Madagascar



Game Rules

TSWW GAME IV

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The Second World War

Global Rules (Abridged)

Madagascar

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I. Introduction

- A. The Second World War-online system covers the entire war in all theatres, from 1939-1945. The European Theatre Series allows for the play of the entire war in the European and Mediterranean theatres, and also connects with Pacific Theatre series, covering the Pacific, China, Burma, and India utilising 15 mile ground hexes, 75 mile sea zones, and half monthly game turns.
- B. The rules and charts contained in the Global Rules can be used to play the game, and will constitute a standardised rules set covering all Theatres and Commands.
- C. The highest player position in this series is the theatre commander, while the lowest is army or fleet command. Political decisions taken by higher levels are represented by requirements and limitations on the players within the rules for each nation, but players have limited control over national production policies, reflecting changes in requirements and the demands of his forces.

2. Concepts and Definitions

A. Fractions.

Unless stated otherwise, fractions are always retained.

B. Cumulative Effects.

Unless stated otherwise, all effects to unit strengths and die roll modifications (DRM) are cumulative.

C. Die rolls.

- 1. Dice. The Second World War series in paper requires two decimal (ten-sided) dice (provided with the game). When a die roll is called for, the following abbreviations will designate what dice and how many are to be rolled:
 - a. IDI0 I ten sided die
 - b. 2D10 2 ten sided dice
 - c. Percentile roll = 2D10 one for 10's and one for 1's.
 - d. When rolling the 'ones' D10, a result of 'zero' (0) is considered to be a ten (10).
 - e. When rolling the 'tens' D10 a result of 'double zero' (00) is considered to be one hundred (100). This general rule may be modified by specific rules or charts. Whenever 1D10 is called for, use the 'ones' D10.
- 2. Rounding. Where rounding of results is required, it is specified within the rules.

D. Sides.

I. The game is designed to be played by one or two people, with opportunity for team play. There are two 'sides' in the game, Axis (Germany, Italy, Japan, and their allied powers), and Allied (Britain, France, the United States, and their allied powers). The players control the forces of the side on which they are playing.

- a. Neutral: Some nations are neutral, and are not controlled by either side. When a neutral nation joins the war it does so on one side or the other, and that side's players control its forces from that point forward.
- b. Friendly: These are all Nations, Hexes and Forces on the same side.
- c. Enemy: These are all Nations, Hexes and Forces on the opposing side.

E. Nations.

These are the countries occupying the area in which the two sides will do battle and are initially represented as they existed at the start of WW II on 3rd September 1939. Nations start the Game belonging to one side or the other or they are Neutral. *National Boundaries*: The maps show the national boundaries as of September 1, 1939. Changes due to scenario start times or specific details are defined in either the specific scenario or Political and Economic Rules, and are represented on the maps. See the Map Terrain Key for symbology.

I. National Contingents: Armies fight most effectively when they have a common structure, language, and training with which to develop plans. To represent this, the games make use of 'national contingent' rules. When units of differing national contingents are trying to attack together, they suffer a reduction in their overall strength (see 10.C.5). Some nations formed, equipped and trained units that were made up of refugees from conquered countries. These units are shown or listed in the Political and Economic Rules and Orders of Battle and/or Appearance (OB/OA) as being part of the sponsoring nation's contingent.

For Example: Free Polish troops, ships, and air units are part of the British Contingent.

F. Geography.

- 1. The Map: The map is a representation of the area in which the two sides will do battle and is sub-divided into hexes that are 15 miles in width and, for naval movement, sea zones that are 75 miles in width.
- 2. Going (Optional Rule): Going is a military term which describes the ground over which operations occur:
 - a. Good Going: Good terrain for the unit type to move and operate in.
 - b. Fair Going: Adequate terrain for the unit type to move and operate in.
 - c. Poor Going: Difficult terrain for the unit type to move and operate in.
- 3. Ownership of Hexes: Each nation owns territory as specified in the Module and Political & Economic Rules. Ownership affects the ability to make use of facilities and extended movement types. Ownership of Hexes will change during the game as the Forces of one side take territory from the other side. See Change of Ownership Rule in the Movement Section (Rule 7.H) for more detail.

- 4. Control of Hexes: This occurs when a ground unit (or stack of ground units) that is too small to take ownership of a hex moves through a hex. They are deemed to control but do not own the hex they are currently in but once they leave the hex, ownership reverts to the previous owner. This distinction is important for ownership of some facilities (see Rule 4).
- 5. Front Line: Friendly territory consists of all friendly owned hexes at any given time. Enemy territory consists of all enemy owned hexes at any given time. The Frontline is any hex side at which enemy and friendly territory meet. Hexes along the ocean coasts are also considered to be the 'front line', even if no opposing force exists in the ocean.
- 6. Lines of Supply and Communication:
 - a. Main Supply Route (MSR). A limited length overland route from a supply terminal to Army, then Corps HQ, and finally to units. In overseas theatres the MSR also refers to the range of supply provided by a Quarter Master Unit (see Rule 15.1).
 - b. Line of Communication (LOC). An unlimited length route from a supply terminal via road or rail to the national supply source or, Overseas, an unlimited length route via road or rail from a unit to a supply terminal. The LOC may not enter an enemy Zone Of Influence or enemy owned territory, See Rule 15 for details.
 - c. Line of Supply (LOS). An unlimited length overland route from a supply source or supply terminal to a unit, used to determine Isolation (see Rule 15.F).
- 7. Isolation: Isolation is defined as not being able to trace a Line of Supply. Forces eliminated while isolated do not generate Stacking Replacement Points, and may have other penalties imposed upon them per Rule 15.F on page 46.

G. Forces.

This term refers to the ground, naval and air units of a nation or alliance in general. In Game terms, Forces are separated into Services and Branches on the basis of the function of the units (land, sea or air) and whether the Service or Branch maintain a separate Combat Replacement Pool, that is a pool of replacement points used to rebuild damaged or destroyed units of that Service or Branch.

- I. Service: These are the three main components of the Armed Forces; the Army, the Navy and the Air Force. Note that the Japanese Imperial Navy and Army must maintain completely separate replacement pools as defined in the national rules.
- 2. *Branch:* For the Army, there are the 3 main branches: Infantry, Armour, and Artillery, each having a separate Combat Replacement Pool. For the Navy and the Air Force, branches are generally not defined as each of these has a single Combat Replacement Pool used for rebuilding any units in the Service.

3. Units:

- a. In general, when the term 'unit' appears by itself, it refers to ground units. However, within the air rules, the term refers to air units and within the naval rules to naval units.
- b. All units have a size, referred to as the Stacking Point (SP) size. Unit sizes may be amended by the Unit Replacement Chart or the Political and Economic Rules.

H. Naval System Concepts.

Due to the dramatic difference in both scale and pace of naval operations, the Operational Naval System (ONS) utilises a number of special game concepts. The ONS introduces in-phase reaction movement, large scale sea zones, fog of war, and a time based mission system. There are four primary naval phases (two friendly and two enemy per player turn) and a number of secondary elements to the system. Refer to the Turn Sequence for further details.

- I. Sea Zones: Sea Zones are areas on the maps which are five hexes (or approximately 75 miles) across. Sea zones represent the general area in which ships may be located during a period of time within the game turn. Every all sea and partial sea hex is part of a sea zone. These sea zones are marked on the maps and most have a unit locator hex (the hex nearest the centre of each sea zone) which is used to display the sea zone that a Naval Task Group (NTG) is in during movement. For sea zones where the unit locator hex is an all-land hex, any hex in the sea zone may be used to locate units for all purposes including ranges for aircraft undertaking naval cooperation missions. During the combat resolution phase all ships within each NTG must be placed in the appropriate boxes on the Naval Combat Range Display.
- 2. Supply: Ships have three supply states that they may be in. Ships are either in supply, on an extended mission, or are depleted. See Rule 15.R for more details.

I. Logistics.

Logistics is the military science of delivering those resources (men, equipment, supplies and services) to the point of need in a timely fashion. They are covered in depth in Rule 15.

3. Geography and Climate

A. Weather.

I. Climate Zones: Light blue Climate Lines divide the map into areas (zones) where climate conditions are similar during the year. Each Climate Zone is labelled with a code (see the Weather Conditions Chart) contained on the Climate Line. Each zone generally includes all hexes on and north of the Climate Line, up to the next Climate Line. Also, the top of the code points to the area of the Climate Zone. Some Climate Zones are completely surrounded by one or more zones. These Climate Zones contain all the hexes on and encircled by the Climate Line. If a sea zone is bisected by a Climate Zone, the worst weather within the zone is prevalent.

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2. Weather Conditions:

a. Weather Conditions are:

- i. Good (G)
- ii. Poor (P)
- iii. Severe (S)
- b. Temperature levels are:
 - i. Hot (H)
 - ii. Cool (C)
 - iii. Freezing (F)
- c. Weather Effects:
 - i. Snow: Poor or Severe Weather and Freezing temperature.
 - ii. Mud
- 3. Weather Chart: The Weather Chart is used to determine the weather in each zone during the initial phase of each player turn.
- 4. Weather Procedure: Each Axis initial turn, the Allied player rolls 2D10, one to determine the weather, the other the temperature. Roll each die only once, not for each weather zone. Cross reference the die roll with the month of the current game turn on the Weather Charts. This provides the weather and temperature for each Climate Zone. Use the 'ones' die for the storm activity, and the 'tens' for the temperature.
- 5. General Weather Effects:
 - a. Ground forces
 - i. Effect on the CEV: CEV is not affected by weather.
 - ii. Overland supply lines.
 - I Good = no effect
 - 2 Poor and Severe. See Tracing MSRs on page 45
 - iii. Movement. See the Terrain Effects Chart.
 - iv. Construction operations.
 - I Good = no effect
 - 2 Poor = no effect
 - 3 Severe = MP cost doubled
 - v. Freezing weather. All combat conducted when the temperature is Freezing has a -2 DRM.
 - vi. Mud. Mud is caused by sustained precipitation. In the event that Good weather is immediately followed by poor or severe non-freezing weather, mud occurs on the second consecutive turn of such weather. In the event that a thaw occurs, mud occurs during any game turns in which there are penalties as a result of a thaw. Mud affects various rules in the game, primarily for construction practices.
 - vii. Air operations.
 - I Weather Conditions affect air operations as follows by reducing the total bombing factors by the percentage shown:
 - a. Good no effect
 - b. Poor = -10%
 - c. Severe = -50%
 - 2 The presence of friendly forces (ground or naval) in proximity to the target may reduce the weather effect above:
 - a. I-2 hexes = reduces the effect by one level (Poor becomes Good, and severe becomes Poor)
 - b. 3-5 hexes = reduce the weather effect by 50% (Poor is 5% and severe is 25%).
 - c. 5+ hexes = No change in weather effects.
 - 3 For targets at sea, Naval units must be in the same sea zone as the target for the effects above to occur, and ground units must be in a land hex that is part of the sea zone the target is in.
 - viii. Naval operations.
 - I Sea Conditions.

There are three possible Sea conditions, Calm (C), Rough (R) and Stormy (S). These are determined by the Weather and Temperatures according to the Sea Conditions chart.

2 Weather and Sea Zones.

Sea Zones crossed by one or more Climate Lines always have the worst sea condition possible from the weather and temperatures of the Climate Zones.

- 3 Spotting. Use DRMs on Sea Effects Chart.
- 4 Combat and Landing Capabilities.

a. Calm

- i. No effect
- b. Rough:
 - i. Surface action Naval Gunfire Support (NGS) is reduced by 10%
 - ii. Beach cargo capacity reduced by 10%
- c. Stormy:
 - i. Surface action NGS is reduced by 20%
 - ii. The total Torpedo factors (including those of all air units) are reduced by 50%, but never below 1.

- iii. Beach cargo capacity reduced by 50%.
- iv. No amphibious landings (of any type).
 - In all cases round fractions down.
- 5 Air unit bombing strengths are reduced for naval operations by 10% in Rough Sea Conditions and by 25% in Stormy Sea Conditions.

4. Facilities

A. Fortifications.

- I. Field Fortifications: These are the only type of fortifications that can be built by the player during the game. Whenever a fortified hex becomes owned (not controlled) by the enemy, its field fortifications cease to exist. All field fortifications more than 25 hexes from enemy forces in regular supply cease to exist in the initial phase of the owner's turn unless at least 1 SP of friendly forces are in the hex. There are four levels possible, their effects on the combat are shown on the Terrain Effects Chart:
 - a. Level I (Field Works)
 - b. Level 2 (Defensive Fortifications)
 - c. Level 3 (Fortified Network)
 - d. Level 4 (Deep Defences)
- 2. National Special Works: See the Political & Economic Rules, and the Terrain Effects Chart for these types of fortified works. In general these are printed on the maps, and in general cannot be rebuilt (if reduced) in the context of the game.

B. Airbases.

- I. Definition: The term airbase is used generically to describe facilities that Air Units operate from unless a specific rule requires separating their capabilities.
- 2. Types: Air units operate from facilities defined as follows:
 - a. Airport: A printed city, place, or facility which has a capacity for air units.
 - b. Airfield: A facility built by engineers in the course of the game.
 - c. Airstrip: A temporary facility built in the course of the game. It is an airbase counter with a I printed on it.
- 3. Capacity and Operational Status:
 - a. The capacity of an airbase is the number of friendly air units, each player turn that may begin air missions from the airbase. There is no limit to the number of units that may land, or remain at, an operational airbase. The Airbase Capacity Chart shows the capacities for the airbases. See Scenario or Political & Economic Rules for any modification to this.
 - b. An airbase is considered to be operational if it has a capacity greater than zero. An airbase with no capacity (due to damage) can have aircraft land at it, but no aircraft units can take off until it has been made operational.
 - c. An airstrip exists only when there is a construction engineer unit in the hex with it. It is removed from the map during any initial player turn if it does not have such a unit present in the hex.

4. Airbase Capture:

- a. Capture of Airbases. Enemy airbases are considered captured when the hex they are in becomes friendly controlled or owned. Airstrips may not be captured.
- b. When captured, the airbase is available for use by the new owner during the air return phase of the current player turn. For airborne assault purposes only, airbases may be used to crash land transport aircraft on to the airbase the moment friendly forces gain control of the airbase. Transport aircraft used in this manner are eliminated over enemy territory and immediately enter the air replacement system. See air rules for more details on the air system.
- c. Air Units on Captured Airbases.
 - i. When a hex containing a friendly airfield or airport becomes enemy controlled, all air units that are based in the hex are eliminated. These units are treated as being their equivalent in Air Replacement Points (ARPs) of that aircraft type eliminated over friendly territory.
 - ii. Air units based at an airstrip in a hex that becomes enemy occupied are eliminated, but are treated as being eliminated over hostile territory.
- 5. Airbase Damage and Repair:
 - a. Airbases can be damaged by being bombed (Rule 8.E.I.b), or shelled (Rule 13.P.I.a). Each hit of damage on an airbase reduces its capacity by one, with no more hits of damage allowed than the capacity of the base plus one.
 - b. If multiple airbases are in a single hex, it is not required to allocate a specific hit to a specific base. The total capacity of the hex is used to determine the maximum number of hits allowed.
 - c. Air units at an airbase that is damaged lose I Air Replacement Point (per hit on the base), chosen randomly by the player for each hit the airbase suffers.
 - d. Engineer units with construction ability repair hits on airbases at the rate of 1 hit removed per MP expended, per SP of engineers.

- 6. Airbase Removal:
 - a. Airports cannot be removed from the map.

- b. Phasing player owned airfields that do not have any air units on them can be removed from the map during the phasing player initial, or pursuit phases (only) to prevent their use by enemy forces. There is no cost to do so.
- c. Airstrips are always removed from the map if, during a player initial phase, there is no friendly construction engineer unit present in the hex. An air unit on an airstrip that is removed due to absence of a friendly construction engineer unit is eliminated over friendly territory, and enters the aircraft replacement system.

C. Ports.

- I. Definition: Ports are marked on the map (see the map legend for details on port markings). Unless noted on the Orbat or the Political & Economic Rules, ports are only cargo handling facilities (no repair capability).
- 2. Cargo Clearing: This is the maximum number of SPs that can be handled in that port during a single player turn.
- 3. Repair and Shipbuilding Capacity:
 - a. Certain ports (as listed on the Naval Facilities Chart) have a Repair Capacity. Specialist shipyards and Naval Dockyards are also listed on the Naval Facilities Chart
 - b. Ports may also have a Shipyard and/or a Naval Dockyard Capacity.
 - c. Shipyards provide both General Repair Capacity and New Build Capacity, which are defined on the Naval Facilities Chart as the port's Repair Capacity. The repair capacity is based on the "size" of the naval unit

For Example: A Shipbuilding Centre (Glasgow on the River Clyde is one) would be able to repair up to 8 Battleships or Fleet Carriers within its facilities, or any combination of ships as long as the total does not exceed the capacity of the port. At the same time it could be constructing ships up to its Repair Capacity, so at the same time as repairing 8 battleships, it could also be building 8 battleships.

- 4. Naval Dockyards: Naval Dockyards offer specialist facilities to repair, refit, or upgrade major combatants and capital ships. Escorts may be repaired, refitted or upgraded at any port with a repair capacity. NSPs may only be repaired in Ports with a repair capacity or a shipyard with a repair capacity. NSPs may not be repaired at a naval dockyard.
- 5. Fuelling Capacity: This represents the maximum number of fuel points that can be transferred to ships in harbour in a game turn.
- 6. Port Damage: Ports can be damaged by bombing, shelling, or demolition 'hits'. Each hit on a port reduces its cargo and fuelling capacity by one until repaired. A port retains 1/10th of its cargo handling capacity even if the port has received hits equal to or more than its stated capacity. No amount of hits will remove this limited capacity.
- 7. Port Capture: Ports are considered captured when the hex they are in becomes enemy owned territory (not just controlled).
 - a. Use of a Captured Port: A captured port becomes available to the capturing player during that player's next initial phase. The capacity of the port is not altered by the change in ownership however any damage to the port is inherited by the capturing player.
 - b. Repair Capacity: Roll ID10. Repair capacity cannot be used for one game turn after a port changes hands. Repair capacity then recovers proportionately to the result of the Die roll, rounding fractions up.
 - For Example: Brest is captured on the June II 1940 turn by the Axis Player. He rolls one die, with 7 as the result. He may not use the repair capacity in the July I 1940 turn. In the July II turn he has a repair capacity 1/7 of the normal one, in the August I turn, 2/7s and so on until it is completely recovered. If the Allies were to recapture Brest, they would repeat this procedure.
 - c. Enemy NSPs and LCs in port. NSPs or LCs in a port when it is captured can become the property of the new owner of the port. Roll ID10 for the NSPs and ID10 for the LCs, the result is the percentage of these types captured, rounding fractions down.
 - d. Captured NSPs and LCs are available to the new 'owner' after six game turns.

For Example: There are 9 Axis NSPs and no LCs in Tunis when it is captured by the Allies. The Allied player rolls ID10, with a result of 'four'. 40% of 9 would be 3.6, which is rounded down to 3. The player capturing the port gains control of 3 of the NSP's, after a delay of 6 game turns they may be used by him, and are placed at the nearest friendly owned port.

- e. Enemy Naval Combatants in Port. Naval Combatants in a port that is captured by the enemy will either escape, or be scuttled. Each ship or flotilla has ID10 rolled for it, with the effects being:
 - 5 or less: Escape the vessel is considered to be "at sea" in the sea zone
 - 6 or more: Scuttle the vessel is considered sunk by its crew to avoid capture

8. Basing Capacity: As noted on the Port Capacity Chart, this is the number if naval units (excluding NSPs) that may remain in port.

D. Rail Marshalling Yards (RMY).

The only RMY is at Tananarive and any bombing hit it receives reduces the capacity to zero in the following turn.

5. **Units**

A. Ground Units.

- I. Definition: Ground Units are differentiated by colour, size and type, as shown in detail on the Unit Identification Table (UIT). For general information see below, for specific information, and the movement and combat rules for the unit types, refer to those rules sections.
- 2. Types:
 - a. Motorised Units. Any unit that includes the motorised symbol, motorcycle, or armour icon as part of its unit icon. All units that are motorised may move their full movement point rating during the pursuit phase unless specified otherwise.

- b. Other. Any unit that is not motorised. These units may move half their movement point rating during the pursuit phase unless specified otherwise.
- c. Support Units. Although not a specific unit type, it is important to note that any artillery, railroad, quartermaster or construction engineer unit is a support unit. Support units on their own may not negate Zones of Influence or gain permanent Ownership of hexes.

NOTE: Heavy Equipment. Many ground units have heavy equipment such as artillery, trucks and tanks. Units with heavy equipment have restrictions placed on them for Air Transport and Naval Transport over beaches. All supported, motorized, artillery and heavy anti-aircraft units have heavy equipment.

3. Size:

- a. Corps: A unit with the corps size symbol.
- b. Division: A unit with the division size symbol.
- c. Non-divisional Unit: A unit smaller than a division.
- d. Unit sizes in parenthesis are "groupings" equivalent in size to the symbol within the parenthesis.

For Example: [X] would mean a unit with the same size as Brigade, but which was historically designated as some other unit type.

e. Some units may have a reduced side. The reduced side is half the SP size of the full strength unit. For Combat Replacement calculations (See Rule 16.A.2.e) a unit that is reduced counts as half its full strength in SP and a reduced unit that is eliminated also counts half its full strength in SP.

For Example: A player reduces and then eliminates a Division during combat. The total loss is the full SP value of the unit.

4. Stacking Points (SPs):

Ground forces are described in terms of their relative size by the amount of stacking points they are assigned. Unless modified by their specific Political & Economic Rules, units are the following sizes in SPs (NOTE: Reduced strength units are always half the original SP in size):

a. Division	XX	= 4 SPs
b. Brigade	Х	= 2 SPs
c. Regiment	III	= 1 SP
d. Battalion	II	= ½ (0.5) SP
e. Platoon		= ¼ (0.25) SP

5. Stacking: The placing of more than one ground unit in a hex is called "stacking". The 'stacking limit' limits the size of the ground forces that can be in a hex at the end of a phase. A player may move more units through a hex than may remain there, but no unit may end a phase in violation of the appropriate stacking limit. If, as a result of combat, a unit is forced to retreat into a hex where it would exceed the stacking limit, it must continue to retreat until it no longer exceeds the limit. Units that cannot retreat (Rule 10.G) are eliminated. Attacks can be made from multiple hexes into any hex type, regardless of the limits of stacking in the attacked hex. Attacking forces may only advance after combat (see Rule 10.G.3) up to the stacking limit of the attacked hex.

For Example: Two regular stacking hexes are attacking an enemy force in a mountain hex. All the forces in each of the attacking hexes can participate, but if the attack succeeds in taking the hex, only mountain stacking level of SP can advance into the hex from the attacking forces.

- 6. Stacking Restrictions: The types of stacking are based on the type of terrain or weather zone the hex is in. They are:
 - a. Regular. 22 SP of Normal Units, 6 SP of Artillery (or two Artillery Divisions). For Example: four divisions, 6 SP non-divisional units, 6 SP of artillery, or any viable combination of such.
 - b. Mountain. 11 SP of Normal Units, 4 SP of Artillery (or one Artillery Division). For Example: two Divisions, 3 SP of nondivisional units, 4 SP of artillery, or any viable combination of such.
 - c. Limited Land Mass. This represents the very limited space of small islands. (Islands smaller than one quarter (1/4) of the hex they occupy in size). Four SP of Normal Units. Two SP of Artillery. *For Example:* one Division, 2 SP Artillery or any viable combination of such.
- 7. Zones of Influence: Large ground units have a Zone of Influence into hexes that surround them (Rule 7.B). This represents use of patrols and artillery fire to hamper the movement of Enemy Ground Units in close proximity.
- 8. Combat Efficiency Variable (CEV): This is a measure of the relative efficiency of Nations at an overall level, bringing into play the 'soft' factors such as leadership, training, doctrine, communications, morale, etc. All Nations are affected and have a CEV (see the Combat Efficiency Charts for specifics).
 - a. The Effect of the CEV. The CEV is used as a modifier (the printed factors are multiplied by this value) of the combat factors a unit has. This may increase or decrease the combat power of the unit in question.
 - For Example: A German force of 20 points attacking a Soviet force of 10 points in August of 1941 would receive a CEV multiplication of its combat factors of 1.5, so the final combat odds would be 30:10 (or 3:1) instead of the original 20:10 (or 2:1).
 - b. Modifiers of the CEV.
 - i. Some P&E Rules may modify CEV.
 - ii. Interdiction. Two types of interdiction can cause a reduction of a unit's CEV: interdiction (Rule 8.E.I.f) and railroad network interdiction (see the Rail Marshalling Yard bombing missions). Air, Close Air Support (CAS) and Partisan

- Interdiction can accumulate to no more than a 40% reduction in the CEV. Railroad network interdiction can contribute an added 10% reduction to the CEV.
- iii. Maximum Reduction. Thus the maximum possible impact on the CEV by all means is a reduction of 50%.

c. National Variations. The CEV Chart shows the CEVs of all nations, and the dates on which they change throughout the game. d. Applying the CEV.

- i. Determine the basic CEV of all the forces in the combat. Each nation's forces have their own CEV.
- ii. Determine the effect of interdiction and CAS. Apply to the CEV of the affected forces in the combat.
- iii. All phasing player interdiction modifies non-phasing player CEV.
- iv. All non-phasing player interdiction modifies phasing player CEV.
- v. Multiply each nation's combat strength in the combat by the final CEV (determined by i-ii above).
 - For Example: A phasing player force is attacking a non-phasing force with 20 printed strength points. The non-phasing force (only) has its supply line interdicted by a combination of partisans and air units causing a level 2 interdiction on the line. If the phasing player has a base CEV of 2.0 at this time, the effect of interdiction is to multiply this CEV by the accumulated impact of the interdiction (10%) $2.0 \times 0.9 = 1.8$ the final CEV adjusted strength of the unit is then $20 \times 1.8 = 36$. Without any interdiction it would be $20 \times 2.0 = 40$
- 9. Unit Breakdowns: Some division sized units in the game may be split into their major sub units in the course of the game. This may be done at any time during the Movement, or Pursuit Phases of the owning player's turn. Breakdown activity is only possible at the owner's choice (see Rule 14.A).
- 10. Special Unit Capabilities: Many Ground Units have special capabilities as detailed in other parts of the Rules.

For Example: combat capabilities such as Combined Arms Effects and Engineer Effects; Engineer Construction capabilities; Commando and Airdrop movement capabilities; Artillery HQ units; and Partisans. The appropriate Political and Economic Rules may also contain information concerning special unit capabilities.

B. Air Units.

1. Definition: Air units are identified as shown on the Unit Identification Chart. Air units may either be shown in the game as Squadrons (approximately 20 aircraft) or as Wings (about 40 aircraft). In the air combat (see 11.C) and air administration (see 16.B) rules the basic measure of losses and replacements is the Air Replacement Point (ARP). These represent around 20 aircraft of the model to be replaced or lost. ARPs are produced at aircraft factories, and appear via the production system and/or the OB/OA.

2. Air Unit Ratings:

- a. Attack Factor. This represents the lethality of the aircraft when attacking other aircraft.
- b. Defence Factor. This represents the effectiveness of the aircraft in evading or preventing enemy air attack.
- c. Operational Bombing Factor. The ability of the unit to attack "point" targets.
- d. Strategic Bombing Factor. The ability of the unit to attack "strategic" or "economic" targets.
- e. Range Factor. This represents the distance the air unit may fly whilst using its optimum combat factors (normal range).
- 3. Air Unit Types and Descriptors:
 - a. Types
 - i. F Fighter air units. Designed to combat other aircraft. Day fighters may not fly at night.
 - ii. A Attack air units. Light Bombers specially designed to operate at low to medium altitudes.
 - iii. B Bomber air units. Deliver bombs in a horizontal mission profile. -2 DRM on the naval to hit die roll, unless using either skip bombing (see Rule 8.G.I.e) or they are Code V, S, or M. See section 4 below for information on unit codes.
 - iv. D Dive bomber air units. Type A air unit that uses a steep dive to deliver bombs. Gains a +2 DRM for naval attacks on the to hit die roll.
 - v. R Reconnaissance. Reconnaissance units are specially modified and/or equipped to provide intelligence on enemy forces.
 - b. Descriptors
 - i. H Heavy variants of Types. -2 DRM on the naval to hit die roll unless using skip bombing. See also 4.e below.
- 4. Air Unit Codes: Air units may have one or more codes as listed below. Codes define certain specific or special capabilities of air units. These capabilities may modify bombing or AA resolution, or the unit's air combat or bombing strengths, as noted on the appropriate tables. In addition, air units with codes have the following abilities:
 - a. T: CAS Specialists. Code T air units are equipped with special close air support weaponry. When operating in the interdiction role, their capability is enhanced by five operational bombing points. When operating in the CAS role, their CAS factor is not reduced by a quarter, unlike other air units flying this mission.
 - For Example: A Ju87B-1 has an operational bombing factor of 5, and is Code T. During a CAS mission, it adds 5 to the ground strength of friendly ground forces; during a battlefield air interdiction mission it adds 5 points from its operational strength, and 5 points as a result of being Code T to the interdiction calculation, thus it adds a total of 10 CAS points to the zone.
 - b. C: Carrier Capable. Code C air units are equipped and trained to operate from aircraft carriers. Code C air units (only) may base at and fly missions from aircraft carriers (Aircraft carriers are covered in the Naval rules). A code C air unit is not required to base on a carrier group; it may use any airbase.
 - c. F: Floatplane/Flying Boat. Code F air units are composed of floatplanes or flying boats. A code F type B, T, or A air unit must base at an airbase in a partial sea or partial lake hex; it may not use any other airbase. A Type F Code F air unit may operate

from CAV and BBV naval units, or from partial sea or partial lake hexes. Code F air units may not undertake any air missions from an eligible airbase if the weather is such that the water in the hex is frozen. A code F air unit flying a regular transport mission may land its cargo in any unfrozen, friendly owned partial sea or partial lake hex.

