

Tactical Combat Series:

Modern Expansion

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Introduction

These rules are designed to be played in conjunction with the **Tactical Combat Series** Rule book, and cannot stand by themselves. Their focus is to incorporate the changes in combat from 1945 to the present into the World War II rule book. Where in conflict with the earlier rulebook, these rules take precedence. Generally, the following rules are additions to the series and not changes to the rules in it, but they may, at points, create exceptions to a given statement of fact in the Series book. Otherwise, all Series rules are still in effect.

A Note About Steps...

Players have at times expressed confusion about the number of steps available to the large number of possible units in the TCS and the Modern Expansion. In order to put these problems to rest, I will provide the following list:

Infantry Platoons ("3 dots"): 5 steps

Section Size Units ("2 dots"), **Squad's** ("1 dot"), **any size Mortar unit**: 2 Steps

Anything Else (basically, all vehicles and carriers, AT Guns, Other Team-Sized Units ("Tm"), any unit with a weapon symbol *other* than mortars): 1 step

See the Unit Characteristics Chart with each new game for specific unit sizes if in doubt.

1.0 Dual Mode

In addition to the two series modes, "dual mode" represents a third possibility. Dual mode represents the condition of units that are fully capable of firing accurately while moving. Units that have dual mode are marked differently on their move mode side, giving them fire mode and dual mode sides (with no traditional move mode). Units **not** so marked are considered to have normal fire and move modes as outlined in the series rules.

1.1 Effects of Dual Mode

Units, when in dual mode, may fire in the Suppressive Fire Phase (as if in fire mode), and then move in the Action Phase. They may **not** fire overwatch in dual mode. Dual mode units are treated as if in move mode for calculating terrain effects on

combat. When in fire mode, dual mode units behave normally. Units marked with overwatch markers may not change to dual mode in the Mode Determination Phase. Wherever an effect is accorded to regular move mode units, dual mode is treated in the same way. The only real difference between dual mode and move mode is: dual mode units can fire suppressive fire and move in the same turn. ATGM's may not be fired by units while in dual mode.

2.0 Artillery

A number of new rounds and methods have been introduced into artillery since WW II, these rules are meant to incorporate them.

2.1 Copperhead Rounds

Copperheads are rounds that are capable of homing in on a laser painted target. They are given as numbers of individual rounds (as are illum rounds). Their effect is a +7 dice roll modifier on the Artillery and Mortars vs. Point Targets Table (only when observed.) A unit or vehicle of any sort must be available that can observe the fall of the round. An artillery battery which fires a copperhead may fire up to one round per tube in the battery in a given turn and may conduct no other fires, in that phase, with tubes used to fire copperheads; cannons **not** used to fire copperheads may fire other, normal, fire missions if desired. A battery which fires more than one copperhead, may have different target hexes for each round.

Sticklers may want to identify a very few (perhaps two per battalion as a rule of thumb) units/vehicles that may spot these rounds. In reality, the laser painting devices are quite rare.

Copperheads are called for normally in the Call for Fire Phase. They may never be fired as Immediate Suppression. Copperhead rounds do not go through any adjustment, but **automatically land in any desired hex at or within three hexes of the recorded target hex**. If not observed, the copperhead round cannot be fired. Copperheads have no effect on area targets (unless they are passengers in a point or both type target).

Copperheads may be fired at helicopters (of either mode) and this type of fire is handled in the same way as any other point target as above except the dice modifier is reduced to a +4.

When firing a copperhead against a stack of possible targets, the copperhead may **only at-**

tempt to attack one of the potential targets using the Artillery and Mortars Point Fire Table. Such rounds have no effect on other units in the impact hex.

2.2 FASCAM

The Family of Artillery Scatterable Mines (FASCAM) is a artillery delivered minefield system. It is given as a number of battery fires. When fired, each battery fire creates a number of minefield hexes in the pattern given below (one pattern per battery fire). These mines behave as any others and are placed onto the map when the mission is fired. They may not be recorded secretly, as in the series optional rule, but must be placed on the map. In all other ways, FASCAM behaves as a regular minefield. **Exception:** FASCAM hexes may not be negotiated by friendly units in a relatively free manner, as with normal friendly minefields. FASCAM mines affect all units of both sides in the same way.

2.2a The FASCAM pattern is as follows: In each hex of an *approximate* square (owning player's placement) that is 3 hexes long and 3 hexes wide, place one minefield marker. The fires must be placed on a plotted hex which must be one of the "square's" corners. No designator round need be fired, the fire automatically hits in and around the plotted target hex. FASCAM may never be fired as an Immediate Suppression mission.

2.2b FASCAM mines are always set to self destruct at a given time after placement. This must be recorded on the fire plan and the mines are removed at the end of the turn recorded for expiration. This time may be a short as one turn or as long as six hours. This time detonation has no effect on any units.

2.2c FASCAM hits do not affect ground units in the hexes they land in (see 4.4 for effect of artillery on Helicopters) except that units which occupy a hex in which FASCAM mines "appear" during the Suppressive Fire Phase are attacked upon attempting to leave that (newly mined) hex. Units moving out of such a hex into another mined hex are thus attacked twice. Units who do not have mines drop on them are only attacked normally, i.e. when they enter the mined hex.

2.2d (Optional) Foot mobile units may ignore FASCAM mined hexes during daylight by paying **triple** the MP cost of the minefield hex. If they do so, they are not attacked in any way. Foot Mobile units are those ground units that do not have a vehicle/carrier silhouette on their counter. This includes AT guns that are being moved by hand.

2.3 DPICM and ICM

Both DPICM and ICM (Dual Purpose Improved Conventional Munitions and Improved Conventional Munitions) are very similar and are handled in the same way, except for DPICM's effect on vehicles. Both consist of bomblets that are dropped from the round in groups of between 18 and 644 depending on the type of round. These bomblets effectively scatter the round's effect in order to destroy targets in a broad area. Both types of rounds are usually given as Battery Fires.

2.3a General Effects. DPICM and ICM's effect on Area Targets in the hex they impact are given on the Area Fire Table as an increased Firepower value. MLRS and 8" rounds attack all area targets in the impact hex (with normal firepower) and the six adjacent hexes (with firepower x 1/5). ICM rounds have no effect on vehicles of defense 2

or more. DPICM rounds receive a +3 modifier (+2 when adjacent) on the Artillery and Mortars vs Point Target Table on all vehicles and carriers (-1 to dice for each defense factor over eight, i.e. defense of 11 equals -3 dice roll modifier.) ICM rounds receive the +3 modifier (+2 when adjacent) on vehicles/carriers with a defense of 1 or less.

2.3b DPICM and ICM rounds are fired as are any other HE type rounds (designator round, adjustment, FFE) and HE rounds or smoke may be used for the designator round and adjustment sequence in order to save on these rare improved munitions. Once on target, DPICM or ICM is fired in effect.

2.3c Smoke markers are only placed in the hexes where two or more rounds hit; the adjacent attacks listed in 2.3a do not create smoke. In other words, rounds with adjacent effects still only cause smoke to be created in the actual impact hex.

2.3d When using the Miller Tables to execute ICM/DPICM missions, it is important to remember to check hexes adjacent to actual units for hits when rounds are being fired which also attack adjacent hexes. A good way to do this is to check all adjacent hexes around all possible targets *first*, marking them with any convenient marker for number of rounds hit, *then*, go back and attack the actual targets. This system avoids possible minor errors in numbers within hexes due to forgetfulness or re-attacking.

2.4 MLRS

The MLRS is a highly sophisticated multiple rocket launch system which is much more accurate and powerful than the rocket artillery described in the Series rules. These rules will give the changes to be used in the place of those rules to accommodate this system.

