

## DUNN-KEMPF

**TASK:** Participate as a player in a DUNN-KEMPF exercise.

**CONDITIONS:** Given access to a complete DUNN-KEMPF gaming set.

**STANDARDS:** Use DUNN-KEMPF to practice the leader tasks, tactics, and techniques important to your unit missions.

**NOTE:** This module requires several workshop participants to work together. If time keeps you from completing this module, you should return to your unit, contact your commander and arrange to finish it there.

PREPARE FOR TASK TRAININGOBTAIN RESOURCES

Complete DUNN-KEMPF gaming set.

GUIDE FOR TASK TRAININGTRAINING STATEMENT

Participate as a player in a DUNN-KEMPF exercise and use it to practice the leader tasks, tactics and techniques important to your unit missions.

ORIENTATION

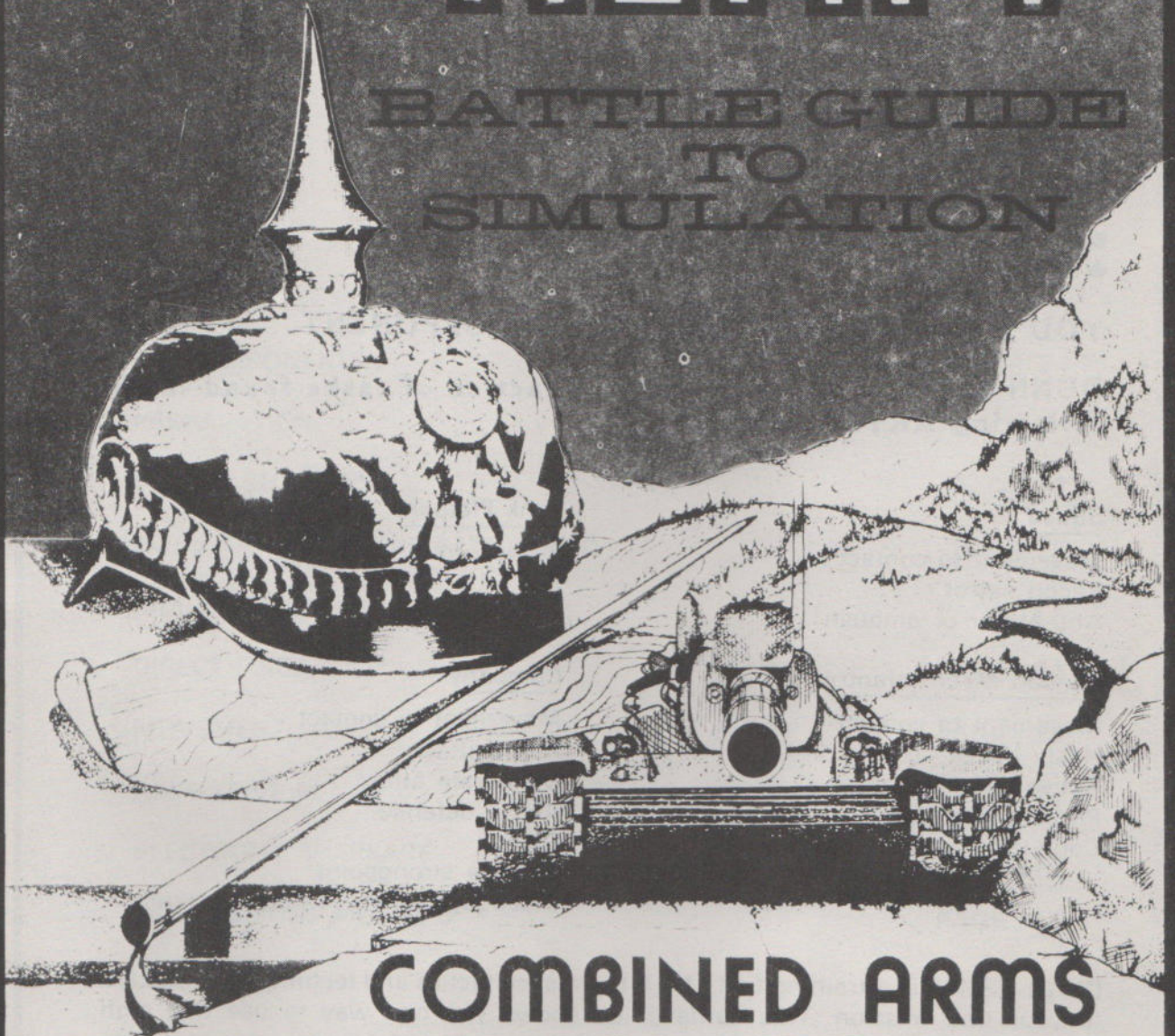
DUNN-KEMPF teaches small unit leaders the proper use of terrain; US and Soviet small unit combined arms tactics; weapons systems capabilities and employment techniques; employment of indirect fires and close air support; use of attack helicopters, obstacles, and fortifications; use of smoke; and communication in an electronic warfare environment.

TASK STEPS

1. Read the game rules/instructions beginning on page 3.
2. Read the RED FORCE SCENARIO on page 42.
3. Establish your gaming scenario.
4. Play the game.
5. Critique the play.

# DUNN KEMPF

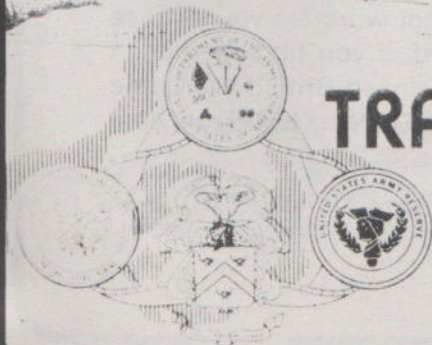
BATTLE GUIDE  
TO  
SIMULATION



COMBINED ARMS  
CENTER

TRAINING DEVELOPMENTS  
ACTIVITY

FORT LEAVENWORTH, KS



**DUNN-KEMPF— is a company team level battle simulation system which provides training in**

- US and Soviet small unit combined arms tactics
- Weapons systems capabilities and employment techniques
- Techniques of fire
- Battlefield observation
- Employment of indirect fires and close air support
- Use of attack helicopters
- Suppression
- Obstacles and fortifications
- Use of smoke
- Communication in an electronic warfare environment
- Proper use of terrain

**YOU MUST OUTFIGHT A THINKING OPPONENT**

**DUNN-KEMPF can exercise the practice of tasks found in the following ARTEP events**

Squad

Movement to contact  
Recon patrol  
Anti-armor or ambush

Platoon Mech Infantry

Movement to contact  
Hasty attack  
Active defense  
Prepare strongpoint  
Conduct deliberate attack

Tank Platoon

Battle run

Company

Movement to contact  
Hasty attack  
Deliberate attack  
Active defense  
Delay  
Prepare strongpoint  
Disengage (under enemy pressure)

DUNN-KEMPF is a training tool. Use it to practice tactics and techniques important to your unit mission. This battle guide shows you one way to use this high resolution battle simulation. (There are many good ways to apply this tool. Use your imagination and add or modify rules to make the tool work for you.) These rules are meant to represent the realities of the battlefield, if you find they don't apply to your specific situation then change them. The inclosed British Wargame Booklet will allow you to expand any scenario to make the DUNN-KEMPF concept as detailed as you desire.

For more information call Combined Arms Training Developments Activity, CAC, Fort Leavenworth, Kansas, AV 552-2442 or 552-3694

# DUNN KEMPF

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### CREDIT:

"DUNN-KEMPF" was based on War Game Rules, Armour and Infantry, 1950—1975, published by The War Games Research Group (January 1975). The battle simulation was originally adapted for USACGSC use by Captains Hilton Dunn and Steve Kempf.

## KIT COMPONENTS

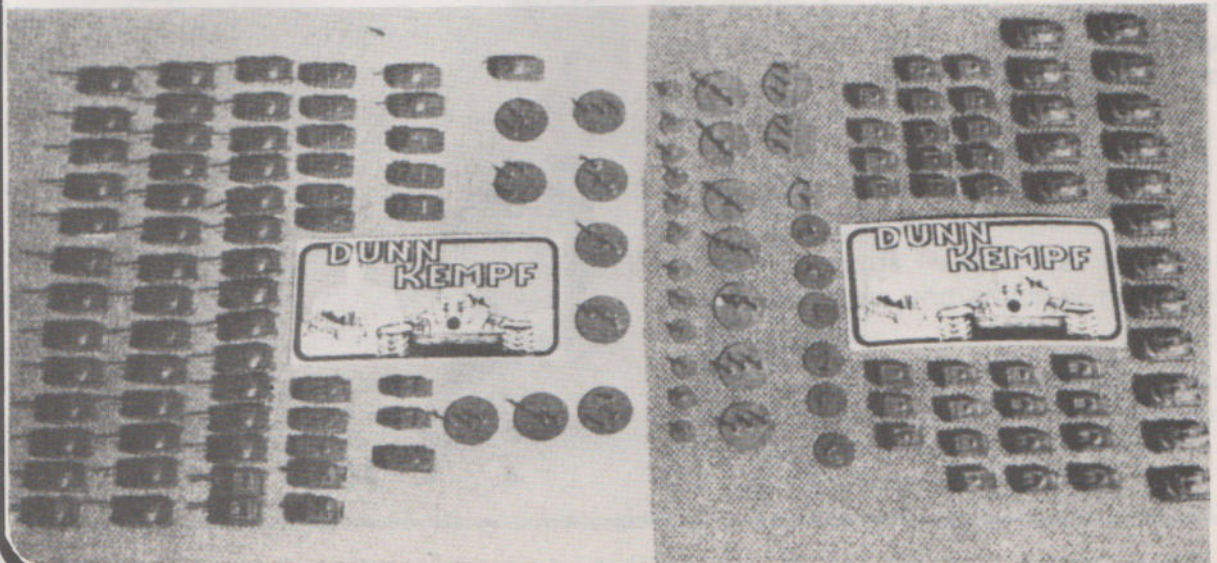
### THE TERRAIN BOARD

The terrain board represents an area of northeast Hunfeld, Germany. The horizontal scale is one inch = 50 meters. The vertical scale is exaggerated approximately 2:1, so that one inch = 25 meters.



### MINIATURES

The miniatures represent current equipment of a U.S. tank or mech company team or any portion thereof. The opposing force miniatures represent a Soviet tank battalion and a motorized rifle company. You can make either force larger by simply reentering destroyed vehicles into the action. The scale of the miniatures is 1:285.



## THE US FORCE

The U.S. force can be augmented with miniatures representing:

ATK HELICOPTERS	SHERIDANS
AVLB	TOWs
TANK RETRIEVERS	4.2 MORTAR
POL TANKERS	REDEYE

### SIDE BENEFIT

A side benefit of this simulation is that players learn US and Soviet organizations and learn to identify and therefore distinguish between the vehicles they may face on the battlefield.

