Operational Wargame System

SERIES RULES VERSION 2.3

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ABSTRACT

The Operational Wargame System (OWS) is a board game series covering contemporary and future conflict. It is a wargame toolkit that enables wargaming scenarios in the 2025 to 2035 timeframe. The design centers on plans and decisions at the high tactical to operational level of war across all warfighting domains.

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Operational Wargame System

Series Rules, Version 2.3

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1. Introduction

1.1. The Operational Wargame System (OWS) is a board game series covering contemporary and future conflicts. It is a wargame toolkit to enable scenarios in the 2022 to 2035 timeframe. The design centers on plans and decisions at the high tactical to operational levels of war across all warfighting domains.

2. Components

2.1. Colored, Multi-Sided Dice. The core of the OWS game system is the use of colored multi-sided dice to reflect scalable capabilities, lethality, and combat modifiers. Dice range from four sided (D4) to twenty sided (D20) dice, including D6, D8, D10, D12, and D16 with each die uniquely colored to match counter

symbols and to enable rapid player recognition (black D4, red D6, yellow D8, green D10, blue D12, purple D16, and white D20). The greater the number of sides on the die, the more effective the capability it models.

2.1.1. Core Adjudication Technique. The OWS dice system uses a universal adjudication method to resolve all outcomes. Offensive and sensing capabilities are indicated using a die symbol, while defensive capabilities are represented by a red or gray shield with a number; and, signature is indicated by a satellite or radar display symbol**.**

2.1.1.1. Die Promotion and Demotion. When a modifier is applied to a capability die, it causes the die to be "promoted" or "demoted" depending on the type of modifier, such as promoting a strike from a D8 to a D10. Each promotion increases the die size by one increment, and each demotion reduces the die size by one increment. Multiple modifiers are cumulative. Sum all promotion and demotions together then apply the net result to determine the modified die.

2.1.1.2. Determining Success. In all cases, a die roll greater than or equal to the defensive number is a success ("meet or beat"). A die roll less than the defense number is a failure.

2.1.1.3. Critical Hits. If the final attack roll is double the basic defense number (red shield), then 2 hits are applied against the target. If the die roll is 3x or 4x the target's defense number then 3 and 4 hits respectively are applied.

2.1.1.4. Semi-Rigid Adjudication. OWS is a semi-rigid rule set that does not account for every possible situation across all domains. When a situation emerges that challenges subject matter expertise, then determine the new probabilities for success and roll a d10 versus that probability. Additionally, game facilitators may apply "House Rules" that apply classified considerations or models into the adjudication process.

2.1.2. Game Map. The game map depicts the physical terrain where combat operations take place, as well as inset boxes to depict relevant off-map regions. The OWS game system includes multiple map scales to account for game play at various levels. When desired, maps can be used in combination.

2.1.2.1. *Operational Map*. The hex scale on the operational map is 200 nm (370 km) per hex

2.1.2.2. *Regional Map*. The hex scale on the regional map is 100 nm per hex.

2.1.2.3. *Tactical Map*. The hex scale on the tactical map varies from 10 to 20 km. Some tactical maps include an additional hex layer portrayed by yellow hexes that represent 50 nm (100 km) zones.

2.1.3. Space Capability Dashboard. The Space Capability Dashboard depicts each side's capabilities with respect to Command and Control (C2) Networks; Position, Navigation, and Timing (PNT); and Theater Intelligence, Surveillance, and Reconnaissance (ISR). Each of these three functional areas is represented by an abstract satellite constellation that displays on the dashboard a player side's capability in that area. This capability can be targeted by the opposing side.

2.1.4. Player Hand. Each side maintains a Player Hand of cards and tokens. This hand is kept secret from the opposing players.

2.1.5. Attrition Box. The Attrition Box is where units that are permanently lost are placed.

2.1.6. Regeneration Box. The Regeneration Box (sometimes referred to as the "Recycle Bin") is where players put units lost in combat with the potential to regenerate, specifically air and SOF mission counters.

2.1.7. Land Hexes

2.1.7.1. Ports. Anchor symbols represent port facilities and are used to resupply naval units, offload and embark ground units, and as a node to trace line of supply. Some maps portray ports accompanied by a shield and white check boxes. The shield is the defense value that is used when a port is targeted by a strike and the boxes are the number of hits it can take. These boxes also represent the port's capacity to embark or disembark ground units. For example, a port with 4 white boxes has a capacity to embark/disembark 4 steps of ground units during a single turn.

2.1.7.2. Airfields. The airfield symbol represents an airport or airbase and is used to base aircraft units, launch and support air missions, conduct embarkation and debarkation of ground units from air transport units, and serves as a source of supply. Airfields include a number that indicates the number of air units (squadrons) than can base there. Some game maps also include check box symbols that are used to track hits and remaining capacity.

2.1.8. Deep Sea Hexes. Indicated by the dark blue shaded sea zones. There is no stacking limit to the number of naval units that can operate in a Deep Sea hex.

2.1.9. Littoral Waters Hexes. Indicated by the light blue shaded sea zones. There is no stacking limit to the number of naval units that can operate in a Littoral Waters hex. ASW detection efforts in Littoral Waters are demoted due to reverberation and coastal traffic noise.

2.2. Counters. Counters represent air, sea, and land military forces. Players use dry-erase markers on the counters themselves to record combat hits and associated capability degradation, as well as the consumption of missiles.

2.2.1. Signature. A ground, air or naval unit's detection signature is indicated by either a satellite symbol with number or a sensor symbol with number (sometime referred to as its stealth capability). Those with satellite symbols are detectable by theater ISR. Those with a sensor symbol can only be detected by a "local" sensor capability. The signature is the target number for detection attempts. Detection attempts must roll equal to or greater than this number to detect the unit.

2.2.2. Missiles. Offensive missiles are represented in the game by die symbols which represent a salvo of missiles. Each missile salvo typically represents ~8 missiles. A red silhouette is usually placed next to the die to represent what kind of targets it can engage – whether air (side silhouette of an aircraft), naval (side silhouette of a ship) or ground (a rectangle intended to represent an airfield runway).

2.2.2.1. Missile Magazine. A unit's missile magazine, i.e. the number of missile salvoes it carries with it, is indicated by the number of dice represented on the counter next to a red target silhouette. Shown next to a missile salvo is a super numeral that indicates that missile's range in hexes.

2.2.2.2. Salvo Markers. These markers represent missile attacks generated in the game and are used as a player aid to help visualize complex attacks and to assist in allocating missile salvoes against multiple targets in a strike action. They are generated by the attack dice shown on ground, air, and naval counters. These missile salvoes are

"promoted" or "demoted" depending on applied effects.

Red side Missile Salvo markers

2.2.2.3. Defense Systems. Defensive capabilities are represented in the game as shields. Red shields are an enduring defense and grey shields are consumable.

2.2.2.3.1. The Red Shield – Enduring Defense. The enduring defense number of a unit is portrayed as a red shield that is never consumed. DESIGN NOTE: The red shields are an abstract representation of armor protection, point defense systems, defensive countermeasures such as jamming and decoys, and vulnerabilities such as signature.

2.2.2.3.2. The Grey Shield – Consumable Defense. Grey shields represent consumable defensive capabilities such as air defense missiles which add a "first layer" defense to a unit which must be defeated before the red shield can be targeted. If these are marked with a circular arrow in the top right corner, then they regenerate at the end of the turn in the Regeneration & Logistics Phase. As these are used, they are marked out by a dry erase marker.

2.2.2.4. Auto-Resupply of Munitions. Dice and shields noted with a curved arrow symbol indicate the ability to auto-resupply at the end of the turn in the Regeneration Phase. Artillery and Rocket units without that symbol track ammunition consumption as a critical munition per special scenario rules.

2.2.2.5. Tracking Missile Resupply. Missile munitions are tracked during the game and are dependent on an individual scenario's special rules regarding critical munition resupply. During the Missile Resupply segment of the Regeneration Phase, missiles may be resupplied if allowed by the scenario's special rules. This is done by erasing the marks off "consumed" missiles to show that they have been replenished and subtracting consumed missiles from the scenario's critical munitions inventory.

2.2.2.6. Ammunition Counters. Ammunition counters are used to help track critical munition inventories. These are used to resupply critical munitions for naval vessels and some ground units, and can be used by air units conducting strikes – particularly bombers. ASP counters can be targeted and defend with the red shield. If an ASP counter is successfully hit, roll a D6 to determine the number of missile salvoes to destroy and mark off the counter.

2.2.2.7. Hypersonic & Ballistic Missiles. Missiles that fall into the category of hypersonic or ballistic missiles are indicated by an "H", "HGV", or by an "SRBM", "MRBM", or "IRBM" text note respectively. Such missiles are immune to intercept by patrolling fighter aircraft missions. Ballistic missiles can only be defended by grey shields with an associated "BMD" notation on the counter. If no BMD capable air defenses are present, then ballistic missiles bypass other grey shields and target a unit's red shield. Some BMD capable units also depict a red down arrow indicating a more capable system that also demotes inbound ballistic missile salvos. Hypersonic missiles are governed by special scenario

rules as to whether or not they can be intercepted by various air defense systems. If undefined, then Hypersonic Glide Vehicles (HGVs) are considered indefensible and bypass all grey shields. Other hypersonic missiles, indicated by an "H," can be defended by BMD capable air defenses.

2.2.2.8. Multi-Role Systems. A capability that can be used for either attack or defense is outlined with a white rectangle. Once this choice is made, both the shield and the represented attack die are marked consumed.

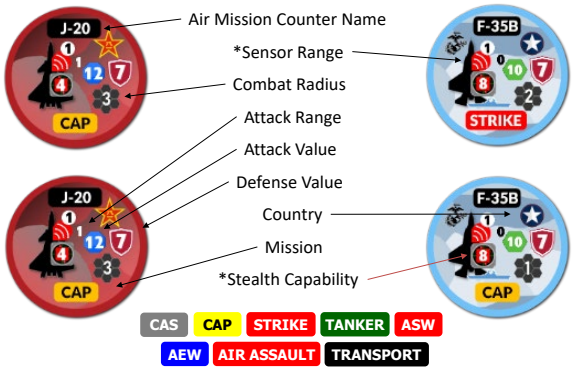
EXAMPLE: The US Navy SM-6 missile is represented in the game with a "7" grey shield and a blue D12 attack that has a range of 1 versus air and ship targets (see DDG Flight IIA above). The "H" shows that this attack capability is hypersonic. And the "BMD" indicator means that these SM-6 defensive shields can be used versus ballistic missile attacks.

2.2.3. Steps & Step Loss. The size of a unit is indicated by white check boxes referred to as "steps." Steps determine how much combat damage the unit can absorb as well as informing transportation requirements, stacking, and hexside limits for ground combat. If there are no white boxes, or just one, then the unit is considered a single "step." If there are 2, 3 or 4 white boxes then it is a 2, 3 or 4 step unit respectively. Hits sustained in combat are absorbed as step losses with the white box and corresponding attack capabilities marked out by a dry erase marker. When the damage steps have all been "hit," the unit is considered a mission kill (severely damaged or sunk) and it is removed to either the Regeneration or Attrition Box. EXCEPTION: The circular air squadron base (olive green in color) is a two step counter with a step loss represented by flipping it to its reverse side with the flames to reduce it to a single step. If hit a second time, then it is eliminated, along with its associated air mission, to the Attrition Box.

2.2.4. Air Units. Air units are portrayed in the game using two circular counters for each squadron. Squadron Base counters (with an olive drab background) are always located at airfields and represent the aircraft currently in maintenance, readying, etc., as well as the ground infrastructure and personnel. Air Missions (represented in national colors or bright green (support missions)) are linked to matching squadron base counters and represent the aircraft performing a specified mission at any one time over the course of a turn. Air missions that are lost in combat can be regenerated, but squadron base counters (destroyed on the ground) are lost permanently, along with their associated air missions. Aircraft carriers function as the squadron base for their associated air units. When aircraft carriers are damaged, the number of air missions it generates is correspondingly reduced.

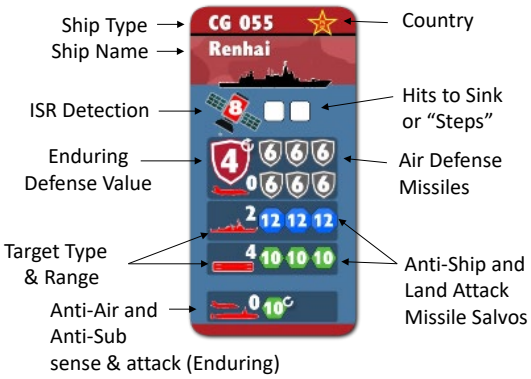
AIR MISSIONS - SQUADRON BASE

AIR MISSION COUNTER FEATURES:



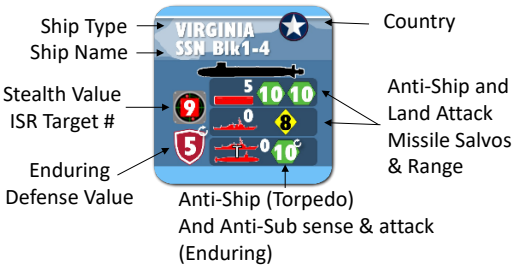
2.2.5. Naval Surface Units. Naval surface units are portrayed in the game using a rectangular counter. Units are portrayed as either a single ship or as a task group of two to five ships.

NAVAL COUNTER FEATURES:



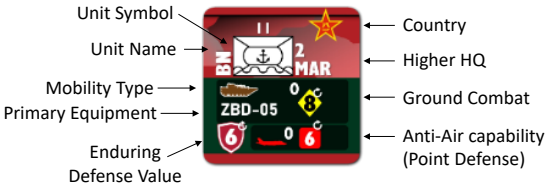
2.2.6. Submarines. Submarines are portrayed in the game using a square counter representing a single vessel.

SUBMARINE COUNTER FEATURES:



2.2.7. Ground Units. Ground units are portrayed in the game using a square counter. For ground maneuver units, a battalion is 1 step. Most units are portrayed at the Brigade or Regiment level and are shown as a 3 "step" unit (3 white boxes). If the counter does not contain a white box, then it is assumed to be a single step unit and is lost when suffering a hit.

GROUND COUNTER FEATURES:



EXAMPLE: Below shows 1/7 as a battalion counter and 7th Marines as a 3 step regimental counter.

2.2.7.1. Headquarters Units. Headquarters units can generate HQ's effects. HQ effects are: (a) Main Effort designation, (b) Reserve designation, and (c) Information Operations effects. These can be allocated to any unit within the HQ's command radius which is indicated by the TAC and OP

numbers ("TAC" = Tactical map 50nm/100km hex radius. "OP" = Operational map 200 nm hex radius). This support can be used once per turn.

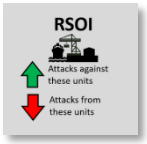
2.2.7.2. SOF Units. Special Operations Force (SOF) counters represent SOF missions and are an abstract representation of SOF capabilities. SOF missions can be used to conduct strategic reconnaissance (SR) to enable local ISR detections, perform target acquisition to promote a missile strike, conduct a direct action attack, and/or support a ground attack by a conventional unit.

