

A WORLD AT WAR

Changes since publication

Table of Contents

Introduction.....	2	<i>Fortifying Island Groups.....</i>	13
Problem Areas - General.....	2	<i>Pacific Island Stacking Limits.....</i>	13
Luck.....	2	<i>Midway, Johnston and Wake.....</i>	13
Problem Areas - Europe.....	2	Russia.....	14
The Battle of the Atlantic.....	2	<i>Russian Garrison Requirements.....</i>	14
Western Allied invasions.....	3	<i>Russian Prewar Force Pool Additions.....</i>	14
Russia.....	3	<i>Russian Unpreparedness.....</i>	14
Italy.....	3	<i>Fall 1941.....</i>	15
Economics.....	3	<i>Russian mobilizations - Timing and Units.....</i>	15
The "big three" high tech projects.....	3	<i>Russian Production.....</i>	16
The atomic bomb.....	3	<i>Russia's Comeback.....</i>	16
Diplomacy: Spain and Turkey.....	3	<i>Wartime Russian Mobilizations.....</i>	16
Problem Areas - Pacific.....	4	<i>Industrial Centers.....</i>	17
Pacific submarine campaigns.....	4	<i>The Russian Winter.....</i>	18
Port Moresby.....	4	<i>Russian oil.....</i>	20
Not enough naval battles.....	4	<i>Resistance effects of ICs.....</i>	20
Japanese expansion tricks.....	4	<i>Shock armies.....</i>	20
Pacific bombing.....	4	<i>Russian airbase placement.....</i>	20
The Design Challenge.....	4	<i>Russian spring offensives.....</i>	20
Solutions.....	4	Italy.....	20
Luck.....	4	<i>Italian weakness in North Africa.....</i>	20
<i>Early German attacks.....</i>	4	<i>Italian negative DMs.....</i>	21
<i>Research.....</i>	5	<i>Corsica and Sardinia.....</i>	21
<i>Reduced Fortification Costs.....</i>	5	Economics.....	21
<i>Low-odds attacks.....</i>	5	<i>Graduated BRP growth rates.....</i>	21
Submarine Warfare.....	6	<i>German conquests.....</i>	21
<i>Submarine levels.....</i>	6	<i>Oil construction effects.....</i>	22
<i>No secret submarine projects.....</i>	6	<i>Synthetic oil plants.....</i>	23
<i>Related changes.....</i>	6	<i>Deficit spending.....</i>	23
<i>Submarine Warfare Modifiers.....</i>	7	The "Big Three" High Tech Projects.....	23
<i>SW Combat.....</i>	7	<i>Advanced Submarines.....</i>	23
<i>Research.....</i>	8	<i>Jets.....</i>	23
<i>Shipbuilding.....</i>	9	<i>Rockets.....</i>	23
<i>Starting Transport Levels.....</i>	10	The Atomic Bomb.....	24
<i>Shipping Oil in Transports.....</i>	10	<i>Obtaining the atomic bomb.....</i>	24
<i>Shipping Units and BRPs in Transports.....</i>	10	<i>Delivery of the atomic bomb.....</i>	25
<i>American Prewar Involvement.....</i>	11	<i>Strategic effects of atomic attacks.....</i>	25
Western Allied Invasions.....	11	<i>Tactical effects of atomic attacks.....</i>	25
<i>Defensive Air Support.....</i>	11	<i>The German Bomb.....</i>	26
<i>Shore Bombardment.....</i>	11	Diplomacy: Spain and Turkey.....	26
<i>Exploitation by Invading Armor.....</i>	11	Air-naval rules.....	26
<i>Attritions.....</i>	12	<i>Accumulated damage.....</i>	26
<i>Beach Defenses.....</i>	12	<i>Effects of search on naval combat.....</i>	27
<i>Attacks on Fortifications.....</i>	12	<i>CVBs.....</i>	27
<i>Invading Portugal.....</i>	13	<i>British carrier use.....</i>	27
<i>The Baltic and the Adriatic.....</i>	13	<i>Damaged ships in fleet combat.....</i>	28
<i>Commandos.....</i>	13	<i>Naval Interception.....</i>	28
Pacific Invasions.....	13	<i>Raiders.....</i>	28
		<i>Murmansk Convoys.....</i>	28
		Other Changes.....	29
		<i>BRP Grants.....</i>	29