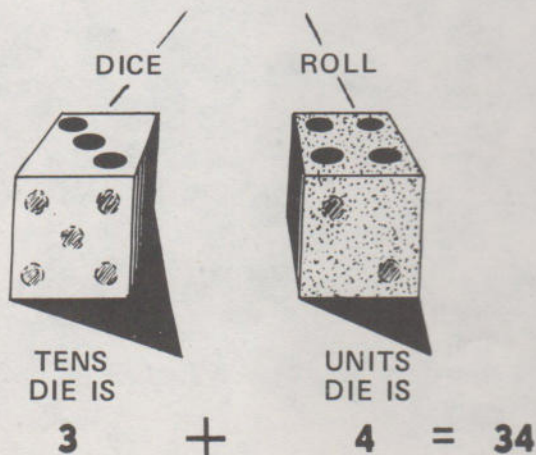
## THE SOVIET FORCE

The Soviet force can be augmented with miniatures representing:

PT 76 Tanks	HIND A
BRDMs	PRIME MOVERS (FOR ARTY)
ZSU 23-4	
ZSU 57-2	

## DICE

The dice are used to effect the probability tables. Using one color for the first and one color for the second you can get numbers from 11 to 66 . . . like this!



# PREPARATION

## GETTING SET FOR BATTLE

### 1 SELECT SCENARIO

Opposing players and controllers select or create a scenario and establish troop lists. One team might select a scenario where they attack, the other team defends and they agree on what must take place for a victory. Missions are then issued. The rules in this battle guide generally describe events with blue (US) defending.

### 2 SELECT PLAYERS

Based on the scenario, players are selected for opposing forces company and battalion commanders, platoon leaders, section leaders, forward observers, fire support coordinators, etc.

### 3 SELECT CONTROLLER

Choose one person for the controller. He must have read the rules for Dunn-Kempf, and studied opposing unit tactics and weapons systems' characteristics. He must be able to resolve disputes and interpret rules.

### 4 SET UP

Set up the boards for play. Allow players time to plan their operations. Position miniatures, prepare fire plans, and obstacle plan.

### 5 IT BEGINS IT ENDS

Combat begins with the attackers preparation fires and attack or movement to contact.

Combat ends when the attacking force reaches its objective or the defending force has withdrawn from the board or has been destroyed.

# BATTLE SEQUENCE

Battle is simulated by a series of turns each representing 30 seconds of battlefield time. During a bound each side (friendly and enemy) employs its indirect fire weapons, direct fire weapons and then moves its forces in that order. Available aircraft may be used at any time during a bound.

## Here's What Happens Each Bound

**INDIRECT FIRE** \_\_\_\_\_

Indirect fires are requested (all scheduled fires must be listed and plotted before play begins).

Indirect fires previously scheduled or requested impact and the damage is assessed.

Previously fired smoke is extended or removed.

**DIRECT FIRE** \_\_\_\_\_

Direct fire engagements are resolved.

**MOVEMENT** \_\_\_\_\_

Movement of vehicles or personnel occurs.

CONTROL SHEET												
EVENT	TURN											
	1	2	3	4	5	6	7	8	9	10	11	12
US BOUND												
CALL FOR FIRE	✓	✓	✓									
FIRES RECEIVED	✓	✓	✓									
DIRECT FIRE	✓	✓	✓									
MOVEMENT	✓	✓	✓									
ENEMY BOUND												
CALL FOR FIRE	✓	✓	✓									
FIRES RECEIVED	✓	✓	✓									
DIRECT FIRE	✓	✓	✓									
MOVEMENT	✓	✓										

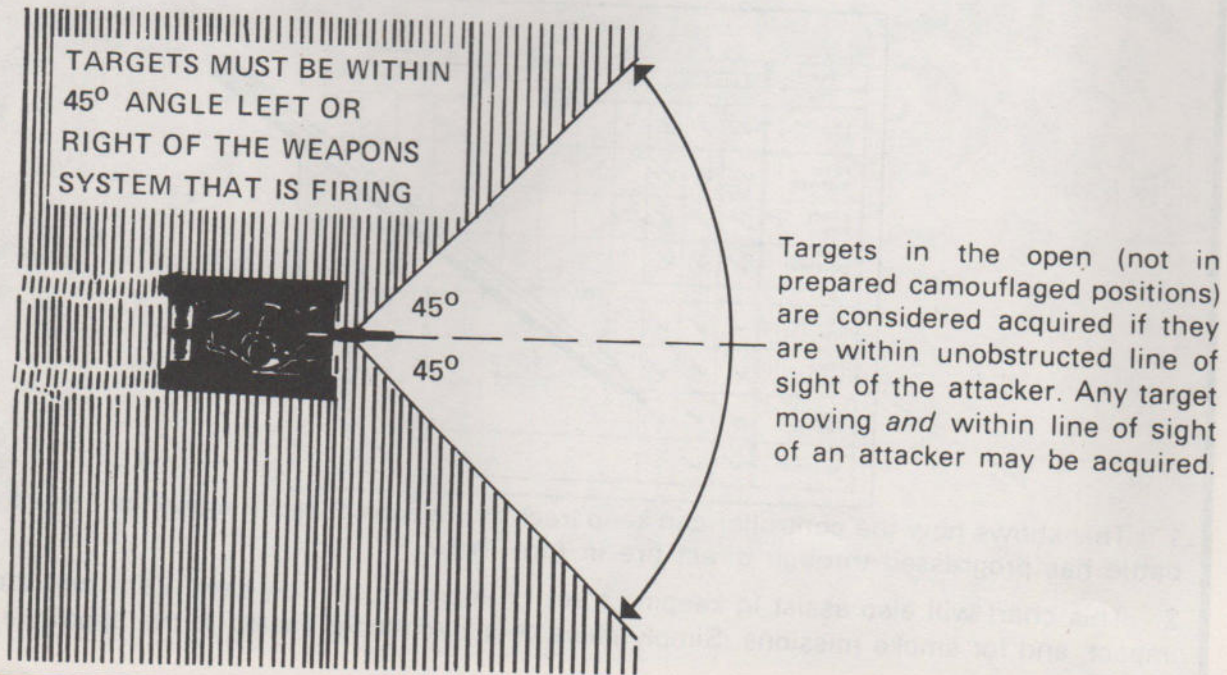
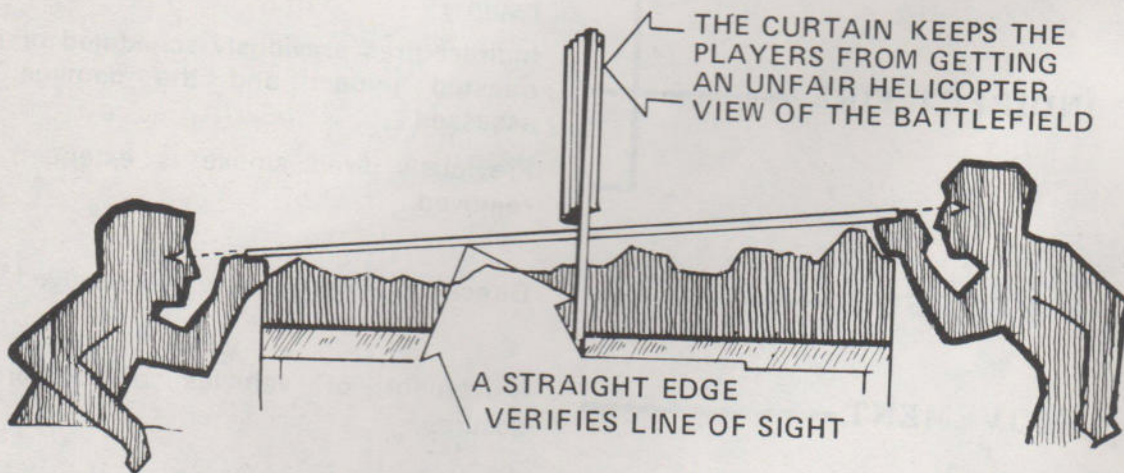
1 This shows how the controller can keep track of the correct battle sequence. Here the battle has progressed through direct fire in turn three.

2. This chart will also assist in keeping track of approved artillery fires, i.e. when they impact, and for smoke missions. Simply place your own coded marks in the appropriate bound.

## What Can Be Seen

As in combat, a gun crew or FO must be able to see a target before he can engage it. The ability of a unit to see a target is determined by the terrain that lies between the unit and the target. Before a player can use one of his weapons systems to fire on a target he must first establish that line of sight is not interrupted. This is determined by ex-













amining that terrain which falls between the firing unit, and/or FO, and the target. If the line of sight is blocked by terrain, an engagement may not take place. If there is a dispute over line of sight arguments, it may be resolved by placing a straight edge or the tape measure placed on the firing unit and on the target.





The defender's vehicles or weapons cannot be acquired in their primary or alternate positions until marked by their own firing signature or until they are within the distances in this table.

## OBSERVATION RANGE TABLE

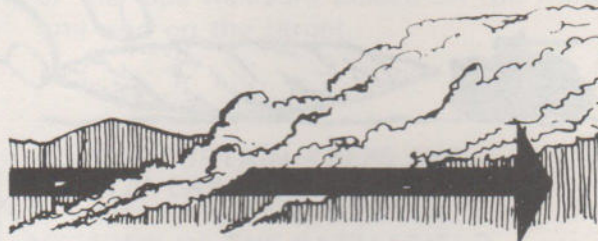
WHAT YOU CAN SEE	TARGET IS IN:	VEH	YOU CAN SEE AT LESS THAN	PERS	YOU CAN SEE AT LESS THAN
	THE OPEN		3000M		1000M
	+ PREPARED POSITION		1000M		300M
	THE FOREST		500M		150M
	+ PREPARED POSITION		100M		50M
	A TOWN		250M		150M
	+ PREPARED POSITION		100M		50M
	<b>BUT</b>	AT ANY TIME THESE TARGETS MOVE OR SHOOT AND CAN BE SEEN WITH THE NAKED EYE THEY CAN BE FIRED UPON			

NOTE: WHEN YOU HAVE CONSTRUCTED YOUR OWN TERRAIN MODEL AND INCLUDE MORE REALISTIC PROPS & FOLIAGE THEN YOU SHOULD BE ABLE TO ELIMINATE THESE RULES. SO THAT WHAT CAN BE SEEN CAN BE HIT.

## What Can Be Hit

### SHOOTING THRU SMOKE

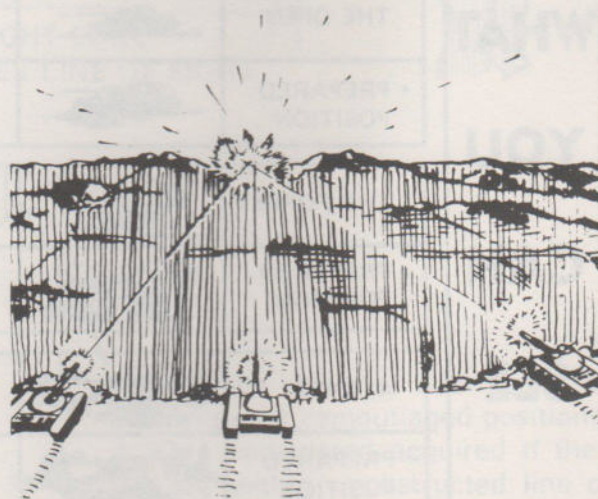
A weapon may not fire through smoke. It is assumed to be a block to line of sight. However, if the target is on high ground and the firing weapon is on high ground there will be situations where the controller can allow engagements over smoke which is in a valley between weapon and target.