MLRS launchers fire volleys of 12 rounds (a battery fire). **Each launcher may only fire one battery fire in a turn.** MLRS may only fire DPICM rounds. They do not require adjustment (nor may they be adjusted if the player so desires, etc.). No designator round is fired. They automatically fire for effect onto the plotted target hex (only, that is, the plotted hex, not "within three" as in normal fires) in an Area A or B pattern (owning player's choice, made when plotted.) They may not fire immediate suppression missions. A battery fire for an MLRS represents the fire of one of the vehicles of the battery (eight in the battery, usually).

2.4a More than one launcher may fire its 12 rounds at the same target concentration. As stated in the paragraph above, a battery 3 of MLRS is impossible, but players are allowed to fire a battery 1 with three different launchers to de facto execute a battery 3 mission. Such a multi-launcher fire would be treated as a single mission and thus resolved as one. The above pseudo-battery 3 would be the same as a single fire mission containing 36 rounds.

2.4b When counter battery-fires are conducted at an MLRS battery (see 2.5 below) only those launchers that have fired are eligible to be lost. Therefore, if two launchers fire and a counter battery fire is made against them, if the roll calls for three destroyed systems, the two that fired are destroyed. The remaining loss is ignored.

2.5 Counter Battery Fires

Due to increases in the use of battlefield radar, the location of a firing battery is known

within minutes of its firing and counterbattery fires are fired onto that location. Moving of batteries as soon as they fire is critical to their survival on the modern battlefield.

2.5a Each player may designate one or more batteries to be assigned a counter-fire role in the place of DS or GS. They may not fire any other form of mission than that below. Just upon the completion of any fire mission (regular or counterbattery), the opposing player may attempt to acquire and fire a counterbattery mission at the battery which has just completed firing. A given battery may fire only one counterbattery fire in a turn (any attempt which fails to acquire is not counted as a "used" counterbattery fire, any number of unsuccessful attempts may be made.) More than one battery may attempt to counterbattery fire because of one enemy fire mission, up to as many batteries as the player may have assigned to the CB role. Battery assignment to CB may be changed at any time using the standard methods used to assign/reassign batteries between DS and GS.

2.5b A player is given a number of counterbattery (CB) and Electronic Warfare (EW) points at the beginning of the game. These points are assigned to each artillery battery the player has available as desired. A battery may be assigned any number of the available points. Once assigned, these points may only be changed on the 2400 turn of each game day. They may never be reassigned at other times. CB and EW points are never destroyed or expended, their number remains constant throughout the game.

2.5c CB Points. CB points are used by batteries which are assigned to counterbattery fire to "acquire" enemy batteries which have fired. When successfully acquired, the enemy battery must be engaged with at least one counterbattery mission. For each CB point assigned to the counterbattery battery (minus any EW points, as below), roll one die based on the Target Acquisition Table and the number of battery fires (of any type) fired by the target battery in this and the previous turn. If any of these rolls succeed, the firing battery is acquired and must be engaged with at least one counterbattery fire (the player commits himself upon rolling the die for acquisition.) If more than one battery is firing a counterbattery mission, one set of rolls are made for the batteries attempting to acquire and the CB points are used as a total. If any of these "joint" rolls succeed, the target is acquired for all CB batteries, and all must fire which committed their CB points.

2.5d EW Points. EW points represent electronic warfare means of avoiding acquisition and detection. Subtract any EW points available to the battery which is attempting to be acquired from the number of CB points available to the acquiring battery. The result is the number of possible Target Acquisition rolls. No rolls are made if this number is zero or less. Only EW points assigned to a particular battery may defend it.

2.5e Counterbattery Fires. If a battery which conducts a mission is acquired, each counterbattery battery must shoot one battery fire of HE, DPICM or ICM (owning player's choice at the time of fire) as a counterbattery fire. Roll one die. Divide this roll by 2 if ICM or DPICM, or divide by 3 if HE. The result (always rounded down) is the number of target firing systems destroyed. **Modifier:** if the number of tubes firing counterbattery is two or less (a single MLRS launcher is exempted from this

modifier) **subtract two** from the die before dividing.

2.5f A given battery may only fire counter-fire once in a given turn. Ammunition is handled in the same way as always (counter-fire = one battery fire). On Map artillery is fired upon in the same way as any off map artillery and the terrain, etc. is of no effect. On Map guns that are destroyed are removed from play. Counter-Fires do not have any effect on other units on the map if directed against on map guns, nor do they generate smoke.

2.5g Counter Battery fires are never pre-planned in any way, other than the actual battery assignment to this status.

2.5h More than one battery may engage in counter battery fires against a particular firing battery. Each is resolved with a separate die roll. Each counter-firing battery may only fire once in a given turn and only one die roll is made for each battery which fires counter battery.

2.5i Mortars are never affected in counter battery fires: either on the receiving or giving end of things. Mortars are usually not significant enough to warrant this attention which is better spent in locating and destroying MLRS batteries.

Example: Counter Battery Procedure.

In this case, the simple one, a battery from player B has just finished a rather ineffective fire mission. Player A announces the counter battery attempt with one of his batteries which has been assigned 4 CB points. Player B's battery, the target, has one EW point and fired a battery 3 this turn and nothing last turn. The CB points minus the EW points gives three die rolls. The 2-3 battery fire row is used giving a required roll of 5 or more on one die. Player A rolls his die three times and scores a six on one of them. The target battery has been acquired. Player A's battery must now engage the target. Player A removes one battery fire of HE ammo and fires his battery at player B's. Player A rolls one die and gets a 5. This is divided by 3 and rounded down to be 1. Player B removes one gun from the target battery.

Incensed by his loss, Player B announces a counter battery fire against player A's firing battery. He fires three of his batteries which each has 2 CB points. Player A's battery has one EW point. This gives 5 die rolls. Player A's battery fired three battery fires last turn and the counter battery fire this turn, so the 4 to 6 row is used on the Target Acquisition Table. A die roll of 4 or more is required. In his five die rolls, player B acquires the target. Then he expends one DPICM battery fire for each battery (his choice of rounds) and rolls the die once for each firing battery. Player B rolls a 1, 3 and 4. Each is divided by 2 and rounded down giving a total loss to player A's battery of three tubes. Player A removes these guns and declines to attempt another counter battery fire with another of his batteries at those of player B's which just fired.

2.6 Dedicated Missions (Optional)

A battery in direct support of a task force, in addition to its normal missions, can also have a specific target assigned which it may fire at a moment's notice. This **dedicated mission** is recorded to a battery in the same way as any other. A given battery may only have one dedicated target at one time, the dedicated target hex may be assigned only when an op sheet is prepared and not be changed thereafter, except, of course, upon the

implementation of a new op sheet. The dedicated mission may be fired as an immediate suppression mission and called for as one. Dedicated mission fires, while *conducted* as immediate suppression missions, always land on target and may be in any given concentration. Dedicated missions may never be adjusted off their dedicated target. Batteries with a called fire delay or those unable to fire immediate suppression may not be assigned dedicated missions. Having a dedicated mission does not interfere with a battery's ability to fire other fire missions at other times—it is merely a special mission it also has assigned to it. Only DS batteries may have dedicated missions.

3.0 Anti-Tank Guided Missiles (ATGM's)

These weapons, coming of age in the early 70's, were and are an important increase in tank killing technology. They are represented simply in the game as their own Point Fire Table roll (using all the same modifiers as the regular Point Fire Table) made on the ATGM Table. They are handled the same as any other point weapon except they have special range effects and their own fire table.

3.1 Types of ATGM's

Each type of ATGM is given an attack factor, nominal, and minimum range on the ATGM Value Table. They fire on the ATGM Fire Table at point targets and may be used (with a special multiplier) on the Area Fire Table.

Units marked with an ATGM type have that weapon available to be fired. All other units do not have ATGM's.

3.2 Effects and Restrictions on ATGM's

3.2a ATGM's may be fired by units so equipped, **in addition** to any other fires a unit may have. ATGM's may be fired in either the Suppressive Fire Phase or in Overwatch fire. They are fired as any other point fire except they use the appropriate column on the ATGM Table. They may not be fired while in dual mode nor may they ever be used against targets in the same hex as themselves. ATGM's may be used against area targets using the Area Fire Table, but at any range their Attack strength is **divided by 10** to become their firepower. Such use is to be discouraged as it is a waste of expensive anti-armor rounds. The reluctance to use these weapons in this way is best simulated by using the optional "supply" rule below (3.2b) and not by imposing artificial restrictions that prohibit such use.

