

## Module 8: Indirect Fire Artillery

**A. General Explanation:** Indirect fire represents the firepower of rockets, mortars and artillery, which deliver high trajectory plunging fire. Indirect fire units are all units which are included on the indirect fire data charts. Artillery forward observers and FISTs call fire missions back to indirect fire units, which in turn fire on the requested target. The process of requesting fire takes time as the following rules indicate. During the pre- game cross-attachment segment, artillery units may be designated as Direct Support or General Support or Counter-battery Support.

**B. Requesting Fire:** Indirect fire is requested at the beginning of each friendly Artillery Plot Phase. The player secretly writes down his fire missions on his fire mission record. The left side of the record lists the turns of the game in order. Fire missions arrive in the Indirect Fire portion of the Fire Phase.

**1. Writing Fire Orders:** Fire orders are written on the right side of the fire mission record. The turn of arrival and the unit firing are repeated. In addition, the player must specify the target hex number, the ammunition being fired, and whether the mission will use maximum ROF/ICM/Un- observed Fire (see below). . Fire missions are written on the line of the turn in which they will arrive; record each firing unit's ID; for example the 9<sup>th</sup> Battalion would be 9. B battery of the battalion would be 9B, and the first platoon would be 1B9.

**2. Observing Fire:** A hex must be under observation by a unit capable of calling fire in order for a fire mission to be written for the hex. All NATO units are capable of calling fire as are all WP HQs, Ops, drones and FISTs. An indirect fire unit may also observe for itself. For a hex to be under observation, an unblocked line of sight must be traced from the observing unit to the target hex. Procedures for tracing LOS are explained in Rule 9. Special Forces Units function as FOs and may be cross-attached with any indirect fire unit.

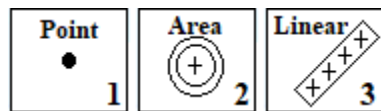
**a. Direct Support** – Artillery units designated as Direct Support may only fire missions that are observed fire. Direct Fire units may fire Counterbattery Fire if the impacting enemy indirect fire is observed by the FIST or OP to which it is assigned (*see Section J Counter-battery Fire.*) Artillery units belonging to the same Brigade/Battalion as the spotting unit are always considered Direct Support unless otherwise designated during the cross-attachment segment during pre-game setup.

**b. General Support** – Artillery units designated as General Support during the pre-game cross-attachment segment, may fire indirect fire missions only for FISTs or Ops. The target hex must be under observation by the calling FIST/OP for at least 1 Artillery Plot phase prior to arrival. Only General Support units may fire during Un-observed Artillery Fire.

**3. Canceling Missions:** A fire mission may be canceled at the beginning of any artillery fire portion of the Friendly Fire Phase. Another order may be written for the unit at that time, but it is subject to delay starting in that artillery phase; it may not be simply substituted for the canceled fire order.

**C. Indirect Fire Procedures:** Fire missions due to arrive in the current turn are resolved in the Artillery Fire portion of the Friendly Fire Phase. All artillery firing at a hex is added together and attacks all units (enemy and friendly) in the hex.

