and the tank is ready for action in as little as 1 minute.

Smoke Launchers

Modern MBT's are equipped with Smoke Launchers. These are normally mounted on the Turret and when fired create a Smoke Screen 120 feet across about 60 feet in front of the Tank. Launchers can normally create two Smoke Screens before they must be manually reloaded. The Smoke Screen provides cover for the Tank and supporting Infantry, and is particularly useful in countering Anti-Tank Guided Weapons.

Disable Chance opposite the weapon's **Nonpenetrating Impact Damage** (NID from Status Sheet 1) and roll a 00 - 99 number. If less than or equal to the Disable Chance is rolled, the Track and Suspension has been Disabled and the Vehicle loses mobility.

When explosive rounds hit the Track and Suspension, the player finds the Disable Chance opposite the explosion's BC0 value, using the appropriate column of **Table 3A**. If the explosion's BC0 is less than the lowest entry on the table, the blast is not powerful enough to damage the Track and Suspension. As an example, a BC0 of 550 which hits the Track would use the 500 entry and have a Disabling Chance of 00. Once the Disable Chance has been determined, the player rolls a 00 - 99 number. If less than or equal to the Disable Chance is rolled the Track and Suspension has been Disabled and the Vehicle loses mobility.

"Shoot first and ask questions later. You get better answers."

Gil the Treacherous

If the Vehicle loses mobility due to a Track and Suspension hit, it comes to an immediate halt as the Track separates and the Road Wheels sink into the ground. The Vehicle's forward motion ends the Phase following the hit and the speed drops to 0. Normal Collision rules for Rapid Deceleration apply for Crew Incapacitation using the rules of Section 2.6. The Vehicle may not fire and all Aim Time is lost the Phase a moving Vehicle has its Track and Suspension Disabled. The Crew can take no actions during this time.

Examples: A T62 tank takes a hit from an AP round with a PEN of 25H and NID of 33. The round strikes the Road Wheel / Suspension which has an AP PF of 86. The round penetrates and the Disabling Chance 20.

If the same tank were hit by a HEAT round with PEN 38H and BC0 of 31H, the Disabling Chance would be 29.

Turret Ring

A penetrating hit to this System eliminates the Turret's ability to rotate. The Main Gun and Coaxial weapon can no longer be brought to bear normally, but the Hull can be rotated to bring the gun to bear. Such aim can only be used against a target which is stationary and the firing Vehicle must also be stationary. Aim Time in this mode is 8 times normal and there is a -15 Shot Accuracy Modifier.

3.7

AUTOMATIC WEAPONS

Many Vehicles are equipped with automatic Chain Guns or Cannon as their primary weapons. These weapons are effective on other light Vehicles as well as soft targets and infantry. Fire from automatic weapons and Machine Guns is handled using the same rules as fire from the main armament. The Shot Accuracy is cross indexed with the Target Range to find the Odds of Hitting. If a Hit is rolled, that means the weapon's Arc of Fire intersects the target. To determine the number of hits on the target, the **Basic Automatic Fire Table (2C)** is used. **Table 2C** determines the number of rounds in the two second burst (1 Phase) which hit the target. To use the table, simply cross-index the weapon's **Rate of Fire (ROF)** with the Target Range in 20 yard Mech Hexes. An entry preceded by an asterisk gives the number of Hits on the target. An entry without an asterisk gives the **Hit Chance** for one round of the burst to hit. In this case, the player rolls a 00 - 99 number. If less than or equal to the Hit Chance is rolled, the target is hit by one round of the 2 second burst.

Damage from each round hitting is determined normally. In the case of Machine Guns and Chain Guns, the number of rounds hitting can be very large. If these rounds penetrate, the easiest way to determine whether the Vehicle is Disabled or not is to consider the fate of the Vehicle's Crew. To do this refer to the **Automatic Fire Crew Hit Chance Table (3D)**. Cross-index the weapon's PALM value (Status Sheet 1) with the weapon's Rate of Fire (ROF from Status Sheet 1). This gives the number of rounds hitting each Crew Member in a penetrated Crew compartment. An entry preceded by an asterisk gives the number of hits while an entry without an asterisk gives the Hit Chance for one round hitting. If a Crew Member is hit he is considered Incapacitated or killed.

Example:

The 12.7mm Heavy Machine Gun of a T62 tank is used to Disable a Truck to save main gun Ammunition. The shooter takes 3 Phases of Aim and fires at the Truck, which is 20 MH away. The Shot Accuracy for a T62 with 3 Phases of Aim is 12 and the Odds of Hitting are 94 (from Table 2A). Assuming the shooter hits, the number of rounds hitting would be found on Table 2C by cross-indexing the weapon's ROF of 6 and Target Range of 20 Mech Hexes. The truck is hit by 18 rounds. Rather than handle all 18 rounds hitting the truck, the Referee decides to determine the Crew's condition. Using Table 3D with a PALM of 20 and ROF of 6 gives a Hit Chance of 44. Each crew member rolls a 00 - 99 number. If less than or equal to a 44 is rolled, the crew member is hit.

4

ADVANCED RULES

The rules in this Chapter are for players who are interested in getting a higher level of detail and realism in exchange for a little playability. Each Section can be used separately as desired, although experienced players will probably find that all of the rules can be added in without much trouble.

4.1

ADVANCED MOVEMENT

The greater the Hull Facing Change made in a Turn, the lower the maximum speed the Vehicle can go. If the Vehicle's Hull Facing Change for the entire Turn is less than or equal to its Hull Turning Rate per Phase, there is no speed limit for movement that Turn. As the Hull Facing Change in a Turn increases, the Vehicle's maximum speed drops. This is shown in the following **Vehicle Maximum Speed and Hull Facing Change Table**; this Table is repeated in the back of the book as **Table 1B**. Note that the table also gives the maximum Hull Facing Change which can be made in a Turn versus Vehicle Speed. If the Vehicle cannot slow down enough to make the turn (see the rules for deceleration in Section 2.2), its maximum Hull Facing Change that Turn is limited to the value from the table.

VEHICLE MAXIMUM SPEED and HULL FACING CHANGE PER TURN

Maximum Speed MHPT	Hull Facing Change in the Turn
Maximum Speed from Status Sheet 1	< 1 X Hull Turning Rate per Phase
< 2 X Acceleration Velocity Change	< 2 X Hull Turning Rate per Phase
< 1 X Acceleration Velocity Change	< 3 X Hull Turning Rate per Phase
No Movement - Static Turn Only	> 3 X Hull Turning Rate per Phase

Examples: A T62 tank has a Hull Turning Rate per Phase of 37° and Acceleration VC of 1.8 MH. If the Vehicle makes a 60° Facing Change in a Turn (less than 2 X Hull Turning Rate per Phase), its speed during the Turn would be limited to 2 X Acceleration VC = 2 X 1.8 = 3.6 MHPT.

If the same Vehicle were moving 6 MHPT (over 2 X Acceleration VC), it could not make a Hull Facing Change of over 1 X Hull Turning Rate per Phase, or 37°, that Turn.

4.2

ODDS OF HITTING

In the Basic Game the Vehicle's Shot Accuracy is cross-indexed with the target Range to determine the Odds of Hitting. Optional Modifiers can be added to the basic Shot Accuracy to account for Target Size and target or shooter movement. The Advanced System takes these concepts one step further. Each factor influencing accuracy is now treated as a separate **Accuracy Level Modifier (ALM)**. These ALM are added together for each shot to determine accuracy.

When a shot is fired, several factors modify the Odds of Hitting. These factors are; aim time, Crew Skill, target range, visibility, motion, and size. Each of these effects has an Accuracy Level modifier (ALM). The shot's accuracy is the sum of all applicable ALMs. This sum is called the **Effective Accuracy Level (EAL)**. The greater the EAL, the greater the Odds of Hitting. These ALMs are described as follows.

Combat Range

The range at which tanks can successfully engage has increased tremendously since World War II. Modern fire control, gun stabilization, and high-velocity, flat-trajectory ammunition have all contributed to opening up this combat range.

During World War II, tanks typically engaged at ranges of 300 to 500 meters. In the modern day, "Battlefield Zero" for an M1A1 firing APFSDS ammunition is 1,500 meters. "Battlefield Zero" is the range where the Gunner simply points and fires; there is no range correction since the round's trajectory is virtually flat.

Aim Time Mod

The amount of time spent aiming has an important effect on accuracy. The greater the aim time the more accurate the shot, as indicated by the weapon Aim Time Mods on the Vehicle's **Advanced Status Sheet 3 Weapon Data Table**. A shot using the maximum number of Phases shown on the Status Sheet is the most accurate possible. The Status Sheet's Aim Time Mods include the inherent accuracy of the weapon, sights, and fire control system. Note that the Advanced Sheet Aim Time Mods are different from the Basic Sheet's Shot Accuracy.

For the weapon's Aim Time to begin, the weapon must first be brought to bear on the target by traversing the Vehicle or Turret. The time it takes to bring the weapon to bear depends on the weapon's mounts, the Vehicle, and on the Vehicle's motion. Rules for bringing the weapon to bear are outlined in Section 3.1, while Vehicle and Turret Traverse rates are given on **Status Sheet 1**. In general, the Phase after the weapon is brought to bear, Aim Time begins.

Target Range ALM

The Target Range ALMs are given on **Table 5A** opposite the Range in 20 yard Mech Hexes.

Skill and Visibility ALMs

Skill and Visibility ALMs are given on **Table 5B**. These correct for the Gunner's Skill as well as smoke, darkness, and other effects on vision or the weapon's sights. **Table 5B** also contains a list of Target Size ALMs for common targets.

Target Size ALM

Each Vehicle's **Advanced Status Sheet 3** contains a **Target Size Modifier and Hit Area Table**. This portion of the sheet gives the Target Size ALM of the Vehicle's Turret, Hull, or complete Vehicle (All), as well as its Target Size for Air to Ground Attack. To find the Target Size ALM, simply cross-index the Hull's Facing and Turret Facing with respect to the line of fire. Note that the Target Size Modifier of the target Vehicle is used.

When a Vehicle is Hull Down it exposes only its Turret, and can only be hit in the Turret Hit Locations of the Hit Location Damage Tables on **Status Sheet 2**.

Effective Accuracy Level

The **Effective Accuracy Level (EAL)** is the sum of all applicable ALMs and determines the Odds of Hitting. The following is an example of how the EAL is determined using the preceding ALMs.

Example: A T62 tank fires at an M60A1 at a Range of 50 Mech Hexes. There is good visibility, the target is stationary, and the T62 fires after 6 Phases of Aim Time. The target's Hull and Turret Facing are both 15° off the shooter's line of fire. The EAL would be 6 (Aim Time Mod from Status Sheet 3 for 6 Phases Aim) - 12 (range 50 Mech Hexes, Table 5A) + 10 (Line quality crew, Table 5B) + 0 (good visibility) + 20 (Target Size Mod for Hull and Turret Facing 15°, M60A1 Status Sheet 3) = 24.

The Odds of Hitting are found on the **Hit Odds Table (5D)**. Read down the table to the EAL, then across to the Odds of Hitting. In the preceding example, the EAL was 24, therefore the Odds of Hitting are 90.

The shooter now rolls a 00 - 99 number using two ten-sided dice. If less than or equal to the Odds of Hitting is rolled, the shot hits. If greater than the Odds of Hitting is rolled, the shot misses. If the shot misses, where the round lands can be determined using the Direct Fire Scatter rules of Section 6.3. In tank to tank combat, a missed shot can generally be ignored. If it is a High Explosive round fired near infantry or soft targets, however, its placement could be important.

4.3

MOVING TARGET

If the target is moving, **Table 5C** gives the **Moving Target Accuracy (MTA)** by cross-indexing the Target Speed (generally in Mech Hexes Per Turn) and Target Range in 20 yard Mech Hexes. When entering **Table 5C**, the Target Range should be found on the appropriate **Range Row**. There are four Range Rows; Missiles; Artillery; AP-HE-HEAT; and APDS-APFSDS. The Missile and Artillery rows apply to all Missile and Artillery weapons. The AP - HE - HEAT row applies to all tank and anti-tank guns firing AP, HE, or HEAT rounds and their variations, and the APDS-APFSDS row applies to all tank and anti-tank guns firing APDS, APCR, and APFSDS ammunition. The four Range Rows account for the different muzzle velocities of the weapons. The higher the muzzle velocity, the greater the Range across which the weapon can effectively track a moving target.

The MTA measures the Vehicle's accuracy against a Moving Target, and is based on unstabilized Turrets and guns typical of WWII. To correct the MTA for the Vehicle's turret and gun stabilization, add the Vehicle's **Moving Target Accuracy Modifier** found on the Equipment and Vehicle Data Section of **Status Sheet 1** to the MTA to find the **Stability Index (SI)**. The Stability Index measures the Vehicle's shot accuracy potential when shooting at a Moving Target. No matter how skilled the Gunner is, he cannot fire any more accurately than the Vehicle's ability to track the target.

To determine how much of a problem target movement is for the Gunner, all the shot's ALMs are added as usual except for the Target Size ALM. This is called the **ALM Sum** and measures the accuracy of the shot if the target were not moving. If the SI is greater than the ALM Sum, the weapon is more accurate than the Gunner. If the SI is less than the ALM Sum, the Gunner's aim is better than the Vehicle's accuracy potential. To find the EAL, add the lesser of the SI or ALM Sum to the Target Size Modifier. This EAL determines the shot's Odds of Hitting in the normal manner.

Example:

If the T62 from the preceding example were firing at an M60A1 which was moving at 3 MHPT (15 mph), the shot's ALM Sum would first be determined. The ALM Sum is 6 (Aim Time Mod from Status Sheet 3 for 6 Phases Aim) - 12 (range 50 Mech Hexes, Table 5A) + 10 (Line quality crew, Table 5B) + 0 (good visibility) = 4. If the T62 were firing APFSDS, the Moving Target Accuracy (MTA) would be taken from Table 5C on the APFSDS Range Row at 50 Mech Hexes and a target speed of 3 MHPT; here MTA = -3. The Stability Index is the MTA plus Moving Target Accuracy Modifier from Status Sheet 1; here -3 + 6 = 3. The Stability Index is compared to the ALM Sum and the smaller of the two is added to the Target Size Modifier to find the EAL; here 3 + 20 (Target Size Mod for Hull and Turret Facing 15°, M60A1 Status Sheet 3) = 23. The EAL is 23 and the Odds of Hitting are 86. Note that the Target's movement has not made a major difference here; the EAL is only 1 lower than it would be against a stationary target.

"If God hadn't meant them to be stepped on he wouldn't have given me feet."

Captain Austin D. Blackwell

MOVING SHOOTER

Another major factor in accuracy is the shooting Vehicle's movement, because a Vehicle's accuracy is seriously diminished while moving. Only modern tanks with sophisticated stabilizing equipment can accurately fire on the move. To account for weapon accuracy on the move, special rules must be used.

For shooters who are moving, **Table 6** gives the **Moving Shooter Accuracy (MSA)** by cross-indexing the shooter speed (generally in Mech Hexes Per Turn), the Terrain Class, and the target range in 20 yard Mech Hexes. There are four Terrain Classes; Road or Flat Desert, Steppes or Plains, Hill or Forest, and Rocky. Road or Flat Desert applies to smooth terrain with gentle changes in slope. Steppes or Plains represent open prairie with clumps of vegetation and small changes in ground slope. Hill or Forest represents terrain with boulders and uneven terrain features as well as moderate changes in ground slope, while Rocky terrain applies to terrain with large ground slope changes with moderate and large boulders. Players should use common sense when special situations apply.

As with the MTA, the MSA measures the Vehicle's accuracy when moving and is based on the unstabilized Turrets and guns typical of WWII. To correct the MSA for the Vehicle's Turret and gun stabilization, add the Vehicle's **Moving Shooter Accuracy Modifier** found on the Equipment and Vehicle Data Section of **Status Sheet 1** to the MSA to find the **Stability Index (SI)**. The Stability Index measures the Vehicle's shot accuracy potential when moving. Again, no matter how skilled the Gunner is, he cannot fire any more accurately than the Vehicle's ability to point the weapon and adapt to changing terrain.

To determine the Gunner's accuracy, all the shot's ALMs are added as usual except for the Target Size ALM. This is called the **ALM Sum** and measures the accuracy of the shot if the shooter were not moving. If the SI is greater than the ALM Sum, the weapon is more accurate than the Gunner. If the SI is less than the ALM Sum, the Gunner's aim is better than the Vehicle's accuracy potential. To find the EAL, add the lesser of the SI or ALM Sum to the Target Size Modifier. This EAL determines the shot's Odds of Hitting in the normal manner.

Example:

If the T62 from the preceding example were moving at 2 MHPT (10 mph) while firing at a stationary M60A1, the shot's ALM Sum would first be determined. The ALM Sum is 6 (Aim Time Mod from Status Sheet 3 for 6 Phases Aim) - 12 (range 50 Mech Hexes, Table 5A) + 10 (Line quality crew, Table 5B) + 0 (good visibility) = 4. If the T62 were moving over Steppes or Plains, the Moving Shooter

Modern Gun Stabilization

When a Vehicle is moving, its Suspension attempts to smooth the ride and provide a stable gun platform. Unfortunately, even the best Suspension allows major disturbances to the Gun's alignment.

To accurately fire on the move, modern tanks are equipped with Gun Stabilization systems. The Gunner's Sight is Stabilized to allow accurate aim; this is a light system and Stabilizing it is a reasonably easy thing to do.

Rather than attempt to finely stabilize the Main Gun (which often weighs several tons), the Fire Control Computer monitors the Gun's point of aim as it moves with the Vehicle. When the Gunner pulls the trigger, he enables the Fire Control Computer to fire. The next moment the Gun's point of aim coincides with the Gunsight's, the round is fired.

Accuracy (MSA) would be taken from Table 6 at a target range of 50 Mech Hexes and at a shooter speed of 2 MHPT; here MSA = -20. The Stability Index is the MSA plus Moving Shooter Accuracy Modifier from Status Sheet 1; here -20 + 10 = -10. The Stability Index is compared to the ALM Sum and the smaller of the two added to the Target Size Modifier to find the EAL; here -10 + 20 (Target Size Mod for Hull and Turret Facing 15°, M60A1 Status Sheet 3) = 10. The EAL is 10 and the Odds of Hitting are 12. In this example, the movement of the Shooter has made a major difference in the EAL; it is a full 14 lines lower than it would have been if the Shooter were stationary.

4.5

BALLISTIC ACCURACY

At long range another factor can be important; weapon accuracy may no longer be governed by the Gunner's aim, but by the weapon's and ammunition's own inherent accuracy. The Effective Accuracy Level (EAL) used to determine the Odds of Hitting must account for this deviation.

To determine the EAL, sum all applicable ALMs except the Target Size Modifier. This is the **ALM Sum**, which measures the accuracy of the Gunner's aim. Compare the ALM Sum to the weapon's **Ballistic Accuracy (BA)** found on the **Weapon Data Section** of **Advanced Status Sheet 3** under the weapon's PEN value. The BA measures the weapon's and ammunition's accuracy potential. If the BA is greater than the ALM Sum, the weapon is more accurate than the Gunner. If the BA is less than the ALM Sum, the Gunner's aim is better than the weapon's accuracy potential. To find the EAL, add the lesser of the BA or ALM Sum to the Target Size Modifier. This EAL determines the shot's Odds of Hitting in the normal manner.

Example:

A stationary T62 firing APFSDS at a M60A1 at 150 Mech Hex range has a shot ALM Sum of 6 (Aim Time Mod from Status Sheet 3 for 6 Phases Aim) - 20 (range 150 Mech Hexes) + 10 (Line quality crew) + 0 (good visibility) = -4. The weapon's Ballistic Accuracy (BA) at this range is found on the Advanced Status Sheet 3 and is -9. The BA is compared to the ALM Sum and the smaller of the two added to the Target Size Modifier to find the EAL; here -9 + 20 (Target Size Mod for Hull and Turret Facing 15°, Status Sheet 3) = 11. The EAL is 11 and the Odds of Hitting are 15. The weapon is less accurate than the Gunner in this example.

4.6

COMBINING MOVEMENT AND BALLISTIC ACCURACY

In many situations only the target or the shooter will be moving and the Ballistic Accuracy will be better than the aim of the Gunners. When both target and shooter are moving and if Ballistic Accuracy might be a problem, the EAL is found using the preceding rules comparing the ALM Sum to all of the Moving Target Stability Index, Moving Shooter Stability Index, and Ballistic Accuracy. The smallest of all four values is added to the Target Size Modifier to find the EAL.

Initially the player might have to refer to all four accuracy values to determine the limiting factor, but with a little experience, the value which governs accuracy is apparent without resorting to calculations.

4.7

AUTOMATIC WEAPONS

The Advanced Odds of Hitting rules provide a more accurate means of determining the accuracy of Automatic Weapons. The same Advanced Odds of Hitting rules apply to Automatic Weapons when determining the burst's Effective Accuracy Level (EAL) with the following modifications. First sum all applicable ALMs except the Target Size Modifier. This is the **ALM Sum**, which measures the accuracy of the Gunner's aim. When determining the ALM Sum note that the Aim Time Mod for Machine Guns and automatic weapons is in **Action Counts (AC)** rather than Phases. This places weapon aim times on a finer scale, and is consistent with the **Phoenix Command Small Arms Combat System**. For players using only the Mechanized System, there are four Action Counts per Phase, and the Aim Time Mods per Phase can be found using the 4, 8, and 12 AC entries.

Once the ALM Sum is found, the shooter should compare the Target Size Modifier to the weapon's **Pattern ALM (PALM)** value. The PALM measures the width of the Arc of Fire. The larger of the PALM or the Target Size Modifier is added to the ALM Sum to find the EAL. This EAL determines the burst's Odds of Hitting in the normal fashion.

Once a burst hits, the actual number of rounds striking the target must be found. Gunners are generally trained to fire 2 second bursts, determine accuracy and effect, and if necessary fire further bursts. When a Burst is on target, the number of rounds hitting depend on the weapon's Rate of Fire and the PALM. These values are given in the **Advanced Weapon Data Table** of **Status Sheet 3**. The shooter should cross index the weapon's PALM at the target Range with his weapon's Rate of Fire on the **Automatic Fire Vehicle Hit Chance Table (5E)**. This gives the number of rounds in the 2 second burst which hit the target or the chance of one round hitting. An entry preceded by an asterisk gives the number of rounds hitting. An entry without an asterisk is the **Hit Chance**, the chance of hitting with one round. In this case, the shooter rolls a 00 - 99 number. If less than or equal to the Hit Chance is rolled, the target is hit by one round.

Example: A stationary T62 fires its coaxial Machine Gun at a jeep at 30 Mech Hex range. The EAL is 2 (Aim Time Mod from Status Sheet 3 for 8 AC (2 Phases) Aim - 8 (range 30 Mech Hexes, Table 5A) + 10 (Line quality crew, Table 5B) + 0 (good visibility, Table 5B) = 4. The weapon's PALM at 30 Mech Hex range is 17 (Status Sheet 3), so the EAL is the sum of the ALM Sum and the larger of the PALM or Target Size Modifier for a jeep, here 12 (Table 5B). The EAL is 4 (ALM Sum) + 17 (PALM) = 21 and the Odds of Hitting are 74.

If the Burst hits the target, the number of rounds hitting are found on Table 5E by cross-indexing the weapon's ROF, here 6, and the PALM, here 17. The PALM is less than 20 so the PALM 20 line is used, giving 18 rounds hitting target.

Crew Hit Chances

As in the Basic System, when numerous hits strike a Vehicle and penetrate it, the fastest way to determine if the Vehicle is disabled is often to determine what happens to the Crew. The **Automatic Fire Crew Hit Chance Table (3D)** is used to determine the number of hits on each crew member as detailed in Section 3.7.

Adjustment for Target Size

The **Automatic Fire Vehicle Hit Chance Table (5E)** is based on a Target Size ALM of 20. To correct for Target Size the shooter may use an Effective PALM value equal to the weapon's PALM plus 20 minus the actual Target Size ALM. This adjusts the number of hits for actual target size.

Example: An automatic Cannon with a Rate of Fire of 1 and PALM of 21 hits a Vehicle with Target Size ALM of 17. The effective PALM for this burst would be 21 (PALM) + 20 - 17 (TS ALM) = 24. The Hit Chance would be *1, indicating 1 round hits the target.

Ballistic Accuracy

Usually the accuracy of a shot is determined by how well the weapon has been aimed, restricted by weaknesses in the Vehicle's aiming and firing system. At long ranges, however, a weapon's accuracy can be reduced by the deceleration forces on the projectile. As the projectile slows down due to wind resistance and the pull of gravity, imperfections in the projectile can make it start to wobble. These imperfections could include the location of the projectile's center of mass as well as irregularities in its manufacture. The more it decelerates, the greater the forces acting on it and the more it deviates from the intended path. Because of all this, well-manufactured ammunition is much more accurate at long ranges.

4.8

EFFECTIVE PROTECTION FACTOR AND GLANCING

One of the most important factors in armor penetration is the actual angle with which the round strikes the armor. In the Basic System, the angle of strike is always considered to be from the direct Front or Side. The **Effective Protection Factor Table (4)** corrects the armor's PF for the actual angle of the strike. This is especially important when using the **Target Size and Hit Area Table** of the **Advanced Status Sheet 3**. On those tables a more accurate accounting of the target's Facing is made; the target is not always assumed pointed directly at the opponent until it goes into Oblique coverage. This means hits can strike the target's Side at shallow glancing angles. These hits may not penetrate because of the shallow angle, but can easily Disable vulnerable areas such as the Track and Suspension.

To correct armor PF for angle of strike and glancing effects, refer to the right hand column of **Status Sheet 2** labelled **Glance Modifiers**. Find the appropriate Glancing Modifier based on the target's Facing. The player then rolls a 0 - 9 number and adds it to the Glancing Modifier to find the **Effective Glancing Modifier**. Cross indexing the Effective Glancing Modifier with the Base PF from **Status Sheet 2** on **Table 4** gives the **Effective PF**.

The Effective Glancing Modifiers and Effective PF apply only to Hit Locations from **Status Sheet 2** which do not have an **asterisk (*)** following their description. Hit Locations followed by an asterisk have an Effective PF equal to their Base PF from **Status Sheet 2**.

Example: An M60A1 is hit in the Hull Side by a HEAT round. The target has a Base PF of 317 from Status Sheet 2 and the Target's Facing with respect to the shooter is 20°. The player enters Status Sheet 2 with a Facing Angle of 30° (less than or equal to 30° entry) and finds the Glancing Modifier to be +33 . The player then rolls a 6 for the 0 - 9 roll and adds this to the +33 for an Effective Glancing Modifier of 33 + 6 = 39. The Effective Protection Factor is taken from Table 4 on the +35 entry (35 to 39) and is 14H.

Glancing, Target Facing and Angle of Fire

The effective angle at which a round strikes the target is not just a matter of the armor's conventional Slope. The target's Facing with respect to the shooter also give the armor an effective slope.

For example, if a Vehicle with a vertical Hull Side (0° Slope) is at a 15° angle with respect to the shooter, its Hull Side armor has the same effect as if the armor were directly in front of the shooter at a conventional 15° Slope.

The Angle of Fire becomes especially important when a round hits armor at an extremely steep angle. Even very thin armor can deflect a powerful round if the angle is steep enough.

Resolution of Effective PF

When **Table 4** is used for Base PF values less than 10H, rounding off the Base PF when entering the table can cause the EPF to change unrealistically. As an example, a Base PF of 120 would enter **Table 4** using the 100 line. On any Effective Glancing Modifier from 0 to 4, the EPF is less than 120; rather than the Glancing improving the PF, it would actually penalize it. This anomaly occurs because the Base PF of 120 uses the 100 line of the table. To correct this problem, enter the table on the line whose value is less than the Base PF and find the EPF normally. Now add the difference between the Base PF and the line entered to find the actual EPF. As an example, a Base PF of 120 would enter the table on the 100 line. If the Effective Glancing Modifier were 6, the value from **Table 4** would be 130. The EPF is then 130 plus 20 (the difference between the Base PF and the line entered) = 150.

4.9

CREW DAMAGE

In the basic system, whenever a tank or anti-tank round penetrates a Crew compartment, the Crew are considered Incapacitated or killed. The following Crew Damage Rules provide a more accurate system for determining Crew injuries. Those who want even more accuracy can refer to the **Mechanized Crew Damage Supplement**.

Because of the number and types of anti-Vehicle rounds available, accurate modelling of Crew incapacitation requires separate rules for each munition type. Whenever a round penetrates a Crew Hit Location, refer to the **Basic Crew Damage Tables (7)**. There are three tables; Table 7A for Armor Piercing (AP) and related rounds as well as APDS, Table 7B for Armor Piercing Fin Stabilized Discarding Sabot (APFSDS), and Table 7C for High Explosive Anti-Tank (HEAT). The AP table is used for all conventional armor piercing rounds with or without explosive charge. The effects of the shell's explosive are handled under APHE and APCHE rounds in Section 4.10, which is also where the rules for other High Explosive rounds are given. The APFSDS table is used specifically for high velocity fin stabilized rounds, and the High Explosive Anti-Tank (HEAT) table is used for HEAT warheads. Each table has two pages. A description of the round and the way it penetrates the target is found on the second page of each table.

Repairing Battle Damage

By far the most vulnerable part of a Tank is its Crew. In combat, most of the hits that disable a Tank will be to the Turret, and they will involve killing or incapacitating the Crew. If the tank is not destroyed by an internal fire or explosion of the Ammunition or Fuel, it can normally be repaired and returned to service in short order. For this reason, Tanks that have their Ammunition and Fuel below the Turret level can be expected to have a longer battle life. This can be particularly important in a protracted war or attrition, but is little comfort to the Crew.

The shooter cross-indexes his shot's PEN with the Effective PF (after Glancing) protecting the Crew compartment to find the **Crew Incapacitation Odds** for each Crew Member. One or two numbers are given. The target rolls a 00 - 99 number for each Crew Member in the affected area. If less than or equal to the top number is rolled, the Crew Member is not Incapacitated and is not out of action. If greater than the top number but less than or equal to the lower number is rolled, the Crew Member has been Incapacitated. If the roll is greater than the lower number, the Crew Member has been killed. As the Player rolls for each Crew Member in the location, he should mark Incapacitated and Killed Crew Members on the Vehicle's **Status Section** of **Status Sheet 1**.

If a Crew Member is Incapacitated, the Player rolls a 00 - 99 number on the **Incapacitation Time Table (3E)** for him; this gives the time he is out of action. A Crew Member recovering from Incapacitation requires double normal times to complete all actions and has all Shot Accuracy values halved. Crew Members recovering from Incapacitation in the shaded portions of **Table 3E** are incapable of combat but may crawl to safety and abandon the Vehicle. They are considered Incapacitated for all further action.

Example:

The Turret of a T62 tank is penetrated by an APDS round hitting the Turret Crew location. Crew Incapacitation is determined using the AP Crew Damage Table (7A). If the round's PEN were 18H and the armor AP PF were 15H, the Crew Incapacitation Odds would be 16 and 39. A 56 is rolled for the Loader indicating he is Killed. A 23 is rolled for the Commander indicating he is Incapacitated, and a 04 is rolled for the Gunner indicating he is unharmed.

4.10

EXPLOSIVE SHELLS

Special rules apply to **APHE** and **APCHE** shells which penetrate the Vehicle. When these rounds penetrate a Crew compartment, all Crew members in the compartment are automatically Incapacitated by the shell's explosive charge. Whether or not a Crew member is killed is determined using the **AP Crew Damage Table (7A)** as detailed in Section 4.9.

When a **High Explosive (HE)** shell (including HEP, HESH, and similar rounds) hits a Vehicle, the effects largely depend on whether the shell detonates outside or within the target. This is determined by the shell's PEN and PENF values. If the shell's PENF (from Advanced Status Sheet or the Artillery System) is greater than or equal to the armor's PF, the shell penetrates the armor prior to detonation. If the PENF is less than the AP PF, but the PEN is greater than or equal to the PF, the shell's explosion and impact penetrate the armor, but the explosion is largely contained outside the Vehicle. The following rules detail the effects of these explosions.

PENF Greater than the Armor PF

When the PENF is greater than or equal to the armor PF, the shell's explosion is contained within the target. When this occurs, the Vehicle is completely destroyed and its Crew is killed.

For those who are using the **Phoenix Command Small Arms Combat System,** the explosion is treated as a blast at Range 0 hexes with a Blast Modifier of 5 for a penetrated Crew compartment and .5 for Crew compartments separated by an interior partition.

PEN Greater than the Armor PF

When the PEN alone is greater than or equal to the armor's PF, the shell's impact and explosion penetrate the armor. In this case, normal Vehicle disabling chances apply. Crew in any compartment penetrated are automatically Incapacitated. Crew in compartments separated by an interior partition are Incapacitated by any shell whose BC0 is greater than or equal to 10H. For those using the Artillery System, the BC 0 is taken from the Burst on Earth section of the Artillery Burst Data Table.

For those using the **Phoenix Command Small Arms Combat System**, the explosion is treated as a blast at Range 0 hexes with a Blast Modifier of 1 for the Crew compartment penetrated and .1 for a compartment separated by an interior partition.

PEN Less than or Equal to the Armor PF

When the PEN is less than the armor PF, the explosion is contained outside the Vehicle. Crew members in a compartment with closed hatches at the time of the blast will be Incapacitated by any shell whose BC0 is greater than 33K striking the Vehicle. Crew members in a compartment with a Hatch open at the time of the blast will be Incapacitated by any shell whose BC0 is greater than 20H striking the Top of the Vehicle, and BC0 greater than 10K striking the Vehicle Side or Face. Again, the Burst on Earth section of the Artillery Burst Data Table should be used where appropriate.

Vehicles with exposed crew such as WW II half tracks, will have the Crew Incapacitated by any shell whose BC0 is greater than 200 striking the Top of the vehicle, and BC0 greater than 20H striking the vehicle Side or Face. Note that this also applies to any Crew who are sitting or standing in an open hatch.

For those using the **Phoenix Command Small Arms Combat System**, the explosion is treated as a blast at Range 0 hexes with a Blast Modifier of .003 for a blast on an armored Vehicle with the hatches closed. An explosion on a vehicle with open hatches is treated as a blast at Range 0 hexes with a Blast Modifier of .05 for a blast to the Top of an armored Vehicle with the hatch open, and .01 for a blast to the Face or Side of the Vehicle with an open hatch. For exposed crew compartments, the Blast Modifier is .5 for a hit to the Top of the Vehicle and .05 for a hit to the Side or Face.

"People - you can't live with them, you can't kill enough of them to make a difference."

Norman Steele

4.11

AIMED SHOT AT TURRET OR HULL

Depending on the target and the target's Facing, the shooter might wish to aim specifically at the target's Turret or Hull. From the front, most tanks' Turrets are less well protected than their Hulls, while from the side, the Hull is generally less well protected than the Turret. A Gunner can take advantage of this (and other particular characteristics of Vehicles) by aiming his shots at the most vulnerable target area. When a shooter aims for a Vehicle's Turret, the Turret Target Size Modifier from **Status Sheet 3** should be used to find the shot's EAL. If the shot misses, but the shot would have hit with an EAL one larger, the shot scatters low and strikes the target's Hull (if exposed). The same applies to a shot aimed at the Hull. The Shot's EAL is based on the Hull Target Size from **Status Sheet 3**, and a miss which would have hit with one larger EAL is a hit to the target's Turret.

Note that there are some Vehicles that have such small Turrets that the Target Size for the Hull of the Vehicle is the same as the Target Size for all of the Vehicle. In that case, it is not possible to aim exclusively at the Hull of the Vehicle.

5

ANTI-TANK WEAPONS AND INFANTRY COMBAT

Vehicles are only one part of modern ground combat, of course. This Chapter covers the rules for using Squads of Infantry in combat, and rules for the Anti-Tank weapons they have at their disposal, from hand-held LAW's and RPG's to powerful wire-guided Missiles like the TOW and the Spandrel. The Vehicles used by Infantry are the subject of the **Light Vehicles Supplement**.

5.1

ANTI-TANK MISSILES

"The bad news is that you're going to die. The good news is that the pain is going to become so intense that it will knock you out in a couple of hours, so by the time you die your suffering will be over."

Dr. Oscar Schneiderbunk

Anti-Tank Guided Weapons (ATGW) and unguided Anti-Tank Weapons are an important factor on the modern battlefield and are addressed in this Section. A more detailed accounting of ATGW and Anti-tank guns is included in the **Phoenix Command Direct Fire Artillery Supplement**, but this section contains all data required for Basic Play.

Sixteen of the most common Anti-Tank Guided Missiles and Unguided Anti-Tank Rockets are listed in the **Guided Missile and Infantry Anti-Tank Weapons Table (8D)**. The data for using these weapons is included, and is similar to the standard weapon data on the Vehicle Status Sheets. The following rules cover the special uses and values for these weapons. A combat example showing the interaction of ATGW, Tanks, and the Spotting rules of Section 6.1 is given in Section 6.8.

Aim Time

The Aim Time gives the number of Phases required to aim and fire the weapon.

Shot Accuracy (For Unguided Weapons)

The Shot Accuracy gives the weapon's Odds of Hitting following the standard rules of Section 3.1. If the Target is Moving, normal Moving Target Optional Shot Accuracy Modifiers apply. The unguided weapon's Moving Target Accuracy Modifier is 0.

Hit Odds (For Guided Missiles)

A Hit Odds in % applies only to Guided Missiles and gives the Odds of Hitting a target at 15 Mech Hex Range or greater. The odds apply to any target, whether stationary or moving. When the target is inside 15 Mech Hex range, the values in the Hit Odds Inside 15 Mech Hex column are used.

Example: A TOW 2 is fired at a tank moving at 4 MHPT at a range of 60 Mech Hexes. The weapon's Odds of Hitting a target over 15 Mech Hexes is 88%. The shooter rolls a 00 - 99 number. If less than or equal to an 88 is rolled, the target is hit.

Missile Velocity MHPP

The Missile's velocity in 20 yard Mech Hexes Per Phase (MHPP) is given so the Referee can determine the Missile's Time of Flight, and the ability of the target to get behind cover or suppress the ATGW Crew by fire. For example, if a Missile is fired at a range of 100 Mech Hexes and its velocity is 20 MHPP, the target would have 100 / 20 = 5 Phases to respond before the Missile hits. The Missile should be marked on the playing field as it moves toward its target.

Range

The missile's Minimum and Maximum Ranges in 20 yard Mech Hexes.

Reload Time

The time in Phases to Reload the weapon. The launcher guide's the missile to its target, so reloading cannot begin until the first Missile fired has either hit or missed the target.

PEN, BC0, and FP

The Penetration (PEN), Base Concussion at Range 0 (BC0), and Fire Power (FP) values are identical to other weapons and are described in Section 1.3.

5.2

INFANTRY AND SQUAD COMBAT

The following rules provide ways for Infantry Squads to be added into battles with Vehicular forces. Each Squad of Infantry and each Crew Served Weapon is handled as a separate unit. Like a Vehicle, each unit should be represented by a counter, figure or other agreed upon marker, and moves and fires on a Phase by Phase or Turn by Turn basis.

The **Movement Speeds** of Infantry are given on **Table 8A** as a function of exertion and stance. Each Turn the Squad moves it expends **Endurance Points**. The Endurance Points spent are listed to the right of the Movement Speeds; in addition, each Turn a Squad does not move it Recovers 2 Endurance Points. While Recovering, Infantry may deploy weapons, fire, and take other non-movement actions. The total number of Endurance Points expended can never be greater than 100. If the number of Endurance Points used by a Squad reaches 100, the Squad is exhausted and must rest. After the Infantry's Endurance Points expended drop below 100 they can move again. Squads keep track of the number of Endurance Points expended on the **Infantry Status Sheet**. **Table 8A** separates movement into three Stances; Running, Hands and Knees, and Prone Crawl. Under each Stance there are up to three types of Advance; Charge, which is an all out attack at the run by all Squad members; Bounding Overwatch, in which half of the Squad advances at one time with the other Squad members providing cover fire; and Cautious Advance, in which only about a quarter of the Squad is advancing at a time and the rest of the Squad is providing cover fire.

Table 8B contains Squad Data for common ground forces. This includes the number of Squad members with particular weapons, the individual weapon Fire Power values, Total Squad Fire Power Values, and Troop Morale Grade. The **Fire Power Value (FP)** measures the weapon's chance per Turn of Incapacitating enemy Infantry. The greater the FP, the greater the chance the weapon will Incapacitate one or more opponents. The **Squad's Total FP** is simply the sum of the FP's of its members and should be recorded on the **Infantry Status Sheet**. As the Squad takes casualties, the FP value is reduced.

Table 8C is a generic list of weapons giving their Fire Power values, Effective Range in Mech Hexes, and Penetration PEN values at maximum Effective Range. This information can be used to build custom squads. The Close Combat Inc Odds are used only in Close Combat at ranges under 2 Mech Hexes; Close Combat is discussed in Section 5.4.

5.3

SQUAD COMBAT

Squad combat is generally handled on a Turn by Turn basis. If desired, play can be resolved on a Phase by Phase basis. In this case, the Fire Power values are all divided by 4 and normal rules apply within each Phase.

Whenever a Squad exchanges fire with other Infantry or receives incoming fire from a Vehicle, the Fire Power value of the incoming fire determines the number of casualties the Squad takes. In the case of Vehicular fire, the Vehicle's FP value for Machine Guns is applied directly to the target Squad. In the case of Main Guns and explosives, the Vehicle calculates its Odds of Hitting normally against an Infantry-sized target. If it hits, the shell's FP value is applied against the Squad that Turn as detailed under **Explosive Weapons** later in this Section.

When non-Explosive fire is directed at a Squad, the incoming FP value is modified using the factors on **Table 9A**. These Factors are multiplied together and correct for the Target Size and Stance, as well as the Morale Grade of the shooter and target. The Target Size and Stance modifiers correct the Base FP values for larger or smaller Target Size.

The **Offensive FP Factor** corrects the Shooting Squad's FP for how much fire they put out while they are under fire. In ideal situations, every member of the Squad would maintain maximum effective fire upon the enemy. When there is return fire, this is hardly the case. The Offensive FP Factor gives the fraction of the Squad's ideal FP which can be maintained in the face of incoming fire. The greater the Offensive FP Factor, the greater the volume of fire. When finding the Offensive FP Factor, **Infantry Fire (Inf Fire)** includes all small arms and Infantry bipod-mounted Machine Guns. **Vehicular Fire (Veh Fire)** includes Vehicle-mounted and fixed tripod-mounted Machine Guns as well as Explosive Weapons. Note that the Offensive FP Factor also corrects for the shooter's skill. The higher Morale Grade troops are assumed to have higher skill and accuracy, which accounts for their Offensive FP Factor being greater than 1. When determining a Squad's Offensive FP Factor, the most severe type of incoming fire is used. If the Squad is under any Explosive weapon fire or Vehicular Machine Gun fire, the Veh Fire column is used to determine its Offensive FP Factor.

When the firing Squad is stationary, its Offensive FP Factor is found on the middle section of **Table 9A** by cross indexing the Squad's Morale Grade and type of incoming fire. When the firing Squad is moving, its Offensive FP Factor is found on the right side of **Table 9A** cross indexing its Morale Grade and type of Advance. As an example, a Stationary Squad's Offensive FP Factor would be .7 if they were of Crack Morale Grade and under Inf Fire. If the same Squad were Advancing at the Charge, its Offensive FP Factor would be .11.

The **Defensive FP Factors** from **Table 9A** correct the Shooting Squad's FP for the target's exposure. The obvious response to someone shooting at you is to get under cover, and when under cover, the target is harder to hit and this results in a penalty to the shooter's FP. The lower the Defensive FP Factor, the smaller the target's exposure. The target is spending more time under cover and is in essence suppressed by the shooter's fire. A Stationary Squad's Defensive FP Factor is taken from the center section of **Table 9A**, while the Defensive FP Factor for a Moving Squad is automatically 1. Note that the Defensive FP Factor for Stationary Squads assumes the target can get under cover. If no cover is available, the Defensive FP Factor is 1.

Once the Offensive and Defensive FP Factors have been determined, they should be multiplied into the Shooting Squad's Basic FP. This gives the Effective FP, an overall measure of the shooter's effectiveness.

Example:

A Squad with FP of 63 and Crack Morale Grade is firing at Infantry advancing at the Run. The Squad's FP is adjusted by times 2 for firing at Running targets. The Firing Squad is under rifle and Machine Gun fire from the enemy Squad firing as they advance. Since this incoming fire is not from fixed mounted Machine Guns or Vehicle-mounted Machine Guns, the Inf Fire Offensive FP Factor of .7 is used. The target is moving, so it has a Defensive FP Factor of 1.0. The overall Effective FP for the Squad is 63 (Basic) X 2 (Running targets) X .7 (Offensive FP Factor) X 1.0 (Defensive FP Factor) = 88.

If the enemy Squad had a Base FP of 62, Line Morale Grade, and were Bounding Overwatch Advancing, their effective FP would be 62 (Base FP) times 1 (Target Size - Firing Over Cover) times .3 (Offensive FP Factor for Bounding Overwatch Advance) times .8 (target Squad's Defensive FP Factor for a Crack target under Inf Fire) = 15.

Casualties

Once the Effective FP value has been found, the chance of inflicting casualties on the target Squad is determined using the **Squad Combat Firepower Table (9B)**. Cross-index the Effective FP value with the Target Range in 20 yard Mech Hexes. Note that each FP row has three lines on it, labelled 1, 2, or 3 Casualties. The shooter rolls a 00 - 99 number. If less than or equal to the top line is rolled he has inflicted one Casualty, if less than or equal to the second line, two Casualties and if less than or equal to the third line, three Casualties. If the Effective FP value is greater than 20, break the value up into groups of 20 and a remainder, and then roll for each value.

Example: A Squad with an Effective FP value of 53 fires at a enemy squad at 30 Mech Hex range. The EFP of 53 is handled as three rolls, for EFP 20, 20, and 13 respectively. For the two rolls for EFP 20, the shooter rolls a 24, inflicting 1 Casualty, and a 42, which is a miss. For the EFP 13 he rolls a 24, which is also a miss. The target Squad takes one Casualty that Turn.

Whenever a Squad takes Casualties, the member of the Squad that has been hit is determined by random roll among active members. In the preceding example, if a Squad of 9 men took one Casualty, the roll of a 1 to 9 number determines which Squad member was hit. The member hit is marked as a Casualty on the Status Sheet and his FP value is removed from the Squad's FP Total.

Explosive Weapons

Large caliber **Explosive Weapons** such as artillery, mortars, and tank guns are handled differently from standard small arms, Machine Guns, and Grenade Launchers. Whenever large caliber explosive weapons such as anti-tank Rocket Propelled Grenades or missiles are fired at Infantry, the standard **Odds of Hitting** are found against an Infantry target. When using the Basic System, this means using the **Infantry Target Size Modifier** of **Table 2B**. In the Advanced System it means using the **Infantry Target Size ALM** from **Table 5B**. If the round hits, the effects of the blast are found using the weapon's FP value from **Status Sheet 1** and **Table 9B** at a Target Range of **10 Mech Hexes**.

Explosive Weapons are not affected by typical cover and the Defensive FP Factor is always 1 unless the target is in a field fortification or solid building. If the target is in a foxhole or building which can stand up to the explosive, the appropriate Explosive Weapon FP Factor from **Table 9A** is used.

Example: A T62 tank fires at a Squad of Infantry in the open 50 Mech Hexes away. If the Shot Accuracy were 16, the effective SA would be 16 - 6 (Infantry SA Mod on Table 2B) = 10, and the Odds of Hitting would be 39. The tank rolls a 26 and hits.

Modern Main Battle Tanks versus Infantry

The modern MBT is a far greater threat to infantry than its World War II predecessor. The explosive charge of a modern 125mm HE or HEAT round is over 4 times more powerful than the World War II 76mm equivalent. When HE and HEAT rounds are fired at infantry, the infantry receives the equivalent of direct fire from an artillery piece. This fire is devastating, and infantry cannot survive if they are caught in the open.

The only consolation for the infantry is that infantry is now more dangerous to tanks than ever before. The increasing presence of man-portable Anti-Tank weapons like the RPG and the Dragon, as well as the guided TOW and Spandrel, has given infantry the ability to destroy tanks at almost any range.

The tank is firing HE and the FP value for the round is 74. Target casualties are resolved on Table 9B using EFP values of 20, 20, 20, and 14 at a Target Range of 10 Mech Hexes. For the first EFP 20 the shooter rolls a 19, indicating 2 Casualties. For the second, he rolls a 61, inflicting 1 Casualty. For the third, he rolls a 92 and misses. For the EFP 14, he rolls a 56 and does no further damage. The Squad has taken 3 Casualties from the round. Note that a Defensive FP Factor of 1 was used since the targets were not dug in.

Vehicular Machine Gun Fire

Vehicle-mounted Machine Guns are an especially effective weapon against Infantry because of the stable firing platform provided by the Vehicle. The weapon's recoil is efficiently handled and the weapon's Arc of Fire is easily tracked onto the target. Armored Vehicles are further aided by the fact that the shooter does not need to worry about going under cover; an armored Vehicle that is impervious to incoming fire has an Offensive FP Factor of 1.

When a Vehicular Machine Gun is fired at a target who refuses to go under cover, such as a dedicated Anti-Tank Guided Missile Gunner, the Gunner stands a high risk of being hit. The Defensive FP Factor for anyone who refuses to go under cover is automatically raised to 1.

"You'll know when I'm talking to you, because my gun will be pointing at you."

Captain Austin D. Blackwell

Stacking

It is easy to fit large numbers of personnel into each Mech Hex, but there are definite risks to being packed close together. Up to 30 Squads of Infantry can be in a single Mech Hex, but if there is any fire into the Hex, all of the Squads suffer the full effects of the attack. In addition, no more than 5 Squads can fire out of a single Mech Hex.

Basic Morale

Morale is obviously a vital part of all combat; to make play more realistic, the following Squad Morale rules should be used.

Each Squad has both a Squad Leader and an Assistant Squad Leader. If a Squad loses both of these men, it must make a 0 - 9 **Morale Roll** and compare the number rolled to ten times its Defensive FP Factor from **Table 9A**. If less than or equal to ten times the Defensive FP Factor is rolled, their Morale has held but they may no longer advance. They can continue to fire, and may hold their position or maneuver to withdraw from the field as desired.

If the Squad rolls greater than ten times its Defensive FP Factor, it has failed its Morale Roll and must either remain under cover or retreat. A Squad that has failed Morale may not fire but will engage in Close Combat (detailed below) with enemy troops who enter their Mech Hex. Each time further Casualties are taken, the Squad must make another Morale Roll. If the Squad rolls greater than ten times its Defensive FP Factor again, they rout off the field at a Running Charge. If faced with enemy personnel or Vehicles at a Range of 10 MH or less, they will Surrender if they are given the chance.

"You'd know if I thought it was your fault because you'd be dead."

Captain Austin D. Blackwell

Dispersing a Squad

In the Basic Game an infantry Squad is contained within one Mech Hex, making it fairly vulnerable to explosive weapons and concentrated fire. To reduce this risk, infantry Squads may be dispersed into a total of two or three adjacent MH. When dispersed into two MH, FP attacking the Squad is divided by 2 and the Squad's Morale Grade is treated for all purposes as if it were one level lower. When dispersed into three MH, FP hitting the Squad is divided by 3 and the Squad's Morale Grade is treated as two levels lower.

CLOSE COMBAT

The **Close Combat Incapacitation Odds** are shown on **Table 8C**. They are used for combat inside 2 Mech Hex range in places where there is plentiful cover, such as a forests, jungles, and towns. At these ranges, luck and reaction time play a key role and many of the long range weapons are no longer effective. Each Turn combat takes place under these conditions, each player rolls a 0-9 number and cross-indexes the roll with the number of active combatants he has in the Mech Hex on the following table. Note that in Close Combat all active combatants in the Mech Hex are considered capable of shooting; players are not limited to the usual maximum of 5 Squads per MH for fire. The table gives the number of combatants who have an opportunity to shoot that Turn. Each player randomly selects which combatants have an opportunity to fire and rolls a 00 - 99 number for each. If less than the Close Combat Inc Odds is rolled, that combatant has shot and Incapacitated one of the enemy. The opponent Incapacitated should be selected randomly from the opponents in Close Combat. If the number of shots is greater than the number of combatants, one of the combatants (chosen randomly) makes multiple shots during that Turn.

"This operation seems to have become an autopsy."

Dr. Oscar Schneiderbunk

NUMBER OF CLOSE COMBAT ENGAGEMENTS PER TURN										
Number of Combatants	**Random Roll**									
	0	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1 - 4	2	1	1	1	1					
5 - 8	3	2	2	2	1	1	1			
9 - 12	4	3	3	2	2	2	1	1	1	
13 - 16	5	4	3	3	3	2	2	2	1	1
17 - 20	6	5	4	4	3	3	2	2	1	1
21 - 24	7	6	5	4	4	3	3	2	2	1

6

OPTIONAL RULES AND TANK DESCRIPTIONS

The rules in this Chapter are designed to cover special situations and are generally more detailed than the rules in the earlier Chapters. None, some, or all of these rules can be used as desired, but players should be sure to agree on which rules are in play before the game begins. Also included in this Chapter are rules for how to use the **PC Artillery System** with this game, as well as a complex Combat Example and a description of each of the Vehicles covered at the back of the book.