2.2.7.3. Artillery & Rocket Units. Artillery and Rocket units have a combat modifier for Indirect Fire (IDF) that can be applied in the Ground Combat Phase to promote a ground unit's attack, or in the case of the defender to demote the attacker. Range is calculated to the hex that is under attack. Alternatively, an artillery or rocket unit can "Strike" a targeted ground unit in the Prep Fire or Defense Fire Phase using the Fires Effect Table. Artillery units with munitions expend a salvo (also referred to as fire mission) each time a Strike or IDF attack option is used.

2.2.7.4. Air Defense Units. Air defense units have organic radar that enables detection of air units out to the range of the counter's missiles. During combat sequences, an air defense unit can apply defensive shields for units within its defensive umbrella. Or, it may engage threat aircraft that are in range. Air defense units may defend or attack each turn against threat aircraft and missile salvos for which it has unexpended salvos. Once it commits to defend or attack, the shield and die are marked expended. These are reset at the end of the turn during the Regeneration Phase, provided munitions are available.

2.3. Status Markers. Various markers are included in the game to indicate the status of a unit. These include Reception, Staging, Onward Movement, and Integration (RSO&I) markers, Suppressed markers, and TACSIT 1.

2.3.1. RSO&I. Place an RSO&I marker on units that are embarking or disembarking onto or from ships or aircraft. Units in an RSO&I status are demoted in combat and attacks against those units are promoted. RSOI Markers are removed at the end of the turn during the Regeneration Phase unless special scenario rules indicate otherwise.



2.3.2. Suppressed. If a unit is successfully struck by fires it becomes suppressed and a suppression marker placed

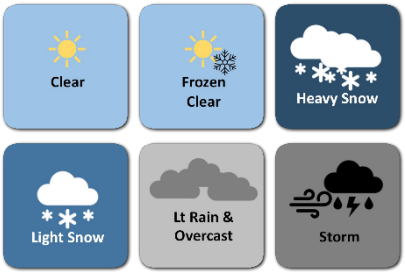
on it. *See paragraph 10.15.7 for details on Suppression.*

2.3.3. TACSIT1. A TACSIT 1 marker is used to indicate that a unit is detected and targetable by strikes. TACSIT 1 markers are removed at the end of the turn during the Regeneration Phase.

> DESIGN NOTE: This is an optional counter that may be omitted in games where units are only placed face up and visible when in a detected status. In such games, use of the TACSIT 1 marker may be redundant. However, players may find it useful on occasion to emphasize a particular unit's detection status.

2.3.4. Amphibious & Airborne Assaults. Assault markers are used to indicate a unit conducting an airborne or amphibious assault. Amphibious Assaults are placed on the board during the Naval Movement Phase. Airborne Assaults are placed during the Air Movement Phase. Place the appropriate marker on the stack with the assaulting ground unit and its transport in the targeted hex. The associated ground combat is not resolved until the Ground Movement & Combat Phase. The assault markers are removed at the end of the turn during the Regeneration Phase. *See paragraph 10.15.8 for more details on Amphibious, Airborne and Air Assaults.*

2.3.5. Weather Markers. Weather markers are used to indicate the weather conditions associated with tactical game maps. These vary by map and region. The specific in game effects are governed by the weather charts specific to each map and special scenario rules. The following are examples of weather counters.



3. Sequence of Play

3.1. Overview. Each turn of the game represents a 24 hour day unless otherwise specified in a scenario's special rules. OWS can be scalable in turn duration depending on the purpose of the game. Each player alternates taking actions through the Sequence of Play. Some phases are simultaneous while most phases entail a back and forth game mechanic with one side taking an action then game play shifts to the other side for their action, and so on until both sides are complete.

3.2. Setup. To begin the game, determine which optional and advanced rules you will utilize and identify the associated map and order of battle for your scenario. To help with scenario setup, there are Game Books for most countries represented in the game.

3.3. Phase 1: Planning and Readiness Decisions. Players conduct planning to determine what actions they intend to make.

3.4. Phase 2: Strategic Movement. Each side conducts strategic movement related to the flow of forces via Rail, Airlift, Sealift, Road, to include embarkation and disembarkation. The number of actions a side can conduct is governed by specific scenario rules (such as determining the availability of rail cars). Units that conduct strategic movement are considered in an RSO&I status. Security Zones and Partisan placement (see rule 10.15.10) is also conducted in this phase.

3.5. Phase 3: Tactical Movement. The initiative side, determined by the scenario rules, has the option to either move their forces first or defer first move to the other side in each of the Naval, Air, and SOF Employment Steps.

3.6. Phase 4: Information Environment Operations & Cyber. Players secretly note the placement of IO/Cyber effects. Once both sides have decided on their placement, all IO tokens and Cyber cards intended for this Phase adjudication are placed on the map. Effects are then adjudicated (i.e. any relevant Cyber Attacks, Disrupt C2, Assure C2, and Countermeasure tokens).

3.7. Phase 5: Theater ISR and Local Detections. Players place their remaining Theater ISR pawns on the map on the hexes they want to target. Once the theater ISR capability is determined for each side, then ISR outcomes are adjudicated hex by hex for the whole map.

3.8. Phase 6: Combat. Combat is resolved with Air Combat occurring first, followed by Strike Warfare and then Ground Combat. In this phase, initiative is determined by either a chit draw sequence or an I-GO-U-GO method.

3.9. Phase 7: Regeneration & Logistics. During the Regeneration & Logistics Phase, players reset the board for the next turn, advance the clock on timers, and conduct repair, resupply, and regeneration.

3.10. Phase 8: Assessment. With the turn complete, an opportunity may be presented to discuss wargame insights.

OWS Turn Sequence

Version: 2.1
11 Feb 2023

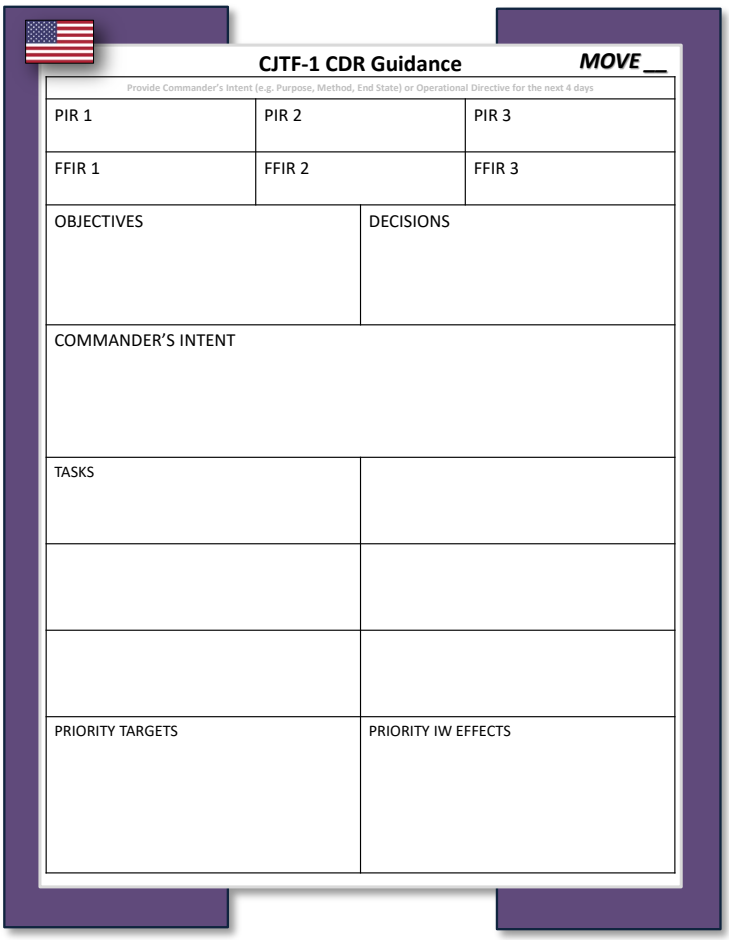
PHASE	STEP	NOTES
1. Planning & Readiness Decisions		Step 1. Player planning & unit readiness determination Step 2. Issue orders; Play decision cards Step 3. Assign reserve & main effort designations
2. Strategic Movement		Step 1. Conduct stratlift, sealift, rail & road movement Step 2. Generate Security Zones and Partisans (ADV)
3. Tactical Movement	***3.A. Naval Movement***	Step 1. Move naval units (Surface & Sub) Step 2. Initiate amphibious assaults (Place by Beach)
	3.B. Air Tasking Order & Air Movement	Step 1. Determine & place air missions (CAP/OCA/DCA) Step 2. Prepare strike mission packages (place as stack) Step 3. Initiate airborne & air assaults (Place on LZ Hex)
	3.C. SOF Employment	Step 1. Move SOF units and roll for successful insertion Step 2. Adjudicate SOF missions
4. IO/Cyber/Space		Step 1. Place IO tokens & cyber attacks (Secret) Step 2. Adjudicate Cyber Attacks & IO Tokens Step 3. Adjudicate the space capability dashboard
5. Theater ISR & Local Detections		Step 1. Place & resolve theater ISR Step 2. Resolve local detections by hex Step 3. Finalize Strike Plans (Players Prioritize Targets)
6. Combat	***6.A. Air Combat (Simultaneous Effects)***	Step 1. Stand Off, Long Range Air-to-Air Step 2. Stand Off, Long Range SEAD Strikes Step 3. Long Range Air Defense Step 4. In-Hex Air-to-Air Combat Step 5. Transition Air to Tactical Map Step 6. In-Hex SEAD Step 7. In-Hex Air Defense Engagements
	6.B. Strike Warfare (Sequential Effects)	Step 1. By initiative, by hex, adjudicate long range Strike Step 2. Be initiative, by hex, adjudicate local Strikes
	6.C. Ground Movement & Combat	Step 1. Decision Cards & Initiative Determination Step 2. Organize Step 3. By Action Unit - Ground Movement & Combat Step 4. Security Force Battles & Partisan Attacks (ADV)
7. Regeneration & Logistics	***7.A. Check Supply***	Check unit supply status
	7.B. Reset IO/Cyber Tokens	Remove attacks; Defensive can stay
	7.C. Reset Marker Track	Verify theater ISR capability
	7.D. Reset Aviation Missions	Return to base; May leave air missions in place
	7.E. Advance Timers	Reduce active timers one number
	7.F. Remove Status Markers	Remove RSO&I, suppression, main effort, cavitation
	7.G. Repair Infrastructure	Roll for port, airfield, rail and radar repair
	7.H. Regenerate SOF & Air	Roll for SOF & Air regeneration
	7.I. Resupply Missiles	Roll for Arty & AD units or use Tracker; ASP resupply
	7.J. Advance Turn Marker & Weather	Note upcoming reinforcements; Roll for Weather
8. Assessment		Facilitated assessment

4. Planning Phase

4.1. Overview. Player planning can be informal or formal, written or unwritten depending on game purpose and objectives. The level of detail applied to this step is entirely optional.

4.2. Decision Cards. Some scenarios have Decision Cards that pertain to critical scenario related decisions, such as Strategic Mobilization, OPLAN Activation, Zapad Exercise, Article 5 Declaration, etc. These cards inform and adjust the readiness status of select units and may drive other game actions or effects. There is not a requirement to play a Decision Card in this phase and some Decision Cards can be played in other phases of the turn.

4.3. Orders Documentation. If desired, and dependent on game objectives, players can be required to write down their plans and orders via a selected format or medium. To the right is just one example format that can be used to document player orders.



CJTF-1 CDR Guidance ***MOVE ___***

Provide Commander's Intent (e.g. Purpose, Method, End State) or Operational Directive for the next 4 days

PIR 1	PIR 2	PIR 3
FFIR 1	FFIR 2	FFIR 3

OBJECTIVES	DECISIONS
COMMANDER'S INTENT	
TASKS	
PRIORITY TARGETS	PRIORITY IW EFFECTS

5. Strategic Movement Phase

5.1. Overview. In this phase, players conduct inter/intra theater air, sea, rail and road movements. And, if playing with the optional Security Zone and Partisan rules, players generate those capabilities during this turn.

5.1.1. Embarkation, Transportation, & RSO&I

5.1.1.1. *RSO&I Marker*. When being transported, ground units are placed in an RSO&I status by putting the RSO&I marker on the unit.

5.1.1.2. *Ship Embarkation and Transportation.* To embark on a ship, a ground unit must start the turn in a port hex along with the intended naval transport. A ship can transport one ground step per infantry silhouette on its hit boxes. Once underway, if the naval transport receives a step loss to any of the boxes marked with a ground unit symbol, then a step loss is incurred against the transported ground unit also. When the ship moves into the destination port, an RSO&I marker remains on the ship and unit <u>for one full turn</u> (assuming 1 day turns).

OFFLOAD EXAMPLE: An LMSR pulls into port during Turn 2's Naval Movement Phase. The ship and ground units are stacked with an RSO&I marker for the remainder of that turn <u>and the following turn</u> and cannot move. During Turn 3's Regeneration Phase, the RSO&I marker is removed. The ground unit and ship are then free to move normally during Turn 4.

5.1.1.3. *Air Embarkation and Transportation.* To embark on an air transport, a ground unit must start the turn in an airfield hex. An air transport mission is required for each step transported, but they are not required to start the turn in the same hex as the ground unit. The ground unit is moved along with the air transport to the intended destination. Once moved to the destination airfield, an RSO&I marker is stacked on the air transport and ground unit. They remain in an RSO&I status <u>until the end of the same turn in which they were transported</u>. The RSO&I marker comes off during the Regeneration Phase. A mechanized or armored unit can only be transported one step at a time by air and only by heavy lift aircraft indicated with a tank symbol. That also requires double the number of air transports to lift the step. If the air transport is targeted and destroyed, then the ground unit is also destroyed. The destroyed air transport mission is placed in the Regeneration Box. Contract air can transport the fly-in-echelon for prepositioned forces and light infantry.

5.1.1.4. *Rail Embarkation and Transportation.* To embark on rail transport, a ground unit must be in a railhead co-located with rail cars at the beginning of the turn. One rail car counter can lift one ground unit step. The unit spends one turn embarking, one turn in rail transit, and then one turn offloading (24 hour turns).

5.1.1.5. *Road Transport by Heavy Equipment Transporter (HET).* A ground unit can be transported by HET on a 1:1 ratio of HETs per step. The unit embarks and moves in one turn, then spends one full turn disembarking and in an RSO&I status.

6. Tactical Movement Phase

6.1. Overview. In the standard scenario, the game turn spans a 24 hour time period.

6.2. Moving Through Enemy Units. When a player attempts to move a naval or air unit through an enemy unit, the non-moving player may declare combat / intercept and halt the unit if it is detected. The combat is resolved in the Combat Phase.

6.3. Naval Movement. The initiative side determines whether to move first or defer first move to the other side. Players move all desired naval units. Ships move per the movement table based on type of zone and ship type.

6.4. Naval Movement Rates. Operational Map:

CVNs	4 hexes
Surface Combatants	3 hexes
Auxiliary Ships	2 hexes
Patrol Craft	2 hexes*
SSN, SSGN, SSBN	3 hexes**
SSK	2 hexes**

*Patrol Craft must remain within 2 hexes of a friendly port or mother ship

**If subs move max, they are marked with cavitation

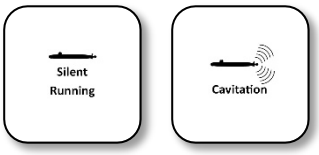
6.4.1. Special Movement Limitations. Some naval units have special movement limitations and are marked with brown shading to indicate a movement restriction rule.