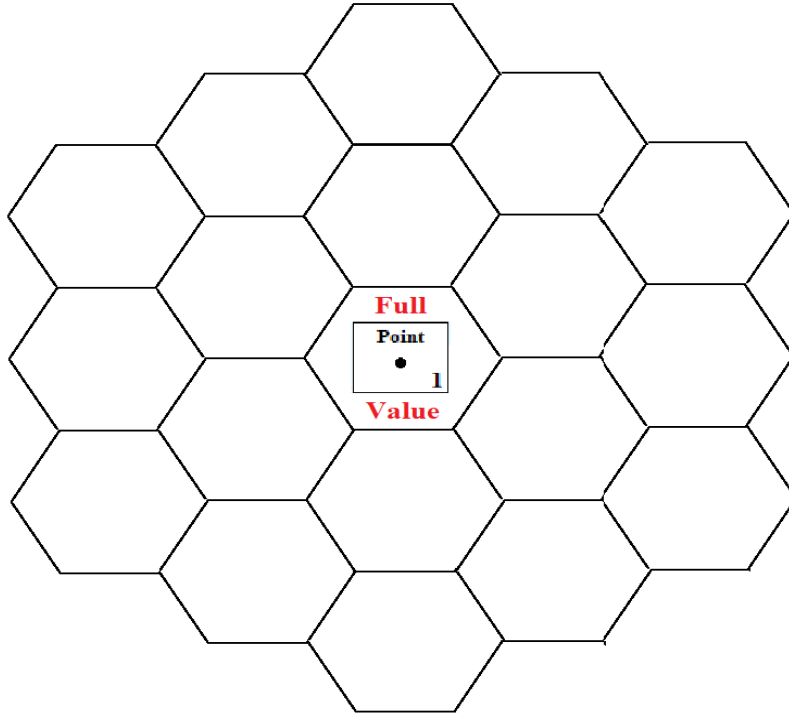
1. Select Fire Mission Type- Three type of artillery fire missions may be selected for each Battery (NATO) or Battalion (WP)



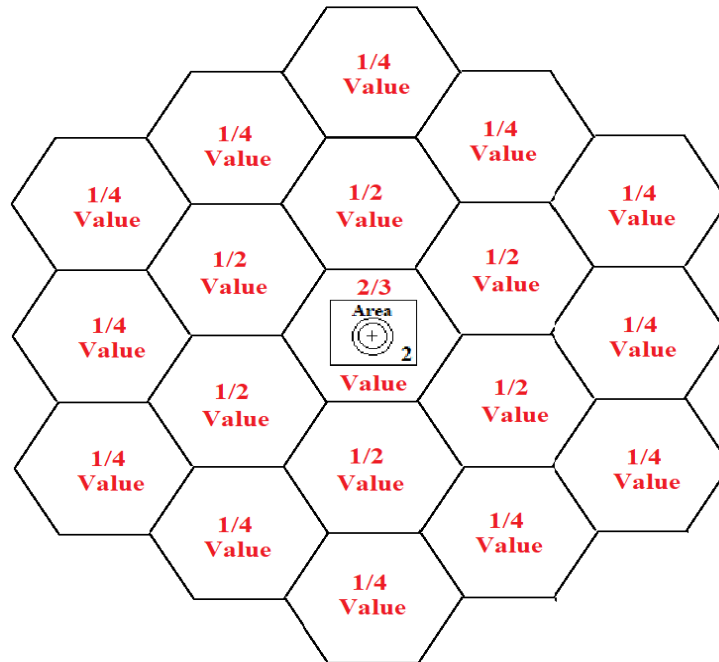
2. The indirect fire data chart lists the fire value for each indirect fire unit in the game. The value listed is per step. Each full-strength counter has two steps and each half-strength counter has one. Since the fire value is per step, multiple it by two for full-strength units. Write the total fire value (after modification by D1 and D2 below) on the fire mission record as determined by Fire Mission type. NATO artillery battalions may assign different fire missions to each battery. of Warsaw Pact artillery battalions subordinate batteries must fire the same Mission type.
3. **Target Defense Value:** The indirect fire defense chart lists the defense values of various units in various terrains.
4. **Resolution:** The fire values of all artillery units firing at a hex are added together. This is then compared to the defense value of the top unit in the stack and expressed as a simple odds ratio as found on the conventional fire combat results table. If rounding is necessary, always round in favor of the target unit. After locating the correct column of the combat results table, roll a die and implement the result. Repeat this procedure for each unit in the target hex. Note that the fire strength will be the same each time, but the defense value may change.
5. **Results:** Results are explained in *Rule 10*.