6.1

SPOTTING

Target Spotting is a major factor in any combat. The ability to see the opponent and get off the first shot often determines the winner and loser. Spotting in the Mechanized Combat System is handled on a Phase by Phase or Turn by Turn Basis. In general. Turn by Turn play is assumed. On a Turn by Turn basis each Crew Member has the ability to look for targets within his Field of View. If he spends the entire Turn looking into 1 Zone it is called **Dedicated Spotting per Turn**. If he spends one Phase looking into a Zone it is called **Dedicated Spotting Per Phase**. Up to four Zones can be assigned Dedicated Spotting Per Phase in a Turn.

To determine the chance of Spotting a target, the Spotter uses the **Dedicated Spotting Chance Per Turn Table (10B)** or the **Dedicated Spotting Chance Per Phase Table (10C)**, depending on his Spotting actions. He simply cross indexes the Target Range in 20 yard Mech Hexes with Target Type; Moving Vehicle, Moving Infantry, Stationary Vehicle, Stationary Hull Down Vehicle or Crew Serviced Weapon, or Stationary Infantry. Once the Target Type is found the Spotter enters the column with the number of targets in the Zone; the columns are for 1, 2 to 5, and 6 or more targets. He then rolls a 00 - 99 number. If less than or equal to the number in the column is rolled, he Spots the target(s) that Turn or Phase.

Example:

A tank Commander is looking out the Cupola of his tank and is watching 4 Zones. He is looking into one Zone each Turn sequentially, and is therefore using Dedicated Spotting Per Turn. Each Turn the Referee has him make a Spotting Roll. On the Turn he is looking in the Zone from which enemy is advancing, the Referee will actually apply the results of the Commander's Spotting roll. The enemy is at 150 Mech Hex Range and is 6 Moving Vehicles, so the Commander's Spotting Chance is an 87. The Commander rolls a 54 and Spots the Targets.

Secondary Spotting Chance Per Turn

When a Crew Member is preoccupied, his Spotting odds drop. This applies to a Gunner aiming at a target, a Commander following the Gunner's aim and trying to determine the shot's accuracy, or the Driver maneuvering the Vehicle. Although the primary activity of these Crew Members keeps them from using the Dedicated Spotting Chances above, they still have a chance of picking up a target. This chance is given by the **Secondary Spotting Chance Per Turn Table (10D)**. Each Turn, a Crew Member may select one Zone into which he Spots as he carries out other actions. He gets one Secondary Spotting roll each Turn into this Zone. His Spotting Chance and rules follow the standard Dedicated Spotting rules. Note that **Table (10C)** is used for both Dedicated Spotting Chance Per Phase and Secondary Spotting Chance Per Turn.

Spotting Convention

To streamline Vehicle Spotting each Turn, the following conventions are used. A Vehicle with a 3 man Crew receives 1 Dedicated Spotting Roll on the Hull or Turret Facing each Turn and Secondary Spotting Rolls in each of the other Zones. For each additional Crew Member, the Vehicle

"I've made my decision and I'm standing by it... if that's OK with everyone else."

Private Humbert

receives another Dedicated Spotting roll per Turn. For additional Crew Members to qualify for the additional Spotting rolls, they must have adequate Fields of View from within the Vehicle. Infantry Squads get 2 Dedicated Spotting rolls per Turn into each Zone in their front 180° and 1 Dedicated Spotting roll per Turn in the rear 180°.

As mentioned in Section 3.2, Spotting occurs in the middle of the time increment, after Movement but before Fire. A Vehicle that Spots a target is free to respond immediately. This means that it can bring its Turret to bear on the new target if desired, but it does not have 1 Phase of Aim and cannot Fire; the first Phase of Aim would be the following Phase. Other Vehicles on the same side can respond 2 Phases after the first round hits the target area. If no fire is sent, assume it takes Target Range / 10 Phases for a side to acquire a target based on communications with the unit who spotted the target.

Example: A concealed M60A1 tank with a four man Crew receives 2 Dedicated Spotting rolls per Turn, plus 1 Secondary Spotting roll into each Zone not covered by the Dedicated rolls. On the first Phase, an enemy tank appears in a Zone which is covered by Dedicated Spotting and is seen on Turn 1. The M60A1 is free to respond on Phase 1 of Turn 1. The tank decides to bring its Turret to bear but to hold its fire and inform the other tanks in its Platoon by radio. The enemy tank is at 80 Mech Hex range, so this takes 80 / 10 = 8 Phases, or 2 Turns.

If the tank decided to fire on Phase 1 of Turn 2, it would fire with 4 Phases of Aim Time. The other tanks in its Platoon could respond two Phases after that, in the 3rd Phase of Turn 2.

6.2

SPOTTING MODIFIERS AND VISUAL SYSTEMS

A Vehicle's vision equipment has a major effect on its ability to Spot the enemy. The Spotting Modifiers of **Table 10A** contain spotting modifiers which correct for visibility. To use these modifiers, simply adjust Up (-) or Down (+) a number of Range rows equal to the Spotting Modifiers given. A Vehicle's **Spotting Modifier** on **Status Sheet 1** corrects basic Spotting for the Vehicle's visual systems.

Spotting Ranges for the unaided eye in adverse conditions are given on **Table 10A**. The use of advanced visual systems extends these Ranges and improves the Spotting Chance. The effects of advanced visual systems is indicated by a Vehicle having a negative Spotting Modifier on **Status Sheet 1**. The Range over which these systems may be used is given below and on **Table 5B**.

Infra-Red (active)

Active Infra-Red visual systems use an IR spotlight to illuminate the target area with long wavelength light. This IR light is invisible to the naked eye but can be picked up by IR imaging equipment. These systems are often used for night driving and maneuvering. Night visual Range on the Driving IR system is 5 Mech Hexes. Range for the Active Main Gun IR Spotlight is 50 Mech Hexes.

"He died prematurely and tragically. I hadn't been paid yet."

Dr. Oscar Schneiderbunk

Image Intensifying System

An Image Intensifying (II) system makes use of electronic light amplifiers to augment the available light coming from the environment to levels visible to the naked eye. The enhanced image is projected on a visual screen or gunsight and does not require active illumination. Gunnery Range of these types of systems is 160 Mech Hexes.

Thermal Imaging System

A Thermal Imaging System turns the long wavelength thermal signature of an image into visible images projected on a view screen. This system essentially reads the temperature of the target and projects different temperatures as different colors or intensities on the screen. Hot Vehicle Suspension and Tracks, human bodies, and radiators all stand out sharply from the background environment. This system penetrates conventional camouflage, fog, and haze. Its gunnery range is 200 Mech Hexes. Only the Gunner is provided with Thermal Imaging Equipment on most modern tanks. These systems use a cooler whose operation requires a warm up period of 1 - 2 minutes.

Example: An M1A1 Abrams tank is using its Thermal Imaging system to penetrate a moonless night. The M1A1's Spotting Modifier from Status Sheet 1 is - 4. If the tank were using Dedicated Spotting Per Turn, the Range Row used on Table 10B would be moved up 4 lines for the tank's Thermal Imaging system and down 7 lines due to the moonless night.

6.3

DIRECT FIRE SCATTER

In armored combat a round that misses can usually be ignored, but if Infantry and soft Vehicles are present, the actual location of the impact of the shell may be important. Each weapon has consequently been given a **Direct Fire Error Value (DFE)** under its PEN value on the Advanced Weapon Data Table on **Status Sheet 3**. The number of 20 yard Mech Hexes between the target and the shell's impact is found using the following formula.

Scatter Distance = DFE X Difference in EAL / 10

The **Difference in EAL** in the above equation is the difference between the EAL needed to hit, and the EAL for which the number rolled would have been a hit. Because the trajectory of the shell is flat, a round which misses is likely to miss by quite a great distance.

For example, a T62 tank is firing at a jeep 30 Mech Hexes away. It has an EAL of 14, and therefore needs a 27 to hit. An 81 is rolled, however, so the round misses badly. Checking the **Odds of Hitting Table (5D)**, the Referee sees that with a roll of 81, the tank would have needed an EAL of 23 to get a hit; therefore, the Difference in EAL is 9. The DFE for an HE round at 30 Mech Hexes is 30, so the Scatter Distance is equal to 30 X 9 / 10 = 27 Mech Hexes.

Once the Scatter Distance has been determined, the Referee should roll a ten-sided die; on a roll of 0 through 2, the shot is short, and on a roll of 3 through 9 the shot is long. The referee should place the shell directly on the line of fire, at a distance from the target equal to the Scatter Distance. Note that it is not possible for a shell to Scatter short by more than 1/ 4 the target Range.

6.4

SECOND SHOT ACCURACY

One of the key functions of the Gunner and Commander is to establish the trajectory of a round as it passes the target. This is called **"Sensing"** and it is aided by the use of Tracer ammunition. If the Crew can accurately Sense the flight of the first round, they can make the right adjustments to the second shot.

To determine how well the Crew can Sense a round's trajectory and make adjustments to second round accuracy, the following **Second Shot Accuracy Table** is used to find a Shot Accuracy (or ALM) Modifier. The shooter rolls a 0 - 9 number and moves down the appropriate column of the table until he finds the number rolled. The Shot Accuracy Modifier is found on the right column. Entries are provided for both 1 and 2 Spotters. Normally both the Commander and the Gunner attempt to Sense round trajectory, but there will be cases were the Commander is preoccupied and only the Gunner is free.

The Table is for Sensing by Tracer, and only applies to target Ranges in excess of 50 Mech Hexes. Inside this Range, the Time of Flight is too short to Sense flight trajectory by Tracer. Round impact can still be used, as is the case with non-Tracer ammunition. When the target Range is less than 50 MH or if non-Tracer ammunition is being used, add 1 to the 0 - 9 number rolled when entering the Table.

SECOND SHOT ACCURACY TABLE

1 Spotter	2 Spotters	Second Shot Accuracy Mod
–	0	+5
0	1	+4
1 - 2	2 - 3	+3
3 - 4	4 - 6	+2
5 - 6	7 - 8	+1
7 - 9	9	0

"They're shooting back. This is not my idea of a fair fight."

Ridan

SMOKE

Smoke devices have many practical combat applications. Tank and Artillery Smoke rounds produce a circular Smoke cloud of 1 Mech Hex diameter if there is no wind. This Smoke blocks vision, and opponents firing through it must correctly guess the Mech Hex in which the target is located to have a chance to hit. If the shooter chooses the correct Mech Hex, his odds of hitting the MH are calculated for a Target size of +30. If a hit is scored, the shooter rolls another 00 - 99 number. If less than or equal to 13 is rolled, he hits the target.

The **Duration (DUR)** gives the time in Phases the Smoke is generated. After Dur Phases, the smoke burns out, and will begin to dissipate. The **Smk** value is used by the **Phoenix Command Small Arms Combat System** and gives the diameter of the Smoke cloud in 2 yard PCSACS hexes. The values for DUR and Smk are given in the left column of the Weapon Data Table on the Advanced Status Sheet.

Many modern tanks have **Smoke Launchers** fitted to their Turrets. These allow them to place a Smoke screen 2 MH wide and Dur 60 immediately in front of the Turret's Facing at a Range of 1 MH. This screen allows the Vehicle to maneuver and to hide from ATGW fire. Normally two screens may be made before the Smoke Launchers require manual reloading.

To find the Smoke's effectiveness after burn-out, enter the two left columns of the following **Tank and Artillery Smoke Effects Table** with the elapsed time since burn-out. The number on the table is a Visibility ALM to all fire crossing the smoke (a "B" indicates the screen blocks vision).

"Some people are meant to give orders, and some people are meant to take them. Others we just have to shoot in the head. Nothing personal."

Gil the Treacherous

TANK AND ARTILLERY SMOKE EFFECTS TABLE

Elapsed Time Phases	Burn-Out Visibility ALM	Down Range Mech Hex	Wind Speed in MHPT 1	2	3	4	5	6
40	B	0	B	-12	-10	-8	-5	-4
45	-13	1	B	-11	-10	-8	-5	-4
50	-12	2	-13	-11	-9	-8	-5	-4
55	-11	3	-11	-10	-9	-7	-5	-4
60	-11	4	-10	-9	-8	-7	-5	-3
65	-10	5	-8	-8	-7	-6	-5	-3
70	-9	6	-6	-7	-7	-6	-4	-3
75	-8	7	-5	-6	-6	-5	-4	-2
80	-7	8	-3	-5	-5	-5	-3	-2
85	-6	9	-1	-5	-5	-5	-3	-2
90	-5	10		-4	-5	-5	-3	-1
95	-5	11		-3	-4	-4	-2	-1
100	-4	12		-2	-4	-4	-2	-1
105	-3	13		-1	-3	-3	-1	
110	-2	14			-2	-3	-1	
115	-1	15			-2	-2	-1	
120	0	16			-1	-2		

Example:

A White Phosphorus Smoke round with a Dur of 4 detonates in still air, producing a cloud 1 Mech Hex in diameter for 4 Phases. The first 40 Phases after burn-out, the cloud still Blocks vision. In Phases 41 to 45, the Visibility ALM is -13, in Phases 46 to 50 it is -12, and so forth.

Wind Effects

When wind is present, Smoke will not simply form a cloud; it will pour from its source and move downwind, making a wall or screen. The effectiveness of the screen depends on the Wind Speed and is given on the **Tank and Artillery Smoke Effects Table**. Enter the table, cross-indexing the distance downrange in Mech Hexes and Wind Speed in Mech Hexes Per Turn (5 X MHPT = mph) to find the Visibility ALM to all fire crossing the screen. A "B" indicates the screen blocks vision.

The Smoke screen is generated at the source and moves downwind at the wind speed. At the end of Dur phases, it has completed the wall. After Dur phases, it continues to move downwind, but is no longer generated. The Visibility ALM of the screen varies with distance from the source as shown on the table.

Example: A Tank fires its Smoke Launchers forming a Smoke screen 1 MH in front of the Vehicle and 2 MH wide. The Referee marks the smoke source. There is a 2 MHPT (10mph) cross wind blowing. Over the next 60 Phases (15 Turns) a Smoke screen is generated from the source extending down wind 15 X 2 MHPT = 30 Mech Hexes. At the end of the 15 Turns, the Smoke burns-out and the 30 Mech Hex long screen continues to move as a wall downwind at a speed of 2 MHPT. The Visibility ALM across this screen is found on the Tank and Artillery Smoke Effects Table by cross-indexing the Wind Speed and the distance from the original Source. If a Line of Sight crossed the screen 7 Mech Hexes from the source, the Visibility ALM would be -6.

6.6 MORALE

The following Survival Morale rule is used to determine how a Crew reacts when its Vehicle takes a hit or is disabled. Although this rule is Optional, using it leads to a much more realistic game.

On any Turn a Vehicle takes damage or is hit by a weapon whose PEN is greater then the Rear Armor PF, the Crew checks the Crew Morale Table below. Cross-index the Troop Grade of the Crew with the Condition that applies to find the Bailout Chance. Roll a 00 to 99 number; if less than or equal to the Bailout Chance is rolled, the Crew abandons the Vehicle.

CREW MORALE TABLE

Condition	Morale Grade						
	Untrnd	Militia	Green	Line	Crack	Elite	Guard
Hit does not Penetrate	06	04	03	02	01	00	—
Main Gun Disabled	13	09	07	04	03	01	00
Vehicle Immobilized	19	14	10	07	04	02	00
Vehicle has been Penetrated	55	44	33	24	16	08	03
Fire Exting. Sys Activated	99	99	99	93	82	56	33
Vehicle on Fire	99	99	99	99	99	99	94

Example:

A tank with an Line Crew takes a hit from anti-tank fire. The round does not penetrate the Turret Face, but the Crew must make a Morale Roll. The Line Crew's Morale is equal to 02. The Crew makes the roll and continues combat. Later on, the tank takes a Disabling hit to the Track and Suspension but the round fails to penetrate the Hull. The Crew must make another Survival Morale Roll of 07 (immobilized), and it succeeds again. Later in the battle, a round Penetrates the Vehicle without doing major damage. This time the Crew has a Bailout Chance of 24; they roll a 14 and fail. The Crew immediately begins bailing out of the tank, which is now effectively removed from play.

6.7 ARTILLERY

Artillery is a potent force on any battlefield, and one of the primary advantages of armored vehicles is their ability to survive an Artillery barrage. When using the **Phoenix Command Artillery System** with the **Mechanized System**, a few extra rules are necessary. For one, the Artillery System has a greater level of detail in determining whether personnel have been Incapacitated, since it is designed to interface with **PCSACS** on a man-to-man scale. When using the Artillery System for Vehicular combat, only a few of its details are required.

The **Artillery Fire Mission** rules of Chapter 1 can be easily adapted to a Mechanized setting. The accuracy of Artillery fire is given by a **Maximum Scatter** in 2 yard PCSACS hexes, and in PCSACS the fall of each round would be determined. In a Mechanized Setting, the effects of a Fire Mission are determined using the following rules.

Shell Impact

The Referee must first determine the number of artillery pieces in the Battery or Batteries and how many rounds each weapon is firing. This varies depending on the situation; 6 pieces per Battery is very common, with a Fire Mission consisting of 3 to 6 rounds per piece. If a Battery of 6 pieces is

firing, then the **Number of Shells Fired** per volley is 6. The Battery will be using either Converging Fire, which is designed to put shells on a specific point, or Parallel Fire, which covers an area.

The Referee now refers to the following **Shell Factor per Mech Hex Table**, and selects the columns for either Converging or Parallel Fire. He determines the distance between the Target and the **Target Point** for the Fire Mission in Mech Hexes, and cross-indexes this Distance and the Maximum Scatter (in 2 Yards PCSACS Hexes) on the Table. This gives the Shell Factor, which is the fraction of the volley's shells that land in the target Mech Hex.

The Referee takes this Factor times the Number of Shells Fired to find the number of shells which fall into the target Mech Hex. If this number is less than 1, a 00 - 99 roll should be made. If less than or equal to the number is rolled, 1 shell lands in the Mech Hex. For each round which lands in the Mech Hex, a 00 - 99 roll is made. If less than or equal to a 06 is rolled, the Vehicle has been hit. One roll is required for each Vehicle in the target Mech Hex per shell landing in the hex. Note that the number of Shells that hit Vehicles cannot be larger than the number of Shells hitting the hex.

If a Vehicle is hit, one of the shells has landed on or very near it and damage and penetration are determined using the Shell's PEN and PENF values found in the **Artillery System Shell Data Tables** far right column, labeled Penetration and Critical Distance. When determining Hit Location, a 00 - 99 roll is used. If less than or equal to a 28 is rolled, the shell missed the Vehicle but landed near the Vehicle's Suspension, and the Explosive Suspension Disabling Chance from **Table 3A** applies. The BC0 value for the shell is found on the Artillery System's Shell Data Table under the **Burst on Earth BC** row's first entry (Base Concussion at Range 0).

If the result of the 00 - 99 roll is greater than 28, the Target Hit Area table is used to determine whether the Turret or Hull is hit. The hit is run as a hit with **Angle of Incidence (AOI)** of 6.

Converging and Parallel Fire

Artillery normally fires either Converging or Parallel Fire. Converging Fire is used to destroy hard sites and to concentrate a salvo on a particular location, such as a bridge or bunker. Each artillery piece makes adjustments to its point of aim so that its individual fire lands as close as possible to the target point.

In Parallel Fire, which is the most common type of artillery fire, each artillery piece receives the same fire coordinates. This means that the Gun barrels of the Battery are all parallel when they fire. Each shell follows the same trajectory to the target, and the shells fall in roughly the same pattern as the guns were laid out in the Battery. If the Guns in the Battery are wheel to wheel in line, the shells of the salvo will fall roughly in the same line at the target site. This type of fire spreads out the artillery fire around the target and is used to effectively cover an area.

ARTILLERY SHELL FACTOR PER MECH HEX

Distance From Target Point Mech Hexes	Artillery Maximum Scatter (2 yard PCSACS hexes)							
	Converging Fire				Parallel Fire			
	30	50	70	100	30	50	70	100
0	.30	.20	.12	.09	.09	.06	.04	.03
1	.05	.04	.03	.02	.07	.05	.04	.03
2	.01	.01	.01	.02	.20	.02	.02	.02
3	—	.01	.01	.01	—	.01	.01	.01

Infantry Targets and Shell Fire Power

When infantry Squads are the targets of artillery fire, the Referee determines the number of shells falling into their Mech Hex as discussed above. Each shell landing in their hex is treated as a hit from an Explosive Weapon. To find the shell's **Fire Power (FP)** value, refer to the **Artillery System's Shell Data Table** and find the shell's Base Concussion (BC) at Range 3 hexes for the appropriate terrain. Enter the following **Artillery Fire Power Table** with the BC at 3 hexes to find the FP value. The table has entries for both Ground and Air Bursts and covers Prone infantry In the Open as well as in Foxholes; note also that the BC at 3 Hexes for Burst on Earth is used for Air Bursts in this Table. An **Inc** entry indicates all personnel in the Mech Hex are automatically Incapacitated.

ARTILLERY FIRE POWER TABLE

Base Concussion at Range 3 hexes	Ground Burst		Air Burst	
	Prone	Foxhole	Prone	Foxhole
30	27	3	5	36
60	65	3	80	68
80	90	4	180	90
90	100	4	Inc	100
130	150	5	Inc	140
150	180	6	Inc	160
230	Inc	8	Inc	Inc
270	Inc	9	Inc	Inc
500	Inc	15	Inc	Inc
1000	Inc	29	Inc	Inc

Example:

A Soviet eight gun battery of 2A36 152mm Guns each fire 6 rounds of Converging Fire at a crossroads down which enemy forces are expected to concentrate. The Maximum Scatter for this Fire Mission is 57 two yard PCSACS hexes. The effects of the first volley is resolved on the Phase the first 8 shells land (one from each gun). Five Phases later (the guns' Short Term Rate of Fire), the second set of 8 rounds lands and their effect is resolved. This applies to each of the six volleys in the barrage.

Six Leopard 2 tanks are at the target site. They are in two Mech Hexes; three tanks on each side of the road, 1 Mech Hex from the center of the crossroads (the Target Point). Referring to the Artillery Shell Factor per Mech Hex Table, the fraction of shells landing in each Mech Hex at range 1 is .03 (cross indexing the Maximum Scatter of 57, which uses the 70 entry, and the Distance from Target Point of 1 Mech Hex). The number of shells falling in each of the Mech Hexes is .03 (Shell Factor) X 8 (Number of Shells Fired) = .24. A 00 - 99 number is rolled. If less than or equal to a 24 is rolled, a shell lands in the Mech Hex.

In this example we will assume one shell lands in each of the Mech Hexes. In the first MH, Tank 1 rolls a 35, Tank 2 a 03, and Tank 3 a 92; Tank 2 is hit. It rolls another 00 - 99 number, resulting in a 25. This indicates that the Vehicle is not hit directly, but that the shell has landed near the Suspension; the **Track and Suspension Disable Chance Table (3A)** is used to determine if the Suspension is disabled. The 152mm HE shell has a BC0 value of 41K (Shell Index 10, Artillery System), so the Suspension Disable Chance is 36.

In the other MH, the Tanks roll 45, 81, and 06; Tank 3 is hit. Tank 3 now rolls a 67; this is greater than 28, so the shell hits the Tank itself rather than landing near the tracks. The Advanced Target Size and Hit Area Table of Status Sheet 3 is used to determine the Hit Area. A 96 is rolled, indicating a hit to the Hull Side. Referring to the **Top of Vehicle Hit Chance Table** on **Status Sheet 3** for a Hull Side hit at AOI 6, the Top Hit Chance is 45. A 12 is rolled, so the shell hits the top of the Hull. Referring to **Status Sheet 2** for a Hull Top hit, a 23 is rolled for the Hit Location indicating a hit into the Engine Compartment. The AP PF is 42. This AP PF is compared to the Shell's PEN or PENF from the Artillery System Shell Data Table; here 68 and 34. The shell's explosion penetrates the engine deck and normal damage rules apply.

A Vehicle's Crew can be Incapacitated even if a shell fails to penetrate. Refer to the **PEN Less than or Equal to Armor PF** rules of Section 4.10.

"So he's dead. Is that any reason not to operate on him?"

Dr. Oscar Schneiderbunk

6.8

COMBAT EXAMPLE

The following is a detailed combat example pulling together Spotting, Missile Fire, Infantry and Tanks. This is a daylight engagement between two TOW ATGW Teams and four T-72 Tanks. The TOW teams are hidden in ambush on each side of a road, while the T-72's are emerging from a forest a little less than 100 Mech Hexes away. The terrain between the forest and the TOW Teams is open and is perfect for ATGW fire. The Basic Game Odds of Hitting will be used and all fire is simultaneous within a Phase.

The T-72's come into visibility on Phase 4 of Turn 1, and the TOW teams make a Dedicated Spotting Roll against 4 Moving Vehicles at 120 Mech Hex range. The odds are 64; Team 1's leader rolls a 45 and spots the Tanks that Turn. Team 2 rolls a 31 and also spots the Tanks.

Each Tank has one Crew Member and the Driver observing in the direction of the TOW Teams. The Crew Member receives a Dedicated Spotting roll and would have to roll less than or equal to a 00 (Dedicated Spotting 4 Stationary Infantry at 150 Mech Hex + 1 line for Moving Vehicle + 1 Vehicle Spotting Mod). He rolls a 67 and sees nothing. The Driver, who gets a Secondary Spotting chance, and the other Tanks in the column all fail their Spotting Rolls.

On Turn 2, both TOW Teams prepare to fire. The Referee allows them to get ready to fire in 1 Turn since they are prepared, and have been waiting for a target. On Turn 3 they are ready to start aiming. Meanwhile the Tanks continue their advance and have not spotted the TOW teams. Each Team fires at the end of Turn 3. At this point the Tanks have advanced 3 Turns at a speed of 3 MHPT. They are 3 X 3 = 9 Mech Hexes closer and the range is now 120 - 9 = 111 Mech Hexes.

On Turn 4 the missiles are in flight. The Time of Flight is the Range divided by the Missile Velocity of 30; 111 Mech Hexes / 30 = 3.7, rounding to 4 Phases. The game now goes to a Phase by Phase play scale. On the 1st Phase, Tank 1's Crew Member who has been watching the forward Zone gets a Dedicated Spotting Roll Per Phase (Table 9C) against the missiles. His Spotting Chance is 02 (Stationary Infantry 2 Missiles at 150 Mech Hex range category, -8 lines for Missile Fire, + 1 Vehicle Moving, + 1 Vehicle Spotting Mod from Status Sheet 1). Tank 1 rolls a 78 and does not see the missiles. Tank 2 rolls a 02 and spots the Missiles. Tanks 3 and 4 fail their rolls. Tank 2 brings its Turret to bear on Team 2 and uses his radio to warn his comrades.

"Well, Major, I don't think it would be fair to you as a person for me to respect you until I get to know you better."

Sgt. Servo

During the 2nd Phase of Turn 4, Tank 2 stops and aims its Main Gun at Team 2 while the commander gets a Spotting Roll. His odds are 5 lines higher than before, since it is an identified target area and the Vehicle is no longer moving; the Spotting Chance is 16. He rolls a 50 and does not spot the Missiles that Phase. The Turret Crews of Tanks 1, 3, and 4 each get similar Spotting Rolls, but none spot the Missiles.

On Phase 3 of Turn 4, Tank 2 fires its Main Gun at Team 2. The Gunner has 2 Phase of aim. Using the Basic Odds of Hitting this gives him a Shot Accuracy of 12 (T72M1 with 2 Phases of Aim) - 6 (Infantry target) = 6. The Gunner fires and misses. That Phase his Commander rolls a 12, spots Team 2, and fires the 12.7mm Machine Gun. This weapon was trained in the direction of the attack and is run as small arms fire at an infantry target. Normal Odds of Hitting rules do not apply and the Squad Combat Fire Power rules are used. The 12.7mm MG has a FP value of 13, so its FP for a Phase is 13 / 4 = 3.25 = 3. The Effective FP depends on whether the target ducks or remains exposed. The normal FP rules assume a target ducks as Vehicular MG fire is sprayed over his position. Gil, the gunner who is firing the TOW for Team 2, decides to duck. The Effective FP is 3 (basic) X 1.8 (kneeling target) X 1 (Offensive FP Factor) X .2 (Crack target against Veh Fire) = 1.17, which rounds to 1. The fire does not cause any casualties but the Missile loses guidance and plows into the ground.

On Phases 3 and 4 of Turn 4, Tanks 1, 3, and 4 continue to get Spotting Rolls but fail to pick up the threat.

On Phase 4 of Turn 4, Tank 2 is struck by Team 1's missile. Damage and the Odds of Hitting follow normal rules using the Missile Shot Accuracy from Table 8D. We will assume the Missile hits and Disables Tank 2.

On Turn 5, Team 1 reloads the TOW. The Tanks continue to search for the enemy; knowing that their position is spotted, Team 2 has abandoned their equipment and run off.

On Turn 9, Team 1 has their TOW reloaded. The Gunner for Team 2 is Bob; he takes a firing stance and against the advice of his assistant prepares to fire another round. At the end of Turn 9, Bob fires at Tank 1. The Tanks are looking for him but fail to spot him as he prepares to fire.

"In retrospect, that was a terrible decision. Fortunately, everyone else who knows that is dead now."

Captain Axly

On the 1st Phase of Turn 10, all three Tanks get Spotting rolls. Against a single target the Spotting Chance is a 01 (Stationary Infantry at 150 Mech Hexes, -8 lines for missile fire + 1 for Vehicle Spotting Mod). Note that the Spotting Chance does not include the +4 lines for a Spotted Target Area. None of the surviving Tanks had Team 1 Spotted, and Tank 2 did not have time to call in their location. Each Tank has all three Crew Members watching the area however, so each Tank gets three rolls to pick up the missile. All three Tanks fail their rolls.

On Phase 2 of Turn 10, Tanks 2 and 3 fail to spot Bob, but Tank 4's commander spots him and brings the 12.7mm MG to bear as he calls in the location.

On Phase 3, Tanks 1 and 3 as well as the remaining Crew of Tank 4 get Spotting Rolls against Bob at + 4 lines to the Spotting Chance, since his Target Area has been spotted. Only Tank 1's Gunner spots him, and he brings his Turret to bear. Tank 4's Commander has spotted Bob and fires his 12.7mm MG. Bob, a dedicated Gunner, ignores the machine gun fire. Because Bob is deliberately ignoring Vehicular MG fire, he is at serious risk. His Defensive FP Factor is 1, so the Effective FP is 3 (basic) X 1.8 (kneeling target) X 1 (Offensive FP Factor) X 1 (Defensive FP Factor) = 5.4 = 5. The commander rolls a 67 and misses.

On Phase 4 of Turn 10, Bob's Missile hits and destroys Tank 1. At the same time both Tank 1's Gunner and Tank 4's Commander continue to hose Bob down with MG fire. Tank 4's Commander again has an Effective FP of 5. He rolls an 80 and misses. Tank 1's Gunner is firing the coax MG which has a FP of 31 / 4 = 8 per Phase. His Effective FP is 8 (basic) X 1.8 (kneeling target) X 1 (Offensive FP Factor) X 1 (Defensive FP Factor) = 14.4 = 14. The Gunner rolls a 45 and misses.

6.9

TANK DESCRIPTIONS

This section presents a brief write-up about each of the Vehicles given in the Status Sheets at the back of this book. Most of the information is in the form of a simple overview, although some tactical observations and special rules considerations are also mentioned.

German Leopard 1A1A1, 1A3, and 1A4

German Leopard 1 production began in 1965 and ended in 1979 at which time over 4500 tanks were produced. These are in service in over a dozen countries including Germany, Australia, Belgium, Canada, Italy, and Norway. The Leopard 1 has a four man crew with driver in the right forward hull, engine compartment in the rear, and commander, gunner, and loader in the center turret. The Leopard 1A1A1 has a cast turret to which additional armor plates were added. Later models, including the 1A3 and 1A4, were fitted with a angular all welded turrets of spaced armor design.

The Leopard 1 is armed with a British L7 105mm rifled gun. Initially the Leopard had no gun stabilization and did not have a modern fire control system. Later models have been constantly upgraded and the 1A1A1, 1A3, and 1A4 have gun stabilization, modern fire control, and Image Intensifying night vision equipment.

The Leopard 1 is a lightly armored tank designed for high mobility. It is not well protected and not suited to engaging modern Soviet armor. The Anti-Aircraft Machine Gun cannot be aimed or fired from within the Vehicle.

German Leopard 2

The Leopard 2 is one of the most advanced tanks in the world providing good mobility, excellent firepower, and good protection. Its power plant is similar to that of the US M1 Abrams and it uses the same British Chobham armor and Rheinmetall 120mm smoothbore gun. The tank's layout is conventional and is similar to the Leopard 1.

The 120mm gun fires fixed ammunition with a semi-combustible cartridge case. Only the cartridge stub remains after firing. Two types of ammunition are carried; a standard APFSDS round and a multi-purpose, fin stabilized HEAT round. Mounted coaxially to the main gun is a 7.62mm machine gun. Another 7.62mm machine gun is mounted to the loader's station. This machine gun cannot be fired from within the Vehicle.

Israel Merkava Mk1 and Mk2

The Merkava was designed and produced in Israel after the 1967 war, and was designed with crew protection as a primary goal. It is not of conventional layout and has the Driver and engine in the front of the Hull. The well sloped Turret holds the Commander, Gunner, and Loader, and the rear of the Vehicle has a large cavity for ammunition. This gives the Merkava a very high ammunition capacity and also the ability to off load ammunition and carry infantry. If 45 rounds are off loaded, 10 infantry may be carried in the rear compartment. If 25 rounds are off loaded a 3 man commando team can be carried. Carrying infantry is for special operations only, as there are no vision slots or long term accommodations in the rear compartment. Infantry leaves the compartment through doors in the rear hull.

Both the Mk 1 and Mk2 are armed with the British L7 105mm rifled tank gun. A 7.62mm machine gun is in the coaxial position, and two Anti-Aircraft machine guns on the Commander's and Loader's hatches complete the standard armament. A 60mm Soltam mortar is carried on the Turret with 30 mortar bombs held in the rear Turret bustle. Both Mk 1 and Mk2 have laser range finders and modern fire control systems. The fire control of the Mk 2 is more advanced than the Mk1, accounting for its increased accuracy. The AA machine guns cannot be fired from within the Vehicle. The 60mm mortar can be loaded and fired from within the turret on the Mk2 but not on the Mk1.

USSR T62 and T62M

The T62 was developed in the late 50's and has a conventional welded Hull with cast armor Turret. The Driver is on the left side of the Hull front, engine compartment in the rear, and the Turret crew in the center fighting compartment. The commander and gunner are on the turret left and the loader on the right. The T62 has been widely exported especially in the Middle East and is still found in the armies of the Warsaw Pact.

The T62 is armed with a 115mm smoothbore gun and fires HE, HEAT, and APFSDS rounds. The main gun automatically ejects the spent shell case through a chute out a small door in the rear of the turret. Rounds are manually loaded into the breech. Mounted coaxially to the main gun is a 7.62mm machine gun which is fed from 250 round belts. Initially the T62 had only a coaxial machine gun. Later models (T62A) included a 12.7mm machine gun mounted to the loader's cupola. This heavy machine gun cannot be aimed or fired from within the vehicle.

The automatic shell case ejection system requires the gun be elevated to 3.5° to eject the case. This means the gun cannot be aimed as it is being reloaded and seriously reduces the tank's rate of fire. This is considered the major drawback of this otherwise fine tank. In its time, the T62 was a major breakthrough in tank design and is considered superior to its contemporary US M60.

The T62M is a late model T62 which has been fitted with passive spaced armor for increased protection. This armor has been added to the front of the turret, upper glacis plate, and laterally over the fuel tanks above the road wheels. The T62M has also been retrofitted with laser range finders and updated fire control system.

USSR T64A

The T64 was produced in the mid to late 60's and has a 125mm smoothbore gun with automatic loader. Ready use ammunition is held in a carousel located on the floor of the center fighting compartment. The automatic loader makes a loader redundant and the crew has been reduced to three men. The driver is in the front hull, commander on the right side of the turret, and gunner on the left. The T62 has a low profile and is a well armored, small target. It is used only by the Soviet Army and has not been exported.

Rifled Guns

A conventional Rifled Gun barrel is designed to impart a spin to the projectile as it accelerates down the barrel. This spin stabilizes the round and greatly increases its accuracy, especially at long range.

Unfortunately, this reduces barrel life and limits the type of round that can be fired. At present, only the United Kingdom makes tanks with Rifled Guns.

Smoothbore Guns

Smoothbore guns are not rifled and impart no spin to the round. Instead, the round is Fin Stabilized like an arrow. This allows a Penetrator of greater sectional density (more length for diameter, and more penetration) to be fired.

Other advantages of the Smoothbore Gun over a Rifled Gun are its longer barrel life and the higher velocity of the rounds fired. The disadvantage is lower accuracy at long range. Except for tanks made in the United Kingdom, all modern MBT's are equipped with Smoothbore Guns.

Explosive Reactive Armor

Explosive Reactive Armor (ERA) contains two metal plates separated by a layer of explosive. When a HEAT jet hits it, the jet detonates the explosive layer which drives the two metal plates apart. This motion, coupled with the explosive's detonation, disrupts the jet more than simple Spaced Armor and decreases its penetration. ERA comes in blocks which are mounted to the exterior armor surface. ERA is not detonated by normal AP or APFSDS type ammunition, and does not provide much protection against it.

In addition to the main gun there is a 7.62mm coaxial machine gun and 12.7mm machine gun mounted to the commander's cupola. The 12.7mm machine gun can be aimed and fired from within the turret.

The T64A is an updated T64 with laser range finder, upgraded fire control, and advanced composite armor. Data has also been included for the T64A with Explosive Reactive Armor (ERA) package. ERA consists of numerous explosive reactive armor blocks which are bolted to the hull or turret's surface providing excellent protection from HEAT attack. A HEAT round detonates the ERA block, whose explosion disrupts the round's penetration before it can defeat the underlying armor.

USSR T72B and T72M1

The T72 is similar to the T64 and has been widely exported. Its layout and armament are the same as the T64. Like the T64, it has been constantly upgraded and is still found in front line units within the Soviet military. The T72M1 is a late model with additional turret face armor and improved fire control system. The armor on the turret and hull front is of an advanced type rather than conventional rolled plate.

The T72 is not as good a tank as the T64. Its has been designed for mass production and cost reduction and has a larger hull and turret than the T64. The larger hull and turret result in a reduction in the armor thickness and reduced protection. The T72 has been constantly upgraded to improve its armor protection, but it cannot be brought up to the level of the smaller T64 and maintain the desired mobility. The T72 has been widely exported and in combat has been easily dealt with by Israeli forces. The T64 on the other hand has never been exported and is issued to elite Soviet Armor Divisions.

USSR T80

The T80 is the newest Soviet Main Battle Tank and has a turbine power plant similar to those found on the German Leopard 2 and US M1 Abrams. The T80 remains a light tank compared to its western counterparts and its weight is similar to the T64 and T72. The increased horsepower associated with the turbine power plant give it excellent mobility, but its reliability may not be as high as older models. The T80 has the same armaments as the T72 and has been fitted with Explosive Reactive Armor (ERA). The T80's hull is based on the T64 giving it excellent protection in the forward arc. Combining design aspects of both the T72 and T64, the T80 should prove to be an excellent tank. Its small hull is very well protected, the turbine power plant gives it excellent mobility, and the 125mm snoothbore gun is the most powerful in the world. Currently, the performance of the Soviet 125mm gun is similar to the US 120mm gun firing Depleted Uranium ammunition. This equivalence is primarily due to the higher performance of the USA depleted uranium ammunition. The Soviet 125mm gun with equivalent ammunition would have superior penetrating ability.

British Chieftain Mk9 and Mk12

The British Chieftain was designed to replace the Centurion but did not enter service until 1967. It was one of the heaviest tanks of its time and provided excellent protection and firepower but limited mobility. The Chieftain is armed with a British 120mm rifled tank gun, 7.62mm coaxial machine gun and 7.62mm machine gun on the commander's cupola. The commander's machine gun can be aimed and fired from within the vehicle. The 120mm gun fires separate loading ammunition; the projectile and propellant charge are each loaded separately. Propellant is contained in a bag which completely combusts upon firing.

"One of these bullets has your name on it, and I'm going to keep firing until I find it."

Gil the Treacherous

The Mk9 has been retrofitted with a laser range finder and Improved Fire Control System as well as an upgraded power plant and transmission. The British have constantly upgraded their Chieftain fleet allowing them to remain in service through the 80's. They are being replaced by the Challenger whose development began in 1979. The Mk 12 Chieftain is similar to the Mk9 but has advanced Stillbrew armor added to the turret.

USA M60A1 and M60A3

The M60A1 replaced the original M60 in production starting in 1962. It has a four man crew and conventional layout. The driver is seated in the front of the hull, with the commander and gunner on the turret right and loader on the left. The engine is in the rear hull. It is armed with a US produced British L7 series 105mm rifled tank gun and has a 7.62mm coaxial machine gun and 12.7mm machine gun mounted to the commander's cupola. The 12.7mm machine gun can be aimed and fired from within the turret. The M60A1 included in this book is the configuration currently being used by the US Marine Corps. It has a modern fire control system and Explosive Reactive Armor.

The M60A3 also has a modern fire control system and is an upgraded M60A1 with improved turret armor. The M60A3 in this book is the version which was used by the US Army before being replaced by the M1A1 Abrams.

The M60 series entered service in the US army in 1960 and is still in service with the US Marine Corps. It has been exported to numerous countries including Austria, Iran, Israel, Italy, Jordan, Saudi Arabia, and South Korea.

USA M1A1 Abrams

The M1A1 entered service with the US army in 1985. It is one of the most advanced tanks in the world and has a turbine power plant, German 120mm smoothbore gun, British Chobham armor, and advanced fire control system. The M1A1 has been designed with crew survival as a primary goal and it provides excellent protection. An advanced Halon fire extinguishing system reacts to fires within milliseconds extinguishing them before they have time to catch. Ammunition is stored in the turret bustle which is separated from the crew compartment by an armored bulkhead and loading door. In the event of an ammunition explosion, blow out panels in the top of the turret bustle direct the blast out of the vehicle without killing the crew.

The M1A1 Heavy configuration is a standard M1A1 which has additional depleted uranium armor added to the turret face and lower glacis plate. It is being placed in service in Europe and has been upgraded to face the Soviet threat into the year 2000.

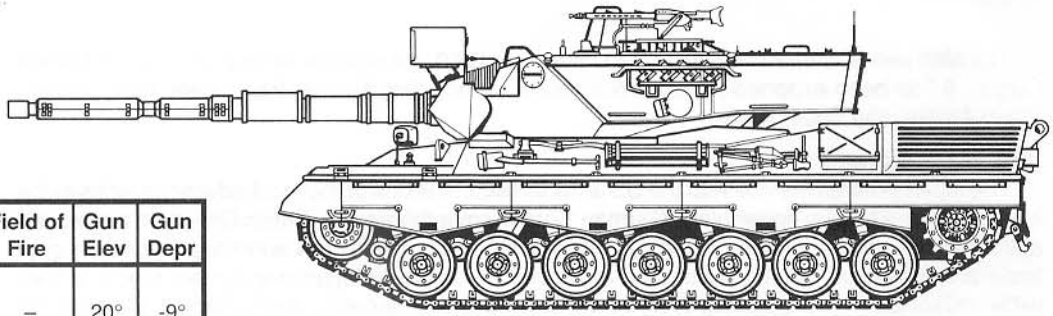
The M1A1 is the best protected tank in the world with sophisticated fire control and sighting systems. Its only drawback is its weight and poor mobility in adverse ground conditions. Mobility aside, it is more than a match for any tank in the world.

Modern Composite Armor

Modern Composite armors such as the Chobham armor used on the M1A1 Abrams have been specifically designed to defeat HEAT rounds. These armors layer conventional steel armor with advanced materials designed to break up and resist penetration of a HEAT jet. They are characterized by their thick, blocky appearance, and provide excellent protection from conventional AP as well as APFSDS rounds.

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1 , 2, 6			
Loader	1, 3 to 6			
Armament				
Main Gun 105mm Rifled	1 to 6	–	20°	-9°
Coax MG 7.62mm NATO	1 to 6	–	20°	-9°
AA MG 7.62mm NATO	1 to 6	60°	60°	-45°



German Leopard 1 A1A1 / A4

A1A1 (1971) 1A1 with Voss Turret Armor A3/A4 (1981) Spaced Armor Turret

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 32	-	33 - 99	-
Front	Obliq	00 - 30	31 - 45	46 - 99	-
Front	Side	-	00 - 44	45 - 99	-
Obliq	Front	00 - 19	-	20 - 43	44 - 99
Obliq	Obliq	00 - 13	14 - 30	31 - 51	52 - 99
Obliq	Side	-	00 - 29	30 - 50	51 - 99
Side	Front	00 - 19	-	-	20 - 99
Side	Obliq	00 - 13	14 - 29	-	30 - 99
Side	Side	-	00 - 29	-	30 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	50°	200°
Deep Fording Equip	No	Turret Traverse Rate (°)	48°	190°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		2.5
Infra-Red Imaging	Yes	Deceleration VC (MH)		2.0
Image Intensifying	Yes	Max Road Range (miles)	370	
Thermal Imaging	No	Side Slope	27°	
			A1A1	A3/A4
Fuel Hit Modifier	+ 5	Ground Pressure (psi)	12.5	12.5
Ammunition Hit Modifier	+ 0	Moving Target Accuracy Mod	+ 7	+ 9
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+10	+12

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	7.8 –	6.9 –	5.9 00	5.0 00	4.0 03	3.6 25
10°	5.8 –	4.8 –	3.8 00	2.9 01	1.9 03	1.5 28
20°	3.8 –	2.7 –	1.7 01	.7 02	04	38
30°	2.0 –	.8 00	02	05	08	68
40°	.5 –	02	08	13	23	99
50°	.1 01	14	41	68	99	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	A1A1 SA	A3/A4 SA
APFSDS-T	55	4P	25H	4	33	–	–	1	4	4
HE			188	60	–	55H	–	2	10	12
HEAT-T			38H	46	–	31H	–	3	13	15
Coax MG	100	*10	7	38	–	–	17	4	15	18
AA MG	25	*10	11	14	–	–	20	5	17	20
								6	18	

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Gunner	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Driver	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Loader	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG	_____	_____	_____	_____	_____
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes	_____	_____	_____	_____	_____

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 08	Graze														
	09 - 17	IR Spot Light*	4	4												
Upr Face	18 - 18	Gunner's Sight*	6	6	Crew	19H	875				1	5	11	22	43	
Cupola	19 - 21	Crew	71	70							1	5	17	33	59	
Mantlet	22 - 53	Crew	12H	13H	Ammunition	13H	14H				1	5	15	32	57	
Mantlet	54 - 71	Main Gun	780	807	Crew	12H	13H	Ammunition	13H	14H	1	5	15	31	57	
MG Mount	72 - 72	Coax Machine Gun*	454	444	Crew	12H	13H	Ammunition	13H	14H	1	5	14	30	56	
Tur Frt Sd	73 - 94	Crew	421	405	Ammunition	466	426				-4	-5	-4	0	11	
Turret Ring	95 - 99	Turret Ring	143	141	Crew	411	283				1	5	17	33	59	
Turret Side	00 - 10	Graze														
	11 - 16	Spotlight*	4	4												
Cupola	17 - 19	Crew	71	70							73	59	33	17	5	1
Tur Fwd Sd	20 - 31	Crew	337	331	Main Gun	573	611				73	59	33	16	5	1
Turret Side	32 - 36	Crew	294	294	Main Gun	520	573				73	59	33	17	5	1
Turret Side	37 - 68	Crew	294	294							73	59	33	17	5	1
Turret Side	69 - 89	Crew	294	294	Ammunition	326	297				73	59	33	17	5	1
Turret Ring	90 - 92	Turret Ring	143	141	Crew	411	283				73	59	33	17	5	1
Gun Barrel	93 - 99	Main Gun	62	62							73	59	33	17	5	1
Turret Rear	00 - 07	Graze														
Cupola	08 - 11	Crew	71	70							1	5	17	33	59	
Turret Rear	12 - 42	Ammo-Crew	264	266	Main Gun	443	671				1	5	17	33	59	
Turret Rear	43 - 78	Ammo-Crew	264	266							1	5	17	33	59	
Lower Rear	79 - 94	Crew	204	157							1	5	11	28	53	
Turret Ring	95 - 99	Turret Ring	143	141	Crew	411	283				1	5	17	33	59	
Turret Top	00 - 72	Crew	67	67												
	73 - 99	Ammo-Crew	67	67												
Hull Front	00 - 05	Graze														
Upr Front	06 - 09	Driver-Crew	32H	14H	Engine	36H	21H				1	5	11	22	43	
Upr Glacis	10 - 21	Driver-Crew	19H	11H	Fuel-Engine	21H	21K				1	5	11	22	48	
Lwr Glacis	22 - 32	Driver-Crew	14H	920	Fuel-Engine	17H	14K				1	5	11	24	49	
Upr Glacis	33 - 48	Ammo-Crew	19H	11H	Fuel-Engine	21H	21K				1	5	11	22	48	
Lwr Glacis	49 - 64	Ammo-Crew	14H	920	Fuel-Engine	17H	14K				1	5	11	24	49	
Track/Idler	65 - 99	Track / Idler Wheel*	33	33												
Hull Side	00 - 01	Graze														
Idler	02 - 02	Idler Wheel*	115	115	Idler Wheel	332	30H									
Side Skirt	03 - 05	Idler Wheel*	123	168	Idler Wheel	752	12K				73	59	33	17	5	1
Hull Side	06 - 07	Road Wheel / Susp*	70	70	Driver-Crew	336	16H	Wheel/Susp	809	12K	73	59	33	17	5	1
Side Skirt	08 - 08		208	592	Driver-Crw	268	672				73	59	33	17	5	1
Hull Upr Sd	09 - 09		745	12H	Driver-Crw	861	13H				68	54	29	13	5	1
Hull Side	10 - 11	Road Wheel / Susp*	70	70	Ammo-Crew	356	410	Wheel/Susp	830	11K	73	59	33	17	5	1
Side Skirt	12 - 16	Ammunition-Crew	208	592							73	59	33	17	5	1
Hull Upr Sd	17 - 18	Ammunition-Crew	745	12H							68	54	29	13	5	1
Side Hull	19 - 25	Road Wheel / Susp*	70	70	Crew	356	410	Wheel/Susp	830	11K	73	59	33	17	5	1
Side Skirt	26 - 38	Crew	208	592							73	59	33	17	5	1
Hull Upr Sd	39 - 48	Crew	745	12H							68	54	29	13	5	1
Hull Side	49 - 53	Road Wheel / Susp*	70	70	Fuel-Engine	356	410	Wheel/Susp	15H	16K	73	59	33	17	5	1
Hull Side	54 - 55	Drive Sprocket*	115	115	Fuel-Engine	435	457	Track/Drive	16H	16K	73	59	33	17	5	1
Side Skirt	56 - 56	Drive Sprocket*	123	168	Fuel-Engine	449	791	Track/Drive	16H	26K	73	59	33	17	5	1
Side Skirt	57 - 69	Fuel-Engine	208	592							73	59	33	17	5	1
Hull Upr Sd	70 - 77	Fuel-Engine	745	12H							68	54	29	13	5	1
Hull Upr Sd	78 - 83	Fuel-Engine	326	591							71	57	31	15	5	1
Road Wheel	84 - 99	Road Wheel / Susp*	70	70	Wheel/Susp	201	18H									
Hull Rear	00 - 04	Graze														
Rear Hull	05 - 24	Fuel-Engine	78	77	Crew	770	20K				1	5	17	33	59	
Rear Hull	25 - 52	Fuel-Engine	78	77	Crew	770	20K	Ammunition	827	NP	1	5	17	33	59	
Lwr Rear	53 - 65	Fuel-Engine	158	122	Crew	855	15K	Ammunition	909	NP	1	5	11	28	53	
Track/Drive	66 - 99	Track / Drive Sprkt*	33	33												
Hull Top	00 - 87	Fuel-Engine	21	21												
Hatch	88 - 93	Driver-Crew	75	75												
Hull Top	94 - 99	Ammunition-Crew	75	75												

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — GERMANY — LEOPARD 1 A1A1 to A4