3.2b (Optional) Realistically, the number of ATGM's available to, say, an infantry unit is quite small. The game makes no attempt to record the expenditure of these fires. If players find they must place limits in order to keep their more trigger happy opponents from filling the sky with wires, feel free to keep a pencil record of their use. Allow six shots from an infantry platoon and roughly 5 from assorted vehicles. Attack helicopters may have as few as 3 and as many as 12 depending on the model. Use exact figures, if you have them, and allow resupply.

3.2c ATGM's make no change in the ability of infantry units to conduct AT Rolls, which

are a different beast entirely. Suppressed and paralyzed units may not fire ATGM's.

3.2d ATGM's are sometimes given "minimum" ranges. At this range or less, the ATGM may not engage any targets.

3.2e While able to fire ATGM's in addition to regular fires, this does not mean the unit is marked with an overwatch marker for each role separately nor does it make more than one roll for additional overwatch fires. One overwatch marker is placed on the unit and this marker affects all functions of the unit. These units get only one die roll chance for additional overwatch fires.

3.2f ATGM units with other weapons available may split their fires onto different targets, as long as each capability is only used once (with the exceptions of additional overwatch fires and AT rolls) in a phase. When splitting fires, players must remember that in the Suppressive Fire Phase, it is *targets*, not *firers*, that are alternated, i.e. fire an ATGM from unit A at target 1; opponent conducts a fire; unit A fires "other" weapon at target 2. A unit with more than one weapon system may engage the same target with both systems in a given phase, but these attacks must be announced before resolving either and the opposing player may conduct a single fire between their resolutions.

Example: Normal ATGM Fires

In this case, at a range of 7, a TOW1 engages a T-72 (without special reactive armor.) The T-72 is in Move Mode in the open. The ATGM Table is used and the TOW's attack (13) minus the T-72's defense (7) gives a differential of +6 which places the fire in the +4 or more column. The range is over 1/2 nominal (nominal is 13) but under the actual nominal value giving a raw dice roll of 6 or more to kill. This dice roll is now modified for the same reasons, using the same values as the Point Fire Table (including those listed on the table itself.) In this case, terrain is the only applicable modifier. The Terrain Effects on Combat Chart is consulted and a +1 modifier is obtained. Now on any roll 5 or more the T-72 is destroyed. A9 is rolled and the tank is removed. This concludes this fire.

3.3 Supersonic ATGM's (Optional)

The AT-8 Songster is reputedly capable of supersonic flight. In game terms, this means a unit armed with this missile may be able to counterfire a normal (i.e. slow) ATGM which is being fired against it. This rule is made for those who want to experiment with its effects.

3.3a Whenever a regular ATGM (not a fire and forget type) is fired at a vehicle armed with the AT-8 and the firing unit is within the LOS of the supposed target, the target's owning player may call out "counterfire!" Now, he rolls a die. On a six (only), he may fire an AT-8 at the firing unit. (The foregoing die roll is made in addition to any required due to being overwatch marked. In other words, to successful conduct a counterfire while overwatch marked, a unit must roll two sixes.) Resolve the AT-8 fire before the original fire attack. If it succeeds (destroys the firing vehicle or suppresses the firing infantry, etc.) the original fire is lost, otherwise complete the original fire.

3.3b The AT-8 cannot affect fires of fire and forget missiles, launchers outside its LOS or range, and any helicopter. If the die roll attempt fails, no counterfire is made.

3.3c The AT-8 cannot be used in addi-

tion to the vehicle's main weapon when firing Overwatch, only. In suppressive fire, both weapons may be used at the same or different targets.

3.3d When using the optional spotting rule, the AT-8 unit must successfully spot the firing unit before being allowed to counterfire. This check is made after the initial fire is announced but before its resolution, as above. The fire of the target does not qualify for the automatic spotting condition in this case.

4.0 Helicopters

Amy aviation is a new-comer to the battlefield. It allows rapid portage of men and equipment as well as being a fast, powerful weapons platform for combat purposes. These rules outline the controls needed for their incorporation into the game, but it must be realized that their full use can only be shown with a game of monstrous proportions of map space.

4.1 Basic Helicopter Rules

Helicopters come in two forms: Carrier and Attack. Carrier helicopters function as airborne trucks. Attack helicopters serve as airborne weapons platforms. Both may have weapons and fire or have portage abilities. Both may have area, point or ATGM weapons (designated as any other type unit.) No helicopter may: conduct AT Rolls, Breach minefields, lay mines (exceptions as listed in the game rules, if any), conduct assault combats or be attacked by mines. They may not land to load or unload in minefield hexes.

4.1a Helicopters have two "modes:" Low and NOE ("Nap of the Earth.") Low helicopters are considered to be above the local terrain by 100 meters. They may always move and fire but cannot load/unload passengers. They are subject to AA fires. NOE helicopters are considered to be, for all purposes, on the ground. They may move; they may fire but their LOS is restricted as if they were at ground level; and they may load and unload passengers. NOE helicopters are only subject to AA fires that have a clear ground LOS to them. Helicopter mode changes occur in two ways: the player may change mode by expending 5 movement points, or conduct a Pop Up which temporarily changes mode, see 4.1e. Helicopters, it should be noted explicitly, can both move and fire while in either mode (either Low or NOE.) Overwatch markers have no effect on helicopters other than the die roll required of additional overwatch fires—they are still free to move and change "mode" as desired.

4.1b Helicopter movement. All helicopters have a 200 movement point allowance. Helicopters move by paying one MP per hex in Low Mode and five MP's per hex in NOE Mode. Helicopters otherwise ignore terrain costs. Changing mode costs 5 MP'S. Loading/unloading passengers costs 10 MP'S. Sling loading weapon units costs 20 MP's to attach and detach. Sling loading is used to move on-map artillery, AT guns, trucks and "light" vehicles, see the game rules for allowable limits for particular types of helicopters. Mortar units are carried loaded, *not* in sling loads. While moving, a helicopter is subject to overwatch AA fires every 10 MP's. Every tenth MP, halt the moving helicopter and check for AA fires. Conduct any that may be present. AA fires are conducted in the same way as with aircraft sorties. No AA fires are conducted at other times in movement (helicopters that do not

move are not fired on 20 times in place!) Pop Ups cause AA fires at the time they are conducted. AA fires may also be conducted during the Suppressive Fire Phase.

4.1c Helicopter Fires. Helicopters may fire normally in the Suppressive Fire Phase and in overwatch. See 4.1d for more description of helicopter overwatch fires. Helicopters in either mode may fire, except LOS for NOE is at ground level and for low is at 100 meters above ground level. Helicopters perform fires in the same manner as other units using whatever weapons systems they may have available.

4.1d Helicopter Overwatch. Helicopters fire overwatch as do other units except that, while in NOE mode, they need not have an LOS to the trigger if they are going to do a Pop Up to Low mode to fire (but must have a clear LOS at the 100 meter Low altitude.) They are automatically considered to have communications with another helicopter (observation type, not represented on the map) or ground unit that can see. Overwatch marked helicopters are affected the same as a ground unit in terms of the die roll needed for another overwatch fire but the overwatch marker has no effect on movement or mode change.

4.1e Pop Ups. A Pop Up is a quick maneuver to gain altitude, fire at a target and then drop back down. A pop up may be done any time the helicopter wishes to fire (suppressive fire or overwatch) and does not cost MP's. Each helicopter may do one and only one pop up in a phase (no exception is made for overwatch fires.) A helicopter may only engage one target in a pop up, even if it has more than one weapons system it can fire. AA fires are (before the helicopter is allowed to fire) directed against each pop up. A helicopter conducting a pop up must be in NOE mode at start. It may then switch to low mode, any AA fires are resolved, and then the helicopter may fire. After the fire resolution, they must go back down to NOE mode. AA fires are always resolved before the helicopter's fire is conducted. A helicopter doing a pop up to do an overwatch fire need not have an LOS to the trigger while in NOE mode; it only needs one when in the Low mode in order to actually fire. Helicopters cannot use a pop up to observe artillery fires. More than one helicopter may pop up at once to engage a single target.