6.4.1.1. Patrol Craft (PC). PCs are limited to 2 hex movement <u>and</u> must remain within range of a friendly port or mother ship. *EXAMPLE:* The People's Liberation Army Navy (PLAN) *Houbei* patrol craft must confine their movement to operate within 2 hexes of a Chinese controlled port.

6.4.1.2. Diesel Submarines. Diesel submarines are indicated with a brown background to show their lower movement rate compared to nuclear attack submarines. [Note: Diesel subs are <u>not</u> restricted to operating within 2 hexes of a friendly port.]

6.4.2. Submarine Movement & Sensing. When conducting normal movement, SSNs, SSGNs and SSBNs can move 2 hexes (400 nm) and SSK can move 1 hex (200 nm) per turn without cavitating (6.4.2.2). Submarines can detect surface platforms in the same hex but must roll for detection using their torpedo attack die roll as the sensing die roll. Submarines attempting to detect surface platforms remain undetected unless detected by ASW missions (6.4.4). If in Silent Running mode (6.4.2.1), the sensing die roll versus surface platforms is promoted. <u>If a submarine is not in Silent Running mode, it cannot make a detection attempt versus other submarines unless the target submarine is cavitating</u>.

6.4.2.1. Silent Running. When a player chooses to keep a submarine in the same hex and not move, a Silent Running marker can be placed on the submarine. Silent Running results in a demotion for any local detection attempts against it. Silent Running is removed when the submarine initiates an attack or when it moves to another hex. Silent Running also promotes local detection attempts and enables a submarine to roll for a detection attempt against other submarines.



6.4.2.2. Cavitation. When a player chooses to move an SSN, SSGN, or SSBN at the flank speed movement of 3 hexes or an SSK 2 hexes, a cavitation marker is placed on the

submarine which promotes any detection rolls against the submarine.

6.4.3. Active EMCON. Ships, ground units, and aircraft that are actively emitting are indicated by turning them face up. They are automatically detected and targetable when actively emitting (TACSIT 1). This decision is made for each counter during the movement phase and is particularly relevant to air defense units, Airborne Early Warning (AEW) aircraft, and ships in Ballistic Missile Defense mode.

6.4.4. Anti-Submarine Warfare (ASW) Missions. Players designate naval units in ASW mode by placing an ASW marker on top of the counter. Units in ASW mode can only move one hex or the ASW marker is removed and no submarine detections are possible. During the ISR detection phase, ships in ASW mode may attempt to detect submarines in the hex, with that attempt promoted for each ASW asset in the hex up to a maximum of a d12. **Special Rules Note:** Some situations may warrant an exception to this limit with an adjustment up to a d16 ASW detection roll. However, this should only be in exceptional circumstances where a submarine is clearly exposed to a high risk of detection due to the terrain and a high concentration of ASW capabilities. This may be referred to as the "D16 Exception Clause for High Risk ASW Detections."

6.4.4.1. ASW Screens. For naval task groups with at least two separate ASW assets (surface ships, aircraft, and/or submarines in silent running) in ASW mission mode, they gain an "ASW Screen" status. This transitions the submarine attack sequence from a simultaneous adjudication to a sequential adjudication – requiring a submarine to survive detection and potential engagement by the ASW Screen before it can engage a High Value Unit (HVU) such as an aircraft carrier that is in the same hex. If detected and engaged by the ASW Screen, and the submarine survives, then the submarine must abort its attack and disengage. If it remains undetected, then the submarine can proceed to engage a HVU target.

6.4.5. Mine Warfare. Mine counters are provided as an optional capability. Considering that hexes on the operational map are 200 nm in scale, mines applied into a hex do not completely block movement. Specific details on mine warfare should be addressed in special scenario rules. Play of mines on tactical maps is better suited since hexes are 10 to 20 km in width.

6.4.5.1. Sea Mine Emplacement. Mines either start a scenario already in place or are actively laid during the Naval Movement by ships that are mine capable. This mine laying effort is secretly noted off-map. If the adversary places a detection asset in the target hex, then a die roll is made to determine if the mine laying effort is detected. If detected, mines are made visible on the map.

6.4.5.2. Mine Strikes. Once a ship enters a minefield, the minefield counter is placed on the map and a die roll is made for a potential mine strike against all ships entering the hex (assuming a tactical map). This mine attack is conducted immediately during the conduct of Naval Movement. Other ships in the formation are then given the opportunity to abort movement into the hex unless the player decides to accept the risk and subject each ship to a mine attack. Mine attacks are either D6 or D8

attacks depending on the mine capabilities played in the scenario. The attack roll is made against the ship or submarine's red shield number. The Critical Hit rule applies.

6.4.5.3. Mine Sweeping. Ships capable of mine sweeping make a mine clearance roll versus the mines during Naval Movement. The probability of success is dependent on mine clearance capabilities and should be addressed in special scenario rules or matrix adjudication.

6.4.6. Amphibious Assault. There are multiple ship-to-shore movement methods that can be conducted to execute an amphibious assault. Only units with an amphibious designation can "swim" directly from a transport to the shore. All other ground units must have an appropriate means of transport that delivers them directly ashore, i.e. a Landing Ship Tank (LST), Landing Ship Medium (LSM), Landing Craft Air Cushion (LCAC), or a Floating Causeway. During the naval movement phase, units conducting an amphibious assault can be placed in a beach landing hex under an Amphibious Assault marker. Both the ships and amphibious unit are open to attack during the Combat Phase. If the ship survives the Strike Phase then the ground units fight ashore during the Ground Combat Phase. The marker representing the amphibious assault remains in play until the Regeneration Phase and is then removed if the forces succeeded in gaining control of the target hex. *See paragraph 10.15.8 for more details on Amphibious, Airborne and Air Assaults.*

6.5. Air Tasking Order and Air Movement. In this step, players generate air missions and place them on the map within movement constraints. This includes Combat Air Patrol (CAP), Defensive or Offensive Counter Air (DCA/OCA), Maritime Patrol (ASW), Interdiction, Close Air Support (CAS), Airborne Early Warning (AEW), Aerial Refueling (e.g. Tanker), Suppression of Enemy Air Defenses (SEAD), and Strike missions. Placements must conform to combat radius and fuel constraint rules.

6.5.1. Making a Strike Package. During this step, players may build "strike packages" by combining air missions in multiple modes such as CAP, Strike, Tanker and SEAD. Strike and SEAD missions may leverage their organic attack capability or may be loaded with a munitions counter. This is done by loading a fighter or bomber with munitions and assigning any desired fighter escorts or tankers as a single "strike package". These may be placed in an airborne holding area in the vicinity of the player's originating airfields and do not have to move to their launch basket until their strike action is declared in the Strike Phase. Specific targets or launch points do not need to be designated at this time. Players should consider this step the application of their Aviation Tasking Order (ATO).

6.5.1.1. Munitions Counters. Munition counters are used to represent the ordnance loadout for strike missions. <u>Fighters may carry up to two strike salvos while bombers can carry up to six strike salvos (represented by the round munitions counter)</u>. When a fighter aircraft is used in a Strike mission, it can use either its organic attack capability or a munitions counter but not both.

Bomber Loadouts: **Fighter Loadouts:**

> DESIGN NOTE: An ASP counter of six attack dice corresponds to a bomber strike mission's capacity. The six attack dice symbolize a volley of ~48 missiles, thus a Bomber mission counter represents an abstraction of 2 or 3 B-1s or B-52s, or in the case of China, 6 to 9 H-6s.

6.5.1.2. Air to Air Combat and Attack Missions. When a fighter in an "attack" mission (Strike, SEAD, CAS, Interdiction, SUCAP) is engaged in air-to-air combat, it uses a demoted die roll from its organic attack capability. It cannot initiate an air-to-air action but can defend itself if attacked.

6.5.2. The Fuel Source Rule / Combat Radius. All air mission counters must stay within their combat radius of a fuel source. A fuel source can be a friendly airbase, a tanker aircraft mission, a FARP, or an aircraft carrier (if the air mission is carrier capable).

6.5.3. Fighter Maximum Operating Range. The maximum operating radius of a fighter mission from its Squadron counter or base is no more than 3x its combat radius for Strike Missions or 2x its combat radius for CAP (DCA or OCA), CAS, and Interdiction. Such extended range operations require tanker or FARP support.

> **DESIGN NOTE:** This constraint is intended to reflect factors associated with crew day, time on station, and fuel. Players may choose to extend this radius as an exception to the rules but should only do so with a plausible explanation for how this is accomplished, such as by allocating additional tanker support.

6.5.4. Tanker Movement and Support. Refueling Aircraft, or Tankers enable air missions to extend their combat radius. Larger tanker aircraft, such as KC-135s can support two air mission counters simultaneously (indicated by the two black fighter silhouettes on the counter). Smaller tanker aircraft, such as the MQ-25 and KC-130J, can only support one (with one black fighter silhouette). The ranges of these counters vary. Some, like the KC-46, have an unlimited operating radius indicated by an "*" while others, like the MQ-25, have a specified combat radius indicated by the number in the cluster of grey hexes on the counter at the 4 o'clock position.

6.5.5. Basing. Fixed Wing air units can only operate from an airbase or an aircraft carrier (including LHDs and LHAs). Basing location is indicated by the olive drab squadron counter associated with that unit. When operating from an aircraft carrier, the squadron counter remains off-map. The carrier represents its squadron support unit and airbase. Each airbase has a maximum capacity for air units that cannot be exceeded.

6.5.6. Aircraft Carrier Operations. An aircraft silhouette inside one of the white step boxes on a naval counter indicates the ability to generate an air mission. Aircraft carriers and amphibious assault ships generate from 1 to 4 air missions. Support missions such as Tanker and AEW are NOT counted against this number, they are automatically provided on a one-to-one basis to this air sortie generation number. When one of these air mission symbols is crossed out on the ship due to damage then the unit's ability to generate aviation missions is also reduced. A CV, CVN, or

LHA/LHD may only serve as a Fuel Source for missions operating from that unit.

6.5.7. Stealth Aircraft. Stealth aircraft are those with low radar signature and are depicted with a local detection indicator, such as the F-35A below with its stealth / local detection value of 8. The highest detection die roll that can be made against a stealth aircraft is a d12. When operating in emissions control (EMCON), the counters are flipped to their "Unknown" side with the white silhouette. When in this mode, they can engage other aircraft in the same hex but cannot engage into an adjacent hex unless supported by another sensor that is actively emitting such as an E-3 or E-2D Airborne Early Warning (AEW) aircraft.

6.5.8. SEAD and Electronic Warfare. SEAD and EW Aircraft such as the F/A-18G Growler, F-16J and EC-37B that are Electronic Warfare capable can be employed in EW/SEAD mode to enable strikes and suppress adversary air defense capabilities. Such aircraft either promote strikes against the targeted unit (i.e. the EC-37B example below) or demote surface-to-air missile attacks against aircraft in the same hex as the SEAD capability (i.e. the F-16J and F-18G).

6.5.9. Airborne Early Warning (AEW) and Radar. Aircraft equipped with long range radar are indicated with a radar sensor symbol and with a mission titled AEW. AEW missions can detect air and surface units in their same hex using the die roll indicated on the counter. For each hex beyond the one they are in, this sensor roll is demoted by one die. For example, an E-3 AWACS rolls a D12 to detect stealth aircraft in the same hex, a D10 versus stealth aircraft one hex away, a D8 for aircraft two hexes away, and a D6 for aircraft three hexes away.

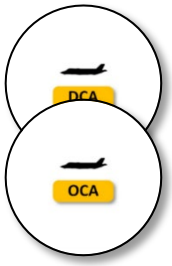
6.5.9.1. AEW and Air-to-Air Engagements [Advanced Rule]. The presence of an AEW asset in support of air-to-air engagements promotes attack die rolls for those engagements where friendly fighter aircraft are in the sensing range of the AEW capability. If playing with the "Best Die" sequencing rule 9.7.2., this promotion contributes to determining the sequence of engagements.

6.5.9.2. AEW and Surface Ship Detection. An AEW aircraft can roll for detection of surface ships out to a maximum range of 1 hex using the same demoted die roll it makes for aircraft in that adjacent hex.

6.5.9.3. Cooperative Engagement Capability (CEC). When an E-2D Hawkeye is within 1 hex of a U.S. surface combatant that is expending air defense missiles in defense against a cruise missile attack, the cruise missiles are demoted twice. For allied units, only those with a "CEC" designation on the counter may benefit from this capability (such as the Japanese Maya class DDG shown below).

6.5.9.4. *Ship Radar.* Ships with an anti-air missile capability have a radar detection range equivalent to the range of their anti-air missiles.

EXAMPLE: The Maya DDG's Aegis system has a range of 1 hex for air detections as indicated by the air defense capability with shield 7 and range of 1.



6.5.9.5. *Ground Radar.* Ground based radars are indicated by a radar symbol in the "Special" portion of the counter. Air defense systems have an inherent radar range equivalent to their attack range. To activate the radar the counter is turned face up and is considered detected and targetable. Radars auto-detect all aircraft in range unless the targeted unit is a stealth aircraft, in which case a die roll must be made for a local detection.

6.5.9.6. *Long Range Fighter Radar.* For fighter aircraft with long range radar, such as the F-35, players may choose to remain in EMCON or may activate the radar to search for threat aircraft and ships in adjacent hexes. When actively emitting, stealth characteristics are lost and the aircraft is made visible to the other side.

6.5.10. Fighter Mission Designation. Fighter units can perform five possible air missions. These include (1) Combat Air Patrol (CAP) – Offensive or Defensive Counter Air, (2) Surface Combat Air Patrol (SUCAP), (3) Strike, (4) Close Air Support (CAS), and (5) Interdiction. When placed in a CAP or Strike mission, the air mission counter does not require any additional markers. However, if placed in a SUCAP, CAS or Interdiction mode, the fighter mission counter is placed on the map in the designated hex with its Strike side face up and a SUCAP/CAS/Interdiction marker placed on top of it.

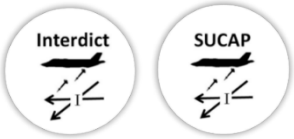
6.5.10.1. *CAP/DCA/OCA Missions.* Fighters placed in CAP can engage opposing fighters and bombers within range. Only fighters equipped with long range missiles (denoted on the counter with a super numeral 1 next to their attack die) can engage into an adjacent hex provided they are working in conjunction with a radar sensor that can detect the target. CAP missions represent aircraft in a Defensive Counter Air (DCA) or Offensive Counter Air (OCA) posture. This distinction is abstracted to simplify game play and is reflected in player intentions and decisions in air engagements. For more precise air doctrine, players may choose to use the OCA and DCA markers instead.

6.5.10.2. *Strike Missions*. Fighters placed in a STRIKE mission mode can attack opposing ships, ground units, air bases, ports, etc. In the Combat Phase, aircraft strikes are resolved using the rules for naval combat or the Fires Effects Table when the target is a ground unit (see Ground Combat).

6.5.10.3. *CAS Missions*. Fighters placed in a CAS mission mode are indicated by placing the CAS mission marker on an aircraft mission with the STRIKE mode face up. The effects of a CAS mission are applied during the adjudication of ground combat.