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		Target Range in 20 Yard Mech Hexes 4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
105mm Gun	**A1A1**		**APFSDS-T**	PEN	25H	25H	25H	25H	25H	25H	25H	24H	24H	24H	24H	24H	24H	23H	23H	23H	23H
	1	-6	DM 128	AOI																	
RT (13) 4P	2	0		NID	34	34	34	33	33	32	31	31	30	29	29	28	27	26	25	24	23
RT (42) 6P	3	3		DFE	500	468	309	230	150	111	87	71	60	52	45	40	32	27	22	19	17
	4	5		BA	23	16	13	11	8	5	3	2	0	-1	-2	-3	-5	-6	-8	-9	-10
Ammo Cap 55	5	7	MCD 11	TOF		1	2	2	3	5	6	7	8	9	11	12	14	17	20	22	25
Ammo Wt 47.8	6	8																			
			HESH-T	PEN	215	208	203	198	188	179	170	162	154	147	140	133	120	109	99	90	82
White Phosphorus			DM 512	PENF	131	127	124	121	114	109	103	98	93	88	84	79	71	64	58	52	47
DFS 6				AOI																	
Smk 10	**A3/A4**			DFE	237	92	60	44	28	21	16	13	10	9	8	7	5	4	3	3	2
Dur 4	1	-6	BC0 55H	BA	41	31	27	23	18	14	11	9	7	5	3	2	0	-3	-4	-6	-8
	2	2	DFS 11	TOF	1	3	4	5	8	10	13	16	19	22	25	28	34	41	48	55	62
	3	5																			
	4	8	**HEAT-TP**	PEN	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H
	5	10	DM 68																		
				AOI																	
			BC0 31H	DFE	500	235	154	114	73	53	41	33	27	23	20	17	13	11	9	7	6
			MCD 13	BA	38	28	22	19	13	9	6	4	1	0	-2	-3	-6	-8	-10	-12	-13
			DFS 9	TOF	1	2	2	3	5	7	8	10	12	14	16	17	21	25	30	34	38
	AC																				
7.62mm Coax MG	1	-27	**FMJ-T**	PEN	17	14	12	9.9	7.0	5.0	3.6	2.5	1.8	1.3	.9	.7	.3	.2	.1		
Reload Time 119	2	-17		DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1		
Rate of Fire *10	3	-9																			
Cap 1250 (4000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 82	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 9	8	2		BA	44	32	27	23	17	13	10	8	6	4	2	1	-1	-3	-4		
SAB 0	12	9		TOF	1	2	4	5	8	11	15	19	23	27	32	36	46	55	65		
7.62mm AA MG	1	-28	**AP**	PEN	26	21	18	16	11	8.2	6.0	4.4	3.2	2.3	1.7	1.2	.6	.3	.2	.1	.1
Reload Time 28	2	-18		DC	7	7	7	6	6	5	3	2	2	1	1	1	1	1	1	1	1
Rate of Fire *10	3	-11																			
Cap 50 (1000)	4	-7		MA	.3	.7	1	1	2	3	3	4	5	5	6	7	8	9	11	12	13
Ammo Wt 3.3	6	-3		PALM	5	12	15	17	20	22	23	25	26	27	27	28	29	31	32	32	33
Knock Down 10	8	0		BA	45	33	28	24	18	14	11	9	7	5	4	2	0	-1	-3	-4	-5
SAB 0	12	5		TOF	1	2	4	5	8	11	15	19	23	27	31	36	45	54	64	73	83

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	14	14	14	14	14	14	Turret Face	00 - 28	00 - 23	00 - 19	00 - 17	00 - 16	00 - 16
	Hull	16	17	18	19	19	19	Turret Side	29 - 32	24 - 26	20 - 21	18 - 19	17 - 18	17 - 19
	All	18	19	19	20	20	20	Hull Face	33 - 88	27 - 71	22 - 55	20 - 43	19 - 34	20 - 22
	Air-Grd	21	22	22	22	22	22	Hull Side	89 - 99	72 - 99	56 - 99	44 - 99	35 - 99	23 - 99
15°	Turret	15	15	15	15	15	15	Turret Face	00 - 26	00 - 22	00 - 18	00 - 16	00 - 15	00 - 16
	Hull	16	17	18	19	19	19	Turret Side	27 - 37	23 - 31	19 - 26	17 - 23	16 - 22	17 - 23
	All	18	19	19	20	20	20	Hull Face	38 - 89	32 - 73	27 - 57	24 - 46	23 - 37	24 - 25
	Air-Grd	22	22	22	22	22	22	Hull Side	90 - 99	74 - 99	58 - 99	47 - 99	38 - 99	26 - 99
30°	Turret	15	15	15	15	15	15	Turret Face	00 - 24	00 - 20	00 - 17	00 - 15	00 - 14	00 - 15
	Hull	16	17	18	19	19	19	Turret Side	25 - 42	21 - 36	18 - 30	16 - 27	15 - 26	16 - 27
	All	18	19	20	20	20	20	Hull Face	43 - 90	37 - 75	31 - 60	28 - 49	27 - 41	28 - 29
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	76 - 99	61 - 99	50 - 99	42 - 99	30 - 99
45°	Turret	16	16	16	16	16	16	Turret Face	00 - 20	00 - 17	00 - 15	00 - 13	00 - 13	00 - 13
	Hull	16	17	18	19	19	19	Turret Side	21 - 45	18 - 39	16 - 33	14 - 30	14 - 28	14 - 29
	All	19	19	20	20	20	20	Hull Face	46 - 90	40 - 76	34 - 61	31 - 51	29 - 42	30 - 32
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	62 - 99	52 - 99	43 - 99	33 - 99
60°	Turret	16	16	16	16	16	16	Turret Face	00 - 17	00 - 14	00 - 12	00 - 11	00 - 10	00 - 11
	Hull	16	17	18	19	19	19	Turret Side	18 - 46	15 - 40	13 - 34	12 - 31	11 - 29	12 - 30
	All	19	19	20	20	20	20	Hull Face	47 - 90	41 - 76	35 - 62	32 - 51	30 - 43	31 - 33
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	63 - 99	52 - 99	44 - 99	34 - 99
> 60°	Turret	16	16	16	16	16	16	Turret Face	00 - 09	00 - 07	00 - 06	00 - 05	00 - 05	00 - 05
	Hull	16	17	18	19	19	19	Turret Side	10 - 44	08 - 38	07 - 32	06 - 29	06 - 28	06 - 29
	All	19	19	20	20	20	20	Hull Face	45 - 90	39 - 76	33 - 61	30 - 50	29 - 42	30 - 31
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	62 - 99	51 - 99	43 - 99	32 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

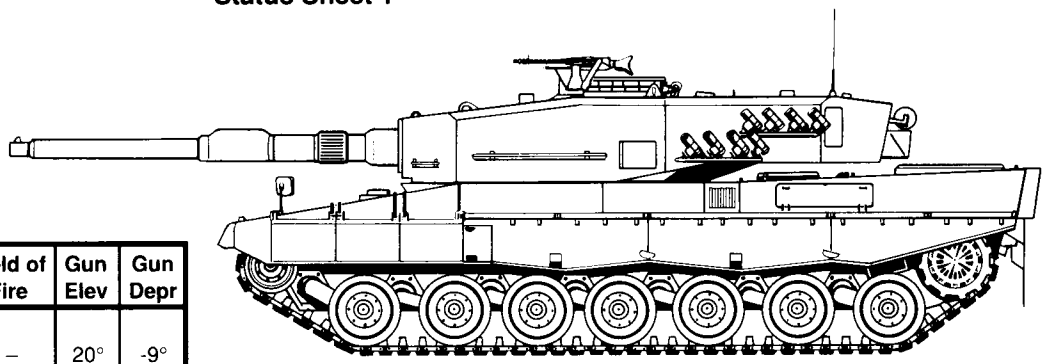
Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 26	00 - 43	00 - 54	00 - 63	00 - 71	00 - 78	Front or Rear	00 - 17	00 - 30	00 - 41	00 - 50	00 - 59	00 - 67
From the Side	00 - 16	00 - 28	00 - 38	00 - 48	00 - 56	00 - 65	From the Side	00 - 08	00 - 15	00 - 23	00 - 30	00 - 38	00 - 47

STATUS SHEET 2	HIT LOCATION AND DAMAGE TABLE									GERMANY LEOPARD 1A3 and 1A4						
Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 13	Graze														
	14 - 21	IR Spot Light*	4	4												
Upr Face	22 - 22	Gunner's Sight*	6	6	Crew	19H	875				1	5	11	22	43	
Cupola	23 - 25	Crew	71	70							1	5	17	33	59	
Mantlet	26 - 56	Crew	11H	13H	Ammunition	12H	13H				1	5	15	31	57	
Mantlet	57 - 72	Main Gun	11H	12H	Crew	11H	13H	Ammunition	12H	13H	1	5	15	31	57	
MG Mount	73 - 74	Coax Machine Gun*	499	536	Crew	11H	13H	Ammunition	12H	13H	1	5	13	30	56	
Tur Frt Sd	75 - 94	Crew	680	648	Ammunition	737	671				-4	-5	-4	0	11	
Turret Ring	95 - 99	Turret Ring	143	141	Crew	411	283				1	5	17	33	59	
Turret Side	00 - 12	Graze														
	13 - 18	Spotlight*	4	4												
Cupola	19 - 20	Crew	71	70							73	59	33	17	5	1
Tur Fwd Sd	21 - 32	Crew	545	524	Main Gun	830	835				73	59	33	16	5	1
Turret Side	33 - 37	Crew	475	464	Main Gun	748	773				73	59	33	17	5	1
Turret Side	38 - 69	Crew	475	531							73	59	33	17	5	1
Turret Side	70 - 89	Crew	475	576	Ammunition	515	580				73	59	33	17	5	1
Turret Ring	90 - 92	Turret Ring	143	141	Crew	411	283				73	59	33	17	5	1
Gun Barrel	93 - 99	Main Gun	62	62							73	59	33	17	5	1
Turret Rear	00 - 13	Graze														
Cupola	14 - 17	Crew	71	70							1	5	17	33	59	
Turret Rear	18 - 48	Ammo-Crew	154	371	Main Gun	298	10H				1	5	17	33	59	
Turret Rear	49 - 84	Ammo-Crew	154	371							1	5	17	33	59	
Tur Lwr Rr	85 - 94	Crew	204	157							1	5	11	28	53	
Turret Ring	95 - 99	Turret Ring	143	141	Crew	411	283				1	5	17	33	59	
Turret Top	00 - 72	Crew	67	67												
	73 - 99	Ammo-Crew	67	67												
Hull Front	00 - 05	Graze														
Upr Front	06 - 09	Driver-Crew	32H	14H	Engine	36H	21H				1	5	11	22	43	
Upr Glacis	10 - 21	Driver-Crew	19H	11H	Fuel-Engine	21H	21K				1	5	11	22	48	
Lwr Glacis	22 - 32	Driver-Crew	14H	920	Fuel-Engine	17H	14K				1	5	11	24	49	
Upr Glacis	33 - 48	Ammo-Crew	19H	11H	Fuel-Engine	21H	21K				1	5	11	22	48	
Lwr Glacis	49 - 64	Ammo-Crew	14H	920	Fuel-Engine	17H	14K				1	5	11	24	49	
Track/Idler	65 - 99	Track / Idler Wheel*	33	33												
Hull Side	00 - 01	Graze														
Idler	02 - 02	Idler Wheel*	115	115	Idler Wheel	332	30H									
Side Skirt	03 - 05	Idler Wheel*	123	168	Idler Wheel	752	12K				73	59	33	17	5	1
Hull Side	06 - 07	Road Wheel / Susp*	70	70	Driver-Crew	336	16H	Wheel/Susp	809	12K	73	59	33	17	5	1
Side Skirt	08 - 08		208	592	Driver-Crw	268	672				73	59	33	17	5	1
Hull Upr Sd	09 - 09		745	12H	Driver-Crw	861	13H				68	54	29	13	5	1
Hull Side	10 - 11	Road Wheel / Susp*	70	70	Ammo-Crew	356	410	Wheel/Susp	830	11K	73	59	33	17	5	1
Side Skirt	12 - 16	Ammunition-Crew	208	592							73	59	33	17	5	1
Hull Upr Sd	17 - 18	Ammunition-Crew	745	12H							68	54	29	13	5	1
Side Hull	19 - 25	Road Wheel / Susp*	70	70	Crew	356	410	Wheel/Susp	830	11K	73	59	33	17	5	1
Side Skirt	26 - 38	Crew	208	592							73	59	33	17	5	1
Hull Upr Sd	39 - 47	Crew	745	12H							68	54	29	13	5	1
Hull Side	48 - 53	Road Wheel / Susp*	70	70	Fuel-Engine	356	410	Wheel/Susp	15H	16K	73	59	33	17	5	1
Hull Side	54 - 55	Drive Sprocket*	115	115	Fuel-Engine	435	457	Track/Drive	16H	16K	73	59	33	17	5	1
Side Skirt	56 - 57	Drive Sprocket*	123	168	Fuel-Engine	449	791	Track/Drive	16H	26K	73	59	33	17	5	1
Side Skirt	58 - 69	Fuel-Engine	208	592							73	59	33	17	5	1
Hull Upr Sd	70 - 77	Fuel-Engine	745	12H							68	54	29	13	5	1
Hull Upr Sd	78 - 84	Fuel-Engine	326	591							71	57	31	15	5	1
Road Wheel	85 - 99	Road Wheel / Susp*	70	70	Wheel/Susp	201	18H									
Hull Rear	00 - 04	Graze														
Rear Hull	05 - 24	Fuel-Engine	78	77	Crew	770	20K				1	5	17	33	59	
Rear Hull	25 - 52	Fuel-Engine	78	77	Crew	770	20K	Ammunition	827	NP	1	5	17	33	59	
Lwr Rear	53 - 65	Fuel-Engine	158	122	Crew	855	15K	Ammunition	909	NP	1	5	11	28	53	
Track/Drive	66 - 99	Track / Drive Sprkt*	33	33												
Hull Top	00 - 87	Fuel-Engine	21	21												
Hatch	88 - 93	Driver-Crew	75	75												
Hull Top	94 - 99	Ammunition-Crew	75	75												

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1, 2, 6			
Loader	1, 3 to 6			
Armament				
Main Gun 120mm SB	1 to 6	–	20°	-9°
Coax MG 7.62mm NATO	1 to 6	–	20°	-9°
AA MG 7.62mm NATO	1 to 6	60°	60°	-45°



Germany Leopard 2

Leopard 2 (1977) Modern Fire Control and Chobham Armor

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 32	-	33 - 99	-
Front	Obliq	00 - 20	21 - 46	47 - 99	-
Front	Side	-	00 - 45	46 - 99	-
Obliq	Front	00 - 19	-	20 - 43	44 - 99
Obliq	Obliq	00 - 13	14 - 30	31 - 50	51 - 99
Obliq	Side	-	00 - 29	30 - 50	51 - 99
Side	Front	00 - 19	-	-	20 - 99
Side	Obliq	00 - 12	13 - 29	-	30 - 99
Side	Side	-	00 - 28	-	29 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	65°	260°
Deep Fording Equip	No	Turret Traverse Rate (°)	48°	190°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		3.5
Infra-Red Imaging	Yes	Deceleration VC (MH)		2.4
Image Intensifying	Yes	Max Road Range (miles)	340	
Thermal Imaging	Yes	Side Slope	27°	
				Lpd 2
Fuel Hit Modifier	-30 *	Ground Pressure (psi)		11.8
Ammunition Hit Modifier	- 5	Moving Target Accuracy Mod		+11
Spotting Modifier	- 4	Moving Shooter Accuracy Mod		+18

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	8.7 –	7.6 –	6.5 00	5.4 00	4.4 01	3.8 17
10°	6.9 –	5.7 –	4.6 00	3.5 01	2.5 02	1.9 19
20°	5.1 –	3.9 –	2.7 00	1.5 01	.5 03	.1 26
30°	3.5 –	2.1 00	.8 01	03	05	45
40°	2.0 –	.4 01	05	08	14	99
50°	.9 00	08	23	39	65	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	Lpd 2 SA
APFSDS-T	42	4P	30H	5	82	–	–	1	4
HEAT-T			46H	60	–	56H	–	2	16
								3	20
Coax MG	93	*10	7	38	–	–	17	4	24
AA MG	25	*10	11	14	–	–	20		

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Gunner	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Driver	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Loader	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Ammunition					
Main Gun					
Coax MG					
AA MG					
Equipment					
Main Gun	☐	☐	☐	☐	☐
Coax MG	☐	☐	☐	☐	☐
AA MG	☐	☐	☐	☐	☐
Left Track	☐	☐	☐	☐	☐
Right Track	☐	☐	☐	☐	☐
Engine	☐	☐	☐	☐	☐
Turret Ring	☐	☐	☐	☐	☐
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes					

STATUS SHEET 2	HIT LOCATION AND DAMAGE TABLE									GERMANY LEOPARD 2					
Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 19	Graze														
Turret Face	20 - 21	Gunner's Sight*	6	6	Turret Crew	177	433				1	5	17	33	59	
Cupola	22 - 26	Crew	79	79							1	5	17	33	59	
Turret Nose	27 - 51	Main Gun	704	996	Turret Crew	27H	55H	Ammunition	31H	67H	1	5	17	33	59	
MG Mount	52 - 52	Coax Machine Gun*	392	660	Crew	27H	55H				1	5	17	33	59	
Tur Frt Sd	53 - 72	Turret Crew	29H	82H	Ammunition	33H	89H				-4	-5	-4	0	11	
Tur Frt Sd	73 - 92	Turret Crew	29H	82H							-4	-5	-4	0	11	
Turret Ring	93 - 99	Turret Ring	181	179	Turret Crew	521	360				1	5	17	33	59	
Turret Side	00 - 14	Graze														
Cupola	15 - 17	Turret Crew	79	79							73	59	33	17	5	1
Turret Side	18 - 43	Turret Crew	630	19H	Main Gun	937	22H				73	59	33	17	5	1
Turret Side	44 - 65	Turret Crew	630	19H							73	59	33	17	5	1
Turret Side	66 - 91	Ammo (Expln Prf)	288	863							73	59	33	17	5	1
Turret Ring	92 - 93	Turret Ring	181	179	Turret Crew	521	360				73	59	33	17	5	1
Gun Barrel	94 - 99	Main Gun	75	74							73	59	33	17	5	1
Turret Rear	00 - 20	Graze														
Cupola	21 - 26	Turret Crew	79	79							1	5	17	33	59	
Turret Rear	27 - 42	Ammunition	265	891	Turret Crew	382	10H	Main Gun	590	16H	1	5	17	33	59	
Turret Rear	43 - 61	Ammunition	265	891	Turret Crew	382	10H				1	5	17	33	59	
Turret Rear	62 - 89	Turret Crew	348	38H							1	5	17	33	59	
Tur Lwr Rr	90 - 95	Turret Crew	418	321							1	5	11	28	53	
Turret Ring	96 - 99	Turret Ring	181	179	Turret Crew	521	360				1	5	17	33	59	
Turret Top	00 - 63	Turret Crew	121	241												
	64 - 99	Ammo (Expln Prf)	121	241												
Hull Front	00 - 09	Graze														
Dvr Prscp	10 - 10	Driver	11H	10H	Turret Crew	12H	11H	Fuel-Engine	15H	44H	1	5	11	22	43	
Upr Front	11 - 12	Driver	31H	28H	Turret Crew	33H	29H	Fuel-Engine	37H	NP	1	5	11	22	43	
Upr Glacis	13 - 18	Driver	26H	60H	Turret Crew	28H	62H	Fuel-Engine	32H	NP	1	5	11	28	53	
Lwr Glacis	19 - 31	Driver	26H	60H	Turret Crew	28H	61H	Fuel-Engine	32H	NP	1	5	11	28	53	
Upr Front	32 - 37	Ammo-TCrew	31H	28H	Fuel-Engine	34H	NP				1	5	11	22	43	
Upr Glacis	38 - 44	Ammo-TCrew	26H	60H	Fuel-Engine	30H	NP				1	5	11	28	53	
Lwr Glacis	45 - 64	Ammo-TCrew	26H	60H	Fuel-Engine	30H	NP				1	5	11	28	53	
Track/Idler	65 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 05	Graze														
Hull Side	06 - 08	Road Wheel / Susp*	83	83	Driver	477	50H	Wheel/Susp	11H	43K	73	59	33	17	5	1
Idler	09 - 09	Idler Wheel*	140	140	Idler Wheel	402	47H				73	59	33	17	5	1
Hull Side	10 - 11	Idler Wheel*	140	140	Idler Wheel	11H	29K				73	59	33	17	5	1
Hull Side	12 - 12	Driver	386	33H							73	59	33	17	5	1
Side Skirt	13 - 15		460	27H	Driver	550	27H				73	59	33	17	5	1
Hull Side	16 - 18	Road Wheel / Susp*	83	83	Ammo-TCrw	509	12H	Driver	602	12H	73	59	33	17	5	1
Hull Side	19 - 19	Ammo-TCrew	311	623	Driver	386	673				73	59	33	17	5	1
Side Skirt	20 - 22	Ammo-TCrew	460	27H	Driver	550	27H				73	59	33	17	5	1
Hull Upr Sd	23 - 24	Ammo-TCrew	347	19H	Driver	425	20H				73	59	33	17	5	1
Hull Side	25 - 32	Road Wheel / Susp*	83	83	Turret Crew	509	12H	Wheel/Susp	12H	39K	73	59	33	17	5	1
Hull Side	33 - 36	Turret Crew	311	623							73	59	33	17	5	1
Side Skirt	37 - 45	Turret Crew	323	18H							73	59	33	17	5	1
Hull Upr Sd	46 - 51	Turret Crew	347	19H							73	59	33	17	5	1
Hull Side	52 - 58	Road Wheel / Susp*	83	83	Fuel-Engine	509	12H	Wheel/Susp	21H	35K	73	59	33	17	5	1
Hull Side	59 - 62	Drive Sprocket*	140	140	Fuel-Engine	613	12H	Track/Drive	22H	11T	73	59	33	17	5	1
Hull Side	63 - 66	Fuel-Engine	311	623							73	59	33	17	5	1
Side Skirt	67 - 75	Fuel-Engine	323	18H							73	59	33	17	5	1
Hull Upr Sd	76 - 85	Engine	347	21H							73	59	33	17	5	1
Road Wheel	86 - 99	Road Wheel / Susp*	83	83	Wheel/Susp	239	28H									
Hull Rear	00 - 09	Graze														
Rear Hull	10 - 32	Fuel-Engine	205	204	Turret Crew	10H	60K	Driver	12H	NP	1	5	17	33	59	
Rear Hull	33 - 66	Fuel-Engine	205	204	Turret Crew	10H	60K	Ammunition	11H	NP	1	5	17	33	59	
Road Wheel	67 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 84	Fuel-Engine	42	42												
Hatch	85 - 90	Driver	111	111												
Hull Top	91 - 99	Ammo-TCrew	111	111												

ADVANCED RULES STATUS SHEET 3 WEAPON DATA TABLE GERMANY LEOPARD 2

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		Target Range in 20 Yard Mech Hexes 4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
120mm Gun	**Lpd 2**		**APFSDS-T**	PEN	30H	30H	30H	30H	30H	30H	29H	29H	29H	29H	29H	29H	29H	29H	29H	28H	28H
	1	-6	DM 23	AOI																	
RT (15) 4P	2	6		NID	84	84	83	83	82	81	80	79	78	77	76	75	74	72	70	69	67
RT (27) 6P	3	10		DFE	500	477	317	236	156	116	92	76	64	56	49	44	36	30	26	23	20
	4	14		BA	24	18	15	12	9	7	5	4	2	1	0	-1	-2	-4	-5	-6	-7
Ammo Cap 42			MCD 16	TOF		1	2	2	3	4	6	7	8	9	10	11	14	16	19	21	24
Ammo Wt 50.7																					
White Phosphorus																					
DFS 8																					
Smk 12																					
Dur 4																					
			HEAT-T	PEN	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H
			DM 12																		
				AOI																	
BC0 56H				DFE	500	222	145	107	69	50	39	31	26	22	19	16	13	10	8	7	6
MCD 19				BA	37	26	20	16	11	7	4	1	-1	-3	-4	-6	-8	-11	-13	-14	-16
DFS 14				TOF	1	2	2	3	5	7	9	10	12	14	16	18	22	26	31	35	40
	AC																				
7.62mm Coax MG	1	-27	**FMJ-T**	PEN	17	14	12	9.9	7.0	5.0	3.6	2.5	1.8	1.3	.9	.7	.3	.2	.1		
Reload Time 119	2	-17		DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1		
Rate of Fire *10	3	-9																			
Cap 1250 (3700)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 81	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 9	8	2		BA	44	32	27	23	17	13	10	8	6	4	2	1	-1	-3	-4		
SAB 0	12	9		TOF	1	2	4	5	8	11	15	19	23	27	32	36	46	55	65		
7.62mm AA MG	1	-28	**AP**	PEN	26	21	18	16	11	8.2	6.0	4.4	3.2	2.3	1.7	1.2	.6	.3	.2	.1	.1
Reload Time 28	2	-18		DC	7	7	7	6	6	5	3	2	2	1	1	1	1	1	1	1	1
Rate of Fire *10	3	-11																			
Cap 50 (1000)	4	-7		MA	.3	.7	1	1	2	3	3	4	5	5	6	7	8	9	11	12	13
Ammo Wt 3.3	6	-3		PALM	5	12	15	17	20	22	23	25	26	27	27	28	29	31	32	32	33
Knock Down 10	8	0		BA	45	33	28	24	18	14	11	9	7	5	4	2	0	-1	-3	-4	-5
SAB 0	12	5		TOF	1	2	4	5	8	11	15	19	23	27	31	36	45	54	64	73	83

ADVANCED RULES STATUS SHEET 3 TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	15	15	15	15	15	15
	Hull	17	18	19	20	20	20
	All	19	19	20	21	21	21
	Air-Grd	22	22	23	23	23	23
15°	Turret	16	16	16	16	16	16
	Hull	17	18	19	20	20	20
	All	19	20	20	21	21	21
	Air-Grd	22	23	23	23	23	23
30°	Turret	16	16	16	16	16	16
	Hull	17	18	19	20	20	20
	All	19	20	21	21	21	21
	Air-Grd	22	23	23	23	23	23
45°	Turret	17	17	17	17	17	17
	Hull	17	18	19	20	20	20
	All	20	20	21	21	21	21
	Air-Grd	23	23	23	23	23	23
60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	20	20	20
	All	20	20	21	21	21	21
	Air-Grd	23	23	23	23	23	23
> 60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	20	20	20
	All	19	20	21	21	21	21
	Air-Grd	22	23	23	23	23	23

Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
Turret Face	00 - 28	00 - 23	00 - 19	00 - 17	00 - 16	00 - 16
Turret Side	29 - 32	24 - 26	20 - 21	18 - 19	17 - 18	17 - 19
Hull Face	33 - 88	27 - 71	22 - 54	20 - 43	19 - 34	20 - 21
Hull Side	89 - 99	72 - 99	55 - 99	44 - 99	35 - 99	22 - 99
Turret Face	00 - 26	00 - 22	00 - 18	00 - 16	00 - 15	00 - 16
Turret Side	27 - 37	23 - 31	19 - 26	17 - 23	16 - 22	17 - 22
Hull Face	38 - 88	32 - 73	27 - 57	24 - 45	23 - 37	23 - 25
Hull Side	89 - 99	74 - 99	58 - 99	46 - 99	38 - 99	26 - 99
Turret Face	00 - 23	00 - 20	00 - 16	00 - 15	00 - 14	00 - 14
Turret Side	24 - 43	21 - 36	17 - 30	16 - 27	15 - 26	15 - 26
Hull Face	44 - 89	37 - 75	31 - 59	28 - 48	27 - 40	27 - 29
Hull Side	90 - 99	76 - 99	60 - 99	49 - 99	41 - 99	30 - 99
Turret Face	00 - 20	00 - 17	00 - 14	00 - 13	00 - 12	00 - 12
Turret Side	21 - 46	18 - 39	15 - 33	14 - 30	13 - 28	13 - 29
Hull Face	47 - 90	40 - 76	34 - 61	31 - 50	29 - 42	30 - 31
Hull Side	91 - 99	77 - 99	62 - 99	51 - 99	43 - 99	32 - 99
Turret Face	00 - 16	00 - 13	00 - 11	00 - 10	00 - 10	00 - 10
Turret Side	17 - 47	14 - 40	12 - 34	11 - 30	11 - 29	11 - 30
Hull Face	48 - 90	41 - 76	35 - 61	31 - 51	30 - 43	31 - 32
Hull Side	91 - 99	77 - 99	62 - 99	52 - 99	44 - 99	33 - 99
Turret Face	00 - 08	00 - 06	00 - 05	00 - 05	00 - 04	00 - 05
Turret Side	09 - 45	07 - 38	06 - 32	06 - 29	05 - 27	06 - 28
Hull Face	46 - 90	39 - 75	33 - 60	30 - 50	28 - 41	29 - 31
Hull Side	91 - 99	76 - 99	61 - 99	51 - 99	42 - 99	32 - 99

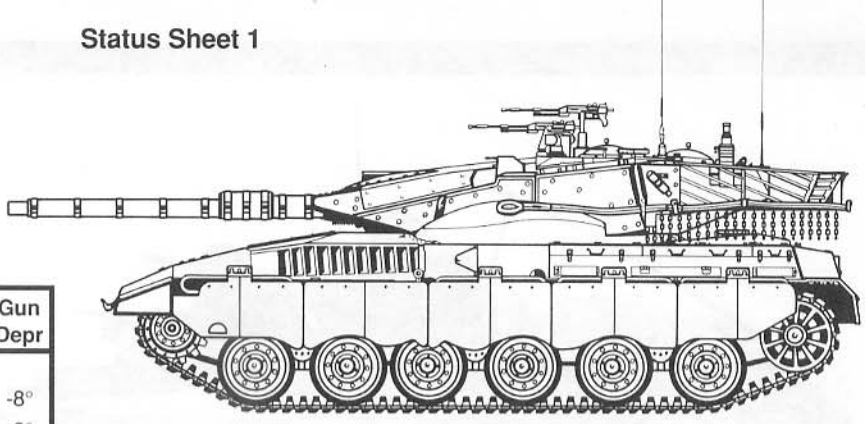
ADVANCED RULES STATUS SHEET 3 TOP OF VEHICLE HIT CHANCE TABLE

Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 24	00 - 39	00 - 51	00 - 60	00 - 68	00 - 75
From the Side	00 - 14	00 - 25	00 - 35	00 - 44	00 - 53	00 - 62

Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 16	00 - 29	00 - 39	00 - 48	00 - 57	00 - 66
From the Side	00 - 07	00 - 14	00 - 21	00 - 28	00 - 36	00 - 45

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1, 2, 6			
Loader	1 , 6			
Armament				
Main Gun 105mm Rifled	1 to 6	–	20°	-8°
Coax MG 7.62mm NATO	1 to 6	–	20°	-8°
AA MG 7.62mm NATO	1 to 6	60°	60°	-45°
AA MG 7.62mm NATO	1 to 6	60°	45°	-30°



Israel Merkava Mk1 & Mk2

Mk1 (1977) First model Merkava Mk2 (1983) Additional Turret Armor

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 31	-	32 - 99	-
Front	Obliq	00 - 19	20 - 42	43 - 99	-
Front	Side	-	00 - 40	41 - 99	-
Obliq	Front	00 - 20	-	21 - 48	49 - 99
Obliq	Obliq	00 - 13	14 - 29	30 - 54	55 - 99
Obliq	Side	-	00 - 27	28 - 53	54 - 99
Side	Front	00 - 21	-	-	22 - 99
Side	Obliq	00 - 13	14 - 30	-	31 - 99
Side	Side	-	00 - 28	-	29 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	35°	138°
Deep Fording Equip	No	Turret Traverse Rate (°)	40°	160°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		1.9
Infra-Red Imaging	Yes	Deceleration VC (MH)		1.5
Image Intensifying	No	Max Road Range (miles)	250	
Thermal Imaging	No	Side Slope	34°	
			MK1	MK2
Fuel Hit Modifier	0	Ground Pressure (psi)	12.8	13.1
Ammunition Hit Modifier	+10	Moving Target Accuracy Mod	+ 8	+ 8
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+10	+12

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	5.5 –	5.0 –	4.1 00	3.3 01	2.5 03	2.1 29
10°	4.2 –	3.3 –	2.5 01	1.7 02	.9 03	.5 32
20°	2.9 –	1.7 –	.9 01	.1 03	05	44
30°	1.7 –	.3 00	03	06	10	80
40°	.7 00	03	10	16	28	99
50°	.1 02	18	51	85	99	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	Mk1 SA	Mk2 SA
APFSDS-T	92	4P	26H	4	40	–	–	1	4	4
HE			186	60	–	55H	–	2	12	12
HEAT-T			38H	46	–	31H	–	3	15	15
Coax MG	270	*8	7	34	–	–	17	4	17	18
AA MG	30	*8	11	20	–	–	20	5	19	20

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Gunner	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Driver	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Loader	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG	_____	_____	_____	_____	_____
AA MG					
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned ☐ Burning ☐ Exploded ☐	Abandoned ☐ Burning ☐ Exploded ☐	Abandoned ☐ Burning ☐ Exploded ☐	Abandoned ☐ Burning ☐ Exploded ☐	Abandoned ☐ Burning ☐ Exploded ☐
Notes	_____	_____	_____	_____	_____

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 06	Graze														
Cmdr Hatch	07 - 10	Crew	58	58							1	5	17	33	59	
Turret Face	11 - 12	Gunner's Sight*	6	6	Crew	196	226				1	5	17	33	59	
Upper Face	13 - 36	Crew	37H	17H	Mrt Ammo	38H	17H				1	5	11	22	43	
Turret Nose	37 - 47	Main Gun	198	198	Crew	24H	24H	Mrt Ammo	25H	NP	1	5	17	33	59	
MG Mount	48 - 48	Coax Machine Gun*	21	21	Crew	24H	24H	Mrt Ammo	25H	NP	1	5	17	33	59	
Tur Frt Sd	49 - 79	Crew	44H	22H	Mrt Ammo	48H	24H				-24	-40	-50	-54	-55	
Turret Boss	80 - 92	Crew	925	912							1	5	17	33	59	
Turret Ring	93 - 99	Turret Ring	181	179	Crew	521	360				1	5	17	33	59	
Turret Side	00 - 12	Graze														
Cmdr Hatch	13 - 15	Crew	58	58							73	59	33	17	5	1
Turret Side	16 - 27	Crew	389	389	Main Gun	640	664				73	59	33	17	5	1
Turret Side	28 - 43	Crew	389	389							73	59	33	17	5	1
Turret Boss	44 - 63	Crew	824	812							73	59	33	17	5	1
Turret Side	64 - 90	Crew	389	389	Mrt Ammo	426	392				73	59	33	17	5	1
Turret Ring	91 - 93	Turret Ring	181	179	Crew	521	360				73	59	33	17	5	1
Gun Barrel	94 - 99	Main Gun	62	62							73	59	33	17	5	1
Turret Rear	00 - 06	Graze														
Cmdr Hatch	07 - 10	Crew	58	58							1	5	17	33	59	
Turret Rear	11 - 34	Mortar Ammo	444	438	Crew	486	450				1	5	17	33	59	
Turret Rear	35 - 51	Crew	410	410							1	5	17	33	59	
Tur Lwr Rr	52 - 80	Crew	772	430	Main Gun	11H	750				1	5	11	22	46	
Turret Boss	81 - 95	Crew	824	812							1	5	17	33	59	
Turret Ring	96 - 99	Turret Ring	181	179	Crew	521	360				1	5	17	33	59	
Turret Top	00 - 77	Crew	145	145												
	78 - 99	Ammo-Crew	145	145												
Hull Front	00 - 04	Graze														
Dvr Prscp	05 - 05	Driver-Crew	12H	567	Ammunition	13H	622	Ammo Bay	14H	NP	1	5	11	22	43	
Upr Glacis	06 - 16	Driver-Crew	42H	21H	Ammunition	44H	NP	Ammo Bay	46H	NP	1	5	11	22	43	
Hull Nose	17 - 20	Driver-Crew	20H	20H	Ammunition	20H	NP	Ammo Bay	22H	NP	1	5	17	33	59	
Lwr Glacis	21 - 28	Driver-Crew	26H	16H	Ammunition	27H	NP	Ammo Bay	29H	NP	1	5	11	22	48	
Upr Glacis	29 - 45	Engine	42H	21H	Crew	54H	11K	Ammunition	56H	NP	1	5	11	22	43	
Hull Nose	46 - 52	Engine	20H	20H	Crew	30H	29K	Ammunition	31H	NP	1	5	17	33	59	
Lwr Glacis	53 - 64	Engine	26H	16H	Crew	37H	17K	Ammunition	38H	NP	1	5	11	22	48	
Track/Idler	65 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 02	Graze														
Hull Side	03 - 06	Drive Sprocket*	150	150	Engine	651	11H	Track/Drive	14H	99H	73	59	33	17	5	1
Hull Side	07 - 09	Road Wheel / Susp*	100	100	Fuel	445	498	Engine	694	13H	73	59	33	17	5	1
Side Skirt	10 - 15	Fuel	261	750	Engine	499	11H	Fuel	16H	10K	73	59	33	17	5	1
Hull Side	16 - 21	Road Wheel / Susp*	100	100	Fuel-Crew	585	10H	Engine	753	12H	73	59	33	17	5	1
Side Skirt	22 - 28	Fuel	261	750	Driver-Crew	499	11H	Engine	652	13H	73	59	33	17	5	1
Upr Hull Sd	29 - 35	Fuel	261	750	Driver-Crew	499	11H	Engine	652	13H	73	59	33	17	5	1
Hull Side	36 - 41	Road Wheel / Susp*	100	100	Fuel	445	498	Crew	736	701	73	59	33	17	5	1
Side Skirt	42 - 50	Fuel	261	750	Crew	499	11H	Fuel	804	35H	73	59	33	17	5	1
Upr Hull Sd	51 - 56	Fuel	261	750	Crew	499	11H	Fuel	804	35H	73	59	33	17	5	1
Hull Side	57 - 58	Road Wheel / Susp*	100	100	Fuel	445	498	Crew-Ammo	736	701	73	59	33	17	5	1
Side Skirt	59 - 64	Fuel	261	750	Crew-Ammo	499	11H	Fuel	804	35H	73	59	33	17	5	1
Hull Side	65 - 67	Road Wheel / Susp*	100	100	Fuel	445	498	Ammo Bay	736	701	73	59	33	17	5	1
Side Skirt	68 - 79	Fuel	261	750	Ammo Bay	499	11H	Fuel	804	35H	73	59	33	17	5	1
Idler	80 - 81	Idler Wheel*	150	150	Idler Wheel	431	43H									
Hull Side	82 - 84	Idler Wheel*	150	150	Fuel	528	549	Ammo Bay	838	752	73	59	33	17	5	1
Road Wheel	85 - 99	Road Wheel / Susp*	100	100	Wheel/Susp	288	29H									
Hull Rear	00 - 05	Graze														
Upr Rear	06 - 24	Rear Ammo Bay	113	112	Crew-Ammo	161	180				1	5	17	33	59	
Upr Rear	25 - 53	Rear Ammo Bay	120	120	Crew-Ammo	168	188	Engine	265	NP	1	5	17	33	59	
Lwr Rear	54 - 57	Rear Ammo Bay	528	317	Crew-Ammo	624	389	Engine	794	NP	1	5	11	22	48	
Track/Drive	58 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 22	Engine	107	107												
Hull Top	23 - 36	Driver-Crew	107	107												
Hull Top	37 - 99	Rear Ammo Bay	80	72												

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — ISRAEL MERKAVA Mk1 and Mk 2

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
105mm Gun	**Mk1**		**APFSDS-T**	PEN	26H	26H	26H	26H	26H	25H	25H	25H	25H	25H	25H	25H	25H	24H	24H	24H	24H
	1	-6	M111	AOI																	
RT (8) 4P	2	2		NID	42	41	41	41	40	39	39	38	38	37	36	36	35	34	33	32	31
RT (84) 7P	3	5		DFE	500	370	245	182	120	89	70	58	49	42	37	33	27	22	19	16	14
	4	7		BA	23	16	13	11	8	6	4	2	1	0	-1	-2	-4	-5	-7	-8	-9
Ammo Cap 92	5	9	MCD 11	TOF	1	1	2	3	4	5	6	8	9	10	12	13	16	19	22	24	27
Ammo Wt 48.0																					
			HEP	PEN	212	205	200	195	186	176	168	160	152	144	137	131	118	107	97	89	80
White Phosphorus			M393	PENF	129	125	122	119	113	107	101	96	91	87	82	78	70	63	57	51	46
DFS 6				AOI																	
Smk 10	**Mk2**			DFE	233	91	60	44	28	20	16	12	10	9	7	6	5	4	3	3	2
Dur 4	1	-6	BC0 55H	BA	41	31	27	23	18	14	11	9	7	5	3	2	-1	-3	-4	-6	-8
	2	2	DFS 11	TOF	1	3	4	5	8	11	13	16	19	22	25	28	35	41	48	55	63
	3	5																			
	4	8	**HEAT-T**	PEN	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H
	5	10	M456																		
				AOI																	
			BC0 31H	DFE	500	235	154	113	73	53	41	33	27	23	20	17	13	11	9	7	6
			MCD 13	BA	38	28	22	19	13	9	6	4	1	0	-2	-3	-6	-8	-10	-12	-13
			DFS 9	TOF	1	2	2	3	5	7	8	10	12	14	16	17	21	25	30	34	38
	AC																				
7.62mm Coax MG	1	-27	**FMJ-T**	PEN	17	14	11	9.6	6.8	4.8	3.4	2.4	1.7	1.2	.9	.6	.3	.2	.1		
Reload Time 224	2	-17	L78	DC	7	7	7	6	6	4	3	2	1	1	1	1	1	1	1		
Rate of Fire *8	3	-9																			
Cap 2000 (9000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 130	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 7	8	2		BA	44	32	26	22	17	13	10	7	6	4	2	1	-1	-3	-4		
SAB 0	12	9		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65		
7.62mm AA MG	1	-28	**AP**	PEN	26	21	18	16	11	8.4	6.1	4.5	3.3	2.4	1.8	1.3	.7	.4	.2	.1	.1
Reload Time 28	2	-18	P80	DC	7	7	7	6	6	5	3	2	2	1	1	1	1	1	1	1	1
Rate of Fire *8	3	-11																			
Cap 100 (1000)	4	-7		MA	.3	.7	1	1	2	3	3	4	5	5	6	7	8	9	11	12	13
Ammo Wt 6.5	6	-3		PALM	5	12	15	17	20	22	23	25	26	27	27	28	29	31	32	32	33
Knock Down 7	8	0		BA	46	34	28	24	19	15	12	9	7	5	4	3	1	-1	-2	-4	-5
SAB 0	12	5		TOF	1	2	4	5	8	11	15	19	23	27	31	36	45	55	64	74	83

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	**Turret**	15	15	15	15	15	15	**Turret Face**	00 - 27	00 - 23	00 - 20	00 - 18	00 - 17	00 - 19
	Hull	17	18	19	19	20	19	**Turret Side**	28 - 31	24 - 26	21 - 22	19 - 20	18 - 19	20 - 21
	All	19	19	20	20	20	20	**Hull Face**	32 - 90	27 - 75	23 - 60	21 - 48	20 - 39	22 - 24
	Air-Grd	22	22	23	23	23	23	**Hull Side**	91 - 99	76 - 99	61 - 99	49 - 99	40 - 99	25 - 99
15°	**Turret**	15	15	15	15	15	15	**Turret Face**	00 - 26	00 - 22	00 - 19	00 - 17	00 - 17	00 - 18
	Hull	17	18	19	19	20	19	**Turret Side**	27 - 35	23 - 30	20 - 26	18 - 24	18 - 23	19 - 24
	All	19	20	20	20	21	20	**Hull Face**	36 - 90	31 - 76	27 - 61	25 - 50	24 - 41	25 - 28
	Air-Grd	22	22	23	23	23	23	**Hull Side**	91 - 99	77 - 99	62 - 99	51 - 99	42 - 99	29 - 99
30°	**Turret**	16	16	16	16	16	16	**Turret Face**	00 - 23	00 - 20	00 - 17	00 - 15	00 - 15	00 - 16
	Hull	17	18	19	19	20	19	**Turret Side**	24 - 39	21 - 34	18 - 30	16 - 27	16 - 26	17 - 28
	All	19	20	20	21	21	20	**Hull Face**	40 - 91	35 - 78	31 - 63	28 - 53	27 - 44	29 - 31
	Air-Grd	22	23	23	23	23	23	**Hull Side**	92 - 99	79 - 99	64 - 99	54 - 99	45 - 99	32 - 99
45°	**Turret**	16	16	16	16	16	16	**Turret Face**	00 - 19	00 - 16	00 - 14	00 - 13	00 - 13	00 - 13
	Hull	17	18	19	19	20	19	**Turret Side**	20 - 42	17 - 37	15 - 32	14 - 29	14 - 28	14 - 30
	All	19	20	20	21	21	21	**Hull Face**	43 - 91	38 - 78	33 - 64	30 - 54	29 - 45	31 - 33
	Air-Grd	22	23	23	23	23	23	**Hull Side**	92 - 99	79 - 99	65 - 99	55 - 99	46 - 99	34 - 99
60°	**Turret**	17	17	17	17	17	17	**Turret Face**	00 - 15	00 - 13	00 - 11	00 - 10	00 - 10	00 - 10
	Hull	17	18	19	19	20	19	**Turret Side**	16 - 42	14 - 37	12 - 32	11 - 30	11 - 29	11 - 31
	All	19	20	20	21	21	21	**Hull Face**	43 - 91	38 - 79	33 - 65	31 - 54	30 - 46	32 - 34
	Air-Grd	22	23	23	23	23	23	**Hull Side**	92 - 99	80 - 99	66 - 99	55 - 99	47 - 99	35 - 99
> 60°	**Turret**	16	16	16	16	16	16	**Turret Face**	00 - 06	00 - 05	00 - 04	00 - 04	00 - 04	00 - 04
	Hull	17	18	19	19	20	19	**Turret Side**	07 - 40	06 - 35	05 - 30	05 - 27	05 - 27	05 - 28
	All	19	20	20	21	21	20	**Hull Face**	41 - 91	36 - 78	31 - 63	28 - 53	28 - 44	29 - 32
	Air-Grd	22	23	23	23	23	23	**Hull Side**	92 - 99	79 - 99	64 - 99	54 - 99	45 - 99	33 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 19	00 - 32	00 - 43	00 - 53	00 - 61	00 - 69	**Front or Rear**	00 - 08	00 - 17	00 - 24	00 - 32	00 - 40	00 - 50
From the Side	00 - 12	00 - 23	00 - 32	00 - 41	00 - 50	00 - 59	**From the Side**	00 - 04	00 - 10	00 - 15	00 - 20	00 - 27	00 - 35

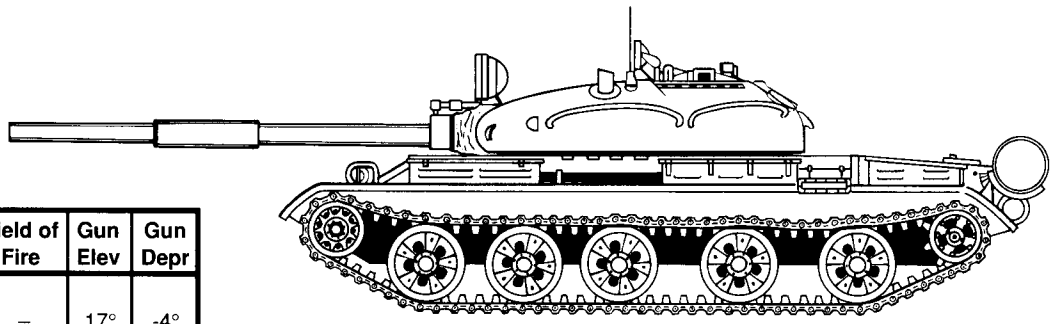
HIT LOCATION AND DAMAGE TABLE

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 06	Graze														
Cmdr Hatch	07 - 10	Crew	58	58							1	5	17	33	59	
Turret Face	11 - 12	Gunner's Sight*	6	6	Crew	196	226				1	5	17	33	59	
Upper Face	13 - 36	Crew	37H	17H	Mrt Ammo	38H	17H				1	5	11	22	43	
Turret Nose	37 - 47	Main Gun	198	198	Crew	24H	24H	Mrt Ammo	25H	NP	1	5	17	33	59	
MG Mount	48 - 48	Coax Machine Gun*	21	21	Crew	24H	24H	Mrt Ammo	25H	NP	1	5	17	33	59	
Tur Frt Sd	49 - 79	Crew	72H	36H	Mrt Ammo	77H	39H				-24	-40	-50	-54	-55	
Turret Boss	80 - 92	Crew	925	912							1	5	17	33	59	
Turret Ring	93 - 99	Turret Ring	181	179	Crew	521	360				1	5	17	33	59	
Turret Side	00 - 12	Graze														
Cmdr Hatch	13 - 15	Crew	58	58							73	59	33	17	5	1
Turret Side	16 - 27	Crew	638	621	Main Gun	948	908				73	59	33	17	5	1
Turret Side	28 - 43	Crew	638	621							73	59	33	17	5	1
Turret Boss	44 - 63	Crew	824	812							73	59	33	17	5	1
Turret Side	64 - 90	Crew	638	621	Mrt Ammo	685	625				73	59	33	17	5	1
Turret Ring	91 - 93	Turret Ring	181	179	Crew	521	360				73	59	33	17	5	1
Gun Barrel	94 - 99	Main Gun	62	62							73	59	33	17	5	1
Turret Rear	00 - 06	Graze														
Cmdr Hatch	07 - 10	Crew	58	58							1	5	17	33	59	
Turret Rear	11 - 34	Mortar Ammo	444	438	Crew	486	450				1	5	17	33	59	
Turret Rear	35 - 51	Crew	410	410							1	5	17	33	59	
Tur Lwr Rr	52 - 80	Crew	772	21H	Main Gun	11H	33H				1	5	11	22	46	
Turret Boss	81 - 95	Crew	824	812							1	5	17	33	59	
Turret Ring	96 - 99	Turret Ring	181	179	Crew	521	360				1	5	17	33	59	
Turret Top	00 - 77	Crew	145	145												
	78 - 99	Ammo-Crew	145	145												
Hull Front	00 - 04	Graze														
Dvr Prscp	05 - 05	Driver-Crew	12H	567	Ammunition	13H	622	Ammo Bay	14H	NP	1	5	11	22	43	
Upr Glacis	06 - 16	Driver-Crew	42H	21H	Ammunition	44H	NP	Ammo Bay	46H	NP	1	5	11	22	43	
Hull Nose	17 - 20	Driver-Crew	20H	20H	Ammunition	20H	NP	Ammo Bay	22H	NP	1	5	17	33	59	
Lwr Glacis	21 - 28	Driver-Crew	27H	17H	Ammunition	29H	NP	Ammo Bay	31H	NP	1	5	11	22	48	
Upr Glacis	29 - 45	Engine	42H	21H	Crew	54H	11K	Ammunition	56H	NP	1	5	11	22	43	
Hull Nose	46 - 52	Engine	20H	20H	Crew	30H	29K	Ammunition	31H	NP	1	5	17	33	59	
Lwr Glacis	53 - 64	Engine	27H	17H	Crew	38H	17K	Ammunition	39H	NP	1	5	11	22	48	
Track/Idler	65 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 02	Graze														
Hull Side	03 - 06	Drive Sprocket*	150	150	Engine	651	11H	Track/Drive	14H	99H	73	59	33	17	5	1
Hull Side	07 - 09	Road Wheel / Susp*	100	100	Fuel	445	498	Engine	694	13H	73	59	33	17	5	1
Side Skirt	10 - 15	Fuel	300	864	Engine	551	12H	Fuel	17H	10K	73	59	33	17	5	1
Hull Side	16 - 21	Road Wheel / Susp*	100	100	Fuel-Crew	585	10H	Engine	753	12H	73	59	33	17	5	1
Side Skirt	22 - 28	Fuel	300	864	Driver-Crew	551	12H	Engine	710	14H	73	59	33	17	5	1
Upr Hull Sd	29 - 35	Fuel	261	750	Driver-Crew	499	11H	Engine	652	13H	73	59	33	17	5	1
Hull Side	36 - 41	Road Wheel / Susp*	100	100	Fuel	445	498	Crew	736	701	73	59	33	17	5	1
Side Skirt	42 - 50	Fuel	300	864	Crew	551	12H	Fuel	868	37H	73	59	33	17	5	1
Upr Hull Sd	51 - 56	Fuel	261	750	Crew	499	11H	Fuel	804	35H	73	59	33	17	5	1
Hull Side	57 - 58	Road Wheel / Susp*	100	100	Fuel	445	498	Crew-Ammo	736	701	73	59	33	17	5	1
Side Skirt	59 - 64	Fuel	300	864	Crew-Ammo	551	12H	Fuel	868	37H	73	59	33	17	5	1
Hull Side	65 - 67	Road Wheel / Susp*	100	100	Fuel	445	498	Ammo Bay	736	701	73	59	33	17	5	1
Side Skirt	68 - 79	Fuel	300	864	Ammo Bay	551	12H	Fuel	868	37H	73	59	33	17	5	1
Idler	80 - 81	Idler Wheel*	150	150	Idler Wheel	431	43H									
Hull Side	82 - 84	Idler Wheel*	150	150	Fuel	528	549	Ammo Bay	838	752	73	59	33	17	5	1
Road Wheel	85 - 99	Road Wheel / Susp*	100	100	Wheel/Susp	288	29H									
Hull Rear	00 - 05	Graze														
Upr Rear	06 - 24	Rear Ammo Bay	113	112	Crew-Ammo	161	180				1	5	17	33	59	
Upr Rear	25 - 53	Rear Ammo Bay	120	120	Crew-Ammo	168	188	Engine	265	NP	1	5	17	33	59	
Lwr Rear	54 - 57	Rear Ammo Bay	528	317	Crew-Ammo	624	389	Engine	794	NP	1	5	11	22	48	
Track/Drive	58 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 22	Engine	107	107												
Hull Top	23 - 36	Driver-Crew	107	107												
Hull Top	37 - 99	Rear Ammo Bay	80	72												