4.1f Additional Pop Up Rules. In addition to AA fires, enemy helicopters may conduct a pop up to counter fire another pop up. These counter-pop ups cannot be "counter-popped" themselves, but do receive normal AA fire dice rolls. The order of such an event would be: player 1 does a pop up to overwatch fire at a moving tank. Player 2 pops up with a helicopter to counter fire. Player 1 fires all AA rolls he has at player 2's pop up (which survives). Player 2 fires his helicopter at player 1's helicopter (which also misses), returns to NOE mode, and then resolves all his AA rolls at player 1's helicopter (unsuccessfully). Player 1, finally, fires at the original tank, destroys it and returns to NOE mode. Should player 1's helicopter have been destroyed at any time before firing on the tank, no anti-tank fire would have been made.

4.1g Soviet Doctrine and Pop Ups (Optional) The Soviet Army does not endorse the pop up as does Western armies, and prefers to use their helicopters more as traditional fixed wing aircraft (strafing runs, etc.) To show this difference in doctrine and training, players may either limit the

Soviet helicopters to no pop ups or do the following, which I recommend. If the game being played portrays a conflict that is less than 12 hours old, no Soviet helicopter may conduct a pop up. At and after the 12 hour mark, remaining Soviet pilots are considered to have been educated in the "wonders" of the pop up and may then do them, but all fires made by a Soviet helicopter conducting a pop up are modified by an additional -2 dice roll modifier on all tables. Players wishing to see the drastic effect of current Soviet doctrine are encouraged to restrict all Soviet helicopters to no pop ups at all.

4.1h Fire and Forget Missiles and the Pop Up. The AH-64 is currently the only helicopter capable of firing a fire and forget ATGM (the Hellfire.) To represent this advantage, AH-64's firing Hellfires in a pop up: may never be "counter popped" by another helicopter and any attempted AA rolls have a -1 modifier applied to them.

4.1i Station Time. "Station time" represents the need of the helicopter unit to leave the map for more extensive refueling/maintenance/recovery than is available at the FAARP (Forward Aviation Armament and Refueling Point). Helicopter units are nominally assumed to make trips to and from the FAARP during the game turn as needed. There is, however, a limitation on the station time available to each helicopter. Station Time works as follows: each helicopter unit (counter) may conduct active operations on the game map for no more than 6 hours. The player must keep track of his helicopters as to how long they have been on the map. When their six hour mark is reached, fly the helicopter off the map to the area listed in the scenario as the "Helicopter Off Map Area." The helicopter may return to the map, and begin another six hours, after being off map for 3 hours. A player may stagger his helicopters, leave earlier than the maximum, or otherwise control their activities as he desires in order to maximize their use. Helicopters that remain on the map longer than six hours without their 3 hour break are destroyed by lack of maintenance.

4.2 AA Fires Against Helicopters

As mentioned earlier, AA fires are made against helicopters after each expenditure of 10 MP's and upon a pop up to fire. AA fires against helicopters are handled in the exact same way as those in aircraft sorties (a single dice roll and number to make.) AA fires may also be made during the Suppressive Fire Phase in addition to any other fires the firing unit may make. Some helicopters are noted for their heavy (for aircraft, anyway) armor. For these helicopters, which are given a defense value, the defense value is subtracted directly from the AA dice rolls made against them. Additionally, helicopters firing a fire and forget ATGM (AH-64's only) receive a -1 modifier to AA rolls against them while conducting a pop up.

When helicopters fly directly over an enemy unit, that unit (alone, unless it is also the helicopter's 10th MP) may automatically fire AA fires. This automatic fire has no effect on the 10th MP cycle at all.

Example: Helicopter Pop Up, AA fires and ATGM fire.

In this example, a BMP is moving in the open. The non-phasing player announces a two pop ups to engage the BMP. The helicopters could not see the overwatch trigger prior to the pop up, but this doesn't matter. Upon popping up, each heli-

Tactical Combat Series: Modern Expansion Tables

ATGM Table

	Attack-Defense			
	+4 or More	+3 to +1	0 to -2	-3 to -5
1/2 Nominal or Less	7	8	10	12
Over 1/2 to Nominal	6	7	9	12
Up to 2x Nom	7	8	10	12

Not Possible at -6 or less differential

ATGM Values

Type	Attack	Nominal Rng	Min Range	
Dragon	10	4	3	
AAWS-M	12	8	5	Fire and Forget
Tow 1	14	13	1	
I-Tow	16	16	1	
Tow 2	18	16	1	
Tow 2a	20	16	1	Includes Tip Charge
Tow 2b	24	16	1	
Hellfire	22	25	4	AH64, Fire and Forget
ADATS	22	25	3	Fire and Forget
Milan2	17	9	1	
Hot2	20	18	1	
Swingfire	17	11	1	
AT3 Sagger	8	13	5	
AT4 Spigot	11	9	2	
AT5 Spandal	11	17	2	
AT6 Spiral	13	20	4	
AT8 Songster	15	17	4	Special "Supersonic" Rules

Target Acquisition Table

Roll once for each CB point assigned - any EW points assigned to target.

Battery Fires	Die Roll
This turn and last	Roll # or more to acquire
1	6
2 to 3	5
4 to 6	4
7 or more	3

New Artillery Round Values

Round Type	105	155	8"*	MLRS*
ICM, DPICM	15	20	36	50

* Attacks adjacent hexes at x1/5

Effects of MOPP Chart

Level	Cmd Prep ¹	Movement ²	Fire	Chem Attack Modifier		Morale Recovery ⁵	Morale Modifiers	
				Area Target ³	Point Target ⁴		Chm Attk ⁶	Other
Low	Normal	Normal	Normal	+6	+3	Normal	+6	Normal
Medium	2	x1/2	x1/2	+4	+2	1/4 hour	+4	+3
High	1	x1/3	x1/4	-2	-1	1/8 hour	+2	+5

¹Maximum Weighted Turns that can be accumulated in one turn, regardless of circumstances.

²For Foot Mobile units only, vehicle and carrier units move normally.

³All company morale changes made by chemical attacks are x2. Add +1 to modifier for each round, to a max of +3 (Area Targets only.)

⁴The modified roll to kill a point or both type target is 10 or more.

⁵Normal is 1/3 per hour.

⁶This modifier is used when chemical attack is not combined with conventional shells, if combined use **both** columns (added.)

Modern Expansion Modifier Summary

Artillery

1. Copperheads get a +7 dice modifier on the Artillery and Mortar Point Fire Table. This is a +4 if against helicopters.
2. FASCAM Pattern: 3x3 Hex approx square, plotted hex must be a corner.
3. Foot Mobile units may ignore FASCAM mines at x3 MP costs for a hex.
4. MLRS and 8" ICM, DPICM attack adjacent hexes at 1/5x firepower.
5. ICM has no effect on vehicles with defense 2 or more.
6. DPICM: +3 (+2 when adjacent, if adjacent effects possible) on Artillery and Mortar Point Fire Table. (-1 to dice for each defense factor over 8)
7. ICM has the same effect (as #6) on vehicles of defense 1 or less.
8. CB/EW Points may only be reassigned on a 2400 turn.
9. CB-EW = # of rolls on Target Acquisition Table.
10. CB Fire Effects: Roll one die, divide by 2 if ICM or DPICM, 3 if HE or Chem and always round down. Result is number of systems destroyed. -2 to die if CB battery is firing two tubes or less (MLRS is an exception.)
11. CB fire is always one battery fire.