6.5.10.4. *Interdiction and SUCAP*. Interdiction and Surface Combat Air Patrols (SUCAP) are used to disrupt movement – ground

(Interdiction) or naval (SUCAP). Interdiction missions are placed in a specific "zone" or "kill box" on the tactical maps (depicted on most maps by a yellow or orange hex that spans 100 km). If a ground or naval unit attempts to move through an Interdiction or SUCAP mission, then an attack is conducted. If the ground or naval unit is suppressed or damaged, then its movement is halted and effects are applied. Once that air unit has used its attack capability, then it is expended and cannot be used against other units in this turn.



6.5.11. Airborne Assaults. During the air movement phase, airborne capable units that start the turn in an airfield hex can be placed in a targeted land hex under an Airborne Assault marker along with its transport aircraft. The same number of air transport markers are required as the number of steps of the airborne unit. An exception is mechanized airborne units which require two air transports for each ground unit step. Both the aircraft and airborne unit are open to attack by defensive CAPs and air defense units during Air Combat when that hex is selected for combat adjudication. If the transport survives air combat, then the transport is returned to base and the airborne unit is considered on the ground. *See paragraph 10.15.8 for more details on Amphibious, Airborne and Air Assaults.*

6.5.12. Air Assaults. During the air movement phase, air assault capable units that start the turn in an airfield or LHD/LHA hex with an air assault capable transport can be placed in a targeted land hex along with its transport aircraft. The same number of air transport counters are required as the number of steps of the air assault unit. Both the aircraft and air assault unit are open to attack by defensive CAPs and air defense units during the Combat Phase when that hex is selected for combat adjudication. If the air unit survives air combat, then the air unit is returned to base and the air assaulted ground unit is considered on the ground. *See paragraph 10.15.8 for more details on Amphibious, Airborne and Air Assaults.*

6.5.13. Expeditionary Aviation Operations (or, Agile Combat Employment (ACE)) [Optional Rule]. As determined by special scenario rules, a side with the capability to conduct expeditionary aviation operations may place aviation squadrons in non-airfield hexes, thereby requiring a detection attempt by adversary forces. STOVL, rotary wing and tilt rotor units can operate from any non-mountain, non-forest hex. Fixed wing can operate from major highways with a plausible section of road that can serve as a 6000 foot runway. Use a 7 as a default target number for detection attempts with theater or local ISR unless specified otherwise in special scenario rules. Additionally, place a Defense +1 marker on those air units to enhance their defensive capabilities. Given engineer unit support, a Defense +1 can be flipped to Fortified +2.

6.6. SOF Employment. Special Operations mission counters are placed in a targeted hex during the SOF Employment Step. In the basic game rules, they do not require a means of insertion to be identified or declared, this is assumed. *[Note: In optional advanced rules, players may impose insertion constraints.]* If placed in a hex that is considered under adversary control then an immediate roll is made to determine if the unit was detected upon insertion. This is rolled with a D8 and the insertion fails if the result is equal to or greater than the local detection value of the SOF unit (usually an 8). This roll may be promoted or demoted depending on the context and associated factors (such as the number of units in the hex, the presence of opposing SOF, or the surrounding terrain). Failed missions are placed in the Regeneration Box.

6.6.1. SOF Missions. See the chart on the following page for potential SOF employment missions. This can be expanded or modified based on player intentions. <u>SOF missions are adjudicated once both sides have placed their SOF missions</u>.

6.6.1.1. SOF Direct Action (DA). When SOF does a DA attack, it must first pass a local detection check for compromise (this is in addition to a detection roll done upon SOF insertion). A D8 is rolled for detection (promoted or demoted depending on the situation). If compromised, the SOF unit's attack is unsuccessful and it is removed from the map and placed in the Regeneration Box where it can be re-activated at the end of the turn in the Regeneration Phase. A SOF unit can conduct DA against ports, airfields, air units, Headquarters, Air Defense, Artillery, Missile units, ammunition depots, and ships located in port. If the SOF unit passes the compromise check, then a die roll is made using the SOF's attack capability versus the defensive capability of the target. A successful DA attack results in one step loss to the target. If the defense number of the target is doubled, then the attack results in 2 step losses.

6.6.1.2. SOF Regeneration. During the Regeneration Phase, roll a 1D4 to determine how many SOF missions are regenerated. The number rolled equals the number missions regenerated. For each SOF mission selected, roll another 1D4 and place the SOF on the Turn Track that many turns ahead. If a 1 is rolled, then the SOF unit can be back in play in the next SOF Phase. This method must be adjusted if the turn duration is extended.

SOF Mission	Target	Remarks
Strategic Reconnaissance	Any Hex	Enable detection of units in the target hex
Target Acquisition	Any Unit	Promote a missile or air strike on targeted unit
Direct Action	Raid on HQ	Potential to destroy targeted HQ. Must detect.
	Raid on Squadron	Potential to inflict step loss on targeted squadron
	Raid on Missile Unit	Potential to inflict missile salvo loss on target (1D4)
	Raid on Radar	Potential to destroy radar on targeted unit
	Sabotage Port	Potential to inflict damage on port
	Sabotage Airfield	Potential to inflict damage on airfield
	Sabotage Ship	Potential to sink ship targeted in port
	Sabotage ASP	Potential to destroy ASP (1D6 damage)
	Sabotage Bridge or Rail	Potential to destroy a bridge or rail line
	Support Ground Attack	Support a regular ground unit's attack on threat forces. Promotes or demotes single die roll

7. IO/Cyber/Space Phase

7.1. Overview. In OWS, Information Operations (IO), Information Warfare (IW), and Operations in the Information Environment Operations (OIE) are used interchangeably in reference to information related capabilities. The token is referred to as the IO Token, understanding that there are important doctrinal differences between these terms across various services and countries. In the IO/Cyber Phase, players apply effects using a combination of IO Tokens and Cyber Cards. Players allocate these effects and place tokens on the map in either defensive or offensive modes. IO Tokens regenerate every turn while Cyber Cards are one-time effects and are removed from the game after their use.

7.2. IO Token Placement. Players plan their IO and Cyber actions and note them secretly before placing them on the board. These are placed on the map face down so as not to indicate to the other side player intentions. These tokens are revealed when needed to support adjudication**.**

7.2.1. Information Operations Tokens. IO Tokens can be applied in the IO/Cyber Phase in an offensive manner to degrade or disrupt opponent capabilities. Or, they can be placed to protect communications or to disrupt detection. IO tokens can also be placed in the Combat Phase to support an attack, such as with the SIGINT/EMSO token.

7.2.1.1. *Disrupt C2.* This is an offensive capability which attempts to disrupt or deny threat communications capabilities. This is placed against a specific threat unit or capability. If the targeted unit is undefended (i.e. no Assured C2 capability placed in support of it) then roll the Disrupt C2 attack die versus the targeted unit's red shield defense number. If the unit is defended with an Assured C2 token, then the die roll must be made against the Assured C2 defense first. If the Disrupt attempt equals or exceeds the Assured C2 defense number, then the attacker must then roll again versus the red shield of the targeted unit. If the result is equal to or greater than the red shield number then the targeted unit's capabilities are disrupted. The specific disruption effect varies by unit type. A HQ unit cannot generate IO tokens or a Main Effort. <u>Ship, artillery, rocket, missile, and air defense units with Disrupted C2 cannot fire</u>. Aircraft missions are demoted. Space functions on the Space Dashboard are demoted. If multiple Disrupt C2 tokens are placed on the same capability, such as Theater ISR, then it is demoted multiple times.

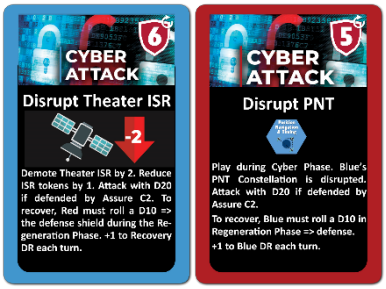
7.2.1.2. *Assure C2.* This is a defensive capability intended to protect units from a Disrupt C2 attack. If placed on a unit that is not attacked by a Disrupt C2 token, then there is no effect for the turn. If it is placed on a unit or capability that is under a Disrupt C2 attack, then adjudicate the outcome in the same way as missile defense. The Assure C2's grey shield becomes an extra layer of defense that must be defeated before rolling against the target's red shield.

7.2.1.3. *SIGINT & EMSO.* This is an offensive IO capability placed on a targeted threat unit during the IO/Cyber or Combat Phase to promote detections and attacks against a targeted unit. All

detection attempts and attacks against the target unit are promoted. This effect can be countered with Active & Passive Countermeasures that cancels out the effect without need for a die roll.

7.2.1.4. *Active & Passive Countermeasures.* This is a defensive IO capability placed on a unit to enhance avoidance of detection and to enhance survivability. Both detection and strike rolls against this unit are demoted. This demotion effect can be canceled with a SIGINT/EMSO token. In fires related actions, when targeted with artillery, air strikes, or missiles, the first step loss is incurred against this IO token which is then removed. This absorbing of a hit does not apply to ground combat.

7.3. Offensive Cyber. Cyber attacks are represented in the game using Cyber Cards. Individual scenario rules dictate how many cyber cards each side has. Typically, players select three Cyber Cards at the beginning of the scenario. These do not get regenerated during the course of game play. The remaining Cyber Cards are permanently discarded from the scenario.



7.4. Nuclear Strikes. A Tactical Nuke token is included in the game. If authorized by the scenario rules, players have an enduring Tactical Nuke Strike capability that immediately destroys the targeted counter when played. The token is returned to hand and can be employed in the next Combat Step. The tactical nuke marker is flipped over to its radiation side and remains on the map. Any ground combat into or out of that hex is demoted twice.

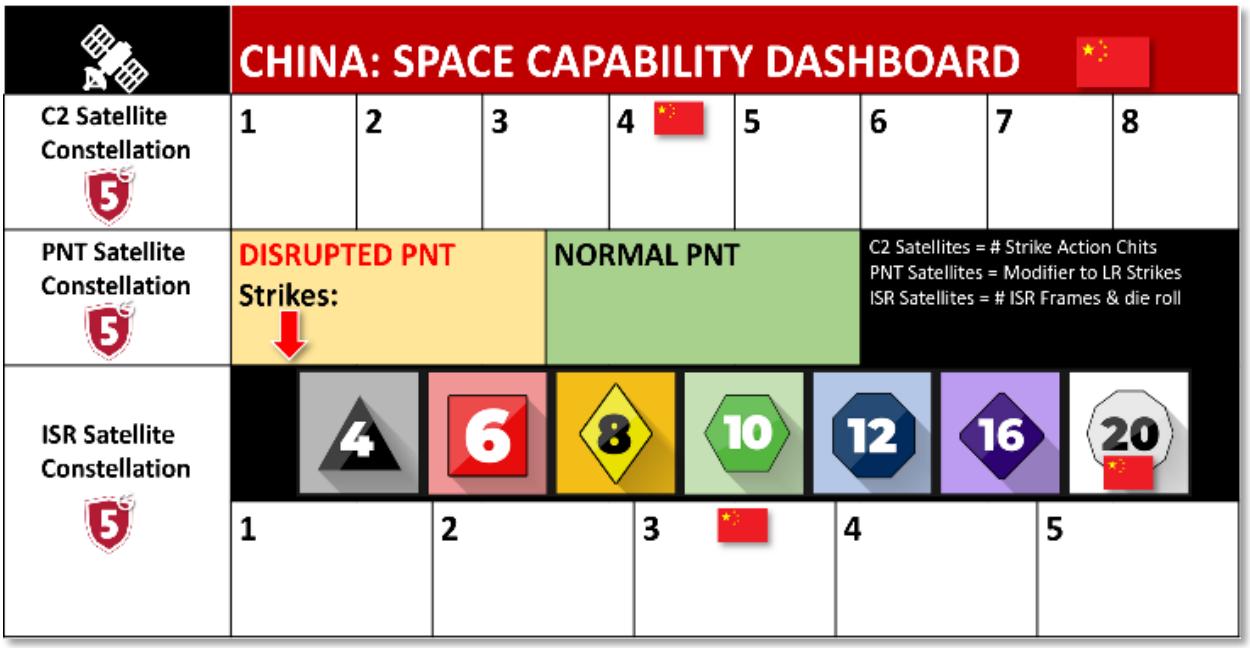
7.4.1. Fallout and Radiation Plume. For nuclear strikes on tactical game maps (20km or less per hex), players determine wind direction using a 1D6 or real weather patterns. Place an additional radiation counter in the downwind hex. This represents the radiation plume from nuclear fallout and causes a double demotion to combat in that hex. This is removed in the next turn's Regeneration Phase.

7.5. Space Capability Dashboard. After IO and Cyber Cards have been played, then the game facilitator adjudicates any impacts on space capabilities by referencing the Space Capability Dashboard. All Disrupt C2 or Cyber Cards that impact space related capabilities are adjudicated and their effects are applied for the remainder of the game turn.

7.5.1. C2 Satellite Constellation. This number represents an aggregate of each side's overall command and control network status and determines how many long range strike actions each side may conduct during the Combat Phase (determined by an I-GO-U-GO mechanic or by chit draw).

7.5.2. Position, Navigation, and Timing Satellite Constellation. This represents each side's PNT constellation and can be targeted. There is a normal mode with no effect and a disrupted mode which causes a <u>demotion to all strikes extending beyond one hex</u>.

7.6. ISR Satellite Constellation. This is represented by two rows. The top row is used to define the capability level (i.e. detection die roll) while the bottom row determines the number of ISR pawns that each side can employ. Both can be targeted by Disrupt C2 and protected by Assured C2. When targeted, the attacking player must assign the Disrupt C2 effect against either the capability level (i.e. the ISR die roll track) or the capacity level (i.e. ISR pawns). One Disrupt C2 token effect cannot demote both simultaneously.



8. ISR Phase

8.1. Overview. There are two types of ISR and detection – Theater and Local. Each player receives a limited number of Theater ISR pawns which can be employed anywhere on the map to detect adversary units. All other detections are made by the units on the map, which is referred to as local detection.

8.2. Theater ISR. The number of Theater ISR pawns each player can employ is identified on the Space Capability Dashboard. The quality of that ISR capability is indicated by a marker on the dice scale on the Space Dashboard.

8.3. Unit Signature Types and Detection. A unit's signature type (*High Signature* represented by a satellite symbol with a number on it or *Low Signature* represented by a sensor symbol with a number) determines what type of detection method is used to detect it.

8.3.1. Fixed Installations. Units at air bases and permanent Ammunition Supply Points are considered fixed units or installations and thus always detected. The opposing side may always attack these units without a preceding detection attempt. While not represented by a counter, ports and airfields are also considered fixed installations, subject to attack without additional detection effort.

8.3.2. High Signature Units. By default, most ground, air, and surface naval units are considered high signature. They are designated as such with a High Signature Detection symbol that looks like a satellite. Naval and air units are automatically detected by the opposing side when they occupy the same hex as enemy naval and air units (unless they are low signature).

8.3.2.1. Ground Unit Detection. Ground units with the theater detection symbol on them (usually a value of 7), are automatically detected on tactical maps when in the adjacent hex of an adversary unit. If in the open, and an ISR asset is placed within range to detect, then they are automatically detected. If they are in covered terrain (forest, hills, mountain, urban) then a die roll is made to determine detection provided a sensor is in range to detect. If a light infantry unit is in urban terrain or forest, then the detection attempt is demoted.

8.3.3. Low Signature Units.
Submarines, Stealth Surface Vessels, Stealth Fighters, Stealth Bombers, and Special Operations Forces (SOF) are considered Low Signature units and are designated with a Local Detection symbol that looks like a sensor screen. In most cases, these units may only be detected by enemy units with a matching attack capability.