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament		Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members					
Commander		1 to 6			
Gunner		1			
Driver		1			
Loader		1 , 3			
Armament					
Main Gun	115mm SB	1 to 6	–	17°	-4°
Coax MG	7.62x54mm	1 to 6	–	17°	-4°
AA MG	12.7x107mm	1 to 6	60°	60°	-45°



USSR T62 and T62M

T62 (1961) Optical Range Finder T62M (1978) with Passive Armor

T62 / T62M

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 24	-	25 - 99	-
Front	Obliq	00 - 21	22 - 35	36 - 99	-
Front	Side	-	00 - 33	34 - 99	-
Obliq	Front	00 - 15	-	16 - 44	45 - 99
Obliq	Obliq	00 - 14	15 - 23	24 - 49	50 - 99
Obliq	Side	-	00 - 21	22 - 48	49 - 99
Side	Front	00 - 15	-	-	16 - 99
Side	Obliq	00 - 14	15 - 23	-	24 - 99
Side	Side	-	00 - 22	-	23 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	37°	147°
Deep Fording Equip	Yes	Turret Traverse Rate (°)	40°	160°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		1.8
Infra-Red Imaging	Yes	Deceleration VC (MH)		1.6
Image Intensifying	No	Max Road Range (miles)	280 / 400	
Thermal Imaging	No	Side Slope	36°	
			T62	**T62M**
Fuel Hit Modifier	0	Ground Pressure (psi)	11.8	12.1
Ammunition Hit Modifier	+ 5	Moving Target Accuracy Mod	+ 6	+ 7
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+10	+10

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	6.0 –	5.3 –	4.6 00	3.9 00	3.3 01	2.9 17
10°	4.4 –	3.7 –	3.0 00	2.3 01	1.6 02	1.2 19
20°	2.8 –	2.0 –	1.3 00	.6 01	03	26
30°	1.3 –	.5 00	01	03	05	45
40°	.2 –	01	05	08	14	99
50°	.1 00	08	23	39	65	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	T62 SA	T62M SA
APFSDS-T	40	6P	28H	4	59	–	–	1	4	4
HE			272	74	–	85H	–	2	9	10
HEAT-T			41H	55	–	46H	–	3	12	13
Coax MG	106	*6	12	31	–	–	17	4	13	15
AA MG	20	*6	37	13	–	–	20	5	15	17
								6	16	18

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Gunner	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Driver	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Loader	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG	_____	_____	_____	_____	_____
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes	_____	_____	_____	_____	_____

HIT LOCATION AND DAMAGE TABLE

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 09	Graze														
	10 - 13	IR Spotlight*	1	1												
	14 - 14	Gunner's Sight*	6	6	Turret Crew	13H	572				1	5	11	22	43	
Cupola	15 - 21	Turret Crew	153	152							1	5	17	33	59	
Upr Face	22 - 36	Turret Crew	33H	15H							1	5	11	22	43	
Turret Nose	37 - 47	Main Gun	198	198	Turret Crew	14H	14H				1	5	17	33	59	
MG Mount	48 - 48	Coax Machine Gun*	21	21	Turret Crew	14H	14H				1	5	17	33	59	
Turret Face	49 - 94	Turret Crew	14H	14H							1	5	17	33	59	
Turret Ring	95 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Side	00 - 09	Graze														
Upr Face	10 - 23	Turret Crew	567	340							62	48	22	11	5	1
Turret Side	24 - 50	Turret Crew	933	920	Main Gun	13H	12H				73	59	33	17	5	1
Turret Side	51 - 77	Turret Crew	933	920							73	59	33	17	5	1
Turret Ring	78 - 82	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	83 - 99	Main Gun	71	70							73	59	33	17	5	1
Turret Rear	00 - 11	Graze														
	12 - 14	IR Spot Light*	4	4												
Cupola	15 - 21	Turret Crew	153	152							1	5	17	33	59	
Upr Face	22 - 38	Turret Crew	567	340							1	5	11	22	48	
Turret Rear	39 - 60	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488	Main Gun	739	723	1	5	17	33	59	
Turret Rear	61 - 94	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488				1	5	17	33	59	
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307	1	5	17	33	59	
Turret Top	00 - 99	Turret Crew	145	145												
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	869	522	Turret Crew	994	569	Engine	12H	23H	1	5	11	22	48	
Upr Glacis	08 - 20	Driver	24H	14H	Turret Crew	26H	15H	Fuel-Engine	29H	NP	1	5	11	22	48	
Lwr Glacis	21 - 30	Driver	17H	11H	Turret Crew	19H	12H	Fuel-Engine	22H	NP	1	5	11	24	50	
Upr Glacis	31 - 49	Fuel	24H	14H	Ammo-TCw	26H	15H	Ammo-Eng	29H	65K	1	5	11	22	48	
Lwr Glacis	50 - 63	Fuel	17H	11H	Turret Crew	19H	12H	Fuel-Engine	22H	NP	1	5	11	24	50	
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 01	Graze														
Rr Ext Tanks	02 - 04	Rear Ext Fuel Tank*	2	2												
Lwr Hull	05 - 07	Road Wheel / Susp*	86	86	Driver	236	190	Fuel	300	242	71	57	31	14	5	1
Idler	08 - 08	Idler Wheel*	111	111	Idler Wheel	318	25H									
Hull Skirt	09 - 09	Idler Wheel*	111	111	Idler Wheel	333	32H									
Hull Side	10 - 10	Idler Wheel*	111	111	Idler Wheel	12H	14K				73	59	33	17	5	1
Hull Side	11 - 13	Driver	375	375	Fuel	455	417				73	59	33	17	5	1
Hull Side	14 - 19	Driver	375	375	Ammo-TCw	455	417				73	59	33	17	5	1
Lwr Hull	20 - 25	Road Wheel / Susp*	86	86	Turret Crew	236	190	Wheel/Susp	563	47H	71	57	31	14	5	1
Hull Side	26 - 37	Turret Crew	375	375							73	59	33	17	5	1
Hull Upr Sd	38 - 45	Turret Crew	812	10H							67	53	28	11	5	1
Lwr Hull	46 - 47	Road Wheel / Susp*	86	86	Fuel	236	190	Wheel/Susp	563	47H	71	57	31	14	5	1
Hull Side	48 - 52	Fuel	375	375	Ammo-TCw	455	422				73	59	33	17	5	1
Hull Upr Sd	53 - 55	Fuel	394	12H	Ammo-TCw	477	13H				73	59	33	17	5	1
Lwr Hull	56 - 58	Road Wheel / Susp*	86	86	Engine	236	190	Wheel/Susp	11H	98H	71	57	31	14	5	1
Hull Side	59 - 62	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	19K	73	59	33	17	5	1
Hull Side	63 - 69	Engine	375	375							73	59	33	17	5	1
Hull Side	70 - 71	Engine	375	375							73	59	33	17	5	1
Hull Upr Sd	72 - 79	Engine	394	12H							73	59	33	17	5	1
Road Wheel	80 - 99	Road Wheel / Susp*	86	86	Wheel/Susp	248	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 29	Engine	176	176	Fuel-TCrw	877	66H	Driver	10H	NP	1	5	17	33	59	
Rear Hull	30 - 49	Engine	176	176	Ammo-TCw	877	66H	Ammunition	932	NP	1	5	17	33	59	
Rear Hull	50 - 63	Engine	176	176	Fuel-TCrw	877	66H	Fuel	10H	NP	1	5	17	33	59	
Ext Tanks	64 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 77	Engine	38	38												
Hatch	78 - 88	Driver	101	101												
Hull Top	89 - 99	Ammo-TCrew	101	101	Fuel	146	128									

ADVANCED RULES STATUS SHEET 3 WEAPON DATA TABLE USSR T62 and T62M

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
115mm Gun	**T62**		**APFSDS-T**	PEN	28H	28H	28H	28H	28H	28H	28H	28H	28H	28H	28H	27H	27H	27H	27H	27H	27H
	1	-6	BM-6	AOI																	
RT (3) *4P	2	-1		NID	61	61	60	60	59	59	58	57	57	56	55	54	53	52	51	49	48
RT (37) *6P	3	2		DFE	500	494	328	245	161	120	95	78	66	58	51	45	37	31	27	23	20
	4	3		BA	24	17	14	12	8	6	3	2	0	-1	-3	-4	-6	-7	-9	-10	-12
Ammo Cap 40	5	5	MCD 14	TOF		1	2	2	3	4	6	7	8	9	10	11	14	16	18	21	23
Ammo Wt 61.9	6	6																			
			HE	PEN	301	294	288	283	272	262	252	243	234	225	216	208	193	179	166	154	143
White Phosphorus			OF-18	PENF	185	181	177	174	167	160	154	148	142	137	131	126	117	108	100	92	85
DFS 7				AOI																	
Smk 11	**T62M**			DFE	246	97	63	47	30	22	17	14	12	10	8	7	6	5	4	3	3
Dur 4	1	-6	BC0 85H	BA	39	28	23	19	14	10	7	4	2	0	-1	-3	-5	-8	-9	-11	-13
	2	0	DFS 13	TOF	1	2	4	5	8	10	13	16	18	21	24	27	33	39	45	52	58
* The T62 elevates	3	3																			
the gun to 3.5° to	4	5	**HEAT-T**	PEN	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H	41H
eject the shell case.	5	7	BK-4M																		
It cannot aim while	6	8		AOI																	
loading. Aim Time			BC0 46H	DFE	353	138	90	67	43	31	24	19	16	13	11	10	8	6	5	4	4
begins after loading.			MCD 15	BA	35	23	17	13	8	4	1	-2	-4	-6	-8	-9	-12	-14	-16	-18	-19
			DFS 12	TOF	1	2	3	4	6	9	11	13	15	18	20	23	28	33	39	45	51
	AC																				
7.62mm Coax MG	1	-26	**API-T**	PEN	29	24	20	17	12	8.9	6.4	4.6	3.3	2.4	1.7	1.2	.6	.3	.2	.1	
Reload Time 21	2	-16	BZT	DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1	1	
Rate of Fire *6	3	-8																			
Cap 250 (2500)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7	8	
Ammo Wt 14.3	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29	30	
Knock Down 9	8	2		BA	45	33	27	23	17	14	11	8	6	4	3	2	0	-2	-3	-5	
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65	75	
12.7mm AA MG	1	-34	**API-T**	PEN	60	54	49	45	37	31	25	21	17	14	12	9.8	6.7	4.6	3.2	2.2	1.5
Reload Time 28	2	-24	BZT	DC	10	10	10	10	10	10	10	9	9	9	9	9	8	4	1	1	1
Rate of Fire *6	3	-18																			
Cap 100 (500)	4	-14		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 17.0	6	-6		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 45	8	-2		BA	48	37	31	27	22	18	15	12	10	8	7	5	3	1	-1	-2	-3
SAB 0	15	6		TOF	1	2	3	5	7	10	13	17	20	24	27	31	39	48	57	66	75

ADVANCED RULES STATUS SHEET 3 TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	13	13	13	13	13	13	Turret Face	00 - 22	00 - 19	00 - 15	00 - 14	00 - 13	00 - 14
	Hull	17	18	18	19	19	19	Turret Side	23 - 24	20 - 20	16 - 17	15 - 15	14 - 14	15 - 15
	All	18	19	19	20	20	19	Hull Face	25 - 88	21 - 72	18 - 56	16 - 44	15 - 34	16 - 19
	Air-Grd	22	22	22	22	22	22	Hull Side	89 - 99	73 - 99	57 - 99	45 - 99	35 - 99	20 - 99
15°	Turret	14	14	14	14	14	14	Turret Face	00 - 23	00 - 19	00 - 16	00 - 14	00 - 14	00 - 15
	Hull	17	18	18	19	19	19	Turret Side	24 - 28	20 - 24	17 - 20	15 - 18	15 - 17	16 - 18
	All	18	19	19	20	20	20	Hull Face	29 - 89	25 - 74	21 - 57	19 - 46	18 - 36	19 - 22
	Air-Grd	22	22	22	22	22	22	Hull Side	90 - 99	75 - 99	58 - 99	47 - 99	37 - 99	23 - 99
30°	Turret	14	14	14	14	14	14	Turret Face	00 - 22	00 - 19	00 - 16	00 - 14	00 - 14	00 - 15
	Hull	17	18	18	19	19	19	Turret Side	23 - 32	20 - 27	17 - 23	15 - 21	15 - 20	16 - 22
	All	18	19	19	20	20	20	Hull Face	33 - 89	28 - 75	24 - 59	22 - 48	21 - 39	23 - 25
	Air-Grd	22	22	22	22	22	22	Hull Side	90 - 99	76 - 99	60 - 99	49 - 99	40 - 99	26 - 99
45°	Turret	15	15	15	15	15	15	Turret Face	00 - 21	00 - 18	00 - 15	00 - 14	00 - 13	00 - 14
	Hull	17	18	18	19	19	19	Turret Side	22 - 35	19 - 30	16 - 25	15 - 23	14 - 22	15 - 23
	All	18	19	20	20	20	20	Hull Face	36 - 90	31 - 75	26 - 60	24 - 49	23 - 40	24 - 27
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	76 - 99	61 - 99	50 - 99	41 - 99	28 - 99
60°	Turret	15	15	15	15	15	15	Turret Face	00 - 19	00 - 16	00 - 14	00 - 12	00 - 12	00 - 13
	Hull	17	18	18	19	19	19	Turret Side	20 - 35	17 - 30	15 - 26	13 - 23	13 - 22	14 - 24
	All	18	19	20	20	20	20	Hull Face	36 - 90	31 - 76	27 - 61	24 - 49	23 - 40	25 - 27
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	62 - 99	50 - 99	41 - 99	28 - 99
> 60°	Turret	14	14	14	14	14	14	Turret Face	00 - 13	00 - 11	00 - 09	00 - 08	00 - 08	00 - 09
	Hull	17	18	18	19	19	19	Turret Side	14 - 33	12 - 28	10 - 23	09 - 21	09 - 21	10 - 22
	All	18	19	19	20	20	20	Hull Face	34 - 90	29 - 75	24 - 59	22 - 48	22 - 39	23 - 25
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	76 - 99	60 - 99	49 - 99	40 - 99	26 - 99

ADVANCED RULES STATUS SHEET 3 TOP OF VEHICLE HIT CHANCE TABLE

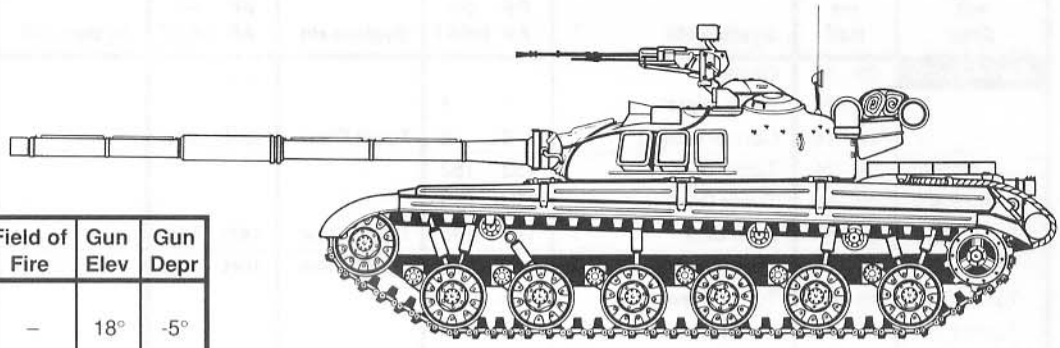
Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 17	00 - 30	00 - 40	00 - 50	00 - 58	00 - 67	Front or Rear	00 - 12	00 - 23	00 - 32	00 - 41	00 - 49	00 - 59
From the Side	00 - 11	00 - 20	00 - 29	00 - 37	00 - 46	00 - 55	From the Side	00 - 06	00 - 13	00 - 20	00 - 26	00 - 34	00 - 43

STATUS SHEET 2 HIT LOCATION AND DAMAGE TABLE — USSR T62M

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 09	Graze														
	10 - 13	IR Spotlight*	1	1												
	14 - 14	Gunner's Sight*	6	6	Turret Crew	13H	572					1	5	11	22	43
Cupola	15 - 21	Turret Crew	153	152								1	5	17	33	59
Upr Face	22 - 36	Turret Crew	33H	15H								1	5	11	22	43
Turret Nose	37 - 47	Main Gun	198	198	Turret Crew	14H	14H					1	5	17	33	59
MG Mount	48 - 48	Coax Machine Gun*	120	172	Turret Crew	16H	18H					1	5	17	33	59
Turret Face	49 - 54	Turret Crew	14H	14H								1	5	17	33	59
Turret Face	55 - 94	Turret Crew	18H	25H								1	5	17	33	59
Turret Ring	95 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Side	00 - 09	Graze														
Upr Face	10 - 23	Turret Crew	567	340							62	48	22	11	5	1
Turret Side	24 - 50	Turret Crew	14H	19H	Main Gun	18H	22H				73	59	33	17	5	1
Turret Side	51 - 77	Turret Crew	933	920							73	59	33	17	5	1
Turret Ring	78 - 82	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	83 - 99	Main Gun	71	70							73	59	33	17	5	1
Turret Rear	00 - 11	Graze														
	12 - 14	IR Spot Light*	4	4												
Cupola	15 - 21	Turret Crew	153	152								1	5	17	33	59
Upr Face	22 - 38	Turret Crew	567	340								1	5	11	22	48
Turret Rear	39 - 60	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488	Main Gun	739	723		1	5	17	33	59
Turret Rear	61 - 94	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488					1	5	17	33	59
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307		1	5	17	33	59
Turret Top	00 - 99	Turret Crew	145	145												
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	869	522	Turret Crew	994	569	Engine	12H	23H		1	5	11	22	48
Upr Glacis	08 - 20	Driver	27H	17H	Turret Crew	29H	18H	Fuel-Engine	32H	NP		1	5	11	22	48
Lwr Glacis	21 - 30	Driver	17H	11H	Turret Crew	19H	12H	Fuel-Engine	22H	NP		1	5	11	24	50
Upr Glacis	31 - 49	Fuel	27H	17H	Ammo-TCw	29H	18H	Ammo-Eng	32H	32T		1	5	11	22	48
Lwr Glacis	50 - 63	Fuel	17H	11H	Turret Crew	19H	12H	Fuel-Engine	22H	NP		1	5	11	24	50
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 01	Graze														
Rr Ext Tanks	02 - 04	Rear Ext Fuel Tank*	2	2												
Lwr Hull	05 - 07	Road Wheel / Susp*	86	86	Driver	236	190	Fuel	300	242	71	57	31	14	5	1
Side Skirt	08 - 09	Idler Wheel*	140	190	Idler Wheel	378	61H									
Side Skirt	10 - 10	Idler Wheel*	140	190	Idler Wheel	13H	21K				73	59	33	17	5	1
Side Skirt	11 - 13	Driver	492	18H	Fuel	583	19H				73	59	33	17	5	1
Side Skirt	14 - 19	Driver	492	18H	Ammo-TCw	583	19H				73	59	33	17	5	1
Lwr Hull	20 - 25	Road Wheel / Susp*	86	86	Turret Crew	236	190	Wheel/Susp	563	47H	71	57	31	14	5	1
Side Skirt	26 - 37	Turret Crew	412	14H							73	59	33	17	5	1
Hull Upr Sd	38 - 45	Turret Crew	812	10H							67	53	28	11	5	1
Lwr Hull	46 - 47	Road Wheel / Susp*	86	86	Fuel	236	190	Wheel/Susp	563	47H	71	57	31	14	5	1
Side Skirt	48 - 52	Fuel	492	18H	Ammo-TCw	583	19H				73	59	33	17	5	1
Hull Upr Sd	53 - 55	Fuel	394	12H	Ammo-TCw	477	13H				73	59	33	17	5	1
Lwr Hull	56 - 58	Road Wheel / Susp*	86	86	Engine	236	190	Wheel/Susp	11H	98H	71	57	31	14	5	1
Hull Side	59 - 62	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	19K	73	59	33	17	5	1
Side Skirt	63 - 69	Engine	412	14H							73	59	33	17	5	1
Hull Side	70 - 71	Engine	375	375							73	59	33	17	5	1
Hull Upr Sd	72 - 79	Engine	394	12H							73	59	33	17	5	1
Road Wheel	80 - 99	Road Wheel / Susp*	86	86	Wheel/Susp	248	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 29	Engine	176	176	Fuel-TCrw	877	66H	Driver	10H	NP		1	5	17	33	59
Rear Hull	30 - 49	Engine	176	176	Ammo-TCw	877	66H	Ammunition	932	NP		1	5	17	33	59
Rear Hull	50 - 63	Engine	176	176	Fuel-TCrw	877	66H	Fuel	10H	NP		1	5	17	33	59
Ext Tanks	64 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 77	Engine	38	38												
Hatch	78 - 88	Driver	101	101												
Hull Top	89 - 99	Ammo-TCrew	101	101	Fuel	146	128									

CREW AND ARMAMENT

Crew and Armament		Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members					
Commander		1 to 6			
Gunner		1 , 6			
Driver		1			
Armament					
Main Gun	125mm SB	1 to 6	–	18°	-5°
Coax MG	7.62x54mm	1 to 6	–	18°	-5°
AA MG	12.7x107mm	1 to 6	–	90°	-10°



USSR T64A

T64A (1978) Modern Fire Control

T64A (1984) Explosive Reactive Armor

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 31	-	32 - 99	-
Front	Obliq	00 - 26	27 - 41	42 - 99	-
Front	Side	-	00 - 39	40 - 99	-
Obliq	Front	00 - 20	-	21 - 47	48 - 99
Obliq	Obliq	00 - 17	18 - 28	29 - 52	53 - 99
Obliq	Side	-	00 - 26	27 - 51	52 - 99
Side	Front	00 - 20	-	-	21 - 99
Side	Obliq	00 - 18	19 - 29	-	30 - 99
Side	Side	-	00 - 26	-	27 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	44°	177°
Deep Fording Equip	Yes	Turret Traverse Rate (°)	45°	180°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		2.4
Infra-Red Imaging	Yes	Deceleration VC (MH)		2.0
Image Intensifying	No	Max Road Range (miles)	250 / 370	
Thermal Imaging	No	Side Slope	36°	
			T64A	ERA
Fuel Hit Modifier	0	Ground Pressure (psi)	11.8	12.4
Ammunition Hit Modifier	+ 5	Moving Target Accuracy Mod	+ 8	+ 8
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+12	+12

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	9.1 –	8.0 –	7.0 -	5.9 00	4.9 01	4.4 17
10°	6.0 –	5.0 –	3.9 -	2.9 01	1.9 02	1.4 19
20°	3.2 –	2.1 –	1.0 00	.1 01	03	26
30°	.7 –	00	01	03	05	45
40°	.2 –	01	05	08	14	99
50°	.1 00	08	23	39	65	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	T64A SA
APFSDS-T	40	4P	30H	4	72	–	–	1	4
HE			400	84	–	11K	–	2	12
HEAT-T			47H	44	–	29H	–	3	15
Coax MG	128	*6	12	31	–	–	17	4	18
AA MG	20	*6	37	14	–	–	20	5	20

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Gunner	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Driver	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Ammunition					
Main Gun					
Coax MG					
AA MG					
Equipment					
Main Gun	☐	☐	☐	☐	☐
Coax MG	☐	☐	☐	☐	☐
AA MG	☐	☐	☐	☐	☐
Left Track	☐	☐	☐	☐	☐
Right Track	☐	☐	☐	☐	☐
Engine	☐	☐	☐	☐	☐
Turret Ring	☐	☐	☐	☐	☐
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes					

STATUS SHEET 2 HIT LOCATION AND DAMAGE TABLE — USSR T64A

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	13H	572					1	5	11	22	43
Cupola	12 - 16	Turret Crew	153	152								1	5	17	33	59
Upr Face	17 - 34	Turret Crew	65H	30H								1	5	11	22	43
Turret Face	35 - 41	IR Spotlight*	1	1	Turret Crew	27H	26H					1	5	17	33	59
Turret Nose	42 - 58	Main Gun	198	198	Turret Crew	27H	26H					1	5	17	33	59
MG Mount	59 - 59	Coax Machine Gun*	21	21	Turret Crew	27H	26H					1	5	17	33	59
Turret Face	60 - 66	Turret Crew	27H	28H								1	5	17	33	59
Turret Face	67 - 95	Turret Crew	27H	26H								1	5	17	33	59
Turret Ring	96 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Side	00 - 12	Graze														
Upr Face	13 - 25	Turret Crew	567	340							62	48	22	11	5	1
Turret Side	26 - 33	Turret Crew	11H	10H	Main Gun	14H	14H				73	59	33	17	5	1
Turret Side	34 - 51	Turret Crew	11H	10H	Main Gun	14H	14H				73	59	33	17	5	1
Turret Side	52 - 77	Turret Crew	993	979							73	59	33	17	5	1
Turret Ring	78 - 81	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	82 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 12	Graze														
Cupola	13 - 18	Turret Crew	153	152								1	5	17	33	59
Upr Face	19 - 33	Turret Crew	567	15H								1	5	11	22	48
Turret Rear	34 - 57	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488	Main Gun	641	512		1	5	17	33	59
Turret Rear	58 - 94	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488					1	5	17	33	59
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307		1	5	17	33	59
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	12H	660	Turret Crew	13H	686	Engine	16H	19H		1	5	11	22	46
Upr Glacis	08 - 18	Driver	34H	34H	Turret Crew	36H	34H	Ammo-Eng	40H	14T		1	5	11	22	46
Lwr Glacis	19 - 29	Driver	24H	14H	Ammunition	26H	15H	Fuel-Engine	29H	NP		1	5	11	22	48
Upr Glacis	30 - 47	Fuel	34H	34H	Ammo-TCw	36H	35H	Ammo-Eng	40H	NP		1	5	11	22	46
Lwr Glacis	48 - 63	Fuel	24H	14H	Ammunition	26H	15H	Fuel-Engine	29H	NP		1	5	11	22	48
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 02	Graze														
Rr Ext Tanks	03 - 05	Rear Ext Fuel Tank*	2	2												
Lwr Hull	06 - 09	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	402	71	56	31	14	5	1
Idler	10 - 11	Idler Wheel*	111	111	Idler Wheel	318	29H									
Side Skirt	12 - 12	Idler Wheel*	118	162	Idler Wheel	344	74H									
Side Skirt	13 - 14	Idler Wheel*	118	162	Idler Wheel	13H	24K				73	59	33	17	5	1
Side Skirt	15 - 20	Fuel	385	13H	Driver	466	13H	Fuel	557	14H	73	59	33	17	5	1
Side Skirt	21 - 26	Fuel	385	13H	Driver	466	13H	Ammo-TCw	557	14H	73	59	33	17	5	1
Lwr Hull	27 - 34	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	50H	71	56	31	14	5	1
Hull Side	35 - 38	Ammunition	375	375							73	59	33	17	5	1
Side Skirt	39 - 49	Turret Crew	385	14H							73	59	33	17	5	1
Hull Upr Sd	50 - 58	Turret Crew	810	12H							67	53	28	11	5	1
Side Skirt	59 - 62	Fuel	385	12H	Ammo-TCw	422	12H				73	59	33	17	5	1
Hull Upr Sd	63 - 65	Fuel	385	12H	Ammo-TCw	422	12H				73	59	33	17	5	1
Lwr Hull	66 - 68	Road Wheel / Susp*	76	76	Engine	221	179	Wheel/Susp	11H	11K	71	56	31	14	5	1
Side Skirt	69 - 74	Engine	385	12H							73	59	33	17	5	1
Hull Side	75 - 79	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	21K	73	59	33	17	5	1
Hull Upr Sd	80 - 85	Engine	394	12H							73	59	33	17	5	1
Road Wheel	86 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 16	Engine	176	176	Ammo-TCw	877	51H	Driver	10H	NP		1	5	17	33	59
Rear Hull	17 - 47	Engine	176	176	Fuel-TCrw	877	63H	Ammunition	10H	65H		1	5	17	33	59
Rear Hull	48 - 63	Engine	176	176	Ammo-TCw	877	63H	Ammunition	932	NP		1	5	17	33	59
Ext Tanks	64 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 81	Engine	38	38												
Hatch	82 - 89	Driver	101	101												
Hull Top	90 - 99	Ammo-TCrew	101	101	Fuel	146	128									

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — USSR T64A

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
125mm Gun	**T64A**		**APFSDS-T**	PEN	30H	30H	30H	30H	30H	29H	29H	29H	29H	29H	29H	29H	29H	29H	29H	28H	28H
	1	-6	BM-9	AOI																	
RT (24) 4P	2	2		NID	74	73	73	73	72	71	70	70	69	68	68	67	66	64	63	62	60
RT (16) 12P	3	5		DFE	500	500	377	282	186	139	110	91	77	67	59	53	43	36	31	27	24
	4	8		BA	24	18	14	12	9	7	5	3	2	0	-1	-2	-4	-5	-7	-8	-9
Ammo Cap 40	5	10	MCD 20	TOF		1	2	2	3	4	5	6	7	8	9	10	13	15	17	19	21
Ammo Wt 79.6																					
			HE	PEN	437	428	421	414	400	387	374	362	350	339	328	317	297	278	260	243	228
White Phosphorus			OF-19	PENF	270	265	260	256	247	239	231	223	216	208	201	195	182	170	158	148	138
DFS 9				AOI																	
Smk 12				DFE	316	125	82	61	39	29	23	18	15	13	11	10	8	6	5	5	4
Dur 4			BC0 11K	BA	40	30	25	22	17	13	10	7	5	3	2	0	-2	-4	-6	-8	-9
			DFS 17	TOF	1	2	3	4	7	9	11	14	16	18	21	23	28	34	39	45	50
			HEAT-T	PEN	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H
			BK-14M																		
				AOI																	
			BC0 29H	DFE	394	154	101	75	48	35	27	22	18	15	13	12	9	7	6	5	4
			MCD 21	BA	37	25	20	16	11	7	3	1	-1	-3	-5	-6	-9	-11	-13	-15	-16
			DFS 16	TOF	1	2	3	4	6	8	10	12	15	17	19	21	26	31	36	41	47
	AC																				
7.62mm Coax MG	1	-26	**API-T**	PEN	29	24	20	17	12	8.9	6.4	4.6	3.3	2.4	1.7	1.2	.6	.3	.2	.1	
Reload Time 21	2	-16	BZT	DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1	1	
Rate of Fire *6	3	-8																			
Cap 250 (3000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7	8	
Ammo Wt 14.3	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29	30	
Knock Down 9	8	2		BA	45	33	27	23	17	14	11	8	6	4	3	2	0	-2	-3	-5	
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65	75	
12.7mm AA MG	1	-33	**API-T**	PEN	60	54	49	45	37	31	25	21	17	14	12	9.8	6.7	4.6	3.2	2.2	1.5
Reload Time 28	2	-23	BZT	DC	10	10	10	10	10	10	10	9	9	9	9	9	8	4	1	1	1
Rate of Fire *6	3	-17																			
Cap 100 (500)	4	-12		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 17.0	6	-4		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 45	8	0		BA	48	37	31	27	22	18	15	12	10	8	7	5	3	1	-1	-2	-3
SAB 0	15	8		TOF	1	2	3	5	7	10	13	17	20	24	27	31	39	48	57	66	75

T64A

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	13	13	13	13	13	13	Turret Face	00 - 29	00 - 24	00 - 20	00 - 18	00 - 18	00 - 19
	Hull	16	17	18	18	18	18	Turret Side	30 - 31	25 - 26	21 - 22	19 - 20	19 - 19	20 - 20
	All	17	18	19	19	19	19	Hull Face	32 - 89	27 - 74	23 - 58	21 - 47	20 - 38	21 - 24
	Air-Grd	21	21	22	22	22	22	Hull Side	90 - 99	75 - 99	59 - 99	48 - 99	39 - 99	25 - 99
15°	Turret	14	14	14	14	14	14	Turret Face	00 - 29	00 - 24	00 - 21	00 - 19	00 - 18	00 - 19
	Hull	16	17	18	18	18	18	Turret Side	30 - 35	25 - 30	22 - 25	20 - 23	19 - 22	20 - 24
	All	18	18	19	19	19	19	Hull Face	36 - 90	31 - 75	26 - 60	24 - 49	23 - 40	25 - 27
	Air-Grd	21	21	22	22	22	22	Hull Side	91 - 99	76 - 99	61 - 99	50 - 99	41 - 99	28 - 99
30°	Turret	15	15	15	15	15	15	Turret Face	00 - 28	00 - 24	00 - 20	00 - 19	00 - 18	00 - 19
	Hull	16	17	18	18	18	18	Turret Side	29 - 39	25 - 34	21 - 29	20 - 26	19 - 25	20 - 27
	All	18	18	19	19	19	19	Hull Face	40 - 90	35 - 77	30 - 62	27 - 51	26 - 42	28 - 30
	Air-Grd	21	22	22	22	22	22	Hull Side	91 - 99	78 - 99	63 - 99	52 - 99	43 - 99	31 - 99
45°	Turret	15	15	15	15	15	15	Turret Face	00 - 26	00 - 22	00 - 19	00 - 17	00 - 17	00 - 18
	Hull	16	17	18	18	18	18	Turret Side	27 - 41	23 - 36	20 - 31	18 - 28	18 - 27	19 - 29
	All	18	18	19	19	19	19	Hull Face	42 - 91	37 - 77	32 - 63	29 - 52	28 - 44	30 - 32
	Air-Grd	21	22	22	22	22	22	Hull Side	92 - 99	78 - 99	64 - 99	53 - 99	45 - 99	33 - 99
60°	Turret	15	15	15	15	15	15	Turret Face	00 - 23	00 - 20	00 - 17	00 - 15	00 - 15	00 - 16
	Hull	16	17	18	18	18	18	Turret Side	24 - 42	21 - 36	18 - 31	16 - 29	16 - 28	17 - 29
	All	18	18	19	19	19	19	Hull Face	43 - 91	37 - 78	32 - 63	30 - 53	29 - 44	30 - 32
	Air-Grd	21	22	22	22	22	22	Hull Side	92 - 99	79 - 99	64 - 99	54 - 99	45 - 99	33 - 99
> 60°	Turret	14	14	14	14	14	14	Turret Face	00 - 16	00 - 13	00 - 11	00 - 10	00 - 10	00 - 11
	Hull	16	17	18	18	18	18	Turret Side	17 - 39	14 - 33	12 - 28	11 - 26	11 - 25	12 - 26
	All	18	18	19	19	19	19	Hull Face	40 - 90	34 - 77	29 - 62	27 - 51	26 - 42	27 - 30
	Air-Grd	21	22	22	22	22	22	Hull Side	91 - 99	78 - 99	63 - 99	52 - 99	43 - 99	31 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

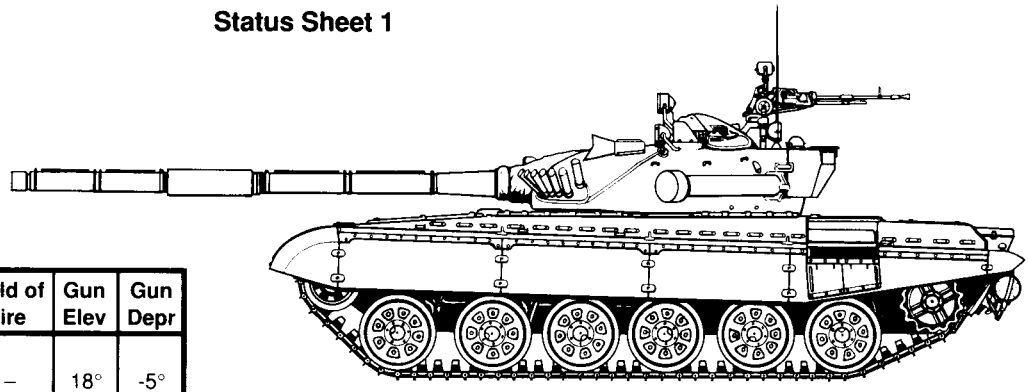
Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 21	00 - 36	00 - 47	00 - 57	00 - 65	00 - 73	Front or Rear	00 - 18	00 - 32	00 - 43	00 - 53	00 - 61	00 - 69
From the Side	00 - 15	00 - 27	00 - 37	00 - 47	00 - 55	00 - 64	From the Side	00 - 10	00 - 20	00 - 28	00 - 36	00 - 45	00 - 54

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	13H	572					1	5	11	22	43
Cupola	12 - 16	Turret Crew	153	152								1	5	17	33	59
Upr Face	17 - 34	Turret Crew	66H	21K								1	5	11	22	43
Turret Face	35 - 41	IR Spotlight*	1	1	Turret Crew	28H	26K					1	5	17	33	59
Turret Nose	42 - 58	Main Gun	198	198	Turret Crew	27H	26H					1	5	17	33	59
MG Mount	59 - 59	Coax Machine Gun*	21	21	Turret Crew	27H	26H					1	5	17	33	59
Turret Face	60 - 66	Turret Crew	27H	28H								1	5	17	33	59
Turret Face	67 - 95	Turret Crew	28H	20K								1	5	17	33	59
Turret Ring	96 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Side	00 - 12	Graze														
Upr Face	13 - 25	Turret Crew	567	340							62	48	22	11	5	1
Turret Side	26 - 33	Turret Crew	11H	10K	Main Gun	15H	13K				73	59	33	17	5	1
Turret Side	34 - 51	Turret Crew	11H	10H	Main Gun	14H	14H				73	59	33	17	5	1
Turret Side	52 - 77	Turret Crew	993	979							73	59	33	17	5	1
Turret Ring	78 - 81	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	82 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 12	Graze														
Cupola	13 - 18	Turret Crew	153	152								1	5	17	33	59
Upr Face	19 - 33	Turret Crew	567	15H								1	5	11	22	48
Turret Rear	34 - 57	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488	Main Gun	641	512		1	5	17	33	59
Turret Rear	58 - 94	Rear Ext Fuel Tank*	2	2	Turret Crew	505	488					1	5	17	33	59
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307		1	5	17	33	59
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	12H	660	Turret Crew	13H	686	Engine	16H	19H		1	5	11	22	46
Upr Glacis	08 - 18	Driver	34H	24K	Turret Crew	37H	24K	Ammo-Eng	41H	NP		1	5	11	22	46
Lwr Glacis	19 - 29	Driver	24H	14H	Ammunition	26H	15H	Fuel-Engine	29H	NP		1	5	11	22	48
Upr Glacis	30 - 47	Fuel	34H	24K	Ammo-TCw	37H	24K	Ammo-Eng	41H	NP		1	5	11	22	46
Lwr Glacis	48 - 63	Fuel	24H	14H	Ammunition	26H	15H	Fuel-Engine	29H	NP		1	5	11	22	48
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 02	Graze														
Rr Ext Tanks	03 - 05	Rear Ext Fuel Tank*	2	2												
Lwr Hull	06 - 09	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	402	71	56	31	14	5	1
Idler	10 - 11	Idler Wheel*	111	111	Idler Wheel	318	29H									
Side Skirt	12 - 12	Idler Wheel*	118	162	Idler Wheel	344	74H									
Side Skirt	13 - 14	Idler Wheel*	118	162	Idler Wheel	13H	24K				73	59	33	17	5	1
Side Skirt	15 - 20	Fuel	425	89H	Driver	510	93H	Fuel	603	10K	73	59	33	17	5	1
Side Skirt	21 - 26	Fuel	425	89H	Driver	510	93H	Ammo-TCw	603	10K	73	59	33	17	5	1
Lwr Hull	27 - 34	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	50H	71	56	31	14	5	1
Hull Side	35 - 38	Ammunition	375	375							73	59	33	17	5	1
Side Skirt	39 - 49	Turret Crew	425	96H							73	59	33	17	5	1
Hull Upr Sd	50 - 58	Turret Crew	848	88H							68	54	28	11	5	1
Side Skirt	59 - 62	Fuel	425	82H	Ammo-TCw	466	82H				73	59	33	17	5	1
Hull Upr Sd	63 - 65	Fuel	425	82H	Ammo-TCw	466	82H				73	59	33	17	5	1
Lwr Hull	66 - 68	Road Wheel / Susp*	76	76	Engine	221	179	Wheel/Susp	11H	11K	71	56	31	14	5	1
Side Skirt	69 - 74	Engine	385	12H							73	59	33	17	5	1
Hull Side	75 - 79	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	21K	73	59	33	17	5	1
Hull Upr Sd	80 - 85	Engine	394	12H							73	59	33	17	5	1
Road Wheel	86 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 16	Engine	176	176	Ammo-TCw	877	51H	Driver	10H	NP		1	5	17	33	59
Rear Hull	17 - 47	Engine	176	176	Fuel-TCrw	877	63H	Ammunition	10H	65H		1	5	17	33	59
Rear Hull	48 - 63	Engine	176	176	Ammo-TCw	877	63H	Ammunition	932	NP		1	5	17	33	59
Ext Tanks	64 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 81	Engine	38	38												
Hatch	82 - 89	Driver	101	101												
Hull Top	90 - 99	Ammo-TCrew	101	101	Fuel	146	128									

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament		Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members					
Commander		1 to 6			
Gunner		1 , 6			
Driver		1			
Armament					
Main Gun	125mm SB	1 to 6	–	18°	-5°
Coax MG	7.62x54mm	1 to 6	–	18°	-5°
AA MG	12.7x107mm	1 to 6	60°	60°	-45°



USSR T72B and T72M1

T72B (1971) Optical Range Finder T72M1 (1986) "Dolly Parton" Turret

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 31	-	32 - 99	-
Front	Obliq	00 - 25	26 - 41	42 - 99	-
Front	Side	-	00 - 38	39 - 99	-
Obliq	Front	00 - 20	-	21 - 47	48 - 99
Obliq	Obliq	00 - 17	18 - 28	29 - 52	53 - 99
Obliq	Side	-	00 - 25	26 - 50	51 - 99
Side	Front	00 - 20	-	-	21 - 99
Side	Obliq	00 - 17	18 - 28	-	29 - 99
Side	Side	-	00 - 26	-	27 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	44°	177°
Deep Fording Equip	Yes	Turret Traverse Rate (°)	45°	180°
Fire Extinguishing Sys	No	Accerelation VC (MH)		2.4
Infra-Red Imaging	Yes	Deceleration VC (MH)		2.0
Image Intensifying	No	Max Road Range (miles)	300 / 435	
Thermal Imaging	No	Side Slope	36°	
			T72B	**T72M1**
Fuel Hit Modifier	0	Ground Pressure (psi)	11.8	12.1
Ammunition Hit Modifier	+ 5	Moving Target Accuracy Mod	+ 7	+ 9
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+12	+12

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	9.7 –	8.6 –	7.4 00	6.3 00	5.3 01	4.7 17
10°	6.4 –	5.3 –	4.2 00	3.1 01	2.0 02	1.5 19
20°	3.4 –	2.2 –	1.1 00	.1 01	03	26
30°	.7 –	00	01	03	05	45
40°	.2 –	01	05	08	14	99
50°	.1 00	08	23	39	65	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	72B SA	72M1 SA
APFSDS-T	39	4P	30H	4	72	–	–	1	4	4
HE			400	84	–	11K	–	2	10	12
HEAT-T			47H	44	–	29H	–	3	13	15
Coax MG	128	*6	12	31	–	–	17	4	15	18
AA MG	20	*6	37	13	–	–	20	5	17	20
								6	18	

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Gunner	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Driver	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Ammunition					
Main Gun					
Coax MG					
AA MG					
Equipment					
Main Gun	☐	☐	☐	☐	☐
Coax MG	☐	☐	☐	☐	☐
AA MG	☐	☐	☐	☐	☐
Left Track	☐	☐	☐	☐	☐
Right Track	☐	☐	☐	☐	☐
Engine	☐	☐	☐	☐	☐
Turret Ring	☐	☐	☐	☐	☐
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded	Abandoned Burning Exploded	Abandoned Burning Exploded	Abandoned Burning Exploded	Abandoned Burning Exploded
	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐	☐ ☐ ☐
Notes					

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	13H	572					1	5	11	22	43
Cupola	12 - 20	Turret Crew	103	102								1	5	17	33	59
Upr Face	21 - 34	Turret Crew	65H	30H								1	5	11	22	43
Turret Face	35 - 42	IR Spotlight*	1	1	Turret Crew	14H	18H					1	5	17	33	59
Turret Nose	43 - 60	Main Gun	198	198	Turret Crew	14H	14H					1	5	17	33	59
MG Mount	61 - 61	Coax Machine Gun*	21	21	Turret Crew	14H	14H					1	5	17	33	59
Turret Face	62 - 94	Turret Crew	14H	14H								1	5	17	33	59
Turret Ring	95 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Side	00 - 11	Graze														
Turret Side	12 - 45	Turret Crew	11H	11H	Main Gun	15H	14H				73	59	33	17	5	1
Turret Side	46 - 73	Turret Crew	743	732							73	59	33	17	5	1
Turret Ring	74 - 78	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	79 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 10	Graze														
Cupola	11 - 19	Turret Crew	103	102								1	5	17	33	59
Upr Face	20 - 36	Turret Crew	567	340								1	5	11	22	48
Turret Rear	37 - 48	Turret Crew	390	390	Main Gun	509	413					1	5	17	33	59
Turret Rear	49 - 65	Turret Crew	824	634								-11	-16	-17	-16	-11
Turret Rear	66 - 77	Rear Ext Fuel Tank*	2	2	Turret Crew	400	392	Main Gun	522	416		1	5	17	33	59
Turret Rear	78 - 94	Rear Ext Fuel Tank*	5	4	Turret Crew	845	637					-11	-16	-17	-16	-11
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307		1	5	17	33	59
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 05	Graze														
Dvr Prscp	06 - 06	Driver	11H	11H	Turret Crew	13H	12H	Engine	15H	30H		1	5	11	22	46
Upr Glacis	07 - 18	Driver	30H	30H	Turret Crew	32H	31H	Ammo-Eng	36H	NP		1	5	11	22	46
Lwr Glacis	19 - 28	Driver	17H	11H	Ammunition	19H	12H	Fuel-Eng	22H	NP		1	5	11	24	50
Upr Glacis	29 - 50	Fuel	30H	30H	Ammo-TCw	32H	31H	Ammo-Eng	36H	NP		1	5	11	22	46
Lwr Glacis	51 - 66	Fuel	17H	11H	Ammunition	19H	12H	Fuel-Engine	22H	NP		1	5	11	24	50
Ext Tanks	67 - 68	Ext Fuel Tanks*	15	15												
Track/Idler	69 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 01	Graze														
Rr Ext Tanks	02 - 04	Rear Ext Fuel Tank*	2	2												
Idler	05 - 06	Idler Wheel*	111	149	Idler Wheel	318	10K									
Side Skirt	07 - 07	Idler Wheel*	115	155	Idler Wheel	13H	32K				73	59	33	17	5	1
Lwr Hull	08 - 11	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	417	71	56	31	14	5	1
Side Skirt	12 - 16	Fuel	380	11H	Driver	460	12H	Fuel	550	13H	73	59	33	17	5	1
Side Skirt	17 - 23	Fuel	380	11H	Driver	460	12H	Ammo-TCw	550	13H	73	59	33	17	5	1
Upr Hull Sd	24 - 24	Fuel	394	969	Driver	477	10H	Ammo-TCw	565	11H	73	59	33	17	5	1
Lwr Hull	25 - 31	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	69H	71	56	31	14	5	1
Side Skirt	32 - 33	Ammunition	380	11H							73	59	33	17	5	1
Side Skirt	34 - 48	Turret Crew	380	11H							73	59	33	17	5	1
Hull Upr Sd	49 - 52	Turret Crew	812	981							67	53	28	11	5	1
Side Skirt	53 - 58	Fuel	380	11H	Ammo-TCw	460	12H				73	59	33	17	5	1
Upr Hull Sd	59 - 59	Fuel	394	969	Ammo-TCw	477	10H				73	59	33	17	5	1
Lwr Hull	60 - 62	Road Wheel / Susp*	76	76	Engine	221	179	Wheel/Susp	11H	14K	71	56	31	14	5	1
Hull Side	63 - 65	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	27K	73	59	33	17	5	1
Side Skirt	66 - 77	Engine	380	11H							73	59	33	17	5	1
Hull Upr Sd	78 - 80	Engine	394	969							73	59	33	17	5	1
Road Wheel	81 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	27H									
Hull Rear	00 - 05	Graze														
Rear Hull	06 - 20	Rear Ext Fuel Tank*	2	2	Engine	222	245	Ammo-TCw	446	24H		1	5	11	28	53
Hull Lwr Rr	21 - 30	Engine	129	124	Ammo-TCw	827	62H	Driver	946	NP		1	5	16	33	58
Hull Lwr Rr	31 - 48	Engine	129	124	Ammo-TCw	827	62H	Ammunition	879	NP		1	5	16	33	58
Hull Lwr Rr	49 - 65	Engine	176	176	Fuel	877	63H	Ammunition	10H	65H		1	5	17	33	59
Ext Tanks	66 - 67	Ext Fuel Tanks*	6	6												
Track/Drive	68 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 80	Engine	38	38												
Hatch	81 - 87	Driver	101	101												
Hull Top	88 - 99	Ammo-TCrew	101	101	Fuel	146	128									

ADVANCED RULES STATUS SHEET 3 WEAPON DATA TABLE USSR T72B and T72M1

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		Target Range in 20 Yard Mech Hexes 4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
125mm Gun	**T72B**		**APFSDS-T**	PEN	30H	30H	30H	30H	30H	29H	29H	29H	29H	29H	29H	29H	29H	29H	29H	28H	28H
	1	-6	BM-9	AOI																	
RT (24) 4P	2	0		NID	74	73	73	73	72	71	70	70	69	68	68	67	66	64	63	62	60
RT (15) 12P	3	3		DFE	500	500	377	282	186	139	110	91	77	67	59	53	43	36	31	27	24
	4	5		BA	24	18	14	12	9	7	5	3	2	0	-1	-2	-4	-5	-7	-8	-9
Ammo Cap 39	5	7	MCD 20	TOF		1	2	2	3	4	5	6	7	8	9	10	13	15	17	19	21
Ammo Wt 79.6	6	8																			
			HE	PEN	437	428	421	414	400	387	374	362	350	339	328	317	297	278	260	243	228
White Phosphorus			OF-19	PENF	270	265	260	256	247	239	231	223	216	208	201	195	182	170	158	148	138
DFS 9	Laser			AOI																	
Smk 12	Range			DFE	316	125	82	61	39	29	23	18	15	13	11	10	8	6	5	5	4
Dur 4	**T72M1**		BC0 11K	BA	40	30	25	22	17	13	10	7	5	3	2	0	-2	-4	-6	-8	-9
	1	-6	DFS 17	TOF	1	2	3	4	7	9	11	14	16	18	21	23	28	34	39	45	50
	2	2																			
	3	5	**HEAT-T**	PEN	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H
	4	8	BK-14M																		
	5	10		AOI																	
			BC0 29H	DFE	394	154	101	75	48	35	27	22	18	15	13	12	9	7	6	5	4
			MCD 21	BA	37	25	20	16	11	7	3	1	-1	-3	-5	-6	-9	-11	-13	-15	-16
			DFS 16	TOF	1	2	3	4	6	8	10	12	15	17	19	21	26	31	36	41	47
	AC																				
7.62mm Coax MG	1	-26	**API-T**	PEN	29	24	20	17	12	8.9	6.4	4.6	3.3	2.4	1.7	1.2	.6	.3	.2	.1	
Reload Time 21	2	-16	BZT	DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1	1	
Rate of Fire *6	3	-8																			
Cap 250 (3000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7	8	
Ammo Wt 14.3	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29	30	
Knock Down 9	8	2		BA	45	33	27	23	17	14	11	8	6	4	3	2	0	-2	-3	-5	
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65	75	
12.7mm AA MG	1	-34	**API-T**	PEN	60	54	49	45	37	31	25	21	17	14	12	9.8	6.7	4.6	3.2	2.2	1.5
Reload Time 28	2	-24	BZT	DC	10	10	10	10	10	10	10	9	9	9	9	9	8	4	1	1	1
Rate of Fire *6	3	-18																			
Cap 100 (500)	4	-14		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 17.0	6	-6		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 45	8	-2		BA	48	37	31	27	22	18	15	12	10	8	7	5	3	1	-1	-2	-3
SAB 0	15	6		TOF	1	2	3	5	7	10	13	17	20	24	27	31	39	48	57	66	75