ATGM's

1. ATGM's vs. Area Targets: Attack Rating/ 10
2. AT8 Counterfire Roll: 6 (one die)

Helicopters

1. MP Costs: Move Allow: 200, Change Mode: +5, Load/Unload Passengers: +10, Sling/Unslung Loads: +20
2. Low altitude is 100 meters over ground elevation.
3. AA fires every 10 MP's, whenever a Pop Up is done, and upon flying over any enemy unit.
4. Soviet Pop Up: -2 to any table dice roll.
5. AA Fires vs Fire and Forget Pop Up: -1 to dice.
6. Station Times: 6 hours on map, 3 hours off to recover.
7. DPICM, ICM, FASCAM vs. Helicopters: Roll 10 or more on two dice to kill.
8. Sortie vs. Helicopter: 2 dice + Attack of Sortie/10 greater than or equal to 8 then Helicopter is destroyed.
9. Air to air Helicopter fires: -3 to table dice rolls.
10. Helicopters may only overrun a given hex once in a phase.
11. Only one Pop Up per Helicopter is allowed in a phase. All fires of a Pop Up must be conducted against only one target.

NBC

1. Effects of MOPP (see table other side)
2. Removal of Chem Markers: Remove persistent chem markers on a 6 roll (one die).

Night Vision

1. Infantry Units, Manpack/Ground Mount ATGM's/AT Guns: Fire out to 1/2 max range, observe to 8 hexes (inclusive).
2. Vehicles/Helicopters: # of hexes beyond night visibility
5 if target in Move or Dual Mode
4 if target in Fire Mode

This number, rounded off, is subtracted from the roll on the Point Fire Table or ATGM Table. Do not use this modifier on Area Fire Table.

3. Vehicles without Thermal sights may not see through smoke or weather conditions, only the limit imposed by night.
4. Thermal Sights: Same as above, except +1 to count for each smoke marker entered and hex beyond weather limit required. Cannot observe artillery fires at more than 8 hexes.

Modern Armor

Modern Armor AT Roll Modifier Chart

Modifier	Type of Vehicle
-3	M1 (all), Challenger, Merkava 3, AMX LeClerc
-2	Leopard 2, T-80, Merkava 1 & 2
-1	T-72, T-64, T-64b, Chieftain, Leopard 1, M60a3
0	All Others

Additional -1 if vehicle equipped with reactive armor or DUA

Special Thanks to Neal Badke for this Table.

2. Effects of Reactive Armor: +5 to defense if ATGM, DPICM, ICM round +2 for other point fires.
3. Effects of DUA: +8 to defense for all point, DPICM, ICM or ATGM fires.

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Additional -1 if vehicle equipped with reactive armor or DUA

Special Thanks to Neal Badke for this Table.

2. Effects of Reactive Armor: +5 to defense if ATGM, DPICM, ICM round +2 for other point fires.
3. Effects of DUA: +8 to defense for all point, DPICM, ICM or ATGM fires.

copter has a clear LOS to the (now halted) BMP. The BMP's owner has three units (the BMP included) which can engage the helicopters with AA fires. Each of the AA fires must roll a 12 to kill. The three units roll for helicopter number one, getting one 12 and destroying it. The same three now roll for helicopter number 2 and miss. The helicopter, a Cobra without fire and forget missiles, engages the BMP with a TOW1. The ATGM Table gives a minimum required dice roll for a kill of 7 (Max differential and range.) This is modified for terrain to be +1 (move mode in the open) giving a modified roll of 6 or more to kill. Two dice are rolled giving a 5 and the BMP is missed. The remaining helicopter then drops back to NOE level ending this fire.

4.3 Helicopters as Carriers

A helicopter as a carrier is a very effective method of getting from here to there in a small amount of time. It is, however, relatively dangerous to the passengers. Loading and unloading is handled in the same way as ground carriers (with a 10 MP cost to the helicopter, and the normal MP cost to the passengers.) The exact ability of a helicopter carrier is given in the game rules. Helicopters may also "sling load" heavy items. This is the airborne equivalent of towing and usually the same items that can and must be towed are also those that can be slung (but may also include trucks and other vehicles, see the game rules for specific abilities of a given helicopter.) Sling loading and unloading costs the helicopter 20 MP's. No carried unit may fire while on a helicopter and slung items may never fire while loaded. AA fires that destroy a helicopter also automatically destroy any unit being carried. Carrying has no effect on a helicopter's ability to fire. Helicopters with sling loads may never do pop ups.

4.4 Effect of Artillery Fires on Helicopters

Generally, artillery fire has no effect on helicopters in the hexes the shells strike. This is referred to as the "little shell, big sky" theory which doesn't bother artillerymen, but irritates pilots. Certain munitions may, however violate this theory. If any hex that contains a helicopter, in either mode, is hit with one or more DPICM, ICM or FASCAM rounds, the firing player rolls once (regardless of the number of rounds) on two dice. On a 10 or more, the helicopter is destroyed. This includes any of the hexes with minefields delivered by FASCAM or any hex of a multi-hex ICM/DPICM hit.

4.5 Air to Air Combat

To avoid cluttering up this game's design with a large amount of rules dealing with air-air combat, I will only write a few basic cases covering the usual circumstances in which this type of thing becomes important. If players feel cheated by not having an elaborate air expansion, I invite you to establish more detailed house rules.

4.5a Air sorties may be applied against helicopters instead of ground targets in a turn. Roll two dice and add to the roll the firepower modifier of the sortie (a firepower 16 air sortie would give a +2 to the dice.) If the result is 8 or more the helicopter is destroyed. This action counts as one of the sortie's "attacks" if it is capable of more than one attack in a given mission.

4.5b Helicopters may fire at one another as "both-type" targets with their defense value or

zero, if they have none. Subtract 3 from all dice roll air-air attacks involving two helicopters (on any table.) They may use area weapons, cannon (point) weapons or ATGM's. I have no data on the ability of attack helicopters to engage air targets with ATGM's so if you have better info, use it. The terrain modifiers used for the helicopter targets of helicopter fires are always zero.

4.5c Helicopters may not engage air sorties. Sorties never attack other sorties.

4.6 Other Helicopter Rules

4.6a Helicopter Observers. Helicopters may observe artillery fires as can any other unit. They must have a clear LOS to the fires, at the time of the fires, and may not use a Pop up do create a clear LOS. The LOS must exist without any such maneuver being made.

4.6b Helicopter Overruns. Helicopters may conduct overruns in the same way as a vehicle. However, the following must be kept in mind: a particular helicopter may overrun a given target only once in an Action Phase (but may go on the conduct other overruns against other target hexes); and, the defender, and all other units in range that have a clear LOS (if they require one, FOG-M, for example, does not), may fire AA attacks on the helicopter during the Defender's Fire Segment. These AA rolls are made regardless of the 10th MP rule above (also, helicopters are not subject to two AA attacks should they manage to expend a 10th MP during an overrun.) Overruns do not cost any extra movement points for helicopters. Helicopter overruns may be made in either mode. Helicopters may overrun any unit in open terrain, but in non-open terrain, only vehicles and carriers may be overrun. Infantry and weapon units in non-open terrain are unaffected by helicopter overruns against their hex, but they may add to the AA rolls of the hex. Helicopters may overrun other helicopters in any type of terrain. Helicopters may fly over any units during their movement, without making an overrun, but they are subject (automatically) to the AA fires of any unit they fly over (regardless of the 10th MP rule.)

5.0 Nuclear, Biological and Chemical Warfare

In this game system, nuclear and bio weapons are beyond its scale. Both are too large scale or too slow in effect to be worth their inclusion at this level. Originally, off map nuke effects were to be included, but it was found that their effects would be hard to keep track of and too long term to be worth it. Bio weapons are entirely too uncontrollable and strategically employed to merit game use. Both of these weapons systems, if indeed they can be called such, should be left rotting in the twisted minds that came up with them and I will make no statement, in game form, of the viability of their use, which, I feel, is nil.