### "PILING ON" THE FIRES

When players use several units to fire on the same target, the target is considered to be fired on simultaneously. Since simultaneous resolution cannot be computed, each firing unit must be individually fired.

Once a player has announced a multiple fire attack, he may not change his mind. He must execute all fires announced. This might appear to be a waste of fires, but its purpose is to teach the player fire control!



# PREPARATION OF THE BATTLEFIELD

## MANMADE OBSTACLES

Any man-made obstacle used in a simulation should be realistic in terms of the force being played and the time available to prepare such obstacles.

The defensive plan must be posted with the controller before play begins. It will be concealed from the opponent.

The controller will assess the appropriate reduction in movement capabilities when obstacles are encountered.

Obvious obstacles such as cratered roads, abatis, etc., will be played on the terrain board by a field expedient method such as toothpicks, map tacks or chalk markings. What would be visible on the battlefield should be visible on the terrain board.

## MINES

As with other man-made obstacles, the numbers and density of mines should be appropriate to the size of the playing unit and the available preparation times of such obstacles. The minefields must be recorded and provided to the controller prior to the beginning of game play.

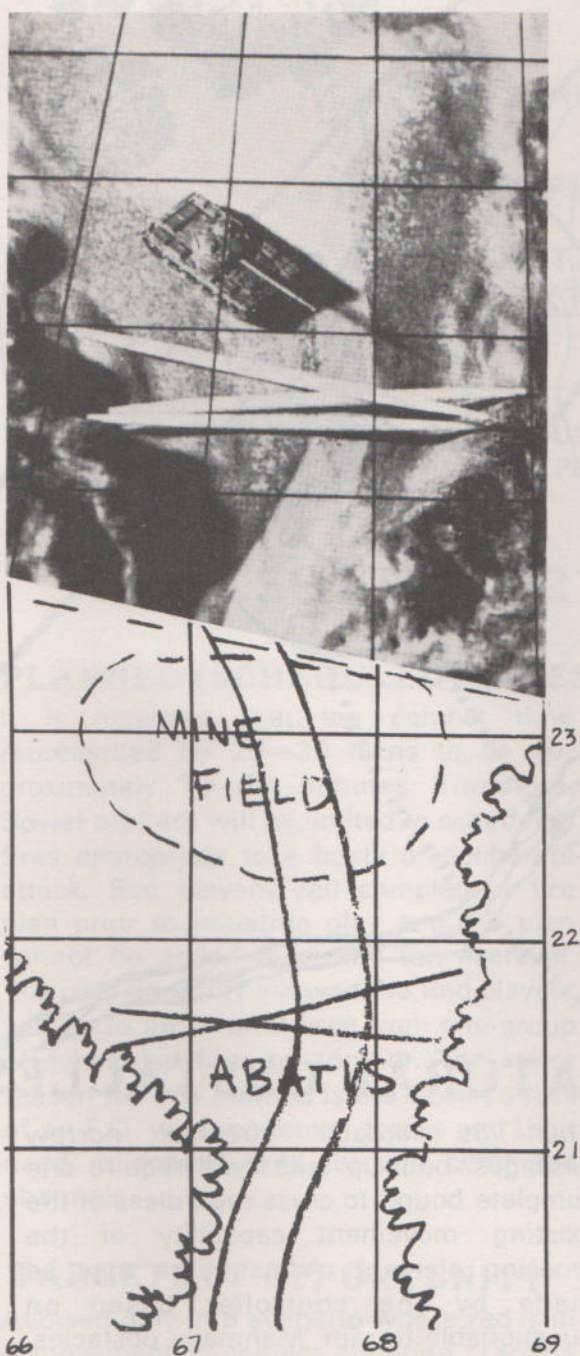
The player(s) must inform the opponent and controllers when the opponent has entered a mined area. Announcement of the existence of a minefield should not be made before a lead vehicle enters the mined area to prevent the opponent from altering his direction of movement.

A die will be rolled for each vehicle in a minefield.

Kill of BMP/BRDM/APC/Trucks = 4 or better  
Kill of Tank = 5 or better

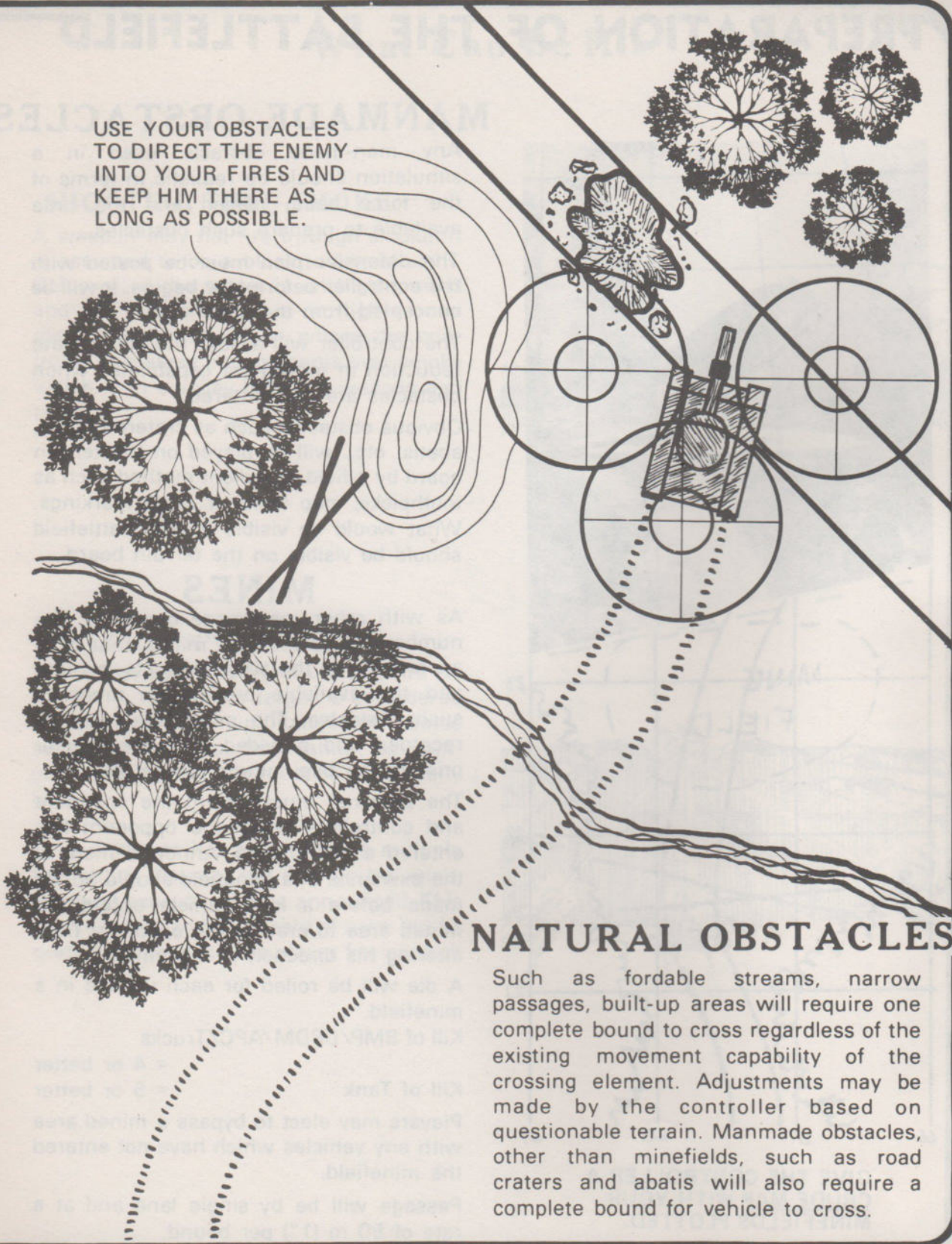
Players may elect to bypass a mined area with any vehicles which have not entered the minefield.

Passage will be by single lane and at a rate of 50 m (1") per bound.



GIVE THE CONTROLLER A  
CRUDE MAP WITH YOUR  
MINEFIELDS PLOTTED.

USE YOUR OBSTACLES  
TO DIRECT THE ENEMY  
INTO YOUR FIRES AND  
KEEP HIM THERE AS  
LONG AS POSSIBLE.



## NATURAL OBSTACLES

Such as fordable streams, narrow passages, built-up areas will require one complete bound to cross regardless of the existing movement capability of the crossing element. Adjustments may be made by the controller based on questionable terrain. Manmade obstacles, other than minefields, such as road craters and abatis will also require a complete bound for vehicle to cross.

## INDIRECT FIRES

### CLASSIFICATION OF FIRES

FIRES ARE DIVIDED INTO

- **PLANNED FIRES**
- **FIRES ON TARGETS OF OPPORTUNITY**

THIS IS THE FIRST PHASE OF EACH BOUND. REMEMBER, FIRE PLANNING SHOULD BE BASED ON YOUR GROUND TACTICAL PLAN.

### SOVIET ARTILLERY FIRES

#### PLANNED (SCHEDULED) FIRES

It is expected that the combat time represented by 20—30 turns to be approximately 10—15 minutes. Therefore, Soviet artillery will be limited to scheduled fires appropriate to a hasty or deliberate attack. Red players will complete a fire plan prior to initiating play and the plan cannot be added to during the exercise. The only flexibility allowed the Red players will be to lift or shift fires from one group of scheduled fires to another. The major reason for this method is the Soviet's lack of an F.O. with maneuver forces and their need to control fires through command channels.

#### TARGETS OF OPPORTUNITY

Allowed only in a scenario where red is in a movement-to-contact situation. Targets are requested in turn X1, and arrive in turn X3. Such fires are subject to range and deflection error.

#### RESTRICTIONS ON FIRES

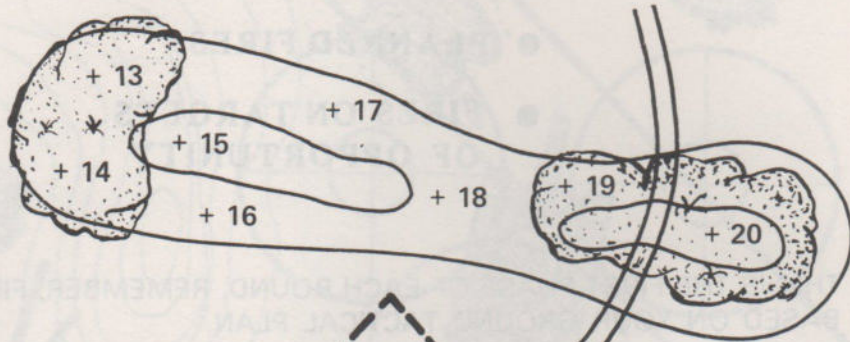
- Changes in scheduled sequence or ammo type may be made 2 turns in advance of scheduled arrival on target.
- Scheduled fires may be cancelled one bound prior to impact.
- All fires are subject to range and deflection error.