T72B / M1

ADVANCED RULES STATUS SHEET 3 TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	14	14	14	14	14	14	Turret Face	00 - 28	00 - 24	00 - 20	00 - 18	00 - 17	00 - 19
	Hull	16	17	18	18	19	18	Turret Side	29 - 31	25 - 26	21 - 22	19 - 20	18 - 19	20 - 20
	All	18	18	19	19	19	19	Hull Face	32 - 89	27 - 74	23 - 58	21 - 47	20 - 37	21 - 24
	Air-Grd	22	22	22	22	22	22	Hull Side	90 - 99	75 - 99	59 - 99	48 - 99	38 - 99	25 - 99
15°	Turret	14	14	14	14	14	14	Turret Face	00 - 28	00 - 24	00 - 20	00 - 18	00 - 18	00 - 19
	Hull	16	17	18	18	19	18	Turret Side	29 - 35	25 - 30	21 - 25	19 - 23	19 - 22	20 - 23
	All	18	19	19	19	20	19	Hull Face	36 - 90	31 - 75	26 - 60	24 - 49	23 - 40	24 - 27
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	76 - 99	61 - 99	50 - 99	41 - 99	28 - 99
30°	Turret	15	15	15	15	15	15	Turret Face	00 - 27	00 - 23	00 - 20	00 - 18	00 - 17	00 - 18
	Hull	16	17	18	18	19	18	Turret Side	28 - 39	24 - 33	21 - 28	19 - 26	18 - 25	19 - 27
	All	18	19	19	20	20	20	Hull Face	40 - 90	34 - 77	29 - 62	27 - 51	26 - 42	28 - 30
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	78 - 99	63 - 99	52 - 99	43 - 99	31 - 99
45°	Turret	15	15	15	15	15	15	Turret Face	00 - 25	00 - 21	00 - 18	00 - 17	00 - 16	00 - 17
	Hull	16	17	18	18	19	18	Turret Side	26 - 41	22 - 35	19 - 30	18 - 28	17 - 27	18 - 28
	All	18	19	19	20	20	20	Hull Face	42 - 91	36 - 77	31 - 63	29 - 52	28 - 43	29 - 31
	Air-Grd	22	22	22	22	22	22	Hull Side	92 - 99	78 - 99	64 - 99	53 - 99	44 - 99	32 - 99
60°	Turret	15	15	15	15	15	15	Turret Face	00 - 22	00 - 19	00 - 16	00 - 15	00 - 14	00 - 15
	Hull	16	17	18	18	19	18	Turret Side	23 - 41	20 - 36	17 - 31	16 - 28	15 - 27	16 - 29
	All	18	19	19	20	20	20	Hull Face	42 - 91	37 - 77	32 - 63	29 - 52	28 - 44	30 - 32
	Air-Grd	22	22	22	22	22	22	Hull Side	92 - 99	78 - 99	64 - 99	53 - 99	45 - 99	33 - 99
> 60°	Turret	15	15	15	15	15	15	Turret Face	00 - 14	00 - 12	00 - 10	00 - 09	00 - 09	00 - 09
	Hull	16	17	18	18	19	18	Turret Side	15 - 38	13 - 32	11 - 28	10 - 25	10 - 24	10 - 26
	All	18	19	19	20	20	19	Hull Face	39 - 90	33 - 76	29 - 61	26 - 50	25 - 41	27 - 29
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	62 - 99	51 - 99	42 - 99	30 - 99

ADVANCED RULES STATUS SHEET 3 TOP OF VEHICLE HIT CHANCE TABLE

Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 19	00 - 32	00 - 43	00 - 53	00 - 61	00 - 69	Front or Rear	00 - 21	00 - 36	00 - 47	00 - 56	00 - 64	00 - 72
From the Side	00 - 13	00 - 25	00 - 34	00 - 43	00 - 52	00 - 61	From the Side	00 - 12	00 - 22	00 - 31	00 - 40	00 - 48	00 - 58

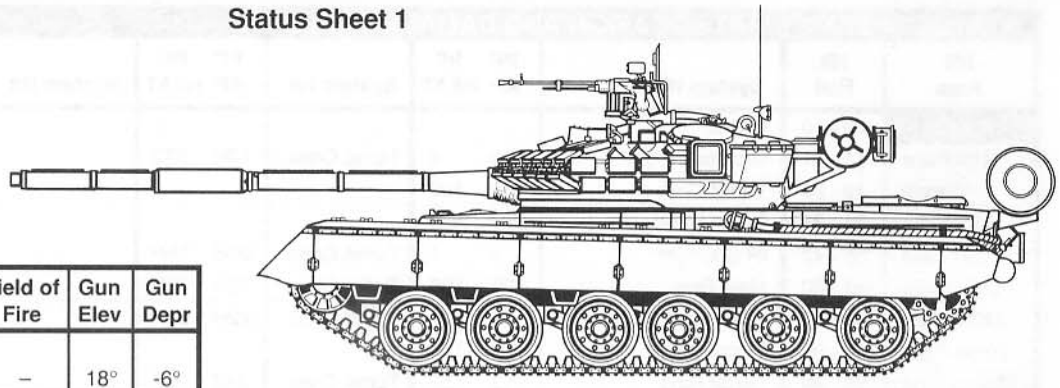
STATUS SHEET 2 — HIT LOCATION AND DAMAGE TABLE — USSR T72M1

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	13H	572					1	5	11	22	43
Cupola	12 - 20	Turret Crew	103	102								1	5	17	33	59
Upr Face	21 - 34	Turret Crew	65H	30H								1	5	11	22	43
Turret Face	35 - 42	IR Spotlight*	1	1	Turret Crew	23H	35H					1	5	17	33	59
Turret Nose	43 - 60	Main Gun	198	198	Turret Crew	22H	25H					1	5	17	33	59
MG Mount	61 - 61	Coax Machine Gun*	21	21	Turret Crew	22H	25H					1	5	17	33	59
Turret Face	62 - 94	Turret Crew	23H	27H								1	5	17	33	59
Turret Ring	95 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Side	00 - 11	Graze														
Turret Side	12 - 45	Turret Crew	12H	13H	Main Gun	16H	16H				73	59	33	17	5	1
Turret Side	46 - 73	Turret Crew	743	732							73	59	33	17	5	1
Turret Ring	74 - 78	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	79 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 10	Graze														
Cupola	11 - 19	Turret Crew	103	102								1	5	17	33	59
Upr Face	20 - 36	Turret Crew	567	340								1	5	11	22	48
Turret Rear	37 - 48	Turret Crew	390	390	Main Gun	509	413					1	5	17	33	59
Turret Rear	49 - 65	Turret Crew	824	634								-11	-16	-17	-16	-11
Turret Rear	66 - 77	Rear Ext Fuel Tank*	2	2	Turret Crew	400	392	Main Gun	522	416		1	5	17	33	59
Turret Rear	78 - 94	Rear Ext Fuel Tank*	5	4	Turret Crew	845	637					-11	-16	-17	-16	-11
Turret Ring	95 - 99	Rear Ext Fuel Tank*	2	2	Turret Ring	162	154	Turret Crew	454	307		1	5	17	33	59
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 05	Graze														
Dvr Prscp	06 - 06	Driver	11H	11H	Turret Crew	13H	12H	Engine	15H	30H		1	5	11	22	46
Upr Glacis	07 - 18	Driver	30H	30H	Turret Crew	32H	31H	Ammo-Eng	36H	NP		1	5	11	22	46
Lwr Glacis	19 - 28	Driver	17H	11H	Ammunition	19H	12H	Fuel-Eng	22H	NP		1	5	11	24	50
Upr Glacis	29 - 50	Fuel	30H	30H	Ammo-TCw	32H	31H	Ammo-Eng	36H	NP		1	5	11	22	46
Lwr Glacis	51 - 66	Fuel	17H	11H	Ammunition	19H	12H	Fuel-Engine	22H	NP		1	5	11	24	50
Ext Tanks	67 - 68	Ext Fuel Tanks*	15	15												
Track/Idler	69 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 01	Graze														
Rr Ext Tanks	02 - 04	Rear Ext Fuel Tank*	2	2												
Idler	05 - 06	Idler Wheel*	111	149	Idler Wheel	318	10K									
Side Skirt	07 - 07	Idler Wheel*	115	155	Idler Wheel	13H	32K				73	59	33	17	5	1
Lwr Hull	08 - 11	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	417	71	56	31	14	5	1
Side Skirt	12 - 16	Fuel	380	11H	Driver	460	12H	Fuel	550	13H	73	59	33	17	5	1
Side Skirt	17 - 23	Fuel	380	11H	Driver	460	12H	Ammo-TCw	550	13H	73	59	33	17	5	1
Upr Hull Sd	24 - 24	Fuel	394	969	Driver	477	10H	Ammo-TCw	565	11H	73	59	33	17	5	1
Lwr Hull	25 - 31	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	69H	71	56	31	14	5	1
Side Skirt	32 - 33	Ammunition	380	11H							73	59	33	17	5	1
Side Skirt	34 - 48	Turret Crew	380	11H							73	59	33	17	5	1
Hull Upr Sd	49 - 52	Turret Crew	812	981							67	53	28	11	5	1
Side Skirt	53 - 58	Fuel	380	11H	Ammo-TCw	460	12H				73	59	33	17	5	1
Upr Hull Sd	59 - 59	Fuel	394	969	Ammo-TCw	477	10H				73	59	33	17	5	1
Lwr Hull	60 - 62	Road Wheel / Susp*	76	76	Engine	221	179	Wheel/Susp	11H	14K	71	56	31	14	5	1
Hull Side	63 - 65	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	27K	73	59	33	17	5	1
Side Skirt	66 - 77	Engine	380	11H							73	59	33	17	5	1
Hull Upr Sd	78 - 80	Engine	394	969							73	59	33	17	5	1
Road Wheel	81 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	27H									
Hull Rear	00 - 05	Graze														
Rear Hull	06 - 20	Rear Ext Fuel Tank*	2	2	Engine	222	245	Ammo-TCw	446	24H		1	5	11	28	53
Hull Lwr Rr	21 - 30	Engine	129	124	Ammo-TCw	827	62H	Driver	946	NP		1	5	16	33	58
Hull Lwr Rr	31 - 48	Engine	129	124	Ammo-TCw	827	62H	Ammunition	879	NP		1	5	16	33	58
Hull Lwr Rr	49 - 65	Engine	176	176	Fuel	877	63H	Ammunition	10H	65H		1	5	17	33	59
Ext Tanks	66 - 67	Ext Fuel Tanks*	6	6												
Track/Drive	68 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 80	Engine	38	38												
Hatch	81 - 87	Driver	101	101												
Hull Top	88 - 99	Ammo-TCrew	101	101	Fuel	146	128									

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament		Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members					
Commander		1 to 6			
Gunner		1 ; 6			
Driver		1			
Armament					
Main Gun	125mm SB	1 to 6	–	18°	-6°
Coax MG	7.62x54mm	1 to 6	–	18°	-6°
AA MG	12.7x107mm	1 to 6	–	60°	-45°



USSR T80

T80 (1981) Gas Turbine Power Plant T80 (1984) Explosive Reactive Armor

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 31	-	32 - 99	-
Front	Obliq	00 - 26	27 - 40	41 - 99	-
Front	Side	-	00 - 36	37 - 99	-
Obliq	Front	00 - 20	-	21 - 47	48 - 99
Obliq	Obliq	00 - 17	18 - 27	28 - 52	53 - 99
Obliq	Side	-	00 - 24	25 - 49	50 - 99
Side	Front	00 - 21	-	-	22 - 99
Side	Obliq	00 - 18	19 - 28	-	29 - 99
Side	Side	-	00 - 24	-	25 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	50°	200°
Deep Fording Equip	Yes	Turret Traverse Rate (°)	45°	180°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		2.3
Infra-Red Imaging	Yes	Deceleration VC (MH)		3.0
Image Intensifying	Yes	Max Road Range (miles)	250 / 370	
Thermal Imaging	No	Side Slope	36°	
			T80	ERA
Fuel Hit Modifier	0	Ground Pressure (psi)	11.8	12.4
Ammunition Hit Modifier	+ 5	Moving Target Accuracy Mod	+10	+10
Spotting Modifier	+ 1	Moving Shooter Accuracy Mod	+16	+16

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	9.1 –	8.0 –	7.0 00	5.9 00	4.9 01	4.4 17
10°	6.8 –	5.7 –	4.6 00	3.6 01	2.6 02	2.1 19
20°	4.5 –	3.4 –	2.3 00	1.2 01	.3 03	26
30°	2.5 –	1.2 00	.2 01	03	05	45
40°	.8 –	01	05	08	14	99
50°	.2 00	08	23	39	65	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	T80 SA
APFSDS-T	39	4P	30H	4	72	–	–	1	4
HE			400	84	–	11K	–	2	13
HEAT-T			47H	44	–	29H	–	3	17
Coax MG	128	*6	12	31	–	–	17	4	20
AA MG	20	*6	37	14	–	–	20	5	22

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Gunner	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Driver	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG	_____	_____	_____	_____	_____
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes	_____	_____	_____	_____	_____

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	15H	12H				1	5	11	22	43	
Cupola	12 - 16	Turret Crew	153	152							1	5	17	33	59	
Upr Face	17 - 34	Turret Crew	38H	32H							1	5	11	22	43	
Turret Face	35 - 41	IR Spotlight*	1	1	Turret Crew	27H	36H				1	5	17	33	59	
Turret Nose	42 - 58	Main Gun	198	198	Turret Crew	27H	26H				1	5	17	33	59	
MG Mount	59 - 59	Coax Machine Gun*	21	21	Turret Crew	27H	26H				1	5	17	33	59	
Turret Face	60 - 95	Turret Crew	27H	26H							1	5	17	33	59	
Turret Ring	96 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Side	00 - 12	Graze														
Upr Face	13 - 25	Turret Crew	636	382							62	48	22	11	5	1
Turret Side	26 - 50	Turret Crew	11H	13H	Main Gun	14H	17H				73	59	33	17	5	1
Turret Side	51 - 76	Turret Crew	993	18H							73	59	33	17	5	1
Turret Ring	77 - 80	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	81 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 07	Graze														
	08 - 38	Rear Ext Fuel Tank*	2	2												
Cupola	39 - 42	Turret Crew	153	152							1	5	17	33	59	
Upr Face	43 - 51	Turret Crew	567	15H							1	5	11	22	48	
Turret Rear	52 - 65	Rear Ext Fuel Tank*	5	4	Turret Crew	11H	793				-11	-15	-17	-15	-11	
Turret Rear	66 - 79	Turret Crew	10H	979							-11	-15	-17	-15	-11	
Turret Rear	80 - 96	Turret Crew	493	603	Main Gun	627	640				1	5	17	33	59	
Turret Ring	97 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	13H	13H	Turret Crew	14H	13H	Engine	17H	25H	1	5	11	22	46	
Upr Glacis	08 - 18	Driver-Crew	34H	34H	Turret Crew	36H	34H	Ammo-Eng	40H	14T	1	5	11	22	46	
Lwr Glacis	19 - 29	Driver-Crew	26H	33H	Ammunition	28H	34H	Fuel-Engine	32H	NP	1	5	11	22	48	
Upr Glacis	30 - 47	Fuel	34H	34H	Ammo-TCw	36H	34H	Ammo-Eng	40H	14T	1	5	11	22	46	
Lwr Glacis	48 - 63	Fuel	26H	33H	Ammunition	28H	34H	Fuel-Engine	32H	NP	1	5	11	22	48	
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 02	Graze														
Rr Ext Tanks	03 - 05	Rear Ext Fuel Tank*	2	2												
Lwr Hull	06 - 09	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	402	71	56	31	14	5	1
Idler	10 - 11	Idler Wheel*	111	111	Idler Wheel	318	29H									
Side Skirt	12 - 13	Idler Wheel*	140	190	Idler Wheel	13H	24K				73	59	33	17	5	1
Hull Side	14 - 15	Fuel	375	375	Driver	455	400	Fuel	544	460	73	59	33	17	5	1
Side Skirt	16 - 18	Fuel	412	12H	Driver	498	13H	Fuel	590	14H	73	59	33	17	5	1
Side Skirt	19 - 24	Fuel	412	12H	Driver	498	13H	Ammo-TCw	590	14H	73	59	33	17	5	1
Lwr Hull	25 - 31	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	50H	71	56	31	14	5	1
Hull Side	32 - 34	Ammunition	375	375							73	59	33	17	5	1
Side Skirt	35 - 46	Turret Crew	412	12H							73	59	33	17	5	1
Hull Upr Sd	47 - 52	Turret Crew	812	13H							67	53	28	11	5	1
Side Skirt	53 - 58	Fuel	385	12H	Ammo-TCw	466	12H				73	59	33	17	5	1
Lwr Hull	59 - 61	Road Wheel / Susp*	76	76	Engine	221	179	Track/Susp	12H	12K	71	56	31	14	5	1
Hull Side	62 - 63	Engine	375	375							73	59	33	17	5	1
Hull Side	64 - 67	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	21K	73	59	33	17	5	1
Side Skirt	68 - 77	Engine	385	13H							73	59	33	17	5	1
Hull Upr Sd	78 - 81	Engine	394	12H							73	59	33	17	5	1
Road Wheel	82 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 34	Engine	176	176	Ammo-TCw	877	51H	Ammunition	932	NP	1	5	17	33	59	
Rear Hull	35 - 45	Engine	176	176	Ammo-TCw	877	51H	Driver	10H	NP	1	5	17	33	59	
Rear Hull	46 - 62	Engine	176	176	Fuel	877	51H	Ammunition	10H	52H	1	5	17	33	59	
Ext Tanks	63 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 81	Engine	38	38												
Hatch	82 - 89	Driver	101	101												
Hull Top	90 - 99	Ammo-TCrew	101	101	Fuel	146	128									

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — USSR T80

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
125mm Gun	T80		**APFSDS-T**	PEN	30H	30H	30H	30H	30H	29H	29H	29H	29H	29H	29H	29H	29H	29H	29H	28H	28H
	1	-6	BM-9	AOI																	
RT (24) 4P	2	3		NID	74	73	73	73	72	71	70	70	69	68	68	67	66	64	63	62	60
RT (15) 12P	3	7		DFE	500	500	377	282	186	139	110	91	77	67	59	53	43	36	31	27	24
	4	10		BA	24	18	14	12	9	7	5	3	2	0	-1	-2	-4	-5	-7	-8	-9
Ammo Cap 39	5	12	MCD 20	TOF		1	2	2	3	4	5	6	7	8	9	10	13	15	17	19	21
Ammo Wt 79.6																					
			HE	PEN	437	428	421	414	400	387	374	362	350	339	328	317	297	278	260	243	228
White Phosphorus			OF-19	PENF	270	265	260	256	247	239	231	223	216	208	201	195	182	170	158	148	138
DFS 9				AOI																	
Smk 12				DFE	316	125	82	61	39	29	23	18	15	13	11	10	8	6	5	5	4
Dur 4			BC0 11K	BA	40	30	25	22	17	13	10	7	5	3	2	0	-2	-4	-6	-8	-9
			DFS 17	TOF	1	2	3	4	7	9	11	14	16	18	21	23	28	34	39	45	50
			HEAT-T	PEN	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H	47H
			BK-14M																		
				AOI																	
			BC0 29H	DFE	394	154	101	75	48	35	27	22	18	15	13	12	9	7	6	5	4
			MCD 21	BA	37	25	20	16	11	7	3	1	-1	-3	-5	-6	-9	-11	-13	-15	-16
			DFS 16	TOF	1	2	3	4	6	8	10	12	15	17	19	21	26	31	36	41	47
	AC																				
7.62mm Coax MG	1	-26	**API-T**	PEN	29	24	20	17	12	8.9	6.4	4.6	3.3	2.4	1.7	1.2	.6	.3	.2	.1	
Reload Time 21	2	-16	BZT	DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1	1	
Rate of Fire *6	3	-8																			
Cap 250 (3000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7	8	
Ammo Wt 14.3	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29	30	
Knock Down 9	8	2		BA	45	33	27	23	17	14	11	8	6	4	3	2	0	-2	-3	-5	
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65	75	
12.7mm AA MG	1	-33	**API-T**	PEN	60	54	49	45	37	31	25	21	17	14	12	9.8	6.7	4.6	3.2	2.2	1.5
Reload Time 28	2	-23	BZT	DC	10	10	10	10	10	10	10	9	9	9	9	9	8	4	1	1	1
Rate of Fire *6	3	-17																			
Cap 100 (500)	4	-12		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 17.0	6	-4		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 45	8	0		BA	48	37	31	27	22	18	15	12	10	8	7	5	3	1	-1	-2	-3
SAB 0	15	8		TOF	1	2	3	5	7	10	13	17	20	24	27	31	39	48	57	66	75

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	14	14	14	14	14	14	Turret Face	00 - 29	00 - 25	00 - 21	00 - 19	00 - 18	00 - 19
	Hull	17	18	18	19	19	19	Turret Side	30 - 31	26 - 27	22 - 22	20 - 20	19 - 19	20 - 21
	All	18	19	19	20	20	20	Hull Face	32 - 89	28 - 74	23 - 59	21 - 47	20 - 38	22 - 24
	Air-Grd	22	22	22	22	22	22	Hull Side	90 - 99	75 - 99	60 - 99	48 - 99	39 - 99	25 - 99
15°	Turret	15	15	15	15	15	15	Turret Face	00 - 29	00 - 25	00 - 21	00 - 19	00 - 18	00 - 20
	Hull	17	18	18	19	19	19	Turret Side	30 - 35	26 - 30	22 - 25	20 - 23	19 - 22	21 - 23
	All	18	19	19	20	20	20	Hull Face	36 - 90	31 - 75	26 - 60	24 - 49	23 - 40	24 - 27
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	76 - 99	61 - 99	50 - 99	41 - 99	28 - 99
30°	Turret	15	15	15	15	15	15	Turret Face	00 - 28	00 - 24	00 - 20	00 - 19	00 - 18	00 - 19
	Hull	17	18	18	19	19	19	Turret Side	29 - 38	25 - 33	21 - 28	20 - 26	19 - 25	20 - 26
	All	18	19	20	20	20	20	Hull Face	39 - 90	34 - 76	29 - 62	27 - 51	26 - 42	27 - 29
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	63 - 99	52 - 99	43 - 99	30 - 99
45°	Turret	15	15	15	15	15	15	Turret Face	00 - 26	00 - 22	00 - 19	00 - 17	00 - 17	00 - 18
	Hull	17	18	18	19	19	19	Turret Side	27 - 40	23 - 34	20 - 30	18 - 27	18 - 26	19 - 28
	All	19	19	20	20	20	20	Hull Face	41 - 90	35 - 77	31 - 62	28 - 52	27 - 43	29 - 31
	Air-Grd	22	22	22	22	23	22	Hull Side	91 - 99	78 - 99	63 - 99	53 - 99	44 - 99	32 - 99
60°	Turret	15	15	15	15	15	15	Turret Face	00 - 22	00 - 19	00 - 16	00 - 15	00 - 14	00 - 15
	Hull	17	18	18	19	19	19	Turret Side	23 - 40	20 - 34	17 - 29	16 - 27	15 - 26	16 - 27
	All	19	19	20	20	20	20	Hull Face	41 - 90	35 - 77	30 - 62	28 - 51	27 - 43	28 - 31
	Air-Grd	22	22	22	22	23	22	Hull Side	91 - 99	78 - 99	63 - 99	52 - 99	44 - 99	32 - 99
> 60°	Turret	15	15	15	15	15	15	Turret Face	00 - 14	00 - 12	00 - 10	00 - 09	00 - 09	00 - 09
	Hull	17	18	18	19	19	19	Turret Side	15 - 36	13 - 31	11 - 26	10 - 24	10 - 23	10 - 24
	All	18	19	19	20	20	20	Hull Face	37 - 90	32 - 76	27 - 60	25 - 49	24 - 40	25 - 27
	Air-Grd	22	22	22	22	22	22	Hull Side	91 - 99	77 - 99	61 - 99	50 - 99	41 - 99	28 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

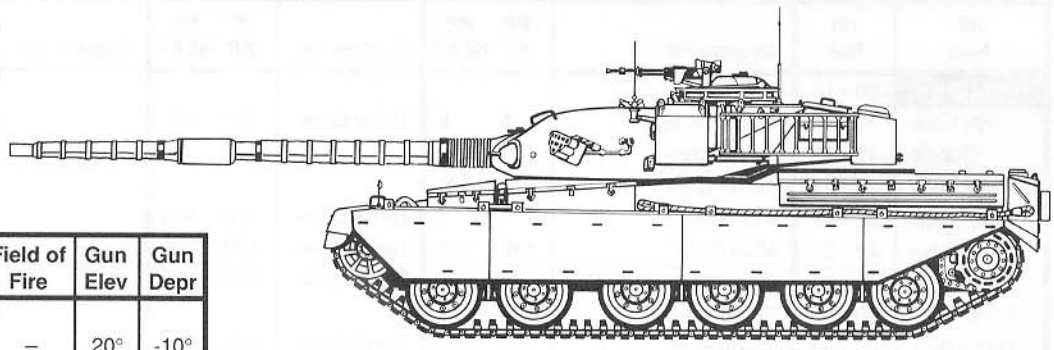
Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 19	00 - 32	00 - 43	00 - 53	00 - 61	00 - 69	Front or Rear	00 - 19	00 - 34	00 - 45	00 - 54	00 - 62	00 - 71
From the Side	00 - 15	00 - 28	00 - 38	00 - 47	00 - 56	00 - 65	From the Side	00 - 11	00 - 21	00 - 29	00 - 38	00 - 46	00 - 56

STATUS SHEET 2	HIT LOCATION AND DAMAGE TABLE									USSR T80 with EXP REACTIVE ARMOR					
Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 10	Graze														
Upr Face	11 - 11	Gunner's Sight*	6	6	Turret Crew	15H	12H				1	5	11	22	43	
Cupola	12 - 16	Turret Crew	153	152							1	5	17	33	59	
Upr Face	17 - 34	Turret Crew	39H	23K							1	5	11	22	43	
Turret Face	35 - 41	IR Spotlight*	1	1	Turret Crew	27H	36H				1	5	17	33	59	
Turret Nose	42 - 58	Main Gun	198	198	Turret Crew	27H	26H				1	5	17	33	59	
MG Mount	59 - 59	Coax Machine Gun*	21	21	Turret Crew	27H	26H				1	5	17	33	59	
Turret Face	60 - 95	Turret Crew	28H	21K							1	5	17	33	59	
Turret Ring	96 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Side	00 - 12	Graze														
Upr Face	13 - 25	Turret Crew	636	382							62	48	22	11	5	1
Turret Side	26 - 50	Turret Crew	11H	10K	Main Gun	15H	13K				73	59	33	17	5	1
Turret Side	51 - 76	Turret Crew	993	18H							73	59	33	17	5	1
Turret Ring	77 - 80	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	81 - 99	Main Gun	79	79							73	59	33	17	5	1
Turret Rear	00 - 07	Graze														
	08 - 38	Rear Ext Fuel Tank*	2	2												
Cupola	39 - 42	Turret Crew	153	152							1	5	17	33	59	
Upr Face	43 - 51	Turret Crew	567	15H							1	5	11	22	48	
Turret Rear	52 - 65	Rear Ext Fuel Tank*	5	4	Turret Crew	11H	793				-11	-15	-17	-15	-11	
Turret Rear	66 - 79	Turret Crew	10H	979							-11	-15	-17	-15	-11	
Turret Rear	80 - 96	Turret Crew	493	603	Main Gun	627	640				1	5	17	33	59	
Turret Ring	97 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Top	00 - 99	Turret Crew	145	145	Ammunition	197	213									
Hull Front	00 - 06	Graze														
Dvr Prscp	07 - 07	Driver	13H	13H	Turret Crew	14H	13H	Engine	17H	25H	1	5	11	22	46	
Upr Glacis	08 - 18	Driver-Crew	34H	24K	Turret Crew	37H	24K	Ammo-Eng	41H	NP	1	5	11	22	46	
Lwr Glacis	19 - 29	Driver-Crew	26H	33H	Ammunition	28H	34H	Fuel-Engine	32H	NP	1	5	11	22	48	
Upr Glacis	30 - 47	Fuel	34H	24K	Ammo-TCw	37H	24K	Ammo-Eng	41H	NP	1	5	11	22	46	
Lwr Glacis	48 - 63	Fuel	26H	33H	Ammunition	28H	34H	Fuel-Engine	32H	NP	1	5	11	22	48	
Ext Tanks	64 - 65	Ext Fuel Tanks*	15	15												
Track/Idler	66 - 99	Track / Idler Wheel*	30	30												
Hull Side	00 - 02	Graze														
Rr Ext Tanks	03 - 05	Rear Ext Fuel Tank*	2	2												
Lwr Hull	06 - 09	Road Wheel / Susp*	76	76	Fuel	221	179	Driver-Fuel	295	402	71	56	31	14	5	1
Idler	10 - 11	Idler Wheel*	111	111	Idler Wheel	318	29H									
Side Skirt	12 - 13	Idler Wheel*	140	190	Idler Wheel	13H	24K				73	59	33	17	5	1
Hull Side	14 - 15	Fuel	375	375	Driver	455	400	Fuel	544	460	73	59	33	17	5	1
Side Skirt	16 - 18	Fuel	412	12H	Driver	498	13H	Fuel	590	14H	73	59	33	17	5	1
Side Skirt	19 - 24	Fuel	412	12H	Driver	498	13H	Ammo-TCw	590	14H	73	59	33	17	5	1
Lwr Hull	25 - 31	Road Wheel / Susp*	76	76	Ammunition	221	179	Wheel/Susp	529	50H	71	56	31	14	5	1
Hull Side	32 - 34	Ammunition	375	375							73	59	33	17	5	1
Side Skirt	35 - 46	Turret Crew	412	12H							73	59	33	17	5	1
Hull Upr Sd	47 - 52	Turret Crew	812	13H							67	53	28	11	5	1
Side Skirt	53 - 58	Fuel	385	12H	Ammo-TCw	466	12H				73	59	33	17	5	1
Lwr Hull	59 - 61	Road Wheel / Susp*	76	76	Engine	221	179	Track/Susp	12H	12K	71	56	31	14	5	1
Hull Side	62 - 63	Engine	375	375							73	59	33	17	5	1
Hull Side	64 - 67	Drive Sprocket*	111	111	Engine	631	758	Track/Drive	22H	21K	73	59	33	17	5	1
Side Skirt	68 - 77	Engine	385	13H							73	59	33	17	5	1
Hull Upr Sd	78 - 81	Engine	394	12H							73	59	33	17	5	1
Road Wheel	82 - 99	Road Wheel / Susp*	76	76	Wheel/Susp	220	20H									
Hull Rear	00 - 06	Graze														
Rear Hull	07 - 34	Engine	176	176	Ammo-TCw	877	51H	Ammunition	932	NP	1	5	17	33	59	
Rear Hull	35 - 45	Engine	176	176	Ammo-TCw	877	51H	Driver	10H	NP	1	5	17	33	59	
Rear Hull	46 - 62	Engine	176	176	Fuel	877	51H	Ammunition	10H	52H	1	5	17	33	59	
Ext Tanks	63 - 65	Ext Fuel Tanks*	6	6												
Track/Drive	66 - 99	Track / Drive Sprkt*	30	30												
Hull Top	00 - 81	Engine	38	38												
Hatch	82 - 89	Driver	101	101												
Hull Top	90 - 99	Ammo-TCrew	101	101	Fuel	146	128									

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1			
Loader	1 , 6			
Armament				
Main Gun 120mm Rifled	1 to 6	–	20°	-10°
Coax MG 7.62mm NATO	1 to 6	–	20°	-10°
AA MG 7.62mm NATO	1 to 6	–	90°	-30°



UK Chieftain Mk9 / Mk12

Mk9 (1977) Improved Fire Control System Mk12 (1986) Mk 5 with Stillbrew Armor

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 29	-	30 - 99	-
Front	Obliq	00 - 21	22 - 44	45 - 99	-
Front	Side	-	00 - 45	46 - 99	-
Obliq	Front	00 - 18	-	19 - 44	45 - 99
Obliq	Obliq	00 - 14	15 - 30	31 - 53	54 - 99
Obliq	Side	-	00 - 31	32 - 53	54 - 99
Side	Front	00 - 18	-	-	19 - 99
Side	Obliq	00 - 14	15 - 30	-	31 - 99
Side	Side	-	00 - 31	-	32 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables	
Smoke Launchers	Yes
Deep Fording Equip	No
Fire Extinguishing Sys	Yes
Infra-Red Imaging	Yes
Image Intensifying	No
Thermal Imaging	Yes
Fuel Hit Modifier	+ 5
Ammunition Hit Modifier	- 2
Spotting Modifier	- 4

Vehicle Data	Phase	Turn
Hull Turning Rate (°)	34°	137°
Turret Traverse Rate (°)	45°	180°
Accerelation VC (MH)		1.7
Deceleration VC (MH)		1.4
Max Road Range (miles)	280	
Side Slope	27°	
	Mk9	Mk12
Ground Pressure (psi)	12.6	12.8
Moving Target Accuracy Mod	+ 9	+ 9
Moving Shooter Accuracy Mod	+16	+16

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	5.8 –	5.0 00	4.1 00	3.3 01	2.5 03	2.1 29
10°	4.2 –	3.3 00	2.5 01	1.7 02	.9 03	.5 32
20°	2.6 –	1.7 00	.9 02	.1 03	05	44
30°	1.2 –	.3 00	03	06	10	80
40°	.2 00	03	10	16	28	99
50°	.1 02	18	51	85	99	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	SA
APFSDS-T	64	6P	29H	4	73	–	–	1	4
HESH			204	75	–	88H	–	2	12
APDS-HE			27H	7	84	–	–	3	15
Coax MG	200	*6	7	31	–	–	17	4	18
AA MG	40	*6	7	22	–	–	20	5	20

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Gunner	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Driver	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Loader	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___	☐ ☐ ☐ _____ ___
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG	_____	_____	_____	_____	_____
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes	_____	_____	_____	_____	_____

HIT LOCATION AND DAMAGE TABLE

UK CHIEFTAIN MK 9

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 07	Graze														
	08 - 16	IR Spotlight*	1	1												
Upr Face	17 - 18	Gunner's Sight*	6	6	Turret Crew	13H	572				1	5	11	22	43	
Cupola	19 - 28	Turret Crew	52	51							1	5	17	33	59	
Upr Face	29 - 43	Turret Crew	33H	15H							1	5	11	22	43	
Turret Nose	44 - 60	Main Gun	198	198	Turret Crew	22H	17H				1	5	11	28	53	
MG Mount	61 - 61	Coax / Ranging MG*	21	21	Turret Crew	22H	17H				1	5	11	28	53	
Turret Face	62 - 89	Turret Crew	28H	18H							1	5	11	24	49	
Turret Ring	90 - 93	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Lip	94 - 99	Turret Crew	12H	12H							1	5	17	33	59	
Turret Side	00 - 10	Graze														
Turret Side	11 - 29	Turret Crew	856	821	Main Gun	12H	11H				72	58	33	16	5	1
Turret Side	30 - 47	IR Spotlight	4	4	Turret Crew	877	15H	Main Gun	12H	19H	72	58	33	16	5	1
Turret Side	48 - 64	Turret Crew	856	821							72	58	33	16	5	1
Turret Side	65 - 80	Turret Crew	743	732	Ammunition	797	736				73	59	33	17	5	1
Turret Ring	81 - 84	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	85 - 99	Main Gun	75	74							73	59	33	17	5	1
Turret Rear	00 - 09	Graze														
Cupola	10 - 21	Turret Crew	58	58							1	5	17	33	59	
Turret Rear	22 - 34	Ammunition	993	891	Turret Crew	11H	900				1	5	11	28	53	
Turret Rear	35 - 49	Ammunition	476	553	Turret Crew	517	562	Main Gun	754	956	1	5	17	33	59	
Turret Rear	50 - 67	Ammunition	476	553	Turret Crew	517	562				1	5	17	33	59	
Tur Lwr Rr	68 - 88	Ammunition	935	493	Turret Crew	994	500				1	5	11	22	45	
Turret Ring	89 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Top	00 - 71	Turret Crew	120	120												
	72 - 99	Ammo-TCrew	120	120												
Hull Front	00 - 08	Graze														
Dvr Prscp	09 - 09	Driver	10H	497	Turret Crew	12H	541	Engine	14H	18H	1	5	11	22	43	
Upr Glacis	10 - 18	Driver	27H	13H	Ammo-TCw	29H	14H	Fuel-Engine	33H	NP	1	5	11	22	43	
Lwr Glacis	19 - 31	Driver	23H	18H	Ammo-TCw	25H	19H	Fuel-Engine	28H	NP	1	5	11	28	53	
Upr Glacis	32 - 44	Ammunition	27H	13H	Ammo-TCw	28H	13H	Fuel-Engine	32H	18H	1	5	11	22	43	
Lwr Glacis	45 - 62	Ammunition	23H	18H	Ammo-TCw	24H	18H	Fuel-Engine	27H	62H	1	5	11	28	53	
Track/Idler	63 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 02	Graze														
Side Skirt	03 - 05	Idler Wheel*	169	232	Idler Wheel	15H	48K				73	59	33	17	5	1
Side Skirt	06 - 09		451	15H	Driver	540	16H				73	59	33	17	5	1
Side Skirt	10 - 10	Road Wheel*	121	164	Ammunition	697	15H	Driver	806	16H	73	59	33	17	5	1
Side Skirt	11 - 17	Ammo-TCrew	451	749	Driver	540	797				73	59	33	17	5	1
Side Skirt	18 - 19	Road Wheel*	121	164	Ammo-TCw	697	15H	Road Wheel	16H	NP	73	59	33	17	5	1
Side Skirt	20 - 23	Ammo-TCrew	451	15H	Ammunition	490	15H				73	59	33	17	5	1
Hull Upr Sd	24 - 25	Ammo-TCrew	451	15H							73	59	33	17	5	1
Side Skirt	26 - 28	Road Wheel*	121	164	Turret Crew	697	15H	Road Wheel	16H	19K	73	59	33	17	5	1
Side Skirt	29 - 34	Turret Crew	451	15H							73	59	33	17	5	1
Hull Upr Sd	35 - 38	Turret Crew	923	982							68	53	28	11	5	1
Side Skirt	39 - 39	Road Wheel*	121	164	Ammo-TCw	697	15H	Road Wheel	16H	19K	73	59	33	17	5	1
Side Skirt	40 - 42	Ammo-TCrew	451	15H							73	59	33	17	5	1
Hull Upr Sd	43 - 44	Ammo-TCrew	451	15H							73	59	33	17	5	1
Side Skirt	45 - 48	Road Wheel*	121	164	Fuel-Engine	697	15H	Road Wheel	25H	85K	73	59	33	17	5	1
Hull Side	49 - 52	Drive Sprocket*	135	135	Fuel-Engine	721	859	Track/Drive	25H	30K	73	59	33	17	5	1
Side Skirt	53 - 62	Fuel-Engine	451	15H							73	59	33	17	5	1
Hull Side	63 - 63	Fuel-Engine	416	416							73	59	33	17	5	1
Hull Upr Sd	64 - 73	Fuel-Engine	451	14H							73	59	33	17	5	1
Road Wheel	74 - 99	Road Wheel / Susp*	93	93	Wheel/Susp	268	42H									
Hull Rear	00 - 07	Graze														
Rear Hull	08 - 31	Fuel-Engine	265	259	Ammo-TCw	11H	85H	Driver	12H	NP	1	5	16	33	59	
Rear Hull	32 - 64	Fuel-Engine	265	259	Ammo-TCw	11H	85H	Ammunition	12H	NP	1	5	16	33	59	
Track/Drive	65 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 86	Fuel-Engine	44	44												
Hatch	87 - 91	Driver	120	120												
Hull Top	92 - 99	Ammo-TCrew	198	198												

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — UK CHIEFTAIN Mk5 and Mk12

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
120mm Gun	**Mk5**		**APFSDS-T**	PEN	29H	29H	29H	29H	29H	29H	29H	29H	29H	29H	28H	28H	28H	28H	28H	28H	28H
	1	-6	L 23	AOI																	
RT (24) 6P	2	2		NID	75	75	74	74	73	72	72	71	70	69	69	68	67	65	64	62	61
RT (40) 8P	3	5		DFE	500	421	280	209	138	103	81	67	57	50	44	39	32	27	23	20	18
	4	8		BA	24	17	14	12	9	6	5	3	2	1	0	-1	-3	-4	-5	-6	-7
Ammo Cap 64	5	10	MCD 16	TOF		1	2	2	4	5	6	7	8	10	11	12	15	17	20	22	25
Ammo Wt 46.0																					
			HESH-T	PEN	228	222	217	213	204	195	187	179	172	164	158	151	139	128	117	108	100
White Phosphorus			L 31	PENF	139	135	132	129	123	118	113	108	103	98	94	90	82	75	69	63	57
DFS 8				AOI																	
Smk 12				DFE	196	77	50	37	24	17	13	11	9	8	7	6	4	4	3	2	2
Dur 4			BC0 88H	BA	42	32	28	25	20	16	13	11	9	7	5	4	1	-1	-3	-4	-6
			DFS 15	TOF	1	3	4	6	8	11	14	17	21	24	27	30	37	44	51	59	67
			APDS-HE	PEN	27H	27H	27H	27H	27H	26H	26H	26H	26H	26H	26H	25H	25H	25H	25H	24H	23H
			L 15																		
				AOI	89	88	87	86	84	82	80	78	76	74	72	71	67	64	61	59	56
				DFE	500	326	215	160	104	77	60	49	41	35	31	27	22	18	15	13	11
				BA	34	28	25	22	19	17	15	14	13	11	10	10	8	7	5	4	3
			MCD 17	TOF	1	1	2	3	4	5	7	8	10	11	13	14	17	20	24	27	30
	AC																				
7.62mm Coax MG	1	-27	**FMJ-T**	PEN	16	13	11	9.2	6.5	4.6	3.2	2.3	1.6	1.1	.8	.6	.3	.1	.1		
Reload Time 224	2	-17	L5A3	DC	7	7	7	6	5	3	2	2	1	1	1	1	1	1	1		
Rate of Fire *6	3	-9																			
Cap 2000 (5000)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 130	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 9	8	2		BA	44	32	26	22	16	12	9	7	5	3	2	1	-1	-3	-4		
SAB 0	12	9		TOF	1	2	4	5	8	12	15	19	24	28	33	37	47	56	66		
7.62mm AA MG	1	-27	**FMJ-T**	PEN	16	13	11	9.2	6.5	4.6	3.2	2.3	1.6	1.1	.8	.6	.3	.1	.1		
Reload Time 28	2	-17	L5A3	DC	7	7	7	6	5	3	2	2	1	1	1	1	1	1	1		
Rate of Fire *6	3	-8																			
Cap 100 (1000)	4	-5		MA	.3	.7	1	1	2	3	3	4	5	5	6	7	8	9	11		
Ammo Wt 6.5	6	-1		PALM	5	12	15	17	20	22	23	25	26	27	27	28	29	31	32		
Knock Down 9	8	2		BA	44	32	26	22	16	12	9	7	5	3	2	1	-1	-3	-4		
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	24	28	33	37	47	56	66		

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°	Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	14	14	14	14	14	14	Turret Face	00 - 25	00 - 21	00 - 17	00 - 15	00 - 15	00 - 16
	Hull	17	18	19	19	19	19	Turret Side	26 - 29	22 - 24	18 - 20	16 - 18	16 - 17	17 - 18
	All	18	19	19	20	20	20	Hull Face	30 - 88	25 - 72	21 - 56	19 - 44	18 - 35	19 - 21
	Air-Grd	22	22	22	23	23	23	Hull Side	89 - 99	73 - 99	57 - 99	45 - 99	36 - 99	22 - 99
15°	Turret	15	15	15	15	15	15	Turret Face	00 - 25	00 - 21	00 - 17	00 - 16	00 - 15	00 - 16
	Hull	17	18	19	19	19	19	Turret Side	26 - 35	22 - 29	18 - 25	17 - 22	16 - 21	17 - 22
	All	18	19	20	20	20	20	Hull Face	36 - 89	30 - 74	26 - 59	23 - 47	22 - 38	23 - 26
	Air-Grd	22	22	23	23	23	23	Hull Side	90 - 99	75 - 99	60 - 99	48 - 99	39 - 99	27 - 99
30°	Turret	16	16	16	16	16	16	Turret Face	00 - 23	00 - 20	00 - 17	00 - 15	00 - 15	00 - 15
	Hull	17	18	19	19	19	19	Turret Side	24 - 41	21 - 35	18 - 30	16 - 27	16 - 26	16 - 27
	All	19	19	20	20	20	20	Hull Face	42 - 90	36 - 76	31 - 62	28 - 51	27 - 42	28 - 30
	Air-Grd	22	22	23	23	23	23	Hull Side	91 - 99	77 - 99	63 - 99	52 - 99	43 - 99	31 - 99
45°	Turret	16	16	16	16	16	16	Turret Face	00 - 21	00 - 18	00 - 16	00 - 14	00 - 14	00 - 14
	Hull	17	18	19	19	19	19	Turret Side	22 - 44	19 - 38	17 - 33	15 - 30	15 - 29	15 - 30
	All	19	19	20	20	20	20	Hull Face	45 - 91	39 - 78	34 - 63	31 - 53	30 - 44	31 - 33
	Air-Grd	22	22	23	23	23	23	Hull Side	92 - 99	79 - 99	64 - 99	54 - 99	45 - 99	34 - 99
60°	Turret	16	16	16	16	16	16	Turret Face	00 - 18	00 - 16	00 - 14	00 - 12	00 - 12	00 - 13
	Hull	17	18	19	19	19	19	Turret Side	19 - 46	17 - 40	15 - 35	13 - 32	13 - 30	14 - 32
	All	19	20	20	20	21	20	Hull Face	47 - 91	41 - 78	36 - 64	33 - 54	31 - 46	33 - 35
	Air-Grd	22	23	23	23	23	23	Hull Side	92 - 99	79 - 99	65 - 99	55 - 99	47 - 99	36 - 99
> 60°	Turret	16	16	16	16	16	16	Turret Face	00 - 12	00 - 11	00 - 09	00 - 08	00 - 08	00 - 08
	Hull	17	18	19	19	19	19	Turret Side	13 - 45	12 - 39	10 - 34	09 - 31	09 - 30	09 - 31
	All	19	20	20	20	20	20	Hull Face	46 - 91	40 - 78	35 - 64	32 - 53	31 - 45	32 - 34
	Air-Grd	22	22	23	23	23	23	Hull Side	92 - 99	79 - 99	65 - 99	54 - 99	46 - 99	35 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

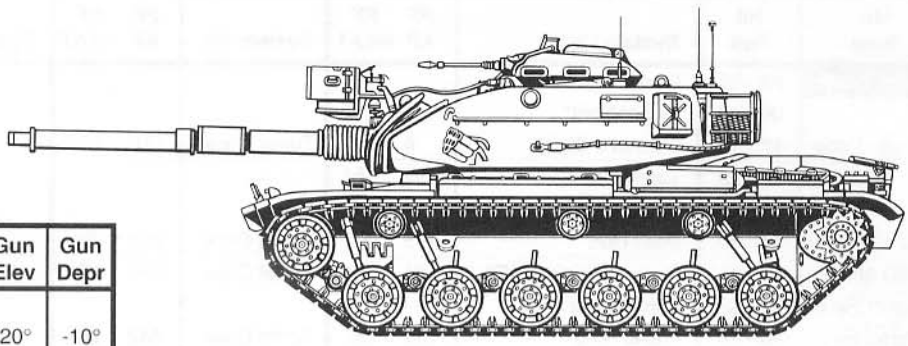
Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6	Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 31	00 - 48	00 - 60	00 - 68	00 - 75	00 - 81	Front or Rear	00 - 19	00 - 33	00 - 44	00 - 53	00 - 62	00 - 70
From the Side	00 - 16	00 - 28	00 - 39	00 - 48	00 - 57	00 - 65	From the Side	00 - 10	00 - 19	00 - 27	00 - 35	00 - 44	00 - 53

STATUS SHEET 2	HIT LOCATION AND DAMAGE TABLE									UNITED KINGDOM	CHIEFTAIN Mk12					
Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 07	Graze														
	08 - 16	IR Spotlight*	1	1												
Upr Face	17 - 18	Gunner's Sight*	6	6	Turret Crew	13H	572				1	5	11	22	43	
Cupola	19 - 28	Turret Crew	52	51							1	5	17	33	59	
Upr Face	29 - 43	Turret Crew	33H	15H							1	5	11	22	43	
Turret Nose	44 - 60	Main Gun	335	465	Turret Crew	25H	22H				1	5	11	28	54	
MG Mount	61 - 61	Coax / Ranging MG*	21	21	Turret Crew	22H	17H				1	5	11	28	53	
Turret Face	62 - 89	Turret Crew	38H	57H							1	5	13	26	52	
Turret Ring	90 - 93	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Lip	94 - 99	Turret Crew	22H	31H							1	5	17	33	59	
Turret Side	00 - 10	Graze														
Turret Side	11 - 29	Turret Crew	856	821	Main Gun	12H	11H				72	58	33	16	5	1
Turret Side	30 - 47	IR Spotlight	4	4	Turret Crew	877	15H	Main Gun	12H	19H	72	58	33	16	5	1
Turret Side	48 - 64	Turret Crew	856	821							72	58	33	16	5	1
Turret Side	65 - 80	Turret Crew	743	732	Ammunition	797	736				73	59	33	17	5	1
Turret Ring	81 - 84	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	85 - 99	Main Gun	75	74							73	59	33	17	5	1
Turret Rear	00 - 09	Graze														
Cupola	10 - 21	Turret Crew	58	58							1	5	17	33	59	
Turret Rear	22 - 34	Ammunition	993	891	Turret Crew	11H	900				1	5	11	28	53	
Turret Rear	35 - 49	Ammunition	476	553	Turret Crew	517	562	Main Gun	754	956	1	5	17	33	59	
Turret Rear	50 - 67	Ammunition	476	553	Turret Crew	517	562				1	5	17	33	59	
Tur Lwr Rr	68 - 88	Ammunition	935	493	Turret Crew	994	500				1	5	11	22	45	
Turret Ring	89 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Top	00 - 71	Turret Crew	120	120												
	72 - 99	Ammo-TCrew	120	120												
Hull Front	00 - 08	Graze														
Dvr Prscp	09 - 09	Driver	10H	497	Turret Crew	12H	541	Engine	14H	18H	1	5	11	22	43	
Upr Glacis	10 - 18	Driver	27H	13H	Ammo-TCw	29H	14H	Fuel-Engine	33H	NP	1	5	11	22	43	
Lwr Glacis	19 - 31	Driver	23H	18H	Ammo-TCw	25H	19H	Fuel-Engine	28H	NP	1	5	11	28	53	
Upr Glacis	32 - 44	Ammunition	27H	13H	Ammo-TCw	28H	13H	Fuel-Engine	32H	18H	1	5	11	22	43	
Lwr Glacis	45 - 62	Ammunition	23H	18H	Ammo-TCw	24H	18H	Fuel-Engine	27H	62H	1	5	11	28	53	
Track/Idler	63 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 02	Graze														
Side Skirt	03 - 05	Idler Wheel*	169	232	Idler Wheel	15H	48K				73	59	33	17	5	1
Side Skirt	06 - 09		451	15H	Driver	540	16H				73	59	33	17	5	1
Side Skirt	10 - 10	Road Wheel*	121	164	Ammunition	697	15H	Driver	806	16H	73	59	33	17	5	1
Side Skirt	11 - 17	Ammo-TCrew	451	749	Driver	540	797				73	59	33	17	5	1
Side Skirt	18 - 19	Road Wheel*	121	164	Ammo-TCw	697	15H	Road Wheel	16H	NP	73	59	33	17	5	1
Side Skirt	20 - 23	Ammo-TCrew	451	15H	Ammunition	490	15H				73	59	33	17	5	1
Hull Upr Sd	24 - 25	Ammo-TCrew	451	15H							73	59	33	17	5	1
Side Skirt	26 - 28	Road Wheel*	121	164	Turret Crew	697	15H	Road Wheel	16H	19K	73	59	33	17	5	1
Side Skirt	29 - 34	Turret Crew	451	15H							73	59	33	17	5	1
Hull Upr Sd	35 - 38	Turret Crew	923	982							68	53	28	11	5	1
Side Skirt	39 - 39	Road Wheel*	121	164	Ammo-TCw	697	15H	Road Wheel	16H	19K	73	59	33	17	5	1
Side Skirt	40 - 42	Ammo-TCrew	451	15H							73	59	33	17	5	1
Hull Upr Sd	43 - 44	Ammo-TCrew	451	15H							73	59	33	17	5	1
Side Skirt	45 - 48	Road Wheel*	121	164	Fuel-Engine	697	15H	Road Wheel	25H	85K	73	59	33	17	5	1
Hull Side	49 - 52	Drive Sprocket*	140	140	Fuel-Engine	733	866	Track/Drive	25H	39K	73	59	33	17	5	1
Side Skirt	53 - 62	Fuel-Engine	451	15H							73	59	33	17	5	1
Hull Side	63 - 63	Fuel-Engine	416	416							73	59	33	17	5	1
Hull Upr Sd	64 - 73	Fuel-Engine	451	14H							73	59	33	17	5	1
Road Wheel	74 - 99	Road Wheel / Susp*	93	93	Wheel/Susp	268	42H									
Hull Rear	00 - 07	Graze														
Rear Hull	08 - 31	Fuel-Engine	265	259	Ammo-TCw	11H	85H	Driver	12H	NP	1	5	16	33	59	
Rear Hull	32 - 64	Fuel-Engine	265	259	Ammo-TCw	11H	85H	Ammunition	12H	NP	1	5	16	33	59	
Track/Drive	65 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 86	Fuel-Engine	44	44												
Hatch	87 - 91	Driver	120	120												
Hull Top	92 - 99	Ammo-TCrew	198	198												