The Commonwealth	29
American Units and British Concessions	29
The 1940 invasion of Russia	29
Anglo-French cooperation restrictions	29
Fortification in France permitted	29
The Western Allies fight on in France	29
Finland	30
Axis railhead and fort construction	30
Deferred oil tracking for the European Axis	30
Vichy French Colonies	30
Greek Force Pool	31
Interceptors	31
The National Redoubt	31
The Pacific	31
Japanese Intelligence	31
INA and Wangs	31
The Initial Japanese Attack	31
Japanese Tricks	31
Solutions	31
Burma	32
New Guinea and the South Pacific	33
Air basing	33
Port Costs	33
Codebreaking	33
Indian Ocean Raiders	33
Pacific Resistance Modifiers	33
Other Pacific Changes	34
Pacific bombing	34
Monsoons	34
Lent Chinese	35
Chindits	35
BRP Grants Over the Hump	35
Kamikazes	35
Conclusion	35

Introduction

A World at War was first published in June 2003. Both prior to and after publication many games were played, and the results of these games have both confirmed the basic soundness of the game system and its mechanics and revealed some subtle flaws that more experienced players have exploited by implementing unrealistic, ahistorical and often boring strategies. Almost all of the substantive changes in the Second Edition of *A World at War* deal with these issues.

Inevitably some minor problems were also revealed, but these were confined to weird and uncommon situations, and solving these problems was relatively easy.

Problem Areas - General

Luck

Luck has always been, and always will be, an important part of *A World at War*. Most players probably don't give the role of luck much thought, but it serves two crucial functions: a) to create variance in every game, so that each game is different and the game therefore has a high replay value; and b) to make it at least theoretically possible for any player to beat any other player.

The issue with luck has always been to have the right amount of luck in the game. *A World at War* has always been fundamentally a game of skill. The better player is supposed to win, because the many die rolls cancel out over time. Problems arise if some die rolls are too important, and play has shown this to be the case.

Problem Areas - Europe

The European theater, which has always been more frequently played than the Pacific theater, has been confirmed as roughly balanced, in that most games result in an Allied victory within a turn or two of the historical Axis surrender. However, this balance resulted from offsetting problems in several areas:

The Battle of the Atlantic

The First Edition Battle of the Atlantic cannot be said to have favored either the Axis or the Western Allies. The problem was that the range of outcomes in the Battle of the Atlantic was too dependent on luck – specifically early torpedo and ASW research rolls. Many Axis players would invest three RPs in torpedoes in 1939, giving them a 50% chance of a torpedo result. If the Axis could achieve a second torpedo result in 1940, this would reduce the Western Allied destroyer level by 15-20 factors by 1942 or 1943. Similarly, if the Western Allies were lucky in their ASW research, they could shut down the German submarine campaign by 1941, and threaten decisive invasions in France and the Mediterranean so quickly that Germany would have to give up its ambitions in Russia in 1942.

It is almost self-evident that the game system handles swings in luck better if they happen later, rather than earlier. A fluke research result in 1939 affects, and may imbalance, the entire game, while the same research result in 1941 or 1942 is likely to just be interesting. The torpedo and ASW results in 1939 and 1940 had too much impact on the game because they occurred so early.

The other problem in the Battle of the Atlantic was that by relentlessly converting DDs to ASW, the Western Allies could guarantee victory against the U-boats, as the SW combat results would more than offset any favorable Axis modifiers. The submarine menace would then be reduced to a

“tax” on the Western Allied transport level. In game after game, the German submarine campaign would collapse in 1942, as soon as the Happy Time ended.

The problems with the Battle of the Atlantic come down to this: the campaign was so important that both sides had to put maximum resources into it, but even then the results tended to be ahistorically extreme. After wrestling with this conundrum for years, radical surgery was ultimately conducted.