**6. Fire Missions:**

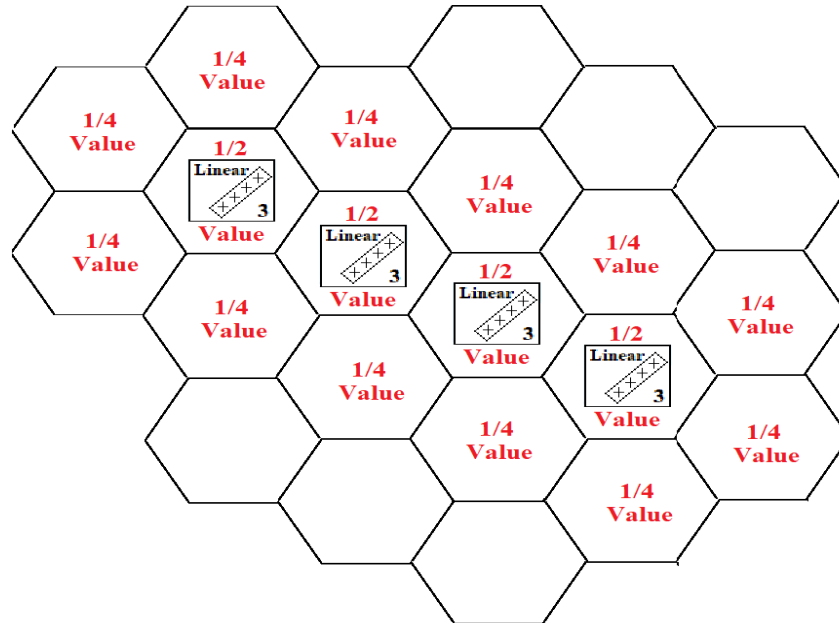
- a) **Point Strike**-Entire Artillery Fire value concentrated in one hex. All Artillery fires values are added together and applied to the hex being attacked.



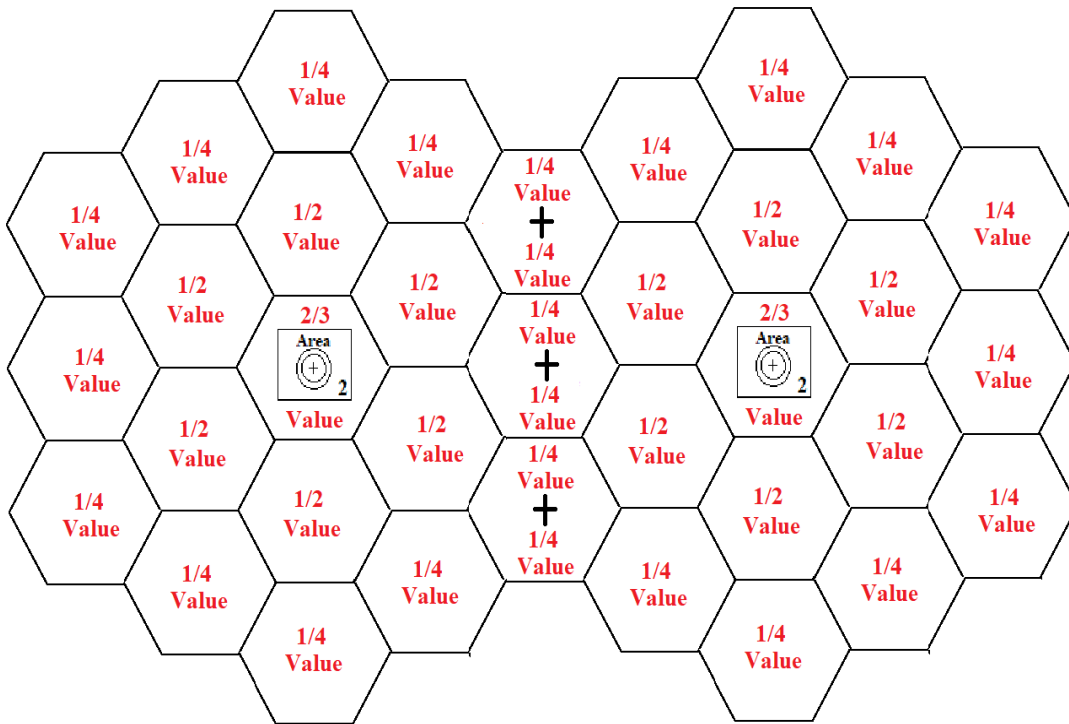
b) **Area Strike**-Target hex  $\frac{2}{3}$  fire value. Adjacent hexes  $\frac{1}{2}$  fire value. 2 hexes from target hex  $\frac{1}{4}$  fire value