#### TYPES OF FIRE

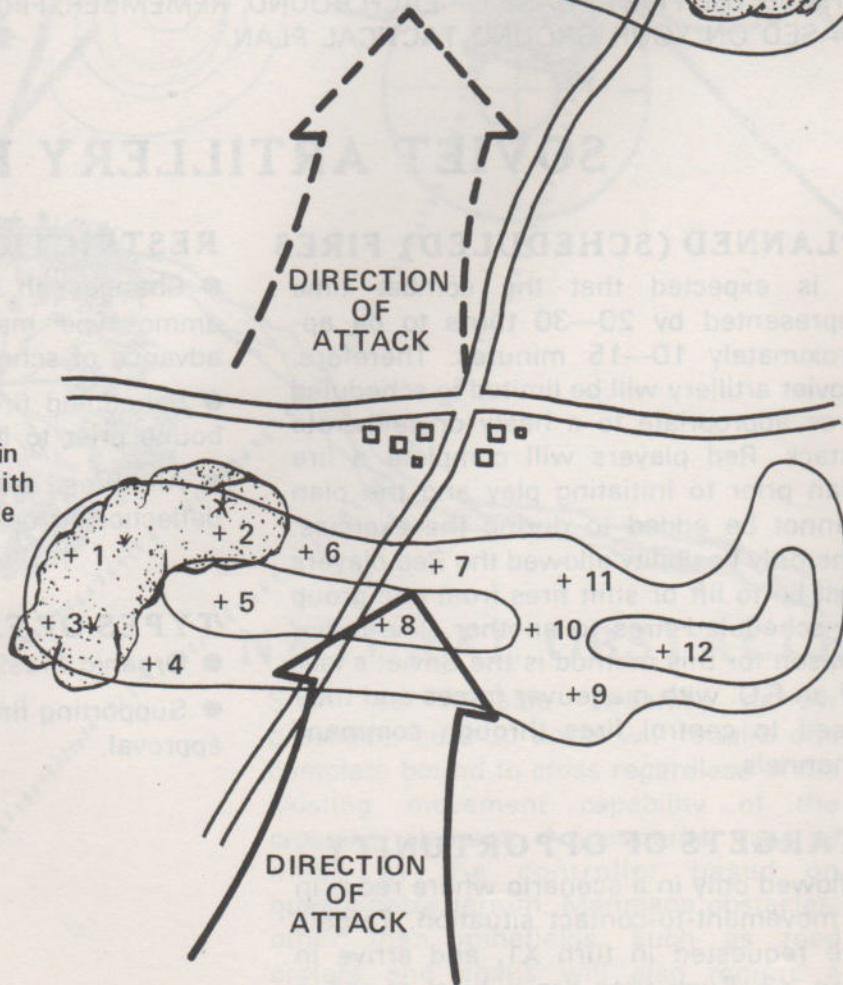
- Organic fires: Always received.
- Supporting fires: Dice must be rolled for approval.

**THIS IS AN EXAMPLE OF  
A SOVIET FIRE SUPPORT PLAN  
IN SIMPLE FORM**

Fire at H + 4 to  
H + 7 min with  
13-14 and 19-20  
as smoke



Fire at H + 1 min  
to H + 3 min, with  
1-2 & 3 as smoke



# US ARTILLERY FIRES

## PLANNED (SCHEDULED) FIRES

Since Blue forces will normally be defending, no schedule of fires is anticipated. Target lists will be prepared as part of the fire support plan. The fires are requested in one turn and arrive on target two turns after request. Range and deflection errors will be diced except for FPF's. This list cannot be changed during the exercise.

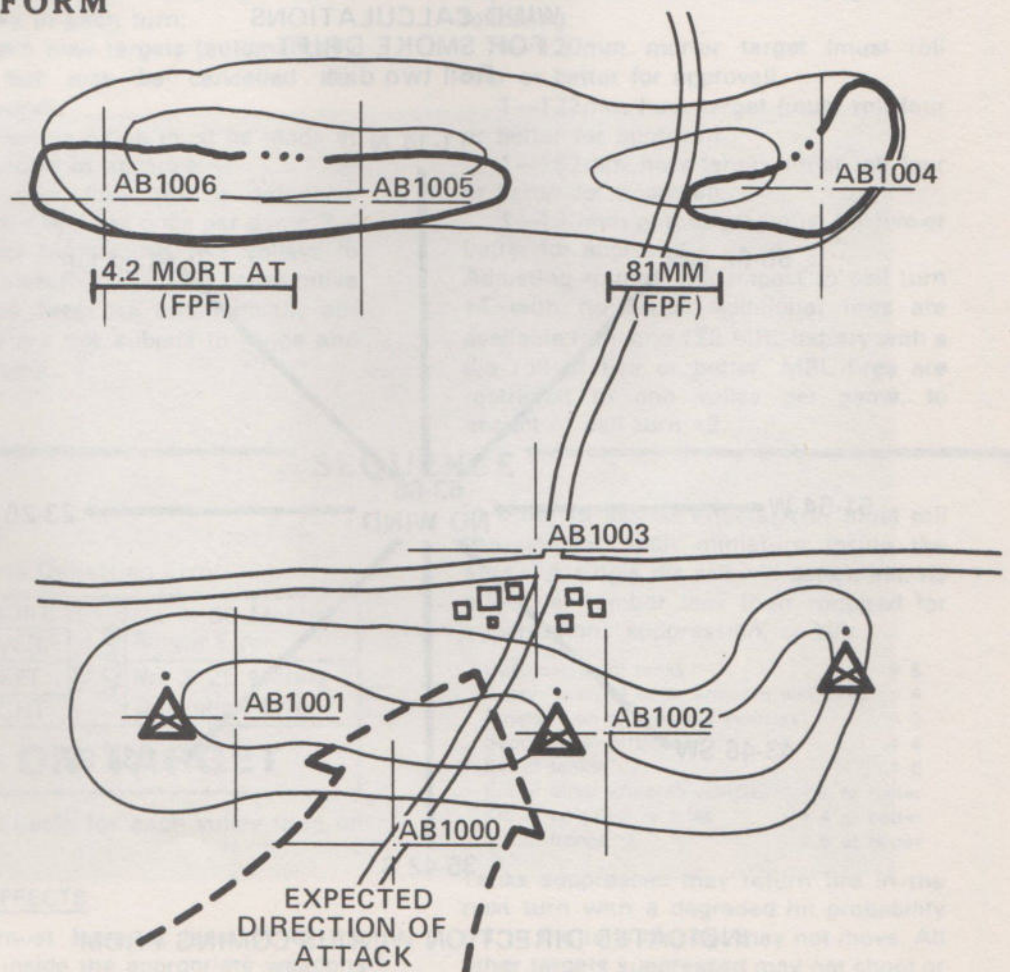
## THIS IS AN EXAMPLE OF A US FIRE SUPPORT PLAN IN SIMPLE FORM

## TARGETS OF OPPORTUNITY

U.S. supporting fires will be controlled through the units' fire support team (FIST). It is expected that artillery and mortar fires in a defensive situation will be received in a more timely and flexible way.

## TYPES OF FIRE

- Organic fires (company mortars); always received.
- Supporting fires (battalion mortars; DS/GS/GSR Arty): Dice must be rolled for approval.

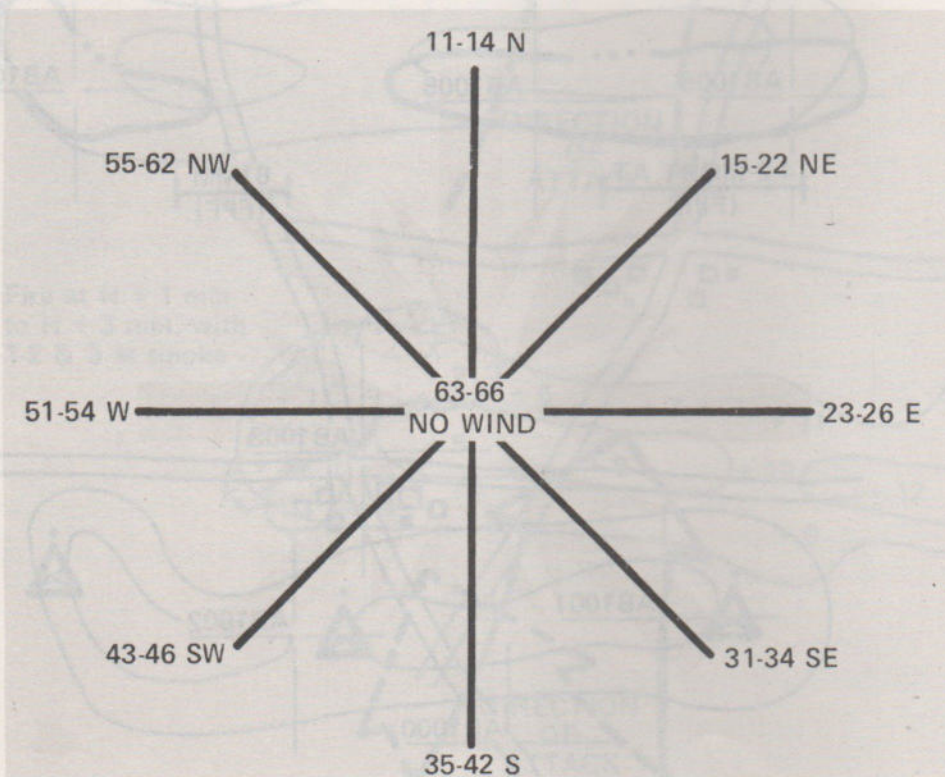


# YOU CAN

- 1) Fire on known reference points (listed target numbers) and receive it the second turn following the request, or,
- 2) Fire on a target of opportunity by adjusting from a known reference point and receive it on the third turn following the request.
- 3) Initiate a fire mission using a polar coordinate or other means and receive it on the third turn following the request.
- 4) Fire final protective fires, once per game, which will be received on the second turn following the request and will impact for four consecutive turns.

## WIND CALCULATIONS FOR SMOKE DRIFT

Roll two dice



INDICATES DIRECTION WIND IS COMING FROM

## ALLOCATION

### US PLANNED FIRES

US players may request from their fire plan, 1 volley per turn, to impact in call turn +2:

3—155 how targets (must roll four or better for approval).

2—4.2 mortar targets (must roll five or better for approval).