- d. S: Anti Shipping Capable. Code S air units are trained and equipped to attack naval surface units. Code S air units roll on the naval success table to determine whether they hit their targets. For each operational bombing point, Roll 1D10, apply all applicable modifiers from the Naval Charts to see if it has succeeded. Code S air units have a +1 on their to-hit die rolls. On a roll of 10, the hit is automatically a critical hit.
- e. V: Anti Shipping Torpedoes. Code V air units are trained and equipped to attack naval units with air dropped torpedoes or bombs. When a code V air unit flies the naval patrol mission, it may:
 - i. Carry a standard bomb load, operating as a code S air unit.
 - ii. Carry torpedoes. Its torpedo factor is as follows:
 - I Type B, Code V:Torpedo Factor 4 (for every 2 ARP of units)2 Type B, Code CV:Torpedo Factor 3 (for each ARP)
 - 3 Type A or F, Code V : Torpedo Factor 2 (for every 2 ARPs of units)
 - 4 Type A or F, Code CV : Torpedo Factor 3 (for each ARP)
 - iii. Despite port defences (such as anti-torpedo nets) a code V air unit flying the naval units in port bombing mission has a +3 DRM when carrying torpedoes. Any hits inflicted by a Code V bomber on shipping in a port are doubled, and in addition the enemy ship must automatically roll on the critical hit table.
 - iv. Resolves anti-shipping hits per Rule 13.K.
- f. A: Antisubmarine Warfare (ASW). Code A air units have specific ASW training and equipment. Code A units have their bombing factor converted at the rate shown on the ASW/Air ASW Conversion chart when attacking enemy submarines.
- 5. Friendly or Hostile Territory: Air units are considered to be conducting missions over friendly or hostile territory. Friendly territory is defined as being territory meeting the definition on the owner's side of the front line (Rule 2.F.4). All other hexes are considered to be hostile. Set aside any aircraft lost or note the models of any reduced in combat (which would generate I ARP for loss reconciliation) and also note whether they were lost over Friendly Territory (EFT) or over Hostile Territory (EHT). Losses are reconciled in each initial phase according to Theatre Level Administration on Page 53.
- 6. Air Superiority: Air superiority generates benefits for ground combat operations. The maximum possible modification for this effect is a 3 DRM (+/-). Air superiority is determined by a three stage process:
 - a. Theatre Fighter Superiority. Each side's active group allowance is compared to the other. If one side has a 2:1 or greater ratio of active FIGHTER (F) class ARPs it has theatre superiority. Having this level of superiority grants a DRM to the side with it in attack (+1) and defence (-1) in all combats in the theatre or command.
 - b. Fighter Superiority. In each hex where a ground combat is occurring, the number of fighters committed by both players is evaluated. In the hex with combat, the side with the majority of type (F) air units in the hex receives a DRM (+1 if attacking, -1 if defending). If one side has a single fighter in the hex for a mission, and the other has none, the side with the single fighter receives the DRM. NF types are excluded from this calculation. This DRM is only applied to combat in that hex.
 - c. Ground Attack Superiority. In each hex where a ground combat is occurring, the number of aircraft committed by both players to the Close Air Support (CAS) mission is totalled and compared. The side with the majority of aircraft delivering CAS points to the hex receives a DRM (+1 if attacking, -1 if defending). This DRM is applied to the specific combat in that hex only.
- 7. Air Combat Efficiency Variable (ACEV): This is a factor applied during air combat resolution to show the differences between nations regarding training, technology, and other 'soft' factors in combat. See the Combat Efficiency Charts for details.

C. Naval Units.

- 1. Definition: Naval units are identified as shown on the Unit Identification Chart. Naval units represent capital ships and very large merchantmen, and escort vessels individually, and smaller vessels in flotillas or groups as defined in the Naval Rules (Rule 5.C.9). To track fuel states etc. (not currently implemented in the game), it is recommended that players utilise the Generic Ship Chart to note each ships capabilities.
- 2. Ship Types and Special Rules: Naval units are split into a number of different types:
 - a. Capital Ships.

i. CV	Fleet Aircraft Carrier.
ii. CVL	Light Fleet Carrier.
iii. BB	Battleship.
iv. BC	Battle Cruiser (11" or better guns, light to moderate armour).
b. Major Combatants.	
i. CA	Heavy Cruiser, 8" guns or above.
ii. CL	Light Cruiser, 6" guns or above.
iii. CLA	Light Cruiser, Anti-Aircraft, 4"guns or above.
iv. CLM	Light Mine Laying Cruise, 4" guns or above, can act as a transport.
v. AMC	Armed Merchant Cruisers – usually converted passenger ships.
c. Escorts.	
i. DD	Fleet Destroyer

- ii. DE/TB Destroyer Escorts (Corvettes, Frigates or Sloops) and Torpedo Boats are generally shown as flotilla counters in the game, and have their type followed by "F".
 For Example: DEF is a Destroyer Escort Flotilla.
- d. Other Ship Types.
 - i. LC Landing Craft.

ii. XXF Where XX is a ship type, F relates to a flotilla of such.

- iii. SSF Submarine Flotilla.
- e. Submarine Flotilla (SSFs). All submarines are shown as 12 boat flotillas. Each SSF flotilla counter has a reduced side. The game system represents the formation and maintenance of multi boat patrol lines.
- f. SSF Dummies. Player may be given SSF Dummies. These operate in all ways like SSFs, but may not attack, and cannot be attacked in turn. See Rule 13.O.1.a.
- g. Naval Shipping Points (NSPs). Each NSP represents a variable number of ships, with a cargo capacity of 40,000 tonnes approximately. 2 NSPs may carry one LC to a friendly owned hex or an assault zone.
- h. Landing Craft (LC). A landing craft counter consists of a variable number of specialised craft specifically designed and trained to conduct and support amphibious assaults and operations.
- i. All type NSP, LC, and naval units are cargo units. Some naval vessels may have a transport capacity on their counter as well. For Example: RN CL Manxman has a transport capacity of 1 on the counter.
- 3. *Class*: All Naval units belong to a ship class. The ship class determines their Strategic Movement Allowance (SMA). The number of sea zones that they may move through in each Naval Movement segment is determined by their SMA. See the Strategic Movement Chart for more details.
- 4. Counters: Each counter has a number of combat values and ratings printed on its face. Some naval units are back printed with reduced strengths or their ratings after a refit. Each naval unit (with the exception of SSF and FAS units) has a tactical movement rating to determine range changes during combat.
- 5. Other Unit Details:
 - a. Gunnery Values: Each combatant has two gunnery strengths, representing Long and Short Range weapons. Only types CA, CL, BB, BC, BD, have long range gunnery strengths, which equates to 70% (round fractions down) of the gunnery rating of the unit.
 - b. AA Values: Each ship has an Anti-Aircraft strength (doubled for type CLA). DDs with a * for their AA rating have a half point of AA that may combine with any other DD with an * AA rating to provide I AA point.
 - c. Torpedo Rating: Submarines and some ships have a torpedo attack rating for use against surface targets.
 - d. Protection Rating: All ships have a protection rating to determine hit points. See the Ship Protection Chart for more details.
 - e. ASW Capability: Types DD, DE, FF, and some type FAS are ASW capable units. See the Political and Economic Rules and naval charts for further details
 - f. Air Unit Capacity: Type CV, CVL and CVE have an air unit basing capacity (in squadrons). Type CV, CVL and RN and USN CVLS, and CVE counters may transport one land based type F air group. Type CVE counters may elect to dedicate their aircraft to the Convoy Protection mission. Aircraft dedicated to the Convoy Protection mission may not fly any other missions during that game turn.
- 6. Submarine Flotillas (SSF). SSFs have a limited gunnery value (which may only be used against types LC, NSP, and SL), a torpedo attack rating and a protection rating. The movement rating on an SSF represent the maximum number of sea zones distant from their home port that they can set up patrol in.
- 7. Naval Shipping Points (NSPs). NSPs are variable groups of merchant ships with a standard capacity of I SP of cargo (including heavy equipment, logistics and supply items, and crated air groups). NSPs with a speed rating of 4 or higher are high value high speed transports. NSPs with a CODE of "D" are equipped with high weight capacity derricks designed to unload large items at ports that do not have adequate facilities.
- 8. Landing Craft (LCs). Groups of assault craft with a normal cargo capacity of 1 SP for transport, and 0.5 SPs for amphibious assaults. LC's may carry units with Heavy Equipment at any time.
- 9. Naval Task Groups (NTG): All surface ships must move as part of a naval task group. Naval units that are part of a Naval Task Group must be placed in the appropriate Task Force Box on the Task Group Chart. The units are placed on the display, and the marker is placed on the map in the same port or sea zone from which the units were removed.
 - a. Task groups can combine and recombine at any time during a player turn, as long as they are in the same sea zone.
 - b. Ships at sea must be allocated to a task group at all times.
 - c. All naval task groups have two components; the escort and the main body. The escort may consist of any non-cargo or capital units. The main body may include any type of ship, excepting Escorts and FAS which are always part of the escort.
 - d. Naval Task Groups have four types:
 - i. Carrier Battle Group (CGB). Any naval task group with one or more type CV/CVL, or five or more type CVE naval units, and not containing any type SL, NSP or LC naval units is a Carrier Battle Group.
 - ii. Naval Task Force (NTF). Any naval task group that does not include types CV, CVL, or SLs, NSPs, LBs or LCs, and has four or less CVE's is a Naval Task Force.

- iii. Escort/Support Group (ESG). A semi-permanent grouping of 12 Escorts assigned solely to the convoy war. Either may include one CVE. An Escort/Support Group gains a +1 DRM for ASW warfare. It has an "average combat value" which determines the overall capability of the group. To determine the capability of an Escort/Support Group:
 - I Average each of the combat values of the assigned ships, with the exception of an assigned CVE. Radar and HF/DF modifiers are averaged.
 - 2 Divide the total number of assigned ships by two, rounding fractions down, except for Radar and HF/DF modifiers, which are rounded up.
 - 3 Multiply the average values for Naval Gunnery, AA, ASW, Torpedo, and Protection factors by the result from (2) above. Add any factors relating to an assigned CVE. These are the factors and modifiers used for combat involving the Escort/Support Group. If attacked by SSFs, Naval or Surface forces, the Escort/Support Groups is the screen for any assigned CVE.
 - 4 The fuel point range multiplier for the Escort/Support Group is that of the lowest ship within the group.
 - 5 Major Upgrades to the ships are noted in the OB/OA. Players must detach ships from the Escort/Support Group on the turn PRIOR to the major upgrade. The upgrade is carried out in accordance with the rest of the game rules.
 - 6 Escort/Support Groups have "immediate" cycle times, and it is only the component ships that are subject to extended refits.
- iv. Convoy. Any naval task group including type SL, NSP and or LC/LB is a convoy. Convoys may include up to four CVEs, in addition to other surface escorts or one or more Escort/Support Groups. If an Escort/Support Group includes a CVE, it is in addition to those attached directly to the convoy and does not mean that the Convoy becomes a CBG (the CVE would leave with the Escort/Support Group).

6. Order of Play

- 1. *Turns*: The game is played in a series of game turns, which represent approximately half a month. Each game turn is subdivided into two player turns with initially the Axis player going first and the Allied player second. Within each player turn the Turn Sequence below is repeated.
- 2. *Phasing and Non-Phasing Players:* In these rules, the phasing player is the player moving his units and the non-phasing player is the player reacting to those actions. The designations are solely for ease of rules understanding.
- 3. Turn Sequence: EVERY player turn follows these steps, in this order:
 - a. Initial Phase.
 - i. Both players determine the general supply & isolation status of their units. Phasing player spends GSPs as necessary. Any special events required by scenario rules may occur.
 - ii. The Phasing Player conducts administration activities including production, naval repair and spotting by National Intelligence Means (See 9.G.7).
 - iii. Both players conduct balancing of aircraft losses and replacements in the theatres and national pool (*Theatre Level Administration* on page 53).
 - b. Movement Phase
 - i. The non-phasing player flies airbase attack/operational/strategic/naval cooperation and transfer missions. If an airbase bombing mission is flown by either player it must be resolved prior to the owner of the target airbase launching any missions from that base other than interception of the incoming bombers.
 - ii. The phasing player moves naval task forces and the non-phasing player then moves naval task forces.
 - iii. The phasing player moves ground units and air units (including interception of non-phasing player's air missions).
 - iv. The non-phasing player flies interception missions (but cannot intercept the phasing player's interception missions).
 - c. Combat Phase
 - i. Non-Phasing Player Air Combat
 - I Non-phasing player resolves all air mission interception combats.
 - 2 Non-phasing player resolves all remaining / strategic / operational missions.
 - ii. Phasing Player Air Combat
 - I Phasing player resolves all air mission interception combats.
 - 2 Phasing player resolves all remaining strategic / operational missions.
 - iii. The phasing player declares attacks including the allocation of offensive CAS. These are declared individually and once declared MUST be resolved.
 - iv. The non-phasing player flies defensive CAS and interception of phasing player's offensive CAS at this time to the declared hex, or none can be allocated.
 - v. When all the phasing player attacks are declared, the phasing player can intercept non-phasing defensive CAS. Offensive and defensive CAS are intercepted and resolved separately from each other.
 - vi. Both players determine the isolation status of their units and hexes for special replacement purposes.
 - vii. Resolve all NGS and ground combats, hex order determined by the phasing player. Air units involved in ground and naval battles have their combat (air to air and AA) resolved first in each hex.

- viii. The results of combat are applied in the following order:
 - I The phasing player loses factors as required.
 - 2 The non-phasing player loses factors as required.
 - 3 Surviving non-phasing units execute retreats if required (or chosen) as possible.
 - 4 Units that are required to retreat which cannot are eliminated.
 - 5 The attacking player executes any movement after combat allowed or possible.
- d. Reaction Movement Phase. Non-phasing units allowed reaction (Rule 7.C.I.h) can move up to ½ their movement allowance.
- e. Air Return Phase. All air units return to friendly airbases, unless otherwise specified in the Rules. Units unable to land at a friendly owned airbase are considered eliminated over friendly territory.
- f. Pursuit Phase. All NTGs may be moved: the phasing player first followed by the non-phasing player. The phasing player may move all ground units again using the tactical movement rate and rounding down any fractions.
 - i. Units in offensive supply: cavalry and all motorized class units may use their full movement allowance; all other units may move up to ½ of their allowance.
 - ii. Units in general supply: cavalry and all motorized class units may move up to ½ of their movement allowance, all other units may move up to ¼ of their allowance.

7. Ground Unit Movement

A. Definition.

Units generally must be moved one unit at a time. However, units that start a movement or pursuit phase stacked together can be selected and moved as a stack. A player may 'interrupt' the movement of one unit or stack to allow units to move into/out of the hex and participate in overruns, engineer operations, or to load onto NSP's. No individual unit may move further than its movement point allowance permits. All the phasing player's ground units may move during both the movement and pursuit phases of the player turn, at the owning player's option. Those non-phasing player's units that meet the requirements of the Reaction Rule (Rule 7.C.1.h) may move within the limits imposed by the Reaction Rule.

B. Zones of Influence.

- I. The zone of influence (ZOI) represents the influence a large enough ground force can exert into all adjacent hexes. 'Friendly' ZOI (FZOI) means one exerted by forces friendly to your side, "Enemy' ZOI (EZOI) means those exerted by enemy forces.
 - a. Force Size and ZOI.
 - i. A sufficiently large force exerts a ZOI in all areas of the map, into those hexes immediately adjacent to it. A force cannot exert a ZOI across either prohibited hexes, hex sides, or into terrain it cannot enter.
 - ii. Force size and the ZOI they exert, along with any combat effects of the force size, are detailed on the Zone of Influence (ZOI) charts. There are two such charts, one for all types of terrain (excluding mountain), and one for mountain terrain.
 - iii. In addition to the notations on these charts, certain terrain, weather, or supply conditions, result in a unit having a Reduced ZOI. When a ZOI is reduced by two separate causes the force exerts no ZOI.
 - For Example: A regiment normally exerts a Reduced ZOI. If that force was out of supply, and its condition called for a reduced ZOI, the force would have no ZOI.
 - iv. If two friendly forces in separate hexes exert reduced zones of influence into the same hex, the net effect is the same as if that hex were in a Full ZOI.
 - v. If units of opposing sides exert a ZOI into a hex, the level of control exerted is determined as follows:
 - I If the ZOIs are equal, the hex remains owned by the side that owned it at the start of that turn, and is treated as being in a reduced ZOI by both sides.
 - 2 If the ZOIs are unequal, the hex is dominated by the side with the greater ZOI and is treated as being within the greater ZOI for all game purposes.
 - vi. In the TSWW game sets, air and naval forces never exert a ZOI.
 - b. Effects of the ZOI.
 - i. Movement of Enemy Forces. See the Zone Of Influence Movement Cost Chart.
 - ii. Tracing of Overland Supply Lines.
 - I Full EZOI: An overland supply line can be traced through a Full EZOI, but each hex costs double the regular cost of the hex's terrain when counting for supply line length. Railroad supply lines cannot be traced through an uncontested Full ZOI.
 - 2 Reduced EZOI. An overland supply line being traced through a Reduced EZOI costs one and a half (1.5) times the regular cost for the terrain when being counted for supply line length. The Railroad portion of a supply line can be traced through Reduced EZOI if any size of non-support unit is in the hex through which it is traced.
 - iii. Retreats. A force cannot retreat through a Full or Reduced EZOI unless allowed to do so by its P&E Rules.
 - iv. Combat Replacements. No nation can receive combat replacements from forces eliminated while surrounded by Full EZOI unless allowed to do so by their P&E Rules.
 - c. Modifications of ZOI Effects

- i. Weather Zones. Some weather zones modify ZOIs from Full to Reduced or from Reduced to None. See the ZOI Charts for details.
- ii. Supply. The supply status of a force may cause the ZOI it exerts to be reduced from Full to Reduced or from Reduced to None. See the Supply Effects Chart for these effects.
- iii. Across a Major River hexside a Full ZOI is modified to Reduced and Reduced ZOI is modified to None, but check the P&E Rules for any nation specific exceptions.

C. General Movement.

- 1. Movement is calculated with movement points (MPs) spent to enter a hex. Movement point costs reflect the time element of the combat equation, as the combat rating represents the force element, and may also be used to perform activities. A unit's movement rating gives the number of MPs the unit may normally spend in a movement phase. Units move voluntarily, with each unit spending MPs as it moves from hex to hex. Each unit spends the number of MPs per hexside and per hex as shown on the Terrain Effects Chart (TEC) for the terrain type. The costs are shown on that chart and are paid as the hex side is crossed or entered.
 - a. Limits. Units with a movement rating can always move one hex into or across permitted terrain. A unit with a movement allowance can always move one hex in both the movement and pursuit phases, (excluding into or across prohibited terrain), even if it lacks the movement points to do so. The unit expends all of its movement points and enters the adjacent hex. When making use of this provision, the unit cannot conduct an overrun (see 7.E). Units with no movement point rating, may not be moved in the context of the game.
 - b. Pursuit Phase Movement. Motorised and cavalry units in Offensive supply can spend their full tactical movement allowance during the pursuit phase. All other units in Offensive supply may move up to ½ their tactical rating (rounded down). Units in General supply have these allowances halved. A unit may move up to these limits as modified by terrain, EZOIs, and its own supply status (Rule 15.G page 46). Units moving in the pursuit phase may use their movement points for movement and or overruns. They may also use their MPs to destroy infrastructure per the engineering rules (Rule 14.B). They may not use their MPs for any other purpose.
 - c. Entering an Enemy Occupied Hex. In general, a unit may not enter a hex occupied by an enemy unit. Exceptions to this rule are found in the Overrun (see 7.E below), and Amphibious Operations (see 9.H.I.a) rules. Overruns occur during the movement, advance after combat, and pursuit phases.
 - d. Rail and Naval Transport. Rail and naval transportation are special forms of movement and are covered in separate rules (see Rules 7.F.I.a (Rail), and 9.H (Naval Transport)).
 - e. Weather effects on movement. Weather effects on movement are given in Rule 3.A and the TEC.
 - f. Units with a zero ('0') movement rating. A unit with a movement rating of zero ('0') cannot move at all. If forced to retreat by combat it is eliminated.
 - g. Impact of Zones of Influence.
 - i. When a unit leaves a hex that is in an EZOI, or moves from a hex in an EZOI directly to another such hex, it must spend additional MPs per the Zone of Influence Movement Cost Chart.
 - ii. If all the EZOI exerted are reduced EZOI, then the cost for movement is calculated using the reduced EZOI line on the Zone of Influence Movement Cost Chart.
 - h. Reaction Movement. Immediately after the combat phase, and prior to the phasing player pursuit movement, the non-phasing player can execute reaction movement. During reaction movement the non-phasing player can move qualifying units up to one-half their movement allowance (rounded down at the tactical movement rate) towards enemy operations. The qualifications for this are that the units are:
 - i. Un-isolated and in supply.
 - ii. At least three hexes away from any enemy ground units. (Two hexes minimum between the unit and enemy forces.) At least three and no more than seven hexes from a hex that has been attacked, resulting in the defender losing the hex, or the hex being left with no defending units if the attacker does not advance into it. This includes hexes overrun during the previous movement phase.
 - iii. Units moving in the reaction phase may enter an EZOI, but cannot attack or overrun.

D. Ground Movement Types.

- I. There are three types of ground movement rates available to the phasing player:
 - a. Tactical Movement.
 - b. Operational Movement.
 - c. Administrative Movement.
 - NOTE: A unit cannot combine movement types in a movement phase and during the reaction movement and pursuit phase, units may only use Tactical Movement.
- 2. These rates are:
 - a. Tactical Movement. This is movement as described in the General Concept's portion of this rule (Rule 7.C). Tactical movement may be combined with rail, air or naval movement. This rate is used when calculating all MP expenditures for construction, destruction, or any other MP cost activity.

- b. Operational Movement. During the movement phase only, units using operational movement are given one and a half (1.5) times their printed movement points to spend for movement. The unit pays normal costs for all hexes entered or hex sides crossed.
 - i. A unit using operational movement may not enter an EZOI, however, the presence of a friendly force of at least 1 SP in size, non-support unit nullifies the EZOI. The unit pays the MP cost for moving as if the EZOI was there.
 - ii. A unit using operational movement cannot execute overruns (see 7.E) against enemy units, unless the total defence strength of the hex is zero (0) after any adjustments in which case it may be overrun at the 12:1 cost from the Overrun Costs Chart.
 - iii. A unit using operational movement cannot spend MPs for any other purpose than movement.
 - iv. Operational movement can be combined with rail, naval, or air transportation in the same movement phase.
 - v. Available MPs are worked out proportionately.

For Example: A unit with 20 MPs moves using operational movement for 15 hexes. It has used 10 MPs. It retains 10 MPs for other movement types (such as Naval Transport).

- c. Administrative Movement. During the movement phase, units using administrative movement are given double their printed movement points. While using administrative movement, units may not spend MPs for any purpose other than movement.
 - i. A unit using administrative movement may only move in friendly owned territory, and may not start, end, or move adjacent to enemy forces (excluding partisans) while doing so. NOTE: Ownership of territory is changed immediately, so administrative units can 'follow' units using either tactical or operational movement.
 - ii. Administrative movement may be combined with rail, naval, and air transportation. The units doing so pay normal tactical costs for such means of transport.
 - iii. Units using administrative movement do not exert a ZOI.
 - iv. Available MPs are worked out proportionately.
 - For Example: A unit with 20 MPs moves using administrative movement for 25 hexes. It has used 12.5 MPs. It retains 7.5 MPs for other movement types (such as Naval Transport).

E. Overruns.

- I. When a moving force encounters a much weaker one, the impact is more a delay than a battle. This is described as an 'overrun'. Overruns only occur at the instigation of the phasing player. The non-phasing player has no input into the ability of a moving force to conduct an overrun, or in the calculation of the overrun (although he may insist on a check of the calculation). Where losses are inflicted, round the losses up to the nearest full strength point.
 - a. Overruns are possible at a variety of odds levels, but cannot be conducted at less than 7:1 calculated odds. Overrunning a zero strength unit (or one with no defence strength) never results in attacker losses. In all other cases losses suffered by the overrunning force are based on the attack or defence strength (whichever is greater) of the overrun units. Roll 2D10 (percentile) die. The result is a percentage of the maximum loss possible at the overrun level indicated below:
 - i. 10:1 or higher, the attacker loses a percentage of the total attack or defence strength of the force overrun.
 - ii. 9:1, the attacker loses a percentage of twice the total attack or defence strength of the force overrun.
 - iii. 8:1, the attacker loses a percentage of three times the total attack or defence strength of the force overrun.

iv. 7:1, the attacker loses a percentage of four times the total attack or defence strength of the force overrun.

NOTE: losses are applied immediately to the attacking force and need to be recorded in SPs for the Combat Replacement system (if the attacker would ordinarily be eligible to receive combat replacements).

For Example: A player makes a 7:1 overrun against 4 strength points defending. The 4 points are multiplied by 4 to get a maximum potential loss of 16. The attacker rolls 2D10, with 65 as the outcome requiring the loss of 11 strength points (65% of 16 = 10.4 rounded up to 11). The attacker chooses how to remove SPs to satisfy this loss in combat strength.

- b. Overruns can happen during the movement and pursuit phases of a player turn. The units making the overrun must enter from a single hex, be capable of spending the MPs required for both the overrun (see the Overrun Costs table) and entry into the target hex and may not violate stacking limits.
- c. Effects of Overruns.
 - i. A unit being overrun immediately loses its ZOI. Moving from a hex in the ZOI of the target unit into the hex occupied by the target unit, is not considered a move from an EZOI to another EZOI. The presence of other enemy units with ZOIs extending into the target hex, however, is not ignored for this purpose.
 - ii. Overrun units are eliminated. Units with a reduced side available are not reduced, but are completely eliminated; however Combat Replacements are received if the unit would generate them in normal combat.
 - iii. Overrunning units that enter a hex along a road may use double the MP cost for following the road instead of the actual terrain costs to enter the hex.
 - iv. Using tactical movement a unit or stack with an attack strength greater than zero can automatically overrun a unit or stack with a defence strength of zero at the 15:1 overrun cost.
 - v. Using operational movement a unit or stack with an attack strength greater than zero can automatically overrun a unit or stack with a defence strength of zero at the 12:1 overrun cost.

- d. A unit with the capability to retreat before combat may make use of this ability when an overrun is attempted against it. This may not be done if there are units without this capability stacked with it. The overrunning units pay I MP in addition to the costs of entering the hex if all the defenders in the hex retreat before combat.
- e. All units making an overrun must enter the hex being overrun and must pay all required MP costs to do so.

F. Transportation Lines.

- 1. There are three types of transportation lines on the map; low capacity railroads, metalled and gravel roads, and tracks. See the Terrain Key Chart and the Transpiration Lines Chart for details.
 - a. Rail. Movement by rail is done by individual units, expending a rail movement point cost for each hex on the rails they enter.
 - i. Rate. To determine the amount of rail movement a unit has use the Rail Movement Chart to convert its printed movement points into rail movement points.