Western Allied invasions

Since the game requires DDs to carry invading ground units, the Western Allied invasion capability and the Battle of the Atlantic are inextricably linked. Premature Western Allied victories in the Atlantic created too strong an invasion threat in France, upsetting the balance of the game. But it was also found that the Western Allies were able to threaten too wide a range of invasions, because Gibraltar was no longer a bottleneck preventing invasions from Britain into the Mediterranean, or from the Mediterranean into France. The Axis could only defend against these invasions by shutting down their campaign in Russia.

Russia

The design intent has always been that the Axis have some chance to conquer Britain or Russia, either because of Allied mistakes (as opposed to gross blunders) or luck – or a combination of both. The chances of a German conquest of Britain or Russia are supposed to be about equal, so that each strategy is equally viable (although perhaps not equally safe).

However, in First Edition *A World at War*, while an experienced Axis player is quite likely to conquer both Britain and Russia against a rookie opponent, in games between players with comparable abilities and experience, the British might surrender, but Russia would never surrender. Instead, the German attack in Russia petered out in mid-1942 in most games, with a Russian surrender never being even a remote possibility.

Italy

A World at War players have always been of two minds about Italy. Historically it was almost a liability to the Axis, but surely under better leadership, with a more refined strategy... By giving players more latitude than their historic counterparts, Italy became much more fun to play than it was for Mussolini, but an air of unreality permeated many Italian operations, particularly taking Italian units as losses wherever possible, because they could be rebuilt using the Italian, rather than the German, construction limit.

Italy has been brought down to earth, but in some ways is even more fun to play than it was before.

Economics

Confronted by the combined effects of an early Atlantic collapse, early and powerful Western Allied invasion threats, and no real possibility of victory in Russia, many Axis players reacted exactly as one would expect. They concentrated on the submarine campaign and German growth. While a submarine campaign with a reasonable and historical investment of resources would collapse earlier than it did historically, a maximum effort would be more likely to keep the Western Allies off balance (and off the continent) longer. This maximum effort was enhanced if Germany concentrated on economic growth, both to generate RPs and to increase its construction limit to allow more shipbuilding and to absorb bombing losses and Russian attacks.

For these reasons, it became common to see massive German economies, with construction limits of well over 100 BRPs per turn. While such gargantuan Germanies could be defeated, it was only by pounding the German army and air force and taking territory, with bloated Allied economies supporting these attacks against the constantly reappearing German forces.

Similarly, Axis oil reserves tended to remain intact until so near the end of the game that they had little or no effect on the timing of the German collapse.

The “big three” high tech projects

Jets, advanced submarines and rockets have always been problematic from the design standpoint. Striking the right balance between making what were arguably irrational projects (especially rockets) viable, without allowing a crash program to dominate the game, has always been a challenge.

The atomic bomb

The game has always tried to strike a delicate balance between providing for the historical development of the atomic bomb by the Western Allies, while at the same making the nightmarish possibility of an Axis atomic bomb sufficiently real that the Allies have to take it into account.

First Edition *A World at War* accomplished this, but several problems emerged. One was that an early atomic bomb became the norm in games where players decided the high RP cost of an atomic program was worth it. The other was that if an alliance developed the atomic bomb in 1944, it would get too many of them. A related problem was that there was no defense against the historically suspect Western Allied atomic/rocket program, although the RP cost of this plan was still high, and no real defense against conventional delivery by means of strategic bombers either.

Diplomacy: Spain and Turkey

The diplomatic rules are great fun and help ensure that no two games are alike, but it was found that the “big two” –

Spain and Turkey – still dominated this part of the game. The effect of even hex control of one of these minor country powerhouses is so great that neither side could afford to ignore them, and so they became a magnet for DPs, which had the undesirable effect of limiting player options.

Problem Areas - Pacific

The Pacific theater has always been something of a poor relation to the European theater. First Edition *A World at War* was balanced in the Pacific, in that Japan surrendered at roughly the right time in most games, but play has revealed some problems:

Pacific submarine campaigns

In essence, Japanese submarine warfare tended to be too strong and American submarine warfare tended to be too weak. The Western Allies could almost always surmount the Japanese efforts, but only by diverting excessive resources to anti-submarine warfare in the Pacific and Indian Oceans. The Japanese transports would also ultimately collapse, but often only when American patrols could wipe out the Japanese land-based air units that were covering the Japanese convoy route. Checking the distance from the nearest American base to the Japanese convoy route was time-consuming and annoying, and the placement of Japanese air units became an unwanted game-within-a-game. But most of all, the Japanese didn't feel the oil pressure they felt historically – the Japanese player would have enough oil until his transport system suddenly collapsed and oil imports were completely cut off.