c) **Linear Strike** - 4 contiguous straight line hexes  $\frac{1}{2}$  fire value. Adjacent hexes  $\frac{1}{4}$  fire value.



**d) Overlapping Fire** - Add the two fire values together for total fire value applied to each hex



## D. Special Cases

**1. Max ROF:** Each indirect fire weapon may fire at its maximum rate of fire for one turn without being re-supplied. In that turn the fire value is modified by the *max ROF* multiplier on the indirect fire chart. The firing unit suffers no adverse effect from firing at its max ROF.

*For example, the WP D-30 howitzer has a value of 4 when firing HE ammunition. Since its max ROF multiplier is 6, its total value for that turn would be 24. The firing unit must be resupplied before being able to fire another MAX ROF mission again.*

**2. ICM:** With some weapons, the NATO player has a choice of firing either HE or ICM (Improved Conventional Munitions). ICM may not be fired at urban, town, urban strip, woods, full lake or swamp hexes. When firing ICM the fire value is modified by the ICM multiplier on the indirect fire chart. If the max ROF option is taken with ICM, multiply the fire value both by the max ROF and ICM modifiers. Unlike MAX ROF modifiers, the ICM modifier can be used as long as the firing unit has ICM rounds.

**3. Smoke:** An indirect fire unit may fire smoke instead of HE or ICM. Smoke missions are plotted using the same procedure as any other fire mission, except that units capable of laying more than one smoke screen may plot as many target hexes as smoke screens. The indirect chart indicates what type of smoke may be fired (chemical or incendiary) and how many smoke screens may be fired per step per turn. Incendiary screens last one turn; chemical screens last two turns. Screens are removed at the start of the artillery phase. The effects of smoke are detailed in *rule 19*.

*For example, a U. S. M-125 mortar is plotted to fire an incendiary smoke mission. Since it may fire four incendiary screens per turn, the U. S. player writes down up to four target hexes.*

If there are units in the target hex the turn smoke arrives, they may be subject to an attack. Chemical smoke missions do not attack units in the target hex but incendiary smoke missions do. Resolve the attack as if it were an HE fire mission but with a value of 10 per incendiary smoke screen targeted on the hex.

*For example, a U.S. M-106 mortar can fire up to three incendiary smoke screens per turn per step, or a total of 6 per turn if a two-step unit. If all six were fired at a single hex, each unit in the hex would be attacked with a fire value of 60.*

**4. Pass-Through Fire:** Indirect fire is assumed to be taking place over the course of the turn. Thus, the fire mission marker is left in place until the next Friendly Artillery Fire Plot Phase and any unit moving into the hex during a movement phase is attacked by the fire mission as well. Units mounting or dismounting from transport units and units deploying or un-deploying also suffer pass-through fire. All units suffering pass-through fire are fired at as if in clear terrain. However, the total artillery fire value is halved, rounding fractions down, before the fire is resolved.

**E. Deployment:** *All W class units must be deployed to fire at enemy units.* In order to conduct indirect fire, or to be given a fire mission, units must be deployed. After all indirect fire in the friendly artillery phase has been resolved, the player may have any indirect fire units deploy. This is done by placing a deployed marker under the unit. A unit must be in combat formation when it deploys. When off-board artillery deploys, this fact, plus its distance off-board, should be noted under current turn number on the fire mission record. Indirect fire units which are deployed may not move. They may not enter cover, entrench, mount or dismount, or change formation or facing. (However, a unit which is already under cover or entrenched may deploy, in which case it remains under cover or entrenched). A deployed unit may fire in the direct fire phase of a player-turn only if it was not performing a fire mission in the preceding artillery phase (if no fire mission marker is on the board for it).