EXAMPLE: Only surface naval vessels and ASW aircraft with an anti-submarine attack value may attempt to detect enemy submarines. SOF units may attempt detection of other SOF units.

8.4. Theater Detections. When adjudicating detections, roll the die equivalent to the Theater ISR level of the side attempting the detection and match it against the indicated value on the targeted unit. If the roll is equal to or greater than the number, then the unit is detected.

8.4.1. TACSIT 1. When a unit is detected, a TACSIT 1 marker is placed on the unit to show that it was detected and can be targeted in combat. Alternatively, detected counters can be flipped face up while non-detected remain in a "masked" face down status on their "Unknown" side.

8.5. Local Detections. Units on the map may attempt to detect other units with a Local

Detection attempt. This represents visual or sensor detections (such as radars and sonars). When units with a theater ISR value are in the same hex as other like units, then detection is generally automatic. But, for low signature units, a detection roll is always required.

8.5.1. *SOF Special Reconnaissance (SR).* To replicate SR capabilities, SOF have a die roll promotion that can be applied in the ISR Phase to enhance detection against a specified target, such as an artillery or HQ unit. This die roll promotion can also be applied in the Combat Phase to promote Strikes against the same designated target if the detection was successful. SOF mission counters can only apply this capability against one targeted unit per turn. When SOF use this capability, a compromise check is conducted (usually a d8 roll).

8.5.2. *ASW Capability and Local Detection.* A red submarine silhouette on a counter with a corresponding die indicates the unit can detect and attack submarines. If the unit is in ASW mission mode, then it can roll (with any appropriate modifiers) to attempt a local detection of a submarine. This same die is also rolled when attacking an identified submarine. If there is no submarine symbol then the unit cannot detect or attack submarines.

8.5.3. *Cooperative Sensing.* Multiple units with similar sensing capabilities can be combined to increase the probability of detection. When multiple assets are working in tandem, rather than rolling multiple dice, combine them into one detection roll by promoting the highest sensor. <u>For ASW operations and when sensing stealth aircraft, do not promote the detection roll higher than a D12</u>.

8.5.4. Contested Air ISR Situations. When a situation emerges where one side is attempting to penetrate defensive counter air patrols or air defenses in order to obtain a detection of surface targets, first resolve the detection of the ISR asset by the defender (in most cases such a platform is a stealthy drone). If detected, then immediately resolve the air engagement by defending assets. If the ISR asset is shot down, then only those assets which engaged are considered detected. If it is not shot down, then it may attempt local detections per normal rules.

8.6. Adjudicating ISR Detections. When adjudicating ISR detections, except for Contested Air ISR Situations, the actual sequencing does not matter. Below is provided as a guide:

a. **Resolve Contested Air ISR Cases (This must go first)**
b. **Resolve all Theater ISR Detections**
c. **Resolve all ASW Detections**
d. **Resolve all Submarine Detections**
e. **Resolve all AEW / Stealth Detections**
f. **Resolve all SOF Detections**
g. **Resolve all UAS Detections**
h. **Resolve all local detections**
i. **Resolve all Ground Unit Detections**

8.7. Finalize Strike Plans. After all ISR adjudication, players assess detected Target Areas of Interest (TAIs) and finalize their SEAD and Strike Warfare plans, determining priorities and attack sequence.

DESIGN NOTE: This Finalize Strike Plans step in the turn sequence is particularly important to ensuring players execute strike actions in a manner consistent with their plans and not merely in a reactive manner. Recommend allocating at least ten to fifteen minutes for each side to review detections and availability of long-range strikes so they can then adapt and confirm their strike plans for the turn.

9. Combat Phase

9.1. Overview. The Combat Phase is sub-divided into three major segments: Air Combat, Strike Warfare, and Ground Movement-Combat.

9.2. Layered Air Defense. Gray shield symbols represent consumable anti-air missiles. An attack against a unit must first defeat any gray shields applied to its defense before engaging the unit's enduring defense capability (i.e. its red shield). This defensive protection can be extended to any unit inside an air defense unit's missile range but can only be applied once per turn per gray shield. This means that an attack salvo intercepted by air defense has to succeed twice to obtain a hit. It must first roll against any gray defensive shields then, if successful, roll again against the red shield of the targeted unit. If that die roll equals or exceeds the target number then a hit is adjudicated.

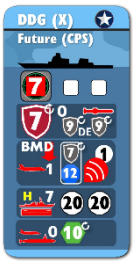
9.2.1. Shot Calculus Decision. For missile salvo engagements, the attacking player assigns missile salvos against specific targets. Then the defending players must declare their shot calculus decisions prior to the attacker rolling dice by allocating available grey air defense shields to defend specific assets. The defender declares which shields are defending which targeted units. If matched on a 1:1 basis to an inbound salvo, then the missile salvo must defeat the defense value of the gray shield before it is applied against the red shield of the targeted unit.

9.2.1.1. Excess Shields – Demote [Basic Rule]. For each additional gray shield allocated by the defender in excess of an inbound salvo, an attack die roll is demoted. For example, if five gray shields are committed versus three inbound D10 missile salvos, then two of the salvos are demoted to D8s.

9.2.1.2. Excess Shields – Layered [Advanced Rule]. An additional gray shield allocated by the defender versus an inbound salvo adds a new defensive layer that an attacking salvo must penetrate. The maximum layering is two shields per inbound missile salvo.

EXAMPLE: If five gray shields are committed versus three inbound D10 missile salvos, then two of the missile salvos must roll twice to successfully penetrate the two grey shields facing them before they can roll against the enduring red shield. The missile salvos are not demoted as they are in the basic "Demote" rule.

9.3. Rail Guns and High Energy Lasers (HEL). Rail Gun and HEL capabilities are represented by either an increased basic defense capability (red shield) or by a gray shield that can regenerate. Note the DDG(X) example to the right.



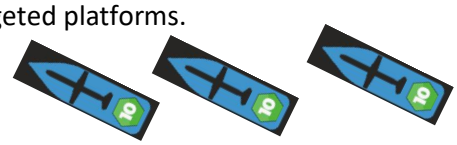
9.4. Fires Versus Ground Units. For strikes against ground units, the Fires Effects Table is consulted to determine whether or not a hit or suppression result is adjudicated. Terrain and the type of target may require that multiple hits be scored before effects can be applied against a ground unit.

9.4.1. Missiles versus Ground Units [Optional Rule]. Ground maneuver units (i.e. infantry and tank brigades) cannot be destroyed by conventional cruise, ballistic and hypersonic missiles. They can lose steps and suffer suppression effects but cannot lose their last step to such a strike.

9.5. Generating Missile Salvoes. When players fire missile salvoes, they cross out the appropriate die symbol with a dry erase marker to show expenditure. The

appropriate missile salvo marker is then placed on the map next to the intended target.

EXAMPLE: A ship with three green D10 symbols can generate three D10 salvo counters that are allocated against targeted platforms.



9.6. Applying Damage. A single step unit is removed from the game board to either the Regeneration Box or the Attrition Box when it is hit. When there are multiple hit boxes, cross off boxes from top to bottom and right to left. Thus the top right box is crossed off first, followed by the bottom right box, then the top box on the next column, and so on.

9.6.1. Damage to Naval Vessels. Multi-step ships that sustain damage but are not sunk suffer a suppression effect that knocks them out of combat and air operations for the remainder of the turn in which they are struck. Strikes from that ship cannot be generated and an aircraft carrier's air missions are sent to the Regeneration Box where they roll in the Regeneration Phase to determine if they can be launched in the next turn with the number of air missions constrained by the carrier's remaining capacity.

9.7. Air Combat Step. The game facilitator determines the sequence of which hexes are resolved first for air combat.

9.7.1. Air Combat Sequence and Advantage. In the Air Combat Phase, when air combat is initiated, players match up engaged CAP, OCA, and DCA fighters to determine if one side has advantage in the number of air superiority missions in the air battle. For the side with excess air superiority missions (CAP, OCA, DCA), those fighters may either double up on opposing fighters or may engage other air targets such as the opposing side's High Value Airborne Assets (HVAA) (AEW, Tankers, and Bombers) or other air missions conducting Strike, CAS, SEAD or Interdiction missions as long as they are within range and detected.

9.7.2. Air Platform "Best Die" and the Sequence of Adjudication [Optional Rule]. As an optional rule, adjudicate air combat in each step with the **"Best Die"** platform rolling first and applying their effects before rolling for the next platforms that have lower die capabilities. This optional rule is unique to air-to-air combat.

EXAMPLE: During the In-Hex Air-to-Air Combat step, air units with a d12 attack capability would fire and apply effects before those with a d10 or d8, and so on.

9.7.3. Air Combat Sequence. When adjudicating air combat, do so in the following step sequence with results adjudicated by step, but within each step the results are simultaneous:

Step 1. Stand Off Air to Air. Resolve all long range (1 hex range) air to air missile engagements.

Step 2. Stand Off SEAD Strikes. Resolve SEAD strikes with a range of 1 or more whose range exceeds that of defending air defense systems. Note: SEAD strikes against targets that are emitting count as local strikes regardless of the range. If a SEAD target is not emitting, strikes against it consume one long range strike allocation from the C2 function on the Space Capability Dashboard (one strike allocation applies to all SEAD targets in a single operational map hex).

Step 3. Long Range Air Defense. Resolve long range (range of 1 or more on

operational map) air defense attacks versus air units. This includes both shipborne and ground-based air defense capabilities.

Step 4. In-Hex Air-to-Air Combat. Resolve all in-hex air-to-air combat. The player with the greater number of CAP, OCA, and DCA fighter missions lines up air combat missions by shooter and target and rolls to determine results. Then the other player declares air-to-air targets and rolls. Then apply the results of both sides' air-to-air attacks. For air missions such as CAS, SEAD, and Interdiction, they may only make defensive air-to-air die rolls versus the air mission that is attacking them. Such defenders have their air-to-air die roll demoted.

Step 5. **Transition Air to Tactical Map**. If a tactical map is being used, surviving Interdiction, SEAD, Strike, CAS and Transport missions that are in the corresponding hex or Air Battle Board on the operational map transition to the tactical map and are allocated to specific zones (the yellow 50 NM / 100 KM hexes).

Step 6. In-Hex SEAD. Align in-hex SEAD missions versus air defense targets. If the SEAD's strike munitions have standoff (i.e. can fire with impunity based on an analytic comparison of the munition's max effective range versus the max effective range of the defending air defense unit's sensors and missiles), then resolve the attack without the aircraft getting engaged. If the attacker cannot achieve standoff versus the air defense unit, and the air defense unit decides to engage versus the SEAD, then adjudicate the die rolls simultaneously. If the SEAD mission has a red down arrow on it, then demote the air defense engagement.

Step 7. Air Defense Engagements. In the final round of air combat, surviving air defense units with unexpended munitions may engage any aircraft that are in range.

9.7.4. Air Combat Results. When aircraft mission counters are hit, they are removed from the map and placed in the Regeneration Box where they can be regenerated at the end of the turn in the Regeneration Phase.

9.7.5. High Density Air Combat – Air Battleboards. On Tactical Maps, when used in isolation from a Theater Map, such as the tactical maps for Norway, the Baltics and Taiwan, given the density and complexity of air operations, a Battleboard is used to streamline the adjudication of air combat. During the Air Movement Phase, players place air missions and long range surface to air capabilities in the appropriate box on the Air Battleboard. The center hex on the Battleboard represents the skies directly above the main battle area on the tactical map. The adjacent boxes are used to array stand-off and support aircraft and air defense capabilities. Once arrayed, combat is adjudicated per the air combat sequence in paragraph 9.7.3.

9.8. Strike Warfare Step. In this step, players take turns conducting strike actions in a sequence determined by initiative chit draw, decision card, or an I-GO-U-GO method. The number of long-range strike actions each side can take is determined by the number on the C2 Constellation on the Space Capability Dashboard or by special scenario rules. When a strike action is taken, a player declares a target hex and then declares all strikes (both long-range

and local) that will occur in that target hex by generating munition salvos from any capability within range and aligning them against their designated target (i.e. sourcing from "many" hexes to target "one" – or **the "Many-to-One Strike Rule."**).

9.9. "One-to-Many" Strike Rule [Optional Rule]. As an optional rule, players can alternatively choose to strike many targets in multiple hexes with fires sourced from a single hex (i.e. the "One-to-Many Strike Rule" variation).

EXAMPLE: The US player decides to fire the Ohio SSGN's 18 Tomahawk missile salvos generating 18 salvo markers and allocating them against up to 18 targets in multiple hexes. This, and any additional fires sourced from the same hex, would constitute a single long range strike action.

9.9.1. Strike Warfare: Long-Range Strikes and Local Strikes. Players first resolve strikes in hexes involving long-range strike actions. When adjudicating these strikes, this should include those local strikes associated with the declared target hex. After all long-range strike actions (and any associated local strikes) are resolved, then adjudicate all additional Local Strikes, by initiative and by hex. "Local" is defined as confined within a single hex or a plausible local kill chain not reliant on higher headquarters coordination represented by the C2 function on the Space Dashboard. [Exception: Naval surface-to-surface engagements into an adjacent hex are considered local strikes.] Local strike actions are resolved simultaneously with the defending side able to fire back.

9.9.2. C2 Capability and the Number of Strikes. The number of long range strikes each side may execute is constrained by that side's corresponding C2 capability as portrayed in the Space Capability Dashboard. For example, if a side's C2 Constellation is on the 6 box, then that side may conduct 6 long range strikes.

9.9.3. Sequencing Strikes. Prior to game start, players determine what method to use to adjudicate the Strike Sequence. This may be a simple I-GO-U-GO method. Or, a chit draw system can be used. In the chit draw method, place the number of chits into a cup that corresponds with each side's C2 capability. Then randomly draw for the sequence of play. As each chit is drawn, immediately resolve that player's declared strike action. Then draw the next chit to determine who gets the next action. Continue until all chits are drawn.

9.9.4. Missile Attacks. A missile strike may NOT be conducted against targets that have not been detected.

9.9.4.1. CAPs Intercepting Missiles. When resolving combat in a hex, if a CAP (Defensive Counter Air) was un-engaged in air combat, it may intercept threat missile and loitering munition salvos. This is treated as an in-hex air-to-air engagement with sub-sonic cruise missiles defending with a 5 shield and super-sonic missiles with a 7 (Note: Use these default values unless otherwise specified by markings on the counter or special scenario or house rules). A single CAP can engage a single inbound missile salvo. CAPs cannot intercept hypersonic or ballistic missile salvos.

9.9.4.2. Missile Launches and TACSIT 1. Anytime a ship or ground unit fires a missile, it is immediately placed in a TACSIT 1 status and is considered detected.

9.9.4.3. Submarine Missile Attacks. When a submarine uses its organic missiles to strike land or surface targets, any airborne ASW assets in that same hex may immediately roll for a local ISR detection of

the submarine. This cannot be combined with other assets. If detected, then the submarine is turned face up and a TACSIT 1 marker is placed on the submarine. ASW assets in range may then immediately be used to attack the submarine. The submarine missile attack that triggered this sensing opportunity is adjudicated regardless of the outcome of this ASW engagement.

9.9.4.4. Modifiers to Missile Attacks. Consult the chart on the next page for additional modifiers that may be applied in missile engagements.