For Example: A unit with a printed movement rate of 12 pays 1 MP to gain 33 rail movement points. The unit moving pays the MP cost, gains the rail movement points to spend and spends them moving along the rail line.

- ii. Movement. Units expend movement points as they move along, purchasing more "rail movement points" as they continue moving. However, a unit does not retain any fraction of the rail movement points purchased should it leave the rails, move (using regular ground movement) to another rail line and then continue to move by rail.
- iii. All ground movement types (Rule 7.D) can be combined with rail movement, with the unit expending MPs based on the printed movement rate per fraction of rail hexes moved.

For Example: A unit with a printed rating of '10' using administrative movement moves four clear hexes to a rail line (2 MPs). It then moves along the rail line 26 hexes (at the rate of 1 MP per 40 hexes or part thereof) expending another 3 MPs for its rail movement. (Note that on Madagascar all rail is low volume and units expend 4 rail movement points per hex travelled by rail). It then has 5 MPs remaining to continue moving.

- iv. Restrictions on Rail Movement.
 - I When using rail movement a unit may not enter or leave a hex containing an uncontested EZOI or unequal EZOI. The presence of at least 4 SP of friendly non-support units in the hex nullifies the EZOI in either case above for purposes of this prohibition. If the 4 SP of friendly units remains in the hex, other units would also be able to leave or transit the hex using rail movement.
 - 2 A unit may only use rail movement in the owning player's movement phase. It cannot be used during the pursuit phase.
 - 3 Units may only use rail lines that are friendly owned at the start of the phasing player's turn. No unit can use rail movement to cross a bridge that is destroyed. The unit must leave the train (ending a rail movement section) and move across the river to the next rail hex it can use. It then can resume its rail movement by starting another section of rail movement.
 - 4 Motorised units count triple their SP size when moving by rail.
- v. Networks. There are only two small unconnected rail networks on Madagascar each with a separate capacity as noted in the Rail Capacity Chart.
 - I Gaining Use of Rails in Invaded Nations. When a nation invades another, it can make use of rails in the invaded nation by following these procedures:
 - a. The rails must be owned by the invader.
 - b. To originate rail traffic on this new network the invader must have rail capacity within it. Capacity is gained by the capture of cities connected by the captured rails. The capacity gained is:
 - i. Major city hex 1.5 SP of capacity
 - ii. Large Town hex 0.5 SP of capacity
 - c. The defending player loses an equivalent amount of rail capacity from his network.
 - d. Once all the cities on a nation's network have become enemy owned and are connected to the invader's network, the invader is assumed to be the 'owner' of the network, controlling all the original network capacity of the rail net. If the invader is then driven out of the country, the process is reversed by the liberating force.
- b. Roads. These are designated on the map per the Terrain Key Chart and there are two types in the game: Metalled roads and Gravel roads.
 - i. A unit moving along a Metalled road pays the MP cost for clear terrain, modified by weather for every hex entered or hex side crossed, except in Severe weather when they only reduce movement costs in the hex by I MP. However, note that the cost for entering a hex can never be below I MP.
 - ii. Gravel roads are the same as other roads in Good weather. In Poor weather they reduce the cost of entering a hex by 1 MP, but the cost for entering a hex can never be below 1 MP. In Severe weather they have no effect.
 - iii. Roads may be used in the movement, reaction, and pursuit phases. Movement along a road is subject to the same limitations imposed by the type of movement being used (tactical, operational, or administrative).
 - iv. All railroads are also roads, and a unit may use the road in such a hex even if it may not use the railroad.
- c. Tracks. These are designated on the map per the Terrain Key Chart. In good weather they reduce movement costs by I MP (never below IMP) in all terrain types except salt marsh and marsh. In all other weather types movement is per the hex terrain.

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d. Bridges.

- i. When a transportation line crosses a river or narrow strait it is considered to be a bridge. A bridge allows units using any ground movement to move across the bridged hex side at no additional cost. In order to be used the bridge must be operational.
- ii. A friendly owned bridge can be destroyed by the owner at any point in the owner's movement, reaction (during the enemy player turn), or pursuit phases. The player announces that the bridge is blown to accomplish this. A friendly unit must be in the hex at either end of the bridge at that time, and must spend IMP to destroy the bridge.
- iii. Air units can destroy a bridge by bombing and naval units can destroy a bridge by gunfire. A hit destroys a bridge.
- iv. Bridges destroyed prior to changing ownership may not be used for any purpose by the new owner until repaired.
- v. When a friendly owned bridge is destroyed, no rail movement can be used over it. However, the rail portion of a supply line may still be traced over it. Units or cargo being moved by rail must detrain, cross the gap and re-embark on trains on the other side.
- vi. A destroyed bridge has one hit on it. This must be repaired before the bridge can be used again.
- vii. Note that with a rail bridge both the bridge and the rail line itself needs to be repaired.
- e. Road/General Ferries. Both ends of a ferry route must have a railway link to qualify as a rail ferry.
 - i. For supply trace purposes these are treated as being 'bridges'.
 - ii. For ground movement, treat them as if loading and unloading to and from NSPs at a port with unlimited capacity. See Loading and Offloading costs in the Naval rules on page 26
 - iii. Ferries are not treated as bridges by ground forces. Combat can never be instigated using a ferry.
 - iv. Ferries cannot be "destroyed' by damage, but can be 'sunk' by achieving three hits on the ferry.
 - v. Ferries cannot be replaced in the context of the game.
- f. Rail Breaks. Rail lines can be broken by ground units, naval gunfire, aerial bombardment and partisan raids. A Rail break trebles the rail movement cost through the hex where the rail break is located:
 - i. Non Artillery ground units spend 1 MP in a hex to break a rail line.
 - ii. It takes 10 Points of naval gunfire to break a rail line.
 - iii. It takes 10 bombing points to break a rail line.
 - iv. Each nation has a limited ability to repair rail breaks intrinsically. See the Political and Economic Rules for more details.

G. Abilities of Special Unit Types.

- 1. Light Infantry (Jaeger) Effects. Light infantry are less well equipped than their "regular" counterparts, and have a lesser allocation of heavy weapons. Movement rating is modified per the TEC when moving in rough, woods, jungle, wooded rough, or karst terrain.
- 2. Motorised Unit Effects. Motorised units have movement advantages in Good Going and disadvantages in Poor Going. Their movement rating is modified as a result of terrain type. See the TEC for details.
- 3. Commando: When using tactical movement, these units pay the special ZOI costs for EZOIs. Commando units may always retreat into an unoccupied hex, even if it is in an EZOI.

H. Change of Ownership.

- I. Each nation on the map owns territory as described in the Module and Political and Economic Rules.
 - a. Territory may exchange hands within the game following the rules noted below:
 - i. I SP or more of non-artillery combat units occupy the hex. By itself, a force smaller than I SP of non-artillery combat units may not gain permanent ownership of a hex.
 - ii. A $\frac{1}{2}$ SP unit gains control of the hex only for as long as it remains there. The hex reverts to enemy ownership when vacated.
 - iii. A force exerts an uncontested, full zone of influence into the hex. A hex is uncontested if both the following criteria are met:
 - I The hex is not occupied by ANY enemy ground unit (regardless of size), and
 - 2 The hex is not in an enemy ZOI.
 - 3 Zones of influence alone cannot gain ownership of a hex containing a city (of any size), or an airbase.
 - iv. A line of communication can be traced to a friendly owned hex, in regular supply. This does not apply if neither side can trace this line to an appropriate hex.
 - b. A change of hex ownership is effective immediately upon satisfying any of the conditions above.

8. Air Unit Movement

A. Definition.

Air units move by spending one movement point of their range for each hex entered. They pay no added costs for any type of terrain, nor does any type of terrain block their movement to a target hex. From the target hex, the unit may expend up to its range returning to a friendly airbase. Note that a unit's range and that its time during the player turn when it must return to a friendly base may be changed by specific mission rules below. Unless otherwise noted in the mission profile below, all air units must end a turn on a friendly airbase.

For Example: A Ju-87B has a range of 10 hexes; it can fly from its base 10 hexes to a target, then during the air return phase fly 10 hexes to a friendly owned airbase.

NOTE: Air units may fly in both player turns of a game turn unless prohibited by the specific mission profile.

B. Air Missions.

- 1. Whenever air units take off from an airbase, they are performing a mission. Air missions can be flown in the owner's turn, the enemy turn, or even in both player turns, and are described in detail below. Missions end in the air return phase in the player turn they are flown in, unless stated in the specific mission profile below.
 - a. Air Mission Range Options: An air unit's printed range represents the normal number of hexes the unit can fly to a target hex to execute a mission, however, this may be modified by the range bands below. Air units pay one movement point per hex entered. There are four range bands all missions can be flown at (unless otherwise noted in a specific mission rule):
 - i. Long Range. Units flying any mission at this range have double the printed range on their counter available for use. When flying at long range all bomb factors and cargo capacity are reduced to one quarter ($\frac{1}{4}$) of the printed bomb load. All fighters flying long range escort missions have their attack strengths reduced by 50% but never below one. *For Example*: An aircraft with bombing factor of 4 has its bombing factors reduced to 1.
 - ii. Normal Range. This range band is applied to all missions flown at ranges exceeding ¹/₄ printed range, but not exceeding the printed range of an air unit. Unless changed by specific missions, aircraft flying at this range have their normal bombing or cargo carrying capabilities. Aircraft ratings are as printed.

For Example: An aircraft with a printed range of 9 may operate at "normal" range if it flies between 3 and 9 hexes (inclusive) to its target.

- iii. Short Range. This range band is applied to all missions flown at ranges up to $\frac{1}{4}$ of the printed range of an air unit. Units flying missions at this range increase their bombing factors by 50% (1.5x), and double (2x) their cargo carrying capacity unless noted in the specific mission. All Fighters with access to GCI flying short range interceptions have their air attack strengths doubled. See Rule 11.B.1.b.i on page 32 for short range interception procedures.
- iv. Extended Range. The capability to do this is shown on the counter and noted in the appropriate Political & Economic Rules. The use of these tanks extends the printed range of the counter by 1.5 times. A counter with a printed range of 10 is considered to have a base range of 15. Long and normal range considerations are based on this extended range. Fighters have their Air to Air combat rating reduced by 25% at this range, but never below 1.
- v. Weather Effects. Weather effects on missions are cumulative with the effects of this rule, but are applied after all other effects have been applied.

For Example: A unit flying a short range mission multiplies its bombing factor by 1.5. However the weather requires the bombing factor to be halved. The net result is the plane gets 0.75 regular bombing factor to the target hex (1.5 x for range, halved for weather).

C. Transfer.

This mission can be flown in either player turn. When executing this mission air units may not conduct any other mission. An air unit flying this mission can fly six times its printed range. This is the maximum allowed for transfer missions at all times. The mission can only be flown from a friendly owned base to another friendly owned base. No cargo can be carried on a transfer mission.

D. Fighter Missions.

- 1. All Fighter (F) units can act as fighters optimised for air to air combat. Some can engage in ground attack missions carrying bombs. When assigned to any mission other than interception or escort, a fighter may carry bombs, and can 'jettison' them and engage in air to air combat without penalty. When they choose to do so, they are no longer part of the bombing mission, but are reassigned to the escort mission. Fighters fly four different missions which are:
 - a. Interception. This is a mission that any fighter can perform to intercept enemy air units that are conducting missions within the interception range of the fighter. During the player turn, after enemy missions have been flown to their targets, but prior to resolving their attacks, they can be intercepted. Air units flying this mission may fly to any friendly owned or controlled hex targeted by the enemy within:
 - i. The full range of the interceptor for Western Allied Nations.
 - ii. Half the range of the interceptor for all other nations.
 - Only fighters with the 'night' designation can intercept night missions. Once all interception missions have been flown, air to air combat takes place where air units of both sides are in the same hex per the sequence of play. Intercepting air units return to their base during the current player air return phase.
 - b. Escort. Units assigned to this mission accompany other types of aircraft and will engage the enemy only if the force they are with is attacked by enemy interceptors. This mission can be flown at any range. Any mission can be 'escorted', and the escort flies to the target when the mission is flown in the sequence of play. If a player wishes to provide an escort for bombers operating as naval cooperation units, the escorting fighters must also be assigned to naval cooperation in the player's initial phase.
 - c. Operational Bombing. Fighter type aircraft with a bombing factor can use it for operational bombing missions (See Rule II.B.I.b.iv). Fighters assigned to this mission can jettison their bomb load and engage in air to air combat without penalty. They may not complete their bombing mission if they jettison their bomb load.

d. Airbase Attack. This mission is an attack against an enemy airbase. Fighters without a bombing factor have a bombing factor of one point when executing this mission (only).

E. Operational Bombing Missions.

I. This is the use of air units with operational bombing factors to attack bridges, airbases, and other targets that have direct impact on the combat forces of the opposing side. Hits are determined by the number of bombing factors delivered (after all air to air and AA combat has been resolved) to the target. When flying any operational bombing mission, factors delivered by type 'D' aircraft are increased by 1.5 times.

For Example: A type D air unit with a bombing factor of 3 would bomb with a bombing factor of 4.5 when flying and operational mission. Where fractions are left (the 0.5 in this case) Roll ID10. If the result equals or is less than the number after the decimal place, the type D bombs with 5 factors. If it is greater than the number after the decimal place, the type D bombs with 4 factors.

- a. Ports. Every four bombing points delivered against a port cause one hit. Each hit reduces the port's capacity by 2 SPs until repaired. A port can have no more hits on it than 1.5 times its cargo capacity. Ignore hits above that amount.
- b. Airbases. For every three bombing factors delivered to the hex (after air to air, and antiaircraft combat have been resolved) one hit is inflicted. Each hit achieved against the airbase reduces the capacity of the base by one. Additionally, if there are air units at an airbase that is damaged one air units on the base loses I ARP in damage per hit inflicted on the airbase, at random. *For Example*: There are 3 P-51 groups at a base that receives I hit. I ARP of P-51's is lost (EFT) as a result of the hit. If there is a

mix of air units on the base, then the lost ARP is chosen at random.

- c. Bridges. As bridges cross hex sides, the hex 'targeted' can be on either 'end' of the bridge. NOTE: AA defending the bridge can engage from either or both hexes it is located in. For every four bombing points delivered to the hex (after air to air, and antiaircraft combat has been resolved) one hit is inflicted:
 - i. One hit destroys a minor bridge.
 - ii. Three hits destroy a major bridge.
- d. Naval Forces at Sea (Rule 8.F.3 & 8.G.I.e).
- e. Naval Forces in Port. Air bombing factors are calculated in exactly the same way as for naval units at sea.
- f. Battlefield Air Interdiction (BAI). This is the use of aviation to interfere with the movement of supplies and reserves in the rear of a combat zone. This mission can be flown by any aircraft with an operational bombing factor (OBF) rating. It takes the delivery (after air to air and AA combat) of a number of OBF factors to a hex to create an interdiction zone. An interdiction zone consists of the centre hex (where the mission is flown to) and the six adjacent hexes to that central hex. Interdiction does not have any effect on naval supply elements.
 - i. Interdiction Targets:
 - I Any hex up to a maximum of five from the Frontline (including the enemy owned hex immediately adjacent to friendly units).
 - 2 Any hex containing a Corps HQ. Any units supplied via the HQ counter suffer the impact of the interdiction mission.
 - 3 Any hex containing an Army HQ. Any Corps supplied via the HQ counter suffer the impact of the interdiction mission.
 - 4 Any hex containing a Supply Terminal. Any Army HQ (and its subordinate units) supplied via the Supply Terminal suffers the impact of the interdiction mission.
 - ii. Cumulative and General BAI effects:
 - I 12 OBF points delivered create a level I interdiction zone. Ground unit and river flotilla movement cost is increased by one movement point for each hex in the zone it enters. The CEV of units tracing their supply line through this level zone is reduced by 5%. Rail movement costs two added rail points per rail hex entered.
 - 2 18 OBF points delivered create a level 2 interdiction zone. Ground unit and river flotilla movement cost is increased by one and a half (1.5) movement points for each hex in the zone it enters. The CEV of units tracing their supply line through this level zone is reduced by 10%. Rail movement costs three added rail points per hex entered.
 - 3 Zones that overlap can create higher levels in the overlapped hexes.
 - iii. Effects on the CEV can be cumulative from separate zones.
 - For Example: Passing the overland supply line through two level 1 interdiction zones would yield a -10% to the CEV. The maximum effect on the CEV is a 40% reduction from interdiction missions.
 - iv. AA fire on interdiction missions. When the air units are placed in the target hex of the mission, the defender totals his AA value within the projected zone, calculates the average AA per hex, rounding fractions up, and uses that AA rating to engage the enemy air units. If the projected Zone includes sea hexes only the AA within the zone on land would be counted toward the average AA rating.
 - For Example: An air mission is flown to a hex that has no AA in it. Of the surrounding six hexes, three have three points each, one has five and the other two have none. The player controlling the AA can engage with a maximum of 14 AA factors divided by the Zone Hex total (7) giving them an AA rating of 2.
- g. Close Air Support (CAS). This is the use of aircraft to directly attack enemy front line forces during ground combat. Units assigned to this mission that remain after air to air and AA combat have their operational bombing factors totalled. One combat factor is added to the owner's ground combat strength for every four operational bombing factors delivered, retaining fractions. The factors delivered are not modified by CEV or ACEV. Where fractions are left roll ID10. If the result equals or is less than

the number after the decimal place, the combat strength is rounded up. If it is greater than the number after the decimal place, the CAS strength is rounded down.

For Example: A US force is attacking a German force in 1944. The US player has 25 OBFs assigned to the CAS mission in the hex. If nothing is lost during air to air or AA combat, the US player adds 6.25 (rounded up or down) CAS (combat strength) factors to its force prior to terrain modifications. NOTE 'T' Code units, Rule 5.B.4.a.

- h. Naval Dockyards. Every four bombing points delivered against a port cause one hit. Each hit reduces the dockyard's repair capacity by 2 SPs until repaired. A dock yard can have no more hits on it than 1.5 times its repair capacity. Hits above that amount are ignored.
- i. Shipyards. Every four bombing points delivered against a port cause one hit. Each hit reduces the shipyard's repair and construction capacity by 2 SPs until repaired. A shipyard can have no more hits on it than 1.5 times its repair and construction capacity. Hits above that amount are ignored.

F. Naval Air Rules.

- I. Naval Air Units:
 - a. Naval Air Capacities on Aircraft Carriers is based upon the number of half strength air units carried.
 - For Example: HMS Glorious has a capacity of two air units. Two half or one full strength air unit may be carried on board the carrier, and may operate per the air and naval air rules.
 - b. Naval air units are either full or half strength per the OB/OA
 - c. Resolve all air missions normally.
- 2. Sea Zone Air Range. Compare the total number of hexes that an air unit can fly to the number of hexes to the centre point of a sea zone. It needs to have a range 2 hexes greater than the distance to the centre of the sea zone.
- For Example: An RAF Spitfire V has a range of 12. It is based at an airbase in a hex adjacent to a sea zone. At normal range it could fly to any sea zone adjacent to the one it is based beside. (i.e. 10 hexes to the centre point of the sea zone).
- 3. Naval Air Missions.
 - a. ASW. May be flown by Code A air units only. Move the air unit through sea zones. In each entered sea zone check on the Spotting Table. If the result is S any SSF in the zone may be attacked. Resolve per the SSF Air Attack rules.
 - b. ASW Escort. May be flown by Code A air units only. Move the air unit with a Convoy (only) as the convoy moves. If the air unit reaches its maximum range, it must return to base from that sea zone. Resolve per the SSF Air Attack rules.
 - c. Naval Spotting. May be flown by any air unit. The air unit is committed to this mission in the Naval Cooperation Phase. It remains at its home base, but may attempt to spot any enemy TG within its sea zone range. Roll I die on the naval Success Table, modifying for any DRMs. If the enemy TG is spotted, it remains spotted until the TG leaves the air unit's sea zone range.
 - d. Naval Unit Bombing. Once an enemy TG is spotted, any Naval Cooperation tasked air unit within range may attempt to bomb the target. Roll ID10:
 - i. On a result between 6 and 10 the air unit locates the target, and resolves the attack normally.
 - ii. On a roll of 1, if any friendly TG is in the same sea zone as the target TG, resolve the attack against the friendly TG instead, but reduce bombing or torpedo factors by 50%. Damage in this instance is inflicted normally.
 - iii. On any other roll, the attack misses all targets and returns home.
 - iv. DBA (Rule 11.B.1.c) May only be flown by naval air coded units (S, V, M, A).
 - e. Air Cover. May only be flown by Land based type F air units. If within sea zone range, a TG may be "covered" by land based air units. Roll one die per air wing committed. On a Roll between 4 and 10 the whole air wing finds the TG to be escorted. The air wing is treated as a naval air squadron for air to air purposes. It remains "over" the TG being escorted until it is either shot down, the naval air return step, or the TG moves out of sea zone range. On any other roll the air wing does not find the TG.
 - f. Also see Rule 9.D on Carrier Air Power.

G. Naval Cooperation Missions.

- 1. Only air units assigned to naval cooperation may fly against enemy naval forces at sea, or intercept enemy naval air cooperation missions (unless otherwise noted in mission rules). Units are assigned to this mission during the Initial Phase of each player turn although the missions, if any, are flown later. Naval cooperation is considered an operational bombing mission.
 - a. Air units with any special naval capabilities (see the Unit Identification Table and Rule 5.B.4) are automatically on the naval cooperation mission, they may not be assigned to other air missions.
 - b. All other air units are assigned to naval cooperation in the initial phase of a player turn. When non-naval units are assigned to this mission, a "naval coop" marker is placed on or over all such units assigned at an airbase.
 - c. Air units assigned to naval cooperation remain assigned until the next player initial phase.
 - d. Spotting. Naval cooperation units may have to search to find their targets (Rule 9.G). Naval cooperation units fly to the centre hex of a sea zone to complete their mission. The air units must have 2 additional MPs over and above the MPs required to reach the centre hex of the sea zone, however air units operating against River Flotillas in a Coastal Sea Zone may fly directly to the hex in which the flotilla is spotted, without paying the additional MP cost.
 - e. Naval Bombing Resolution. Method: In all cases convert the modified operational bombing factor to to-hit attempts on the Naval Success Table. Roll ID10 for each attempt, using all applicable DRMs. A "S" result means a hit. If the player Rolls 10, then the hit may be a critical hit. Critical hits are resolved per Naval Gunnery resolution.

- i. Dive Bombing. Type D air units attack by dive bombing. See Rule 5.B.3.a for more details of modifiers. Naval units in port are subject to an additional +1 DRM on the to-hit die roll.
- ii. Torpedo Bombing. Use the Torpedo attack resolution system in the naval rules.
- iii. Level Bombing. May be flown by Type B or HB air units. They have a negative DRM (see Rule 5.B.3.a) on the 'to hit' die roll.

9. Naval Movement

A. Phases.

- I. There are four main naval movement phases in each player turn, making 8 in a game turn:
 - a. Movement Segment. Before moving ground units, the phasing player moves all eligible naval units in his movement phase, utilising their SMA allowance. A naval unit may spend some or all of its strategic movement rating to accomplish specific tasks including naval combat (e.g., replenishing, loading or unloading cargo.) A naval unit is not required to move in a naval movement step.
 - b. Reaction Movement Segment. After the phasing player has moved his naval units, but before he moves his ground units, the non-phasing player may move any at sea or fully supplied naval units up to their SMA counted in sea zones. These units may attempt to intercept enemy naval forces, or may move to support friendly ground forces with Naval Gunfire (Rule 13.P).
 - c. Phasing player Pursuit Movement Segment: Phasing ships may move up to their SMA again.
 - d. Non-phasing player Pursuit Movement Segment: Non-phasing ships may move up to their SMA again.

B. Sea Time Limits.

1. Naval ships may remain at sea for 4 consecutive friendly movement segments (including movement to and from off-map bases) unless they are operating at extended range or replenish at sea (Rule 15.R.4.b). If a ship does not return to a friendly owned port or naval base by the end of the fourth segment, it is depleted and is at sea. See Rule 15.R for naval logistics. Use a convenient marker to show the passage of time for each TG at sea.

For Example: An Allied TG sails on the April I 42 turn during the reaction movement segment to intercept an Axis TG. The Allied TG must return to base on the reaction movement segment of the April II 42 turn, or it is depleted and at sea.

2. A British Task Force/Convoy expends 13 of its SMA allowance to reach the top edge of map AB from Mombasa and 26 of its SMA allowance to entre from the southern corner of map AA when arriving from South Africa. Japanese Task Forces expend 54 of their SMA allowance to reach the edge of map BB. All IJN DDs and Escorts are operating at Extended Range unless allowed to base on map (see the OB).

C. Transit Combat.

Naval combat is seen as happening during a sea zone "transit" and may be resolved at any time.

D. Carrier Air Power.

- 1. Phasing player carrier air power may launch air strikes at any time. Naval cooperation missions and airbase bombing missions are resolved immediately. Missions against Ground Targets are resolved during the main Air Mission or Ground Combat resolution steps.
- 2. Non-Phasing player carrier air power may launch air strikes at any time.
- 3. Interception missions from carriers may be launched against any mission targeting task groups and forces in the same Sea Zone that that carrier is based in.
- 4. Carrier fighter units may fly as many interception missions during a player phase as required by incoming enemy air attacks until the fighter unit suffers a negative air result. This represents the carrier air group's generally higher availability rate and sortie on demand strategy, thus enabling the carriers to provide on-going air protection to its charges.
- 5. CVEs. CVEs can allocate their air group to convoy protection. Type A and B air units (only) may be allocated. For each half unit allocated, the convoy gains 12 ASW points. If the air unit is CODE A, it gains 24 ASW points. Once allocated to convoy protection, an air unit may not be used for any other purpose.

E. General Limits.

- I. Returning to Base.
 - a. Naval units returning to base during their 4th movement segment at sea may expend their SMA only for movement, ASW if spotted by an SSF, or replenishment. They may not operate in any other way.
 - b. Transit Combat may be resolved at any time.

F. Fuel.

Every Ship has a fuel point rating. Each ship expends ¹/₄ of its fuel level per movement segment at sea. If due to combat a ship expends more than its current movement segment SMA, deduct that SMA from its next movement segment allowance. Ships may expend more than their total (4 times the Strategic Movement Allowance Table value) SMA during their 4 segments at sea – however, if they do (for whatever reason), they are fuel depleted. See Rule 15.R.3 for the costs and penalties to the ships for becoming fuel depleted. *For Example:* A Fleet DD costs I FP to refuel. It expends ¹/₄ of a FP per movement segment at sea. If it does not replenish prior to the end of the fourth movement segment at sea, it is fuel depleted.