Indirect fire units may leave deployment during a friendly movement phase, paying their entire movement allowance to do so. Self-propelled artillery units may do so in either friendly movement phase; towed units may do so only in the second movement phase. Units may not leave during a turn in which they conducted a fire

mission. Deploying or un-deploying counts as movement for purposes of spotting, opportunity fire, pass through fire, and operations point expenditure.

**1. Enhanced SPG Artillery:** Modern SPA (self-propelled artillery) are equipped with sophisticated fire control systems that negate the requirement that the unit be deployed. These units have the capability to go from movement, to firing a mission in less than a minute, then back to moving on completion of the fire mission; well within the 5 minutes per game turn. The units are identified on the Indirect Fire Data Charts. The NATO SPAs do not have to be deployed to fire a mission on or off board; and may move in any movement phase regardless. These units may fire any indirect fire mission (including counter-battery fire) in the direct fire phase provided the target hex is under observation by a FIST, or OP.

**2. Precision Guided Munitions:** PGM guided munitions are vastly improved since the laser guided M712 Copperhead round. The M985 Excalibur, M395 PGMM (mortar), M1156 (PGM kit to upgrade standard artillery rounds), JDAM and guided MLRS/HIMARS rockets rely on GPS guidance to hit their target. As such, PGM do not require a FIST/OP to spot the target hex. The munition always strikes the hex being targeted. The Swedish m/41 mortar round does not require spotting or designating. This round may conduct an attack versus an afv/aifv/vehicle within one hex of the target hex. If the target hex is under observation by a FIST or OP, a -1 modifier is made to the die roll.

**3. Rocket Assisted Projectiles (RAP):** RAPs are regular artillery rounds that incorporate a rocket motor for independent propulsion. These are identified on the Indirect Fire Charts where available. Any artillery round available to a specific weapon system may be enhanced by the RAP. Weapon systems may not fire Max ROF using RAP but may utilize ICM. On the indirect fire charts in the RAP column are two values. The first value is the number of RAP rounds available. The second number is the max range of the extended round. The RAP round is recorded and expended as a regular round of ammunition with the extra range. When utilizing the RAP round, note on the Ammunition Expenditure Record the use of the RAP and the type of artillery round that is being fired; for example a HE attack using the RAP would require the expenditure of one HE round and one RAP round.

**F. Range:** Indirect fire is limited by the range of the firing unit. The indirect fire data chart lists the range of the various firing units in hexes. Artillery may not fire beyond its maximum range.

**G. Off-Board Artillery:** In some scenarios, players receive off-board artillery. The scenario description states what units are received, how far off-board it starts, and whether it is deployed. Place the units on a Off-Map Artillery Record and enter the required information. Off-board artillery performs all its activity, including movement, the same as an on-board artillery unit. Off-board artillery may do one of four things:

deploy, un-deploy, perform a fire mission or wait for an assigned mission (if deployed), or move (if un-deployed). Fire missions are recorded as for other artillery. Deploying or un-deploying are recorded in the left side of the fire mission record: instead of a fire mission, write D or U. movement is also recorded on the fire mission record; instead of a fire mission, write M followed by the number of hexes off-board the unit will be after its movement. Each unit starts at a particular distance off-board. Each turn's movement may change this distance by up to 5 hexes; however, off-board artillery must always remain at least 5 hexes off-board. The range from off-board artillery to a target is equal to the artillery's distance off-board plus the distance from the target to any hex on the owning player's board edge (East, West, North or South).