Final protection fires (FPF—not subject to range and deflection error) are automatically approved, may be fired only once per game, and will impact in call turn +2 for the next four turns for:

2—155 how targets for two volleys.

3—4.2 mortar targets for three volleys.

### US TARGETS OF OPPORTUNITY

Indirect fires for targets of opportunity, 1 volley per turn, to impact in call turn +3 are:

1—81mm mortar target (automatically approved).

1—4.2 mortar target (must roll five or better for approval).

1—155 how target (must roll four or better for approval).

1—8 in how target (must roll six for approval).

Adjusting rounds, fire for effect, will impact with no error in call turn +4.

### ENEMY PLANNED FIRES (Scheduled Fires)

Enemy players may request from their fire plan, 1 volley per turn, to impact automatically in each turn:

2—122mm how targets (automatically approved; but may be cancelled the previous bound).

Changes in ammunition must be made at least one bound in advance.

Final protective fires (for a defensive scenario) may be fired once per game 3—122mm how targets, for two volleys to impact in call turn +2 for four consecutive turns. These fires are automatically approved and are not subject to range and deflection error.

### ENEMY TARGETS OF OPPORTUNITY

Indirect fires available for shifts from scheduled fires, 1 volley per turn, to impact in call turn +3 of only 3 of the following:

1—120mm mortar target (must roll four or better for approval).

1—122mm how target (must roll four or better for approval).

1—152mm how target (must roll four or better for approval).

1—130mm gun target (must roll five or better for approval).

Adjusting rounds will impact in call turn +4 with no error. Additional fires are available from one 122 MRL battery with a die roll of five or better. MRL fires are restricted to one volley per game, to impact in call turn +2.

## SEQUENCE

Dice For:

- Approval
- Range and Deflection Error

ROLL ONE DIE	1	SHORT	ROLL AGAIN	No. X 50 Meters = Range Error
	2	OVER		
	3	LEFT		No. X 25 Meters = Deflection Error
	4	RIGHT		
5	<b>ON TARGET</b>			
6				

- Impact Effects for each volley fired on target.

### IMPACT EFFECTS

Target(s) must have at least ½ of the miniature inside the appropriate weapons system ellipse of the indirect fire template

in order to assess effects. You must roll the die for each miniature inside the ellipse. A single die roll will determine: no effect (a number less than required for suppression), suppression, or kill.

Suppression of tanks	= 5
Suppression of other armored vehicles	= 4
Suppression of wheeled vehicles	= 3
Suppression of troops	= 4
Kill of tanks	= 6
Kill of other armored vehicles	= 5 or better
Kill of wheeled vehicles	= 4 or better
Kill of troops	= 5 or better

Tanks suppressed may return fire in the next turn with a degraded hit probability (+1 to the tens die) but may not move. All other targets suppressed may not shoot or move the next turn.

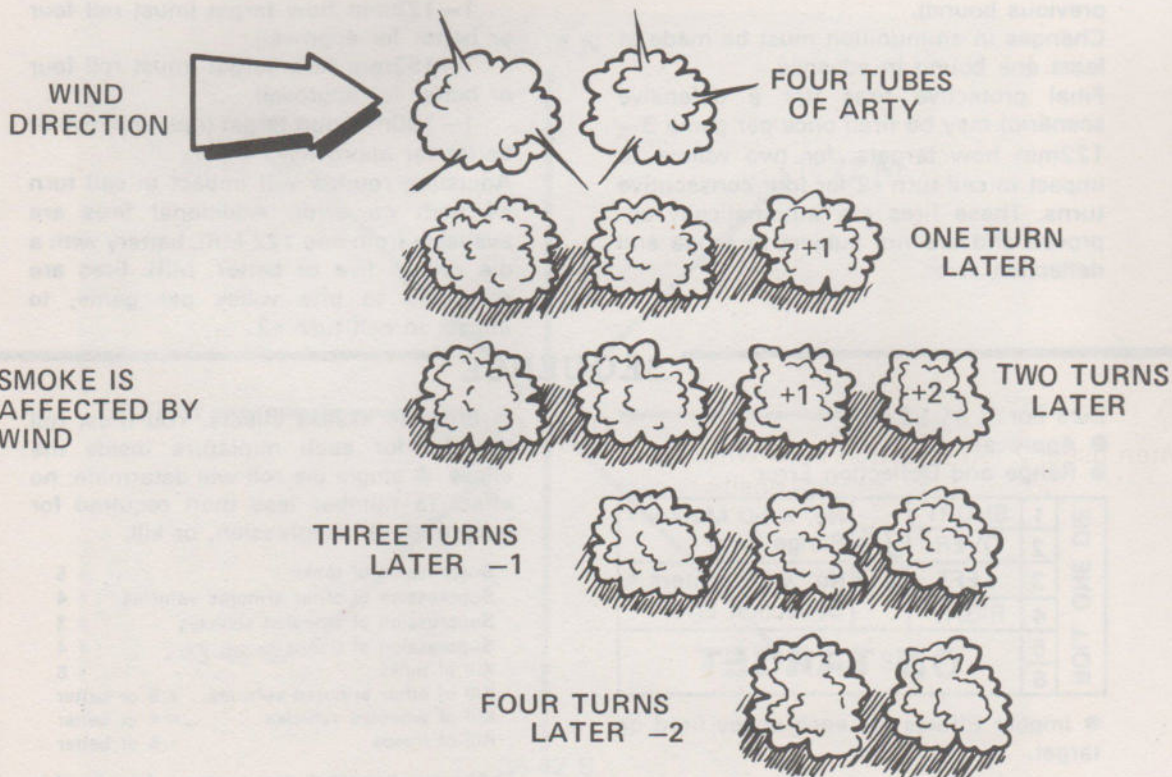
# SMOKE

REMEMBER  
WHAT CAN'T  
BE SEEN  
USUALLY CAN'T  
BE HIT

COVER YOUR  
MOVEMENT OR  
BLIND HIS  
OVERWATCHING  
POSITIONS

Smoke rounds are shown by one white cotton ball per 2 tubes of artillery fired. The downwind drift of smoke is simulated by adding one more cotton ball per game bound in that direction for the two turns after impact. Unless the fire mission is repeated the cotton balls are removed at the end of the sixth turn after the mission is fired at the rate of one cotton ball per turn on the US wind side.

## HOW TO PLAY SMOKE



## SOMETHING ADDITIONAL

### PROBABILITY OF BURNING

Vehicles hit and destroyed in battle may or may not burn, signalling opponents that further fire at that target is a waste of ammunition. You may want to represent this aspect of battle. This probability is set at a 50-50 chance. This is important since those vehicles not burning stand a good chance of being fired at again and again. For each vehicle sustaining a kill, roll the die for burning

ROLL ONE DIE

BURN	NO BURN
1-3	4-6

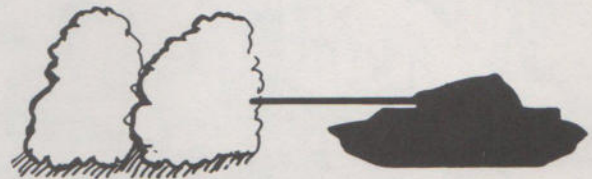


MARK BURNING VEHICLES WITH DARK COTTON.

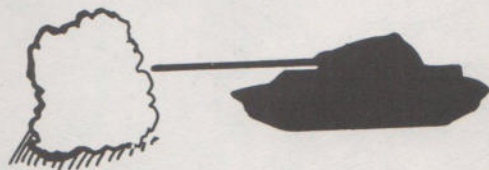
### SELF-SCREENING SMOKE

● Tanks have the capability to generate smoke to cover movement. For this simulation, the following procedure can be used:

- Allow each tank with the smoke capability to use it twice per game.
- It will be employed following the *Direct Fire* sequence of the side employing the capability.
- When used, 2 white cotton balls will be placed forward of the vehicle position, remain as is for the next two turns, then one cotton ball will be removed each turn for the next two turns as in the use of artillery fired smoke as previously prescribed. Self-screening smoke will not be extended downwind as with other planned smoke missions.



FIRE SMOKE



+3 TURNS LATER



+4 TURNS LATER

## DIRECT FIRES

Change the die roll required for a hit by adding to the first die when the following conditions exist:

- |   |    |
|---|----|
| ● Tgt is hull down  | +1 |
| ● Tgt is moving   | +1 |
| ● US tank is going to move more than 50 meters after firing | +2 |
| ● US Antitank gunner is under fire                          | +1 |

### HIT BUT NO KILL . . .

When a target has been hit but not killed, it is then suppressed for the next bound.

## DIRECT FIRE ROUTINE

The US player identifies a target which he estimates to be in range, i.e., T62 tank. He then announces his intent to engage a specific T62 with a specific M60. In announcing his intent he also describes the type ammo, let's say HEP. Before the range is determined the signature of his weapon is marked with a small piece of cotton. Range to the target is then determined by measuring the distance from the firing weapon to the target. At this time any doubt as to line-of-sight is also resolved. The distance in inches is converted to meters. (1 inch = 50 meters.) For example, the distance is 20 inches which

is 1,000 meters. The firer then consults the Hit Table and determines whether or not the target was hit. In this example an M60 tank firing at a T62 with HEP ammunition at 1,000 meters requires a dice roll of 41 or better. If the dice roll indicates a hit then the firer consults the Kill Table to determine the results of a hit. In this case a hit on a T62 is an automatic kill when using HEP ammunition. The firer should check the instruction on the Hit/Kill Tables to determine changes in dice roll required for different target conditions.

# DIRECT FIRE ENGAGEMENTS

The signature effect of a tank and an ATGM will be marked with cotton before range is measured. The weapon firing is then considered acquired by opponents in line of sight even if the target was out of range. Fire signature remains for one complete bound. ATGM may not move in the same bound after firing because of missile flight time and the need to track the target.

## ABOUT ATGM



**All tanks may fire 2 rounds per bound at the same target or at different targets.**

**If the second round is fired at the same target the hit probability is increased by subtracting 1 from the tens die.**

**If a different target is engaged with the second round the hit probability is the same required for a first round hit. After firing 2 rounds a tank may not move in that bound.**

## ABOUT TANKS



If a tank fires only one round the tank may move up to  $\frac{1}{2}$  its movement capability in the same bound. Movement up to 50 meters does not degrade hit probability, over 50 meters add +2 to the tens die. Intention to move beyond 50 meters must be announced prior to shooting.