G. Spotting.

- 1. Naval units in a task group cannot be attacked by enemy air or naval units unless the Task Group that they are part of has been spotted. Naval Units may be spotted by other Naval Units, Aircraft, National Intelligence Means or Coastal Watchers. A Task Force that engages in transit combat is spotted by the opposing side for the remainder of the player turn, unless all enemy vessels are sunk in the resulting combat. Spotting attempts can be modified by a number of factors, including naval efficiency, surface search radar/HF DF, Sea Effects Chart (weather). See the Spotting Modifiers table for full details.
 - a. Spotting and Shadowing Rolls:
 - i. Spotting. Roll I D10 on the Naval Success Chart and modify the die roll by the applicable modifiers. See below for results.
 - ii. Shadowing. Roll I D10 on the Shadowing Table and modify the die roll by the applicable modifiers. See below for results.
- 2. Carrier Battle Groups (CBGs):
 - a. CBG's may attempt to spot enemy naval task groups in their own sea zone. A result of F* or S spots the enemy TG for the remainder of the phasing player turn. They may also attempt to spot SSFs see 3.d below
 - b. Carrier Battle Groups. CBGs that sacrifice 1/6 of their SMA may also launch a squadron of aircraft to search all adjacent sea zones to the ones that they are moving through during each naval movement segment. This simulates the use of Carrier based aircraft and the time taken to launch/recover aircraft. One type A or D air squadron must be allocated to this mission for the duration of the player turn.
 - i. On a result of S the attempt is successful.
 - ii. The CBG, if it has replenishment ships with, it may elect to try and shadow the enemy force.
 - iii. To attempt this it must replenish prior to rolling to spot. If it spots successfully, it rolls again on the Shadowing Table. If successful, it "follows" the enemy force until the end of the reaction phase in the following friendly player turn.
- 3. Naval Task Forces.
 - a. NTFs that spend 1/4 of their sea zone movement allowance may attempt to spot enemy naval task groups in sea zones that they are in or transit. The ability of naval task forces to successfully spot enemy Naval Task Groups depends on their size and the type of ships that are assigned. This represents the fact that lookouts on the top of a Battleship or Battle Cruiser can see further than lookouts on top of a Destroyer.
 - b. The number of ships is also crucial at the owning player's option, a Task Force with ten or more surface combatants may attempt to search any I sea zone adjacent to those which the owning player's task force moves through, however a NTF that uses this extended search formation is more vulnerable to enemy attack, as noted in the relevant combat rules. See Rule 13.F for more details.
 - c. On a result of S, the enemy naval task group is spotted for the remainder of the phasing player's turn only. Flip the enemy Task Force counter to its spotted side to illustrate this. Friendly Naval Task Forces that are used to spot enemy Naval Units may be spotted by the enemy naval force. The enemy player rolls one die, and applies the appropriate DRMs (Weather, NEM, and Spotting Modifiers Table). On a result of F* or S the task force attempting to spot is also spotted for the remainder of the phasing player's turn.
 - d. Any naval task group may also attempt to spot SSFs. In each sea zone entered, TFs may attempt to detect suspected enemy submarines during movement. Total the ASW rating in the naval task force (see the ASW/Air ASW Conversion Chart for the ship types and their individual ratings). For every 4 ASW additional points after the first 4 ASW points in the naval force, the naval forces receive a +1 DRM on the to-spot die roll against the SSF. Roll 1D10 on the Naval Success and Spotting table to determine the result applying appropriate modifiers. On an S result the TF has detected an enemy submarine force (if present in the sea zone) and can either evade the enemy submarine force or attack it if it has an ASW capability
- 4. Convoys: These may not attempt to spot enemy Naval Task Groups in the context of the game. They may attempt to detect an enemy submarine force in the same manner as in 3.d above and engage it with ASW. See the SSF rule immediately below for more details.
- 5. Submarine Flotillas (SSFs):
 - a. SSFs may attempt to spot enemy naval task groups in their sea zone that fail to spot them for whatever reason. On a result of S on the Naval Success Chart, the enemy NTG is spotted while it is in the sea zone occupied by the submarine flotilla.
 - b. The submarine flotilla may then either attack the enemy Task Group or may, if the enemy Task Group is a convoy, attempt to shadow the detected convoy.
 - c. If the submarine attacks, follow the submarine attack rules 13.O.
 - d. An SSF may be detected by enemy NTGs that have an ASW rating, if the naval forces are in the same sea zone as the SSF. If the SSF tries to attack the NTG, the naval forces must attempt to spot the SSF prior to SSF combat resolution provided the NTG had not already failed to spot this SSF during the phase.
 - e. If the player elects to shadow and the attempt at shadowing is successful, the enemy task group is spotted for the remainder of the phasing player's turn, although the SSF does not leave the sea zone it is patrolling.
 - f. A SSF that has been spotted may not attempt to shadow an enemy task group.
 - g. Mark a spotted SSF with spotted markers or with a convenient marker to show spotting.
- 6. Spotting by Land Based Air Units: Air units assigned to the Naval Spotting mission (see Rule 8.F.3.c above) may fly to a sea zone that is within range. They may attempt to spot enemy naval forces in that sea zone, and those adjacent to it that pass through those sea zones. A sea zone is within range if an air unit can fly to the sea zone locator hex and retain four movement points.

- a. Spotting Surface Ships: On a result of F* or S the enemy task group is spotted in that sea zone and all adjacent sea zones. The spotted task force may be attacked by air units flying the Naval Bombing mission.
- b. Spotting Submarines: On a result of S the SSF marker is spotted, the SSF is revealed to the spotting player (or removed if a dummy). If the SSF is an active SSF it may be attacked by the spotting aircraft (if it is Code A). Naval surface forces passing through a sea zone containing a spotted SSF receives combat modifiers per the ASW Table.
- 7. Spotting by National Intelligence Means (NIM): Carried out in the Initial Phase and if successful the NTGs remain spotted until the player's next Initial Phase. All major naval powers developed sophisticated naval intelligence resources during the war, such as Allied Ultra and Magic Crypto-analytical units, and Axis B-Dienst Naval Intelligence. The NIM Table gives the results of search attempts. The time element reflects the changing national abilities in this effort during the game.
 - a. Method Against Surface Forces. Roll I die on the Naval Success Spotting table using the NIM table modifiers. This tells the player if he has "decrypted" the enemy's ciphers. If successful he may spot the number of NTGs noted on his NIM Table.
 - b. Method Against Submarine Forces. The phasing player may attempt to reveal the contents of enemy SSF counters. If NIM reveals the enemy SSF the SSF is marked as spotted or removed if a dummy. Spotted SSFs can be attacked as noted in the Naval rules.

H. Naval Transport.

- 1. This is the transportation of ground units by sea and involves loading and offloading the ground unit(s) being transported by NSPs or certain other naval vessels. SLs, and those CLs that have a cargo capacity may not carry units with heavy equipment. Embarkation may only take place in the Phasing Player's turn.
 - a. Naval Transport Capacity: This is the SP size of the unit except:
 - i. Motorized count as triple their normal SP size for the purposes of naval transport.
 - ii. Cavalry units count as twice their normal SP size for the purposes of naval transport.
 - b. NSP Capacity. Each NSP may carry I SP of ground units. Multiple NSPs and Ship counters where applicable can combine to carry units or resources larger than their individual capacity.
 - c. Naval Combatant Capacity. Naval ships have a limited capability to transport units with no heavy equipment. Capital Ships (see 5.C.2.a) and Major Combatants (see 5.C.2.b) may transport ½ SP of ground units while Escorts (see 5.C.2.c) may carry ¼ SP of ground units (an exception to this is an AMC which may carry I SP of ground units).
 - d. Loading and Offloading. Normally, units present in the hex during the phasing player's naval movement phase are loaded onto or off an NSP at a port, but units without heavy equipment may also load and offload over a beach.
 - e. Landing Craft. Units or counters with heavy equipment may load or offload from a beach using LCs. The units then tranship to or from NSPs for onward transportation.
 - f. It costs I MP to load or offload at a port. It costs 4MP to load or offload at a beach.
 - i. Ports. Port capacity determines the maximum number of units that may load or offload at a port. Port capacity is limited, and is set out in the Port Capacity Chart. Once the total port capacity has been used, the player may opt to load or offload ships using beaches.
 - ii. Beaches. As noted above, units may load or offload at a beach. Beach hexes with coastal cliffs cost an additional 3MPs per unit to load or offload at.
 - g. Movement of NSPs carrying ground units. NSPs move normally per the naval movement rules, but pay costs for transhipping, loading, and offloading.
 - i. Loading and Offloading:
 - I Ports. It costs the NSP I SMA to load or offload cargo. However, SLs only go through one load, move, and offload cycle per game turn.
 - 2 Beaches. It costs the NSP 2 SMA to load or offload cargo at a beach.
 - 3 Transhipping. See 9.1.1.a.iii below.

I. Amphibious Shipping Operations.

- 1. Amphibious Operations are a naval mission designed to transport ground units to an enemy beach hex so that the ground units may attempt to land in the hex. Units unable to land in the initial wave of an operation form the Floating Reserve and these may be landed in the Pursuit Phase.
 - a. Amphibious Shipping Limitations.
 - i. Ground Units may be transported to a sea zone (the Assault Zone) adjacent to the target hex(es) of an amphibious assault by type NSP or LC only, but may only assault the target hex if transported there on (or transhipped from an NSP into) a LC. Loading costs for units participating in any amphibious operations are doubled (representing the time cost of "combat loading" the units.) Units participating in an amphibious assault must be in offensive supply on their embarkation turn, and may not be used for any purpose during the planning period (see Rule 9.1.2 below for planning times of the various operations). Where MP costs are greater than the unit has available the unit may land but not conduct overruns or move in the Pursuit Phase.
 - ii. LCs participating in an amphibious assault may not be used for any other purpose during the planning period (Rule 9.1.2.a.iii) and may only travel 1/3 their SMA to the assault zone under their own power, but may be carried to an assault zone by NSPs. An LC may be carried by a 2 capacity NSP as cargo.

- iii. Transhipping units from NSPs to LCs costs 2 MPs of the Ground Unit's movement rating, and two sea zones worth of both the NSP and the LC's modified SMA.
- iv. LCs may carry I SP of amphibious units (including units with heavy equipment) or 0.5 SP of non-amphibious units (including units with heavy equipment) during an assault landing.
- v. NSPs and surviving LCs must return to base after the operation. However, the units allocated to the floating reserve may land immediately prior to the departure of their NSPs and or LCs.
- b. LC Damage. LCs may be damaged during an assault landing or in naval combat.
 - i. Assault Landings.
 - I Roll I Die adding all relevant DRM's on the Landing Craft Damage Chart for details of damage to the LC's.
 - 2 Damaged LCs are repaired if the owning player spends one Naval Repair Point per counter, and they spend one complete turn in a friendly owned standard, major or great port.
 - ii. Sunk in Transit. Sunk LCs are returned to play four player turns after the turn on which they were sunk at any friendly owned standard, major or great port within the theatre in which it was lost, that is a linked to a source of general supply or by a sea LOC to the national source of supply, if the owning player expends one Naval Repair Point per counter (lost) on the turn that it is lost.
- 2. There are five types of amphibious operation:
 - a. Assaults:
 - i. Assaults are considered to be any landing operation:
 - I Onto hostile shore that consist of 3 SP or more of ground forces, with the intention of establishing a beachhead to occupying territory as a base for future operations.
 - 2 Into a Neutral Owned port. Roll ID10 per unit landing the forces. On a roll of 10 the assaulting force suffers a critical hit on the unit affected. Resolve per the naval gunnery critical hit procedure. On any other roll the force lands into the port using the port capacity unaffected by naval defences. Landed forces then operate per the remainder of the amphibious assault rules below.
 - ii. Amphibious assaults occur only during the first naval movement phase of the owning player's turn. Ground Combat is resolved during the Ground Combat resolution element of the game turn.
 - iii. Planning time required. An amphibious assault must be planned six game turns in advance. At that point the NSPs, LCs, and the general number and type of the ground units to be involved are designated. No naval or ground unit may have more than one amphibious assault planned for it at a time. When the planned execution date is four turns away, the LCs and NSPs that will carry the force to land must remain in the designated embarkation port(s) until the turn of execution. They may not be used for any other purpose unless the assault is cancelled. Specific ground units are scheduled for the operation. These units must be kept out of contact with enemy ground forces and within movement distance of the designated embarkation ports (This distance to be adjusted to include the loading and unloading costs {4 MP total} for the unit.) If the designated ground units are involved in any ground combat during this time they are not available for the assault and it is cancelled. If the NSPs used use "extended" supply rules as part of their movement, they are held out of use five not four turns prior to the execution date.
 - iv. Cancelling or delay of execution. Assaults may be cancelled at any time and a player is not obliged to follow through on a plan. The owning player may "delay" the landing for one turn, keeping the plan in effect and binding all involved units to the plan for one additional turn. The ground units need not load if the operation is delayed.
 - v. Combat. Units landed at an enemy occupied coastal hex attack the defending units. All attacking units have their normal attack factors, except for marine and commando units, which are doubled. All attacking ground units are destroyed at the end of the turn if they fail to gain control of the hex where they landed.
 - b. Tactical Landings: Tactical landings are small landings on enemy owned shores designed to force the enemy to either retreat in another direction, or block retreat routes for the enemy in conjunction with other attacks being made by ground forces. These landings are 3 SP or smaller in size.
 - i. Tactical landings occur in the owning player's naval movement phase only. They may also only be executed into hexes adjacent to a hex being attack by friendly ground forces other than the landing force.
 - ii. These operations require no planning time. The landing force may only move out of the hex it landed in if it is either adjacent to a friendly ground unit in regular supply, or by withdrawal via the LC(s) in the pursuit phase. If the force is to be withdrawn, this occurs immediately after the combat resolution phase on the turn it landed. The LC(s) involved pay the I SMA MP point cost for loading and unloading during the movement phase. The reloading from the target hex on completing the operation has no MP cost.
 - c. Raids: Raids can only be conducted by units that have 'amphibious' capability; as denoted on the Unit Identification Chart. They are smaller than 3 SP in size.
 - i. Raids occur in the owning player's movement phase only.
 - ii. Raids require two turns of planning. During that time the LC(s) that will land the force will remain in the port of embarkation and the specific units involved will remain within movement distance (allowing for the cost to load and unload the units) of that port.

- iii. Should either the LC(s) or the units designated to participate be involved in either other operations or ground combat, the raid is cancelled. Once the raiding units have been landed, they may not leave that hex except withdrawal via LC(s) in the pursuit phase. They can expend movement points to damage items.
- iv. During the 'pursuit phase' of the turn they landed in, they are reloaded onto the LC(s) and return to a friendly port (at the option of the owning player, and the range of the vessels). The LCs involved pay the 2 SMA cost for loading and unloading only during the movement phase. The reloading from the target hex in the pursuit phase has no MP cost.
- d. Landing on Friendly Shores: This is the use of LCs to transfer units to areas where port capacity is limited or restricted to unloading other cargo. There is no planning time required for this type of operation. Transhipment Costs are charged.
- e. Evacuations: An evacuation is the lifting of forces off a beach (no port capability used) due to a calamitous military situation. Evacuations are declared events (by the player desiring to execute them). Once declared, the units to be evacuated are removed from the map as they load onto the NSPs, with only the Infantry replacement points needed to rebuild them available to be 'taken off the beach'. All other points (armour and artillery) are lost and do not go into any of the owner's replacement pools.
 - i. If a player has a sufficient number of LCs, a proportion of the heavy equipment is rescued:
 - I One LC per SP evacuated:

- 25% of the Arm or Arty SRPs in the unit.
- 2 Two to three LCs per SP evacuated:
- 50% of the Arm or Arty SRPs in the unit.
- ii. LCs used for an evacuation may be permanently lost:
 - I Roll ID10 per LC and consult the naval success table
 - a. On a S result the LC survives, but is in refit as soon as it enters a friendly owned port for 4 game turns.
 - b. On a F* result, the LC is critically damaged in game terms. The LC must be rebuilt expending I NRP, and then refitting the LC in a friendly port for 6 game turns.
 - c. On a F result, the LC is destroyed, and cannot be rebuilt in the context of the game.
 - 2 Fractions. In all cases above, retain SRP fractions.

J. Submarine Movement.

See Rule 13.O.I

10. Ground Combat

A. Definition.

During the combat phase, a player's units may attack adjacent enemy units. Attacks are voluntary and at the option of the phasing player. However, initiating air combat in the hex forces the attack on the ground to be completed. No unit may attack into or across prohibited terrain. The Ground Combat Results Table is used to resolve ground combats.

B. Procedure.

- I. The attack (combat) strengths of all the forces attacking are modified for terrain, supply, national contingent (see C.5 below), and CEV (including BAI), then totalled.
- 2. The defence (combat) strengths of all the forces defending are modified for supply, national contingent, weather and CEV (including BAI), then totalled.
- 3. The two totals are compared in the following manner; divide the attacker total by the defender total to arrive at a combat ratio (always expressed as attacker : defender). If the ratio is not exact, round it to the nearest hundredth and use a percentile roll to determine the initial odds column used on the Combat Results Table. If the result of the 2D10 roll is equal to or lower than the ratio the higher odds column is used, if higher than the ratio the lower odds column is used.

For Example: 34 factors attacking 9 factors 34/9 = 3.77:1

- a. 2D10 result greater than 77 means that the attack is a 3:1.
- b. 2D10 result equal to or less than 77 means that the attack is a 4:1.
- c. ID10 is rolled and the result is modified by any terrain or other special effects to the die roll from any source, such as Air Superiority (Rule 5.B.6), weather and use of armour or other specialist units.
- d. The adjusted die roll result is then cross indexed with the odds column under the ratio determined above.
- e. This final result is then applied to all forces involved in the combat.
- f. Results are applied to both sides immediately after the die roll for each individual combat.

Example 2: A German Cavalry unit with an attack strength of 5 attacking into a Wood hex. Weather is good and it is in Offensive Supply.

- a. German CEV is 1.5 and the terrain combat modifier is 1.25. The unit has a modified attack strength of $9.38 5 \times 1.5 \times 1.25$.
- b. If it were attacking across a Fortified Hexside into the Woods its modified attack strength would be $2.34 5 \times 1.5 \times 1.25 \times 0.25$.
- c. If you are using the optional 'Going' rule then its modified attack strength would be 2.81 across the Fortified Hexside or 11.25 straight into Woods as it would be on a modified CEV of 1.8.

C. General Modifications and Restrictions.

- 1. No unit may attack, or be attacked, more than once per combat phase. If a unit retreats to a hex that is then attacked, it takes no part in the defence and suffers the result of the combat with the defending force.
- 2. Each attack must be directed against a single enemy hex. Two or more enemy held hexes cannot be attacked by the same units as a single attack.
- 3. Units in the same hex may attack different hexes, but each hex attacked is resolved independently. A single unit may not split its attack strength to attack into multiple hexes.
- 4. The order in which individual combats are resolved is determined by the attacker.
- 5. National contingents. When units from more than one nation combine in an attack, there is a modification to the attack strength. The majority contingent (in terms of SPs) remains at full strength, while the other national contingents are halved. If there is no minority, the owning player designates the minority. The minority contingents retain any special capabilities they bring to the attack (Armour heavy, engineer benefit, etc.). On the defensive, the minority force loses 25% (retain fractions) of its strength.
- 6. Attacks at greater than 9:1 are treated as 9:1.
- 7. Attacks at less than 1:4 are treated as 1:4
- 8. Die roll results higher than 15 are treated as being 15, those lower than -4 are treated as -4.

D. Combat Results.

- I. AH: Attacker Halved. The attacker must lose 1/2 the stacking points of the DEFENDING force total. The defender retains the hex.
- 2. DH: Defender Halved. The defending force must lose ½ its total stacking points and must retreat.
- 3. AQ: Attacker Quartered. The attacking force must lose 1/4 of the stacking point total of the defending force. The defending force retains the hex.
- 4. DQ: Defender Quartered. The defending force must lose 1/4 of its total stacking points. The defending force must retreat.
- 5. AE: Attacker Eliminated. The defending forces take no losses. The Attacking force is eliminated. Any remaining attacking units must retreat.
- 6. HQ: Attacker Halved, Defender Quartered. The attacking force must lose 1/2 of the total stacking point size of the defending force; the defending force must lose 1/4 of its stacking point total. The DEFENDER has the choice to retreat or not. If the defender chooses NOT to retreat, the loss required goes up to 1/2 its total stacking points, but remains in the hex. If the defender does retreat, the attacker may advance into the hex after combat.
- 7. HR: Halved Retreat. The attacking forces lose 1/2 of the total stacking point size of the defending force; the defending force must retreat.
- 8. DA: Defender Annihilated. The defending force is completely destroyed. If units in it have reduced sides, these are not received. The defending force does not receive combat replacements. The attacker may advance into the hex after combat.
- 9. QR: Quarter Retreat. The attacker must lose 1/4 of the defending force total of stacking points. The defender must retreat.
- 10. HX: Half Exchange. The smaller force is eliminated, the larger force suffers losses equal to half the SP size of the smaller force. If the attacker is eliminated (including all reduced units) the defender may elect to retain the hex. If both sides are equal then the defender is regarded as the smaller force and loses the hex.
- II. DR: Defender Retreat. Neither the attacker nor defender takes losses. The defending force must retreat.
- 12. QH: Attacker Quartered, Defender Halved. The attacking force must lose 1/4 of defending forces total stacking points; the defending force must lose 1/2 of its total stacking points. The defending force must retreat.
- 13. DE: Defender Eliminated. The attacking force takes no losses, the defending force is eliminated. Any remaining units must retreat.
- 14. EX: Exchange. The smaller force (fewer SPs) is eliminated. The larger force suffers losses equal to the SP size of the smaller force. Then the smaller force retreats or returns to its starting hex if it was the attacker. If both sides are equal the defender retains the hex and any unit(s) reduced as a result of the combat does not need to retreat.

E. Losses.

- 1. In general, all combat losses are calculated in terms of stacking points involved in the action (attacker and defender), and are rounded down to the nearest half stacking point.
- 2. The number of stacking points required to be lost is defined in the results (above). Required Losses' (Rule J below) may also apply. This specifies the types of stacking points that must be lost as a proportion of the total losses resulting from the combat, if any.
- 3. As naval and air units have no 'stacking point size', they are never included in ground loss calculation.
- 4. Losses are subject to the 'Combat Replacements' regulations (Rule 16.A.2.e page 51)
- 5. If the side suffering losses cannot precisely match the losses called for as a result of combat, the side must take losses that exceed those called for. For Example: A force attacking with 8 SPs takes 5 SPs of losses. The attacking force consists of two divisions, worth 4SP each The attacking player may reduce and eliminate one division for 4 SP, then he must reduce the other division for 2 SP losses, and then records his total SP losses (6 SP) for the combat replacement system..
- 6. Where multiple contingents are involved in a combat, losses should if possible be spread across the contingents equally. However, where this is impossible the larger contingent takes the loss

F. Reduced Strength Capable Units.

1. Most divisions and some other ground units can be absorb losses in combat and retain unit cohesion. These units have a reduced strength printed on the reverse of their counter. Such units can flip to their reduced side to satisfy combat losses rather than be eliminated. If the unit is already reduced, then it would be eliminated. Its reduced side represents a size equal to $\frac{1}{2}$ its initial SRP size.

For divisions 2 SRPs of its unit type are set aside for use in the 'Combat Replacement' system, for Brigades or other sized units $\frac{1}{2}$ of its SRPs are set aside for use in the Combat Replacement system (Rule 16.A.2.e).

2. It is possible for a unit to be reduced and then eliminated. The unit counts as half its SP strength if reduced, and as half its SP strength if its reduced side is later eliminated.

For Example: A force loses 4 SP in combat. The side suffering the loss includes several divisions. That side may elect to reduce one division, and then eliminate the reduced side to satisfy the losses from the combat result. Hence, the total combat replacements added to the combat replacement system are 4 SP.

G. Movement after Combat.

- I. There are two types of movement possible after combat; Retreat and Advance. Attacking forces are never required to retreat (unless the result is EX), while defending forces cannot advance after combat. Units in a hex can retreat individually, in separate groups, or as a single stack at the owner's option.
- 2. Retreats. When a unit is required to retreat, the owning player must move it one hex away from the hex it occupied during the combat. All units in a hex retreat in an order determined by the owning player.

a. Retreat Restrictions and Requirements.

- i. A unit which must retreat into an EZOI is eliminated, unless it has a reduced side.
 - I A unit which has a reduced size and is at full strength prior to the required retreat is reduced.
 - 2 If it must continue to retreat (due to stacking) and again must enter an EZOI it is eliminated. Note: Units eliminated in this manner are also put into the combat replacement system.
- ii. A unit must retreat according to the following priorities:
 - I To a hex not in an EZOI and not over stacked.
 - 2 To a hex not in an EZOI but over stacked.
 - 3 To a hex in an EZOI and not over stacked.
 - 4 To a hex in an EZOI but over stacked.
- iii. Stacking. When a unit violates stacking by retreating into a hex, it must continue to retreat until it no longer violates stacking. Units that are capable of being reduced may be reduced at the owner's option to avoid being forced to further retreat if such a reduction would satisfy the hex stacking limit. Stacking points lost in doing this are added directly to the appropriate combat replacement pool (and are not counted for Rule 16.A.2.e). Any units that cannot retreat to avoid exceeding stacking are totally eliminated (not reduced). Their points go into the appropriate replacement pool.
- iv. Retreated Units and the Defence. When units are forced to retreat into a hex that is subsequently attacked in the same combat phase, they contribute nothing to the defence. They are subject to the results of the combat in the hex. They are included in the total for the defender losses but only the contributing defending force SPs in the target hex are used to determine the loss for the attacker.
- 3. Advances after Combat. If the attacked hex is cleared of all enemy units, the attacking player may occupy the hex with units that participated in the attack. The hex can be occupied only up to its stacking limit, but the units can come from any hex that it was attacked from. If there are units still in the attacked hex, the attacking force can overrun them (Rule 7.E) if sufficient factors can be moved into the defending hex from any of the attacking hexes. This advance is voluntary on the part of the attacker, but must be completed prior to resolution of the next combat.

H. Zero Strength and Limited Strength Units.

- I. Any regular (non-partisan) ground unit with a printed attack strength of zero may not attack by itself but:
 - a. It may be included in an attack to either provide a special benefit, or to be permitted to advance after combat.
 - b. These units are eliminated when attacked alone by any unit with a combat strength of one or more.
 - c. Their stacking point size is used both for losses and required losses.
- 2. Any unit with an attack factor of (1), i.e. a combat factor in parenthesis, is treated as a zero strength unit in all respects except against partisan units when it has a combat strength of 1.

I. Terrain Effects.

The terrain of the defender's hex and the hex sides being attacked across may modify the strength of attacking units. The effects columns on the Terrain Effects Chart (TEC) show the effects on combat for each terrain type. Any DRMs are cumulative for the combat, with the final adjusted total applied to the basic ID10 roll for that combat.

J. Required Losses.

Ground units with special capabilities are required to take losses when their benefits are used to influence the outcome of ground combat. This represents the increased risk they suffer by influencing the combat. In any combat where a side uses the benefits a +2 DRM from any proportion of effects or specialist units, at least half of the SP losses by that side must be taken from units who are $\frac{1}{2}$ or greater capable in that category.

For Example: An armour heavy force attacking field works with 2 armoured divisions (8xSP) giving +2 DRM, an infantry division (4xSP), and two assault engineer battalions (1xSP {4xSP for combat effects}) giving another +2 DRM, would be required to take 50% of any losses from the armour and engineer units. Against this force if the defender had 5 AT points giving a +1 DRM then there would be no required losses from ATE capable units. The owning player decides the order in which units are lost. One unit per type contributing special capabilities is taken (or reduced) at a time, with a second loss from each type only allowed to be taken when all unit types contributing have taken losses. In the above example if the attacker suffered losses of 6xSP then he could reduce an armoured division

(2xSP), eliminate an assault engineer battalion ($\frac{1}{2}xSP$) and then either eliminate the other assault engineer battalion or take another 2xSP of armour losses before taking any infantry losses.

K. Concentric Attacks.

- 1. Forces attacked from multiple sides may suffer a combat penalty. If the attacker meets any or all of the following requirements, the attacker gains a +1 DRM on their combat die roll:
 - a. The attackers attack across multiple hex sides, separated by at least one other hex side.
 - b. The attackers attack across at least 3 hex sides.
 - c. The attackers attack across diametrically opposite hex sides.

L. Abilities of Special Unit Types.

- I. Combined Arms Effects: Specialised units may have a dramatic impact on a battle above and beyond their basic Combat Strength. Combining these arms will dramatically increase the combat power of forces, especially when proper use of terrain is considered.
 - a. Armour Shock Effects (ASE) and Antitank Effects (ATE): To reflect the 'shock' impact of armoured fighting vehicles in combat, all units that have a significant armour component have a point value assigned to them showing their 'armour' value. The presence of the British Armoured unit or Japanese Mechanised unit will give the owner a +1 DRM in combat (-1 DRM if defending). Opposing this impact is the density of antitank guns resisting the armoured attack. All units that have a significant antitank component have a point value assigned to them showing their AT value. The following list summarises in general the units affected:
 - i. Armour. Equate to their SP total in Armour points. They also equate to their SP strength in AT points.
 - ii. Mechanised Infantry. Equate to 25% of their SP total in Armour points. They also equate to 75% of their SP strength in AT points.
 - iii. NOTE: The following units do have AT values but no Armour Points:
 - I Anti-Tank. Equate 50% of their SP strength in AT points until the Initial Phase of the June I Turn, 1942. Between that date and the Initial Phase of the June I Turn, 1943, they equate to 100% of their SP strength in AT points.
 - b. Determining AT Effect. The defending force totals up the AT points it has. ATE can be affected by supply and terrain. Modify the total by these effects. This modified total is used to determine the AT benefit received by the defender. To gain the effects, the following conditions are set:
 - i. With 2-5 Antitank Points -I DRM (if 3+ unmodified Armour Points in the attack)
- 2. Light Infantry (Jaeger) Effects. Light infantry are less well equipped than their "regular" counterparts, and have a lesser allocation of heavy weapons which has the effect of increasing their battlefield mobility in Poor Going. As a result, a stack with greater than ½ its SPs consisting of Light Infantry units gains a +2 DRM when attacking hills, woods, jungle, wooded hills, or karst terrain.
- 3. Motorised Effects. In general motorised units have no additional modifiers except where noted in the ASE/AT rule above. If using the optional going rules they have the following effect in some types of Good Going:
 - a. Their combat strength is multiplied by 1.5 in clear and desert going.
 - b. Their combat strength is multiplied by 1.25 in hills and sandy desert going.
 - This represents their increased local mobility.
- 4. Engineer Effects. Engineers have a variety of missions, dependant on their specific training. Construction and repair work are dealt with elsewhere. Combat engineers have effects in attack as well as construction capabilities.
 - a. Adjustments to SP total. Combat engineers receive 'multipliers' to their SP value as follows:
 - i. Combat Engineers. These units have their SP size doubled when attacking cities, fortresses or major fortified works. Combat engineers have construction and repair capabilities per Rule 14.B.2.
 - b. Combat Engineers in River Crossing Operations. Combat engineers provide essential support to a river crossing operation. Their presence reduces the impact of a river as an obstacle to the advance of the force. Apply the following modifiers:
 - i. I SP per hex attacking +1 DRM
 - c. Combat Engineers in Attacks against Cities and Fortifications. When attacking a city (any size), field fortification (any level), or other fortified work, combat engineers provide benefits to the attacker. If the attacking force includes modified SP equivalent of combat engineers it receives the following benefits:
 - i. With 1-3 SPs

- +I DRM
- NOTE: Less than I SP has no effect.
- 5. Commandos:
 - a. Commandos are not counted when determining the number of SPs for special capabilities in an attack.
 - b. Commandos may attempt to gain tactical surprise (Rule M.I.a below).
 - c. Commando units may always retreat into an unoccupied hex, even if it is in an EZOI.
 - d. When a stack of units containing a commando unit is forced to retreat as a result of combat, the commandos can allow the units to retreat through or into a hex that they would normally not be able to retreat through. To do this, the hex being entered must be unoccupied by enemy units, and the hex must not be prohibited terrain. The units must not exceed the stacking limit in the hex that they are attempting to enter.