Port Moresby

First Edition *A World at War* tried to make Port Moresby important, and it succeeded. Devoted Japanese planners also succeeded in demonstrating that if Japan committed strong air forces to New Guinea, Port Moresby couldn't be held, and so in almost every game this crucial port was falling under Japanese control without a fight.

Not enough naval battles

Despite the apparent overall balance in the Pacific, a common complaint emerged – there just wasn't enough fighting! The Japanese would expand easily enough in the first few turns after their initial attack, and at some point the Americans might stop them in a naval battle, but after that Japanese land-based air would prevent any American counterattacks until the U.S. had built up such a carrier superiority that the Japanese could only give way. Some games ended with a Japanese “fleet in being”, which was a most unbushidolike development!

Japanese expansion tricks

Not surprisingly, expert players found gamey tricks to optimize the initial Japanese attacks. These hardly broke the

game, but it was thought that this was a good time to get rid of these clever, but ahistorical, tactics.

Pacific bombing

This problem can be described succinctly. In many games, there wasn't any.

The Design Challenge

The challenge for the designers was to correct these problems without revamping the entire game system. This meant applying the collective expertise and experience of the *A World at War* community to identify the problems and finding solutions that dealt with the problems without creating new ones. The “law of unintended consequences” must always be kept in mind.

The end result has been a series of changes, most of which are small, but which have (and are intended to have) a significant impact on certain plans and strategies. In some cases these unwanted plans and strategies have been legislated out of existence, while in other cases they have just been made less attractive. Players who are dismayed that their favorite plan is no longer as viable should find comfort in the fact that the Second Edition changes don't affect the way many players were playing the game, in that they are almost universally aimed at making the game a fair fight. Both “fair” and “fight” should be emphasized – in Second Edition *A World at War*, it is much more difficult for the Axis to play passively and run out the clock, relying on a huge German economy to replace their losses.

Solutions

Luck

Two specific problems relating to luck were identified.

Early German attacks

In both Europe and Japan, the Axis initially call the tune and have a wide latitude when it comes to strategic planning. Germany can adopt various research plans and can try to conquer Britain, Russia or neither, and implement innumerable variations on these themes. Similarly, Japan can go after Hawaii, the South Pacific, Australia, India, China, Russia or just roll up into an armadillo-like ball and defend. This variety makes the game interesting and fun to play for all sides.

In both theaters, though, Germany and Japan have some drudge work to do before implementing their chosen strategies. Germany must conquer Poland, then the Low Countries and France (unless the German player tries the radical and dubious plan of attacking Russia in 1940); Japan must conquer its Co-prosperity Sphere.

The problem that arises is that these attacks cannot be avoided, and the game, like all complex systems, is most sensitive to initial variance. This means that German bad luck in its unavoidable attacks in Poland and France can have an undue effect on the rest of the game. The Japanese attacks are not nearly as important, because by the time Japan enters the war, the game has already been going on for ten turns.

Various ideas were considered to reduce the range of results for Germany's initial attacks, but ultimately it was decided to limit German losses in costly overruns and exploitation attacks by reducing "Ex" results to "Ex-1" results. This doesn't guarantee the Germans a bloodless victory, and in fact has little or no effect in games in which the German player avoids rolling "1"s on these crucial attacks:

15.54 CASUALTIES: Units which are overrun are eliminated. At the moment of overrun, a die is rolled to determine whether the attacker suffers casualties. On a die roll of "1" the moving player suffers a full "Ex" result (**EXCEPTION:** Early German overruns incur only an "Ex-1" result - 15.54). These losses may be taken from any attacking ground or air units which took part in the overrun, subject to the normal air loss requirement (15.63). On all other rolls, the moving player suffers no losses. Both sides remove their losses immediately.

15.53 SELECTING AN "Ex" RESULT IN PLACE OF A "d" RESULT: An attacker who obtains a "d" result may take an "Ex" result instead (**EXCEPTION:** Early German "d" results may be replaced by an "Ex-1" result - 15.54).