## ABOUT U.S. TANKS



**If one round is fired from a stationary position the tank may move up to  $\frac{1}{2}$  its capability with no degradation. Tanks may fire on the move (one round only) if the hit probability is degraded by 2 on the tens die.**

## ABOUT SOVIET TANKS



# DUNN KEMPF



## US DIRECT FIRE TABLE TO DETERMINE A....

### HIT

### KILL

US WEAPONS

TARGETS

RANGE	UP TO 50	100	250	500	750	1000	1500	2000	2500	3000	T62	BTR 50 PT-76 BMP	BRDM	FIRE TEAM
105 MM HEP	41	13	14	15	24	41	52	65	66	66	K	K	K	41
105 MM HEAT	41	13	14	15	23	26	51	63	66	66	24	21	21	S-31
105 MM APDS	41	13	13	14	16	22	41	53	62	64	36	K	K	S-51
152 MM HEAT	36	13	13	14	24	26	52	63	66	-	31	21	21	S-41
152 MM MSL	-	-	-	65	44	31	26	22	22	32	21	21	21	S-41
90 MM HEAT (M48)	41	13	14	15	24	26	51	63	66	-	41	31	31	54
TOW	31	31	26	26	26	26	26	26	26	26	21	21	21	S-41
DRAGON	41	41	26	26	26	26	-	-	-	-	21	21	21	S-41
LAW	12	13	55	-	-	-	-	-	-	-	51	31	31	S-51
106 RR HEAT	41	21	21	31	34	41	61	-	-	-	31	21	21	S-51
106 RR ANTI-PERS	32	21	21	41	53	66	-	-	-	-	-	-	64	42
90 RR HEAT	41	21	31	41	51	61	-	-	-	-	41	31	31	S-51
90 RR ANTI-PERS	32	21	41	61	-	-	-	-	-	-	-	-	-	51
.50 CAL	31	32	41	43	45	51	52	62	-	-	S-56	46	42	53
7.62 (COAX)	31	33	42	51	55	62	-	-	-	-	No K	S-56	61	55
VULCAN	21	22	23	33	36	42	52	62	-	-	S-53	54	56	34
FIRE TEAM	22	32	42	52	55	62	-	-	-	-	S-65	S-45	62	42

S = SUPPRESSION    K = KILL

# DUNN KEMPF



## SOVIET DIRECT FIRE TABLE TO DETERMINE A....

HIT

KILL

SOVIET WEAPONS

TARGETS

RANGE	UP TO 50	100	250	500	750	1000	1500	2000	2500	3000	M60	AVLB APC	WH VEH	FIRE TEAM
115 HEAT	41	12	13	14	22	26	51	63	66	66	24	21	21	S-31
115 APDS	41	12	12	12	15	22	41	53	62	64	26	K	K	S-51
73 MM (PT 76)	41	21	21	21	23	31	41	51	51	51	51	41	24	S-44
73 MM (BMP)	41	21	31	41	53	65	-	-	-	-	51	41	24	43
SAGGER	-	-	53	33	32	31	31	31	31	31	26	21	K	S-41
SWATTER	-	-	-	33	32	31	31	31	31	31	31	21	K	S-41
RPG-7	12	12	43	52	-	-	-	-	-	-	45	31	K	S-43
14.5 HMG	31	32	41	43	45	51	62	-	-	-	S-52	42	31	53
12.7 MG	31	32	41	51	54	61	-	-	-	-	S-54	54	31	55
7.62 (COAX)	31	33	42	51	54	62	-	-	-	-	No K	61	33	55
FIRE TEAM	22	32	42	52	54	62	-	-	-	-	S-66	62	34	42

S = SUPPRESSION K = KILL

# MOVEMENT

Movement is defined as that action by players which simulates the actual movement of vehicles and personnel on the battlefield. Since the battle time represented as one turn equals 30 seconds, vehicles and personnel can only move the distance that they would in combat in 30 seconds.

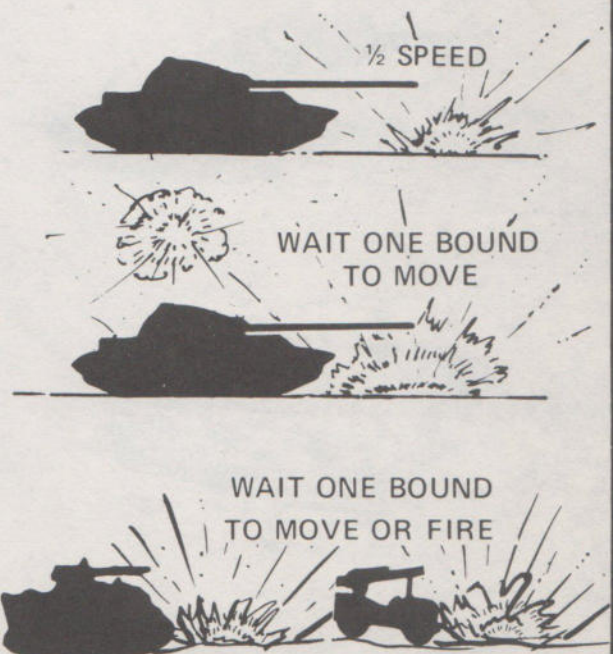
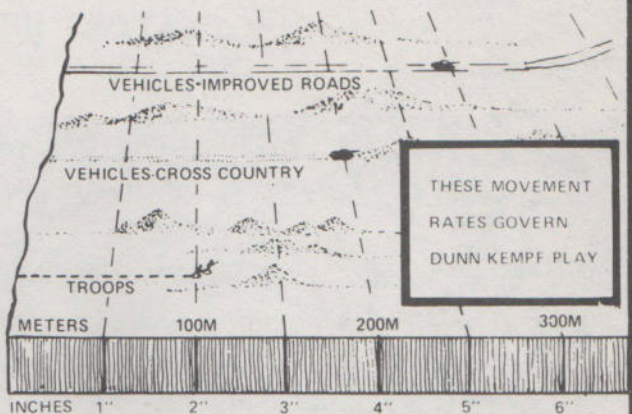
Controller may adjust movement rates when the terrain or situation warrants. Movement over exceptionally difficult terrain is reduced generally  $\frac{1}{2}$  the normal rate.

Once vehicles, weapons, etc. are placed—erroneous exposure, improper or illogical positioning etc. may not be corrected until the next movement phase. If physical restraints precludes proper positioning, it must be announced prior to end of that phase of his bound, and the correct position marked with masking tape or other suitable means.

Once an element (vehicle or individual) has received fire its movement rate is cut in half.

Tanks hit but not killed are suppressed. They may shoot the following bound but may not move for one complete turn. When shooting, a +1 is applied to the tens die to degrade hit probability.

Soft targets (armored vehicles other than tanks, all wheels, and troops) hit but not killed are suppressed and cannot fire or move for one complete turn. This constitutes successful suppression.



## AIR BATTLE PLAY

### The 3d Dimension-Battle from the Air

#### SEQUENCE FOR BOTH HIGH PERFORMANCE (FIXED WING) AND ATTACK HELICOPTER (ROTARY WING)

- Air attacker announces intent, target, path and altitude.
- Defender insures air defense weapons are within range and line of sight is not obscured.
- Consult air defense tables to determine damage to attacking aircraft.
- Determine the effects of air defense on the completion of the air attack, i.e., abort or continue to target.
- In the next turn, surviving aircraft continue to the target and determine the damage to the target.

### ROTARY WING

Air assault forces may be inserted or extracted. Each lift helicopter is subjected to enemy air defense weapons in range and damage is assessed by line-of-sight in the manner described in the effects tables.

Air cavalry aircraft may be employed in a similar fashion as above with the Scouts able to report enemy forces observed, or to direct either attack helicopters or artillery on targets within range. When employed, air cavalry elements may be subjected to artillery and direct fire weapons during the enemy bound. Aero rifle squads are employed as with air assault forces above.



Attack helicopters may employ any ordnance normally available to such aircraft using the effects table provided for engagement.

## EQUIPMENT

The models consist of a helicopter and a base joined by a section of wire. As the base is moved about the battlefield, the player can adjust the helicopter's flight and firing altitude by manipulating the shape and length of the wire section.

### \*Optional components

a. One attack helicopter element/air cavalry element.

3 OH-58's  
5 AH-1S'

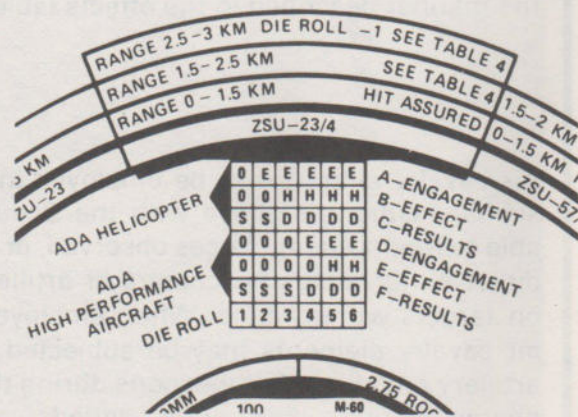
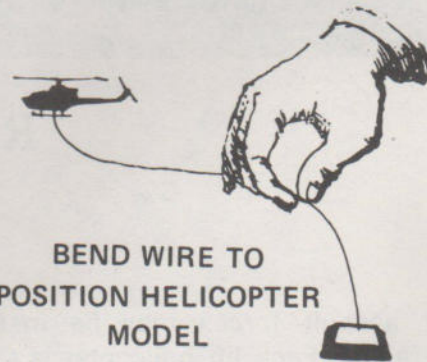
b. One air assault element.

5 UH-1H  
4 TOW Teams

## MOVEMENT

All helicopters may move up to 500 meters (10 inches) per bound (30 seconds), when not firing. Helicopters may not fire and move in the same turn (500 meters each 30 seconds = 30 knots for NOE flight). When lift helicopters insert or extract dismounted personnel, all ships remain at the LZ/PZ, stationary and exposed (if no concealment provided) for the enemy's bound.

\*Kits only contain two attack helicopters for each opposing force. This example force structure is provided for those units who may desire to purchase or fabricate additional components.



## SEQUENCE

Turn

X <sub>1</sub>	Commander of aircraft placed OPCON to the U.S. maneuver commander or given a tactical support mission.		
X <sub>2</sub>	The helicopter force is moved onto the terrain board at an orbit point, laager position, release point, etc., while the helicopter force commander completes coordination.		
X <sub>3</sub>	ASLT	AIR CAV	ATK
	Lift ships move to LZ/PZ, ADA effects assessed. Enemy direct/indirect fires assessed on lift force.	Scouts move to observation/screening position and ADA effects assessed. Rpts and/or fire missions forwarded.	Atk helicopters move to weapons release point. ADA effects assessed.
X <sub>4</sub>	*Lift force moves to mission area. ADA effects assessed. Remains stationary if troops offloaded.	Continues mission, opponent has opportunity to place fires on ships exposed.	Engages target using weapons effects tables. Helicopter is stationary during the entire turn and only altitude may be varied prior to firing.
X <sub>5</sub>	Continues mission.	Continues mission.	Movement begun to other firing positions.

\*Supporting unit commander may request SEAD (Suppression of Enemy Air Defense) or other fire support through the supported unit commander, or through his organic channels depending on mission assigned. Units employing this method of play should study FM 90-1 and FM 44-1.