**H. FIST:** FIST are fire support teams that operate out of a FIST-V of some type. The U.S. utilizes the M-7 Bradley FIST-V known as B-FIST and the M-113 based vehicle known as the M-981 and the M-1131 Stryker FSV. The Soviet Ka-52 helicopter functions as a FIST and is equipped with laser designators. These units are equipped with sophisticated G/VLLD (Ground/Vehicular Laser Locator Designator) and a GPS system for pinpointing target locations. FIST-V crews are in direct contact with Fire Direction Centers (FDC) and significantly speed up the process of call for fire. Some FIST also carry a standard OP unit, such as the B-FIST does, to supplement the vehicle's observation operations. FIST units are identified as such on the unit counter and/or on the Unit Data Cards. Artillery units are considered subordinate to the parent unit FIST. For example, any U.S. 17th Field Artillery Brigade artillery unit is subordinate to the COLT1 1C22 BFIST and considered a Direct Support artillery unit for the COLT 1 unit. Consult the ***RADAR FISTV ABILITY CHART*** for the specific unit attributes and ***Module 1A for GSR/ART Radar equipped unit rules.***

**1. FIST/OP On-call Fire Missions:** A FIST/OP unit can have up to 2 batteries; in addition to those batteries that are subordinate to the FIST; assigned as Direct Support batteries. Record these Direct Support batteries on the ***Cross-Attached Unit Record***. These Direct Support batteries are available for on-call fire mission only if they are not conducting a fire mission in the current turn or scheduled to conduct a fire mission in the next turn. In order to conduct an on-call fire mission, the battery or batteries must be deployed if required. The FIST/OP unit requesting the mission must be in combat formation and capable of observing the target hex.

**a. Mission:** All On-Call Fire Missions are AREA Fire Missions or POINT Fire Missions. The fire mission is recorded in the First Movement Phase, (after spotting attempts), on the fire mission record. Only HE and PGM fire missions may be fired. No ICM, mines, smoke, or rocket missions may be fired (i.e. NATO MLRS or WP BM-21 or BM-27). The mission is recorded on the fire mission record as OC. On-call missions in the Second Movement Phase are recorded in the same manner.



**b. Fire:** The fire arrives in the Fire Phase of the same turn for missions requested in the First Movement Phase. Missions requested in the Second Movement Phase arrive in the Resolve Indirect Fire segment of the very next Artillery Plot phase (regardless of player turn).

**c. Fire Value:** Max ROFs missions may never be used for this On-Call quick fire mission. Standard fire values are used.

**d. Pass-through fire:** There is no pass through fire for On-call fire missions. These fire missions are directed against a specific target at a specific time.

**2. FIST Fire Missions:** FIST may call for fire as standard OP units with one change. The FIST unit will reduce delay by 1 turn for non-dedicated batteries. Delay for non-dedicated batteries may never be below 1.

**3. Target List:** Prior to the beginning of the game, each player may select 2 types of targets that are designated “High Value”. If a deployed FIST unit spots a high value target, the player may conduct IDF against this target by deployed artillery units that are subordinate to the spotting FIST in the next Artillery Phase or the next fire phase if using enhanced SPG weapons system (PzH 2000 or M109A6 for example).

*For example, during pre-game activities the NATO player selects Air Defense units and Artillery units as high value target types. During the game the NATO player has deployed enhanced M109A6 battery and a deployed M-7 B-FIST. In the second movement phase the NATO player's M-7 spots a Warsaw Pact 2S6 (ZSU-30) and decides to attack that unit in the second fire phase with a CLGP from the M109A6 battery.*

**4. Pre-Plot:** At the beginning of a scenario, each available FIST/OP may pre-plot 3 target reference point hexes. At any time during the game, the FIST may call for a fire mission on the pre-plotted hex with any available dedicated or direct support artillery unit. The FIST/OP may adjust the fire into any of the adjacent hexes. This pre-plotted fire may be conducted in any fire phase. The fire may be observed by the requesting FIST if the hex is within the LOS of the FIST. All Pre-plotted fire is conducted as a AREA Fire Mission.