5.1 Delivery of Chem Weapons

Chemical weapons may be delivered in a number of ways: artillery, aircraft, helicopter, etc. The methods available to the player will be in the specific game rules. Generally, artillery is the most common delivery system.

5.1a In firing a Chem artillery mission, the type of agent must be plotted (as described below) in addition to the regular data required.

Chem shells may be mixed into a regular fire mission. The player is given a number of Chem battery fires to use.

5.1b Chem rounds have their own attack method, described below. Chem rounds have no regular attack value, nor may they attack vehicles/carriers on the Artillery and Mortar vs. Point Target Table.

5.2 MOPP (Military Operational Protective Posture)

MOPP describes the preparedness of a unit to withstand a chemical attack. In real life, there are 6 MOPP levels in the US Army (Mask Only to MOPP 4); these represent an ever increasing chain of added overgarments, gloves, boots and mask. Each level makes it easier to go to full protection quickly by adding the hardest to put on layers first.

In the game, players must define the MOPP level of each task force (on the op sheet) and each unassigned group. Game MOPP levels are Low, Medium and High. Increasing MOPP provides more protection, but severely affects the efficiency of the troops. At high MOPP, units are relatively immune to Chem attacks, but are also working at only 25 to 30% effectiveness. The player may alter his MOPP status at will during any Command Planning Phase, or after any Chem attack is resolved. There is no restriction on the amount of MOPP level change, units are free to go from low to high MOPP in one jump or vice versa. Players may designate different parts of the same op sheet in different MOPP levels; they may be designated down to the individual unit if so desired.

The Command Prep Effect listed on the MOPP Effects Table is the maximum number of weighted turns an op sheet can accrue in a given turn regardless of its circumstances. Movement effects of MOPP are only on foot mobile units, not on vehicles. Fire effect is likewise only for area weapons. Vehicle weapons are unaffected. Morale effects are for non-chem induced morale checks.

5.3 Types of Agents and Their Effects

Two types or classes of agent exist in the game: persistent and non-persistent. The game does not worry about the specific type of agent (nerve, blood, blister, etc.). Persistent agents are long term, non-persistent are not. Non-persistent agents attack the units they land on and then disappear. Typically, a blood agent will be harmless in 5 or 10 minutes, and is used on terrain which your own troops will enter soon. Persistent agents last 2 or more hours and are used to dirty up flanks and other areas you want no one to move through. These agents have their locations marked with a Chem Marker. Persistent agents attack the units they land on and any that move through them once the marker is placed. They are removed on a die roll during the Clean Up Phase. All agents are considered to be used in a liquid or powder format. Players who are given Chem agents to use in a given game may determine, when the mission is plotted, whether they are to be persistent or not. This decision assumes that enough of each kind of agent is available to use what is desired.

5.3a Non-Persistent Agents vs. Persistent Agent Effects. Non-Persistent agents attack the hex they land on and are then considered harm-

less. Use Chem markers to show the fall of rounds and the number to land in a given hex, but remove all of them once the attacks are resolved. Persistent agents attack each hex in the same way as non-persistent agents, except that after the attacks are resolved, the Chem markers remain on the map until removed according to 5.3f and 5.3g

5.3b Area Targets. For each area or both type target in a hex, roll two dice on the Area Fire Table, modify this roll for MOPP level (not terrain etc.) and +1 to the roll for each Chem round exploding in the hex (to a max of +3.) The result is the number of step losses to that unit due to the Chem attack. Make all required morale checks keeping in mind 5.3d below. The attack then ends.

5.3c Point targets are attacked using a single two dice roll, on a 10 or greater, the vehicle's crew is destroyed and any carried (internally) units are also destroyed (effect of MOPP level on point attacks is **Low +3, Medium +2, High -1**). Units being carried on the outside of a vehicle or in vehicles that do not provide an enclosed place for passengers are attacked separately as above on Area targets. Enclosed passengers are unaffected if the vehicle passes its roll above. Trucks never give enclosed passenger space. In game terms the vehicle failing the above roll is removed from play, although some players may want to come up with house recovery rules, etc. There is no additional effect if more than one chem round hits a particular vehicle's hex.

5.3d Morale Effects. Any unit being attacked by a Chem attack that is subject to morale must obey the following. Any company morale change created by a Chem attack are **x2**. Any morale check created by a Chem attack is **+6 in Low MOPP, +4 in Medium and +2 in High MOPP** in addition to other morale modifiers. If no artillery rounds exist in the attack, other than the Chem rounds, the artillery modifier is **not** used.

5.3e Chem attacks are conducted at the same time as any other artillery rounds with which they may be mixed. In this case, roll once for the Chem attack and once for the HE attack on the same units (separately). Use the artillery fire modifier on the Morale Table for any morale checks if the rounds are mixed (even though they are resolved separately).

5.3f Removal of Chem Markers. Non-persistent Chem markers are removed automatically after the resolution of their attack. Persistent Chem markers are rolled for in the same manner as smoke markers during the Clean Up Phase. The die roll to **remove** a Chem marker is 6. If using the advanced smoke rules, do not drift Chem markers or change their roll. These are liquid or solid agents and are clinging to the ground.

5.3g Effect of Rain. The roll for persistent agent removal becomes 4-6.

5.3h Helicopters that are in hexes that are attacked by Chem attacks, which are in NOE mode, are attacked as vehicles above. Helicopters that are in Low mode, or that fly over Chem markers (in either mode), are never affected by chemicals. Helicopters and their passengers are destroyed if they fail the above dice roll. Helicopters may be given MOPP levels also. Helicopters in High MOPP level cannot move in NOE mode.

5.3i Certain vehicles have positive air-flow chemical protection systems. The identity of vehicles with "NBC Protection" is listed in the game rules. The effect of these vehicles is that

Chem attack rolls are modified as above (5.3b) with their MOPP level considered to be **one level above their op sheet** (but without any of the ill effects listed on the table above). Therefore, a Low MOPP Level vehicle with NBC protection would roll as if it had a Medium MOPP Level. High Level vehicles roll normally.

Example: Chem Attack Resolution

A hex containing an infantry unit and one mortar vehicle are attacked with two chem rounds. The infantry are in low MOPP and the vehicle is not NBC protected. For the infantry unit, a +6 is to be added to the Area Fire Table roll for the MOPP level and another +2 for the two exploding rounds giving a +8 modifier. Note that no other modifiers are allowed or used. An 7 is rolled giving a total roll of 15. This gives -2 steps, +2 to their company morale (company morale change is x2 because of chem attack giving a +4 company morale change.) Current steps lost + company morale + unit morale is now 12, giving a +10 to the Morale table from the Area Fire Table. For the Chem Attack itself, as the troops are in low MOPP, +6 is also added to the morale roll giving a total modifier of +16. A 6 is rolled (22 when modified) causing the unit to surrender and be removed from play with another +6 to the company morale (+3 x 2.) The mortar vehicle is now attacked. Against vehicles a dice roll of 10 or more destroys. A +3 is given to the dice for the low MOPP level, giving a kill roll of 7 or more. Note that only one roll is made regardless of the number of rounds hitting the hex. A 5 is rolled and the vehicle survives. The chem markers, since this was a non-persistent attack, are now removed.

6.0 Night Vision and Special Sights

Some of the newest and most interesting modern equipment comes in the form of night vision and other special optics. The two types to be explained here are passive night vision and thermal sights.

6.1 Night Vision Devices

All modern equipped infantry and vehicles, which are not listed as having thermal sights, have simpler night vision devices. For infantry units this means they may fire out to 1/2 their max range normally at night (do not ignore the night fire modifier) and may see, for purposes of observing fire, etc., out to 8 hexes. These units include manpack versions of ATGM's and AT guns. Vehicles and Helicopters with night equipment may fire following the below method; on the Point or ATGM Tables the regular Night fire modifiers are not used. Count the number of hexes required beyond the limit imposed by night conditions and **divide this number by 5 if the target is in move or dual mode, divide by 4 if in fire mode**. Round off the result (using the standard rounding rule) and then subtract this number from the dice as an additional modifier on the Point Fire and ATGM Tables. No additional modifier (other than the usual Night Modifier) is used on the Area Fire Table when firing with vehicles and helicopters at area targets. These units are unable to see through smoke or beyond the visibility limit caused by weather.