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1,2,6			
Loader	1,3 to 6			
Armament				
Main Gun 105mm Rifled	1 to 6	–	20°	-10°
Coax MG 7.62mm NATO	1 to 6	–	20°	-10°
AA MG .50 Browning	1 to 6	–	60°	-15°



USMC M60A1 / US Army M60A3

M60A1 (1980) Explosive Reactive Armor M60A3 (1978) Needle Nose Turret

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 35	-	36 - 99	-
Front	Obliq	00 - 20	21 - 49	50 - 99	-
Front	Side	-	00 - 48	49 - 99	-
Obliq	Front	00 - 23	-	24 - 50	51 - 99
Obliq	Obliq	00 - 15	16 - 35	36 - 57	58 - 99
Obliq	Side	-	00 - 35	36 - 57	58 - 99
Side	Front	00 - 24	-	-	25 - 99
Side	Obliq	00 - 15	16 - 36	-	37 - 99
Side	Side	-	00 - 35	-	36 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables		Vehicle Data	Phase	Turn
Smoke Launchers	Yes	Hull Turning Rate (°)	33°	131°
Deep Fording Equip	No	Turret Traverse Rate (°)	40°	160°
Fire Extinguishing Sys	Yes	Accerelation VC (MH)		1.8
Infra-Red Imaging	Yes	Deceleration VC (MH)		1.5
Image Intensifying	No	Max Road Range (miles)	300	
Thermal Imaging	Yes	Side Slope	27°	
			A1	A3
Fuel Hit Modifier	+ 5	Ground Pressure (psi)	12.4	12.6
Ammunition Hit Modifier	0	Moving Target Accuracy Mod	+ 6	+ 8
Spotting Modifier	0	Moving Shooter Accuracy Mod	+10	+12

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	5.8 –	4.9 –	4.0 00	3.1 01	2.2 02	1.8 24
10°	4.2 –	3.3 –	2.4 00	1.5 01	.7 03	.3 26
20°	2.7 –	1.8 00	.8 01	02	04	36
30°	1.4 –	.3 00	02	04	08	63
40°	.3 –	02	07	12	21	99
50°	.1 01	13	37	62	99	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	A1 SA	A3 SA
APFSDS-T	63	4P	28H	3	43	–	–	1	4	4
APDS-T			25H	6	55	–	–	2	12	12
HEAT-T			38H	46	–	31H	–	3	15	15
Coax MG	318	*5	7	37	–	–	17	4	18	18
AA MG	26	*9	32	16	–	–	20	5	19	20

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Gunner	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Driver	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Loader	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___	☐ ☐ ☐ ____ ___
Ammunition					
Main Gun					
Coax MG					
AA MG					
Equipment					
Main Gun	☐	☐	☐	☐	☐
Coax MG	☐	☐	☐	☐	☐
AA MG	☐	☐	☐	☐	☐
Left Track	☐	☐	☐	☐	☐
Right Track	☐	☐	☐	☐	☐
Engine	☐	☐	☐	☐	☐
Turret Ring	☐	☐	☐	☐	☐
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes					

STATUS SHEET 2 — HIT LOCATION AND DAMAGE TABLE — USMC M60A1 EXP REACTIVE ARMOR

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 08	Graze														
Upper Face	09 - 09	Gunner's Sight*	6	6	Turret Crew	12H	625				1	5	11	22	45	
Cupola	10 - 20	Turret Crew-HMG	141	108							1	5	11	28	53	
Upper Face	21 - 41	Turret Crew	33H	18K	Ammunition	34H	19K				1	5	11	22	45	
Turret Nose	42 - 48	Main Gun	243	17H	Turret Crew	38H	21K	Ammunition	40H	NP	1	5	11	28	53	
Turret Nose	49 - 64	Main Gun	198	198	Turret Crew	21H	21H	Ammunition	22H	NP	1	5	17	33	59	
MG Mount	65 - 66	Coax Machine Gun*	21	21	Turret Crew	21H	21H	Ammunition	22H	NP	1	5	17	33	59	
Tur Frt Sd	67 - 84	Turret Crew	30H	12K	Ammunition	33H	13K				-19	-32	-38	-39	-39	
Turret Ring	85 - 89	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Lip	90 - 99	Turret Crew	12H	12H							1	5	17	33	59	
Turret Side	00 - 09	Graze														
Cupola	10 - 20	Turret Crew-HMG	141	108							67	53	28	11	5	1
Turret Side	21 - 29	Turret Crew	526	34H	Main Gun	812	56H				72	58	33	16	5	1
Turret Side	30 - 45	Turret Crew	434	425	Main Gun	697	702				73	59	33	16	5	1
Turret Side	46 - 68	Turret Crew	485	32H							73	59	33	16	5	1
Turret Side	69 - 91	Turret Crew	463	31H	Ammunition	502	31H				73	59	33	17	5	1
Turret Ring	92 - 93	Turret Ring	153	152	Turret Crew	442	305				73	59	33	17	5	1
Gun Barrel	94 - 99	Main Gun	62	62							73	59	33	17	5	1
Turret Rear	00 - 06	Graze														
Cupola	07 - 17	Turret Crew-HMG	141	108							1	5	11	28	53	
Turret Rear	18 - 41	Ammo-TCrew	180	242	Main Gun	333	747				1	5	17	33	59	
Turret Rear	42 - 69	Ammo-TCrew	180	242							1	5	17	33	59	
Tur Lwr Rr	70 - 88	Turret Crew	577	300							1	5	11	22	44	
Turret Ring	89 - 99	Turret Ring	153	152	Turret Crew	442	305				1	5	17	33	59	
Turret Top	00 - 22	Turret Crew	67	67												
Cupola	23 - 56	Turret Crew-HMG	49	49												
	57 - 99	Ammo-TCrew	67	67												
Hull Front	00 - 03	Graze														
Dvr Prscp	04 - 04	Driver	775	465	Turret Crew	887	496	Engine	11H	12H	1	5	11	22	48	
Upr Glacis	05 - 14	Driver	24H	10K	Turret Crew	26H	10K	Fuel-Engine	30H	39K	1	5	11	22	48	
Lwr Glacis	15 - 25	Driver	15H	71H	Turret Crew	16H	75H	Fuel-Engine	19H	NP	1	5	11	26	51	
Upr Glacis	26 - 39	Ammo-TCrew	24H	10K	Fuel-Engine	27H	38K				1	5	11	22	48	
Lwr Glacis	40 - 55	Ammo-TCrew	15H	71H	Fuel-Engine	17H	NP				1	5	11	26	51	
Track/Idler	56 - 99	Track / Idler Wheel*	37	37												
Hull Side	00 - 01	Graze														
Hull Side	02 - 05	Idler Wheel*	135	135	Idler Wheel	11H	16K				73	59	33	17	5	1
Lwr Hull	06 - 06	Road Wheel / Susp*	90	90	Driver	667	20H				69	55	29	12	5	1
Hull Side	07 - 09	Driver	435	12H							73	59	33	17	5	1
Lwr Hull	10 - 11	Road Wheel / Susp*	90	90	Ammo-TCrw	707	733	Driver	817	781	69	55	29	13	5	1
Hull Side	12 - 16	Ammo-TCrew	317	317	Driver	392	347				73	59	33	17	5	1
Lwr Hull	17 - 23	Road Wheel / Susp*	90	90	Turret Crew	707	733	Wheel/Susp	16H	32K	69	55	29	13	5	1
Hull Side	24 - 42	Turret Crew	317	317							73	59	33	17	5	1
Hull Upr Sd	43 - 45	Turret Crew	333	998							73	59	33	17	5	1
Hull Upr Sd	46 - 48	Turret Crew	686	725							67	53	28	11	5	1
Lwr Hull	49 - 54	Road Wheel / Susp*	90	90	Fuel-Engine	707	733	Wheel/Susp	26H	30K	69	55	29	13	5	1
Hull Side	55 - 70	Fuel-Engine	317	317							73	59	33	17	5	1
Hull Side	71 - 76	Drive Sprocket*	135	135	Fuel-Engine	609	687	Track/Drive	22H	28K	73	59	33	17	5	1
Hull Upr Sd	77 - 85	Engine	142	466							73	59	33	17	5	1
Road Wheel	86 - 99	Road Wheel / Susp*	90	90	Wheel/Susp	258	32H									
Hull Rear	00 - 03	Graze														
Rear Hull	04 - 09	Engine	147	147	Turret Crew	16H	60H				1	5	17	33	59	
Rear Hull	10 - 12	Engine	147	147	Turret Ring	975	68H	Turret Crew	15H	89H	1	5	17	33	59	
Rear Hull	13 - 23	Fuel-Engine	147	147	Turret Crew	951	10K	Driver	11H	NP	1	5	17	33	59	
Hull Lwr Rr	24 - 31	Fuel-Engine	648	389	Turret Crew	15H	11K	Driver	17H	NP	1	5	11	22	48	
Rear Hull	32 - 47	Fuel-Engine	147	147	Turret Crew	951	10K	Ammunition	10H	NP	1	5	17	33	59	
Hull Lwr Rr	48 - 59	Fuel-Engine	648	389	Turret Crew	15H	11K	Ammunition	16H	NP	1	5	11	22	48	
Track/Drive	60 - 99	Track / Drive Sprkt*	37	37												
Hull Top	00 - 77	Fuel-Engine	80	80												
Hatch	78 - 84	Driver	129	129												
Hull Top	85 - 99	Ammo-TCrew	212	212												

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — USMC M60A1 - ERA / US ARMY M60A3

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
105mm Gun	**M60A1**		**APFSDS-T**	PEN	28H	28H	28H	28H	28H	28H	28H	28H	28H	28H	28H	28H	27H	27H	27H	27H	27H
	1	-6	M774 DPU	AOI																	
RT (37) 4P	2	2		NID	45	44	44	44	43	43	42	42	41	41	40	40	39	38	37	36	35
RT (26) 6P	3	5		DFE	500	398	264	197	130	97	77	63	54	46	41	36	30	25	21	19	16
	4	8		BA	23	16	13	11	8	6	4	2	1	0	-1	-2	-4	-5	-6	-7	-8
Ammo Cap 63	5	9	MCD 11	TOF		1	2	2	4	5	6	7	9	10	11	13	15	18	20	23	26
Ammo Wt 48.0																					
			APDS	PEN	25H	25H	25H	25H	25H	25H	25H	24H	24H	24H	24H	24H	23H	23H	22H	21H	20H
White Phosphorus			M392A2	AOI																	
DFS 6				NID	59	58	57	56	55	53	52	51	49	48	47	45	43	41	39	37	35
Smk 10	**M60A3**			DFE	500	368	242	180	117	86	67	55	46	39	34	30	24	20	16	14	12
Dur 4	1	-6		BA	34	28	25	22	19	17	15	14	12	11	10	9	8	6	5	4	3
	2	2	MCD 12	TOF	1	1	2	3	4	5	7	8	9	11	12	13	16	19	22	26	29
	3	5																			
	4	8	**HEAT**	PEN	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H	38H
	5	10	M456																		
				AOI																	
			BC0 31H	DFE	500	235	154	113	73	53	41	33	27	23	20	17	13	11	9	7	6
			MCD 13	BA	38	28	22	19	13	9	6	4	1	0	-2	-3	-6	-8	-10	-12	-13
			DFS 9	TOF	1	2	2	3	5	7	8	10	12	14	16	17	21	25	30	34	38
	AC																				
7.62mm Coax MG	1	-25	**FMJ-T**	PEN	17	14	12	10	7.1	5.0	3.6	2.6	1.8	1.3	.9	.7	.3	.2	.1		
Reload Time 224	2	-15	M16	DC	7	7	7	6	6	5	3	2	1	1	1	1	1	1	1		
Rate of Fire *5	3	-7																			
Cap 2000 (5950)	4	-4		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 130	6	0		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 7	8	3		BA	44	32	27	23	17	13	10	8	6	4	2	1	-1	-3	-4		
SAB 0	12	8		TOF	1	2	4	5	8	11	15	19	23	27	32	36	46	55	64		
12.7mm AA MG	1	-34	**API-T**	PEN	54	48	43	39	32	26	21	17	14	11	9.2	7.5	5.0	3.3	2.2	1.4	1.0
Reload Time 30	2	-24	M20	DC	10	10	10	10	10	10	9	9	9	9	9	9	6	3	1	1	1
Rate of Fire *9	3	-17																			
Cap 105 (900)	4	-13		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 28.8	6	-4		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 42	8	0		BA	47	35	29	25	20	16	13	10	8	6	5	3	1	-1	-3	-4	-5
SAB 0	14	8		TOF	1	2	3	5	7	10	13	16	19	23	27	30	38	47	55	64	73

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	15	15	15	15	15	15
	Hull	17	18	19	19	19	19
	All	19	19	20	20	20	20
	Air-Grd	22	22	23	23	23	23
15°	Turret	16	16	16	16	16	16
	Hull	17	18	19	19	19	19
	All	19	20	20	20	21	20
	Air-Grd	22	22	23	23	23	23
30°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	19	19
	All	19	20	20	21	21	21
	Air-Grd	22	23	23	23	23	23
45°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	19	19
	All	20	20	21	21	21	21
	Air-Grd	22	23	23	23	23	23
60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	19	19
	All	20	20	21	21	21	21
	Air-Grd	23	23	23	23	23	23
> 60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	19	19
	All	20	20	20	21	21	21
	Air-Grd	22	23	23	23	23	23

Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
Turret Face	00 - 31	00 - 26	00 - 22	00 - 20	00 - 20	00 - 21
Turret Side	32 - 35	27 - 30	23 - 26	21 - 23	21 - 23	22 - 24
Hull Face	36 - 90	31 - 76	27 - 61	24 - 50	24 - 41	25 - 27
Hull Side	91 - 99	77 - 99	62 - 99	51 - 99	42 - 99	28 - 99
Turret Face	00 - 28	00 - 25	00 - 21	00 - 19	00 - 19	00 - 20
Turret Side	29 - 41	26 - 35	22 - 30	20 - 28	20 - 27	21 - 29
Hull Face	42 - 91	36 - 78	31 - 63	29 - 53	28 - 44	30 - 32
Hull Side	92 - 99	79 - 99	64 - 99	54 - 99	45 - 99	33 - 99
Turret Face	00 - 25	00 - 22	00 - 19	00 - 17	00 - 17	00 - 18
Turret Side	26 - 46	23 - 40	20 - 35	18 - 33	18 - 32	19 - 33
Hull Face	47 - 92	41 - 79	36 - 66	34 - 56	33 - 47	34 - 36
Hull Side	93 - 99	80 - 99	67 - 99	57 - 99	48 - 99	37 - 99
Turret Face	00 - 20	00 - 18	00 - 16	00 - 15	00 - 14	00 - 15
Turret Side	21 - 49	19 - 43	17 - 38	16 - 35	15 - 34	16 - 36
Hull Face	50 - 92	44 - 80	39 - 67	36 - 57	35 - 50	37 - 39
Hull Side	93 - 99	81 - 99	68 - 99	58 - 99	51 - 99	40 - 99
Turret Face	00 - 16	00 - 14	00 - 12	00 - 11	00 - 11	00 - 12
Turret Side	17 - 50	15 - 45	13 - 39	12 - 36	12 - 35	13 - 37
Hull Face	51 - 92	46 - 81	40 - 68	37 - 58	36 - 50	38 - 40
Hull Side	93 - 99	82 - 99	69 - 99	59 - 99	51 - 99	41 - 99
Turret Face	00 - 07	00 - 06	00 - 05	00 - 05	00 - 05	00 - 05
Turret Side	08 - 48	07 - 43	06 - 37	06 - 35	06 - 34	06 - 35
Hull Face	49 - 92	44 - 80	38 - 67	36 - 57	35 - 49	36 - 38
Hull Side	93 - 99	81 - 99	68 - 99	58 - 99	50 - 99	39 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 21	00 - 36	00 - 47	00 - 56	00 - 65	00 - 73
From the Side	00 - 12	00 - 22	00 - 32	00 - 40	00 - 49	00 - 58

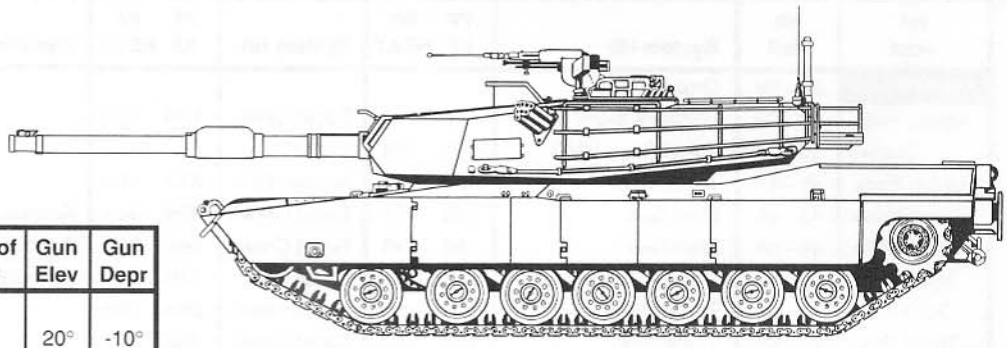
Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 12	00 - 22	00 - 31	00 - 40	00 - 48	00 - 58
From the Side	00 - 06	00 - 13	00 - 19	00 - 26	00 - 33	00 - 42

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 08	Graze														
Upper Face	09 - 09	Gunner's Sight*	6	6	Turret Crew	12H	625					1	5	11	22	45
Cupola	10 - 20	Turret Crew-HMG	141	108								1	5	11	28	53
Upper Face	21 - 41	Turret Crew	32H	17H	Ammunition	33H	17H					1	5	11	22	44
Turret Nose	42 - 48	Main Gun	198	221	Turret Crew	45H	34H	Ammunition	46H	NP		1	5	11	28	53
Turret Nose	49 - 64	Main Gun	198	198	Turret Crew	24H	24H	Ammunition	25H	NP		1	5	17	33	59
MG Mount	65 - 66	Coax Machine Gun*	21	21	Turret Crew	24H	24H	Ammunition	25H	NP		1	5	17	33	59
Tur Frt Sd	67 - 84	Turret Crew	27H	15H	Ammunition	29H	16H					-19	-32	-38	-39	-39
Turret Ring	85 - 89	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Lip	90 - 99	Turret Crew	20H	20H								1	5	17	33	59
Turret Side	00 - 09	Graze														
Cupola	10 - 20	Turret Crew-HMG	141	108								67	53	28	11	5	1
Turret Side	21 - 29	Turret Crew	472	453	Main Gun	744	732					72	58	33	16	5	1
Turret Side	30 - 45	Turret Crew	434	425	Main Gun	697	702					73	59	33	16	5	1
Turret Side	46 - 68	Turret Crew	434	425								73	59	33	16	5	1
Turret Side	69 - 91	Turret Crew	410	404	Ammunition	449	407					73	59	33	17	5	1
Turret Ring	92 - 93	Turret Ring	153	152	Turret Crew	442	305					73	59	33	17	5	1
Gun Barrel	94 - 99	Main Gun	62	62								73	59	33	17	5	1
Turret Rear	00 - 06	Graze														
Cupola	07 - 17	Turret Crew-HMG	141	108								1	5	11	28	53
Turret Rear	18 - 41	Ammo-TCrew	180	242	Main Gun	333	747					1	5	17	33	59
Turret Rear	42 - 69	Ammo-TCrew	180	242								1	5	17	33	59
Tur Lwr Rr	70 - 88	Turret Crew	577	300								1	5	11	22	44
Turret Ring	89 - 99	Turret Ring	153	152	Turret Crew	442	305					1	5	17	33	59
Turret Top	00 - 22	Turret Crew	67	67												
Cupola	23 - 56	Turret Crew-HMG	49	49												
	57 - 99	Ammo-TCrew	67	67												
Hull Front	00 - 03	Graze														
Dvr Prscp	04 - 04	Driver	775	465	Turret Crew	887	496	Engine	11H	12H		1	5	11	22	48
Upr Glacis	05 - 14	Driver	23H	14H	Turret Crew	25H	15H	Fuel-Engine	29H	44H		1	5	11	22	48
Lwr Glacis	15 - 25	Driver	14H	986	Turret Crew	16H	10H	Fuel-Engine	18H	23K		1	5	11	26	51
Upr Glacis	26 - 39	Ammo-TCrew	23H	14H	Fuel-Engine	27H	42H					1	5	11	22	48
Lwr Glacis	40 - 55	Ammo-TCrew	14H	986	Fuel-Engine	17H	21K					1	5	11	26	51
Track/Idler	56 - 99	Track / Idler Wheel*	37	37												
Hull Side	00 - 01	Graze														
Hull Side	02 - 05	Idler Wheel*	135	135	Idler Wheel	11H	16K					73	59	33	17	5	1
Lwr Hull	06 - 06	Road Wheel / Susp*	90	90	Driver	667	20H					69	55	29	12	5	1
Hull Side	07 - 09	Driver	435	12H								73	59	33	17	5	1
Lwr Hull	10 - 11	Road Wheel / Susp*	90	90	Ammo-TCrw	707	733	Driver	817	781		69	55	29	13	5	1
Hull Side	12 - 16	Ammo-TCrew	317	317	Driver	392	347					73	59	33	17	5	1
Lwr Hull	17 - 23	Road Wheel / Susp*	90	90	Turret Crew	707	733	Wheel/Susp	16H	32K		69	55	29	13	5	1
Hull Side	24 - 42	Turret Crew	317	317								73	59	33	17	5	1
Hull Upr Sd	43 - 45	Turret Crew	333	998								73	59	33	17	5	1
Hull Upr Sd	46 - 48	Turret Crew	686	725								67	53	28	11	5	1
Lwr Hull	49 - 54	Road Wheel / Susp*	90	90	Fuel-Engine	707	733	Wheel/Susp	26H	30K		69	55	29	13	5	1
Hull Side	55 - 70	Fuel-Engine	317	317								73	59	33	17	5	1
Hull Side	71 - 76	Drive Sprocket*	135	135	Fuel-Engine	609	687	Track/Drive	22H	28K		73	59	33	17	5	1
Hull Upr Sd	77 - 85	Engine	142	466								73	59	33	17	5	1
Road Wheel	86 - 99	Road Wheel / Susp*	90	90	Wheel/Susp	258	32H										
Hull Rear	00 - 03	Graze														
Rear Hull	04 - 09	Engine	147	147	Turret Crew	16H	60H					1	5	17	33	59
Rear Hull	10 - 12	Engine	147	147	Turret Ring	975	68H	Turret Crew	15H	89H		1	5	17	33	59
Rear Hull	13 - 23	Fuel-Engine	147	147	Turret Crew	951	10K	Driver	11H	NP		1	5	17	33	59
Hull Lwr Rr	24 - 31	Fuel-Engine	648	389	Turret Crew	15H	11K	Driver	17H	NP		1	5	11	22	48
Rear Hull	32 - 47	Fuel-Engine	147	147	Turret Crew	951	10K	Ammunition	10H	NP		1	5	17	33	59
Hull Lwr Rr	48 - 59	Fuel-Engine	648	389	Turret Crew	15H	11K	Ammunition	16H	NP		1	5	11	22	48
Track/Drive	60 - 99	Track / Drive Sprkt*	37	37												
Hull Top	00 - 77	Fuel-Engine	80	80												
Hatch	78 - 84	Driver	129	129												
Hull Top	85 - 99	Ammo-TCrew	212	212												

Status Sheet 1

CREW AND ARMAMENT

Crew and Armament	Field of View	Field of Fire	Gun Elev	Gun Depr
Crew Members				
Commander	1 to 6			
Gunner	1			
Driver	1, 2 , 6			
Loader	1, 3 to 6			
Armament				
Main Gun 120mm SB	1 to 6	–	20°	-10°
Coax MG 7.62mm NATO	1 to 6	–	20°	-10°
AA MG .50 Browning	1 to 6	–	65°	-10°
AA MG 7.62mm NATO	1, 3 to 6	60°	65°	-30°



USA M1A1

M1A1 (1985) 120mm Rheinmetall Gun M1A1 (1988) Heavy Armor Package

BASIC HIT LOCATION

Hull Facing	Turret Facing	Turret Face	Turret Side	Hull Face	Hull Side
Front	Front	00 - 41	-	42 - 99	-
Front	Obliq	00 - 25	26 - 52	53 - 99	-
Front	Side	-	00 - 50	51 - 99	-
Obliq	Front	00 - 25	-	26 - 47	48 - 99
Obliq	Obliq	00 - 17	18 - 35	36 - 54	55 - 99
Obliq	Side	-	00 - 33	34 - 52	53 - 99
Side	Front	00 - 25	-	-	26 - 99
Side	Obliq	00 - 16	17 - 34	-	35 - 99
Side	Side	-	00 - 32	-	33 - 99

EQUIPMENT AND VEHICLE DATA

Equipment & Game Variables	
Smoke Launchers	Yes
Deep Fording Equip	No
Fire Extinguishing Sys	Yes
Infra-Red Imaging	Yes
Image Intensifying	Yes
Thermal Imaging	Yes
Fuel Hit Modifier	-30 *
Ammunition Hit Modifier	- 5
Spotting Modifier	- 4

Vehicle Data	Phase	Turn
Hull Turning Rate (°)	60°	240°
Turret Traverse Rate (°)	84°	336°
Accerelation VC (MH)		3.4
Deceleration VC (MH)		2.4
Max Road Range (miles)	200	
Side Slope	28°	
	M1A1	Hvy
Ground Pressure (psi)	14.8	15.5
Moving Target Accuracy Mod	+12	+12
Moving Shooter Accuracy Mod	+20	+20

MOVEMENT SPEEDS / STALL CHANCE

Grd Slp	Paved Road	Hard Grnd	Earth	Loose Soil	Mud	Deep Mud
0°	8.1 –	6.5 00	4.9 03	3.3 06	1.8 10	1.1 80
10°	6.4 –	4.7 01	3.1 04	1.6 06	.2 11	90
20°	4.8 –	3.0 01	1.3 06	10	17	99
30°	3.3 –	1.3 04	12	20	34	99
40°	1.9 01	13	38	63	99	99
50°	.9 11	90	99	99	99	99

WEAPON DATA TABLE

Weapon	Cap	RT ROF	PEN	FP	NID	BC0	PALM	Aim Time Phases	M1A1 SA
APFSDS-T	40	3P	31H	4	67	–	–	1	4
HEAT-T			46H	60	–	56H	–	2	16
								3	20
Coax MG	322	*8	7	45	–	–	17	4	24
AA MG .50	29	*9	32	20	–	–	20		
AA 7.62mm	20	*8	7	20	–	–	20		

PLATOON ROSTER AND STATUS TABLE

Status	1	2	3	4	5
Crew	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD	Abd Inc KIA Inc Time PD
Commander	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Gunner	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Driver	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Loader	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __	☐ ☐ ☐ ____ __
Ammunition					
Main Gun	_____	_____	_____	_____	_____
Coax MG	_____	_____	_____	_____	_____
AA MG .50	_____	_____	_____	_____	_____
AA 7.62mm	_____	_____	_____	_____	_____
Equipment					
Main Gun	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Coax MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
AA MG	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Left Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Right Track	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Engine	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Turret Ring	☐ _____	☐ _____	☐ _____	☐ _____	☐ _____
Sights	☐	☐	☐	☐	☐
Condition	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐	Abandoned Burning Exploded ☐ ☐ ☐
Notes	_____	_____	_____	_____	_____

Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 17	Graze														
Upper Face	18 - 19	Gunner's Sight*	6	6	Turret Crew	16H	14H				1	5	11	22	43	
Cupola	20 - 24	Turret Crew	127	126							1	5	17	33	59	
Upper Face	25 - 36	Turret Crew	40H	37H							1	5	11	22	43	
Turret Nose	37 - 50	Main Gun	606	838	Turret Crew	27H	55H	Ammunition	31H	13K	1	5	17	33	59	
MG Mount	51 - 51	Coax Machine Gun*	317	755	Turret Crew	27H	55H	Ammunition	31H	13K	1	5	17	33	59	
Lwr Nose	52 - 55	Turret Crew	16H	31H							1	5	17	33	59	
Tur Frt Sd	56 - 82	Turret Crew	28H	71H	Ammunition	32H	80H				-3	-5	-3	0	9	
Turret Ring	83 - 90	Turret Ring	210	208	Turret Crew	604	417				1	5	17	33	59	
Turret Lip	91 - 99	Turret Crew	43H	43H							1	5	17	33	59	
Turret Side	00 - 14	Graze														
Cupola	15 - 18	Turret Crew	127	126							73	59	33	17	5	1
Turret Side	19 - 43	Turret Crew	11H	27H	Main Gun	15H	30H				69	55	30	13	5	1
Turret Side	44 - 64	Turret Crew	11H	27H							69	55	30	13	5	1
Turret Side	65 - 86	Ammo (Expln Prf)	455	13H							72	58	33	16	5	1
Turret Ring	87 - 90	Turret Crew	210	208	Turret Crew	604	417				73	59	33	17	5	1
Gun Barrel	91 - 99	Main Gun	75	74							73	59	33	17	5	1
Turret Rear	00 - 17	Graze														
Cupola	18 - 22	Crew	127	126							1	5	17	33	59	
Turret Rear	23 - 42	Ammunition	445	12H	Turret Crew	595	13H	Main Gun	844	21H	1	5	11	28	53	
Turret Rear	43 - 85	Ammunition	445	12H	Turret Crew	595	13H				1	5	11	28	53	
Turret Ring	86 - 99	Turret Crew	210	208	Turret Crew	604	417				1	5	17	33	59	
Turret Top	00 - 00	Commander's HMG*	6	6	Turret Crew	177	321									
	01 - 61	Turret Crew	158	316												
	62 - 99	Ammo (Expln Prf)	158	316												
Hull Front	00 - 09	Graze														
Dvr Prscp	10 - 10	Driver	15H	14H	Turret Crew	17H	14H	Fuel-Engine	20H	11K	1	5	11	22	43	
Upr Front	11 - 17	Driver	40H	37H	Turret Crew	43H	38H	Fuel-Engine	47H	NP	1	5	11	22	43	
Lwr Glacis	18 - 31	Driver	28H	59H	Turret Crew	30H	61H	Fuel-Engine	33H	NP	1	5	11	26	51	
Upr Front	32 - 41	Fuel	40H	37H	Turret Crew	44H	39H	Fuel-Engine	49H	NP	1	5	11	22	43	
Lwr Glacis	42 - 62	Fuel	28H	59H	Turret Crew	31H	65H	Fuel-Engine	35H	NP	1	5	11	26	51	
Track/Idler	63 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 05	Graze														
Hull Side	06 - 09	Road Wheel / Susp*	100	100	Fuel	656	16H	Driver	833	17H	73	59	33	17	5	1
Side Skirt	10 - 13	Idler Wheel*	258	458	Idler Wheel	16H	98K				73	59	33	17	5	1
Side Skirt	14 - 22	Fuel	576	35H	Driver	742	36H	Fuel	930	40H	73	59	33	17	5	1
Hull Side	23 - 23	Road Wheel / Susp*	100	100	Fuel	656	16H	Fuel	859	32H	73	59	33	17	5	1
Side Skirt	24 - 26	Fuel	576	35H	Fuel	775	64H				73	59	33	17	5	1
Hull Side	27 - 32	Road Wheel / Susp*	100	100	Turret Crew	656	16H	Wheel/Susp	15H	86K	73	59	33	17	5	1
Side Skirt	33 - 46	Turret Crew	576	35H							73	59	33	17	5	1
Hull Upr Sd	47 - 49	Turret Crew	531	31H							73	59	33	17	5	1
Hull Side	50 - 50	Road Wheel / Susp*	100	100	Turret Crew	656	16H				73	59	33	17	5	1
Side Skirt	51 - 51	Turret Crew	576	35H							73	59	33	17	5	1
Hull Side	52 - 55	Road Wheel / Susp*	100	100	Fuel-Engine	656	16H	Wheel/Susp	25H	56K	73	59	33	17	5	1
Hull Side	56 - 56	Fuel-Engine	417	833							73	59	33	17	5	1
Hull Side	57 - 60	Drive Sprocket*	130	130	Fuel-Engine	716	16H	Track/Drive	25H	19T	73	59	33	17	5	1
Side Skirt	61 - 65	Fuel-Engine	576	35H	Ammunition	15H	47K				73	59	33	17	5	1
Side Skirt	66 - 74	Fuel-Engine	576	35H							73	59	33	17	5	1
Hull Upr Sd	75 - 86	Fuel	278	18H	Engine	349	19H	Fuel	585	NP	73	59	33	17	5	1
Road Wheel	87 - 99	Road Wheel / Susp*	100	100	Wheel/Susp	288	46H									
Hull Rear	00 - 07	Graze														
Upr Rear	08 - 19	Engine	202	202	Turret Ring	13H	827	Turret Crew	20H	11H	1	5	17	33	59	
Upr Rear	20 - 31	Fuel-Engine	202	202	Turret Crew	11H	18K	Fuel	13H	NP	1	5	17	33	59	
Upr Rear	32 - 41	Fuel-Engine	202	202	Turret Crew	11H	18K	Driver	12H	NP	1	5	17	33	59	
Lwr Rear	42 - 55	Fuel-Engine	664	431	Turret Crew	16H	20K	Fuel	18H	NP	1	5	11	24	49	
Lwr Rear	56 - 68	Fuel-Engine	664	431	Turret Crew	16H	20K	Driver	17H	NP	1	5	11	24	49	
Track/Drive	69 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 75	Fuel-Engine	60	120												
Hatch	76 - 85	Driver	145	145												
Hull Top	86 - 99	Fuel	158	316												

ADVANCED RULES STATUS SHEET 3 — WEAPON DATA TABLE — USA M1A1 ABRAMS

Weapon Characteristics	Aim Mods Ph	Md	Direct Fire Data		4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
120mm Gun	**M1A1**		**APFSDS-T**	PEN	31H	31H	31H	31H	31H	31H	31H	31H	31H	31H	31H	31H	31H	30H	30H	30H	30H
	1	-6	M829 DPU	AOI																	
RT (17) 3P	2	6		NID	69	68	68	68	67	67	66	65	65	64	64	63	62	61	60	59	58
RT (23) 5P	3	10		DFE	500	495	329	246	163	121	96	80	68	59	52	46	38	32	28	24	22
	4	14		BA	23	16	13	11	8	6	4	3	1	0	-1	-2	-3	-4	-6	-7	-8
Ammo Cap 40			MCD 16	TOF		1	2	2	3	4	6	7	8	9	10	11	13	16	18	20	23
Ammo Wt 53.4																					
White Phosphorus																					
DFS 8																					
Smk 12																					
Dur 4																					
			HEAT-T	PEN	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H	46H
			M830																		
				AOI																	
			BC0 56H	DFE	500	222	145	107	69	50	39	31	26	22	19	16	13	10	8	7	6
			MCD 19	BA	37	26	20	16	11	7	4	1	-1	-3	-4	-6	-8	-11	-13	-14	-16
			DFS 14	TOF	1	2	2	3	5	7	9	10	12	14	16	18	22	26	31	35	40
	AC																				
7.62mm Coax MG	1	-27	**FMJ-T**	PEN	17	14	11	9.6	6.8	4.8	3.4	2.4	1.7	1.2	.9	.6	.3	.2	.1		
Reload Time 414	2	-17	M16	DC	7	7	7	6	6	4	3	2	1	1	1	1	1	1	1		
Rate of Fire *8	3	-9																			
Cap 3800 (11400)	4	-5		MA	.2	.5	.7	.9	1	2	2	3	3	4	4	5	5	6	7		
Ammo Wt 247	6	-1		PALM	3	9	12	14	17	19	20	22	23	24	25	25	27	28	29		
Knock Down 7	8	2		BA	44	32	26	22	17	13	10	7	5	4	2	1	-1	-3	-4		
SAB 0	12	8		TOF	1	2	4	5	8	12	15	19	23	28	32	37	46	56	65		
12.7mm AA MG	1	-34	**API-T**	PEN	54	48	43	39	32	26	21	17	14	11	9.2	7.5	5.0	3.3	2.2	1.4	1.0
Reload Time 28	2	-24	M20	DC	10	10	10	10	10	10	9	9	9	9	9	9	6	3	1	1	1
Rate of Fire *9	3	-17																			
Cap 105 (1000)	4	-13		MA	.3	.7	1	1	2	3	4	4	5	6	7	7	9	10	12	13	15
Ammo Wt 28.8	6	-4		PALM	6	12	15	17	20	22	24	25	26	27	28	29	30	31	32	33	34
Knock Down 42	8	0		BA	47	35	29	25	20	16	13	10	8	6	5	3	1	-1	-3	-4	-5
SAB 0	14	8		TOF	1	2	3	5	7	10	13	16	19	23	27	30	38	47	55	64	73

ADVANCED RULES STATUS SHEET 3 — TARGET SIZE AND HIT AREA TABLE

Turret Facing	Target	Hull Facing <5°	15°	30°	45°	60°	>60°
< 5°	Turret	16	16	16	16	16	16
	Hull	17	18	19	19	20	19
	All	19	19	20	20	21	21
	Air-Grd	22	23	23	23	23	23
15°	Turret	16	16	16	16	16	16
	Hull	17	18	19	19	20	19
	All	19	20	20	21	21	21
	Air-Grd	23	23	23	23	23	23
30°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	20	19
	All	19	20	20	21	21	21
	Air-Grd	23	23	23	23	23	23
45°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	20	19
	All	20	20	21	21	21	21
	Air-Grd	23	23	23	23	23	23
60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	20	19
	All	20	20	21	21	21	21
	Air-Grd	23	23	23	23	23	23
> 60°	Turret	17	17	17	17	17	17
	Hull	17	18	19	19	20	19
	All	19	20	20	21	21	21
	Air-Grd	23	23	23	23	23	23

Hit Area	Hull Facing <5°	15°	30°	45°	60°	>60°
Turret Face	00 - 37	00 - 31	00 - 26	00 - 23	00 - 22	00 - 22
Turret Side	38 - 41	32 - 34	27 - 29	24 - 25	23 - 24	23 - 25
Hull Face	42 - 89	35 - 73	30 - 58	26 - 47	25 - 38	26 - 27
Hull Side	90 - 99	74 - 99	59 - 99	48 - 99	39 - 99	28 - 99
Turret Face	00 - 34	00 - 29	00 - 24	00 - 22	00 - 21	00 - 21
Turret Side	35 - 46	30 - 39	25 - 33	23 - 29	22 - 28	22 - 29
Hull Face	47 - 90	40 - 75	34 - 60	30 - 50	29 - 41	30 - 31
Hull Side	91 - 99	76 - 99	61 - 99	51 - 99	42 - 99	32 - 99
Turret Face	00 - 30	00 - 25	00 - 22	00 - 19	00 - 19	00 - 19
Turret Side	31 - 50	26 - 43	23 - 37	20 - 33	20 - 32	20 - 32
Hull Face	51 - 90	44 - 77	38 - 63	34 - 52	33 - 44	33 - 35
Hull Side	91 - 99	78 - 99	64 - 99	53 - 99	45 - 99	36 - 99
Turret Face	00 - 25	00 - 21	00 - 18	00 - 17	00 - 16	00 - 16
Turret Side	26 - 52	22 - 45	19 - 39	18 - 35	17 - 34	17 - 34
Hull Face	53 - 91	46 - 78	40 - 64	36 - 54	35 - 46	35 - 37
Hull Side	92 - 99	79 - 99	65 - 99	55 - 99	47 - 99	38 - 99
Turret Face	00 - 19	00 - 17	00 - 14	00 - 13	00 - 12	00 - 13
Turret Side	20 - 53	18 - 46	15 - 39	14 - 36	13 - 34	14 - 35
Hull Face	54 - 91	47 - 78	40 - 64	37 - 54	35 - 46	36 - 37
Hull Side	92 - 99	79 - 99	65 - 99	55 - 99	47 - 99	38 - 99
Turret Face	00 - 09	00 - 07	00 - 06	00 - 05	00 - 05	00 - 05
Turret Side	10 - 50	08 - 43	07 - 36	06 - 33	06 - 31	06 - 32
Hull Face	51 - 90	44 - 77	37 - 62	34 - 52	32 - 44	33 - 34
Hull Side	91 - 99	78 - 99	63 - 99	53 - 99	45 - 99	35 - 99

ADVANCED RULES STATUS SHEET 3 — TOP OF VEHICLE HIT CHANCE TABLE

Turret Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 17	00 - 30	00 - 41	00 - 50	00 - 58	00 - 67
From the Side	00 - 11	00 - 22	00 - 31	00 - 39	00 - 48	00 - 57

Hull Top Hit Chance	Angle of Incidence (AOI) 1	2	3	4	5	6
Front or Rear	00 - 19	00 - 33	00 - 44	00 - 54	00 - 62	00 - 70
From the Side	00 - 08	00 - 17	00 - 24	00 - 32	00 - 40	00 - 50

STATUS SHEET 2	HIT LOCATION AND DAMAGE TABLE					USA	M1A1 with HEAVY ARMOR PACKAGE											
Hit Area	Hit Roll	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	System Hit	PF AP	PF HEAT	Glance Modifier 5°	15°	30°	45°	60°	75°
Turret Front	00 - 17	Graze														
Upper Face	18 - 19	Gunner's Sight*	6	6	Turret Crew	16H	14H				1	5	11	22	43	
Cupola	20 - 24	Turret Crew	127	126							1	5	17	33	59	
Upper Face	25 - 36	Turret Crew	40H	37H							1	5	11	22	43	
Turret Nose	37 - 50	Main Gun	606	838	Turret Crew	27H	55H	Ammunition	31H	13K	1	5	17	33	59	
MG Mount	51 - 51	Coax Machine Gun*	317	755	Turret Crew	27H	55H	Ammunition	31H	13K	1	5	17	33	59	
Lwr Nose	52 - 55	Turret Crew	15H	30H							1	5	17	33	59	
Tur Frt Sd	56 - 82	Turret Crew	33H	74H	Ammunition	38H	84H				-3	-5	-3	0	9	
Turret Ring	83 - 90	Turret Ring	210	208	Turret Crew	604	417				1	5	17	33	59	
Turret Lip	91 - 99	Turret Crew	43H	43H							1	5	17	33	59	
Turret Side	00 - 14	Graze														
Cupola	15 - 18	Turret Crew	127	126							73	59	33	17	5	1
Turret Side	19 - 43	Turret Crew	11H	27H	Main Gun	15H	30H				69	55	30	13	5	1
Turret Side	44 - 64	Turret Crew	11H	27H							69	55	30	13	5	1
Turret Side	65 - 86	Ammo (Expln Prf)	455	13H							72	58	33	16	5	1
Turret Ring	87 - 90	Turret Crew	210	208	Turret Crew	604	417				73	59	33	17	5	1
Gun Barrel	91 - 99	Main Gun	75	74							73	59	33	17	5	1
Turret Rear	00 - 17	Graze														
Cupola	18 - 22	Crew	127	126							1	5	17	33	59	
Turret Rear	23 - 42	Ammunition	445	12H	Turret Crew	595	13H	Main Gun	844	21H	1	5	11	28	53	
Turret Rear	43 - 85	Ammunition	445	12H	Turret Crew	595	13H				1	5	11	28	53	
Turret Ring	86 - 99	Turret Crew	210	208	Turret Crew	604	417				1	5	17	33	59	
Turret Top	00 - 00	Commander's HMG*	6	6	Turret Crew	177	321									
	01 - 61	Turret Crew	158	316												
	62 - 99	Ammo (Expln Prf)	158	316												
Hull Front	00 - 09	Graze														
Dvr Prscp	10 - 10	Driver	15H	14H	Turret Crew	17H	14H	Fuel-Engine	20H	11K	1	5	11	22	43	
Upr Front	11 - 17	Driver	40H	37H	Turret Crew	43H	38H	Fuel-Engine	47H	NP	1	5	11	22	43	
Lwr Glacis	18 - 31	Driver	35H	64H	Turret Crew	37H	66H	Fuel-Engine	41H	NP	1	5	11	26	51	
Upr Front	32 - 41	Fuel	40H	37H	Turret Crew	44H	39H	Fuel-Engine	49H	NP	1	5	11	22	43	
Lwr Glacis	42 - 62	Fuel	35H	64H	Turret Crew	39H	69H	Fuel-Engine	43H	NP	1	5	11	26	51	
Track/Idler	63 - 99	Track / Idler Wheel*	40	40												
Hull Side	00 - 05	Graze														
Hull Side	06 - 09	Road Wheel / Susp*	100	100	Fuel	656	16H	Driver	833	17H	73	59	33	17	5	1
Side Skirt	10 - 13	Idler Wheel*	258	458	Idler Wheel	16H	98K				73	59	33	17	5	1
Side Skirt	14 - 22	Fuel	576	35H	Driver	742	36H	Fuel	930	40H	73	59	33	17	5	1
Hull Side	23 - 23	Road Wheel / Susp*	100	100	Fuel	656	16H	Fuel	859	32H	73	59	33	17	5	1
Side Skirt	24 - 25	Fuel	576	35H	Fuel	775	64H				73	59	33	17	5	1
Hull Side	26 - 31	Road Wheel / Susp*	100	100	Turret Crew	656	16H	Wheel/Susp	15H	86K	73	59	33	17	5	1
Side Skirt	32 - 45	Turret Crew	576	35H							73	59	33	17	5	1
Hull Upr Sd	46 - 49	Turret Crew	531	31H							73	59	33	17	5	1
Hull Side	50 - 50	Road Wheel / Susp*	100	100	Turret Crew	656	16H				73	59	33	17	5	1
Side Skirt	51 - 51	Turret Crew	576	35H							73	59	33	17	5	1
Hull Side	52 - 55	Road Wheel / Susp*	100	100	Fuel-Engine	656	16H	Wheel/Susp	25H	56K	73	59	33	17	5	1
Hull Side	56 - 57	Fuel-Engine	417	833							73	59	33	17	5	1
Hull Side	58 - 61	Drive Sprocket*	130	130	Fuel-Engine	716	16H	Track/Drive	25H	19T	73	59	33	17	5	1
Side Skirt	62 - 66	Fuel-Engine	576	35H	Ammunition	15H	47K				73	59	33	17	5	1
Side Skirt	67 - 75	Fuel-Engine	576	35H							73	59	33	17	5	1
Hull Upr Sd	76 - 86	Fuel	278	18H	Engine	349	19H	Fuel	585	NP	73	59	33	17	5	1
Road Wheel	87 - 99	Road Wheel / Susp*	100	100	Wheel/Susp	288	46H									
Hull Rear	00 - 07	Graze														
Upr Rear	08 - 19	Engine	202	202	Turret Ring	13H	827	Turret Crew	20H	11H	1	5	17	33	59	
Upr Rear	20 - 31	Fuel-Engine	202	202	Turret Crew	11H	18K	Fuel	13H	NP	1	5	17	33	59	
Upr Rear	32 - 41	Fuel-Engine	202	202	Turret Crew	11H	18K	Driver	12H	NP	1	5	17	33	59	
Lwr Rear	42 - 55	Fuel-Engine	664	431	Turret Crew	16H	20K	Fuel	18H	NP	1	5	11	24	49	
Lwr Rear	56 - 68	Fuel-Engine	664	431	Turret Crew	16H	20K	Driver	17H	NP	1	5	11	24	49	
Track/Drive	69 - 99	Track / Drive Sprkt*	40	40												
Hull Top	00 - 75	Fuel-Engine	60	120												
Hatch	76 - 85	Driver	145	145												
Hull Top	86 - 99	Fuel	158	316												

USSR MECHANIZED INFANTRY PLATOON

3 Squads	Morale	Weapon	FP	FP Total
1st Squad				
	BMP - Driver	AK-74	5	
	BMP - Gunner	AK-74	5	
1	Platoon Leader (Lt)	AK-74	5	5
2	Squad Leader (NCO)	AK-74 / GL	5 / 11	5 / 11
3	Anti-Armor Specialist	AK-74 / RPG7V	5 / 38	5 / 38
4	Automatic Rifleman	RPK	10	10
5	Automatic Rifleman	RPK	10	10
6	Rifleman / Sniper	SVD	5	5
7	Rifleman	AK-74 / GL	5 / 11	5 / 11
8	Rifleman	AK-74	5	5
Endurance Points				
2nd Squad		**Weapon**	**FP**	**FP Total**
	BMP - Driver	AK-74	5	
	BMP - Gunner	AK-74	5	
1	Squad Leader (NCO)	AK-74 / GL	5 / 11	5 / 11
2	Anti-Armor Specialist	AK-74 / RPG7V	5 / 38	5 / 38
3	Automatic Rifleman	RPK	10	10
4	Automatic Rifleman	RPK	10	10
5	Automatic Rifleman	RPK	10	10
6	Rifleman	AK-74	5	5
7	Rifleman	AK-74 / GL	5 / 11	5 / 11
8	Rifleman	AK-74	5	5
Endurance Points				
3rd Squad		**Weapon**	**FP**	**FP Total**
	BMP - Driver	AK-74	5	
	BMP - Gunner	AK-74	5	
1	Platoon Sergeant	AK-74	5	5
2	Squad Leader (NCO)	AK-74 / GL	5 / 11	5 / 11
3	Anti-Armor Specialist	AK-74 / RPG7V	5 / 38	5 / 38
4	Automatic Rifleman	RPK	10	10
5	Automatic Rifleman	RPK	10	10
6	Rifleman / SA Missile	AK-74 / SA7	5	5
7	Rifleman	AK-74 / GL	5 / 11	5 / 11
8	Rifleman	AK-74	5	5
Endurance Points				

USA MECHANIZED INFANTRY PLATOON

4 Squads	Morale	Weapon	FP	FP Total
HQ Squad				
	M2 Bradley - Driver	M16	5	
	M2 Bradley - Gunner	M16	5	
	Assistant Squad Ldr	M16	5	
1	Platoon Leader (Lt)	M16	5	5
2	Radioman	M16	5	5
3	Forward Observer	M16	5	5
4	FO's Radioman	M16	5	5
6	Medic	Pistol	.4	–
Endurance Points				
1st Squad		**Weapon**	**FP**	**FP Total**
	M2 Bradley - Driver	M16	5	
	M2 Bradley - Gunner	M16	5	
	Assistant Squad Ldr	M16	5	
1	Squad Leader (NCO)	M203	5 / 11	5 / 11
2	Anti-Armor Specialist	M16 / Dragon	5 / 35	5 / 35
3	Automatic Rifleman	M249	13	13
4	Automatic Rifleman	M249	13	13
5	Grenadier	M203	5 / 11	5 / 11
6	Rifleman / Sniper	M16	5	5
Endurance Points				
2nd Squad		**Weapon**	**FP**	**FP Total**
	M2 Bradley - Driver	M16	5	
	M2 Bradley - Gunner	M16	5	
	Assistant Squad Ldr	M16	5	
1	Squad Leader (NCO)	M203	5 / 11	5 / 11
2	Anti-Armor Specialist	M16 / Dragon	5 / 35	5 / 35
3	Automatic Rifleman	M249	13	13
4	Automatic Rifleman	M249	13	13
5	Grenadier	M203	5 / 11	5 / 11
6	Rifleman / Sniper	M16	5	5
Endurance Points				
3rd Squad		**Weapon**	**FP**	**FP Total**
	M2 Bradley - Driver	M16	5	
	M2 Bradley - Gunner	M16	5	
	Platoon Sergeant	M16	5	
1	Squad Leader (NCO)	M203	5 / 11	5 / 11
2	Anti-Armor Specialist	M16 / Dragon	5 / 35	5 / 35
3	Automatic Rifleman	M249	13	13
4	Automatic Rifleman	M249	13	13
5	Grenadier	M203	5 / 11	5 / 11
6	Rifleman / Sniper	M16	5	5
Endurance Points				

TERRAIN AND MOVEMENT TABLE / 1A

Terrain Type	Clear Lane Chance	Maneuver Lane Chance	No Lane Chance	Turret Traverse Chance per Zone Short Gun	Turret Traverse Chance per Zone Long Gun	Spotting Modifier	Spotting Depth MH	Clear Shot Chance
Light Woods	83	98	00	89	63	0	5	85
Medium Woods	08	53	00	77	34	+ 1	2	65
Heavy Woods	—	—	05	51	06	+ 2	1	10
Dense Woods	—	—	70	32	00	+ 3	.5	—
Light Rock	83	98	00	99	99	0	LOS	99
Medium Rock	33	94	00	99	99	0	LOS	98
Heavy Rock	—	08	00	99	98	0	LOS	96
Veh Size Rocks	—	—	31	75	42	+ 1	1	38
Light Brush	83	98	01	99	99	+ 1	2	40
Medium Brush	18	75	03	99	99	+ 2	1	10
Heavy Brush	—	03	07	99	99	+ 3	.5	—

KEY

Woods, Rock, and Brush Movement across woods and rocky terrain is detailed in Section 2.3. This includes movement speeds, the effects of collisions with trees and boulders, and the ability to traverse a Vehicle's Turret. Each of the terrain types is described below.