9.9.5. Submarine Torpedo Attacks. When a submarine attempts a torpedo attack against a detected surface ship, it follows the following sequence:

9.9.5.1. Step 1. Remove Silent Running. If the sub was in a silent running posture, remove the silent running status since the sub is now maneuvering into an attack position.

9.9.5.2. Step 2. Check & Resolve ASW Screen. If the ASW Screen rule (6.4.4.1.) is in effect, then resolve ASW detection and its possible attack. If the sub is detected and survives then it must abort the attack and evade. [DESIGN NOTE: The presence of multiple ASW platforms imposes a sequential adjudication – ASW Attempt then Torpedo Attack. If there is only one ASW asset, then the adjudication has simultaneous effect. This is the key distinction of the ASW Screen rule.]

9.9.5.3. Step 3. Check & Resolve Target or Single ASW. If there was no ASW Screen, then the effects of ASW and the sub attack are simultaneous. The single ASW asset rolls for ASW detection <u>if it is in an active ASW status</u>. If successful, then it prosecutes an ASW attack versus the sub. The effects are resolved as simultaneous to the submarine's torpedo attack of Step 4. Note: This is <u>not</u> a second attempt by the targeted unit if its ASW detection capability was factored into an ASW Screen.

9.9.5.4. Step 4. Torpedo Attack. The sub rolls <u>**one die**</u> for its torpedo capability versus the red shield of the targeted ship. The critical hit rule applies. If the die roll equals or exceeds the red shield number of the target, then apply the appropriate number of hits (1 hit if equal to or greater, 2 hits if the die roll doubles the shield, 3 hits if the die roll triples the shield…).

9.9.5.5. Step 5. Submarine Re-Attack Opportunity. <u>If the submarine player scored a hit</u> and wants to either re-attack the targeted ship or attack another target in the same hex, then they can declare a second attack. Play now enters an I-GO-U-GO adjudication that is sequential with the ASW detection going first with a gained die promotion up to a maximum of d12. Additionally, any ASW capable platforms in the hex are considered in an active ASW status now regardless of their status previously. If the sub is detected and survives the ASW attack, then it must abort and evade. However, as long as the sub remains undetected <u>and</u> continues to score hits, it can continue to conduct attacks with the ASW platforms gaining a die promotion each time up to a maximum of d12. The moment a torpedo attack fails, the submarine must break off the engagement.

9.9.5.6. SSK Limitations. An SSK may only initiate a torpedo attack if it starts the Combat Phase in Silent Running posture.

9.9.6. Strikes versus Ground Units. Strikes versus ground units are resolved using the Fires Effects Table on page 32.

9.9.6.1. Air Strike. As part of a declared strike action, players can incorporate any on-call strike packages that were formed in the Air Strike Prep step. Once the air strike is declared, the player moves the air strike to

a launch point and potential air intercepts are dynamically resolved. If the air mission survives intercepts to arrive at its launch basket then the strike against the targeted unit is resolved.

9.9.6.2. Air Strikes: Movement and Intercept Procedure. Air units being used to conduct a strike trace and show their route to their weapon launch point. Declared fighter escorts that have been unengaged up to this point in the turn can conduct a Fighter Sweep in advance of the strike mission provided they do not violate fuel constraints. If a defensive CAP is in range of the air strike as it moves, it may attempt an intercept provided it has a detection opportunity (i.e. an active radar in range or it is in the same hex as the bomber). Any fighters that survived the air combat round and are in uncontested airspace may be

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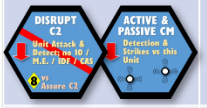
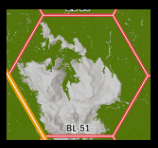
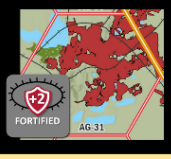
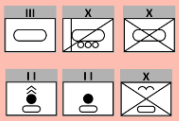
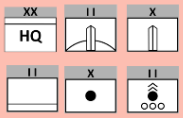
Attack Modifiers

Status	Adjudication	Remarks
AEW Support	**Enhances Defense against Anti-Ship Cruise Missiles** Double demotion applied to inbound cruise missile salvos	If within 1 hex of defended assets and on or adjacent to the missile flight path, then all inbound cruise missiles are demoted two levels if defending ships are expending air defense missile shields in defense. Note: Not applicable to hypersonic or ballistic missile attacks.
	Air Control Enhances Air to Air Combat AEW platforms promote fighters in air-to-air combat	As long as the fighters are within the sensing range of the AEW platform.
CAP Support	**Fighter Defense against Cruise Missiles** Note: Not applicable to hypersonic or ballistic missile attacks	If on missile path, then each combat air patrol can engage a missile or loitering munition salvo in in-hex air-to-air combat. Sub-sonic missiles defend with a 5 shield, supersonic defend at a 7.
Ship's Air Defenses	**Air Defense Shields** Targeted ship and other ships in same hex may apply shields	Applied on a 1 to 1 basis against inbound salvoes to assume defense # in shield. Excess shields applied demote a salvo [Basic]. Excess shields (max 2 per salvo) add another defense layer [Advanced].
	Long Range SAMs Can engage threat aircraft. Can be BMD defensive "shields" to demote ballistic missile salvoes.	Consume in air combat to strike at air missions in same or adjacent hex. Or, can be used to defend vs ballistic missiles on a 1 to 1 basis with defense value 6.
	SIGINT & EMSO **SEAD**	SIGINT/EW enablers promote strikes. SEAD demotes SAM attacks.
	**Disrupted C2** **Active & Passive CM**	Disrupt C2 denies AEW spt and prevents missile attacks if successful Active/Passive CM demotes attacks & takes first hit
Ballistic Missiles	**vs BMD Defender**	Ballistic Missiles can only be intercepted (grey shields) by BMD capable units
	No BMD Defender	Ballistic Missiles target enduring defense # of the targeted unit (Red Shield)

applied to intercept the strike package – thereby giving them the opportunity to engage twice in the same turn. Any interceptors are applied 1:1 versus escorting fighters. If interceptors exceed the number of escort fighters, then the excess fighters may directly engage the strike aircraft. Once fighter to fighter combat is resolved, if the interceptors overcome the fighter escorts, they may proceed to engage the strike aircraft. If the strike aircraft survives this detection and attack sequence, then movement to the launch point continues. Movement through follow on hexes could trigger another round of air combat as the strike aircraft seek to penetrate defending aircraft and air defenses to arrive at a missile release point. The strike against the intended target is resolved once the strike aircraft arrive in their weapon release hex.

9.9.7. Targeting Infrastructure: Ports, Airfields Railways, Fuel, ASPs. Infrastructure can be targeted by missile salvos, air strikes and SOF attacks. The standard defense factor for an airbase, port, and rail is 3 unless marked otherwise on the map or a counter. For each step loss incurred, add one damage to the infrastructure. For fuel and Ammunition Supply Points (ASPs), for each hit, roll 1D6 and reduce the number of missile salvos or fuel by that amount. Damage at airfields and ports reduces their operating capacity. For airfields, this reduces the number of air missions it can generate and support with fuel. If the operating capacity of an airfield or port is reduced to zero then it is out of action and cannot perform any actions until repaired.

FIRES EFFECTS TABLE

TARGET	OPEN	FOREST	MOUNTAIN 	URBAN 
Armor 	1 hit Suppress **Each additional hit = a step loss**	**2 hits Suppress Each additional hit = a step loss**	1 hit Suppress **Each additional hit = a step loss** **Air PGM Fires Promoted**	**2 hits Suppress Each additional hit = a step loss** **Air PGM Fires Promoted**
	Counter Fire Missions			
Infantry	1 hit Suppress **Each additional hit = a step loss**	**2 hits Suppress Each additional hit = a step loss**	**2 hits Suppress Each additional hit = a step loss**	**2 hits Suppress 3rd = Step Loss Every other hit is a step loss (@3, 5, 7, etc.)** **Hardened Target**
HQ, Artillery & Missiles 	**1 hit = step loss (& Suppress)**	1 hit Suppress **Each additional hit = a step loss**	1 hit Suppress **Each additional hit = a step loss** **Air PGM Fires Promoted**	1 hit Suppress **Each additional hit = a step loss** **Air PGM Fires Promoted**
	Counter Fire Missions			

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10.Ground Movement & Combat

10.1. Overview. During this portion of the turn, players conduct ground movement and combat.

10.2. Initiative. Prior to the game start, determine what method will be used for ground initiative. There are several possible approaches:

10.2.1. Ground Initiative By Side. In this method, one side moves and conducts combat for all of their ground forces then play shifts to the other side for their ground movement and combat.

10.2.2. Ground Initiative using I-GO-U-GO by Formation. Using this method, players alternate moving one Div/Corps/Group Army/Front formation of their choice and alternate turns until both sides have actioned all their units.

10.2.3. Ground Initiative using Random Unit Chit Draw. Place the unit counter for all "in play" blue and red divisions, corps, and group armies in a cup and draw to determine the sequence of unit activations. Resolve movement and combat for an "activated" unit then draw another unit chit. Only counters associated with the activated unit may be employed (task organization is determined formally or informally in the planning phase).

10.2.4. Ground Initiative using <u>Planned</u> Unit Activation with Random Chit Draw. In this method, players determine in the Planning Phase the sequence of unit activations for their side. This sequence is noted for later reference in the Ground Step. If their senior HQ and subordinate HQs remains undisrupted, then in the Ground Step that side may activate units in the planned sequence, one HQ at a time, with the sequence between sides determined by random chit draw. If a HQ is either destroyed or in a disrupted status then its unit activation is shifted to the end of the activation sequence and determined by random draw for all disrupted or destroyed HQs.

10.2.5. Decision Cards. Some Decision Cards, such as Planned Offensive, enable a side to seize the initiative and dictate the sequence of some unit activations. If both sides play the same card, then an opposed die roll determines whose card goes first.

10.3. Ground Sequence of Play. The ground sequence of play is the following:

Ground Phase
1. Decision Cards (All)
2. Organize (All)
2.A. Reserve / Task Org
2.B. HQ Effects (ME & IO)
2.C. Missions (Air & Grnd)
3. Initiative Determination
3. Actioning <u>Unit</u>:
3.A. Conduct Prep Fires
3.B. Consume Fuel Points (Adv.)
3.C. Move & Declare Combat
3.D. Allocate Supporting Fires
3.E. Conduct Defensive Fires
3.F. Resolve Ground Combat
3.G. Exploitation Move
3.H. Exploitation Combat
4. Next Initiative Draw

1. **Decision Cards** (all sides). Both sides play Decision Cards pertaining to Ground Force initiative.

2. **Organize** (all sides)

2.A. *Reserve Designation & Task Organization*. Each side places units in

reserve status as desired and confirms task organization developed in the Planning Phase.

2.B. *Allocate HQ Effects* (Main Effort & OIE/IO Tokens). Each side places Main Effort and IO tokens associated with their ground combat HQs that have not already been played in the IO Phase.

2.C. *Assign Ground Unit Missions* (Delay, Defend). Each side places units in Delay and Defend missions.

3. **Initiative Determination - Actioning Unit:**

3.A. *Conduct Prep Fires.* Actioning unit conducts shaping fires with artillery and assigned air. Air strikes considered under the direction of tactical ground HQs can be conducted as local actions during this impulse. Artillery units that conduct Prep Fire are marked expended.

3.B. *Consume Fuel Points (Advanced Rule)*. Players consume fuel associated with unit moves.

3.C. *Move and Declare Combat.* Actioning unit's forces can move up to full movement allowance. Units in reserve status may move ½ movement points. Place the "Combat" marker on declared ground combat actions.

3.D. *Allocate Supporting Fires.* Artillery units and available Close Air Support are assigned to support declared ground combat. Mark artillery with an IDF Support marker.

3.E. *Conduct Defensive Fires.* Defending units in the zone of action may conduct defensive artillery missions against fires or maneuver units. Defender allocates supporting fires to declared ground combat actions.

3.F. *Resolve Ground Combat.* Resolve declared combat actions in attacker's choice of sequence using the Ground Combat Adjudication Table (GCAT). Calculate odds, net column shifts, and net promotions and demotions per the GCAT modifiers and table. Then roll a single die on the Ground Combat Adjudication Table. Then apply results.

3.F. *Exploitation Move* (Reserve Only or Combat Result). Attacker may commit units marked Reserve as an Exploitation Force and conduct movement up to ½ movement points.

3.H. *Exploitation Combat.* The Exploitation Force may attack into a hex and may be supported by available unexpended supporting fires. Resolve combat normally.

4. **Next Initiative Player or Unit.** Then play shifts to the next actioning unit per the initiative method in use for the game.

DESIGN NOTE: *Turn Duration in Ground War Scenarios.* In basic game rules, the turn duration is 24 hours. For protracted campaign scenarios, a lengthier turn may better model the ground war. This is particularly appropriate if an associated naval fight is limited or non-existent (i.e. the Russo-Ukraine War). But, the longer the turn duration, the more it risks improperly modeling the tempo of a campaign. One approach used with some success to model the Russo-Ukraine War is a 1 week turn with an Operational Phase that spans Strategic and Tactical Movement, IO/Cyber/Space, Theater ISR, Air Combat and Strike Warfare. This is then followed by two back-to-back 3.5 day Ground Phases to cycle through ground operations twice before Logistics & Regeneration.

5. **Security Force Battles (Advanced Rule)**. Once all regular ground combat and movement is completed, then resolve rear area actions. Identify zones where a Security Force Battle requires adjudication. Calculate any bonuses for each side and then conduct the die roll off to determine who controls the zone.

6. **Partisan Attacks (Advanced Rule).** For those zones where Partisan Forces gain control, play then shifts to resolving Partisan attacks.

10.4. Reserves. Each HQ unit in the game may designate in the Reserve/Task Org Step (2.A), any number of units to be in a reserve status.

10.4.1. *Reserve Employment.* Reserve units may only move 1/2 of their movement point allowance (rounding down) during the normal ground movement (3.C). Reserve units cannot fight in normal ground combat (3.F) unless they are the target of an attack. If attacked, the reserve marker is removed.

10.4.1.1. *Activating Reserve Units.* Reserve units may be activated (remove reserve marker) in the owning player's Exploitation Move (3.G) to conduct Exploitation Movement (1/2 of MP allowance) and Exploitation Combat (3.H).

10.4.1.1.1. Defensive Reaction Move (Optional Special Rule). During the Conduct Defensive Fires Impulse, a Defending unit may roll for a react attempt with reserve units in the defending unit's Divisional or Corps level formation. A HQ proficiency rating is designated in special scenario rules that is used to determine success. This number is on a scale of 1 to 6, with 1 as the best proficiency and 6 as the worst. The difference between a d6 die roll and the proficiency number is the number of reserve units (counters, not steps) that the defender may move up to half their movement rate. A HQ under a Disrupt C2 or Suppression status receives a minus 2 modifier on the Reaction die roll attempt.

EXAMPLE:

HQ PROFICIENCY TABLE	
US Div	2
Russian Div/CAA	4
China Grp Army	4

A US division is under attack from an actioning Russian division. In the Conduct Defensive Fires impulse, the US division attempts a reaction move by a brigade and its supporting artillery and reconnaissance units (total of 3 counters) that are in a Reserve posture. On a d6, the US player rolls a 4, leading to a result of 2 counters that can reaction move up to half of their movement allowance. The Reserve status marker is then removed. In this example, a roll of 1 or 2 by the US player would result in a failed reaction attempt.