In summary, on the Area Fire Table, use only the regular Night Fire modifiers, but allow the

extra range. On the Point or ATGM Tables, ignore the usual Night Fire modifiers, but apply the "extra hexes divided by 5 or 4" modifier.

In any case where a target is within the lighted area surrounding a illum round burst, no modifier is made for night effects, or for hexes crossed in order to get to the lighted area.

6.2 Thermal Sights

Some very modern tanks and other vehicles have the next generation of such sighting equipment: the thermal sight. This sight has all the properties of the regular night vision sight plus it is able to disregard smoke and fog conditions (mostly, see 6.2a) and any modifiers caused by them or night. Generally only the most modern M60's, M1 Abrams and M2/M3 Bradleys have thermal sights. Even the most modern Russian tanks are not known to have thermal sights.

6.2a Thermal sights are subject to the same rules about visibility as in 6.1 above (number of hexes beyond visibility divided by four or five, etc.) except that they may also "see" through smoke hexes and beyond the visibility limit imposed by weather. Each extra hex required beyond visibility due to night or weather is counted as one as above. Add one to the total for each smoke marker crossed, then divide as above in 6.1. Smoke in the firer's and target's hexes counts for this purpose. Count one per smoke marker in a given hex. Normal modifiers for smoke are not applied when firing using thermal sights. A hex beyond visibility range (due to weather or night) which also contains a smoke marker would count as 2.

6.2b Night and thermal sights cannot be used to observe artillery fires beyond a range of eight hexes at night. Thermal sights cannot be used to peer through weather or smoke to adjust artillery fires.

6.2c Each set of game rules will identify, specifically, which vehicles, if any, in the game have thermal sights. If none are listed, none exist.

6.2d When the line of fire crosses directly down a hexside between a hex with smoke and one without, count one smoke hex crossed. If both hexes have smoke, still only counts as one.

Example: Special Sights in General, Thermal Sights in Particular.

This example is that for a thermal sight equipped vehicle, say an M1, so adjustments due to smoke hexes should be ignored for other than thermal sights (those unable to see through smoke.) The M1 is at night, attempting to fire at an oncoming T-72 with overwatch fires. The M1 is assumed to be able to see the T-72 well enough to notice the trigger. The range is a comfortable 6 hexes. Of these hexes, two have smoke markers which must be traversed and one of them has two markers. The required extra (beyond the night limit of 2) hexes of range is 4. Visibility is clear, but in the case where visibility would have been one due to weather, the required hexes would be 5. At any rate, to the 4 is added 3 for the crossed smoke markers giving a total of 7. The target is in move mode so the 7 is divided by 5 giving a dice modifier of -1. With the other applicable modifiers (terrain, etc.) this -1 is applied to the standard Point Fire Table roll for the combat's resolution. The T-72 in this case was missed with a dice roll of 3.

7.0 Mech Infantry Combat Vehicles and Troops

Modern Mechanized troops and their vehicles pose a problem given the normal carrier rules. The vehicles are too powerful and "tank-like" to be combined into multi-vehicle units as are trucks and the troop elements are so very small (after the vehicles take their "cut") that they shouldn't be represented by normal 5-step infantry platoons. The following rules make the changes needed to cover this problem.

7.1 MICV as Vehicles and Carriers

All Mech infantry vehicles are handled in the same way as tanks (as individuals). They have their own fire capabilities, etc. As carriers, MICV's may only tow one item and carry one infantry *squad*. They are not capable of carrying platoon size elements except as according to the **Vehicles as Carriers** rules. Platoons carried in this way are considered to be riding on the carrier and are not protected by the carrier's armor.

7.2 MICV Infantry Squads

Infantry units that ride in MICV's are represented as squad size elements in the game. These units function like all other infantry units, except for the following:

7.2a Infantry squads have two steps. Teams have one step.

7.2b When a single squad is destroyed by fire, the +2 Company Morale change is not made. When the last existing squad of a platoon is destroyed by fire, the +2 is used. This rule applies to any unit of two steps or less at full strength. The +2 is only made for infantry platoons that are destroyed via the result from the Area Fire Table, and not from any other source.

7.2c There is no requirement for squads to stack, stay together or any other special requirement. They function exactly as regular infantry except for the above.

7.2d Squads mounted in MICV's can generally fire (though at a $\times 1/2$ modifier for firing while mounted), but are generally unable to fire ATGM's they might have. The only exception to this rule is the M113 carrier, which, as part of its intended use, allows Dragons to be fired from its cargo hatch. No other MICV allows carried units to fire ATGM's.

7.3 MICV Mounted Squads and Loss of the MICV

General Balck (German Wehrmacht, WW II) was asked in the 1980's about the desirability of closed-in MICV's. His viewpoint, with which I agree, was that troops in open carriers that take a hit have a much better chance of survival than those in the closed box of modern MICV's.

7.3a All passengers contained within an MICV (usually a squad) are automatically killed if the MICV is destroyed (by fires, chem, or mines only, do not apply this rule in the case of loss due to slow go terrain.) Towed items and troops riding atop the MICV, and any others not automatically destroyed are handled the same as in the basic series rules with a separate attack by the weapons that destroyed the MICV.

7.3b Passengers contained within an enclosed MICV are, on the other hand, completely

unaffected if the MICV is fired on, but not destroyed. They are not attacked by Area fires directed at the MICV that do not or cannot destroy the MICV.

8.0 Effect of Modern Armor on AT Rolls

The regular AT Roll Table is still used (with the following) in the expansion series. Tank enthusiasts notwithstanding, armor still has much to fear from the lowly infantryman even when the latter does not carry the latest in ATGM technology.

It is however necessary to adjust the dice rolls on the AT Roll table for very heavily armored vehicles. The reason is simply that many of the infantry's strong tank killing weapons RPG's, Law's and the like are relatively ineffective against the super tanks (unless used by the crazed hero who can push it into the tank's vision slit!) Modifiers are given on the Modern Armor AT Roll Modifier Chart.

No modifications are made for this reason on the Artillery and Mortar Point Fire Table.

9.0 Advanced Armor

In the past 10 years, armor technology has advanced much faster than anti-tank technology, thereby keeping the tank an effective weapons system. Two such systems are applied to the game: DUA or Depleted Uranium Armor and Reactive Armor. DUA is the most advanced and effective (as long as you don't mind driving around in a nuclear waste facility.) Reactive Armor is much less so, especially against hard shot. It consists of explosives placed around the vehicle which explode in an attempt to destroy any impacting rounds. The US Army has always had an unfavorable viewpoint toward Reactive Armor and only tried some half-hearted efforts at its use. The Israelis used it in their 1982 intervention in Lebanon with mixed results.

9.0a Obviously, everything about the real effects of advanced armor on different kinds of shells is classified. The following is based on my own hypotheses about its effects, any player who feels his information is better is encouraged to use it and modify the following.

9.0b Reactive armor is most effective in dealing with HEAT type rounds (exploding them before their effect of melting through the armor plate takes place) so, in vehicles that are assigned reactive armor, have an automatic +5 to their defense rating when being fired on by ATGM's, DPICM, or ICM. Note that this is not a dice modifier, but a modifier to the vehicle's defense rating.

9.0c Against hard shot or Sabot-type shells, reactive armor is less effective, so, in this case, against fires other than the above, vehicles with reactive armor get a +2 modifier to its defense rating. This modifier is handled as above. This version of the modifier and not that in 9.0b is used for ATGM's armed with "tip" charges. (Only the Tow2a fits this last category today.)

9.0d Vehicles with reactive armor may never be used as carriers.