# FIXED WING

## SEQUENCE

Based on *your* scenario, assign number of CAS missions available to both sides. Unless your situation is unique, use the number of missions assigned in the sample scenario. Then follow this sequence after dicing for air defense effects against strike aircraft.

The following instructions outline the use of the templates in air play:

- When the decision is made to employ airpower, the game participant identifies a target, weapons load, and direction of flight.
- If the aircraft survives ADA (determined by dice rolls) weapons delivery may be initiated.
- The weapons impact locator is placed over the target center (center of mass for area targets) oriented to the direction of flight.
- Dice are rolled twice to establish the weapons pattern center on the impact locator. The center of the square designated by the two rolls becomes the center point of the weapons pattern.

The first roll establishes the deflection error coordinate with three exceptions. If a two is rolled, disregard and roll again. If an eleven or twelve is rolled, the center of weapons impact will be on the middle of the short or long gross error impact line, respectively.

The second roll establishes the range error coordinate.

- Next, the center of the pattern template for the weapon employed is then placed over the point described by the above, oriented to direction of flight. Since Dunn-Kempf uses a three-dimensional terrain board and miniature target models, any targets that fall within the weapons pattern are subject to the weapon POD (Probability of Damage within the pattern).

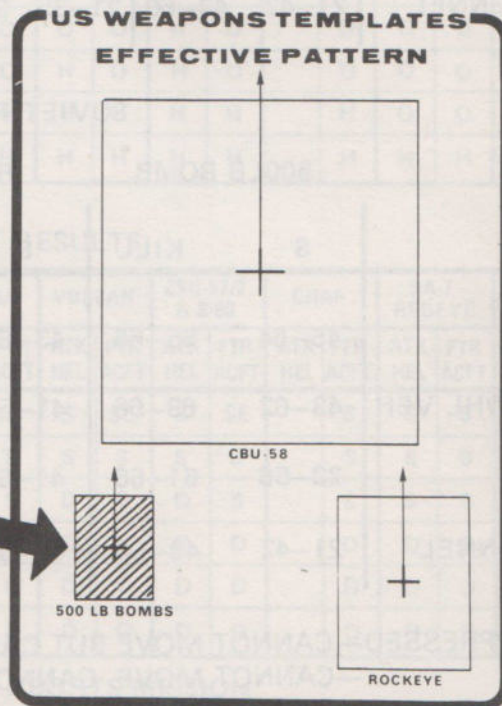
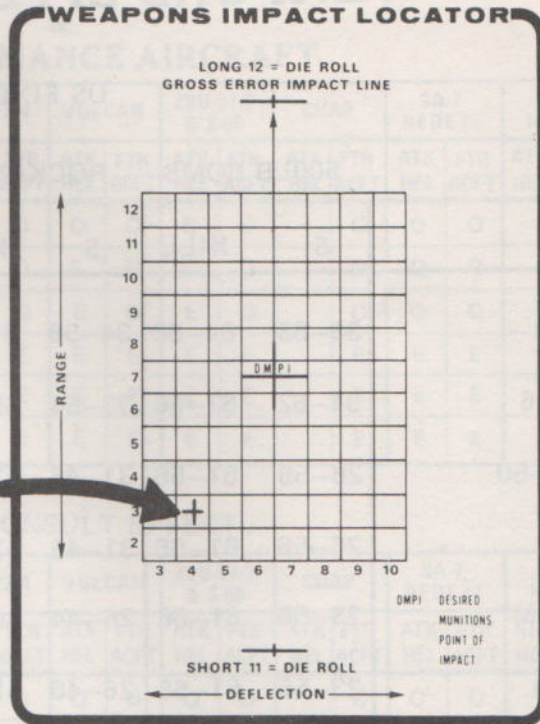
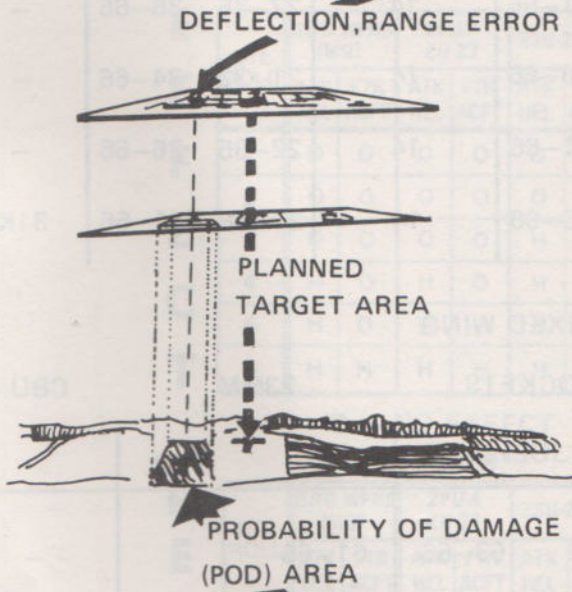
- The dice are then rolled to determine the fate of each target falling within the weapon pattern. A red die (TENS) and white die (UNITS) are used. Refer to fixed wing weapons effects tables. For example, a T-62 tank is the target, Rockeye is the weapon and suppression is the damage criteria. This requires a minimum roll of 34 (up to 56) for suppression. If a 61 through 66 is rolled, the target is killed. A dice roll less than 34 = no effect.

- For point weapons (Maverick, 30mm, and 23mm) one roll is made per target attacked. Use the fixed wing weapons effects tables.

This methodology reflects average relative effectiveness of weapons and systems. Because of game objectives and the requirement for unclassified inputs the methodology has been kept relatively simple.

FOR IMPACT  
 FIRST ROLL = 4  
 SECOND ROLL = 3

FOR DAMAGE  
 THIRD ROLL (2 DIE FOR MISS, S, OR K)



# WEAPONS EFFECTS TABLES

## US FIXED WING

	500LB BOMB		ROCKEYE		MAVERICK HIT IS A KILL	30MM		CBU-58
	S	KILL	S	KILL		S	KILL	
T-62	36-63	64-66	34-56	61-66	14	26-42	43-66	-
PT-76	34-62	63-66	33-54	55-66	14	24-36	41-66	-
BTR-50	26-56	61-66	31-46	51-66	14	22-35	36-66	-
BMP	26-56	61-66	31-46	51-66	14	22-35	36-66	-
BRDM	23-56	61-66	26-44	46-66	14	21-33	34-66	-
ADA	23-56	61-66	26-46	51-66	14	22-35	36-66	-
PERSONNEL	21-42	43-66	21-35	36-66	14	22-36	41-66	31K

## SOVIET FIXED WING

	500LB BOMB		ROCKETS		23MM		CBU
	S	KILL	S	KILL	S	KILL	
M60A1	45-64	65-66	43-62	63-66	61-66	-	-
M113/WHL VEH	43-62	63-66	41-56	61-66	51-63	64-66	-
ADA	23-56	61-66	41-51	52-66	51-63	64-66	-
PERSONNEL	21-42	43-66	42-56	61-66	22-53	54-66	46K

S—SUPPRESSED—CANNOT MOVE BUT CAN SHOOT (FOR TANKS ONLY) FOR 1 TURN  
 —CANNOT MOVE, CANNOT SHOOT FOR 1 TURN (FOR ALL TARGETS OTHER THAN TANKS)  
 K—KILL —TOTAL DESTRUCTION

ADA AGAINST – ATTACK HELICOPTERS

&

HIGH PERFORMANCE AIRCRAFT

E  
N  
G  
A  
G  
E  
M  
E  
N  
T

DIE ROLL	ORG WPNS (MG)		ZPU-4 ZU-23		ZSU-23/4		VULCAN		ZSU-57/2 & S-60		CHAP		SA-7 REDEYE		SA-6 HAWK	
	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT
1	O	O	O	O	O	O	O	O	O	O		O	O	O		O
2	E	O	E	O	E	O	E	O	E	O		O	O	O		O
3	E	O	E	O	E	O	E	O	E	O		O	O	O		O
4	E	O	E	O	E	E	E	E	E	E		E	E	E		E
5	E	O	E	E	E	E	E	E	E	E		E	E	E		E
6	E	E	E	E	E	E	E	E	E	E		E	E	E		E

O – NO EFFECT

E – ENGAGED, CONSULT EFFECT

E  
F  
F  
E  
C  
T

DIE ROLL	ORG WPNS (MG)		ZPU-4 ZU-23		ZSU-23/4		VULCAN		ZSU-57/2 & S-60		CHAP		SA-7 REDEYE		SA-6 HAWK	
	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT
1	O	O	O	O	O	O	O	O	O	O		O	O	O		O
2	O	O	O	O	O	O	O	O	O	O		O	O	O		O
3	O	O	O	O	H	O	O	O	H	O		O	O	O		O
4	H	O	H	O	H	O	H	O	H	O		O	O	O		O
5	H	O	H	H	H	H	H	H	H	H		H	O	O		H
6	H	H	H	H	H	H	H	H	H	H		H	H	H		H

O – NO EFFECT

H – HIT CONSULT RESULTS

R  
E  
S  
U  
L  
T  
S

DIE ROLL	ORG WPNS (MG)		ZPU-4 ZU-23		ZSU-23/4		VULCAN		ZSU-57/2 & S-60		CHAP		SA-7 REDEYE		SA-6 HAWK	
	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT	ATK HEL	FTR ACFT
1	SE	SE	SE	SE	S	S	S	SE	S	SE		S	S	S		S
2	SE	SE	S	S	S	S	S	S	S	S		S	S	S		S
3	S	SE	S	S	D	S	D	S	D	S		S	S	S		S
4	S	S	D	S	D	D	D	S	D	D		D	D	S		D
5	D	S	D	D	D	D	D	D	D	D		D	D	D		D
6	D	D	D	D	D	D	D	D	D	D		D	D	D		D

S – SUPPRESSED, ABORTS MISSION

D – DESTROYED

SE – SUPPRESSED BUT EXECUTES ATTACK, DECREASE HIT PROBABILITY BY +1.