M. Tactical Surprise.

I. Surprise is a major force multiplier in military operations. Tactical surprise is a matter of die roll chances for success. Tactical surprise is possible in the following situations:

- a. Forces conducting airdrops (the turn they land), forces conducting amphibious landings (assault, raid, or tactical) and forces conducting regular ground operations, if accompanied by commando type forces (at least $\frac{1}{2}$ SP in size). These attempts suffer no penalty for failure.
- b. Any ground combat force can also attempt surprise. The attacking player can state that surprise is being attempted, and rolls for success. This type of attempt may suffer a penalty for failure.
- c. To determine if surprise is achieved in all the above conditions, consult the Success Table, roll 1D10, and modify that roll as described there. Success means surprise is achieved, failure means it is not.
 - i. Success gives the attack a +2 DRM on the attack roll in addition to any other DRMs in the combat.
 - ii. Failure for all attempts described in 13.a (above) has no further impact on the combat.
 - iii. Failure in cases described by 13.b (above) imposes a -4 DRM penalty on the attack in addition to any other DRMs in the combat.

II. Air Combat

A. Definitions.

- 1. Air combat occurs when air units of one side intercept air units of the opposing side. Air to air combat is resolved as designated in the turn sequence (for the various missions possible).
 - a. The Phasing Player and the Non-Phasing Player. Used to show the interaction between the players when engaging, and being engaged by, enemy forces.
 - b. Air Combat Efficiency Variable: This is a die roll modifier for combat based on the training, experience and other soft factors (C3I, doctrine, etc.) that an air force has. It is abbreviated ACEV for use in the rules. The national ACEVs are in the ACEV chart.
 - c. Eliminated Over Friendly Territory: Air units shot down over friendly owned territory are EFT.
 - d. Eliminated Over Hostile Territory: Air units shot down over enemy owned territory, or over the sea are EHT. NOTE: Friendly owned, isolated territory is EFT.

B. General Air Combat Conditions.

- I. Players cannot avoid air combat by cancelling a mission once launched. The phasing player may choose to cancel air missions in the hex, but they remain subject to interception (but not AA) before returning to base. Cancelled air missions return to base during the air return segment. Units can only participate in one air to air combat per player turn.
 - a. A hex may contain several separate combats:
 - i. Day Missions: As there can be multiple missions flown into a hex, they and their escorts are intercepted and engaged by AA on a mission by mission basis. If there are multiple missions in a hex, the Phasing Player must specify which aircraft belong to each individual mission force, and which escorts are assigned to which mission force. The non-phasing player must specify which mission each interceptor is attacking.
 - For Example: A phasing player force is attempting to daytime bomb a Strategic Target in the hex, and is also attacking a bridge in the same hex. Each mission force is intercepted separately by non-phasing player in the hex and each combat is resolved separately.
 - b. Type "F" units. There are four conditions that directly apply to effect the combat strength of type "F" air units. These units, when part of a mission force and carrying bombs, can choose to jettison their bombs (the jettisoned factors are not delivered to any target) and fight with no penalty.
 - i. All fighters with Ground Controlled Intercept (GCI) capability flying short range interceptions have their air attack strengths doubled. In Madagascar this applies to the British only.
 - ii. Fighters have their Air to Air combat rating reduced by 25% at extended range, but never below 1.
 - iii. All fighters flying long range escort missions have their attack strengths halved, but never below 1.
 - iv. Fighter type units who retain their bombs during the air to air combat have their attack factor halved (rounding up).
 - c. Determined Bombing Attacks (DBA): Aircrew during the war were, on occasion, exceptionally determined to complete their mission, and thus pressed home their attacks despite extreme risk. Players may nominate a mission as flying a DBA prior to flying the mission. All ATAC is resolved normally. AA in a hex is doubled for loss calculation but dispersion is ignored against land targets, quartered against naval targets.

C. Air Combat Resolution.

- I. Air combat happens simultaneously and both players follow the procedure below before any results are applied to their forces.
 - a. Air to Air Combat (ATAC). Each bombing mission to a hex must be dealt with in turn, and each mission has its own assigned Escorts (if available). Resolve ATAC one bombing mission in a target hex at a time using the following method:
 - b. Both Players:
 - i. Separate missions into bombers and escorts.
 - ii. Air units allocated to intercept are designated as Air Superiority or Bomber Destroyers. Those attacking as Air Superiority solely engage the escort, those operating as Bomber Destroyers engage the bombers and any fighters not engaged by the Air Superiority Group.

- iii. The intercepting player allocates his attacking aircraft against enemy aircraft, and may not allocate more than one aircraft against a defending air unit unless each defending air unit in the mission group has an aircraft allocated against it. For Example: The intercepting player has 6 fighters; the intercepted player has 3 escorts and 5 bombers. The intercepting player allocates 3 fighters as the Air Superiority force, and 3 fighters as Bomber Destroyers. The intercepting player allocates one fighter against each escort. The bypassing Bomber destroyers are allocated against 3 of the bombers. 2 of the bombers are ignored for this combat.
- iv. If an escort has been selected by the intercepting player to be engaged, at the owning player's discretion it may attempt to attack the Bomber Destroyers. If it tries to do this, the intercepting player rolls with a +3 DRM on the air to air combat chart. It may not attack the aircraft allocated against it by the intercepting player. If it survives it may attack the Bomber Destroyers.
- v. Consult the Air CEV table. Compare the pilot quality DRM for each side. Subtract the lower ACEV from the higher ACEV. Use the differential to modify the combat resolution die roll.

For Example: the pilot differential for the intercepting player is +3, that of the defending player is (-1). The result is +3- (-1) = +4 to the benefit of the intercepting player. If the intercepting player is -2, and the defending player is +1, the result would be a +3 in favour of the defending player.

- vi. Overwhelming allocations of Type F air units to a combat may result in an additional DRM. This is determined by consulting the Air CRT DRM Chart. Apply the DRMs per the chart to the air combat resolution die roll. This chart is NOT affected by percentile die rolls. Type HF units are treated as "other" if the opposing side consists solely of Type F units.
- vii. Roll ID10 on the Air Combat Results Table, modify the result by the ACEV modifier, and the fighter ratio modifier.
- viii. Compare and impose the results. The results are expressed as follow:
 - I R: Return to base, suffer no combat loss, if a bomber, 0.25 times the applicable bombing factor is dropped. Roll AA to see if the payload is dispersed.
 - 2 R*: Return to base, suffer no combat loss, if a bomber, 0.5 times the applicable bombing factor is dropped. Roll AA to see if the payload is dispersed.
 - 3 I: Air Unit suffers I step loss. The balance of the unit breaks through to the target, Roll AA for all effects.
 - 4 2: Air unit is eliminated. It cannot complete any other mission steps.
 - 5 IR/2R: The unit suffers step losses per 3 and 4 above, if there are additional air units involved in the air combat of a similar type, one other of those air units selected at random, after all other ATAC results have been applied, suffers a R result.
 - Note: Dispersed bomb factor is always rounded UP to the nearest full factor.
- ix. Remove all eliminated air units from the map. Record the loss by model if applicable, and whether EFT or EHT. NOTE: This is for later use in balancing the losses in the upcoming player initial phase.
- x. Surviving air units may be attacked by AA prior to mission completion.
- xi. During the air return phase, surviving air units return to base.

12. Antiaircraft Combat

A. Antiaircraft Artillery.

- I. Various units and facilities have antiaircraft (AA) strengths and can engage enemy air units.
 - i. Light AA. Light AA can fire on operational and CAS missions. Exception: LAA may not engage a carpet bombing mission.
 - b. Unit and Organic Capabilities: Ground combat units with the AA branch symbol, naval units, cities, and airfields etc (see the National Organic AA Chart and the UIT) have specific capabilities which are listed below:
 - i. Ground Combat Units. Any ground combat units with an AA factor (other than AA branch units) have light AA.
 - ii. Ground Combat AA Units. The AA factor of this unit is usually printed inside the unit symbol. This factor is only used against air units in flight and has no influence on the ground combat strength of the unit.
 - iii. Naval Unit AA. All naval AA is a mixture of light and heavy AA. See the Naval Gunnery Split Chart for more details of the percentage splits. Only Type F, A, D and B (only when flying torpedo or skip bombing missions) units maybe engaged by the full AA rating. Type HB or B (flying level bombing missions) may only be engaged by the modified heavy AA rating of the target ships.
 - iv. Organic AA. Cites have an assigned (constant and automatic for all sides at all times) AA strength as Noted in the National Organic AA Chart.
 - v. "Static" AA points. These may only move by rail in the Movement Phase. They contribute one combat point to the defence (only) for every 4 points of AA in a hex. They may combine or split into increments of I AA point at any time within the owning player's turn. If they move during a turn they may not use their AA or Defence strength in any way until the next friendly initial phase. Other units or facilities may have an AA factor as designated in the owning nation's Political and Economic Rules.
- B. Antiaircraft Fire Resolution Preparation.

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General Rules

- I. AA fire is resolved as indicated in the sequence of play, after all air combat in the hex, and prior to the resolution of any mission the attacking air units are attempting. AA fire is resolved using the National Technical Means AA Chart and the AA Combat Results Table. Determine the mission of the air units being engaged. Aircraft executing separate missions are engaged separately.
 - a. Operational Bombing All types of land based AA factors may engage aircraft flying this mission.
 - b. Interdiction Missions. Due to the 'area' nature of these missions, when the air units are placed in the central hex of the zone that is being attempted, the defender can take any two hexes in the projected zone, total their AA value and use that total to engage the air units.
 - c. Close Air Support. All types of AA can fire on aircraft executing these missions if in the target hex. For an attacking force the AA strength in all the hexes being attacked from is totalled and then divided by the number of hexes attacked from. The result is rounded down.
 - d. AA factors may be fired against each separate mission operating against targets within a hex (or adjacent hex side).

For Example: An attacking force is coming out of 3 hexes, it has a total of 8 Heavy AA factors deployed in AA Mode within the hexes. 8 divided by 3 = 2.67, which is rounded down to 2 for engaging enemy CAS missions.

NOTE: AA is doubled against DBA and DTA missions (Rule 11.B.1.c & d above)

C. Antiaircraft Combat.

- I. After all ATAC is completed, any AA units in the target hex or zone must attack the mission force (only) prior to resolving any bombing attack. Method:
 - a. Determining AA factor:
 - i. Target Zone: Total the AA in all hexes of the zone, and divide by the number of hexes in the zone. This is the applicable AA factor.
 - b. Target Hex: Total the AA in the hex. This is the applicable factor.
 - c. Resolution:
 - i. Roll ID10 for each air counter involved in the bombing mission. Apply all applicable DRMs to the result.
 - ii. Consult the Anti-Aircraft Combat Results Table, applying the results to each aircraft in turn.
 - iii. Apply losses prior to calculating the bomb factor dropped. Remove destroyed air units from play, and note lost steps model and whether EFT or EHT. Note: This is for later use in balancing losses in the upcoming player initial phase.
 - iv. Total the delivered bomb load, splitting it into delivered on target and dispersed totals per the outcome(s) of the AA and ATAC results.
 - v. Dispersed factors dropped on an operational target or ship have no effect. Dispersed factors dropped on a strategic target may have an effect per the bombing rules.
 - For Example: A player has 5 bombers after ATAC available to attack a strategic target. 2 of the bombers were returned, R* during ATAC, the remainder were unaffected. Each bomber has a bomb factor of 12. The defending player rolls on the AA table for each airplane on the 5-8 column on the AA CRT.
 - Plane I (R*) roll is 3, there is a +2 total DRM (National Effects, AA DRM): Result is so no effect, 6 points dropped, no dispersion.
 - Plane 2 (R^*) roll is 7, there is a +2 total DRM: Result is R^* so a 6 points are dropped, but 0.25 x the modified load is dispersed, thus 1.5 factors are dispersed (round up) to 2. 4 points hit the target, 2 are dispersed.
 - Plane 3 (- so no ATAC effects) roll is 1, there is a +2 total DRM: Result is -, 12 points hit the target.
 - Plane 4 (-) roll is 8, +2 DRM: Result is R, 12 points are dropped, all 12 are dispersed.
 - Plane 5 (-) roll is 5, +2 DRM: Result is -, 12 points are dropped, all 12 hit the target.
 - Plane 6 (-) roll is 5, +2 DRM: Result is -. 12 points are dropped, all 12 hit the target.
 - Total results are: 46 points hit the target, 14 are dispersed. As this is below 160 points, they are ignored. Damage is inflicted per the bombing rules with the 46 "on target" points.

D. Determining the Results of AA Fire.

I. AA fire may have the following results:

- a. R: Return the air unit to base, no combat loss, 0.75 mission payload dropped, all factors dropped are dispersed for strategic missions.
- b. R*: Return the air unit to base, its' entire mission payload is dropped, 25% of dropped factors are dispersed.
- c. I: The air unit suffers I step loss. 0.5 x its mission payload is dropped, and half of its factors are dispersed.
- d. 2: The air unit is eliminated (2 Step loss). Its mission payload is not dropped at all.
- e. IR/2R: Apply the step loss per (3) and (4) above. After all AA results have been applied, if any mission units have not been affected, one additional air unit selected at random is affected by an R result.

NOTE: If the air unit was returned in air to air combat, it may not suffer casualties in the AA step, however its' remaining bomb load may be affected per the results above. If the air unit was step reduced either during air to air combat, or as a result of being a half unit prior to combat resolution, a single step loss during AA resolution would eliminate it, however 0.5 times its payload is dropped, suffering dispersion as listed above.

E. Naval AA.

Exactly as above but "dispersed" bomb load is a clean miss.

13. Naval Combat

A. Definition.

- I. The owning player of a Naval Task Force or Carrier Battle Group may engage a spotted enemy task group in a transit combat if both his own task group and the enemy task group are in the same sea zone. Transit combat consists of a series of rounds until one side evades, is sunk or completely disengages.
 - a. Round One:
 - i. Attempt to Evade or Scatter. See C and D below. DRMs Naval Efficiency Modifier (NEM Chart), weather and tactical movement differential (speed).
 - ii. Allocate Divisions. See F below.
 - iii. Long Range Gunnery (Short Range if poor weather). See E, I and J below. DRMs E.I.e & f, NEM and Radar.
 - iv. Range Determination. See F.I.h and G below. DRMs NEM and speed.
 - b. Second and subsequent Rounds:
 - i. Attempt to Disengage. See F.I.h and H below. DRMs NEM, weather, covering divisions, torpedoes and speed.
 - ii. Combat Phase. See E, F.I.h, I, J and K. DRMs E.I.e & f, NEM, covering divisions and Radar.
 - iii. Range Determination. See F.I.h and G below. DRMs NEM and speed.

B. Pre Combat Stage.

Both players determine their remaining SMA both for that movement segment, and that ship's overall movement allowance. They may then elect to engage or evade.

C. Evasion.

- I. Once a transit combat has been declared, either player may attempt to evade prior to combat commencing. Method:
 - a. In the unlikely event that both sides elect to evade, the attempt is automatically successful.
 - b. Evasion may be affected by forces being dispersed to spot. See F.I.a below for more information.
 - c. Otherwise, the slowest ships in both task groups have their tactical movement ratings compared.
 - d. Roll one die, adding the difference in tactical movement and modifying by appropriate modifiers from the Naval Efficiency Modifiers Chart. Note that bad weather assists the evading side so a minus weather DRM turns into a positive weather DRM in this case.
 - e. On a result of S on the Naval Success Table the evading player is successful.
 - f. If a task group successfully evades, it remains in the sea zone and it remains spotted but cannot be attacked by the enemy TG that attacked it during the remainder of the movement segment. Other enemy TGs may attempt to engage it.

D. Scattering.

- I. Convoys (only) may scatter if engaged by enemy naval forces. Method:
 - a. Total the gunnery factors of the attacking force; this is the scatter attack strength of the attacking naval forces.
 - b. If the Convoy has no escort force, Eliminate convoy NSPs equal to 20% of the total scatter attack strength at random.
 - c. If the convoy has an escort, the escort may attempt to engage the attacking naval forces in combat to screen the scattering NSPs. A transit combat starts immediately at short range with the escort and attacking naval forces only (the NSPs are not part of the transit combat). For every turn of naval combat the escorts continue to engage the attacking naval force, reduce the percentage of scattered NSP's eliminated by 5%. At any time, after the first round of transit combat, the escort may attempt to disengage.
 - For Example: If the escort is able to survive for 5 rounds of combat, all NSP's are able to successfully get away.
 - d. The convoy escort may elect to evade at the beginning of naval combat leaving the NSPs to their fate. In this case, the tactical movement ratings of the NSPs are ignored for evasion. If the escort successfully evades, NSPs equal to 50% of the total scatter attack strength are eliminated.
 - e. Scattered NSPs remain with the Convoy and continue to be spotted. The escort force is moved to a new spotted task group and no longer provides any support for the convoy. Either of these task groups may be engaged by other naval or air assets but must be engaged separately i.e. one or the other (but not both) may be attacked by a new mission force.

E. Combat Range.

- I. Ships have 3 ranges at which they may engage in combat: Long, Short, and Torpedo. Ships are placed on the tactical display in one of these range bands. Method:
 - a. Naval combat normally commences at long range. In poor weather and for escorts screening a scattering convoy, naval combat commences at short range.
 - b. Naval gunnery factors are used to determine the attack strength of ships involved in combat.
 - c. A ship firing at long range uses its long range gunnery factor against enemy ships also at long range, but can use both long and short range gunnery against targets at short and torpedo range.
 - d. A ship firing at short range may use all its gunnery factors (printed gunnery strength) against targets at any range.
 - e. Each ship in a task force may fire at more than one enemy ship per gunnery phase. If the ship is firing at more than one ship, there is a -1 DRM on the Naval Gunnery CRT for each ship fired at. This represents the process of fire control acquiring and ranging in on new targets.

- f. If more than one ship engages a target, each additional ship incurs a -I DRM on the Naval Gunnery CRT. This represents interference to fire control of shell splashes from multiple ships.
 - NOTE: These effects are cumulative.
 - For Example: If two battleships split their fire onto 3 enemy light cruisers, the cumulative DRM will be -4 (-3 for acquiring and ranging onto 3 targets and -1 for interference for 2 ships firing at the same target).
- g. Ships with a torpedo factor may attempt to close to torpedo range and may attack with their torpedo factors once at torpedo range.

F. Combat Preparation.

- I. Prior to resolving naval combat, players allocate ships within their task group to divisions, and the divisions operate independently within the following methodology:
 - a. Determine if either force was dispersed to "spot" in adjacent sea zones. The following applies to dispersed forces in the first round of combat:
 - i. Randomly select 25% of the ships in the force and exclude them from combat.
 - ii. Those ships in the combat suffer a -1 DRM penalty.
 - iii. Evasion for those ships engaged is modified by a -2 DRM.
 - iv. Evasion for those ships excluded from the combat is modified by a +2 DRM.
 - b. Each division may be grouped as the player sees fit with some restrictions as outlined below.
 - c. Carriers are always grouped together and automatically attempt to disengage. NSP's are always grouped together in a division and must attempt to disengage.
 - d. If Carrier(s) or Capital Ships are part of a surface combat, their escorts may not disengage until the Carrier(s) or Capital Ships have successfully disengaged.
 - e. Otherwise, Divisions may attempt to disengage at will. If successful they are removed from the combat.
 - f. Divisions may individually attempt to change the range.
 - g. Ships in divisions that have been damaged may split off into another division after a round of combat and may attempt to disengage during the next disengagement phase.
 - h. Divisions may attempt to "cover" other divisions to aid an attempt at disengaging. To do this they must close the range:
 - i. This attempt to close range is always successful and in the round this screening action is initiated provides a +3 DRM to the disengaging division's disengagement roll.
 - ii. Covering divisions may not disengage nor extend range until the divisions they are covering have themselves successfully disengaged.
 - iii. Enemy fire is modified by a +2 DRM against covering divisions during a covering effort.
 - iv. If the attempt to disengage is not immediately successful in subsequent rounds of the combat attempts to disengage are covered by H.I.a.iii below.

G. Changing the Range in Combat.

1. Once Transit Combat is declared, players may attempt to change the range of individual divisions. Ships may not move more than one range band per combat round. Ships can enter the torpedo range band even if it is already occupied by enemy ships, but they may not "crossover" to the enemy's side of the tactical display.

For Example: A division may not close directly to torpedo range from long range, it must first close to short range and then close to torpedo range.

- a. If both players elect to close or both players elect to extend the range for all divisions the range change is automatically successful.
- b. If multiple divisions on both sides want to execute a combination of closing and extending the range use the following procedure:
 - i. First pair off divisions from each side that are executing mutually compatible range changes (i.e. both want to close the range). These occur automatically without needing to roll.
 - ii. Any remaining divisions need to roll individually and use the difference in tactical speed as a DRM. To calculate this each division, whilst taking damage into account, compares the slowest ship within the division with the slowest ship in the opposing task group.
 - For Example: In a fleet engagement in the Mediterranean, the Italians have 5 Divisions: I with 2 BBs, 2 with CA/CLs and 2 with DDs. The British (RN) has 7 Divisions: I with 2 BBs, 3 with CA/CLs and 3 with DDs. The BBs on both sides wish to remain at long range. The Italian CA/CLs wish to close to short range as do the RN CA/CLs. All Italian DDs and all RN DDs wish to close the range to torpedo range. The DDs must alter range over two turns. In this example all BBs remain at LR (No Change); both Italian and 2 of the RN CA/CL divisions close the range automatically. The remaining RN CA/CL division must roll against the slowest ship in the opposing NTF (in this case one of the Italian BBs). Both Italian and 2 of the RN DD divisions close range automatically. The remaining RN division must roll against the slowest ship in the opposing NTF.
- c. Otherwise the slowest ships in both task groups (including the effects of damage) have their Tactical Movement Ratings (TMR) compared.

d. Roll one die, adding the difference in tactical movement (positive for the side with the faster ships, negative for the side with the slower ships) and modifying by appropriate modifiers from the Naval Efficiency Modifiers Chart. On the Naval Success Chart, a result of S means the player trying to change the range is successful.

H. Disengagement.

- 1. Once a transit combat has been declared, either player may attempt to disengage his divisions after combat has commenced. Ships must first move out of Torpedo range before they attempt to disengage. Method:
 - a. Preparation.
 - i. The slowest ships in the opposing Task Groups, irrespective of Divisional allocations and including the effects of damage have their tactical movement ratings compared.
 - ii. The Disengagement roll is modified by the difference in speed positively if friendly forces are faster, negatively if they are slower.
 - iii. A player with torpedo carrying ships may use his torpedo armed ships to improve his disengagement attempt. These ships automatically close the range to torpedo range and may attack with their torpedo factors. The disengagement roll is modified by +3 in the first round this screening action is taken, however the ships carrying out the torpedo attack will be engaged by the enemy player for at least two gunnery phases prior to making any disengagement attempt of their own. Whilst the screening force remains at torpedo range any further disengagement rolls made by any Division in subsequent rounds is modified by +1 or (OPTIONALLY) a +2 in any round where additional ship(s) are committed to the screen.
 - b. Determination: Roll one die, adding the difference in tactical movement and modifying by appropriate modifiers from the Naval Efficiency Modifiers Chart and Rules F.I.h above and a.iii above.
 - i. On a result of F* the player trying to Disengage is successful, however the enemy player's ships may fire one last gunnery attack using long range guns only.
 - ii. On a result of S the player trying to disengage is successful, and his forces disengage freely.

I. Gunnery and Torpedo Phases.

Gunnery combat between ships takes place in a series of consecutive phases. Gunnery combat is seen to take place simultaneously. Damage is applied after both players' ships have fired. Eligible ships that survive gunnery may fire torpedoes.

J. Naval Gunnery Combat Resolution.

- 1. Total the gunnery strengths allocated against each ship. Find the Armour Value of the target ship from the Ships Protection Rating using the Ship Protection Chart.
- 2. Subtract the Armour Value from the total gunnery strength allocated against the target ship. This is the Combat Value on the Naval Gunnery Combat Results Table. If the Combat Value is negative, the ship rolls for combat resolution on the 1-2 table.
- 3. Roll I die, and modify as necessary.
- 4. For each hit consult the Naval Gunnery Results Table and apply the relevant number of hits to the target ship.
- 5. On a die result of 10 on the 11+ column the target may suffer a critical hit. Consult the Critical Hit Chart and Roll 1D10 which may result in more damage inflicted on the target ship.

K. Torpedo Combat.

- I. Each ship that has a torpedo combat rating may close to torpedo range and engage in a torpedo attack. At torpedo range they may fire torpedoes at targets at the same range or at short range. They may also fire at targets at long range if the enemy has no covering forces at short range.
 - a. Ships with a torpedo rating greater than one, may make a number of torpedo attacks equivalent to their torpedo rating. For example, a ship with a Torpedo Rating of three may make 3 rolls on the Success Table.
 - b. For each torpedo attack roll I Die, modifying it with applicable DRMs, and consult the Naval Success Table.
 - c. On a result of S a torpedo has come close enough to be considered to be a strike. For each strike made, roll ID10, total the result and divide by 5 rounding down. This is the number of hits made on the target. For all ships other than BB and BC, each torpedo hit is considered to be a possible critical hit and a throw must be made on the Critical Hit table. For BB's and BC's, an unmodified torpedo strike roll of 10 is considered to be a possible critical hit and a roll must be made on the Critical Hit Table.
 - d. Japanese ships with a Long Lance Torpedo symbol (Code "L") may make torpedo attacks at short gunnery range as well as Torpedo Range, representing the extraordinary range of the Long Lance torpedo.
 - e. Japanese ships with a Long Lance Torpedo symbol have their roll for damage divided by 3 rather than 5 if they achieve a hit, which represents the lethal effects of a hit by Long Lance torpedoes.
 - f. Once ships have made a torpedo attack, ready use torpedoes are expended and the ship may not make any more torpedo attacks in the current transit combat even if it has a torpedo reload capability. Ships may not make any more torpedo attacks in further naval engagements until they have returned to port or have resupplied from a supply ship during that player turn, except ships with a torpedo reload capability.
 - g. Torpedo Reload: Certain ships may have a torpedo reload capability. This is shown on their counter as a Code T. A ship with a reload capability may engage in 2 torpedo attacks during a player turn. As noted in (f) above, only one torpedo attack per transit combat is permitted.

L. Damage Results.

- M Miss, no damage
- M* Hit against LB, LC or units with 1 hit point.
- H* Hit against SL, NSP, LC, LB, or units with I hit point.
- H I Hit
- 2H 2 Hits
- 2H* 2 Hits plus a roll on the Critical Hit table, but only capital ships and CAs may score critical hits on other capital ships using gunnery.
- NOTE: Torpedo hits can cause critical hits. See K.I.c above.