**I. Un-observed Artillery Fire:** Un-observed artillery fire occurs when an area needs “softening” up prior to a major attack, Counter-battery fire at an unobserved target unit or a player wants to provide harassing fire in a general area. Un-observed missions are not an accurate way to conduct an artillery strike. Normally, these attacks would occur at the very beginning of a defense or attack scenario and not in a movement to contact. The location of the defense is generally known, specific locations of enemy units are not. All Un-observed Artillery Fire Missions are AREA Fire Missions.

### **1. Pre-game Procedure:**

**a. Before Set-up:** Players determine the wind direction for the game if not already indicated by scenario rules. Both players record fire missions for the hexes that are believed to be most likely to contain enemy units. These fire missions are noted by UA on the fire mission record. Players are not required to conduct Pre-game artillery combat. Only artillery units designated as General Support may conduct Pre-game Artillery strikes.

**b. Set-up:** Both sides set-up units and engineering construction takes place.

**c. Fire:** HE AREA Fire Missions only are conducted. Fire Drift is calculated for final target hex. Resolve artillery fire is for each hex as required. Remove target mission markers at conclusion of fire. No pass-through fire for pre-game missions. Units may use Max ROF in pre-game fires and in the game itself (regular restrictions apply once the game starts).

**2. In-game Procedure:** Conduct Un-observed Artillery Fire Mission as a standard fire mission with no unit observing fire using HE or Smoke missions only. Fire drift will affect these missions also. For Chemical smoke missions only, a 1 turn Smoke marker is placed.

**3. Fire Drift:** With no one available to observe the strike of rounds and adjust fire, a fire mission will probably drift from the intended target hex to multiple impact hex locations. The fire mission will drift from the intended target in the direction of the wind as determined in pre-game set-up. Roll die once. Divide the result by 2 to determine the number of hexes the fire drifts. Round up. This is the new impact hex. Place the fire mission marker in this hex. Conduct artillery fire versus units in this hex. Reduce the total fire value of artillery units firing into this hex by 1/3 rounding down. An unobserved counter-battery mission target hex also affects each adjacent hex. Any units in the adjacent hexes are attacked by the firing artillery units but reduce the fire values by 2/3 rounding down.

*For example, the WP is the attacking player and conducts unobserved artillery mission with a full strength S-152 152mm Howitzer Battery (4 steps of*

*S-152). After the final impact hex is determined the fire value of the battery, 20 HE, is reduced by 1/3 rounding down for a fire value of 13 in the impact hex and 6 for the adjacent hexes.*

**J. Counter-battery Fire:** Counter-batter artillery fire is designed to disrupt or destroy enemy artillery units. Any time an artillery unit fires indirect artillery it may be subject to counter-battery fire. Counter-battery fire is conducted as an AREA Fire Mission against a specific enemy Artillery unit whose fire has been observed. When multiple enemy artillery units are firing the Counter-battery player may either combine AREA fire against a single unit or divide fire amongst Counter-battery artillery units to attack multiple targets.

**1. Procedure:** For an artillery unit to be subject to counter-battery fire, it must have conducted fire in the Artillery Fire Phase. The target hex that was attacked by the enemy artillery unit must be in-view of an un-suppressed OP or FIST unit in combat formation. The FIST/OP unit may then immediately record a CB fire mission on the Indirect Fire log:

**i.** Record the target hex and turn number that the enemy artillery unit attacked.

**ii.** Record the arrival turn of the CB fire

**iii.** On arrival of the counter-battery fire; announce the attack against the artillery unit that fired as recorded in **step i.**

**iv.** The defending player must announce the hex that the defending artillery units had fired from. Indirect fire is conducted against that hex and results applied. CB fire missions can be conducted against either on-board or off-board artillery units.