9.0e DUA, on the other hand, is reputedly as effective against all kinds of rounds. These vehicles get a +8 defense rating addition against any type of fire.

9.0f Generally, the Game Rules will assign advanced armor as an optional variant for specific types of vehicles.

Designer's Notes

I desired to design this expansion series for one simple reason: I always wanted a modern tactical game to play. The others I've tried my hand at were, in my mind, far too cluttered with excessive detail; slow or difficult to play; and, mainly, failed to bring out the important facets of modern combat because of excesses in other areas (usually AFV detail.) For years, I've struggled in vain with a number of other products when all I wanted was to have fun.

By using the TCS standard rules, I feel these games will add even more depth to our series concept by adding a level of cross-series familiarity which will help increase even further the number of games on the shelf a player can play with little or no new rules learning. This concept is one of the driving tenets behind **The Gamers, Inc.**

An examination of a number of the concepts in this game follows with a number of comments on my personal beliefs as to why they are that way...

ATGM's. Players will be quick to note the lack of 99+% hit/kill probabilities for these weapons. This is based on a number of factors. First, incorporated into that ATGM dice roll is all of the methods modern armies use to defeat ATGM's (dodging, counterfire, etc.) Previous versions of these rules included counterfire and other methods of active protection but playtesting deemed them to be of too little value for the cost in complexity. In the close range part of the table, the chance of hit is less due to limited flight time. In the nominal part, optimum flight control is achieved, which is degraded in the long range part by increased flight time leading to high probabilities of detection and countermeasures. This is why the table starts out poor, gets better, then tails back to poor again. The probabilities of kill, based on table column, are 100%, 70%, 30%, and 10% for those who are interested. The reason a larger differential is required to guarantee a kill on this table is because ATGM HEAT warheads are much more influenced by a number of circumstances than hard shot, giving more variable results.

Tank Gun Fire. Most of you will probably wonder how I justified the use of the WW2 Point Fire Table with modern tank guns and their assorted fancy computers. A number of factors mitigated against the adoption of an improved fire table. The extensive range additions of modern weapons reflects not only the added "umph" at the muzzle but also the effect of more precise aiming at range. WW2 guns could get shells way out there too; they just had no accuracy to speak of when they did! The next issue is the proliferation of vehicle based smoke dispensers and other equipment that made combat vehicles harder to acquire correctly at any range. These factors showed that a "higher" kill table was not needed. Also, playtesting of a "Modern Point Weapons" modifier in the early rules showed it to be too effective and gave wildly optimistic results.

Artillery. A few of you, playtesters included, seem to rebel against the detail of this game's artillery simulation. I find this confusing since many games feature microscopic armor details, and it is artillery (not armor) that accounts for fully 50% of all casualties in modern war. The modern expansion's added artillery rules are needed simply because of the large advances made in artillery arms since WW2. Artillery is now capable of

"near-nuclear effects" and this fact should not be glossed out of the game. While a handful of players exist that think the artillery and armor simulations are out of balance, a larger audience is pleased by a game system which assigns each arm its rightful place in the order of things and not one which, as one has commented, "artillery which is sporadic and ineffective and infantry merely targets." The response we have received has been very satisfying.

Through the diligent mathematical efforts of Rod Miller, the new "Miller Tables" add a quantum leap in speed to artillery missions. These tables should be used for all larger missions. Rod's efforts resulted in tables which faithfully recreate the original TCS method without the work. Of the number of proposed artillery tables that were submitted to me after the first TCS release, his was the only one to avoid homogenizing the artillery results by overemphasis on "expected" values. The possibilities of bad and good luck (with regards to particular ground hexes and the units in them) were a vital condition of the TCS tables. Rod's tables dispense with the abundant die rolling but remain adhered to that original concept. My hat is off to him and he can serve as a model to others who wish to implement system changes to make their lives easier.

Command and Control. I'm sure you will find that when operations are occurring the action comes fast and furious. This hyperactive period may be followed by extended periods of quiet should you not look forward in your planning to when the current (better yet, the next) operation succeeds or fails. The further ahead you peer, the more likely it is you will not be caught by surprise when dramatic battlefield events unfold. If you wait until something happens before reacting you will be, as they say, "behind the power curve." By the time your reaction begins to function, it will be inappropriate or worse. In games between players of like ability, this start and stop operational lurch will not lose the game or battle since both sides are, alike, unprepared for forthcoming events. In a game between players of different skill, this disparity in planning will probably spell doom for the player of lesser ability. Players should not be alarmed by this as any examination of France, 1940 should show. It is the speed and agility of operations, not the correct

placement of a tank behind the correct tree, that decides battles. This is not to belittle the importance of proper tactics, but only to show the importance of operational planning depth.

Survivability. What I'm speaking of here is the ability to keep units alive until the end of the game. The TCS game system is unforgiving when "charges" occur, and is even more so in the Modern Expansion due to long weapon ranges. Think out each move carefully; do only what is important; and, never rush. Players must learn to conserve their forces for later. Use overwhelming force when something is to be done and never shrug off "minor" losses due to dumb moves. Take your time and specifically think of ways to keep reserves out of the line of fire. You are given ADA (Air Defense Artillery) assets. These are few and must be used wisely. All of your force must complementarily interact so that each arm is mutually supportive, used in its best manner and supported in areas that aren't its forte. This is a very complex puzzle (usually called combined arms) and must not be taken lightly.

I want to remind players that they have smoke and should use it. I'm often guilty, during play, of forgetting to plaster areas with smoke to cover attacks and other movements. I find myself considering movements in the Action Phase (long after the opportunity to apply smoke) and, because of my poor prior planning, must decide to move (without cover) or be forced into inertia. Even with thermal sights, smoke still is a great help in protecting your units. Movement without smoke cover is a great inducer of disasters. Certainly, it is very difficult to disengage and withdraw troops without smoke cover, as surviving a Suppressive Fire Phase in Move Mode can be difficult!

Infantry Squad Size: Obvious to even a casual observer, squads should generally be one step units, not two, if a platoon has five steps. The reason behind the two step squad is simply that the combat tables for this game were developed with platoon size (and dense) targets in mind. Strictly speaking, it is easier to kill or wound 6 random men (a step) of a platoon, than it is all of a dismount squad. Certainly, 12 man squads are short changed with only one step, anyway, but they are usually not a consideration as TO&E's have tended to give

smaller sizes and these units (especially) tend to be below the 100% strength level. As opposed to some sort of density adjustment to the dice, which would open a can of worms with respect to stacking densities and other effects, I opted for a slightly non-linear step to man translation. This rule allows these squads to absorb a little more abuse before being destroyed, which was far too easy with one step units in early playtesting.

For Further Reading...

The following are helpful in developing a realist ic understanding of modern combat, as well as being entertaining or enjoyable reading:

The Defense of Hill 781. James R. McDonough. Presidio Press 31 Pamaron Way, Novato CA 94949. 1988.

An excellent read and very enlightening on the problems facing the real taskforce commander (as opposed to his paper and cardboard cousin.) This book should be a must read for all wargamers. It is even helpful in teaching about op sheets! I enjoyed this one so much, I went out and read the author's other work about his time as an infantry platoon leader in Vietnam. A pity that work was not as good as this one.

On Infantry. John A. English. Praeger Publishers, 521 5th Avenue, New York, NY 10175. 1984.

This excellent book should be studied by all gamers. It traces the development of infantry in the 20th century. Especially interesting are the sections on pre-WW2 and WW2 developments. The relationship of infantry to the tank and other arms is well described.

Technology and War. Martin van Creveld. The Free Press. 866 3rd Avenue, New York, NY 10022. 1989.

Again a must read. This one really puts the relationship of technology and warfare into a perspective I wish more techno-gamers and congressmen would listen to. It is especially intriguing because it traces the development of technology so far back.

Rules Questions?

Call (217) 896-2145 during business hours. Be sure to have your rules handy. Clarifications or explanations as needed. We are dedicated to serving your gaming needs, and product support is one of the ways.

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