M. Damage Resolution.

- I. Individual Ship Counters. The Ship Protection Chart shows the number of hits each Armour Value can absorb. If the number of hits equals or exceeds the number of hit points available to a ship, the ship is sunk.
 - For Example: If a ship has a protection rating of 5, it has 3 hit points. If the ship incurs 3 or more hits it is sunk.
 - a. If the number of hits is less than the number of hit points available to the target ship, place hit markers on the ship counter to illustrate the number of hits incurred.
 - b. Ships that have hits have their TMR and combat ratings reduced. For each hit on a ship, reduce its AA, torpedo and movement ratings by one (but never below zero). Gunnery strengths are reduced in proportion to the number of hits sustained compared with the total hits available (rounding down all fractions).
 - For Example: A ship that takes 4 hits to sink has its gunnery factor quartered for each hit sustained. The modified factors are the available combat and movement factors until the ship has been repaired.
- 2. NSP Counters. NSP counters have a normal and a reduced strength. NSP counters have 1 hit point per protection value. NSPs with a larger cargo capacity, have the same protection rating as a 1 capacity NSP, but have more hit points as a result of the larger numbers of ships within the counter.
 - a. If reduced, eliminate 50% (rounding up fractions) of cargo.
 - b. If eliminated, remove the NSP and cargo from play, placing in the relevant replacement pools. Large cargo items may be carried on more than one NSP.
 - c. If up to half the NSPs carrying the cargo are sunk, the owning player converts the cargo into replacement points or supply points (see Rules 15.O and 16.A.2) and eliminates the replacement points/supply points in proportion to the lost transports.
 - d. If more than half the NSPs carrying the cargo are sunk, eliminate the cargo.
 - e. Sunk NSPs may be replaced per the New-Build rules.
 - f. Ground or air units may be placed in any Replacement Pool in the theatre in which they were sunk. Logistics items are destroyed if sunk.
- 3. LC Counters. LC counters are destroyed if they suffer a NGS or Air unit bombing hit. See rule 9.1.1.b.

N. Fuel Costs.

- I. Naval combat is always fought at high speed unless the ship(s) involved has a fuel supply problem.
 - a. Every NGF resolution phase costs a player's ship one SMA point counted against their available SMA.
 - b. If ships run out of fuel, and cannot disengage, enemy NGF is given a +4 modifier in each round of gunnery resolution. Ships that are out of fuel also have other penalties as noted in the Supply Rules.

O. Submarines.

- I. General Concepts:
 - a. SSFs have two sides (plus dummy markers). The owning player may deploy all his dummy markers in the game.
 - i. SSFs may be deployed to a maximum range as noted on their counter. For Example: Type VIIc U-boats have 46 sea zone range, Type IXc U-boats have 74 sea zone range.
 - ii. The owning player should note whether a dummy SSF counter actually has a SSF Flotilla assigned to it on a hidden piece of paper.
 - iii. If the SSF is deployed into a sea zone that already contains an enemy NTG the enemy force may immediately attempt to spot the SSF using Rule 9.G.3.d and evade or attack, but if it fails to spot then the SSF may attempt to spot it using Rule 9.G.5.
 - b. Once deployed to a sea zone, submarine flotillas may not change position unless returned to a friendly owned port with SSF repair facilities.
 - c. SSF Flotillas must remain in port for two game turns prior to being committed to another sea zone. This represents the costly and time consuming refits that SSFs had to have between major redeployments.
- 2. Depletion: SSFs are never depleted when operating at normal range (each counter represents a group of 10-14 submarines, 1/4 of which are on patrol, 1/2 of which are moving to/from the SSF sea zone, 1/4 of which are in refit at any given time).
- 3. Extended Range: SSF counters may deploy in a sea zone up to 150% of their Sea zone range rating.
 - a. If they take advantage of this ability, their torpedo ratings are doubled and their spotting rolls are modified by +2. In addition, if placed in a sea zone containing an enemy NTG that NTG may not attempt to spot the SSF as it could do if the SSF were deployed within its normal range unless the SSF successfully spots it and attacks in which case follow the normal ASW procedure.

- b. Submarine operations are not normally expected at such extended range areas so convoys and ASW defences are non-existent or are inefficient. However, at the end of the player turn they are depleted and must immediately move to a friendly owned submarine base for replenishment.
- c. They may not sail again for 2 player turns. As noted in the naval movement rules, SSFs may spot and attack enemy units in their sea zones.
- 4. Naval ASW Combat. Certain ships as noted on the ASW/Air ASW chart are dedicated ASW units. If a naval force contains at least 4 ASW points, it may try to engage in ASW combat against a detected SSF in the sea zone that it occupies.
 - a. For every 8 ASW points over and above the first 4 ASW points within the naval force, the naval force gains a +1 DRM (in addition to any others) to its to hit die roll.
 - b. For each ASW point less than 4 within a naval force, the naval force suffers a -I DRM on its SSF combat die roll.
 - c. If an SSF attacks a naval force it may be counter detected per the spotting rules, and the escorts may engage in ASW combat (as resolved below) prior to the SSF resolving it's combat result.
 - d. ASW Combat resolution:
 - i. Roll one Die on the Naval Success Table and modify the result by all applicable DRMs.
 - ii. On a result of S the SSF is Reduced and is driven off.
 - iii. On a result of F* the SSF is Reduced, but may attack at full strength.
 - iv. On a result of F, SSF is unaffected and may attack at full strength.
 - e. The attacking force is automatically spotted by the SSF and if it survives ASW combat may counter attack even if it had previously failed to spot its attackers.
- 5. SSF Torpedo Combat. SSFs have a torpedo rating just like surface ships. Torpedo attacks are resolved as noted in the Torpedo Combat rule above.
- 6. Air Units. SSF counters attempting to attack a naval task group are significantly more vulnerable to ASW Attack. The ASW chart provides DRMs to cover this. Air units that successfully detect an SSF may attempt to attack it.
 - a. The Air ASW Conversion Chart multiplied by the air unit's operational bombing strength gives the number of air ASW attacks per air unit. Round fractions up. Roll one Die per attack on the Air ASW Attack Chart.
 - b. If the roll results in a hit on the Air ASW Attack Chart, the defending player consults the Air ASW Results Chart.
 - c. He must apply the results as noted on the chart to his SSF immediately, prior to other combat resolution.

P. Naval Gunfire Support (NGS) Missions.

- I. The following missions take place along enemy coasts. Naval forces involved in these missions are automatically spotted, and may be engaged by coast defences (where applicable).
 - a. Bombardment. Naval units in an NTG may bombard enemy ground installations in coastal hexes only. Method:
 - i. They may spend 2/3 of their modified SMA in the movement segment within which bombardment is to be undertaken to reach the sea zone adjacent to their target.
 - ii. Total the gunnery strengths of the ships in the attacking naval force and divide them by 8. This is the bombardment strength, which may be split into a number of attacks as long as the total strength of the individual attacks does not exceed the bombardment strength.
 - iii. For every four points of "bombardment strength" the target selected receives one hit.
 - iv. En route to or from their target they may be spotted normally and are automatically spotted when bombarding.

b. Amphibious Assault Gunnery Support and Combat Gunnery Support. Naval units in a CBG or NTF may provide gunnery support to ground units involved in an amphibious assault, or ground combat.

- i. Amphibious Gunnery Support (AGS). Method:
 - I Ships must be assigned the AGS role in at the start of a player's naval movement phase.
 - 2 During the naval movement segment in which the assault is scheduled to occur, they may spend a maximum of 1/3 their modified SMA moving to the location of an amphibious assault, and may remain in the sea zone (called the assault zone) adjacent to the hex(es) that will be assaulted in line with their sea-time limit (Rule 9.B).
 - 3 They may replenish by returning to base during a movement segment and using 1/3 of their SMA at a friendly Naval Dockyard, and must then return to the assault zone from which the amphibious assault was launched.
 - 4 AGS units are automatically spotted by the enemy while in the assault zone once the assault has been declared. They may be spotted and engaged normally during transit to or from the target hex.
 - 5 If engaged by enemy surface forces, their naval gunnery factor total is reduced by 80%.
 - 6 Total the gunnery strengths of the ships in the attacking task force, and divide them by two. This is the Amphibious Gunnery Support Strength (AGSS).
 - 7 Add the AGSS to the combat strength of the units assaulting the enemy beach.
 - 8 AGSS is treated as if it were a 1 SP artillery unit, does not count towards ground stacking or combat losses (if applicable) and is never affected by terrain or CEV effects.
 - 9 AGSS may engage targets up three hexes inland to support friendly offensive operations, and two hexes inland to support friendly defensive operations. If firing above one hex range, total the long range factors of CA, BC, BB, and monitor ship types only.
 - 10 Limit and effects on the ships.

- a. AGSS may be provided as long as the deepest penetration of the friendly amphibious assault has not exceeded 15 hexes in area.
- b. Ships committed to AGSS may not participate in any other mission in that turn, and must be subject to a two game turn refit at a friendly owned naval dockyard, prior to being committed to any other operation.
- c. They may remain allocated to AGSS for a maximum of four consecutive game turns prior to a refit as noted in (b) above, whether or not AGSS may still be permissible.
- ii. Combat Gunnery Support (CGS). Method:
 - I A TG may move up to 2/3 of its modified SMA prior to providing CGS.
 - 2 Their mission is time limited by Rule 9.B.
 - 3 They may be spotted normally en route to and from the sea zone in which they provide CGS and are automatically spotted whilst providing CGS.
 - 4 Ships with Long Range gunnery factors may provide CGS to units in partial sea hexes, and may also provide CGS to units in hexes adjacent to partial sea hexes. All other gunnery factors may only provide CGS to units in partial sea hexes.
 - 5 Total the applicable gunnery strengths that are in range of the ships in the attacking task force, and divide them by eight.
 - 6 This is the Combat Gunnery Support Strength (CGSS). Add the CGSS to the combat strength of the units involved in combat. CGS is treated as if it were a 1 SP artillery unit, does not count towards ground stacking or combat losses (if applicable) and is never affected by terrain or CEV effects.

Q. Night Naval Combat.

- I. Naval combat may at the discretion of the attacking force be attempted at night. It is resolved per day combat above, however a variety of additional restrictions apply:
 - a. Initiation of night combat:

i. Roll ID10:

I-3 The combat is at night.

- 4-10 The combat is during the day.
- b. Effect of night combat:
 - i. General Capabilities:
 - I Naval combat always commences at short range unless the attacker is Night Naval Combat Trained (NNCT) or Code R, in which case it commences at long range.
 - 2 Naval gunnery and torpedo attacks are modified with a -2 to resolution Die rolls.
 - 3 Evasion attempts are increased by +2 in favour of the force attempting to evade unless the opposing force is NNCT or "Code R".
 - 4 Range change attempts are increased by +2 in favour of the force attempting to change the range.

ii. Navies: Ships and navies that are not NNCT or "Code R" are at a disadvantage:

- I Hits on these forces at night are automatically critical hits.
- 2 Torpedo to strike attempts against them are modified by +2 (+3 for Long Lance).
- 3 Torpedo damage divisor is reduced from 5 to 3.
- 4 Their gunnery and torpedo to-hit rolls are reduced by -2.

iii. ASW Specialists: Royal Navy DD, DE, DEF counters with a "Code R" are specialist ASW assets. If an enemy SSF attempts a pack attack, and succeeds in initiating one, ASW specialists may attempt to counter the attack:

- I Royal Navy:
 - a. From Apr I 1941- June II 1942, roll ID10:
 - I-7 No Effect

8-10 The attacking SSF is driven off, its torpedo rating is halved, round factors up.

- b. From June II 1942 roll ID10:
 - I-4 No Effect
 - 5-9 Attacking SSF suffers a step loss, is driven off, and its torpedo rating is halved (rounding up).
 - 10 The SSF suffers a step loss, is driven off, and may not attack.

NOTE: These combat results are in addition to any results from normal ASW combat.

2. NNCT. Both the RN and IJN are trained for night naval combat.

14. Other Activities and Special Units

A. Unit Breakdowns.

- I. Definition: Some division sized units in the game may be split into their major sub units during the course of the game. Units that can't be broken down are noted in the OBs. This may be done at any time during the movement or pursuit phases of the owning player's turn. Breakdown activity is only possible at the owner's choice.
- 2. Procedure:
 - a. A unit that is to be broken down is removed from the map and is automatically placed in an appropriate lettered or numbered box on the Unit Breakdown Chart.
 - b. The correct breakdown counters are placed on the map where the unit was located. There is no MP cost for this operation and it may occur at any point during the phase.
 - c. For a unit to be reassembled, the procedure is reversed, with the proper breakdown counters being removed and the larger unit being returned to the map. The correctly designated counters must be used to reassemble a unit.
- 3. Unit Breakdown Charts: These are provided to help keep track of those units that are able to breakdown. The boxes should contain either the breakdown components when the full combined counter is in play on the map, or vice versa.
- 4. Special Combinations: Some breakdown boxes have a specific identification on them. These boxes, and counters, may only be used to breakdown and reassemble the unit shown.

B. Engineers.

- I. General: All engineer operations, except combat support, require the expenditure of MPs to pay for the work. MPs cannot be 'split' for an engineer project. The minimum expenditure possible is 1 MP from a single unit. These costs reflect the relative amount of time to complete the task. All MP expenditures are done during the movement phase of the owning player's turn; no engineer operations are allowed in any other phase (unless permitted below). Construction and Combat Engineer units can be Regiments, Brigades or Battalions. The MP Costs below relate to Regiment (I SP) sized units. Units other than Regiments have construction Movement Costs amended:
 - a. Brigades: all MP costs are halved (retaining fractions)
 - b. Battalions: all MP costs are doubled.
- 2. Construction: Construction and Combat Engineers have a variety of capabilities as described below:
 - a. Building Field Fortifications. There are four levels of field fortifications that can be constructed by engineers. See the Fortification Types chart for the effects of each level. A field fortification level costs 5 MPs to build, with units able to combine their movement factors to complete one or more levels. Levels must be built from Level I to Level 4 in order. The expenditure of 20 MPs in a hex during one turn by construction engineer(s) will create a level 4 field fortification. Field fortifications are available for use immediately upon completion. A hex fortified during the phasing player's movement phase gains the defensive benefit of the completed fortifications during the red players turn. Field fortifications may be built in any type of terrain.
 - b. Building Airfields. Airfields may be built in clear, hills, woods and wooded hill terrain, including any hex with a city or town, excluding a major city. Each hex may contain up to four airfields in addition to any airport a city in the hex has. Airfields cost 3 MPs to build, with multiple units able to combine their MPs for completion of one or more airfields in a movement phase. Airfields are available for use immediately on being completed. Airfields must be completed before they can be used. Airfields cannot be built in mud weather.
 - c. Building Airstrips. An airstrip can be built in any type of terrain a construction engineer unit can enter. They cost 2 MPs to build and only one may be in any hex. Airstrips can be built in mud weather, or on partial frozen lake and frozen partial sea hexes. A construction unit must be in a hex containing an airstrip at the end of the movement, reaction, and pursuit phases for the airstrip to remain operational. However, if the unit is maintaining an airstrip on a partial frozen lake or sea hex must remain in a coastal hex immediately adjacent to the air strip, rather than in the hex with it. Airstrips cannot be built in a hex containing an operational airbase or airfield.
 - d. Demolishing Ports. For every 4 MPs a construction engineer spends in a port hex, it inflicts one hit against the port's capacity.
 - e. Repair of Damaged or Destroyed Facilities. Repairing a facility means that hits accumulated by it are being removed. Repairs are effected by spending MPs as required per hit below:

i. Major River or Narrow Straight Bridge	12 MPs
ii. Port	8 MPs
iii. Minor Bridge	2 MPs
iv. Airbase	I MP
v. Rail Break	0.5 MP

- f. Co-operation. Multiple units may combine their movement points to effect repairs. A unit can spend its entire printed movement rating in the movement phase on engineering projects.
- 3. Combat Engineer Combat Effects: (See Engineering Effects on page 31).
- 4. Weather Effects on Engineer Operations: Mud, Severe weather and flooding affects the cost of repairs and construction (Rule 3.A.5.a).

C. Partisans

I. Definition: Partisans are irregular troops operating in the rear of enemy forces, usually tasked with missions relating to sabotage, intelligence gathering and limited military action. The partisan rule dictates how players may use these assets.

TSWW

General Rules

2. Recruitment. Partisan units are made available using either the OB or the Charts. Place them in any enemy owned territory within the acknowledged boundary of the nation that owns them, but never in a Security Zone (see below). Exceptionally, where specified in the OB, or where no other friendly forces are available, they may be placed or formed in friendly owned territory. Where the partisan units arrive via the game charts, place friendly partisan units in a pile and randomly draw units to satisfy recruitment totals.

For Example: French forces in Madagascar are effectively cut off from friendly supply sources and aid as a result of the Allied capture of Diego Suarez. Per the OB the French forces in the game may elect to convert to partisan units, thereby extending resistance to the Allies forces involved on the island, and delaying their redeployment to more critical areas.

3. Disbanding. Partisan units in a friendly ZOI or in friendly territory may be disbanded. Each combat point of partisans disbanded provides friendly forces with 0.5 SP of Infantry Replacements.

a. Un-Isolated. These are available in the next initial phase for use.

For Example: Un-Isolated Co-Belligerent Italian units move into a hex adjacent to Italian Partisan units with a total printed combat strength of 2. The Allied player elects to disband the partisans, receiving I Infantry Replacement Point. In the following initial phase he may spend the replacement gained.

b. Isolated.

- i. If the replacement point is gained whilst the partisan unit is isolated but in friendly owned territory, the replacement point may only be spent on units within the same isolated location.
- ii. Units rebuilt in the isolated location suffer the same supply state of the location.
- iii. If the point is not spent, and the isolation status changes to un-isolated, the replacement point may be spent the following initial phase.
- iv. If the location in which the isolated replacement points are held changes ownership before those replacements can be used the replacements gained in that location are lost immediately.

For Example: Soviet infantry and cavalry break into the German rear area during the Jan II 1942 game turn. On the Feb I 1942 turn German forces seal of the penetration of the Soviet force. During the movement phase 5 partisan units move adjacent to the encircled Soviet force and are disbanded. The 2.5 infantry points gained may be used to rebuild units within the encirclement, and the Soviet player elects to rebuild 3 reduced infantry regimental groupings with 1.5 points the following turn. Two turns later the Soviet force is relieved and the remaining infantry point is added to the Soviet replacement pool the following game turn. Had the Germans destroyed the Soviet forces encircled, the remaining infantry point would have been lost to the Soviet player.

- 4. Partisans and Stacking.
 - a. Unlimited numbers of Partisans may stack in a hex, however if more than 3 partisan units of any size are in a hex they are treated as a regular I SP unit of their unit type for combat purposes.
 - b. Partisans may not end movement in the same hex as enemy units.
 - c. Partisans that are in a hex occupied by any enemy units must immediately attempt to retreat (see below).

5. Partisans and Zones of Influence. Partisans are affected in a different way by ZOIs:

- a. ZOIs do not affect partisan units for movement purposes.
- b. Partisans may attempt to retreat before combat or, if in a hex in which enemy ground forces are located, at the end of the movement, reaction or pursuit phases.
- c. Security Zones. Some units possess a Security Zone (SZ). These are: Security, Political, Police, and Border units plus Positional AA located at ports, cities or airbases, or with STs or QMs. Other specified units may also have a security zone. See the P&E Rules for more information on those units with this capability. The SZ is analogous to the ZOI of the unit and is never reduced or eliminated unless the unit is out of supply, isolated, but it solely affects Partisan units as follows:
 - i. Partisan units in a Security Zone pay movement costs double that of an equivalent ZOI.
 - ii. Partisan units in a Security Zone may not retreat before combat.
 - iii. Partisan units in a Security Zone suffer a I DRM for all die rolls that affect the unit whilst in the Security Zone.
 - iv. Partisan units may not be recruited or disbanded in a Security Zone.
- 6. Partisans and Logistics. Partisans in enemy owned territory that previously was within the acknowledged borders of their own nation are always in General Supply. Partisans may never be in Offensive Supply.
- 7. Partisan Counters. The front identifies the unit as a Partisan and remains face up on the map at all times. The reverse side details the unit's combat and movement values and may not be inspected by the enemy unless the unit is involved in an action.
- 8. Partisan Actions.
 - a. Movement. Partisans move in the same way as a regular unit of the same type, except that their movement costs are not affected by enemy ZOIs unless the enemy unit also has a Security Zone.
 - b. Retreat before combat. If forced to move from an enemy occupied hex, or if the owning player elects to attempt retreat, roll ID10 per unit:
 - i. I-7 The partisans successfully retreat. Move the unit to the nearest hex not in a Security Zone, occupied by enemy forces with a combat strength equal or greater than I, or in a full ZOI, but not more than 2 hexes from its current location. If no such hex exists, the partisans rout (see below).
 - ii. 8-9 The partisans rout. Remove them from play.
 - iii. 10 The partisans defect. Add their replacement point value to the enemy replacement pool.

c. Combat.

- i. Attack. Partisan units that have a combat strength may use it in combat against enemy forces with a parenthesised or zero combat rating. Zero rated Combat and Assault Engineer units are regarded has being (1) against partisans.
- ii. Defence. Partisan units have 10% of their combat rating when attacked by enemy forces with a non-parenthesised combat value greater than zero.
- iii. Raids. Partisan units with a combat strength may use it plus I MP of movement allowance to conduct partisan raids on enemy installations and infrastructure. Per attack strength point it may, if it has sufficient movement points:
 - I Raid an ST. Roll ID10 per strength point engaged in the raid:
 - a. I-2 Partisan routs. Remove it from play immediately.
 - b. 3-7 No Effect
 - c. 8-10 One corps supplied by the ST loses one level of supply.

For Example: The Soviet player has a 3-7 partisan cavalry unit 2 clear hexes from a German ST. He moves the partisan unit adjacent to the ST expending 2 MP. The partisan unit may make up to 3 raids on the ST, expending I strength point and IMP per raid. The Soviet player makes 3 die rolls, rolling in order: 8, 5, 2. The Soviet player places a hit marker on the ST and one corps being supplied by the ST. That Corps is in General Supply, and immediately becomes out of supply, over extended (or Isolated depending on its location). The second raid fails, and the third raid results in the annihilation of the unit. The Soviet player removes the unit from the map.

2 Raid a QM. Roll ID10 per strength point engaged in the raid:

- a. I-4 The partisan routs. Remove it from play.
- b. 5-6 Roll again.
- c. 7-9 No Effect.
- d. 10 The QM is destroyed. Remove it from play immediately, and reduce all units supplied by the QM by one supply level immediately.
- 3 Raid a transport line. Roll ID10 per strength point engaged in the raid:
 - a. I The partisan routs. Remove it from play.
 - b. 2-4 The transport line is affected. Place one hit per attack on the rail line in the hex in which the partisan unit launched the raid or in any adjacent hex.
 - c. 5-9 No Effect.
 - d. 10 Partisan unit recruits an additional partisan unit immediately. Draw it at random from the partisan pool (if any units are available). If units are not available then roll again for the raid.
- 4 Raid an airbase. Roll ID10 per strength point engaged in the raid:
 - a. I-4 The partisan routs. Remove it from play.
 - b. 5-8 No Effect.
 - c. 9-10 Randomly select one air unit based at the target airbase, and reduce it by one step.
- 5 Raid a Port. Roll ID10 per strength point engaged in the raid:
 - a. I-6 Partisans rout. Remove from play immediately.
 - b. 7-9 Partisans roll again
 - c. 10 Partisans inflict damage on shipping in port. Roll 1D10 and divide by 2. The result is the number of hits applied to NSPs, LCs, or SLs in the target port, allocated at random.
- 6 Raid an Army HQ. Roll ID10 per strength point engaged in the raid:
 - a. I-7 The partisan routs. Remove it from play.
 - b. 8 The partisan defects. Roll 1D10, dividing the result by 3, rounding up. The result is the number of partisan units that are betrayed to the opposing force and immediately destroyed.
 - c. 9 No Effect.
 - d. 10 Reduce the CEV of all forces supplied via that Army HQ's by 0.25.

For Example: In the Ukraine in 1944, Ukrainian Nationalist partisans attempt to raid the 1st Ukrainian Front HQ. The Axis player rolls a 10, this reducing the CEV for all units supplied via the 1st Ukrainian Front HQ by 0.25.

- d. Defeat in combat. Partisans that are destroyed or routed are removed immediately from play, and do not generate combat replacements. They may be re-recruited per the recruitment rules.
- 9. Replacing partisans. Partisans may not be replaced using replacement points.
- 10. Intelligence Gathering (with optional Fog of War Rule). Partisan units are recce units. If partisan units with a printed strength are adjacent to enemy stacks, they may attempt to discover the content of the stack. Roll ID10:
 - I-3 No Effect.
 - 4-5 The player owning the stack must reveal the supply state of the stack, and provide the interrogating player with the number of units in the stack. The interrogating player may not take notes relating to the outcome of the operation.
 - 6 The player owning the stack must reveal the supply state of the stack, and the total combat strength of the stack, as well as the number of armoured or motorised units, and their sizes. The interrogating player may not take notes relating to the outcome of the operation.

- 7 The partisan defects. Roll ID10, dividing the result by 3, rounding up. The result is the number of partisan units that are betrayed to the opposing force and immediately destroyed.
- 8-10 The partisan unit is annihilated. Remove it from play.

D. Special Forces.

- I. Definition: Special Forces (SF) units operate in elements too small to show up as a combat factor in the game. However their effects are shown as follows:
- 2. General:
 - a. SF units can move through enemy forces, or ZOI paying the 'special' movement rate to do so.
 - b. SF units are not affected by interdiction in a hex.
 - c. SF units have no size for stacking in a hex.
 - d. SF units are not counted when determining any proportion based combat effect.
 - e. SF units cannot end a movement or pursuit phase in a hex with enemy units. If forced to do so they are eliminated.
- 3. Sabotage:
 - a. Air Units on Airbases. During their movement or pursuit phase, SF units can enter a hex containing enemy air units which does not have ground or anti-partisan units in it. When they enter they immediately expend 2 MPs and roll on the Success Table; success eliminates 1 ARP of enemy air units on the airbase, at the SFs owning player's choice. Failure eliminates the unit. If successful the unit can continue to move. Only one such attempt can be made per movement phase by a SF unit.
 - b. Bridges. SF units can attempt to damage a bridge from either end. The attempt is made during the combat phase of the SF unit owners turn. Success means they inflict three hits on the bridge.
 - c. Seizing Control of Airbases. SF units can take immediate control of any unoccupied airport, or air field they enter, allowing the landing of friendly air units during the movement phase in which they seized the airbase.
- d. If the hex is occupied only by static AA units, they must roll on the Success Table to gain control. Failure eliminates the SF unit. 4. Regular Combat:
 - a. SF units cannot attack enemy ground units.
 - b. SF Units Under Attack. SF units must be surrounded by both enemy forces and APZOI to be attacked. If this is achieved they are eliminated. Eliminated SF units are returned to play during the next owner initial phase, at no replacement point cost. Enemy units do not suffer losses in this type of combat, but this would count as their "attack" for the game turn in which they conduct this type of attack. SF units cannot be 'overrun'.

15. Logistics

This is the movement of supplies from the national source of supply to forces. There are two systems in the game, which retain similar concepts, the continental system and the overseas system, as defined in detail below.