10.5. Main Effort. During the HQ Effects step (2.B), each Division and/or Corps level HQ may designate one Main Effort (ME)(dictated by special scenario rules). The ME may be any ground unit associated with that HQ (maneuver or fires). The ME designation is considered one of six "supporting arms" modifiers which contribute to the net column shifts and dice promotions/demotions on the GCAT.

10.6. Defense Missions. During the Missions step (2.C), units which do not move may be placed in a Defense mission posture. Units in Defense receive a +1 to their organic defense value (red shield). If the unit moves, the Defense marker is removed from the map.

10.7. Fortified. Units which start the Ground Phase already in Defense <u>and</u> are co-located with an Engineer unit may upgrade their position to Fortified (+2 defense) status (flip the Defense counter). When a unit moves from under a Fortified marker, the Fortified marker stays on the map

unless deliberately removed. If a unit moves into a hex that contains a Fortified marker, it remains on top of the marker until the next turn. It may "occupy" the Fortified position on the next turn provided it does not move (place the Fortified marker on top).

10.8. Delay. During the Missions step (2.C), units may be placed in a Delay mission posture. Units in a Delay posture cannot attack.

When units executing a delay mission are attacked, they cause a die roll demotion to the attacker on the GCAT, ignore a 1 step loss result and <u>must retreat 1 hex after combat if they survive</u>. If 2 or more step losses are inflicted, then one step loss must be taken on the delaying unit but additional step losses are cancelled with the mandatory retreat.

10.8.1. Recon Units & Delay Missions. Recon units can opt to transition to a delay mission during the opposing player's turn when attacked but must declare this prior to combat adjudication.

10.9. Stacking. Ground unit stacking on tactical maps (20km/10nm Hexes) is constrained by the following rules:

a. 1 step = a battalion size formation
b. Most brigade & regiment counters are 3 step units
c. *20km Maps*. For <u>20km</u> maps, up to 9 steps may stack in a hex.
d. *10km Maps.* For 1<u>0km</u> maps, up to 5 steps may stack in a hex.
e. HQ and SOF do not count against stacking.
f. Light Infantry units in urban terrain do not count against stacking limits.

10.10. Ground Movement. There are four modes of ground movement in OWS: foot, ski, wheeled, and tracked. Units with a mix of capabilities use the least mobile capability. The base movement capability for each mode is as follows:

Wheeled = 15 points
Tracked = 10 points
Foot = 2 points
Ski = 4 points

10.10.1. Counting Movement Points. Units expend movement points based on the cost of the terrain. Cost of terrain varies depending on weather. Players consult the Movement Chart to determine the cost in movement points per hex. Units may always move 1 hex except when the chart says "NP" (Not Possible). If after moving 1 hex, a unit has insufficient points to pay the full movement cost of the next hex, then it must stop movement.

10.10.2. Disorganized Movement. Light infantry units may utilize non-standard disorganized movement (buses, cars, trucks) to use the wheeled movement rate in a turn. When doing so, they end their move with a Suppressed marker and are prohibited from attacking. The suppression marker is removed in the Regeneration Phase.

10.10.3. Zones of Control. A zone of control (ZOC) is an area of influence that extends from a unit into adjacent hexes. On 20km maps, only motorized or mechanized formations with 2 or more steps exert a ZOC. On 10km maps, any battalion size motorized or mechanized formation exerts a ZOC, and light infantry formations with at least 2 battalions stacked exert a ZOC.

10.10.3.1. *Movement into a ZOC.* When entering a hex with an adversary ZOC, a ground unit must stop movement.

10.10.3.2. *Bypass Movement.* A friendly unit occupying a hex in an opposing side's ZOC enables other units to conduct a bypass movement thru that hex to an adjacent hex

for a cost of +2 movement points (in addition to the cost of terrain). If that new hex is also a ZOC, then the bypassing unit must stop movement upon entering that hex.

10.10.3.3. *Movement from a ZOC.* Units beginning movement in a ZOC hex, may move 1 hex to an adjacent ZOC and then must stop movement unless that hex is occupied by another friendly unit thereby enabling bypass movement (10.10.3.2). In which case, a bypass movement may occur for +2 movement points. If moving into a hex without a ZOC (such as executing a withdrawal), a unit incurs a +2 movement point cost to dis-engage from the threat ZOC.

10.11. Engineers & Bridges. Engineer units count as a single step for stacking, strategic movement, and hexside limit purposes. Engineer units with the bridge symbol on them can establish a bridge across a major river. An engineer unit can establish one bridge per step. A bridge once placed on the map can be removed in the Regeneration Phase to reconstitute the bridge capability for the engineer unit. Up to 10 steps may cross an engineer bridge each turn with a +2 to movement as units cross the bridge.

10.11.1. *Unopposed River Crossing.* If the crossing site (hex) is free of enemy ZOCs, and an engineer unit moves into the hex, for +2 movement points, the engineer unit can place a bridge in that hex.

10.11.2. *Opposed Crossing.* If the crossing site (hex) is in an enemy ZOC, then a River Assault must be conducted during Ground Combat. The engineer unit must be part of the assault stack but does not count against the hexside limit. If the attack succeeds in forcing the enemy from the hex, then a bridge is placed on the map.

10.11.3. *Follow-on Movement.* The engineer unit may leave the bridge in place and continue movement. An engineer unit could place multiple bridges in the span of a turn provided it has the movement points to do so.

10.12. Engineers & Obstacles. Engineer units remaining in a hex for the duration of the ground movement impulse can emplace an Obstacle counter in that hex. An obstacle counter in a hex is a die demotion on the GCAT. Engineer units are considered one of six "supporting arms" modifiers which contribute to the net column shifts and dice promotions/demotions on the GCAT.

10.13. Combat Service Support (CSS) [ADVANCED RULES]. For games where greater sophistication is desired to model CSS constraints, players may opt to include fuel and munition consumption as part of game play.

10.13.1. CSS Units. CSS units are formed at two echelons – Tactical and Depot level, to enable stockpiling and distribution of fuel and munitions. Orders of battle vary on CSS configurations, so special scenario rules dictate how tactical and depot level units are depicted in the game.

10.13.1.1. Tactical CSS Units. Generally, Bn CSS units are used at the Tactical echelon and correspond with Brigade, Regiment and sometimes Division level CSS capabilities.

Fuel Requirements: 1 Day Turns

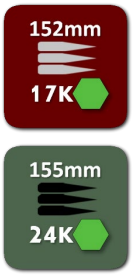
Country	Unit	Fuel Points (FP)
Rus/PRC	Mech/Tank	1 FP / Brigade
NATO	Mech/Mot	1 FP / Brigade
NATO	Hvy Armor	2 FP / Brigade
Any	Helo	1 FP / Squadron
Any	Fighter	2 FP / Squadron

10.13.1.2. Depot CSS Units. CSS counters (determined by order of battle and special scenario rules) are used to represent the Depot level CSS echelon.

10.13.2. CSS Commodities. Two CSS commodities are represented in the game - Fuel and Munitions. CSS units have the capacity to store, transport and distribute these commodities. CSS units are assigned values for how much fuel and munitions they can store, transport and distribute. These capacities are not interchangeable, meaning, for example, that fuel numbers cannot be reduced to increase munition capacity.

10.13.2.1. Fuel Points. Fuel Points are used to enable tank, mechanized and motorized ground units and air units to move. Consumption rates from turn to turn vary based on turn duration and unit types and are dictated by special scenario rules. As a rule of thumb, 1 point of fuel = ~30K gallons of fuel. For one day turns (i.e. one day of combat operations), one fuel point enables 1 Russian or Chinese equipped combined arms brigade (with supporting artillery) to maneuver; or, a NATO style motorized or mechanized brigade (such as a Stryker Brigade Combat Team). 2 fuel points (~60K gallons of fuel) are required to maneuver a Heavy Brigade Combat Team. Those fuel points are consumed regardless of how far those units move or how many units move.

10.13.2.2. Ground Munition Counters. Anti-tank guided missiles (ATGMs), artillery, and rocket munitions can be represented in the game using ammunition counters. Each of these counters represents two ammunition steps and enables two fire missions, with the flip side marked as "Low Ammo". Flip the counter when it is used to enable a fire mission. A "Low Ammo" counter is removed when flipped. Each of these counters represents the combat load for a battalion for one to three days of combat (approximately 700 to 1000 rounds per artillery step, 25 to 100 rockets per rocket step, 5 missiles per ATACMs salvo, and 50 to 100 ATGMs per ATGM salvo).



10.13.2.3. CSS Commodity Placement. Fuel points and Ground Munitions are generally stacked with CSS units, though they can also be placed as an independent fuel dump or ammunition supply point by themselves or co-located with an airfield or port.

10.13.2.4. CSS Consumption & Distribution. CSS units inherently distribute fuel and munitions to units within their distribution radius, enabling consumption of commodities stacked with the CSS unit during the Movement impulse to pay for fuel consumption costs and during artillery adjudication to pay for fire missions. Tactical echelon CSS units are replenished from Depot level units during the Logistics & Regeneration Phase. The distribution radius of CSS units (both tactical and depot) varies by special scenario rules due to national level characteristics in order of battle and doctrine.

10.14. Action Points & Orders. [ADVANCED RULES] Action points are an abstract representation of command & control, leadership, and morale which translate into operational tempo. The number of Action Points a side has determines the number of "Orders" it can issue to activate ground units during the Ground Phase. Only those units tagged with "Orders" or "Reserve" can conduct movement and combat actions in the Ground Phase. If playing with two Ground Phases in a protracted turn, then players may opt to enable all units to move in the first Ground

Phase and then constrain the second Ground Phase by action points.

10.14.1. Sourcing Action Points. Each side receives a designated number of Action Points determined by special scenario rules. These action points may vary by side or by formation.

10.14.2. Action Point Allocation & Orders. In the Planning Phase, each side places Orders markers on the HQ or unit counters that are planned for action in this turn. If playing double blind then these are either secretly written down or are kept invisible in Vassal. Each side can issue the number of orders equivalent to its available Action Points, plus 2 free "feint" orders if playing in a head-to-head tabletop mode where counters are visible.

10.15. Ground Combat.

10.15.1. Hexside Limitations. <u>No more than 3 steps may attack across a single hexside</u> into an adjacent hex. But, multi-axis attacks from multiple adjacent hexes are possible.

10.15.2. Fires. The actioning player may conduct fires directly associated with the actioning HQ's battlespace and mission in the Prep Fire, Defensive Fire and Ground Combat impulses. Fires must be declared and allocated by hex prior to adjudication.

10.15.3. Fires & Span of Control. Unless dictated otherwise by special scenario rules, a single fires adjudication (i.e. one action within Prep Fire, Defensive Fire, or Ground Combat) is limited to employing 2 artillery or rocket battalions, or 1 Brigade Artillery Group (BAG).

10.15.3.1. Division or Corps Bombardment (Optional). When deliberately planned and allowed by special scenario rules, when a Division or Corps level HQ is in play, their Main Effort designation can be used to enable a Division or Corps Bombardment action as a Prep Fire that can mass up to 4 artillery or rocket <u>units</u> in a single Prep Fire strike.

10.15.4. Fires Effects Table. Resolve all Prep and Defensive Fires using the Fires Effects Table. The number of hits required to achieve suppressive or destructive effects varies based on terrain and target type (as indicated on the Table).

10.15.4.1. Precision Guided Munitions (PGMs). Air delivered PGMs may receive a promotion to their die rolls for certain terrain and unit types indicated on the Fires Effects Table. This PGM modifier is only applicable to air missions with the munitions counter shown to the right and to attack helicopters.

10.15.5. Fire Missions. For artillery units, each attack die represents a fire mission that can be employed in Prep Fire, Defensive Fire, or as Indirect Fire Support (IDF SPT) during the Ground Combat impulse. To simplify bookkeeping, <u>a player must employ fire missions from one counter all at once</u> and then mark it "Expended". Special scenario rules may enable players to employ fire missions from one counter in any of the listed steps but must then keep track as a unit cannot expend a fire mission more than once per turn. An option to aid in tracking is to place the IDF SPT marker on artillery units as they are allocated in each step to indicate commitment and then place an "Expended" marker once adjudicated. Alternatively, players can mark off missions with a black dry erase marker as they are expended.

10.15.6. Indirect Fire Support & Close Air Support. Missions allocated as IDF SPT or CAS are considered "supporting arms" modifiers which contribute to the net column shifts and dice promotions/demotions on the GCAT.

10.15.7. Suppression. As a result of fires, targeted units may become suppressed with a Suppressed marker placed on them. A suppressed unit can only move one hex. A suppressed maneuver unit is factored into the GCAT modifiers. A suppressed artillery unit cannot conduct IDF Support but may fire in Prep Fire or Defensive Fire at a demoted state for the remainder of this turn. A suppressed HQ unit has any HQ Effects (Main Effort, IO/OIE markers) immediately removed from the map. A suppressed air defense unit cannot apply defensive shields to intercept missile salvos but may offensively engage aircraft within range with a single demotion applied. A suppressed unit does not exert a ZOC or count towards a step determination on ZOC capability. Suppression counters are removed during the Regeneration Phase.

> **DESIGN NOTE:** Using "Suppressed" terminology was an early game design decision that unfortunately conveys a very tactical and short duration effect. In hindsight, a "Disrupted" effect better conveys the intended impact on the affected unit (i.e. casualty impacts and the longer-term disruption in tempo and command & control due to combat action). Additionally, if a longer duration than 24 hours is used for a turn, then the "one hex" movement rule for suppressed units becomes implausible and a limited movement point expenditure is more appropriate. These are house rule considerations that should be identified when the decision is made to execute a longer turn.

10.15.8. Amphibious, Airborne and Air Assaults. When an Amphibious or Airborne Assault force receives the initiative, during Ground Movement surviving amphibious ships land the landing force into the target "beach head" hex, surviving air transports drop airborne forces into the targeted airborne drop zone hex, and helicopter or tilt-rotor units land air assault forces.

10.15.8.1. *Unopposed Landing*. If the beach head, drop zone or landing zone does not contain enemy units then the landing force may be placed into the hex (regardless of ZOCs). Units may then attack into an adjacent hex. Mechanized forces only may advance from their landing zone or beach head one additional hex in any direction and then attack an adjacent enemy unit provided their initial landing area was not in a ZOC. Up to 12 steps of ground units may land in the beach head, drop zone, landing zone in an unopposed amphibious, airborne and/or air assault in a single turn and then advance in any un-opposed direction, but only mechanized forces can attack from that adjacent hex that turn.

10.15.8.2. *Combined Assault.* In a combined amphibious, airborne and air assault on the same hex, an attacker may employ up to 6 steps in an assault wave from the sea and up to 6 steps in an assault wave from the air (combined between airborne and air assault).

10.15.8.3. *Opposed Landing.* If the beach head, drop zone or landing zone contains enemy units then the landing force assaults the hex. The landing force may assault with up to 6 steps in the assault wave from the air and up to 6 steps from the sea. If the initial assault is inconclusive then a second round of combat is immediately conducted.

Additional reserve steps may be committed to the assault to bring the total up to 6 steps from the sea and 6 from the air. If this second wave fails to dislodge the defender, then both sides are left stacked in the hex.

10.15.8.4. *Artillery Units and Amphibious & Airborne Assault*. Artillery units landing in the assault waves for amphibious and airborne assaults cannot contribute to combat. IDF SPT may be provided by surface combatants and CAS by aircraft that are in direct support of the assault.