Light Woods: Little undergrowth and few trees large enough to inhibit the movement of tracked Vehicles.

Medium Woods: Little undergrowth, with large trees (14 per MH) which inhibit the movement of Vehicles.

Heavy Woods: Numerous large trees (36 per MH) with little undergrowth.

Dense Woods: Tightly packed large trees (60 per MH) but no undergrowth.

Light Rock: Open ground with a few large rocks (2 feet across) inhibiting the movement of Vehicles.

Medium Rock: Open ground with large rocks (10 per MH) inhibiting the movement of Vehicles.

Heavy Rock: Open ground with numerous large rocks (22 per MH). Some are 4 to 6 feet in diameter.

Veh Size Boulders: Open ground with vehicle size boulders (2-3 per MH) and large rocks (30 per MH).

Brush: Large clumps of brush which are roughly 6 to 8 feet in diameter and tall enough to conceal a Vehicle. This brush inhibits tracked Vehicle movement in the same fashion as Woods and Rock. If an open maneuver Lane is not available, however, the Vehicle can still proceed by running over the Brush. The Blocked Lane chance gives the odds per MH that in going over the Brush, the Vehicle becomes Stalled. Normal rules for hitting an Obstacle and Recovery apply (Section 2.5).

Gullies and Streams: When entering a Gully or Stream, the slope of the ground at entry and exit is found by a random roll of the Streambed Slope Table 1D. Add the Slope listed from the table to the terrain ground slope to find the entry and exit slope for each 10 MH length of streambed. Movement in and out of the hex follows normal slope movement rules with the ground treated as Mud in the case of a wet soil or earth bed, and Loose Soil in the case of a wet rock bed. Movement down the Streambed is like movement down terrain with one level higher Rock. Note that the depth of the water in the bed determines if Hidden Obstacle rules apply.

Speed and Hull Turning Rate: Table 1B gives the Maximum Hull Turning Rate per Turn which can be made as a function of the Vehicle's Speed in MHPT. The Acc VC is the Vehicle's Acceleration Velocity Change from Status Sheet 1. The HTR is the vehicle's Hull Turning Rate from Status Sheet 1.

Hidden Obstacles: Hidden Obstacles may be mines or large rocks hidden by tall grass or deep water. These rules apply when the Driver's vision is obstructed and he cannot take measures to avoid obstacles. To find the chance of the Driver hitting a Hidden Obstacle, simply cross index the number of Obstacles per MH on Table 1C to find the Hull or Track Hit Chance per MH crossed. Normal Obstacle and collision rules apply if a Hidden Obstacle is hit (Section 2.5).

Roads: Roadways crossing hilly terrain are graded flat for easy transport. The Slope off road in the Uphill direction, can be found by a Random Roll on the Streambed Slope Table 1D. Add the result to the hill Slope the road is crossing. The slope of the terrain off road in the downhill direction is the same as the local terrain. These Slopes apply along a 10 MH section of the road.

Walls: Low man-made Obstacles such as rock and mortar walls or light Vehicles can be crossed by tracked Vehicles. In general a tank can cross a 3 foot vertical obstacle. The obstacle may be crushed under the tracks but catch beneath the Hull, leaving the Vehicle 'high centered' and stuck. When a tracked Vehicle attempts to cross a low wall, there is a 10% chance the vehicle becomes Stalled. Normal recovery rules for hitting an Obstacle (Section 2.5) apply.

Collisions: When a Vehicle hits an Obstacle or another Vehicle, the Crew of each Vehicle may be Incapacitated. The Collision Table 1E gives the Crew Incapacitation Chance based on the Vehicle's speed. When a Vehicle hits an Obstacle or rapidly decelerates as the result of a track and suspension disabling hit, the speed of the collision is the Vehicle's speed prior to the collision minus the Vehicle's Deceleration VC from Status Sheet 1. For example, if a tank is moving at speed 6 MHPT when it has its track disabled, it will rapidly come to a halt. If the tank's Deceleration is 2 MHPT, the collision speed would be 6 - 2 = 4 MHPT, and each Crew Member would have a 08 chance of being incapacitated.

SPEED and TURNS / 1B

Speed MHPT	Max Hull Facing Change per Turn
< 1 X Acc VC	HTR / Turn
< 2 X Acc VC	3 X HTR / Phase
< 3 X Acc VC	2 X HTR / Phase
> 3 X Acc VC	1 X HTR / Phase

HIDDEN OBSTACLES / 1C

Number of Obstacles	Track Hit	Hull Hit
1	07	13
2	15	25
3	22	35
4	29	44
6	40	58
8	50	68
10	58	76
14	70	86
20	82	94
32	93	98

STREAMBED SLOPE TABLE / 1D

Random Roll	Entry / Exit Slope
0	+ 10°
1 - 2	+ 20°
3 - 5	+ 30°
6 - 7	+ 40°
8 - 9	+ 50°

COLLISION TABLE / 1E

Collision Speed MHPT	Crew Incap Helm	Crew Incap No Helm
1 - 3	00	06
4 - 5	08	66
6	14	93
7	27	97
8	54	Inc
9	66	Inc
10	81	Inc

ODDS OF HITTING TABLE / 2A

Shot Accuracy	Target Range in 20 Yard Mech Hexes																
	4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
-26	01																
-24	01																
-22	02																
-20	04	00															
-18	06	01															
-16	09	02	01														
-14	15	03	01	01													
-12	22	05	02	01	00												
-11	27	06	03	02	01												
-10	33	07	04	02	01	00											
-9	39	09	05	03	01	01											
-8	46	12	06	04	02	01	00										
-7	53	15	07	05	02	01	01	00									
-6	60	18	09	06	03	02	01	01	00								
-5	67	22	12	07	04	02	01	01	01	00							
-4	74	27	15	09	05	03	02	01	01	01	00						
-3	80	33	18	12	06	04	02	02	01	01	01	00					
-2	86	39	22	15	07	05	03	02	02	01	01	01	00				
-1	90	46	27	18	09	06	04	03	02	02	01	01	01	00			
0	94	53	33	22	12	07	05	04	03	02	02	01	01	01	00		
1	96	60	39	27	15	09	06	05	04	03	02	02	01	01	01	00	
2	98	67	46	33	18	12	07	06	05	04	03	02	02	01	01	01	00
3		74	53	39	22	15	09	07	06	05	04	03	02	02	01	01	01
4		80	60	46	27	18	12	09	07	06	05	04	03	02	02	01	01
5		86	67	53	33	22	15	12	09	07	06	05	04	03	02	02	01
6		90	74	60	39	27	18	15	12	09	07	06	05	04	03	02	02
7		94	80	67	46	33	22	18	15	12	09	07	06	05	04	03	02
8		96	86	74	53	39	27	22	18	15	12	09	07	06	05	04	03
9		98	90	80	60	46	33	27	22	18	15	12	09	07	06	05	04
10			94	86	67	53	39	33	27	22	18	15	12	09	07	06	05
11			96	90	74	60	46	39	33	27	22	18	15	12	09	07	06
12			98	94	80	67	53	46	39	33	27	22	18	15	12	09	07
13				96	86	74	60	53	46	39	33	27	22	18	15	12	09
14				98	90	80	67	60	53	46	39	33	27	22	18	15	12
15					94	86	74	67	60	53	46	39	33	27	22	18	15
16					96	90	80	74	67	60	53	46	39	33	27	22	18
17					98	94	86	80	74	67	60	53	46	39	33	27	22
18						96	90	86	80	74	67	60	53	46	39	33	27
19						98	94	90	86	80	74	67	60	53	46	39	33
20							96	94	90	86	80	74	67	60	53	46	39
21							98	96	94	90	86	80	74	67	60	53	46
22								98	96	94	90	86	80	74	67	60	53
23									98	96	94	90	86	80	74	67	60
24										98	96	94	90	86	80	74	67
25											98	96	94	90	86	80	74
26												98	96	94	90	86	80
27													98	96	94	90	86
28														98	96	94	90
29															98	96	94
30																98	96
31																	98

MISS

HIT

BASIC AUTOMATIC FIRE TABLE / 2C

Automatic ROF	Target Range in 20 Yard Mech Hexes																
	4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
1	*3	*3	*3	*3	*3	*3	*3	*2	*1	*1	80	60	46	36	28	21	17
2	*6	*6	*6	*6	*6	*6	*6	*3	*3	*2	*2	*1	93	73	56	43	34
4	*12	*12	*12	*12	*12	*12	*12	*7	*5	*4	*3	*2	*2	*1	*1	88	69
5	*15	*15	*15	*15	*15	*15	*15	*8	*6	*5	*4	*3	*2	*1	*1	*1	83
6	*18	*18	*18	*18	*18	*18	*18	*10	*8	*6	*5	*4	*3	*2	*2	*1	*1
7	*21	*21	*21	*21	*21	*21	*21	*12	*10	*7	*6	*4	*3	*3	*2	*1	*1
8	*24	*24	*24	*24	*24	*24	*24	*14	*11	*8	*6	*5	*4	*3	*2	*1	*1
9	*27	*27	*27	*27	*27	*27	*27	*15	*12	*9	*7	*6	*4	*3	*3	*2	*2
10	*30	*30	*30	*30	*30	*30	*30	*16	*12	*10	*8	*6	*5	*4	*3	*2	*2

OPTIONAL MODS / 2B

	SA Mods
Crew Skill	
Untrained	-10
Militia	- 5
Green	- 3
Line	0
Crack	+ 1
Elite	+ 3
Guard	+ 4
Target Size	
Tank / APC Front	0
Tank / APC Obliq	+ 2
Tank / APC Side	+ 2
Tank Hull Dwn Fnt	- 4
Tank Hull Dwn Obq	- 3
Tank Hull Dwn Side	- 3
APC Hull Dwn Fnt	- 7
APC Hull Dwn Obq	- 5
APC Hull Dwn Side	- 5
Infantry	- 6

*** Moving Target**

1 MHPT	MTAM - 6
2 MHPT	MTAM - 7
3 MHPT	MTAM - 8
5 MHPT	MTAM - 9
6 MHPT	MTAM - 10
7 MHPT	MTAM - 11
8 MHPT	MTAM - 12
10 MHPT	MTAM - 13
12 MHPT	MTAM - 14
14 MHPT	MTAM - 16

*** Moving Shooter**

1 MHPT	MSAM - 17
2 MHPT	MSAM - 21
3 MHPT	MSAM - 22
4 MHPT	MSAM - 23
5 MHPT	MSAM - 24
6 MHPT	MSAM - 25
8 MHPT	MSAM - 26
9 MHPT	MSAM - 27
10 MHPT	MSAM - 28
12 MHPT	MSAM - 29
14 MHPT	MSAM - 30

* The MTAM is the Moving Target Accuracy Mod. The MSAM is the Moving Shooter Accuracy Mod. They are found on the Equip and Veh Data Table of Status Sheet 1.

These Mods account for the vehicle's gun stabilization and fire control. The sum must be less than or equal to 0.

TRACK AND SUSPENSION DISABLE CHANCE / 3A

NID	Track Idler or Drive	Road Wheel or Suspension	BC0	Blast on Track Idler or Drive	BC0	Blast on Road Wheel or Suspension
0	00	—	500	00	10H	00
1	01	00	600	01	15H	15
5	05	03	700	02	20H	21
10	12	07	800	04	25H	26
15	19	10	900	06	30H	29
20	26	14	10H	09	35H	33
25	33	17	11H	11	40H	36
30	41	20	12H	17	45H	38
35	49	24	13H	22	50H	41
40	57	27	14H	26	55H	43
45	65	30	16H	33	60H	45
50	73	33	18H	39	65H	47
55	81	36	20H	44	70H	49
60	89	39	22H	48	75H	51
65	98	42	26H	57	80H	53
70	99	45	30H	64	10K	59
80		51	35H	73	14K	70
100		62	40H	81	18K	79
120		73	45H	88	22K	87
140		84	50H	95	26K	94
160		95	55H	99	30K	99

FUEL AND AMMUNITION HITS / 3B

For definition of the Fire Mod see Key below

Fire Mod	Explode Chance	Fire Chance
1	00	00
5	01	02
10	03	08
12	04	14
14	06	22
16	08	35
18	13	68
19	11	55
20	15	86
22	21	99
23	24	
24	28	
25	32	
26	37	
27	43	
28	49	
29	57	
30	65	
31	75	
32	87	
33	99	

Ammunition Modifiers	
Solid Shot AP	1
AP with Tracer	5
AP with Explosive	10
AP with Incendiary	15
APFSDS	15
HEAT or HE	25

ENGINE HITS / 3C

For Over Pen see Key

Over Penetration	Disable Chance
100 - 199	04
200 - 299	05
300 - 399	27
400 - 499	45
500 - 599	68
600 - 799	85
800 - 999	88
1000 - 1499	91
1500 +	99

AUTOMATIC FIRE CREW HIT CHANCE TABLE / 3D

Pattern ALM	Weapon Rate of Fire (ROF)																						
	.2	.4	.6	.8	1.0	1.2	1.4	1.6	1.8	2	3	4	5	6	7	8	9	10	12	18	36	54	72
6	59	*1	*2	*2	*3	*4	*4	*5	*5	*6	*9	*12	*15	*18	*21	*24	*27	*30	*36	*54	*1H	*2H	*2H
7	45	90	*1	*2	*2	*3	*3	*4	*4	*5	*7	*9	*11	*14	*16	*18	*21	*23	*27	*41	*82	*1H	*2H
8	34	69	*1	*1	*2	*2	*2	*3	*3	*3	*5	*7	*9	*10	*12	*14	*16	*17	*21	*31	*63	*94	*1H
9	26	53	80	*1	*1	*2	*2	*2	*2	*3	*4	*5	*7	*8	*9	*11	*12	*13	*16	*24	*49	*73	*97
10	20	41	61	82	*1	*1	*1	*2	*2	*2	*3	*4	*5	*6	*7	*8	*9	*10	*12	*19	*37	*56	*75
11	15	31	47	63	79	95	*1	*1	*1	*2	*2	*3	*4	*5	*6	*6	*7	*8	*10	*14	*29	*43	*58
12	11	24	36	49	61	74	86	98	*1	*1	*2	*2	*3	*4	*4	*5	*6	*6	*7	*11	*22	*34	*45
13	09	18	28	37	47	56	66	76	85	95	*1	*2	*2	*3	*3	*4	*4	*5	*6	*9	*17	*26	*34
14	06	14	21	29	36	43	51	58	65	73	*1	*1	*2	*2	*3	*3	*3	*4	*4	*7	*13	*20	*27
15	05	10	16	22	27	33	39	44	50	56	84	*1	*1	*2	*2	*2	*3	*3	*3	*5	*10	*15	*20
16	03	08	12	16	21	25	30	34	38	43	64	86	*1	*1	*2	*2	*2	*2	*3	*4	*8	*12	*16
18	02	04	07	09	12	14	17	19	22	25	37	50	63	76	89	*1	*1	*1	*2	*2	*5	*7	*9
20	00	02	03	05	06	08	09	11	12	14	21	29	36	44	51	59	66	74	89	*1	*3	*4	*5
22		01	02	02	03	04	05	06	07	08	12	16	21	25	29	34	38	42	51	77	*2	*2	*3
24		00	01	01	02	02	03	03	04	04	07	09	12	14	17	19	22	24	29	44	89	*1	*2
26				00	00	01	01	01	02	02	03	05	06	08	09	11	12	13	16	25	51	77	*1
28						00	00	00	01	01	02	02	03	04	05	06	07	07	09	14	29	44	59
30											00	01	01	02	02	03	03	04	05	08	16	25	34

TABLE KEY

Track Suspension Disable Chance: To find the chance of Disabling a Vehicle's mobility, enter with the Round's Nonpenetrating Impact Damage (NID) for non-explosive rounds, or Blast Concussion (BC0) for explosive rounds. Choose the appropriate column based on the Hit Location. TheTrack and Suspension may be disabled by explosive rounds whether or not the blast penetrates.

Fuel and Ammunition Hits: The Fire Mod equals the Ammunition Modifier from the right side of the table plus the Fuel or Ammo Hit Modifier from the Equipment and Vehicle Data Table of Status Sheet 1.

Engine Hits: The Over PEN equals the round's PEN value minus the Effective Protection Factor (EPF) of the Engine Compartment. For HE rounds, the Over PEN equals the BC0 / 100.

Automatic Fire Crew Hit Chance: To determine if Crew are hit by penetrating automatic fire, cross index the weapon's Pattern ALM (PALM) and Rate of Fire (ROF) to find the Hit Chance. A value preceded by an * gives the number of hits, otherwise it is the percent chance of hitting with one round. This applies to each Crew Member in the penetrated compartment.

Incapacitation Time: To find the Time in Phases (P) or Turns (T) Crew Members remain Incapacitated, enter Table 3E and roll a 00 - 99 number.

INCAPACITATION TIME 3E

Roll	Inc Time	Roll	Inc Time
00 - 00	1 P	10 - 10	5 T
01 - 01	2 P	11 - 15	10 T
02 - 02	3 P	16 - 20	15 T
03 - 03	4 P	21 - 30	25 T
04 - 04	6 P	31 - 40	40 T
05 - 05	8 P	41 - 50	100 T
06 - 06	10 P	51 - 60	150 T
07 - 07	12 P	61 - 70	200 T
08 - 08	14 P	71 - 80	300 T
09 - 09	16 P	81 - 99	600 T

EFFECTIVE PROTECTION FACTOR (EPF) / 4

Base PF	Effective Glancing Modifier																						Base PF
	-60	-55	-50	-45	-40	-35	-30	-25	-20	-18	-16	-14	-12	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	
20	1	2	2	3	3	4	5	7	8	9	10	11	12	13	13	14	15	15	16	17	18	18	19	20
50	4	4	5	7	9	11	13	17	21	23	25	27	29	32	34	35	37	38	40	42	44	46	48	50
100	7	9	11	14	17	21	27	33	41	45	49	54	59	64	67	70	73	77	80	84	88	92	96	100
150	11	13	16	20	26	32	40	50	62	68	74	81	88	96	101	105	110	115	120	126	131	137	144	150
200	14	18	22	27	34	43	53	66	83	90	99	108	118	129	134	140	147	153	160	168	175	183	191	200
250	18	22	27	34	43	53	66	83	103	113	123	135	147	161	168	175	183	192	200	209	219	229	239	250
300	21	26	33	41	51	64	80	99	124	135	148	161	176	193	201	211	220	230	240	251	263	275	287	300
350	25	31	38	48	60	74	93	116	144	158	172	188	206	225	235	246	257	268	281	293	307	320	335	350
400	28	35	44	55	68	85	106	132	165	180	197	215	235	257	269	281	293	307	321	335	350	366	383	400
450	32	40	49	61	77	96	119	149	186	203	222	242	265	289	302	316	330	345	361	377	394	412	431	450
500	35	44	55	68	85	106	133	165	206	226	246	269	294	321	336	351	367	383	401	419	438	458	478	500
550	39	48	60	75	94	117	146	182	227	248	271	296	323	353	369	386	404	422	441	461	482	503	526	550
600	42	53	66	82	102	128	159	199	248	271	296	323	353	386	403	421	440	460	481	503	525	549	574	600
650	46	57	71	89	111	138	172	215	268	293	320	350	382	418	437	456	477	498	521	545	569	595	622	650
700	49	61	77	96	119	149	186	232	289	316	345	377	412	450	470	491	514	537	561	586	613	641	670	700
800	56	70	88	109	136	170	212	265	330	361	394	431	471	514	537	562	587	614	641	670	701	732	765	800
900	63	79	99	123	153	191	239	298	372	406	443	484	529	578	604	632	660	690	721	754	788	824	861	900
10H	70	88	110	137	170	213	265	331	413	451	493	538	588	643	672	702	734	767	802	838	876	915	957	10H
11H	77	97	120	150	187	234	292	364	454	496	542	592	647	707	739	772	807	844	882	922	963	10H	11H	11H
12H	84	105	131	164	205	255	318	397	495	541	591	646	706	771	806	842	880	920	962	10H	11H	11H	11H	12H
13H	91	114	142	178	222	276	345	430	537	586	641	700	765	835	873	913	954	997	10H	11H	11H	12H	12H	13H
14H	99	123	153	191	239	298	371	463	578	631	690	754	823	900	940	983	10H	11H	11H	12H	12H	13H	13H	14H
15H	106	132	164	205	256	319	398	496	619	677	739	807	882	964	10H	11H	11H	12H	12H	13H	13H	14H	14H	15H
16H	113	140	175	219	273	340	424	529	661	722	788	861	941	10H	11H	11H	12H	12H	13H	13H	14H	15H	15H	16H
17H	120	149	186	232	290	361	451	563	702	767	838	915	10H	11H	11H	12H	12H	13H	14H	14H	15H	16H	16H	17H
18H	127	158	197	246	307	383	477	596	743	812	887	969	11H	12H	12H	13H	13H	14H	14H	15H	16H	16H	17H	18H
19H	134	167	208	260	324	404	504	629	784	857	936	10H	11H	12H	13H	13H	14H	15H	15H	16H	17H	17H	18H	19H
20H	141	176	219	273	341	425	531	662	826	902	986	11H	12H	13H	13H	14H	15H	15H	16H	17H	18H	18H	19H	20H
21H	148	184	230	287	358	447	557	695	867	947	10H	11H	12H	13H	14H	15H	15H	16H	17H	18H	18H	19H	20H	21H
22H	155	193	241	301	375	468	584	728	908	992	11H	12H	13H	14H	15H	15H	16H	17H	18H	18H	19H	20H	21H	22H
23H	162	202	252	314	392	489	610	761	950	10H	11H	12H	14H	15H	15H	16H	17H	18H	18H	19H	20H	21H	22H	23H
24H	169	211	263	328	409	510	637	794	991	11H	12H	13H	14H	15H	16H	17H	18H	18H	19H	20H	21H	22H	23H	24H
25H	176	219	274	342	426	532	663	827	10H	11H	12H	13H	15H	16H	17H	18H	18H	19H	20H	21H	22H	23H	24H	25H
26H	183	228	285	355	443	553	690	860	11H	12H	13H	14H	15H	17H	17H	18H	19H	20H	21H	22H	23H	24H	25H	26H
27H	190	237	296	369	460	574	716	894	11H	12H	13H	15H	16H	17H	18H	19H	20H	21H	22H	23H	24H	25H	26H	27H
28H	197	246	307	383	477	595	743	927	12H	13H	14H	15H	16H	18H	19H	20H	21H	21H	22H	23H	25H	26H	27H	28H
29H	204	255	318	396	494	617	769	960	12H	13H	14H	16H	17H	19H	19H	20H	21H	22H	23H	24H	25H	27H	28H	29H
30H	211	263	329	410	511	638	796	993	12H	14H	15H	16H	18H	19H	20H	21H	22H	23H	24H	25H	26H	27H	29H	30H
32H	225	281	350	437	545	680	849	11H	13H	14H	16H	17H	19H	21H	21H	22H	23H	25H	26H	27H	28H	29H	31H	32H
34H	239	298	372	465	579	723	902	11H	14H	15H	17H	18H	20H	22H	23H	24H	25H	26H	27H	28H	30H	31H	33H	34H
36H	253	316	394	492	614	765	955	12H	15H	16H	18H	19H	21H	23H	24H	25H	26H	28H	29H	30H	32H	33H	34H	36H
38H	267	334	416	519	648	808	10H	13H	16H	17H	19H	20H	22H	24H	26H	27H	28H	29H	30H	32H	33H	35H	36H	38H
40H	281	351	438	546	682	851	11H	13H	17H	18H	20H	22H	24H	26H	27H	28H	29H	31H	32H	34H	35H	37H	38H	40H
42H	296	369	460	574	716	893	11H	14H	17H	19H	21H	23H	25H	27H	28H	29H	31H	32H	34H	35H	37H	38H	40H	42H
44H	310	386	482	601	750	936	12H	15H	18H	20H	22H	24H	26H	28H	30H	31H	32H	34H	35H	37H	39H	40H	42H	44H
46H	324	404	504	628	784	978	12H	15H	19H	21H	23H	25H	27H	30H	31H	32H	34H	35H	37H	39H	40H	42H	44H	46H
48H	338	421	526	656	818	10H	13H	16H	20H	22H	24H	26H	28H	31H	32H	34H	35H	37H	38H	40H	42H	44H	46H	48H
50H	352	439	548	683	852	11H	13H	17H	21H	23H	25H	27H	29H	32H	34H	35H	37H	38H	40H	42H	44H	46H	48H	50H
55H	387	483	602	751	937	12H	15H	18H	23H	25H	27H	30H	32H	35H	37H	39H	40H	42H	44H	46H	48H	50H	53H	55H
60H	422	527	657	820	10H	13H	16H	20H	25H	27H	30H	32H	35H	39H	40H	42H	44H	46H	48H	50H	53H	55H	57H	60H
65H	457	571	712	888	11H	14H	17H	22H	27H	29H	32H	35H	38H	42H	44H	46H	48H	50H	52H	54H	57H	59H	62H	65H
70H	493	614	767	956	12H	15H	19H	23H	29H	32H	34H	38H	41H	45H	47H	49H	51H	54H	56H	59H	61H	64H	67H	70H
75H	528	658	821	10H	13H	16H	20H	25H	31H	34H	37H	40H	44H	48H	50H	53H	55H	58H	60H	63H	66H	69H	72H	75H
80H	563	702	876	11H	14H	17H	21H	26H	33H	36H	39H	43H	47H	51H	54H	56H	59H	61H	64H	67H	70H	73H	77H	80H
85H	598	746	931	12H	14H	18H	23H	28H	35H	38H	42H	46H	50H	55H	57H	60H	62H	65H	68H	71H	74H	78H	81H	85H
90H	633	790	986	12H	15H	19H	24H	30H	37H	41H	44H	48H	53H	58H	60H	63H	66H	69H	72H	75H	79H	82H	86H	90H
95H	668	834	10H	13H	16H	20H	25H	31H	39H	43H	47H	51H	56H	61H	64H	67H	70H	73H	76H	80H	83H	87H	91H	95H
10K	704	878	11H	14H	17H	21H	27H	33H	41H	45H	49H	54H	59H	64H	67H	70H	73H	77H	80H	84H	88H	92H	96H	10K

EFFECTIVE PROTECTION FACTOR (EPF) / 4

Base PF	Effective Glancing Modifier																							Base PF
	1	2	3	4	5	6	7	8	9	12	15	20	25	30	35	40	45	50	55	60	65	70	75	
20	21	22	23	24	25	26	27	28	30	34	39	48	60	75	94	117	146	183	228	284	355	442	552	20
50	52	55	57	60	62	65	68	71	74	85	97	121	151	188	235	293	366	457	570	711	886	11H	14H	50
100	105	109	114	119	125	130	136	142	149	170	194	242	302	377	470	587	732	913	11H	14H	18H	22H	28H	100
150	157	164	171	179	187	196	204	214	223	255	291	363	453	565	705	880	11H	14H	17H	21H	27H	33H	41H	150
200	209	218	228	239	250	261	273	285	298	340	388	484	604	754	941	12H	15H	18H	23H	28H	35H	44H	55H	200
250	261	273	285	298	312	326	341	356	372	425	485	606	755	942	12H	15H	18H	23H	28H	36H	44H	55H	69H	250
300	314	328	343	358	374	391	409	427	447	510	582	727	907	11H	14H	18H	22H	27H	34H	43H	53H	66H	83H	300
350	366	382	400	418	437	456	477	499	521	595	680	848	11H	13H	16H	21H	26H	32H	40H	50H	62H	77H	97H	350
400	418	437	457	477	499	522	545	570	596	680	777	969	12H	15H	19H	23H	29H	37H	46H	57H	71H	88H	11K	400
450	470	492	514	537	561	587	613	641	670	765	874	11H	14H	17H	21H	26H	33H	41H	51H	64H	80H	10K	12K	450
500	523	546	571	597	624	652	681	712	745	850	971	12H	15H	19H	24H	29H	37H	46H	57H	71H	89H	11K	14K	500
550	575	601	628	656	686	717	750	784	819	935	11H	13H	17H	21H	26H	32H	40H	50H	63H	78H	98H	12K	15K	550
600	627	655	685	716	749	782	818	855	893	10H	12H	15H	18H	23H	28H	35H	44H	55H	68H	85H	11K	13K	17K	600
650	679	710	742	776	811	848	886	926	968	11H	13H	16H	20H	25H	31H	38H	48H	59H	74H	92H	12K	14K	18K	650
700	732	765	799	835	873	913	954	997	10H	12H	14H	17H	21H	26H	33H	41H	51H	64H	80H	99H	12K	15K	19K	700
800	836	874	914	955	998	10H	11H	11H	12H	14H	16H	19H	24H	30H	38H	47H	59H	73H	91H	11K	14K	18K	22K	800
900	941	983	10H	11H	11H	12H	12H	13H	13H	15H	17H	22H	27H	34H	42H	53H	66H	82H	10K	13K	16K	20K	25K	900
10H	10H	11H	11H	12H	12H	13H	14H	14H	15H	17H	19H	24H	30H	38H	47H	59H	73H	91H	11K	14K	18K	22K	28K	10H
11H	11H	12H	13H	13H	14H	14H	15H	16H	16H	19H	21H	27H	33H	41H	52H	65H	81H	10K	13K	16K	20K	24K	30K	11H
12H	13H	13H	14H	14H	15H	16H	16H	17H	18H	20H	23H	29H	36H	45H	56H	70H	88H	11K	14K	17K	21K	27K	33K	12H
13H	14H	14H	15H	16H	16H	17H	18H	19H	19H	22H	25H	31H	39H	49H	61H	76H	95H	12K	15K	18K	23K	29K	36K	13H
14H	15H	15H	16H	17H	17H	18H	19H	20H	21H	24H	27H	34H	42H	53H	66H	82H	10K	13K	16K	20K	25K	31K	39K	14H
15H	16H	16H	17H	18H	19H	20H	20H	21H	22H	26H	29H	36H	45H	57H	71H	88H	11K	14K	17K	21K	27K	33K	41K	15H
16H	17H	17H	18H	19H	20H	21H	22H	23H	24H	27H	31H	39H	48H	60H	75H	94H	12K	15K	18K	23K	28K	35K	44K	16H
17H	18H	19H	19H	20H	21H	22H	23H	24H	25H	29H	33H	41H	51H	64H	80H	10K	12K	16K	19K	24K	30K	38K	47K	17H
18H	19H	20H	21H	21H	22H	23H	25H	26H	27H	31H	35H	44H	54H	68H	85H	11K	13K	16K	21K	26K	32K	40K	50K	18H
19H	20H	21H	22H	23H	24H	25H	26H	27H	28H	32H	37H	46H	57H	72H	89H	11K	14K	17K	22K	27K	34K	42K	52K	19H
20H	21H	22H	23H	24H	25H	26H	27H	28H	30H	34H	39H	48H	60H	75H	94H	12K	15K	18K	23K	28K	35K	44K	55K	20H
21H	22H	23H	24H	25H	26H	27H	29H	30H	31H	36H	41H	51H	63H	79H	99H	12K	15K	19K	24K	30K	37K	46K	58K	21H
22H	23H	24H	25H	26H	27H	29H	30H	31H	33H	37H	43H	53H	66H	83H	10K	13K	16K	20K	25K	31K	39K	49K	61K	22H
23H	24H	25H	26H	27H	29H	30H	31H	33H	34H	39H	45H	56H	70H	87H	11K	13K	17K	21K	26K	33K	41K	51K	63K	23H
24H	25H	26H	27H	29H	30H	31H	33H	34H	36H	41H	47H	58H	73H	90H	11K	14K	18K	22K	27K	34K	43K	53K	66K	24H
25H	26H	27H	29H	30H	31H	33H	34H	36H	37H	43H	49H	61H	76H	94H	12K	15K	18K	23K	28K	36K	44K	55K	69K	25H
26H	27H	28H	30H	31H	32H	34H	35H	37H	39H	44H	50H	63H	79H	98H	12K	15K	19K	24K	30K	37K	46K	58K	72K	26H
27H	28H	29H	31H	32H	34H	35H	37H	38H	40H	46H	52H	65H	82H	10K	13K	16K	20K	25K	31K	38K	48K	60K	75K	27H
28H	29H	31H	32H	33H	35H	37H	38H	40H	42H	48H	54H	68H	85H	11K	13K	16K	20K	26K	32K	40K	50K	62K	77K	28H
29H	30H	32H	33H	35H	36H	38H	40H	41H	43H	49H	56H	70H	88H	11K	14K	17K	21K	26K	33K	41K	51K	64K	80K	29H
30H	31H	33H	34H	36H	37H	39H	41H	43H	45H	51H	58H	73H	91H	11K	14K	18K	22K	27K	34K	43K	53K	66K	83K	30H
32H	33H	35H	37H	38H	40H	42H	44H	46H	48H	54H	62H	78H	97H	12K	15K	19K	23K	29K	36K	45K	57K	71K	88K	32H
34H	36H	37H	39H	41H	42H	44H	46H	48H	51H	58H	66H	82H	10K	13K	16K	20K	25K	31K	39K	48K	60K	75K	94K	34H
36H	38H	39H	41H	43H	45H	47H	49H	51H	54H	61H	70H	87H	11K	14K	17K	21K	26K	33K	41K	51K	64K	80K	99K	36H
38H	40H	42H	43H	45H	47H	50H	52H	54H	57H	65H	74H	92H	11K	14K	18K	22K	28K	35K	43K	54K	67K	84K	10T	38H
40H	42H	44H	46H	48H	50H	52H	55H	57H	60H	68H	78H	97H	12K	15K	19K	23K	29K	37K	46K	57K	71K	88K	11T	40H
42H	44H	46H	48H	50H	52H	55H	57H	60H	63H	71H	82H	10K	13K	16K	20K	25K	31K	38K	48K	60K	74K	93K	12T	42H
44H	46H	48H	50H	53H	55H	57H	60H	63H	66H	75H	85H	11K	13K	17K	21K	26K	32K	40K	50K	63K	78K	97K	12T	44H
46H	48H	50H	53H	55H	57H	60H	63H	66H	68H	78H	89H	11K	14K	17K	22K	27K	34K	42K	52K	65K	82K	10T	13T	46H
48H	50H	52H	55H	57H	60H	63H	65H	68H	71H	82H	93H	12K	15K	18K	23K	28K	35K	44K	55K	68K	85K	11T	13T	48H
50H	52H	55H	57H	60H	62H	65H	68H	71H	74H	85H	97H	12K	15K	19K	24K	29K	37K	46K	57K	71K	89K	11T	14T	50H
55H	57H	60H	63H	66H	69H	72H	75H	78H	82H	94H	11K	13K	17K	21K	26K	32K	40K	50K	63K	78K	98K	12T	15T	55H
60H	63H	66H	69H	72H	75H	78H	82H	85H	89H	10K	12K	15K	18K	23K	28K	35K	44K	55K	68K	85K	11T	13T	17T	60H
65H	68H	71H	74H	78H	81H	85H	89H	93H	97H	11K	13K	16K	20K	25K	31K	38K	48K	59K	74K	92K	12T	14T	18T	65H
70H	73H	76H	80H	84H	87H	91H	95H	10K	10K	12K	14K	17K	21K	26K	33K	41K	51K	64K	80K	99K	12T	15T	19T	70H
75H	78H	82H	86H	90H	94H	98H	10K	11K	11K	13K	15K	18K	23K	28K	35K	44K	55K	68K	85K	11T	13T	17T	21T	75H
80H	84H	87H	91H	95H	10K	10K	11K	11K	12K	14K	16K	19K	24K	30K	38K	47K	59K	73K	91K	11T	14T	18T	22T	80H
85H	89H	93H	97H	10K	11K	11K	12K	12K	13K	14K	17K	21K	26K	32K	40K	50K	62K	78K	97K	12T	15T	19T	23T	85H
90H	94H	98H	10K	11K	11K	12K	12K	13K	13K	15K	17K	22K	27K	34K	42K	53K	66K	82K	10T	13T	16T	20T	25T	90H
95H	99H	10K	11K	11K	12K	12K	13K	14K	14K	16K	18K	23K	29K	36K	45K	56K	70K	87K	11T	14T	17T	21T	26T	95H
10K	10K	11K	11K	12K	12K	13K	14K	14K	15K	17K	19K	24K	30K	38K	47K	59K	73K	91K	11T	14T	18T	22T	28T	10K

ADVANCED ODDS OF HITTING TABLE / 5

RANGE / 5A

Range	ALM
1	16
2	11
3	9
4	7
5	5
6	4
7	3
8	2
9	1
10	0
12	-1
13	-2
15	-3
17	-4
20	-5
23	-6
25	-7
30	-8
35	-9
40	-10
45	-11
50	-12
60	-13
70	-14
80	-15
95	-16
110	-17
125	-18
140	-19
165	-20
190	-21
215	-22
250	-23
280	-24

SKILL, VISIBILITY, AND TARGET SIZE / 5B

Skill	
Untrained	0
Militia	5
Green	7
Line	10
Crack	11
Elite	13
Guard	14

Night Vision Modifiers

	Half Moon		No Moon	
	Range	ALM	Range	ALM
Optical	14	- 6	2	- 12
Infra Red (active)	50	- 2	50	- 2
Image Intensify	160	- 2	80	- 2
Thermal Imager	200	- 2	200	- 2

The above are Detection Ranges in 20 yard Mech Hexes; Identification Ranges are half the above.

Target Size	
Anti-Tank Gun	14
Artillery Piece	16
Jeep	12
Infantry	12
Truck	17

MOVING TARGET ACCURACY (MTA) / 5C

	Target Range in 20 Yard Mech Hexes													
Missile	**3**	**5**	**6**	**8**	**10**	**14**	**18**	**21**	**23**	**29**	**33**	**37**	**39**	**49**
Artillery (all rnds)	**4**	**7**	**9**	**11**	**14**	**18**	**23**	**28**	**30**	**37**	**42**	**46**	**50**	**61**
AP - HE - HEAT	**13**	**18**	**22**	**27**	**31**	**40**	**49**	**58**	**63**	**76**	**85**	**94**	**100**	**120**
APDS - APFSDS	**20**	**30**	**40**	**50**	**60**	**80**	**100**	**120**	**130**	**160**	**180**	**200**	**220**	**260**

Target Speed															
mph	HPP	MHPT													
5	2.5	1	3	1	0	-2	-3	-6	-9	-12	-13	-17	-20	-23	-26	-33
8	3.8	1.5	3	1	0	-2	-4	-7	-10	-13	-14	-19	-22	-25	-28	-36
10	5	2	2	1	-1	-2	-4	-7	-11	-14	-16	-21	-24	-27	-30	-38
12	6.2	2.5	2	0	-1	-3	-5	-8	-12	-15	-17	-22	-26	-30	-32	-41
15	7.5	3	2	0	-2	-3	-5	-9	-13	-16	-18	-24	-28	-32	-34	-44
18	8.8	3.5	2	0	-2	-4	-6	-10	-14	-17	-19	-25	-29	-34	-37	-47
20	10	4	2	0	-2	-4	-6	-10	-14	-19	-21	-27	-31	-36	-39	-49
22	11.2	4.5	2	-1	-3	-5	-7	-11	-15	-20	-22	-29	-33	-38	-41	-52
25	12.5	5	1	-1	-3	-5	-7	-12	-16	-21	-23	-30	-35	-40	-43	-55
28	13.8	5.5	1	-1	-3	-6	-8	-13	-17	-22	-25	-32	-37	-42	-45	-57
30	15	6	1	-1	-4	-6	-9	-13	-18	-23	-26	-33	-39	-44	-48	-60
32	16.2	6.5	1	-2	-4	-7	-9	-14	-19	-25	-27	-35	-40	-46	-50	-63
35	17.5	7	1	-2	-5	-7	-10	-15	-20	-26	-28	-37	-42	-48	-52	-65
40	20	8	0	-2	-5	-8	-11	-17	-22	-28	-31	-40	-46	-52	-56	-71
50	25	10	0	-3	-7	-10	-13	-20	-26	-33	-36	-46	-53	-60	-65	-82
60	30	12	-1	-5	-8	-12	-15	-23	-30	-37	-41	-53	-60	-68	-74	-93

HIT ODDS / 5D

EAL	Hit Odds
28	99
27	98
26	96
25	94
24	90
23	86
22	80
21	74
20	67
19	60
18	53
17	46
16	39
15	33
14	27
13	22
12	18
11	15
10	12
9	09
8	07
7	06
6	05
5	04
4	03
3	02
2	02
1	01
0	01
-1	01
-2	00
-3	

AUTOMATIC FIRE VEHICLE HIT CHANCE TABLE / 5E

Pattern ALM	Weapon Rate of Fire (ROF)																						
	.2	.4	.6	.8	1.0	1.2	1.4	1.6	1.8	2	3	4	5	6	7	8	9	10	12	18	36	54	72
20	59	*1	*2	*2	*3	*4	*4	*5	*5	*6	*9	*12	*15	*18	*21	*24	*27	*30	*36	*54	*1H	*2H	*2H
21	45	90	*1	*2	*2	*3	*3	*4	*4	*5	*7	*9	*11	*14	*16	*18	*21	*23	*27	*41	*82	*1H	*2H
22	34	69	*1	*1	*2	*2	*2	*3	*3	*3	*5	*7	*9	*10	*12	*14	*16	*17	*21	*31	*63	*94	*1H
23	26	53	80	*1	*1	*2	*2	*2	*2	*3	*4	*5	*7	*8	*9	*11	*12	*13	*16	*24	*49	*73	*97
24	20	41	61	82	*1	*1	*1	*2	*2	*2	*3	*4	*5	*6	*7	*8	*9	*10	*12	*19	*37	*56	*75
25	15	31	47	63	79	95	*1	*1	*1	*2	*2	*3	*4	*5	*6	*6	*7	*8	*10	*14	*29	*43	*58
26	11	24	36	49	61	74	86	98	*1	*1	*2	*2	*3	*4	*4	*5	*6	*6	*7	*11	*22	*34	*45
27	09	18	28	37	47	56	66	76	85	95	*1	*2	*2	*3	*3	*4	*4	*5	*6	*9	*17	*26	*34
28	06	14	21	29	36	43	51	58	65	73	*1	*1	*2	*2	*3	*3	*3	*4	*4	*7	*13	*20	*27
29	05	10	16	22	27	33	39	44	50	56	84	*1	*1	*2	*2	*2	*3	*3	*3	*5	*10	*15	*20
30	03	08	12	16	21	25	30	34	38	43	64	86	*1	*1	*2	*2	*2	*2	*3	*4	*8	*12	*16
32	02	04	07	09	12	14	17	19	22	25	37	50	63	76	89	*1	*1	*1	*2	*2	*5	*7	*9
34	00	02	03	05	06	08	09	11	12	14	21	29	36	44	51	59	66	74	89	*1	*3	*4	*5
36		01	02	02	03	04	05	06	07	08	12	16	21	25	29	34	38	42	51	77	*2	*2	*3
38		00	01	01	02	02	03	03	04	04	07	09	12	14	17	19	22	24	29	44	89	*1	*2
40				00	00	01	01	01	02	02	03	05	06	08	09	11	12	13	16	25	51	77	*1
42						00	00	00	01	01	02	02	03	04	05	06	07	07	09	14	29	44	59
44											00	01	01	02	02	03	03	04	05	08	16	25	34

MOVING SHOOTER ACCURACY (MSA) TABLE / 6

Terrain	Velocity mph	HPP	MHPT	Range in 20 Yard Mech Hexes 4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
Road or Desert	5	2.5	1	-5	-6	-7	-7	-9	-10	-10	-11	-12	-12	-13	-14	-14	-15	-16	-17	-17
	10	5.0	2	-10	-11	-11	-12	-13	-14	-15	-15	-16	-16	-17	-18	-18	-19	-20	-21	-21
	15	7.5	3	-13	-14	-14	-15	-15	-16	-17	-18	-18	-19	-19	-20	-21	-21	-22	-23	-23
	20	10.0	4	-15	-15	-16	-16	-17	-18	-18	-19	-20	-20	-20	-21	-22	-22	-23	-24	-24
	25	12.5	5	-16	-17	-17	-18	-18	-19	-19	-20	-21	-21	-21	-22	-23	-23	-24	-24	-25
	30	15.0	6	-18	-18	-18	-19	-19	-20	-20	-21	-21	-22	-22	-23	-23	-24	-24	-25	-26
	35	17.5	7	-19	-19	-19	-20	-20	-21	-21	-22	-22	-23	-23	-23	-24	-24	-25	-26	-26
	40	20.0	8	-20	-20	-20	-21	-21	-22	-22	-22	-23	-23	-24	-24	-24	-25	-26	-26	-27
	50	25.0	10	-21	-22	-22	-22	-22	-23	-23	-24	-24	-24	-25	-25	-25	-26	-27	-27	-27
	60	30.0	12	-23	-23	-23	-23	-24	-24	-24	-25	-25	-25	-26	-26	-26	-27	-27	-28	-28
	70	35.0	14	-24	-24	-24	-24	-25	-25	-25	-26	-26	-26	-26	-27	-27	-28	-28	-28	-29
	80	40.0	16	-25	-25	-25	-25	-25	-26	-26	-26	-27	-27	-27	-27	-28	-28	-29	-29	-29
Steppes or Plains	5	2.5	1	-6	-9	-10	-11	-13	-14	-16	-17	-18	-18	-19	-20	-21	-22	-23	-24	-24
	10	5.0	2	-11	-13	-14	-15	-17	-18	-20	-21	-21	-22	-23	-24	-25	-26	-27	-27	-28
	15	7.5	3	-14	-15	-17	-18	-19	-21	-22	-23	-23	-24	-25	-26	-27	-28	-28	-29	-30
	20	10.0	4	-16	-17	-18	-19	-20	-22	-23	-24	-24	-25	-26	-26	-28	-29	-29	-30	-31
	25	12.5	5	-17	-18	-19	-20	-21	-23	-24	-24	-25	-26	-26	-27	-28	-29	-30	-31	-31
	30	15.0	6	-18	-19	-20	-21	-22	-23	-24	-25	-26	-26	-27	-28	-29	-29	-30	-31	-32
	35	17.5	7	-19	-20	-21	-22	-23	-24	-25	-26	-26	-27	-28	-28	-29	-30	-31	-31	-32
	40	20.0	8	-20	-21	-22	-22	-24	-24	-25	-26	-27	-27	-28	-28	-29	-30	-31	-32	-32
	50	25.0	10	-22	-22	-23	-24	-25	-25	-26	-27	-28	-28	-29	-29	-30	-31	-32	-32	-33
	60	30.0	12	-23	-24	-24	-25	-26	-26	-27	-28	-28	-29	-29	-30	-31	-32	-32	-33	-33
	70	35.0	14	-24	-25	-25	-26	-26	-27	-28	-28	-29	-30	-30	-30	-31	-32	-33	-33	-34
	80	40.0	16	-25	-25	-26	-26	-27	-28	-28	-29	-30	-30	-31	-31	-32	-33	-33	-34	-34
Hill or Forest	5	2.5	1	-8	-10	-12	-14	-16	-18	-19	-20	-21	-22	-23	-23	-25	-26	-27	-27	-28
	10	5.0	2	-12	-15	-17	-18	-20	-22	-23	-24	-25	-26	-27	-27	-29	-30	-31	-31	-32
	15	7.5	3	-15	-17	-19	-20	-22	-24	-25	-26	-27	-28	-29	-29	-30	-31	-32	-33	-34
	20	10.0	4	-16	-19	-20	-21	-23	-25	-26	-27	-28	-29	-29	-30	-31	-32	-33	-34	-35
	25	12.5	5	-18	-20	-21	-22	-24	-25	-26	-27	-28	-29	-30	-30	-32	-33	-33	-34	-35
	30	15.0	6	-19	-21	-22	-23	-24	-26	-27	-28	-29	-29	-30	-31	-32	-33	-34	-34	-35
	35	17.5	7	-20	-21	-22	-23	-25	-26	-27	-28	-29	-30	-30	-31	-32	-33	-34	-35	-35
	40	20.0	8	-21	-22	-23	-24	-25	-27	-28	-29	-29	-30	-31	-31	-32	-33	-34	-35	-36
	50	25.0	10	-22	-23	-24	-25	-26	-27	-28	-29	-30	-31	-31	-32	-33	-34	-35	-35	-36
	60	30.0	12	-23	-24	-25	-26	-27	-28	-29	-30	-31	-31	-32	-32	-33	-34	-35	-36	-36
	70	35.0	14	-24	-25	-26	-27	-28	-29	-30	-30	-31	-32	-32	-33	-34	-35	-35	-36	-37
	80	40.0	16	-25	-26	-27	-27	-28	-29	-30	-31	-31	-32	-33	-33	-34	-35	-36	-36	-37
Rocky	5	2.5	1	-8	-11	-13	-15	-17	-19	-20	-22	-23	-23	-24	-25	-26	-27	-28	-29	-30
	10	5.0	2	-13	-16	-17	-19	-21	-23	-24	-25	-26	-27	-28	-29	-30	-31	-32	-33	-33
	15	7.5	3	-15	-18	-20	-21	-23	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	34	-35
	20	10.0	4	-17	-19	-21	-22	-24	-26	-27	-28	-29	-30	-31	-31	-33	-34	-34	-35	-36
	25	12.5	5	-18	-20	-22	-23	-25	-26	-28	-29	-30	-30	-31	-32	-33	-34	-35	-36	-36
	30	15.0	6	-19	-21	-22	-24	-25	-27	-28	-29	-30	-31	-32	-32	-33	-34	-35	-36	-37
	35	17.5	7	-20	-22	-23	-24	-26	-27	-29	-30	-30	-31	-32	-33	-34	-35	-36	-36	-37
	40	20.0	8	-21	-23	-24	-25	-26	-28	-29	-30	-31	-32	-32	-33	-34	-35	-36	-37	-37
	50	25.0	10	-22	-24	-25	-26	-27	-29	-30	-31	-31	-32	-33	-33	-35	-35	-36	-37	-38
	60	30.0	12	-23	-25	-26	-27	-28	-29	-30	-31	-32	-33	-33	-34	-35	-36	-37	-37	-38
	70	35.0	14	-24	-26	-27	-27	-29	-30	-31	-32	-32	-33	-34	-34	-35	-36	-37	-38	-39
	80	40.0	16	-25	-26	-27	-28	-29	-30	-31	-32	-33	-34	-34	-35	-36	-37	-37	-38	-39

AP - APC - APCR - APDS BASIC CREW DAMAGE TABLE / 7A

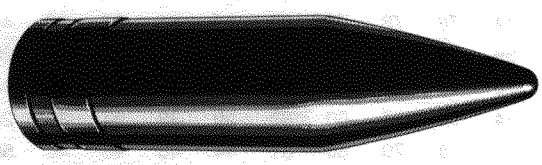
Armor EPF	Weapon Penetration (PEN)																							
	27H	26H	25H	24H	23H	22H	21H	20H	19H	18H	17H	16H	15H	14H	13H	12H	11H	10H	950	900	850	800	750	700
10	48	48	48	48	48	48	48	49	49	49	49	49	50	50	50	50	51	51	51	51	52	52	52	52
25	45	45	45	46	46	46	46	46	46	46	47	47	47	47	47	48	48	48	48	49	49	49	49	50
50	44	44	44	44	44	44	44	44	45	45	45	45	45	45	46	46	46	47	47	47	47	47	48	48
100	42	42	42	43	43	43	43	43	43	43	43	44	44	44	44	45	45	45	45	46	46	46	46	47
																								10
150	42	42	42	42	42	42	42	42	42	43	43	43	43	43	44	44	44	45	45	45	45	46	46	46
																						8	12	15
200	41	41	41	41	42	42	42	42	42	42	42	43	43	43	43	44	44	44	45	45	45	46	46	46
																			8	11	15	18	20	23
300	41	41	41	41	41	41	41	41	42	42	42	42	43	43	43	44	44	45	45	45	46	46	47	47
																	7	14	16	19	21	23	25	12
400	40	40	41	41	41	41	41	41	42	42	42	42	43	43	43	44	44	45	45	46	46	47	48	36
																10	15	20	22	10	11	12	14	17
500	40	40	40	41	41	41	41	41	41	42	42	42	43	43	44	44	45	46	46	35	36	37	38	40
															12	17	8	10	11	13	15	17	21	29
600	40	40	40	41	41	41	41	41	42	42	42	43	43	43	44	45	34	35	36	37	38	40	43	49
													8	13	18	8	10	13	15	18	22	30	40	
700	40	40	40	41	41	41	41	42	42	42	43	43	43	44	45	34	35	37	39	41	44	50	58	
												9	14	7	9	11	14	19	23	30	40			
800	40	40	41	41	41	41	41	42	42	42	43	43	44	34	34	36	38	41	44	50	57			
											11	5	7	9	11	14	19	30	39					
900	40	40	41	41	41	41	42	42	42	43	43	33	34	35	36	38	42	50	57					
									7	4	6	7	9	11	14	20	30							
10H	40	41	41	41	41	42	42	42	43	33	33	34	35	36	38	42	50							
								2	4	6	8	10	12	15	20	29								
11H	41	41	41	41	42	42	42	32	33	33	34	35	36	38	42	49								
							3	5	6	8	10	12	15	21	29									
12H	41	41	41	42	42	32	32	33	33	34	35	36	39	43	49									
						3	5	7	8	10	12	15	21	29										
13H	41	41	42	42	32	32	33	33	34	35	37	39	43	49										
				2	3	5	7	8	10	13	16	21	29											
14H	41	42	32	32	32	33	33	34	35	37	39	43	49											
			2	4	5	7	9	11	13	16	22	29												
15H	31	32	32	32	33	34	34	35	37	39	44	49												
		2	4	6	7	9	11	13	16	22	29													
16H	32	32	33	33	34	34	35	37	39	44	49													
	3	4	6	7	9	11	13	17	22	28														
17H	32	33	33	34	35	36	37	40	43	49														
	5	6	8	9	11	13	17	22	28															
18H	33	33	34	35	36	37	40	43	48															
	6	8	9	11	14	17	21	28																
19H	33	34	35	36	37	40	43	48																
	8	10	11	14	17	21	28																	
20H	34	35	36	38	40	43	48																	
	10	12	14	18	21	28																		
21H	35	36	38	40	43	48																		
	12	14	18	21	28																			
22H	36	38	41	43	48																			
	14	18	21	28																				
23H	38	41	43	48																				
	18	21	28																					
24H	41	43	48																					
	21	27																						
25H	43	48																						
	27																							
26H	48																							

Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.