A. General Definitions.

- I. Ground Units Supply: Units may be in or out of supply. When in supply units may be in general or offensive supply.
- 2. Air Units Supply: Air units may be in or out of supply. When in supply air units may operate normally, otherwise they may not fly missions except transfer missions to a base that is in supply. If air units remain out of supply for more than 2 turns they are eliminated.
- 3. Naval Units: May be in full supply, extended supply, or depleted. See the Naval Supply system (Section S) for full information on the naval system.
- 4. Supply Terminal (ST): A major supply base and tertiary distributor of supply, and a key component in the supply system as a whole.
- 5. Logistics Point (LP): A large quantity of supplies.
- 6. Corps HQ: Primary distributor of supply.
- 7. QM Unit: A unit that facilitates the distribution of supply and can also move STs or LPs. They provide a 20 hex MSR (QM MSR) or transport of LPs/STs in the overseas system.
- 8. National Supply Source: Where a nation's forces ultimately receive supply from.
- 9. Overseas System: Any location that is not linked by a high capacity rail line to the national supply source is on the overseas system. To distribute supply over large distances within the overseas system a QM unit must be emplaced in the same hex as an ST. This is a critical concept. Exceptions exist on a limited basis.
- 10. Line of Communication (LOC): An unlimited length route from a supply terminal via road or rail to the national supply source or, Overseas, an unlimited length route via road or rail from a unit to a supply terminal. In China Burma India (CBI) the route may also include an air element as defined in the OB/OA. The LOC may not enter an enemy Zone Of Influence or enemy owned territory, but in CBI may over fly enemy owned territory. See the Rail LOC Supply Element Chart for more information.
- 11. Main Supply Route (MSR): A limited length route from a supply terminal to Army, then Corps HQ, and finally to units. In overseas theatres the MSR also refers to the range of supply provided by a Quarter Master Unit.
- 12. Line of Supply (LOS): An unlimited overland line of supply to an ST or the National Source of supply, used solely to determine isolation.
- 13. General Supply: Limited unit capabilities.
- 14. Offensive Supply: Full unit capabilities.
- 15. General Supply Points (GSP): Fractions of LPs that can be used to supply units.
- 16. Restrictions:

- a. Nationality: See the MSR Chart for any alterations to ranges of MSR.
- b. EZOI Impact: Units cannot trace an LOC or MSR through an EZOI, but this can be negated by 4 SP of friendly non-support units in each hex in an EZOI on the LOC or MSR.

B. Key Points of the Logistics System.

- 1. Overseas Supply (Standard QM method): Ship from a port to a port with ST. Emplaced QM has a 20 hex MSR (QM MSR). An Army HQ has to be located within a QM MSR to provide supply to units or Corps HQs. Then 6 hex MSR to a Corps HQ, units stacked or adjacent to corps, which is the only way to get offensive supply. If located within a QM MSR from an ST that has expended LP (or fractions of LP) for the purpose then units are in general supply.
- 2. General Supply Points (GSPs): GSPs are generated from LPs, fractionalised. They are distributed via transport (any type) to the unit, then the player spends I GSP per SP to get general supply, and spends another I GSP per SP to get offensive supply. Air units may also be supplied via this method.
- 3. Air in Overseas Supply: Within the MSR of an ST at which 1/3 LP has been spent for the purpose of supplying air units or defined GSPs have been spent at the rate of 1 per F, D, A and 2 per B, HB, T.
- 4. Supply Effects: II-2 for overextended. UI-3 for isolated and out of supply. General supply is not full supply and is punitive in terms of evening out CEV and reducing capability. Offensive supply negates this.

C. Overseas System (Standard with QM).

- I. Methodology:
 - a. Ship LPs to a Large or Great Port that has an ST emplaced at it. Each emplaced ST can only support a single Army HQ.
 - b. Expend 1/3 LP for general supply, and an additional 1/3 LP for offensive supply per army supplied.
 - c. In general units that are not adjacent to a Corps HQ or stacked with an Army HQ may never be in offensive supply. Army HQ's have a 6 hex MSR to a Corps HQ.
 - d. Army HQ must be within the QM MSR from an emplaced QM unit to distribute supply. If there is no Army HQ the Corps HQ must be within the QM MSR but it does not have its own 6 hex MSR as it would in the Continental System.
 - e. Units that are able to trace a 20 hex QM MSR to an emplaced QM unit at a supply terminal at which part of an LP has been spent for the purpose are in general supply.
 - f. Air units must be supplied by spending supply points. For every 20 air units overseas, a player must expend 1/3 LP per turn to operate those air units at a supply terminal, or may expend GSPs per unit according to Rule 10.B.5. Air units must be within the ST's MSR.

D. Overseas System (Optional Rule with no QM).

- I. Definition: Terms and effects for alternative limited overseas systems without QM units.
 - a. Rail MSR. Forces in overseas theatres may use a local rail network without a QM unit to provide a rail MSR if they have sufficient RMYs to create a rail capacity on that network. The player may not use the local rail net capacity whilst using it for supply purposes.
 - i. From a Large or Great Port with an emplaced ST: a rail line of supply traced up to 40 hexes along high volume lines or 20 hexes along low volume from a ST to EITHER forces directly (which may never be in offensive supply but can be in general supply), or to an Army HQ and then a Corps HQ to provide offensive supply.
 - ii. From a Port or Airbase with GSPs: a rail line of supply traced up to 20 hexes along high volume lines or 10 hexes along low volume to EITHER forces directly (which may never be in offensive supply), or a Corps HQ to provide offensive supply. Army HQs cannot be supplied in this manner.
 - b. No Rail MSR using a Port or Airbase. In all cases units could only be in offensive supply if stacked with an Army or Corps HQ, or adjacent to a Corps HQ.
 - i. GSPs or LPs with an emplaced ST: trace a 6 hex MSR to an Army HQ then a 6 hex MSR to a Corps HQ. Units within the MSR or adjacent to a Corps HQ can be in general supply.
 - ii. GSPs with an Army HQ: trace a 6 hex MSR to a Corps HQ. Units within the MSR or adjacent to a Corps HQ can be in general supply.
 - iii. GSPs with a Corps HQ: units within a 6 hex MSR could be in general supply.
 - iv. GSPs alone: units within a 3 hex MSR could be in general supply.

E. Consistent Rules.

- 1. Out of supply isolated: A ground unit cannot trace a LOS or an overland supply line to LOC or an MSR to a supply terminal or the national source of supply.
- 2. Out of supply over extended: A ground unit cannot trace a LOS but is not isolated, and is further than 6 hexes from a rail LOC.
- 3. *Tracing MSRs:* MSR costs are per hex. In general it costs one hex of the MSR range to enter one road, or rail hex, but it may be modified by terrain and weather as follows:
 - a. Good Weather. In clear hexes the cost of tracing the MSR is the same as for road hexes. In steppe and desert terrain the cost of tracing the MSR is increased by half. In rough, woods, sandy terrain, hills the cost of tracing the MSR is 2 hexes. In Mountains and swamps or across mountain hex sides it is 3 hexes. Un-bridged wadis, river hex sides, and escarpments cost 2 hexes. Un-bridged major river and mountain hex sides cost 3 hexes. Other hex sides are the same cost as if it were a full hex of the terrain type.

- i. If the player owns 2 or more RMYs on a rail line in an overseas theatre, the MSR may be extended. Each high capacity rail hex is one third of a hex in terms of the cost to trace the MSR, each low capacity rail hex is 2/3rds of a hex in terms of the cost to trace the MSR. Each Army tracing supply via the extended MSR reduces rail capacity by 50% rounding fractions down on that rail net.
- b. Poor Weather. Poor weather increases the costs of the MSR by 50%, except on rail lines.
 - For Example: The cost of the MSR in rough terrain would be 3 hexes, and in mountain would be 4.5 hexes.
- c. Severe Weather.
 - i. Severe (non-freezing) weather doubles the costs of the MSR except on rail lines (where applicable).
 - For Example: The cost of rough is 4 hexes, mountains is 6 hexes.
 - ii. Severe (freezing) weather doubles the costs of the MSR.
 - For Example: The cost of road or rail is 2 hexes.
- 4. Amphibious Operations: Units allocated to amphibious operations or raids are always in offensive supply on the turn in which they land, as long as they have been in offensive supply for one turn prior to the operation or raid, and have at all times during the planning process been in general supply. On all following turns they must be supplied on the overseas or continental systems.

F. Isolation Status.

- I. Status: The isolation status of all units and hexes is determined at two points during a turn.
 - a. Isolated for General Supply. This is determined during the Initial Phase. A unit or hex determined to be isolated for supply purposes remains so for one player turn.
 - b. Isolation for Replacement Points. This is determined at the start of every combat phase and requires the unit tracing a LOS. This determination is used only for calculating combat replacements, and has no impact on the supply status of the unit involved.
- 2. "U" & "I" Markers:
 - a. The first time a unit is found to be out of supply it receives a "U-1" if isolated or an I-1 marker if overextended (in both cases Blue if during an Allied initial phase, Red if in an Axis initial phase), marking the unit as being out of supply.
 - b. The "U" and "I" status of a unit can be changed by the following conditions:
 - i. Change of status. The unit is found to be in supply in any following initial phase. If so, the marker is immediately removed. The unit can be placed back into supply by any of these methods:
 - I Regaining LOS (if "U" status), MSR (if "I" status) or moving to within 6 hexes of an LOC (either status).
 - 2 Expenditure of supply points (GSPs).
- 3. Passage of Time: The "U" and "I" status increases one level for each game turn the unit has remained out of supply and can change from one marker to the other.

For Example: A unit found out of supply and isolated (blue U-1) on the Allied OCT I 41 turn, becomes blue U-2 on the Allied OCT II 41 initial phase. A unit found to be over extended (blue I-1) on the Allied OCT I 41 turn which became isolated during the following Axis player turn would become blue U-2 on the Allied OCT II 41 initial phase.

4. *Isolation:* When a unit is determined to be "out of supply and isolated", the appropriate colour isolated marker is placed on the unit (blue for the Allied initial phase, red for the Axis). The effects of being isolated at the "U" level the unit is at take effect immediately after the unit is determined to be isolated. The isolated marker remains on a unit regardless of its supply status until the unit is no longer isolated.

G. Effects of Being Out of Supply.

- I. Units: Units can be in limited supply because they are too far from their supply lines (Over Extended) or out of supply because they are cut off from supply (Isolated). Depending on its isolation status, and the number of turns the unit has been without supplies, the effects of being out of supply grow more severe as time passes. If a unit is "out of supply and isolated" long enough it will collapse as it is no longer combat effective. The effects of being out of supply are as follows:
 - a. Out of Supply Over Extended. These penalties are in addition to those suffered for being out of offensive supply:
 - i. I-I. Attack Factor halved, movement factor halved, reduced ZOI, ASE DRM reduced by -I no reaction movement.
 - ii. I-2. Attack Factor quartered, defence, AA, and movement factors halved, no ZOI, no ASE/ATE, no pursuit or reaction movement. No greater level for Un-isolated units.
 - b. Out of Supply Isolated:
 - i. U-1. Attack, defence, and movement factors halved, reduced ZOI, ASE/ATE DRM reduced by -1 no pursuit or reaction movement.
 - ii. U-2. Attack factor quartered, defence, & AA factors halved, movement reduced to one hex in the movement phase, no ZOI, no pursuit or reaction movement, no ASE/ATE. Unit collapses on a 1D10 roll result of seven or more.
 - iii. U-3. Attack, & AA factors zero, defence factor quartered, movement factor zero, no reaction or pursuit phase movement, no ZOI, no ASE/ATE. Unit collapses on a 1D10 roll result of three or higher. +1 for each added turn being rolled after U-3 turn. No greater level for isolated units.
 - c. Collapse.

A unit which collapses is eliminated; if it has a reduced strength side it is flipped to that side, retaining the supply status of the collapsed full strength side. Units in conditions isolated U-2 and U-3 are rolled for in the initial phase every player turn until eliminated or returned to a better supply status. The collapse die roll is modified by the following factors:

- i. -4 if the unit is in a major or great city that has been owned by the player since SEP I 39. See Political and Economic Rules for special fortifications.
- ii. -2 if the unit is in a major or great city that was captured by the player in the course of the game.
- iii. +2 during below freezing weather. This also does not apply when receiving the -4 above.
- For Example: A unit found isolated and out of supply (U-1) in the Oct I 41 turn initial phase, becomes U-2 in the Oct II 41 initial phase. The player Rolls ID10. The result is 3, and the unit survives. On the next turn, Nov I 41 initial phase, the unit remains out of supply and Isolated. The player again rolls ID10, rolling 8. The unit collapses and is eliminated.
- 2. Out of Supply Airbases:
 - a. Airbases that are in supply, but are isolated, suffer no negative effects.
 - b. In the overseas system, airbases that are out of supply un-isolated have their capacity reduced by one.
 - c. In both the continental and overseas supply systems, airbases that are out of supply isolated have their capacity reduced by two.
 - d. An airbase reduced below a capacity of one, would be considered to have a capacity of zero. When reducing an airbase's capacity round all fractions down. The capacity cannot drop below zero.
 - e. Airstrips are exempt from this rule. Their capacity is never reduced due to supply or isolation.
- 3. Supply Status of Reinforcements and Replacements: During the course of the game, each player receives reinforcements and replacements; may convert, upgrade, or disband units; and may be required to withdraw units from play. This rule covers the general procedure for such actions. The Political and Economic Rules should be consulted for specific details.
 - a. Units arrive at the same supply status as the hex or Port (if new build shipping) they arrive in. Supply status of the hex or port is determined at the instant of arrival. Use the normal supply tracing rules to determine the status of the unit. The unit may either be in general supply or is out of supply at the same level as any other units that may be in the hex. If the player wishes to provide offensive supply to the unit, supply points must be spent per the supply point rule unless the unit is in a hex satisfying the Corps HQ marker rule.
 - b. Units appearing in a hex where they are required to roll for collapse do roll and may collapse immediately after arriving. Units lost in this case do not generate replacement points.
 - For Example: A unit is scheduled to arrive in a city that is out of supply, and ready to collapse (U-3). The replacement/ reinforcement arriving would be automatically be at U-3 when they arrive.

H. Supply Terminals.

- I. General Features of Supply Terminals:
 - a. Supply Terminals may be moved by QM units, rail transportation, or by naval shipping points.
 - b. Supply Terminals are 10 SP in size and their counters are back-printed with "OP" to indicate when they are emplaced and Operational.
 - c. Supply Terminals may supply not more than I Army Group (3 Army HQs, and their 12 related Corps HQs {4 per Army HQ}) in a player turn.
 - d. When being moved by rail or by 2 QM units, their total supply capability is reduced. It may only supply one Army HQs and 4 Corps HQs with offensive supply. It may still provide general supply to 3 Army HQs, and 12 Corps HQs (4 per Army HQ).
 - e. Supply Terminals may be created by spending I Arm SRP and I LP at any city that qualifies as a valid location for one (see below), or they may arrive in the OB/OA.
 - f. When being moved by sea, it may not operate until it is emplaced.
 - g. It takes one turn to emplace a ST and they may be emplaced at either:
 - i. In the overseas system:
 - I At any Large or Great Port, or at any RMY that has two or more connections across different hex sides to other Rail Marshalling Yards, and is within the QM MSR.

I. Quartermaster (QM) Units.

- I. Features of QM Units:
 - a. If enemy non-support units enter their hex at any time in a game turn, the QM unit is destroyed. Otherwise the QM unit retreats to a permissible hex using the retreat rules.
 - b. It costs a player 2 SP of armoured replacements to replace a QM unit. They have a fully motorised movement rating of 20 for all game purposes. This rating is used to calculate their rail movement rate as well as their land movement speed.
 - c. These units can only transport LPs, GSPs or Supply Terminals, they cannot "motorise" units.
 - d. Their capacity is 2 LP, or 40 GSP, or ½ a supply terminal. 2 QMs are required to move a ST. Each QM must spend 5MP to load or off load an ST.
 - e. Quartermaster units are two motorised SP for rail transport, but have no effect on stacking for ground forces.
 - f. QM Units have no combat effect, and have a zero combat strength.
 - g. QMs may carry 2 LPs during the movement and pursuit phases if they are not emplaced.
 - h. QMs may emplace at an ST and then provide a 20 hex MSR.
 - i. It takes I full game turn to emplace a QM. Turn the QM to its "OP" side to indicate that it is emplaced.
 - j. QMs may daisy chain their MSR, but must be emplaced.
 - k. An Army HQ must be within the QM MSR to accept supplies. The Army>Corps>unit MSR remains per the MSR chart.

J. Offensive Supply and General Supply.

Units can be in two levels of "in" supply, either offensive or general. Units may only be placed in Offensive Supply if the unit is adjacent to a Corps HQ marker, or expends GSPs. *Exception: the units of all nations are in Offensive Supply in the first turn their nation is involved in active hostilities, unless otherwise stated in the P&E Rules.* Units in General Supply may not attack using their full capabilities unless the owning player spends logistic points or general supply points as defined in 15.N and 15.O below.

I. Effect of being in Offensive Supply:

- a. Units may operate at their full printed strength.
- b. Units may operate utilising their full national CEV.
- c. Units may operate using all their combat effect modifiers.
- d. Units may pursue using their full pursuit movement point allowance.
- 2. Effect of being in General Supply:
 - a. Units may attack and defend at 100% of their printed combat strength.
 - b. Units defending may utilise their full national CEV and their full combat effect modifiers.
 - c. Units attacking have a base CEV of 0.75 for CEV calculations, odds are automatically rounded down.
 - d. Units pursuing have their pursuit movement point allowance reduced by 50%.
 - e. Units attacking have their combat effects reduced by 50%.
 - For Example: If a unit has an ASE point value of 4, and a CEV of 1.5 when in offensive supply, if it is out of offensive supply it has only 2 ASE points and a CEV of 0.75.

K. Corps Markers.

- I. Definition: In general, these markers function in the Logistics System as the final link in the supply system.
- 2. Features of Corps HQ Markers:
 - a. Corps HQ markers may provide supply to units stacked in up to 4 hexes that are directly adjacent to the HQ Marker, or the hex in which the Corps HQ marker is located and three additional hexes that are directly adjacent to the HQ, except into or across prohibited terrain. In effect the Corps HQ may only supply 4 stacks of units.
 - b. Corps HQ markers have no effect on stacking.
 - c. They move per the Army HQ movement limits.
 - d. At the player's option, they may be used as Stacking Replacement Markers as well as an element of the supply system, in the same way that Task Force Markers are used in the Naval System.
 - e. They cost $\frac{1}{2}$ SRP of their unit type icon and $\frac{1}{2}$ Arm SRPs to replace.
 - f. They are subject to all combat results in their hex, but may retreat before combat.
 - g. In general their MSR is 6 hexes, drawn from an Army HQ marker. An individual Corps may also draw a 6 hex MSR from an ST, at the same LP cost as an Army HQ marker.
- 3. Optional Rule: The ONLY units that can draw offensive supply are those stacked with the Corps HQ marker.

L. National Supply Sources.

Source. All supply is either on map (French subsistence, Japanese subsistence, see the OB), or arrives per the OB from national sources of supply which are off map. If the latter case is extant, the supply arrives on NSPs provided within the OBs.

M. National Contingents.

Generally, national contingent rules apply for all purposes in terms of provisions of the Logistics rules, except where the force drawing supply from an Army HQ marker is a single Corps HQ, in an overseas system. See OB/OA for details of all exceptions.

N. Logistics Points.

- 1. Definition: LPs represent the additional resources required to support intense combat operations on the offensive, and may represent the basic resources needed to keep forces within the field, particularly in isolated pockets or on the overseas supply system.
- 2. Features:
 - a. Each logistic point represents 5 NSPs (or 5 SPs) worth of naval transport capacity, and may provide general and/or offensive supply to a maximum of three Army Headquarters, depending on the supply system in use. Each Army Headquarters may provide offensive supply to four Corps HQs. An LP may be transported by rail costing 5 SPs of capacity. LPs may be air lifted, however they cost triple their size for air lift.
 - For Example: German forces have been surrounded at Stalingrad, and the pocket includes an ST. The German player wishes to air lift an LP into the surrounded position. He may do so, but it would take a minimum of 15 full transport air wings to lift the LP into Stalingrad.
 - b. Each Army HQ to be supplied by the LP must be on the MSR from the ST at which the LP is spent to be placed in offensive supply (and general supply in the overseas system) or within the QM MSR of an emplaced QM unit in the Overseas System.
 - c. Each Army HQ uses 1/3 of an LP per turn to provide offensive supply, and in the overseas system, 1/3 to provide general supply leaving 1/3 to supply air units.
 - d. If a player has fewer than three Army HQs within supply range of his supply terminal, he may retain the fraction(s) of the LP or ship the balance to another Supply Terminal for use. The LP fraction may not be used until the turn after it arrives at the other Supply Terminal.
 - e. One LP may be broken down into 20 General Supply Points (GSP).

f. As an option players may ship an LP to any port that has sufficient capacity to handle the LP. On the instant of arrival if that port does not have an ST in it, the LP is converted to 20 GSPs.

O. General Supply Points.

One LP can break down into 20 General Supply Points (GSPs). GSPs cannot be created in any other fashion. A stockpile of 20 GSPs can be converted into one LP provided they are co-located with an ST.

1. General Supply Point Transportation: GSPs cannot move by themselves. They can be transported by rail, sea, air, or QM units. For all forms of transportation (except QM units – see I above), one general supply point equals ¼ of a Naval Shipping Point (NSP) point or Stacking Point for cost of transport. Ground units may not carry GSPs.

2. Use of General Supply Points:

GSPs may provide general or offensive supply to ground units, and permit air units to operate:

- a. General Supply: Spend I GSP per SP of force. No penalty other than those for being in General Supply.
- b. Offensive Supply: Spend I GSP supply point per SP of force in general supply. No penalty.
- c. Partial Supply:
 - i. Half or Better Supplied. If units are supplied with at least half of the points needed for general supply, in addition to the effects of being generally supplied, they are considered to be 'out of supply overextended'. "E" effects continue to increase, with all effects in effect. These units are not considered 'isolated' for supply purposes.
 - ii. Less Than Half Supplied. If units receive less than half the supply they need, they are changed to out of supply isolated, with all the effects of that status.
- d. Air units. Spend GSPs per full strength air wing as noted below.
- Supply points may be expended in any friendly owned hex, if they are transported to that hex during the player turn.
- 3. Other Ground Units: Ground Units based on islands that cannot trace a rail LOC to their national source of supply must be supplied using supply points, except for national forces belonging to that nation, and based on islands within their 1939 national borders. Islands (with the exception of the Shetland Isles) which are more than I sea zone from the mainland are excluded from this rule. French Colonial possessions, even if politically a region of France are also excluded from this rule (i.e. Algeria MR XIX is on the overseas system). The Japanese Home Islands as delineated on the maps are included on this system.
- 4. Other Air Units:
 - a. Air Units Based on islands or in overseas theatres that cannot trace an overland supply line to an ST at which part of an LP has been expended for air supply or to their national supply source must have supplies spent on them to keep them fully operational in the same way that friendly ground units in small islands do. GSPs must be spent per wing per turn to keep them fully operational. For game purposes wings have varying sizes in terms of supply costs:
 - i. Types F, A, D, are I SP.
 - ii. Types B, HB, and T are 2 SPs.
 - iii. Type G do not have an SP size and do not require GSPs to be spent on them.
 - b. Only air units originating an air mission from an Overseas Theatre or an island are restricted.
 - For Example: A JU88 flying from Italy to bomb Benghazi, would spend no GSPs. If it lands in Crete, it must then have supply spent on it to take off again for any reason.

P. Stockpiles.

GSPs can be stockpiled for use by the owning player at a later time. GSPs do not 'expire' over time, but remain in stock till used. All supply points remain on the map until expended.

Q. Capture of Supply Points or Logistics Points.

A force can capture supply or logistics points belonging to the enemy.

- a. Supply or logistics points in a hex that becomes enemy owned with no ground combat in the hex (or just by the hex being overrun) are captured automatically.
- b. If there is combat in the hex, and the defenders must retreat (leaving the supply or logistics points), roll 1D10. The Die roll is the percentage (in tens rounded up) of the points that are captured:
 - i. Captured logistics points are rounded down to the nearest third, unless the capturing player rolls a 10.
 - ii. Captured supply points are rounded down to the nearest whole number unless the capturing player rolls a 10.
- c. Captured supply or logistics points can be used in the new owner's next initial phase.

R. Naval Supply.

- Naval units have three supply states; full, extended or for ships not on extended supply state, depleted.
- I. Full Supply: The unit has a full load of fuel and ammunition. Its combat ratings are at its printed strength.
- 2. Extended Supply: The unit is operating in a reduced level of efficiency to maximise its time at sea. A player must note on the ship card that it is operating using extended supply on the turn it leaves port to start its mission. The following are the effects and results of using Extended Supply:
 - a. It must have a full load of ammunition and fuel on leaving port.
 - b. Its SMA range is increased by 50%.
 - c. If it engages in surface combat, it may engage in naval gunnery, however at the owning player's choice, it may limit its firing to conserve its ammunition supply. If the player chooses to do this, reduce its gunnery factor by 25%. If it engages in a further surface combat on a later turn, its combat ratings are reduced by a further 25%.

- For Example: DKM Bismarck has a gunnery factor of 46. She is operating using extended supply, and is engaged by HMS Hood and HMS Prince of Wales. The German player elects to conserve ammunition. Her gunnery factor (prior to range considerations) is reduced by 25% to 34.5, rounding down to 34. In the following movement segment, DKM Bismarck is engaged again, this time by HMS Rodney and HMS King George V. Her gunnery factor is further reduced by 25% from 34 to 25.5, rounding down to 25 prior to range considerations.
- d. It may repeat this process until its effective gunnery factor is 0%. It must then replenish and refit for 2 game turns in port prior to using its main armament again.
- e. It must replenish every second turn at sea. If it fails to, it becomes fuel depleted at the end of the second player turn.
- f. Light AA ratings, Torpedo ratings and fuel maybe replenished by spending 1/6 of its SMA in a sea zone with a friendly replenishment ship.
- g. SSFs may extend their range 25% using either Supply (Milch Cow) Submarines or replenishment ships, however its torpedo factor is expended after two torpedo attacks on enemy shipping.
 - i. If it uses a replenishment ship its torpedo factor is completely replenished.
 - ii. It may replenish once prior to returning to base for a refit.
 - iii. The refit takes 2 game turns.
- h. For every 4 consecutive friendly movement segments beyond the first 4 that ships remain at sea must be matched by an equal amount of time spent in "refit" on returning to a friendly Naval Dock Yard. During this refit the ship may use its AA ratings (only).
- i. NSPs may operate on extended supply to move ground units from a port with a direct LOC to the national supply source to an Assault Zone (sea zone adjacent to a target hex for an amphibious landing) except in the case of a Raid. The NSPs must leave during the player turn immediately prior to the turn in which the invasion is scheduled to take place, must travel directly to the assault zone, and may only contain assault troops or the Floating Reserve. See Rule 9.H.I.a for details. All other penalties are imposed on NSPs used for this purpose.
- 3. Supply Depletion: Ships become depleted in specific areas of their capability depending on the operations that they take part in:
 - a. General Movement Effects. Moving burns fuel, and once a ship has moved its fuel Capacity modified SMA, it must refuel, either in a port or from a support vessel.
 - b. A ship that has not refuelled has certain penalties applied:
 - i. Its SMA is reduced by 75%.
 - ii. Its TMR is reduced by 75%.
 - iii. Every Sea Zone it enters results in damage to the ship. Roll ID10. Multiply the number of sea zones entered by half the die result, round to the nearest whole number. That is the number of Game turns the ship must remain in a Friendly owned Naval Dockyard or Shipyard undergoing repairs.
 - c. Combat Effects.
 - i. Naval units that are involved in Surface Combat or Naval Gunfire Support have their Naval Gunnery Factors reduced by 80% until they are replenished. They also expend I SMA point in combat.
 - ii. Naval units that are involved in ASW Combat have their ASW value (see the ASW Chart) reduced by ¼ for each ASW combat they engage in. They also expend 3 SMA points in each ASW combat.
 - iii. Naval units that use their AA ratings expend 1/4 of their AA Ammo factor every time they are attacked by aircraft. When they run out of AA Ammo, their AA rating is reduced by 80%; round factors down until they are replenished.

4. Replenishing.

- a. In Port. To complete replenishment in port, the owning player must:
 - i. Naval units must spend one entire movement phase of their SMA in a friendly owned general, large or great port or a port with a Naval Base, which can trace a line of supply from the national supply source (Rule 15.L above), or from an active and supplied supply terminal.
 - ii. Depleted Naval units that are in port, but which have not replenished have their movement allowances reduced to zero, and all combat factors except AA factors reduced to zero. Their AA factors are unaffected and may be used at their maximum value. If enemy naval units enter the port, they are automatically captured or scuttled unless the owning player rolls a 10 on the naval success table. They must move directly to a friendly owned port or naval base within their single movement phase SMA to replenish. Roll 1D10 on arrival. The result is the number of movement phases it will take to complete replenishment.
- b. At Sea. At the owning player's discretion, Naval units may rendezvous at sea with supply ships:
 - i. Naval units spend the last 1/3 of their SMA in the Naval Movement phase to replenish, or refuel, and are marked with a suitable marker.
 - ii. If they rendezvous with an AO, they may refuel as many Fuel Points as the AO has available as Cargo, subject to their own capacity.
 - iii. If they rendezvous with an ASR, they may replenish as many Fuel Points, Torpedo Ammo Points and AA Ammo points as the ASR has available as Cargo, subject to their own capacity for each type of supply.