10.15.9. Ground Combat Adjudication. Ground combat is adjudicated using the Ground Combat Adjudication Table (GCAT). First, the odds are calculated based on the total number of attacking steps (from all hexsides) versus the total number of defending steps. Round fractions down. Then, the attacker and defender declare lead units for the basis of quality comparison, base attack die determination, and defensive shield determination. The modifiers on the GCAT are consulted to determine the net column shift and die promotion/demotion. Then a single die is rolled relative to the defender's shield value and the results of the chart consulted to determine the outcome of ground combat. Then the results are applied.

10.15.9.1. Lead Unit. The lead unit for an attack is chosen by the attacking player unless one is a Main Effort unit in which case that unit is the lead unit. For the defender, the strongest defending unit (highest red shield) is the lead unit used to determine combat results.

10.15.9.1.1. Odds Calculation. For odds calculations, add up the combat arms battalion maneuver steps (i.e. mech, armor, infantry) involved in the combat on each side and then round down for ratio determination.

10.15.9.1.2. Supporting Arms Calculation. Next, the number of contributing supporting arms factors is calculated to determine a sum total supporting arms modifier for the defender and for the attacker. The threshold is 2+ to meet the first column shift modifier, 4+ to gain an attacker die promotion, and 6+ for another column shift. These result in independent modifiers being applied which result in a net column shift and die promotion for supporting arms factors. Supporting arms factors include:

- Artillery (each die)
- Close Air Support (each air mission)
- Naval Gunfire Support (each ship)
- Engineer or SOF Unit (each)
- SIGINT/EMSO/Disrupt C2 (each)
- Main Effort

10.15.9.1.3. Quality Comparison. The attacker and defender's lead units are compared to determine which side has a quality advantage. To gain a quality advantage, a side must score 3+ advantage points. A dice value comparison between three steps from each side is used to determine advantage points. Best dice are compared against best dice. If the difference is greater, then 1 point is scored for each comparison. If a side cannot generate sufficient steps for comparison then the other side scores that as an advantage point.

Example 1:

The 1ABCT is the attacker and the 12th Tank Regiment is the defender. Comparing dice values across all 3 dice, 1ABCT scores an advantage of 3 (1 points for the d12 vs d8,

and 1 point each for the d12 vs d10 values). Thus, on the GCAT, the 1ABCT gains the Attacker Quality Advantage (3+) die promotion modifier.

Example 2:

In this example, the 12th Tank Regiment is attacking the 1st Battalion of the 36th Naval Infantry Brigade. A d10 is compared to the Ukrainian d8 scoring the Russians a 1 point quality advantage. And, since there are no other steps to compare, the Russians score 2 more points giving them 3 points of advantage and the resulting quality modifier on the GCAT.

10.15.9.1.4. The Alternative Quality Advantage Rule. Another option is to simplify this comparison to a special scenario rule whereby one side <u>always</u> gets the quality advantage in combat, whether attacking or defending. **DESIGN NOTE:** This is arguably the simplest approach. And, based on Russian combat performance in Ukraine could be the best way to represent Ukrainian or NATO quality by giving them the quality bonus in all combat engagements versus Russian units.

10.15.9.1.5. Determining Net Modifiers & Combat Results. Once the Supporting Arms and Quality advantages are identified, then consult the Column Shift modifiers on the GCAT to determine the net shift left or right from the base Odds column. Then consult the die demotion and promotion modifiers to determine the net impact to the base die roll of the attacker's lead unit. Then roll that die on the identified odds column and compare the die roll to the defender's shield to determine which row contains the combat outcome.

Ground Combat Adjudication Table

Atk die vs Shield	1:3	1:2	1:1	2:1	3:1	4:1	5:1+
DR = 1	A3, R2	A2, R2	A2, R1	A1, R1	A1, R1	A1	A1
DR =< ½	A2, R1	A2, R1	A1, R1	A1	A1	A1	A1/D1
DR <	A2	A1	A1	A1	A1	A1/D1	D1
DR =	A1	A1	A1/D1	A1/D1	A1/D1	D1	D1, R1
DR >	A1/D1	A1/D1	A1/D1	A1/D1	D1	D1, R1	D2, R1
DR x2 >*	D1	D1	D1	D1, R1	D1, R1	D2, R1	D2, R2, EXP
DR x3>*	D1	D1	D1, R1	D2, R1	D2, R1	D3, R2, EXP	D3, R2, EXP
DR x4>*	D1	D1, R1	D2, R1, EXP	D2, R2, EXP	D3, R2, EXP	D3, R2, EXP	D3, R3, EXP

DR = Die Roll

Column Shift Left	Column Shift Right
Terrain = Woods, Hills, Urban (1 shift)	Attacker has 1+ Flank Attacks
Defender Supporting Arms (2+)	Attacker Supporting Arms (2+)
Defender Supporting Arms (6+)	Attacker Supporting Arms (6+)
Attacker River, Amphib, Airborne Assault	Overrun Attack vs Arty, CSS, HQ
Attacker Low Supply	Defender Low Supply
Wx = Rain, Storm or Heavy Snow	Defender No Supply (2 Shifts)

Die Demotion	Die Promotion
Terrain = Urban, Obstacle or River	Defender Disrupted/Suppressed
Defender Quality Advantage (3+)	Attacker Quality Advantage (3+)
Non-Arctic in Snow/Frozen Wx	Attacker has 2+ Flank Attacks
Amphibious or Airborne Assault	Attacker Supporting Arms (4+)

Combat Results:
A# = Attacker loses # steps
D# = Defender loses # steps
AR# = Attacker Retreats # Hex
R# = Retreat # hexes + Suppressed; Opponent can advance # hexes
EXP = Attacker gets Exploit Phase move

Supporting Arms:
- ❑ Artillery (each)
- ❑ Close Air Support (each)
- ❑ Naval Gunfire Support
- ❑ Engineer or SOF Unit
- ❑ SIGINT/EMSO/Disrupt C2
- ❑ Main Effort (Logistics)

- **Units can cancel a retreat result with a step loss**
- **Units can cancel a single step loss with a retreat**
- **Fortified units can ignore an R1 result**

Defender Posture

Fortified = +2

Deliberate Defense = +1

Delay = Attacker **+ Defender Retreats 1 after combat**

10.15.9.1.6. Applying Results. The following are possible combat results on the GCAT:

A#: The attacker applies the corresponding number of step losses.

D#: The defender applies the corresponding number of step losses.

R#: An R# result after a step loss indicates a forced retreat that the side losing the steps must also apply.

EXP: An EXP result gives the attacking units the opportunity to execute an Exploitation Phase movement and combat.

Cancelling a Retreat. A unit can cancel a retreat by losing an additional step.

Cancelling a Step Loss. The first step loss is always applied unless a unit is in a Delay mission posture. Additional step losses can be applied to a Retreat result instead.

Fortified Units. A fortified unit can ignore an R1 result.

10.15.10. Rear Area & Partisan Strategies (OPTIONAL ADVANCED RULE). For those scenarios when rear area operations and partisan or resistance activities are played to reflect the type of conflict in the scenario, players may choose to leverage the Security Zone and Partisan or Diversant Decision Cards and associated counters.

10.15.10.1. Security Zones. In the Strategic Movement Phase, Security Zones are established by removing from the board 3 steps of ground combat units and placing them on the Security Zone card (off map). Then place a Security Zone marker (visible) in the yellow hex "zone" of choice. This marker provides security within that zone (100km width).

10.15.10.2. Partisans & Diversant. In the Strategic Movement Phase, Partisans or "Diversant" (for red forces) are activated in a similar manner but secretly placed on board in a zone of choice. Table top games note this on paper while keeping counters off the map until the Security Force Battles step. In games using Vassal, the counters are made invisible.

10.15.10.3. Battle for Control. In the Security Force Battles step, make all Partisans visible on board. For those zones where Partisans or Diversant are active without a Security Zone, immediately flip the counter to the "DISRUPTED" side and apply effects. Where both Partisans and a Security Zone are active, resolve a battle for control. Each side rolls a D10 modified by a +1 for any supporting SOF or ATGM units. And, for the Security Zone, add another +1 for any attack helicopters and light, motorized or mech infantry in direct support (must be placed on SZ marker). Both sides may promote using SIGINT EMSO and if any additional Partisan or Security Zone markers are present in hex. If the Security Forces roll a 14 or higher (after modifiers) AND double the Partisans die roll, then the Partisan counter is destroyed along with the 3 steps placed on the Partisan Strategy card and any SOF and ATGMs stacked with the Partisans.

10.15.10.4. Partisan Attacks. If the Partisans gain an equal or higher roll, then the Partisans counter is flipped and Disrupted effects are applied. This counter remains face up until the next turn's Security Force Battle. All <u>threat movement is +2 MP per hex</u> through the zone, <u>supply cannot be traced</u> through the zone, and the <u>Partisans may conduct one attack</u> on a unit of choice. That target assumes a defense of 3 even if it has a higher or lower organic defense. If target is in same hex as another combat unit, then defense is raised to a 4. Partisans roll 3D4.

If 3 hits, then adjudicate a step loss. Otherwise, target is Suppressed and remains so through the next turn.

10.15.10.5. Advanced ATGMs & Partisans. For any ATGM units contributed to a Partisan line of effort, rather than placing it on the Partisan decision card, place the ATGM unit on the map stacked with a Partisan counter. In the Security Force Battle step, this ATGM may be used to attack any combat unit in zone in an unmodified D12 vs the defense of the unit. The defending unit returns fire with a demoted die roll. Effects are adjudicated simultaneously.

11. Regeneration Phase

11.1. Check Supply. Supply is checked at the beginning of the Regeneration Phase and effects last through the following turn. To be considered in normal supply, ground combat units must be within 2 zones (the large yellow hexes on the tactical map) and an uninterrupted line of supply to their supply source. In most scenarios, the supply source is the CSS unit associated with that ground unit. If the 2 zones are questionable, then trace supply using 15 wheeled movement points between the combat unit and the supply source.

11.1.1. *Uninterrupted Line of Supply*. An uninterrupted line of supply is a line of hexes between the combat unit and the supply source that is free of enemy ZOCs.

11.1.2. *Extended Supply.* If a combat unit can trace an uninterrupted line of supply to its supply source but that line extends beyond 2 zones, then it is considered in a Low Supply status on the GCAT resulting in a column shift.

11.1.3. *Out of Supply.* If a combat unit cannot trace an uninterrupted supply line to a supply source then it is considered Out of Supply. An out of supply unit can only move up to half its movement point allowance. And in combat, it incurs a 2 columns shift adjustment on the GCAT.

11.2. Remove IO/Cyber. Each player removes their offensive IO/Cyber effects from the map unless the cyber effect is enduring. Defensive tokens (i.e. Assured C2 and Active/Passive Countermeasures) may remain on the map in play as they may come into effect during the next turn's movement phase. Any Cyber attacks that were one time play capabilities are discarded from play. For those Cyber attacks that require a recovery die roll, roll for recovery per the instructions on the cyber card.

11.3. Reset the Space Dashboard. On the Space Dashboard reset the satellite constellations to their default value unless a cyber effect is still in play or permanent damage has been adjudicated.

11.4. Reset Aviation Missions. Each player returns aviation missions to their airfields and aircraft carriers. Players may opt to leave CAP, OCA, DCA, Interdiction, SUCAP and CAS missions and supporting tankers in place to expedite game play.

11.5. Advance Timers. For units that are on a readiness countdown or RSO&I countdown, advance the timer to the next lower number. If zero, then remove the timer.

11.6. Remove Status Markers. Each player removes their RSO&I, Suppression markers, Airborne and Amphibious Assault markers as appropriate.

11.6.1. Repair Infrastructure: Ports, Airfields and Rail. Each player rolls to repair ports, airfields and rail as needed. A roll of a 1 on a six-sided die (D6) repairs a step loss. If an Engineer unit is present, a single step repair can be gained with a roll of a 1, 2 or 3 on a D6.

11.7. Regenerate SOF and Air Missions. Each player rolls to regenerate the number of missions from the Regeneration Box that are available. These die rolls are determined by special scenario rule based on a probability die roll applied to each counter in the Regeneration Box.

EXAMPLE: A possible scenario rule could be that US air missions regenerate on a 50% (6 or better on a d10) probability while PRC air missions regenerate on a 40% (7 or better on a d10) probability.

11.8. Reset Fires and Air Defense Units. Special scenario rules dictate whether or not artillery and air defense units are resupplied each turn. In the absence of special rules, those units with a curved arrow on the attack die are reset while those without remain expended until resupplied with salvos from an ASP marker.

11.9. Resupply Missiles. Each player may resupply critical munitions provided the units are co-located with an appropriate ASP. A ship can be resupplied when in a port using one of that port's actions towards resupply. (Note: Special scenario rules may limit or designate which ports enable resupply).

11.10. Advance the Turn Marker. Finally, advance the Turn Marker on the Turn Track.

12. Assessment Phase

12.1. This Phase is optional and provides an opportunity for an instructor or game facilitator to discuss with players any key insights or learning points that emerged during the game turn.

14.Credits & Design Notes

The *Operational Wargame System* **Game 001: Assassin's Mace: War in the Pacific, Game 002: Griffin's Mace: War in Europe, and Game 003: Ukraine: War on the Steppes** focus on hypothetical Great power conflicts in the 2025 to 2035 timeframes and are intended to help professional military students and operational staffs understand the relationships between time and distance factors, the rapid tempo of decision making, risk calculus decisions, the sequencing of operations, determination of objectives, targeting priorities, and the overall complexities of joint warfighting and all domain operations in the future operating environment.

Lead Designers: Tim Barrick, Mark Gelston, Curt Hudson, Paul Vebber

Series Rules Editor: James Sterrett

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Beta Testers: Sebastian Bae, Christian Palmer, Sean Day, Jim Lacey, Mike Dunn, Don Marrin, James Gannon, Alfred Turner, Andrew Coutts, Andrew Donohoo, Darren Huxley, John McGarry, Matt Caffrey, Tobin Bergen-Hill, Matt Parks, Thom DeCarlo, James Orr, Matt Bauman, Jake Mender, Jörg Muth, Chris Niedziocha, Nate Strickland, Mitch Reed, Ben Herbold, Tom Flounders, Mike Gambone, Jim Chartiers, "Tally", David Woodley, Corbin Williamson, and multiple faculty and students in seminars at Marine Corps War College, Naval War College, School of Advanced Warfighting, Marine Corps Command & Staff College, School of Advanced Military Studies, Air War College, National Defense University, and the MAGTF Staff Training Program.

Vassal Module: Tim Barrick and the Mitre Team: Thom DeCarlo, Tobin Bergen-Hill, Jonathon Byington

Wargame Learning Outcomes

- Understand the relationship between operational time and distance factors and the tempo of decision making in modern combat.
- Command integrated Joint Forces in a dynamic maritime and/or land campaign spanning the spectrum of conflict.
- Appreciate threat capabilities and kill chains and the risks associated with operating against a highly capable anti-access / area denial (A2AD) threat in mutually contested spaces.
- Appreciate resource considerations in a peer fight to ensure resilience is built into planning factors.
- Understand risk calculus decisions.
- Understand the nature of 21st century all domain combined arms warfare.
- Combine battles into campaigns to achieve strategic ends.

NOTES:

Operational Wargame System