# AIRCRAFT WEAPONS HIT & KILL

	HIT										KILL			
	WEAPON	RANGE 100	250	500	750	1000	1500	2000	2500	3000	M60A1 T-62	AVLB BTR-50 PT-76 APC BMP	BRDM WH VEH	FIRE TEAM
<b>E N E M Y</b>	SAGGER		53	33	32	31	31	31	31	31	26	21	K	S 41
	SWATTER			33	32	31	31	31	31	31 TO 3500	31	21	K	S 41
	SALVO ROCKETS		41	31	34	41	46				51	41	41	41
	23 MM	21	21	21	24	31	41				NO K	AC	BC	43
<b>U S</b>	TOW	31	31	26	26	26	26	26	26	26	21	21	21	21
	7.62 MM	41	41	41	44	51					NO K	NO K	NO K	46
	20 MM	21	21	21	24	31	41				NO K	AC	AC	43
	2.75 ROCKETS		41	31	34	41	46				51	41	41	41

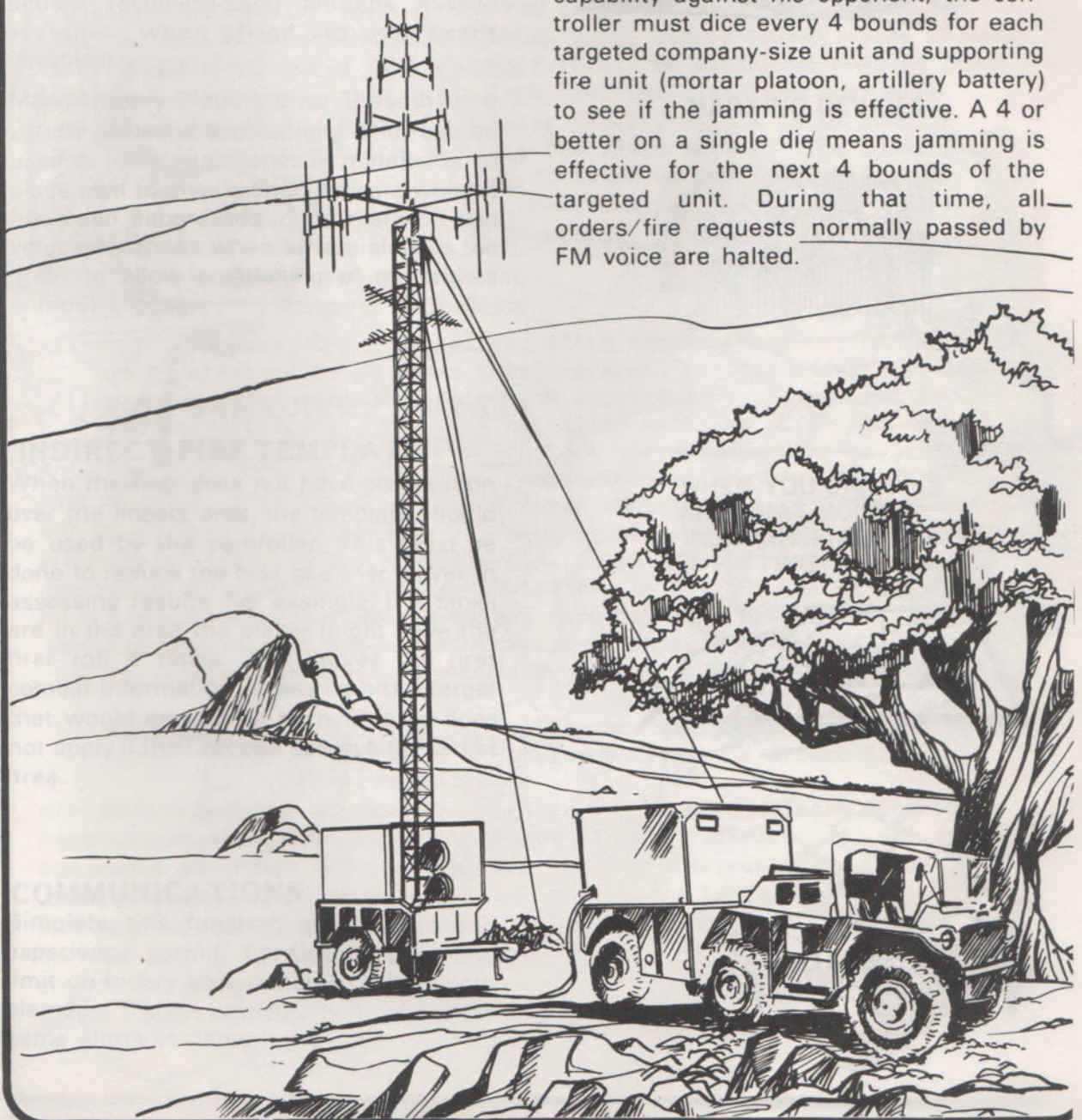
A K(500)  
 B K(TO 1000)  
 C 41(TO 1250)

# ELECTRONIC WARFARE

## THE 4TH DIMENSION

Realistic prior planning, coordination and requests must be made before jamming is employed by either side.

When a player employs a jamming capability against his opponent, the controller must dice every 4 bounds for each targeted company-size unit and supporting fire unit (mortar platoon, artillery battery) to see if the jamming is effective. A 4 or better on a single die means jamming is effective for the next 4 bounds of the targeted unit. During that time, all orders/fire requests normally passed by FM voice are halted.



## OTHER TOOLS AND TIPS

### CONTROLLER TIPS

**Weapons Signatures:** Small rolls of cotton (approx ½ inch long) should be placed behind recoilless and antitank missile systems when fired to represent backblast.

**Map/Artillery Plotting Pins:** These have a variety of useful applications. They can be used to mark gaps/lanes in minefields, to place next to a weapon to indicate when it has been suppressed, or to mark precise vehicle locations when terrain slope is too great to allow positioning of miniatures without slippage.

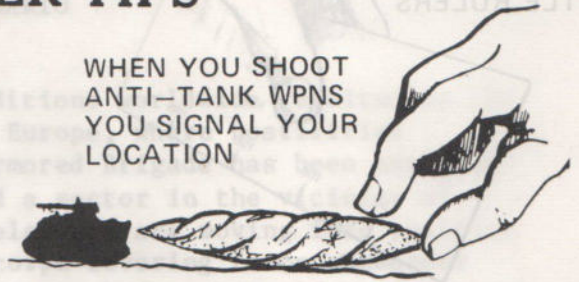
### INDIRECT FIRE TEMPLATE

When the firer does not have observation over the impact area, the template should be used by the controller. This must be done to reduce the bias of either player in assessing results. For example, if 4 tanks are in the area the player might have the firer roll 6 times. This denies the firer combat information unless he hits a target that would explode or burn. This tip does not apply if the firer can observe the target area.

### COMMUNICATIONS

Simulate this function as facilities and experience permit. Consider a 5 second limit on orders transmitted to subordinate elements. This is particularly helpful if the game starts to "drag."

WHEN YOU SHOOT  
ANTI-TANK WPNS  
YOU SIGNAL YOUR  
LOCATION



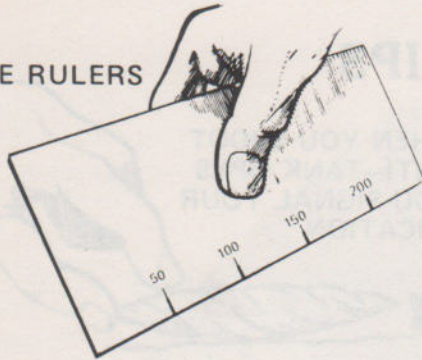
### MARKING DEVICES



WHEN YOU CAN'T  
SEE WHAT YOUR  
INDIRECT FIRE  
IS HITTING



LITTLE RULERS



### HANDY MOVEMENT CARDS

Three by five filing cards with tick marks along the edge are useful during the movement phases. A time saver such as this when added to others will significantly speed up play.

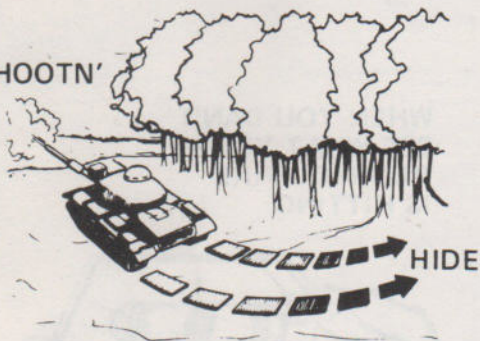
OTHER TOOLS



### MEASURING RANGE/ CHECKING LINE OF SIGHT

A cloth tape pulled taut is a versatile way to check range and line-of-sight between firer and target. If a yard stick is used check to be sure it is not warped. Retractable carpenter's tapes in the kit can be used but these are more prone to damaging figures, models or board when accidentally dropped.

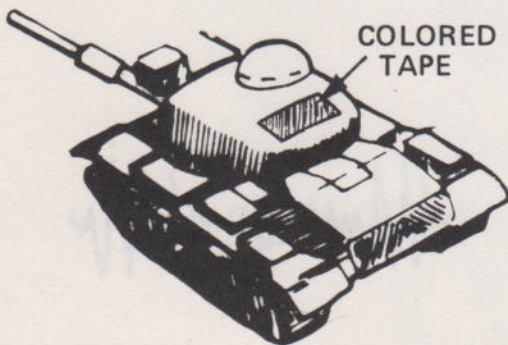
SHOOTN'



### PLAYING "SHOOT AND HIDE"

A movement of 50 meters is allowed armored vehicles after firing with no degradation of accuracy. Although this often increases the survivability of the firing system it often means that system is not in a position to fire on the next bound. For movement over 50 meters, add 2 to hit number as stated in rules and on tables.

COLORED  
TAPE



### COMMAND AND CONTROL DEGRADATION

Command vehicles may be identified with a small strip of tape (your choice). Upon suppression allow two turns before the leader may again communicate; if killed, allow three turns before command is resumed of the unit. Subordinate elements may logically follow instructions issued prior to suppression or a kill of a command vehicle. Remember, make it as *real* as you want it.

NOTES  
DUNN-KEMPF

## RED FORCE SCENARIO

1. General Situation. Deteriorating conditions worldwide resulted in the deployment of additional US forces to Europe, where hostilities appeared to be imminent. The 194th Armored Brigade has been assigned to US V Corps with a mission to defend a sector in the vicinity of Huenfeld, West Germany. The brigade elements are moving into position in sector as hostilities begin. The corps covering force commander will be able to provide up to 6 hours delay before being forced to hand off the battle to main battle area forces. He estimated that at least two tank regiments of the 101st Tank Division, 1st Tank Army will initially attack in the 194th Brigade Sector, with a third tank regiment in second echelon opposite the 194th sector. The 101st Tank Division is an Army second echelon division which was committed at H+ to exploit limited successes achieved against the corps covering force. The division is 95 percent combat effective.
2. Specific Situation.
  - a. Company, Battalion, 194th Armored Brigade, can expect to be attacked by an enemy tank regiment, reinforced with at least one motorized rifle battalion and supported by organic and direct support artillery. One tank battalion consists of 31 T62 tanks reinforced by 10 BMP's, two 25U 23-4 air defense weapons, and has an element of the regimental reconnaissance company preceding it, consisting of three or four armored vehicles. Latest intelligence available indicates the regiment is proceeding northeast in three-battalion column formations, with leading advance guard companies located vicinity NB 569229, NB 589230, and NB 603229. Advance companies are in column formation and have reconnaissance elements 1 to 2 kilometers forward of these locations. Reconnaissance elements should be within view of friendly forces.
  - b. Lead companies will continue to advance rapidly in column formation until forced to deploy by effective indirect or direct fire.
3. company mission is to conduct an active defense with three platoons on line from NB 566268 to NB 613261. The 1st, 2d, and 3d platoons will defend hills 373, 371 and 386, respectively. FEBA coordinating point between 1st and 2d platoons is at NB 581259; between 2d and 3d platoons at NB 597259.