- iv. If an enemy naval force intercepts ships during a replenishment operation, roll ID10. On a result of 1-5 the enemy force engages at close range, on a result of 6-10 the enemy force engages at long range. Replenishing ships have their Surface and Torpedo factors reduced by 50% during that combat only.
- v. If enemy air units intercept ships during a replenishment operation, the aircraft have their naval attack ratings increased by 25%.

vi. Surface units may only replenish at sea from AOs and ASRs. SSFs may replenish from them or Milch Cow submarines. Units not operating on the "extended supply" system may only replenish at sea once. When they return to a friendly owned Port, they must spend an entire game turn in port to replenish.

SPECIAL NOTES:

- a. Any NSP with a capacity of I may be designated as an AO by the British and Japanese players. Use a UI marker to designate a NSP being used as an AO. NSPs so used may not be used for any other reason during the player turn. Each point of capacity equates to 20FPs.
- b. RN CVs. RN I class CVs (Victorious, Illustrious, Formidable, Indomitable, Implacable, Indefatigable) may be used by their escorting DDs as AOs.

16. Administration

A. Ground Unit Administration.

- I. *Reinforcements:* The OBs indicate when all reinforcements arrive in the game. Enemy ZOIs do not affect the appearance of new units, but they may not appear in enemy owned territory. If, for any reason, units are unable to enter play as scheduled they are lost. Reinforcement units lost due to an inability to appear do not generate combat replacements.
- 2. Replacements: Stacking Replacement Points (SRPs) are used to rebuild ground units that have been reduced or eliminated in previous turns. Rebuilding happens during the owning player's initial phase.
 - a. Definition of terms:
 - i. Production SRPs: These are SRPs received per the Replacement Schedule and/or from national production.
 - ii. Combat SRPs: These are SRPs generated when units are eliminated in combat.
 - iii. Branch type point. These are designated as Infantry, Armour and Artillery SRPs.
 - b. Types of SRP and their use:
 - i. There are 3 types of SRPs: infantry, armour, and artillery.
 - ii. The Stacking Point Size Chart indicates the number of SRPs required to rebuild the various sized units.
 - iii. Fractions of SRPs can be used.
 - c. Management of Stacking Replacement Points. SRPs are managed first in the nation in which they are produced by being added to the appropriate branch and service replacement pool, and secondly by being transported to a theatre for use.
 - i. Once in the national pool, replacement points can be shipped by rail, sea, or air to theatres for addition to that theatre replacement pool.
 - ii. For transportation purposes, one SRP is equivalent to one SP of infantry, armour, or artillery, depending on the type of point transported. Armour SRPs are treated as motorised. Armour and Artillery SRPs have heavy equipment. Infantry SRPs are treated as if they do not have heavy equipment.
 - d. General rules for use of replacement points.
 - i. Replacements in an overseas theatre must be allocated to a supply terminal located at a port.
 - ii. Refer to the Unit Replacement Cost Chart for SRP costs to replace units.
 - iii. Reduced strength units being rebuilt by replacement points must be on friendly owned territory, either on or off map, and able to trace a supply line to a source of replacements at the start of the owner's initial phase. The hex may be in an enemy ZOI, but if so there must be at least 2 SRP of friendly non-support units in the hex before the unit can be rebuilt.
 - iv. Only points of the correct nation and branch can be used to rebuild units.
 - v. Eliminated Units may be rebuilt using SRPs and ones that have a reduced side may be rebuilt to the reduced side or to their full strength side.
 - vi. Units that are reduced may be rebuilt to their full strength side.
 - e. Combat Replacements System: When un-isolated regular units are eliminated or reduced by combat or overrun, the owning player receives combat replacements except that a defender receives no replacements if they retreat out of a hex that the attacker then advances into. These represent the surviving elements of any unit that is shown as eliminated by the CRT.
 - i. Rate of generation of combat replacements. The standard rate of generating SRPs is 1 SRP for every three stacking points eliminated. This rate may be adjusted by the relevant Political & Economic Rules for each nation.
 - ii. Type of points generated. Combat replacements are generated based on the losses in the branches described in 16.A.2.a above. Record should be kept of points lost during the game turn to ensure a full accounting of losses for calculation.
 - iii. How to calculate combat SRP:
 - I All units eliminated during a game turn, and the SP lost by reduction, should be kept separate in each theatre until the owning player's next initial phase.

- 2 During the owning player's initial phase combat replacements should be totalled by branch. This gives a total lost for each category in each service that turn.
- 3 Divide the total lost by three (or the appropriate figure per the Political & Economic Rules).
- 4 The result above for each SRP type is the amount of combat replacements received. Fractions are retained.
- 5 Add the total to the appropriate replacement point pool in the theatre and these can be used in the same manner as planned SRP (Rule 16.A.2.d).
- 6 Place that turn's losses into the dead pile, or remove from play as appropriate.
- 7 Some units, as noted in the OBs, cannot be replaced and if lost are eliminated permanently
- f. Transfer: Orders of Appearance may call for certain units to be removed from play in the game. This represents the receipt of instructions from higher headquarters requiring that the unit be transferred to another theatre either outside the specific game, or outside the entire set of games.
 - i. When called for, the specific unit must be either:
 - I Shipped out of the theatre if on the overseas supply system. If the player is unable to part with the specific unit required, any unit of like type and strength can be substituted. The action must be taken during the next friendly movement phase.
 - ii. Failure to make the required transfer will cost the amount of SRPs (by type) needed to build the unit, or the loss of incoming planned SRPs until the replacement cost of the unit has been made up.
- g. Scrapping: Players may scrap any unit or type of units at any point in the game.
 - i. Units are scrapped in the owning player's initial phase, provided they are capable of tracing a line of communications to a source of replacement points or a Supply Terminal.
 - ii. When a unit is scrapped it is removed from play permanently and the SRP cost to rebuild the unit from the replacement pool is added to the theatre replacement pool of the owning player.
 - iii. Points gained through scrapping may not be used in the turn they are gained.
- h. Assembly: Some national OBs show units that become available for assembly. These are units that are received in exchange for the removal of units in play. The units required for assembly must be in the same hex at the start of the initial phase. They are then removed from play and the group is converted into the new single unit. Units used to assemble a new unit are removed from play.

B. Air Force Administration.

I. General Concepts: The administration of air forces is handled on two levels; National and Theatre. The national air force level deals with the production of aircraft (ARPs) and their placement into the homeland ARP pool, management of the national wing allowance (WA), the forming of new air units and the transfer of these units between the various theatres the nation maintains operational air units. The national level only appears when playing the Strategic Air War (Europe or Pacific) and individual games are handled at the theatre level. The theatre level manages the pool of ARPs sent to the theatre by the national air force command, the accounting for wing allowance, air units engaged in operations, and the rebuilding of air units lost in combat. Where used, a nation's P&E Rules will designate the area and establishment of theatres for that country's air force.

2. Definitions:

- a. Air Replacement Point (ARP). Aircraft are produced in 'batches' of 20 or 40 aircraft of a specific variant. These points are put into the homeland ARP pool when produced, and may be used as half points if necessary.
- b. Air wing allowance (WA). This is the total number of wings of any type that a nation can support. The number represents the ground support and logistical forces needed to sustain a Wing in action.
- c. Air Wings and Squadrons. The aircraft numbers below are approximate:
 - i. Each full strength air unit counter represents a wing of 40 aircraft (2 ARPs) of the type, model and variant shown on the counter.

ii. Each reduced counter represents a squadron of 20 aircraft (1 ARP) of the type, model and variant shown on the counter. d. Types, Models and Variants. 'Type' is generic and refers to whether the air unit is a fighter (F), bomber (B), dive bomber (D)

- etc. See Rule 5.B.3.a for a full list of types. 'Model' is also generic and refers to the kind of aircraft produced at particular factories, such as ME109 or Spitfire. 'Variant' is specific and refers to the aircraft that make-up the counter, such as ME109e or Spitfire IV.
- e. ARP pool. This is a collection of ARPs held in one of two pools:
 - i. The National pool. This is the 'acceptance' pool where ARPs produced by factories are transferred to air force control. This pool is only used by the national air force commander.
 - ii. A Theatre pool. This holds all the ARPs transferred into the theatre from whatever source and the ARPs arising from combat losses and air units being made inactive.
- f. Eliminated. An air unit destroyed by enemy action such as air to air combat, antiaircraft fire, or the overrun of an airbase. Units are eliminated in either friendly or hostile territory:
 - i. Friendly territory EFT (Rule 2.D.I.b).
 - ii. Enemy territory EHT (Rule 2.D.I.c).
- g. Active. This is an air unit with a WA allocated to it that is available for missions in the game turn.

- h. Inactive. This is an air unit that does not have a WA allocation and is not available for missions in the game turn. It does not require supplies. Inactive air units remain in the Theatre where they became inactive unless shipped elsewhere using naval transport.
- 3. Theatre Level Administration: When air units are eliminated the following steps are taken: Notation is made of the ARP equivalent eliminated in combat or as a result of overruns, their model (MS 406, LaGG-3 etc.) and whether or not they were EFT or EHT.
 - a. Every player turn initial phase (twice per game turn) players must 'balance' their air units to show those active (shown as units on the board) with those held in the replacement pool (unused as of yet, or parts of eliminated units). The procedure for this process is as follows (retain fractions):
 - i. Determine replacements directly to the pool. Each player counts up the ARPs lost in the turn by model (SM-79, LaGG-3) and then places the appropriate amount of these models into the pool.
 - ii. EFT Two for every four lost are placed in the pool, the remainder are eliminated.
 - iii. EHT One for every four lost is placed in the pool, the remainder are eliminated.
 For Example: There are five ARPs of Ju-87B, EFT, in the air replacement pool. The player receives 2.5 ARPs as "replacements", and may spend the ARPs in 0.5 ARP increments (air unit counter pool permitting). Fractions are retained
 - in case further losses latter in the game allow them to be used. If it was 5 ARP EHT, the player would receive 1.25 ARP.
 - b. New units arrive in accordance with the OBs.
 - c. The player can make use of ARPs in the theatre to rebuild any air units in the replacement pool spending the correct amount of ARPs on the appropriate model to return an air unit at reduced or full strength. These units are placed back on the map on friendly airbase in regular supply. Note that ARPs can be used to rebuild reduced strength air units at an airbase in regular supply.
- 4. Naval Aviation Administration: As per air force administration above, but only naval air units may flow through it.

C. Naval Unit Administration.

- I. Naval Reinforcements and Replacements: Players receive naval reinforcements per their OBs.
 - a. If a port in which a ship is under construction is ever captured by the enemy player, construction is suspended for six turns. If the port is recaptured, it is again suspended for six turns. The capturing player may, in the initial phase of the 7th player turn, elect to either scrap the ship, freeing up the ship building capacity for other tasks, or may decide to complete the ship. If the capturing player decides to complete the ship, building resumes in the next initial phase. It would therefore be at least eight turns late in being completed.
 - b. Reinforcements. Reinforcements/transfers from other theatres appear per the OB in the relevant holding box (or must be sent to such) and travel to specified Ports as defined in the OB/OA.
 - c. Transfers. Transfers to other theatres depart from specified Ports and are moved to the relevant holding box.
- 2. Naval Repairs: Naval Forces that have been damaged in combat must be repaired off map. Such units are immediately withdrawn from player control at the end of their player turn.

17. Political & Economic Rules.

A. Introduction.

- I. The Political & Economic (P&E) Rules provide an integrated rules set that governs player actions and provides for player control over the fringes of economic warfare. The guide the player toward military decisions which are both open to innovation whilst requiring players to operate within the historic imperatives determined by the motivations and ambitions of the political leadership directing the powers involved in World War Two.
- 2. Players will often be faced with conflicting priorities, which is normally the case faced by the military. It is up to the player to create a plan of action that promotes success for his nation or alliance, whilst preventing his opponent from succeeding in their goals.
- 3. For individual games within the series the P&E rules can be customised to remove elements that are not needed.

B. Definitions.

- I. Major Power Blocs.
 - a. In the game, there are three major power blocs:
 - i. The Comintern, consisting of the USSR and Communist China.
 - ii. The Western Allies, consisting of the French Third Republic, Poland, and the United Kingdom. If they join the war, the United States of America will join the Western Allies. For Political Purposes, Nationalist China is a part of the Western Allies.
 - iii. The Axis, consisting of Germany, Italy, and Japan. In Madagascar, Vichy France is seen as Axis.
 - b. Players play as any of the major nations noted above, gaining control of those minor nations that may join their power bloc. These power blocks have an interrelationship based upon the Rules below.
- 2. Theatres.
 - a. Madagascar is fought out within the Middle East Theatre.
- 3. Allied.

Powers that are aligned (e.g. Germany and Italy from 1939-1943) have certain benefits:

- a. Dominance. The nation with the greatest economic and military potential or strength in an alliance is seen as being the dominant partner (e.g. Germany is the dominant partner in the Axis). However, National Objectives and Foreign Policy considerations may allow a minor ally to initiate military operations that vary from the policy of the Dominant power. (For example, the Italian invasion of Greece.)
- b. Subordinate. In an alliance, any nation that is not dominant is subordinate and, in general, except where the Rules below dictate otherwise, its actions are dictated by the dominant power in the Alliance.
- c. National Objectives. Each nation, as noted in the rules below, has National Objectives that determine the direction of military operations. Failure to abide by these objectives results in forfeiture of the game by the player.
- d. Military Co-Operation. Allied forces may operate in any friendly owned hexes on the map. Allied forces may draw full general supply from any Allied supply sources unless specifically restricted by the OB or their national P&E rules. The dominant military partner in an alliance may direct operations by his ally's forces when operating in the same theatre.

For Example: Italian forces deployed to the Eastern Front are subordinated to the German military commander responsible for the sector of the front in which they are deployed.

C. National Regulations.

- I. Vichy France.
 - a. Starting Conditions. On the turn following French surrender, place the Vichy capitol per its OB. Vichy is a pro Axis Neutral.
 - b. National Objectives. Vichy France will try to retain control over the rump of France and its colonies whilst avoiding angering the Axis.
 - c. Foreign Policy. Vichy will remain Axis.
 - d. Special Rules.
 - i. Vichy France is Axis for all practicable purposes in this game.
 - ii. Surprise Effects. If a Vichy Colony resists attack, the attacking player rolls one Die against the Success Table. The results are:
 - I Success: On the first turn of hostilities only, all Vichy ground units in that theatre are treated as if they were halved in strength unless stacked with one SP of Artillery. All Vichy ground units have reduced ZOIs.
 - 2 Failure: No Effect. Vichy units in the Colony operate normally.
 - iii. The Vichy French intrinsic rail break repair rate on Madagascar is one per month.
 - e. Nation Specific Effects.
 - i. Supply. All Vichy units within a Vichy colony are in General Supply. They have stockpiles sufficient to provide the entire garrison with "offensive supply" for one game turn. Check the OB and production charts for additional supplies available.
- 2. The United Kingdom, its Empire, Crown Colonies and the Dominions.
 - a. Starting Conditions.
 - i. The UK and its Empire is at War with the Axis.
 - b. National Objectives. The UK's war aim is the total defeat of any powers that are at war with the UK, no matter the cost.
 - i. The UK's military goals are the protection of Great Britain and Northern Ireland, North Africa, The Near East, East Africa and the Indian Subcontinent (including Malaya and Burma), and its Pacific possessions, in that order, followed by the prosecution of military action by any and all means to destroy the ability to wage war of any nation(s) at war with the UK.
 - ii. Furthermore the UK will attack the forces of any neutral or pro Axis neutral nation to prevent their use against the UK, or to prevent economic aid to the Axis, at the British player's discretion.
 - c. Foreign Policy
 - i. Japan. The UK will treat Japan as a neutral nation until such time as Japan attacks British possessions or the US. Once Japan has entered the war, the UK is utterly opposed to Japan, and will not accept any Truce prior to the unconditional surrender of Japan.
 - ii. General. The UK will ally itself with any nation that is attacked by Axis forces, and will send military aid to its allies to the maximum extent possible.
 - d. Special Rules.
 - i. The UK will never surrender.
 - I South Africa. Due to the limited South African population, and internal political tensions, a maximum of 12 SPs of South African ground units may operate outside of South Africa at any given time, but within the continent of Africa. A maximum of four SPs of South African units may operate in continental Europe, but only within the MTO.
 - e. Nation Specific Effects.
 - i. Pursuit Phase. All British units except parachute, glider, and commando are treated as Motorised.
 - ii. Zones of Influence. All British Commonwealth units pay the special MP cost for EZOIs, as shown on the ZOI movement point cost chart from Jan I 1942.
 - iii. Combined Arms Effects
 - I Neutral. All British units listed on the UIC as having no AT are considered to be 1/4 AT beginning on the JAN I 1943 Turn, and 1/2 AT beginning on the JAN I 1944 turn.

2 Infantry Division AT battalions. British infantry divisions are considered to be 1/10 AT capable during 1939-41, ¹/₄ AT capable from Jan I 1942 to Dec II 1944.

iv. Retreats.

- I British units may retreat into unoccupied hexes in a reduced EZOI at any time.
- 2 British units may retreat into a full EZOI if the hex is occupied by either British or US units.
- v. Required Losses.
 - I British units taking losses as a result of combat must first lose any armour or engineer factors as required by the general rules. The remaining losses that must be taken as a result of the combat must be at least half infantry if possible (if infantry is available to take losses).

For Example: A British stack with a 9-8 Infantry Div. and two 4-8 Art Bgd. is required to take losses of four SPs. The division must be reduced to meet the requirement since a minimum of two of the SPs lost must be infantry, and there is no other way to break the stack apart.

- vi. RAF Limitations.
 - I Naval Co-operation. Coastal Command aircraft (essentially all naval coded aircraft) may only operate against naval targets.
- vii. Airbase Capture and Air Unit Escape.
 - I British Commonwealth units modify their escape Die roll as follows:

a. 1939 – 1941	:	+1
b. 1942 – 1943	:	-1
c. 1944 – 1945	:	-2

- viii. Replacement Points.
 - I All major members of the Commonwealth generate replacement points (mainly Infantry). Infantry points generated by these members can only be used to rebuild units of their own nationality.
 - a. UK Infantry SPs can be used for up to 1/3 of the total infantry requirement for Indian army, or British colonial forces.
 - b. Any commonwealth nation's armour and artillery replacement points are available to any of the nations of the British Commonwealth.
 - 2 Combat Replacements.
 - a. Commonwealth forces receive combat replacements at the rate of 1 SRP for every 4 SPs lost.
 - b. Commonwealth SRPs are recorded by nationality of the unit lost (UK, Australian, Indian, etc).
 - c. The British Commonwealth maintains separate national branch pools for replacements.

3. Japan.

- a. Starting Conditions. Japan is at war (and has been since 1937) with China in 1939. It has been (and may again be) involved in significant border 'disputes' with the USSR. Japan is a member of the Axis Alliance, and is a signatory to the Anti-Comintern Pact.
- b. National Objectives.
 - i. In the event of war against either The United Kingdom or the USA, Japan will not, unless both the UK and USA have sued for peace, honour its commitments under the Anti-Comintern pact to declare war against the USSR if the European Axis attack the USSR. Note: On a Die result of two or three the Japanese will not attack the USA. On a roll of four or more, the Japanese will attack both the USA and Anglo-Dutch possessions in the Far East.
- c. Special Rules.
 - i. Inter-service Rivalry. Any Operation involving Imperial Japanese Navy (IJN) and Imperial Japanese Army (IJA) troops, ships, or aircraft is subject to the following constraints:
 - I IJA and IJN troops should not stack together. If forced to do so, Japanese combat results Die rolls are modified by two, in favour of their opponents.
 - 2 IJA and IJN Logistics are completely separate. IJA and IJN units cannot use the opposite services allocated supplies, unless on a limited land mass Island or Isolated.
 - ii. Fanaticism. Japanese ground units of any service that suffer a combat result that would include retreat as any part of their combat result roll one die. On any result other than one, the Japanese units refuse to retreat, and eliminate both themselves and their Infantry SRP cost in combat strength points of enemy units. This would include any "Defender Eliminated" result that allowed any Japanese units to be reduced.

For Example: Six SPs of Japanese units are attacked by an American Force. They refuse to retreat after combat. Eliminate six combat strength points of US forces in addition to any combat results suffered in the combat.

- d. Nation Specific Effects.
 - i. Engineers.
 - I Construction of fortifications costs 6 MP per level.
 - ii. Airbase Capture and Air Unit Escape.

I Japan modifies its escape die roll by + 2.

- iii. Ground Force Administration.
 - I Combat Replacements.
 - a. Japan receives combat replacements at a rate of one SRP for every 10 SPs eliminated un-isolated.

18. Winning the Game

A. Victory Conditions.

I. Principle. Victory is determined by a comparison of player performance based on, for the Allied player, concluding the campaign prior to the historical end date, and the Axis (Vichy) player delaying their defeat as long as possible.

2. Determination. Victory is determined by the following process:

- a. For each turn shorter than historical (end of game in OB) the Allied player gains one point.
- b. For each turn longer than historical (end of game in OB) the Allied player looses one point.
- c. Overwhelming Victory 6 or more points
- d. Major Victory 3-5 points
- e. Minor Victory I or 2 points
- f. Draw Zero points (or for those who enjoy Eurovision Nil Points)
- g. In all cases, if players disagree with the manner in which victory points or victory levels are determined, players may ignore the victory rules and charts, and are free to agree on any type of victory between them that they desire. In doing this players may want to take into account losses on both sides, how long it took to end the module, as well as how many objectives or how much territory they hold.

19. Designer's Notes

Welcome to the TSWW game system. Firstly I would like to thank you all for buying the game, and having bought it, I hope that you will all enjoy the experience. The game that you have here is the first game in a series that will fully cover The Second World War at a consistent operational level, taking in Air, Land, and Naval operations in a way never before done.

The concept is simple, the player gains the opportunity to fight the war with historic goals and objectives as a guide, and can experiment with whatever operations he sees fit within the framework of the game. It also opens an admittedly small window initially, but with growing consequences for the player's forces, into the economic and political decisions that in many cases provided the impetus for the campaigns fought during the war.

The design of the games take into account the essential nature of combined arms operations at all levels within the war, and highlights the crucial importance of the war of supply to enable successful operations in all theatres of the globe. Indeed, without the sinews of war, logistics, war cannot be prosecuted at all with any hope of success.

At the operational scale, the design team have researched every army, air force, and navy whilst examining the capabilities of the systems involved in the actual combat that decides battles. We are confident that, within reason, we have created unit strengths and capabilities that reflected those of the main combatants, and have filled in many holes that we are aware of in other game systems. The reliability of our data enables us to say that the at start locations for the main ground forces in all cases are very reliable. That said, we are continuing our efforts to fill in those details with a view to correcting or amending any errors that come to light as the main Order of Battle files are expanded. We are also expanding our research into the political and, more crucially, the economic imperatives that dictated war time production and policies. Our air and naval research highlights the fast moving nature of the campaigns in the air and on the seas – and the huge scale of the forces deployed. We have used known air loss rates to determine the combat resolution systems and the costs of maintaining the air forces in operation, even before they flew a combat mission.

We as a team have spent a great deal of time working out how forces interacted on the battlefield, and have tried to follow known doctrines to show the impact of supply, air power, and tactical ability on the results of combat, not forgetting the influence of mother nature on the battlefields of the world. Meantime, we have also worked incredibly hard to bring you bespoke counters, maps, rules, charts, orders of battle, and box art, which we hope will add to the pleasure of ownership.

Clearly, we are always open to suggestion, and offers of help. We have done our best to bring you an exciting game. If you have any questions relating to the game, cannot understand a part of the rules, or find errors of omission or information, please do not hesitate to contact us at:

john-bannerman@tsww-online.com

You can also join our web groups at:

etsww@yahoogroups.com

and

https://www.tsww-online.com/forum/

We will be placing updates regularly on the web group as the game develops, and we look forward to hearing from you about your experiences of playing the game.

20. Game Credits

Design Team: John Bannerman, Cory Manka, Matthew Manka, Martyn Potts.

Design Support: Ashley Barclay, Larry Frost, Tom Johnson, Mike Kaspar, Wolf, Tom Davidson, Robert Borries, Daniel Tebbutt, Sam Douglas, Robert MacDonald, Robin Sillem, Rob Brown, Chris, Alex Tennant, Andrew Gibson, John Soper, Craig Petersen, Melanie Johnson, Alan Philson, Richard Duval, Darby, Una Bannerman, Trevor Holman, Troy Kenily, Alan Conrad, Tim Erickson, Samuel Manka, Simon Tett, David Hughes, Mike Tapner and members of the Axis History Forum.

Map Art, Design, and Creation: Andrew Gibson, John Bannerman, David Tebbutt, Daniel Tebbutt, Sam Douglas, Robert MacDonald.

Computer Software Design: David Tebbutt, Daniel Tebbutt, Sam Douglas, Robert MacDonald.

Order of Battle Research: Cory Manka, Darby, Robert Borries, Matthew Manka, David Glantz, John Bannerman, David Tebbutt, David Hughes, Mike Tapner, Lars Neilsen, Dennis Dubberley.

Political and Economic Research: John Bannerman, Cory Manka, David Tebbutt, Tom Davidson.

Game Art and Design: John Bannerman, Alex Tennant, Daniel Tebbutt, Sam Douglas, Robert MacDonald, Cory Manka.

Game Production Team: John Bannerman, David Tebbutt, Cory Manka, Matthew Manka.

Play Test: John Bannerman, David Tebbutt, Tom Davidson, Cory Manka, Matthew Manka, The Waukesha Gaming Group, Troy Kenily, Martyn Potts, the MNYC Gamers, Bob, David and those who joined the hordes at Origins and Gen Con.

Website Design: Patrick Harris

Thanks: Grateful thanks to all who supported the effort to get the game out the door. If I have omitted a name it is because I forgot, not because we do not appreciate your huge level of help and support.

End of TSWW Game IV

21. Appendices

A. Abbreviations

AA	Anti-Air
ACE	Air Combat Efficiency Variable
AGS	Amphibious Gunfire Support
AGSS	Amphibious Gunnery Support Strength
APZOI	Anti-Partisan ZOI
ARP	Air Replacement Point
ASE	Armour Shock Effects
ASW	Anti-Submarine Warfare
ATAC	Air-to-Air Combat
ATE	Anti-Tank Effects
BAI	Battlefield Air Interdiction
CAS	Close Air Support
CBG	Carrier Battle Group
CBI	China/Burma/India
CD	Coastal Defence
CDA	Coastal Defence Artillery
CEV	Combat Efficiency Variable
CGI	Ground Controlled Intercept
CGS	Combat Gunnery Support
CGSS	Combat Gunnery Support Strength
СР	Cargo Point
CRT	Combat Results Table
DBA	Determined Bombing Attack
DMW	Defensive Mine Warfare
DRM	Die Roll Modifier

DTM	Determined Transport Mission
EFT	Eliminated Over Friendly Territory
EHT	Eliminated Over Hostile Territory
ESG	Escort Support Group
EW	Electronic Warfare
EZOI	Enemy Zone of Influence
FoW	Fog of War
FP	Fuel Point
FPF	Fuel Production Facility
FPP	Fuel Production Point
FZOI	Friendly Zone of Influence
GSP	General Supply Point
GUIC	Ground Unit ID Chart
I-#	Out of Supply Overextended (# no of turns)
LOC	Line of Communication
LOS	Line of Supply
LP	Logistics Point
MP	Movement Point
MSR	Main Supply Route
NEM	Navel Efficiency Modifier
NGS	Naval Gunfire Support
NIM	National Intelligence Means
NNCT	Night Naval Combat Trained
NRP	Naval Replacement Point
NSP	Naval Shipping Point

TSWW

NTF	Naval Task Force	SRM	Stacking Replacement Marker
NTG	Naval Task Group	SRP	Stacking Replacement Point
OA	Order of Appearance	SSRP	Synthetic Rubber Point
OB	Order of Battle	ST	Supply Terminal
OBF	Operational Bombing Factors	TEC	Terrain Effects Chart
OMW	Offensive Mine Warfare	TF	Task Force
ONS	Operational Naval System	TG	Task Group
P&E	Political & Economic rules	TMA	Tactical Movement Allowance
POL	Petrol, Oil and Lubricants	TMR	Tactical Movement Rating
QM	Quarter Master	U-#	Out of Supply Isolated (# no of
RMY	Rail Marshalling Yard		turns)
RRP	Natural Rubber Point	UIT	Unit ID Table
SF	Special Forces	WA	Wing Allowance
SMA	Strategic Movement Allowance	ZOI	Zone of Influence
SP	Stacking Point		