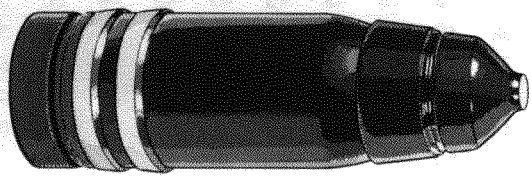
AP - APC - APCR - APDS BASIC CREW DAMAGE TABLE / 7A

Armor EPF	Weapon Penetration (PEN) 650	600	550	500	450	400	350	300	280	260	240	220	200	180	160	140	120	100	80	60	40	30	20	15
					12	18	24	29	30	32	34	36	37	39	41	42	44	47	47	48	51	53	55	55
10	53	53	53	54	54	55	55	56	56	57	57	58	58	59	60	61	62	63	63	64	66	68	69	69
				9	15	20	24	28	30	31	32	34	35	37	39	40	43	45	46	50	45	55		
25	50	50	50	51	51	52	53	53	54	54	55	55	56	57	57	59	60	62	63	65	61	69		
			9	14	18	22	26	29	30	32	33	34	36	37	39	41	44	49	39	55				
50	48	48	49	49	50	50	51	52	52	53	54	54	55	56	57	59	61	65	57	69				
		12	16	19	23	26	29	31	33	34	36	37	39	24	29	38	50							
100	47	47	48	48	49	50	51	52	53	54	55	56	57	45	49	56	65							
	14	17	21	23	26	29	31	35	36	21	23	28	35	46	55									
150	47	47	48	48	49	50	52	54	55	43	45	48	53	63	69									
	19	21	24	26	29	31	17	23	27	32	43	55												
200	47	47	48	49	50	52	40	44	47	52	60	69												
	25	27	13	15	19	25	40																	
300	48	49	37	39	41	46	58																	
	14	16	20	26	42																			
400	38	39	42	47	59																			
	21	27	41																					
500	43	48	59																					
	41																							
600	58																							

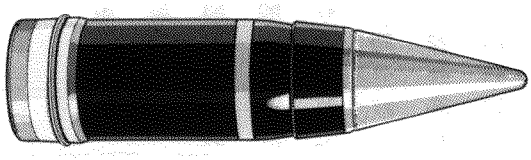
Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.



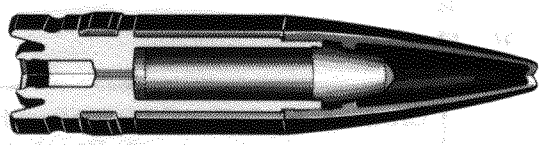
AP Armor Piercing



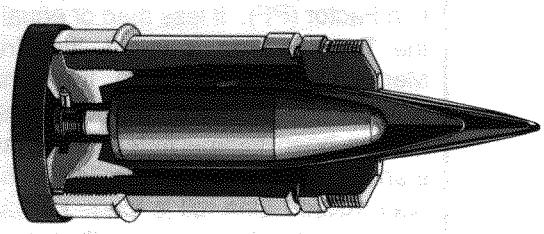
APC Armor Piercing Capped



APCBC APC Ballistically Capped



APCR Armor Piercing Composite Rigid



APDS Armor Piercing Discarding Sabot

Armor Piercing projectiles are solid, full caliber shot. They are spun stabilized and may have a small explosive charge at their base (APHE).

Armor Piercing Capped projectiles have a soft metal crown over the solid shot. The Cap positions and protects the shot's impact, reducing its tendency to shatter and improving its angle of strike on sloped armors.

APCBC rounds are capped solid shot with an aerodynamic wind shield to improve their ballistic performance.

APCR rounds contain a high density Penetrator surrounded by a low density alloy body. This results in a low weight projectile which can be fired at high velocity.

APDS rounds fire a Spin Stabilized Penetrator made of Tungsten or Depleted Uranium. The Sabot accelerates the Penetrator down the gun barrel and falls away after leaving the muzzle.

AP rounds penetrate armor by virtue of their mass and velocity. When they penetrate, the shell and large fragments of armor enter the Vehicle, causing serious damage.

The Crew Damage Table accounts for armor fragments, the shock wave generated by the Penetrator's velocity, and the number of times the Penetrator and armor fragments bounce within the Vehicle.

Examining the Crew Damage Tables you may notice that the chance of casualties increases initially as the PEN increases. This is a result of the increasing speed of the captured Penetrator and armor fragments which are contained within the Vehicle. The point at which the Penetrator is just barely captured is the point of maximum Crew lethality.

As the PEN increases, the danger to the Crew abruptly decreases. This is the point at which the Penetrator passes entirely through the Vehicle. The Penetrator is no longer captured and the lethality is reduced. As the PEN further increases, however, the armor fragments captured within the Vehicle become more dangerous. As a result, the danger to the Crew again goes up as the PEN increases.

APFSDS BASIC CREW DAMAGE TABLE / 7B

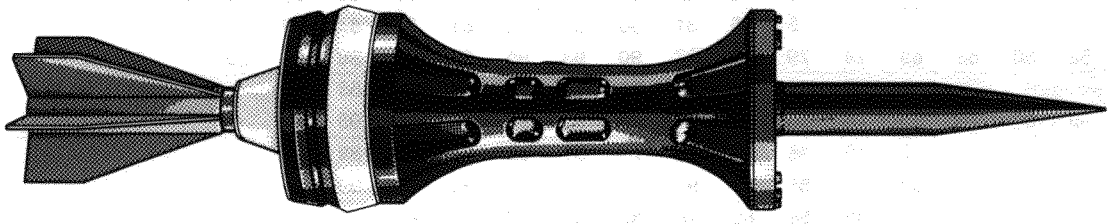
Armor EPF	Weapon Penetration (PEN)																							
	36H	35H	34H	33H	32H	31H	30H	29H	28H	27H	26H	25H	24H	23H	22H	21H	20H	19H	18H	17H	16H	15H	14H	13H
								0	2	4	10	16	23	36	44	49	53	57	60	62	63	65	65	66
10	55	57	59	61	62	63	65	67	68	70	72	73	75	76	77	78	79	79	80	80	81	81	81	82
												1	4	12	19	28	38	46	52	57	61	63	64	66
25	38	41	43	46	48	50	53	56	58	61	64	66	68	71	73	74	76	77	78	79	80	81	81	82
														3	9	19	32	44	52	57	61	64	65	66
50	23	26	29	32	34	37	40	44	47	50	55	58	61	67	70	72	75	76	78	79	80	81	81	82
														4	11	22	35	46	53	58	62	64	65	66
100	11	14	18	22	24	29	33	38	43	48	54	58	62	67	70	73	75	77	78	79	80	81	81	82
													0	5	13	25	37	48	54	59	62	64	65	66
150	12	15	19	23	25	30	34	39	44	49	55	59	63	68	71	73	75	77	78	80	80	81	81	82
													1	7	15	27	40	50	55	59	62	65	65	67
200	13	16	20	24	26	31	35	40	45	50	56	60	64	69	71	74	76	77	79	80	81	81	81	82
													2	10	20	33	44	52	57	61	63	65	66	67
300	14	18	22	26	28	33	38	42	47	52	58	62	65	70	72	75	76	78	79	80	81	81	81	82
												0	3	14	25	38	48	54	59	62	64	66	66	67
400	16	19	23	28	30	35	40	44	49	53	60	63	67	71	73	75	77	78	79	80	81	81	82	82
												1	6	18	30	42	51	56	60	63	65	66	67	67
500	17	21	25	30	32	37	42	46	51	55	61	65	68	72	74	76	77	79	80	81	81	82	82	82
											0	3	9	23	36	46	53	58	61	63	65	66	67	68
600	19	23	27	32	34	39	44	48	53	57	63	66	69	73	75	77	78	79	80	81	81	82	82	82
											1	5	13	29	40	50	55	59	62	64	66	67	67	68
700	21	25	29	34	37	41	46	50	55	59	64	67	70	74	76	77	79	80	80	81	81	82	82	82
											3	8	17	34	45	53	57	60	63	65	66	67	24	26
800	23	27	31	36	39	43	48	52	57	61	66	69	71	74	76	78	79	80	81	81	82	82	46	48
										0	5	12	22	39	49	55	59	62	64	65	22	24	26	28
900	24	29	33	38	41	45	50	54	58	62	67	70	72	75	77	78	79	80	81	81	45	46	48	50
										1	8	16	28	44	52	57	60	63	20	22	24	26	28	32
10H	26	31	36	40	43	48	52	56	60	64	68	71	73	76	78	79	80	81	44	45	46	48	50	53
									0	3	11	22	34	48	54	58	18	20	22	24	26	29	32	38
11H	29	33	38	42	45	50	54	58	62	65	70	72	74	77	78	79	42	43	45	46	48	50	53	57
									1	5	16	28	40	52	16	18	20	21	23	26	28	32	37	49
12H	31	35	40	45	47	52	56	60	64	67	71	73	75	77	41	42	43	45	46	48	50	53	57	67
								0	3	8	22	34	45	15	17	19	21	23	25	28	32	38	49	
13H	33	37	42	47	50	54	58	62	65	68	72	74	76	41	42	43	44	46	48	50	53	57	66	
								1	5	13	28	11	14	17	19	21	23	25	28	32	37	49		
14H	35	40	44	49	52	56	60	64	67	70	73	38	40	42	43	44	46	48	50	53	57	67		
							0	3	9	4	9	13	16	18	20	23	25	28	32	37	49			
15H	37	42	47	51	54	58	62	65	68	36	38	40	41	43	44	46	47	50	53	57	67			
							1	1	3	6	12	15	17	20	22	25	28	31	37	49				
16H	40	44	49	53	56	60	64	33	35	37	39	41	42	44	46	47	49	52	57	66				
							0	2	5	9	14	17	19	22	25	27	31	37	48					
17H	42	47	51	56	58	31	33	35	37	38	40	42	43	45	47	49	52	57	66					
						0	3	6	10	14	18	21	24	27	31	37	48							
19H	47	52	27	30	31	33	35	37	39	41	43	45	47	49	52	57	66							
					1	3	7	12	16	19	23	26	30	36	48									
21H	26	28	30	33	34	36	38	40	42	44	46	49	52	57	66									
			0	2	5	9	14	18	22	25	30	36	47											
23H	29	31	33	36	37	39	42	44	46	48	52	56	66											
		1	3	7	11	17	21	25	29	35	47													
25H	32	34	37	39	41	43	46	48	51	56	65													
	1	5	10	15	20	24	29	35	46															
27H	36	38	40	43	45	48	51	56	65															
	7	13	19	24	28	34	45																	
29H	40	42	45	48	51	56	65																	
	17	23	28	34	44																			
31H	44	48	51	56	65																			
	28	33	44																					
33H	51	56	65																					
	42																							
35H	64																							

Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.

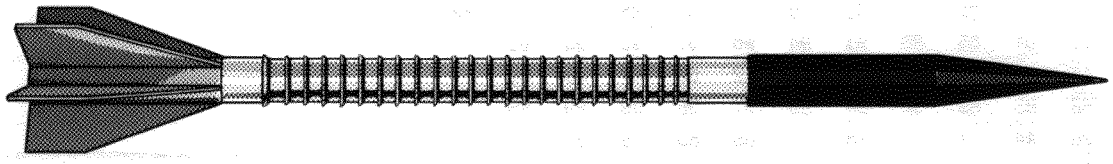
APFSDS BASIC CREW DAMAGE TABLE / 7B

Armor EPF	Weapon Penetration (PEN)																							
	12H	11H	10H	960	920	880	840	800	760	720	680	640	600	560	520	480	440	400	360	320	280	240	200	160
	67	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
10	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
	67	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
25	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
	67	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
50	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82
	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	45
100	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	63
	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	40	47	68
150	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	59	65	82
	67	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	35	37	45	55		
200	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	82	55	57	63	72		
	68	68	68	68	68	68	68	68	68	68	68	68	68	68	33	35	40	44	51	68				
300	82	82	82	82	82	82	82	82	82	82	82	82	82	82	54	55	59	62	68	82				
	68	68	68	68	68	68	68	68	68	31	32	33	37	39	42	48	65							
400	82	82	82	82	82	82	82	82	82	52	53	54	57	58	61	66	79							
	68	68	68	68	68	29	31	32	35	36	38	41	48	57	68									
500	82	82	82	82	82	50	52	53	55	56	58	60	66	73	82									
	68	26	29	30	32	33	36	37	42	46	52	67												
600	82	48	50	51	53	53	56	57	61	64	69	81												
	26	28	33	34	37	39	44	49	61	68														
700	48	50	53	54	57	59	62	67	76	82														
	29	32	38	41	47	54	68																	
800	50	53	58	60	65	70	82																	
	32	38	50	60	68																			
900	53	57	67	76	82																			
	38	49																						
10H	58	67																						
	50																							
11H	67																							

Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.



Complete APFSDS Projectile with Sabot



APFSDS Penetrator

The **APFSDS** round fires a Fin Stabilized Penetrator made of Tungsten or Depleted Uranium. The Sabot accelerates the Penetrator down the barrel and falls away after leaving the muzzle. The Penetrator can attain velocities as high as 6000 feet per second, giving it a flat trajectory and short time of flight. This high speed combined with the Penetrator's small diameter concentrates tremendous energy at the point of impact. When this energy defeats the armor, molten fragments and the Penetrator enter the Vehicle. The Penetrator causes serious damage as it bounces within the armored walls.

The **Crew Damage Table** accounts for molten fragments, the shock wave generated by the Penetrator's velocity, and the number of times the Penetrator itself bounces within the Vehicle. On lightly armored targets, the Penetrator will pass entirely through the Vehicle, but its high speed transit creates a shock wave which can incapacitate the Crew. On armored targets it will be captured within the Vehicle, doing maximum damage. The drop in lethality as the PEN goes up indicates this effect. The entry with the greatest lethality is the point where the highest energy Penetrator can be captured within the target. This Penetrator bounces within the Vehicle many times, resulting in the increase in lethality.

HEAT BASIC CREW DAMAGE TABLE / 7C

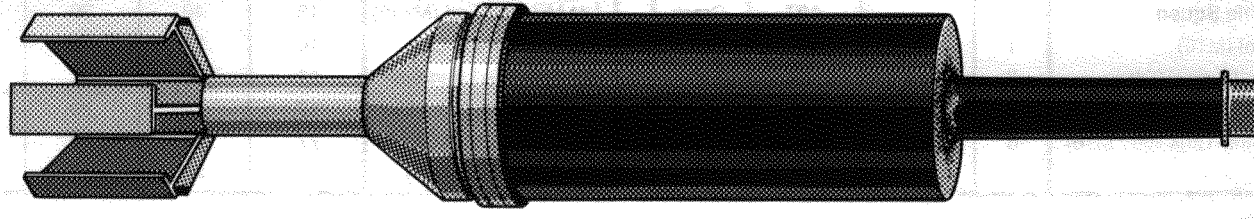
Armor EPF	Weapon Penetration (PEN)																							
	66H	64H	62H	60H	58H	56H	54H	52H	50H	48H	46H	44H	42H	40H	38H	36H	34H	32H	30H	29H	28H	27H	26H	25H
10	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	5	8	11	14	17	19	22	24	27
100	0	0	0	0	0	0	0	0	0	0	1	2	3	4	6	9	12	16	21	24	27	30	33	36
200	0	0	0	0	0	0	0	0	0	1	2	3	5	7	10	13	17	22	27	30	34	37	41	44
400	0	0	0	0	0	0	0	1	2	3	5	7	10	13	17	22	27	33	39	43	46	50	54	57
600	0	0	0	0	0	1	2	3	5	7	9	12	16	20	25	31	37	44	51	54	58	62	65	68
																							1	4
800	0	0	0	1	2	3	4	6	8	11	15	19	23	29	35	41	48	54	61	65	68	71	74	77
																				1	3	6	12	21
10H	0	1	1	2	4	5	7	10	13	17	21	26	32	38	44	51	57	64	71	74	77	79	82	84
																		0	5	9	17	26	37	49
12H	1	2	3	5	6	9	12	15	19	24	29	34	40	47	53	60	66	73	78	81	83	86	88	90
																	1	7	21	31	42	53	63	70
14H	3	4	5	8	10	13	17	21	26	31	37	43	49	56	62	68	74	80	85	87	89	91	92	94
																2	9	25	47	57	66	71	75	79
16H	5	6	9	11	15	18	23	28	33	39	45	51	58	64	70	76	81	86	89	91	93	94	95	96
															3	12	29	51	68	72	76	80	82	84
18H	7	10	13	16	20	25	30	35	41	47	53	60	66	72	77	82	86	90	93	94	95	96	97	98
													0	4	15	33	54	69	77	80	83	85	86	87
20H	11	14	18	22	26	31	37	43	49	55	61	67	73	78	83	87	91	93	96	97	97	98	98	99
												1	6	18	37	57	70	78	83	85	86	88	88	89
22H	15	19	23	28	33	39	45	51	57	63	69	74	79	84	88	91	94	96	97	98	98	99	99	99
											1	7	20	40	59	71	79	84	87	88	88	89	89	89
24H	20	25	30	35	40	46	52	58	64	70	75	80	85	88	92	94	96	97	98	99	99	99	99	99
										2	9	23	43	61	72	79	84	87	88	89	89	89		
26H	26	31	36	42	48	54	60	65	71	76	81	85	89	92	94	96	98	98	99	99	99	99		
									3	11	26	46	63	73	80	84	87	88	89	89				
28H	32	38	43	49	55	61	67	72	77	82	86	89	92	95	96	98	98	99	99	99				
							0	4	13	29	48	65	74	80	84	87	88	89						
30H	39	45	51	56	62	68	73	78	82	86	90	93	95	97	98	98	99	99						
						1	5	15	31	50	66	75	81	85	87	88	89							
32H	46	52	58	63	69	74	79	83	87	90	93	95	97	98	98	99	99							
					1	6	17	33	53	68	75	81	85	87	88	89								
34H	53	59	64	70	75	79	84	87	90	93	95	97	98	98	99	99								
				1	7	18	36	54	68	76	81	85	87	88	89									
36H	60	65	70	75	80	84	88	91	93	95	97	98	99	99	99									
			2	8	20	38	56	69	76	82	85	87	88	89										
38H	66	71	76	81	85	88	91	94	95	97	98	99	99	99										
		3	9	22	40	58	70	77	82	85	87	89	89											
40H	72	77	81	85	88	91	94	96	97	98	99	99	99											
	3	11	24	42	59	71	77	82	85	87	89	89												
42H	77	82	85	89	92	94	96	97	98	99	99	99												
	12	26	44	61	71	78	82	86	88	89	89													
44H	82	86	89	92	94	96	97	98	99	99	99													
	28	46	62	72	78	83	86	88	89	89														
46H	86	89	92	94	96	97	98	99	99	99														
	47	63	72	78	83	86	88	89	89															
48H	90	92	94	96	97	98	99	99	99															
	73	79	83	86	88	89	89																	
52H	95	96	97	98	99	99	99																	
	83	86	88	89	89																			
56H	97	98	99	99	99																			
	88	89	89																					
60H	99	99	99																					
	89																							
64H	99																							

Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.

HEAT BASIC CREW DAMAGE TABLE / 7C

Armor EPF	Weapon Penetration (PEN)																							
	24H	23H	22H	21H	20H	19H	18H	17H	16H	15H	14H	13H	12H	11H	10H	900	800	700	600	500	400	300	200	100
												1	3	8	8	8	8	8	8	8	8	8	8	8
10	31	34	38	41	45	49	53	57	61	65	69	73	77	80	80	80	80	80	80	80	80	80	80	80
										1	4	10	19	31	31	31	31	31	31	31	31	31	31	
100	40	44	47	51	55	59	63	67	71	74	78	81	84	87	87	87	87	87	87	87	87	87	87	
								1	4	9	17	29	43	55	55	55	55	55	55	55	55	55		
200	48	52	55	59	63	67	70	74	77	80	83	86	89	91	91	91	91	91	91	91	91	91		
					1	5	10	19	30	43	56	67	73	77	77	77	77	77	77	77				
400	61	65	68	72	75	78	81	84	87	89	91	93	94	96	96	96	96	96	96	96				
		1	4	9	17	28	41	53	64	71	76	80	83	85	85	85	85	85						
600	72	75	78	81	84	86	88	90	92	94	95	96	97	98	98	98	98	98						
	8	15	25	36	48	60	68	73	78	81	84	86	87	88	88	88								
800	80	83	85	88	90	92	93	95	96	97	98	98	99	99	99	99								
	31	43	55	64	71	75	79	82	85	86	88	88	89	89										
10H	87	89	91	92	94	95	96	97	98	98	99	99	99	99										
	59	68	73	77	80	83	85	87	88	88	89	89												
12H	91	93	94	96	97	97	98	98	99	99	99	99												
	74	78	81	84	85	87	88	89	89	89														
14H	95	96	97	97	98	98	99	99	99	99														
	82	84	86	87	88	89	89	89																
16H	97	98	98	98	99	99	99	99																
	86	87	88	89	89	89																		
18H	98	99	99	99	99	99																		
	88	89	89	89																				
20H	99	99	99	99																				
	89	89																						
22H	99	99																						

Crew Incapacitation Odds are found by cross indexing the round's Penetration (PEN) and the armor's Effective Protection Factor (PF). If less than or equal to the **Top Number** is rolled, the Crew Member is not out of action. If less than or equal to the **Bottom Number** is rolled, he has been Incapacitated. If greater than the Bottom Number is rolled, he has been Killed. One roll is made for each Crew Member in the Compartment.



Fin Stabilized High Explosive Anti-Tank (HEAT) Projectile

The **HEAT** round fires a Fin Stabilized High Explosive Shaped Charge warhead. Spin negatively affects a Shaped Charge's performance, so the warhead is Fin Stabilized in the fashion of an arrow or dart. When fired from Rifled gun barrels, it has a 'Slip Ring Obturator', a device which negates the barrel's spin.

A Shaped Charge focuses a blast around a metal cone and results in a molten jet of high velocity metal being thrown against the target. This jet cuts its way through armor, penetrating the Vehicle with molten fragments and blast effects. The HEAT round is effective as a general purpose explosive round and may contain a fragmentation sleeve for increased anti-personnel effects. Proper function requires it to be detonated about three shell diameters from the target. This is why the warhead has the long protruding nose. The nose contains a point initiated base detonating fuse. To insure proper function of the fuse, the round's velocity is relatively low compared to APDS and APFSDS rounds, making its accuracy against moving targets lower.

The **Crew Damage Table** accounts for the molten fragments and blast effects which enter the Vehicle. On lightly armored targets, the blast and jet easily Penetrate and provide a high degree of lethality. Against armored targets, the jet's penetration is reduced and less of the blast enters the Vehicle. At the same time, less of the jet and armor fragments make their way into the Vehicle, and the round's effectiveness is rapidly reduced.

Examining the Crew Damage Table shows that unless the Vehicle has substantial armor protection it is very vulnerable to HEAT attack. This attack is very lethal and can be delivered by infantry portable weapons. Heavily armored tanks are somewhat protected from HEAT attack, because unless the HEAT round seriously overpenetrates the armor, its effectiveness and lethality are low.

INFANTRY COMBAT DATA , ANTI-TANK WEAPONS, and GUIDED MISSILES / 8

KEY

Endurance Points may be spent each Turn for movement.
Endurance Limit of 100 points cannot be exceeded.
Endurance Point Recovery is 2 points per Turn while not moving.

Squad FirePower (FP) is the sum of its members.
Moving Defensive FP Factor is 1.
Effective FP = Squad FP X FP Factor X Off FP Factor X Def FP Factor from Table 9A.

Explosive Weapons (except for Grenade Launchers) are fired as Vehicular guns or Artillery. If they hit, their FP value is rolled separately on Table 9B at a target range of 10 Mech Hexes.

MOVEMENT SPEEDS / 8A

Movement Stance	Movement Speed MHPT	Endurance Point Cost
Running		
Charge	1	10
Bounding Overwatch	.5	2
Cautious Advance	.3	.2
Hands and Knees		
Charge	.5	10
Bounding Overwatch	.2	2
Cautious Advance	.1	.2
Prone Crawl		
Bounding Overwatch	.1	3

TYPICAL SQUAD COMPOSITIONS / 8B

Unit	#	Weapon FP Value	Total FP Value	Morale Grade
USSR Mechanized Infantry			**62**	Line
Riflemen (AK-74)	3	5	15	
Rifle / Gren (AK-74 / GL)	2	11	22	
Machine Gun (RPK-74)	2	10	20	
RPG7V (ATGL / AK-74)	1	38 / 5	38 / 5	
USA Mechanized Infantry			**58**	Crack
Riflemen (M16)	1	5	5	
Machine Guns (M249)	2	13	26	
Rifle / Gren (M203)	2	11	22	
Dragon (ATGW / M16)	1	35 / 5	35 / 5	
USMC Rifle Squad			**107**	Crack
Sergeant (M16)	1	5	5	
Machine Guns (M249)	3	13	39	
Rifle / Gren (M203)	3	11	33	
LAW (Anti-Tank Rkt / M16)	6	28 / 5	168 / 30	

WEAPON FIRE POWER VALUES / 8C

Weapon	Fire Power FP	Close Combat Inc Odds	Effective Range MH	PEN @ Effective Range
Revolver	.2	26	10	1
Automatic Pistol	.4	26	10	1
SMG (Pistol Rnd)	2	54	10	1
SMG (Rifle Rnd)	4	61	30	3
Bolt Action Rifle	2	17	40	6
Bolt Rifle with Scope	3	08	50	6
Semi-Automatic Rifle	3	31	30	8
Semi-Auto with Scope	5	17	40	6
Assault Rifle	5	59	30	5
Lgt MG Mag Fed (RPK)	10	56	30	3
Lgt MG Belt Fed (M60)	8	38	30	8
Lgt MG Belt Fed (PKM)	9	41	30	10
Lgt MG Belt Fed (M249)	13	48	30	5
Heavy Machine Gun	10	21	50	23
SS Grenade Launcher	11	60	20	2
6 Shot Grenade Lncher	17	71	20	2
Auto Gren Lhr (AGS17)	77	24	90	2
Auto Gren Lhr (M19)	165	24	90	2

GUIDED MISSILES AND INFANTRY ANTI-TANK WEAPONS / 8D

Weapon	Aim Time	SA or Hit Odds	Hit Odds Inside 15 MH	Missile Velocity MHPP	Range Mech Hexes	Reload Time	PEN	BC0	FP
Unguided Weapons									
30mm Grenade Launcher	1P	SA 5	—	5	0 - 20	3P	2.5	250	11
40mm Gren Lnchr HEAT	1P	SA 7	—	5	0 - 20	3P	106	241	11
German PZF 442A1 Lanze	3P	SA 9	—	18	1 - 85	7P	33H	11H	28
German Armbrust	2P	SA 9	—	16	1 - 85	4P	24H	11H	28
USSR RPG 18	2P	SA 8	—	10	1 - 60	5P	22H	10H	27
USSR RPG 7V	3P	SA 10	—	27	1 - 50	4P	26H	20H	38
UK LAW80	3P	SA 9	—	9	1 - 60	5P	62H	26H	42
USA M72A2 LAW	2P	SA 8	—	11	1 - 65	4P	25H	11H	28
Guided Missiles									
France Milan 2	2P	88%	70%	23	1 - 110	16P	75H	56H	61
France HOT 2	2P	88%	70%	27	4 - 220	16P	11K	13K	91
USSR Songstar	2P	88%	45%	55	7 - 220	5P	96H	68H	66
USSR Spigot	2P	88%	50%	20	4 - 140	20P	64H	60H	62
USSR Spandrel	2P	88%	50%	20	4 - 220	20P	64H	86H	74
USA Dragon	2P	88%	70%	12	1 - 55	25P	30H	18H	35
USA ITOW	2P	88%	80%	30	4 - 205	16P	79H	83H	72
USA TOW2	2P	88%	80%	30	4 - 205	16P	89H	11K	85

FIREPOWER MODIFIERS / 9A

Target Size or Stance	FP Factor
Standing or Running	2
Hands and Knees	1
Prone Crawl	.5
Under Blocking Cover	.02
EXPLOSIVE WEAPONS	
Target in the Open	1
In a Light Building	.5
In a Solid Building	.2
In a Foxhole	.1
Field Fortification	.05

Troop Morale Grade	Stationary Squad's Off and Def FP Factors: Offensive FP Factor Under No Fire	Offensive FP Factor Inf Fire	Offensive FP Factor Veh Fire	Defensive FP Factor Inf Fire	Defensive FP Factor Veh Fire	Moving Squad's Defensive FP = 1: Moving Offensive FP Factor Cautious Advance	Moving Offensive FP Factor Bounding Overwatch	Moving Offensive FP Factor Charge
Untrained	.3	.1	.01	.3	.03	.08	.06	.03
Militia	.5	.2	.02	.4	.04	.15	.12	.05
Green	.7	.3	.04	.5	.06	.24	.18	.07
Line	1.0	.6	.1	.6	.1	.5	.3	.10
Crack	1.1	.7	.3	.8	.2	.6	.4	.11
Elite	1.3	1.1	.4	.9	.3	.8	.6	.13
Guard	1.3	1.2	.9	1.0	.7	.9	.7	.13

SQUAD COMBAT FIREPOWER TABLE / 9B

Effective Fire Power		Target Range in 20 Yard Mech Hexes: 4	10	15	20	30	40	50	60	70	80	90	100	120	140	160	180	200
1	1 Cas	07	04	03	02	01	00	00	00	00	00	00						
	2 Cas																	
	3 Cas																	
2	1 Cas	14	09	06	04	03	02	01	01	01	00	00	00	00				
	2 Cas	00																
	3 Cas																	
3	1 Cas	20	13	09	07	04	03	03	02	01	01	01	00	00	00			
	2 Cas	01	00															
	3 Cas																	
4	1 Cas	26	18	12	09	06	05	04	03	02	02	01	01	00	00			
	2 Cas	02	00	00														
	3 Cas																	
5	1 Cas	31	22	15	11	08	06	05	04	03	02	02	01	00	00	00		
	2 Cas	04	01	00														
	3 Cas	00																
6	1 Cas	37	25	18	14	09	08	06	05	04	03	02	02	01	00	00		
	2 Cas	06	02	01	00													
	3 Cas	00																
7	1 Cas	41	29	21	16	11	09	07	06	04	03	03	02	01	00	00	00	
	2 Cas	09	03	01	00													
	3 Cas	00																
8	1 Cas	46	33	24	18	12	10	08	07	05	04	03	02	01	00	00	00	
	2 Cas	11	05	02	00	00												
	3 Cas	01	00															
9	1 Cas	50	36	27	20	14	12	09	08	06	05	04	03	01	01	00	00	
	2 Cas	14	06	03	01	00	00											
	3 Cas	02	00															
10	1 Cas	53	39	29	22	15	13	10	08	07	05	04	03	02	01	00	00	00
	2 Cas	17	08	03	01	00	00											
	3 Cas	03	00															
12	1 Cas	60	45	34	26	18	15	13	10	08	06	05	04	02	01	00	00	00
	2 Cas	22	11	05	02	01	00	00										
	3 Cas	05	01	00														
14	1 Cas	66	50	39	30	21	18	15	12	10	08	06	05	03	02	01	00	00
	2 Cas	28	14	07	04	01	00	00	00									
	3 Cas	08	02	00														
16	1 Cas	71	55	43	33	24	20	17	14	11	09	07	06	03	02	01	00	00
	2 Cas	34	18	10	05	02	01	00	00									
	3 Cas	11	03	01	00													
18	1 Cas	75	59	47	37	27	22	19	15	12	10	08	06	04	02	01	00	00
	2 Cas	39	22	12	06	03	01	01	00	00								
	3 Cas	15	05	01	00													
20	1 Cas	78	63	50	40	29	25	21	17	14	11	09	07	04	03	01	01	00
	2 Cas	45	25	14	08	03	02	01	00	00								
	3 Cas	19	07	02	00													

SPOTTING TABLE SUMMARY / 10A

The Spotting Table gives the percent chance of Spotting 1, 2 to 5, or 6 or more targets in a Turn or Phase. The Spotter cross indexes the target range and type. He moves up (-) or down (+) the range lines to adjust for his Vehicle's Spotting Modifier found on Status Sheet 1. Additional Modifiers are listed to the right. This gives the Spotting Chance. A 00 - 99 number is then rolled. If less than or equal to the Spotting Chance is rolled, the target or targets are Spotted.

The Visibility Modifiers and Ranges listed to the right are for conventional optical sights or unaided vision. Modern Night Vision equipment brings the Visibility Modifiers to a minimum of + 2 within their operating range. The range of Night Vision equipment is found on Table 5B.

Visibility	Spotting Modifier	Max Range
Daylight	0	600
Dusk	+ 2	40
Full Moon	+ 3	20
Half Moon	+ 4	14
Quarter Moon	+ 5	10
No Moon	+ 7	2
Medium Woods	+ 1	2
Heavy Woods	+ 2	1
Medium Brush	+ 2	1

Additional Spotting Modifers	Spot Mod
Spotter Moving in a Vehicle	+ 1
Target Well Camouflaged	+ 2
Tank Muzzle Blast (day)	- 9
Missile Launch Backblast (day)	- 8
Small Arms Fire (day)	- 1
Identified Target Area	-4
Reacquire a Target	-6

DEDICATED SPOTTING CHANCE PER TURN / 10B

Target Range MH	Moving Vehicle			Moving Infantry			Stationary Vehicle			Crew Serviced Weapon Hull Down Vehicle			Stationary Infantry		
	Number of Targets			Number of Targets			Number of Targets			Number of Targets			Number of Targets		
	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+
1	99	99	99	99	99	99	95	99	99	81	98	99	38	76	94
2	99	99	99	99	99	99	87	99	99	68	96	99	29	64	87
3	99	99	99	95	99	99	75	98	99	55	90	98	21	52	77
4	99	99	99	87	99	99	61	94	99	43	81	96	16	41	66
6	99	99	99	75	98	99	49	86	97	33	70	91	11	32	54
10	99	99	99	61	94	99	38	76	94	25	58	82	08	24	43
15	99	98	99	49	86	97	29	64	87	18	46	71	06	18	33
20	95	99	98	38	76	94	21	52	77	13	36	60	04	13	25
30	87	99	99	29	64	87	16	41	66	10	28	48	03	09	19
40	75	98	99	21	52	77	11	32	54	07	21	38	02	07	14
50	61	94	99	16	41	66	08	24	43	05	15	29	01	05	10
70	49	86	97	11	32	54	06	18	33	03	11	22	00	03	07
100	38	76	94	08	24	43	04	13	25	02	08	16	00	02	05
150	29	64	87	06	18	33	03	09	19	01	06	12	00	01	03
200	21	52	77	04	13	25	02	07	14	01	04	09	00	01	02
300	16	41	66	03	09	19	01	05	10	00	03	06		00	01
400	11	32	54	02	07	14	00	03	07	00	02	04		00	01
600	08	24	43	01	05	10	00	02	05	00	01	03		00	00

SECONDARY SPOTTING CHANCE PER TURN or DEDICATED SPOTTING CHANCE PER PHASE / 10C

Target Range MH	Moving Vehicle			Moving Infantry			Stationary Vehicle			Crew Serviced Weapon Hull Down Vehicle			Stationary Infantry		
	Number of Targets			Number of Targets			Number of Targets			Number of Targets			Number of Targets		
	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+	1	2 - 5	6+
1	99	99	99	99	99	99	55	90	98	34	71	91	11	30	51
2	99	99	99	76	99	99	40	78	95	24	57	82	07	22	40
3	99	99	99	55	90	98	29	64	87	17	45	70	05	16	31
4	99	99	99	40	78	95	21	51	76	12	34	57	03	12	23
6	99	99	99	29	64	87	15	39	63	09	26	45	02	08	17
10	99	99	99	21	51	76	11	30	51	06	19	35	01	06	12
15	76	98	99	15	39	63	07	22	40	04	14	27	01	04	09
20	55	90	98	11	30	51	05	16	31	03	10	20	00	02	06
30	40	78	95	07	22	40	03	12	23	02	07	15	00	01	04
40	29	64	87	05	16	31	02	08	17	01	05	11	00	00	03
50	21	51	76	03	12	23	01	06	12	00	03	08		00	02
70	15	39	63	02	08	17	01	04	09	00	02	05		00	01
100	11	30	51	01	06	12	00	03	06	00	01	04		00	01
150	07	22	40	01	04	09	00	02	04	00	01	02			00
200	05	16	31	00	03	06	00	01	03		00	01			00
300	03	12	23	00	02	04		00	02		00	01			00
400	02	08	17	00	01	03		00	01		00	00			
600	01	06	12		00	02		00	01			00			



Tank Design Commentary

A close look at the Tanks in this book will show that very different design philosophies are used by the Soviets and the Western powers. In general, Soviet Tanks are comparatively small, use 3 man Crews, have good but not remarkable protection and firepower, are fitted with simple technology, are very mobile, and operate well on poor terrain. Western Tanks are heavier, have 4 man Crews, place a definite emphasis on protection, firepower, and technology, and suffer from weak mobility, especially inbad ground conditions. Some of the reasons for these differences are as follows.

Western Tank design philosophy places a high importance on protection and firepower. This may be a result of the lessons learned in World War II, where the United Kingdom and the United States found their Tanks consistently underprotected and undergunned. In order to get the desired protection, the decision to sacrifice mobility was made. Supporting this approach was the belief that a war against the Warsaw Pact would be fought on the defensive, and the fact that Tank doctrine in the Western nations stressed methodical, well-prepared actions, rather than fast, dramatic offensives. Another Western trait is an emphasis on technology; the defense industries of the West have access to the most advanced technologies in the world, and use them to create impressive and highly profitable systems. The last key factor is that Western Tanks are designed with the idea of accommodating virtually any member of the adult male population, because the number of troops in their militaries is relatively small. This, combined with the 4 man Crew, results in a larger interior volume and an increase in weight.

Each of these traits pushes Tank design in the same direction; toward a large, expensive, well-protected Vehicle. High technology is expensive and requires a well-trained (and therefore expensive and hard to replace) Crew, which in turn means that the Tank needs good survivability. Once heavy armor has been wrapped around the large Crew compartment, a large engine is required for even moderate mobility, and handling poor ground conditions is not even an option. At this point the Tank is so large it is easy to keep adding to it, and more armor and specialized systems find their way on board. A very powerful Main Gun is also a necessity at this point, because there is no way to field a large number of these Tanks and each one has to have maximum lethality.

The spiral continues upward until it results in a Tank like the USA's M1A1, shown above; remarkably powerful and durable, with the most sophisticated Main Gun on any Tank and optics and other specialized systems that cannot be matched. On the other hand, it weighs well over 65 tons and costs somewhere near $3 million.

One could also argue that Western Tank design is due to the committee-driven nature of democratic governments. Financial interests and divergent combat philosophies combine to create a Tank that must be able to do many things, and must be able to do all of them well; it must be well protected, have excellent firepower and optics, and so forth. The only problem is that the committee cannot have a focused goal. The product ends up with impressive marks in its assigned tasks, but its actual use and purpose are not addressed in depth. In essence, it must do everything that the government and assorted special interests ask it to do, but those groups do not necessarily know what a Tank is for.

Soviet Tank design is at the other extreme; it is entirely driven by purpose. To the Soviets, the Tank is an offensive weapon, so mobility and penetration into enemy areas are critical. To get both mobility and protection, volume must be sacrificed. Consequently, they have gone to a 3 man Crew and select only the shortest of their conscripted men to serve as Tank Crew. Fuel is stored everywhere possible in the Hull, side by side with the ammunition in spite of the increased risk of fire or explosion, and external fuel tanks are used to further increase range. Firepower is also a primary purpose of the Vehicle, but Soviet design places high emphasis on general firepower but not long range accuracy. The Soviet Tank lacks high technology, so as a result it is cheaper. Being cheaper, the emphasis on survivability is also lower, since many more Tanks can be fielded. The Tank can be made in larger numbers, requires less training to use, and so it goes, in a spiral that is almost the reverse of the situation in the West.

Which design is better? Only a long-term conventional war among the great powers could give the real answer.

LEADING EDGE

GAMES

LIVING STEEL

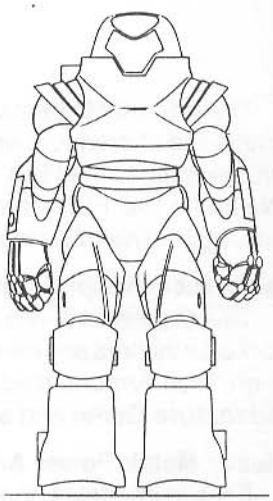
HIGH-TECH ADVENTURE GAME

The year is 2349, and the oppressive Starguild Imperium rules Humanity. Supported by a technological monopoly, the Guild has imposed a caste system on society, and most people are trapped in lives of endless work and little hope. It has been more than a century since the Starguild overwhelmed the dissenting voices of the free Seven Worlds system, and began its unchallenged reign.

Now, however, the corrupt Imperium is facing its greatest test; the alien Spectrals have invaded. Lethal, efficient, and committed to Humanity's annihilation, the Spectrals made contact with the Starguild only a decade ago. Dozens of worlds have already fallen before their assault, and the Imperium is on the verge of destruction.

Into this inferno steps a band of warriors, the reborn champions of a long-lost civilization. One hundred and fifty years before, they had been the leaders of the Seven Worlds, the greatest Human society to fight against the Starguild. Wearing the Power Armor suits that are called Living Steel, they have been reborn into Humanity's Apocalypse. As the Starguild is destroyed around them, they set out to fulfill the last orders they were given; "Save the ideals and dreams of our people, for better times."

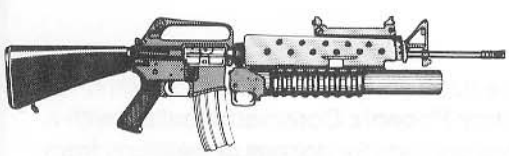
Take your place among them. Your mission is to protect what remains of Humanity, and to sow the seeds of a new civilization, one free of both Starguild oppression and Spectral assault. This is the Phoenix, a new beginning for a desperate Humanity.



Living Steel
Power Armor







PHOENIX COMMAND

SMALL ARMS COMBAT SYSTEM

Phoenix Command is a revolutionary small arms combat system. Quick playing and extremely realistic, it is ideal for any simulation of modern man-to-man combat. Wargamers, role-players, and students of military history alike will find that **Phoenix Command** puts them in the heart of the battle in a way that no other system can match.

Different Worlds magazine gave **Phoenix Command** 4 Stars, its highest rating, and said "Impressive. That is the first word that comes to mind...Simple, yet highly realistic...Compared to this, all other combat systems are nothing."

Find out why Games Review Monthly called the **Phoenix Command** system "the finest modern combat system", and said it is "without doubt, the most detailed and accurate set of rules for resolving modern small arms combat."

Phoenix Command contains complete data for over 140 of the most common modern military small arms, ranging from pistols to machine guns and rocket launchers, along with the only accurate set of rules for automatic fire, shotguns, and grenades. A streamlined Basic Game has also been added, to assist those unfamiliar with Phoenix Command.

PHOENIX COMMAND™

The **Phoenix Command Small Arms Combat System** book is just part of the complete **Phoenix Command** line; a line of products which allows the player to accurately simulate man-to-man combat in all times, from the archaic past to the High Tech future. Hand-to-Hand combat, Armored Fighting Vehicles, Artillery, and Special Weapons like Flamethrowers and Claymore Mines are all handled with the same high level of detail and accuracy. The following products are available now, or will be shortly.

High-Tech Weapon Data Supplement

This supplement sets the scene for High-Tech combat and contains over 75 weapons ranging from pistols to rocket launchers and mines. It contains full details on how the various weapons work, as well as information about High-Tech Armors, medical equipment, and combat drugs. This supplement fully supports the **Living Steel Adventure Game** and allows players to expand **Living Steel** to the **Phoenix Command** level of detail.

Heavy Metal: Power Armor Sourcebook

For two centuries, the battlefields of the Seven Worlds and the Starguild Imperium have been dominated by a single force: **Power Armor**. Power Armor amplifies the combat abilities of individual soldiers to unprecedented levels, and allows small, elite units to easily defeat much larger forces.

To the alien Dragoncrests, the creators of the first Power Armor, it is an extension of the warrior's spirit into the physical world.

To the Swords of the Seven Worlds, it is Living Steel.

The Starguild's soldiers are less poetic. They just call it **Heavy Metal**.

Heavy Metal is the complete sourcebook for Power Armor, and is fully compatible with both the **Living Steel Adventure Game** and the **Phoenix Command Combat System**. The capabilities and Status Sheets for eleven different types of Power Armor are included, as well as more than a dozen Flechette, Gauss, Lase, and Explosive Battlepacks.

Civilian Weapon Data Supplement

This supplement contains over 100 small arms currently available to civilians or in use by police forces across the United States. Included are automatic pistols, revolvers, bolt action rifles, lever action rifles, semi-automatic rifles, paramilitary weapons, and shotguns. With this fully illustrated supplement, **Phoenix Command** has a whole new range of uses, including police, espionage, and post-apocalypse settings.

Advanced Phoenix Command Supplement

The **Advanced Phoenix Command Supplement** presents additional rules and data to greatly expand the **Phoenix Command Combat System**. Designed for the player who wants the ultimate in realism, it covers such topics as Three Round Burst, Blunt Trauma, Effective Minimum Arc, Blind Fire, Ballistic Accuracy, Smoke, Weapon Reliability, Explosive Ammunition, Optical Scopes, Cover Generation, Permanent Disabling Injuries, Ground Burst Explosives, Time of Flight, and Evasive Action.

Hand - to - Hand Combat System

This self-contained **Hand-to-Hand Combat System** includes all the rules you need for the best Hand-to-Hand combat game you have ever experienced. It balances the legendary **Phoenix Command** realism with a fast, playable game system that takes you to the heart of battle. Included are data for dozens of weapons from medieval swords and spears to baseball bats and bayonets; a wide range of rules covering character generation, collisions, and damage; and a complete set of rules for unusual weapons such as whips, chairs, and chainsaws.

Small Arms Damage Tables

The **Small Arms Damage Tables** expand the regular **Phoenix Command** Damage Tables to include Front, Oblique, Rear , and Side Hit Locations. These tables detail bullet penetration through the body, indicating the actual organs and bones damaged. It is based on 1/10 PEN values, which makes it ideal for determining damage from shotguns, shrapnel, and pistols.

World War II Weapon Data Supplement

This fully illustrated supplement contains over 80 of the most memorable weapons of World War II. All the major powers are represented: France, Germany, Great Britain, Italy, Japan, the Soviet Union, and the United States. Weapons include pistols, sub-machineguns, rifles, machine guns, grenades, and explosive weapons such as the Panzerfaust and Bazooka.

Wild West Supplement

The **Wild West Supplement** expands **Phoenix Command** to include the time from the Civil War through the 1890's. Fully illustrated, it contains over 40 of the most noteable weapons of the period, including revolvers, muskets, breech loading rifles, lever action rifles, shotguns, and gatling guns. Included is a discussion of the firearms of the period and special rules for Fast Draw, Reloading, Mounted Marksmanship, and Fanning a Gun.

Special Weapons Supplement

This supplement includes the data and rules for incorporating many unusual weapons of the modern era into **Phoenix Command**. Included are; incendiary grenades, flame throwers, crossbows, bows, silencers, tear gas, plastic bullets, claymore mines, miniguns, stun and flash grenades, and rifle grenades.

Phoenix Command Expansion

This Supplement contains new rules for the **Phoenix Command Small Arms Combat System**. Included is a complete system for Animals in combat, from Dogs to African Game to Dinosaurs. Special Hit Location and Damage Tables for Birds, Marine Life, Bipeds, and Short and Long-Legged Quadrupeds are presented as well as rules for Animal attacks. In addition, **Phoenix Command Expansion** contains fourteen new sections covering Reaction Time, Target Identification, Tracking Fully Automatic Fire, Thrown Grenade Range Modifiers, and an Advanced Aim Point System which allows the shooter to aim at specific body locations.

Russian Roulette: The Breakup of the Soviet Union

This **Scenario Pack** for **Phoenix Command** contains six historical and hypothetical battles that take the player to the scene of critical military events that led to the vast changes underway in what was once the Soviet Union. Also included is historical background material for each of the Scenarios, plus an overview of the Soviet military and security forces.

Artillery and Indirect Fire System

With this system players can call in indirect fire support from artillery, mortars, and even naval guns. All the rules necessary for target acquisition, fire, and effect are included as well as data on the artillery and weapons. This basic system includes data on modern artillery pieces, mortars, and naval guns of the Soviet Union, United States, and NATO forces as well as the most common pieces of World War II. This top level system will be supported by its own supplements to expand the artillery and guns covered.

Mechanized Combat System

The **Phoenix Command Mechanized Combat System** is our top level system for vehicular combat. Included are all the rules necessary for vehicle to vehicle combat as well as a squad-level system for infantry. The basic system contains data on the primary Main Battle Tanks of the modern day, including the USA M1A1, the German Leopard II, the Russian T-80, and several others.

Modern Light Vehicle Supplement

This is the first supplement to **Phoenix Command Mechanized**, and it includes data for the primary Light Fighting Vehicles and Armored Personnel Carriers of the modern day. Featured are the US M2 and M3 Bradley, M113 APC, LAV25, M998 Hummer, Soviet BMP2, BMD1, BTR80, and BRDM2.

Panzer - World War II Medium Tanks

This Supplement to **Phoenix Command Mechanized** covers the primary tanks of World War II. Included are the T34, T34/85, KV1, PZ IV, PZ V Panther, and M4 Sherman. It will be followed by other supplements covering the full range of WW II vehicles.

That summarizes the **Phoenix Command** line as of summer, 1992. Future releases will include more Scenario Packs, additional Weapon Data Supplements, and supplements for the Artillery and Mechanized Combat Systems.

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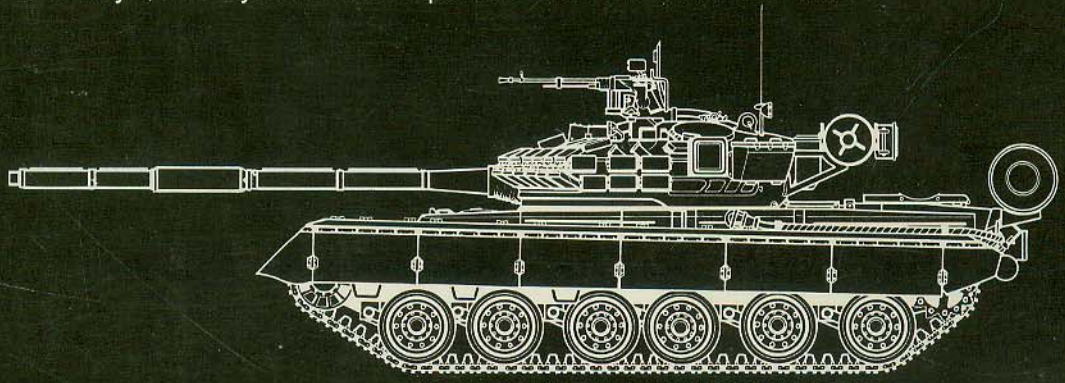
MECHANIZED

Combat System

This **Mechanized System** takes the **Phoenix Command** line to a new level. Created using the same techniques that have made the **Phoenix Command Small Arms Combat System** the definitive rules for man-to-man combat, **PC Mechanized** covers the use of Tanks and other Armored Fighting Vehicles on the modern battlefield.

The system covers every major factor; Movement, Fire, Visibility, Terrain and Obstacles, Crew Damage, Glancing, Anti-Tank Guided Weapons, complete rules for Infantry Combat, and more. Full detail is given for ten of the most important Tanks in the world, including the German Leopard 2, the British Chieftain, the Israeli Merkava, the Soviet T-64, T-72, and T-80, the USA M1A1 Abrams, and others. Multiple versions are given for each Tank, representing major refitting and updating of armor and equipment.

As always, this system is compatible with the entire PC line.



The Revolution in Game Design Continues!

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