**v.** See Section K for ART Radar equipped FIST/OP procedures.

**2. Counter-battery artillery units:** Any artillery unit can fire a CB fire mission. The selected units may not have conducted On-call Fire in the previous game turn, conducted a fire mission in the current game turn, or scheduled to conduct a fire mission in the next game turn. Enhanced SPGs may fire counter-battery regardless of previous fire or fire phase. A counter-battery fire mission does not require placement of a fire mission marker. The fire is directed against specific units, not a hex.

**3. Counter-battery Fire value:** A counter-battery fire mission may only be conducted using HE ammunition but it may be conducted at Max ROF (but only once per game unless the unit is resupplied using the Logistics Rules).

**4. Counter-battery Fire Resolution:** *Counter-battery fire takes place AFTER normal indirect fire.* Counter-battery fire units apply the counter-battery modifier to the Conventional Fire Combat Results die roll. Apply all modifiers that are applicable on the Conventional Fire Modifier table. Apply the results as per rules. Off-board artillery units are treated as if they are occupying a clear hex under cover.

**5. Macro Campaign:** The Macro Assault Game, Counter-battery units may be off map. Record the appropriate information on the Off-Map Artillery Record. Specific Artillery Units may be designated as CB units and assigned to a dedicated GSR unit or OP.

## **K. GR Ground Radar**

Ground Radar units operate in two distinct modes; Ground Search Radar (GSR) and Artillery Counter-battery Radar (ART). Some Ground Radars have the ability to operate as GSR and ART. GR units deploy and activate the same as SAR units. Active GR units are not susceptible to attack by HARM missions.

Once deployed (i.e. the unit is placed in combat formation hex orientation) and prior to activation, the owning player determines which mode the radar will operate in (if a multi-mode system such as the PRP-4 or BRM1b or the NATO FV514). If a player wishes to change radar modes, the player must deactivate the current mode in the Record Artillery section of the current movement phase for 2 complete friendly movement phases. The owning player may then change modes in the next Record Artillery section of the next friendly Movement Phase.

GR units may turn the radar on or off in any Friendly Movement Record Artillery section. All GR may only search in their forward arc. GR units in GSR mode may not spot for Counter-battery Fire and GR units in ART mode may only spot for Counter-battery fire.

### **1. Ground Search Radar (GSR) Spotting Procedure**

- a. Determine the spotting range by counting the number of hexes from the spotting unit to the hex occupied by the Target unit.
- b. Compare the range to the GSR Auto-spot table to determine if Auto-spot may occur. If the Auto-spot range is within the CLOSE range of the spotting radar, Auto-spot occurs.
- c. If Auto-spot does not occur then locate the range on the GSR spotting table. The number to the right is the Base Spotting Value (BSV).
- d. Subtract the Range Category Value from BSV to determine the Final Spotting Value (FSV).

- e. Roll the die. If this number is  $\leq$  the Final Spotting Value (from step d.), the target unit is detected by the spotting Radar unit and may be fired on.

## 2. Artillery Counter-battery Radar (ART) Spotting Procedure

- a. Determine the range from the spotting ART radar unit to the target impact hex of the firing enemy artillery unit.
- b. Determine the Range Category of the spotting unit.
- c. *Any artillery unit that is assigned to COUNTER-BATTERY DUTY and dedicated to the spotting radar unit may fire Counter-battery fire IMMEDIATELY (before any other Indirect fire takes place).*
- d. The Counter-battery Mission may itself be fired on by a Counter-Counter Battery if:
  - 1. the target unit is on the map and the impact hex is under observation by a target unit-friendly ART radar, or;
  - 2. the target unit is off map and there is a target unit-friendly ART radar on its Off-Map Artillery Record and;
  - 3. the Target Unit-friendly ART radar has a dedicated counter-battery unit assigned to it.
- e. The subsequent Counter-battery fire will drift the same number of hexes as the Range Category Value determined in step b. This drift is in the direction of the current wind. The Counter-battery Fire Mission may be conducted as a Point or Area fire mission as determined by the player firing the Counter-battery Mission. (*See Section I. 3.*).