15.54 EARLY GERMAN OVERRUNS AND EXPLOITATION ATTACKS: "Ex" results from German overruns and exploitation attacks are treated as "Ex-1" results:

A. In Poland in Fall 1939.

B. On the western front during the first two Axis player turns in which the Axis conduct any western front offensive ground or air operations, but no later than Summer 1940. Normally this will be Spring 1940 and Summer 1940.

Research

While specific, limited changes have been made to some research tables, as detailed below, the general problem that has always plagued research kept recurring - the game could be ruined for a player who rolled too many "1"s and "2"s for critical research rolls.

There was a great deal of discussion about the meaning of "ruined". Some took this to mean "the player loses", which led to a discussion of how compensating luck or superior play can offset poor research (true) and that players should overcome such adversity because the game is meant to be a test of character and fortitude (a much more dubious proposition - that's what real life is for). Others, including me, meant "ruined" in the sense of "the game isn't nearly as much fun". Many players try esoteric research projects just to see what will happen, and find it frustrating to play for hours, then blow out on a bad roll.

There are play balance aspects to this as well, of course, especially for general research and in the Atlantic.

Many possible solutions were discussed and tried, but in the end it was decided that players should be allowed to shift RPs

from lower priority to higher priority projects should they roll poorly. The rule reads as follows:

41.78 REASSIGNMENT OF RPs DURING THE YEAR: Immediately after a research roll of "1" or "2" for any project, prior to making any other research rolls, the rolling alliance faction may reassign RPs to that project in order to increase the research roll to a maximum of "3", as follows:

A. One RP may be reassigned to a project for which a "2" was rolled; one or two RPs may be reassigned to a project for which a "1" was rolled. Each reassigned RP increases the research roll by one.

B. Reassigned RPs must have been allocated to research or production projects in the same category (air, naval, military or intelligence) as the project to which the RPs are being reassigned. RPs which have already been activated may not be reassigned.

C. RPs reassigned to increase a research roll are not subject to project (41.31B) and high technology (41.31C) limits.

D. RPs assigned to intelligence projects are treated as RPs and may be reassigned.

E. RPs in atomic research may not be reassigned.

F. The reassignment of RPs is secret and is only revealed if there is an enemy spy ring in that category and the reassignment of RPs removes all the RPs from a new project about which the opponent was previously informed.

Because the rule allows the reassignment of RPs only to offset poor ("1" or "2") research rolls, rather than to augment good research rolls, it can be used only as a shield, not as a sword. RPs in atomic research may also not be reassigned, so the delicate rebalancing of the atomic programs set out below is not affected.

Reassignment is limited to RPs in the same category. This means that offsetting a bad roll in something like ASW research comes at the cost of some other naval research or production project. It is therefore still better to roll high, and players often accept the result of a "1" or "2" research roll, rather than forego other research rolls or production in that category. Still, the change has achieved its desired effect, without inflating the number of research results, because players can protect themselves from critically bad research results, provided they have "reserve" RPs available and make their research rolls in the right sequence.

Reduced Fortification Costs

The cost of fortifications has been reduced to one RP per fortification. This eliminates one adverse effect of failing to obtain a timely military general research result, which in any case is a rare event.

Low-odds attacks

A related change which also speeds play should be mentioned. Defensive air support may now be assigned for low-odds attacks *after* the attack is announced. This makes it unnecessary for the defender to pore over the board, trying to figure out where his opponent might make suicide attacks:

18.619 DEFERRED DEFENSIVE AIR SUPPORT AGAINST LOW-ODDS ATTACKS: When the attacker announces a ground attack at odds of less than 1:1, the defender may use eligible, uncommitted air units to provide defensive air support to the attacked unit(s). Deferred defensive air

support may be intercepted by the attacker in the normal manner. The ensuing air combat does not affect any previously provided defensive air support. Regardless of the outcome of any air combat between the attacker's intercepting air units and the deferred defensive air support, the attacker must complete the ground attack, even at worse odds. This sequence is repeated throughout the attacker's player turn, provided the defender has air units eligible to provide deferred defensive air support.

Submarine Warfare

Given that problems existed with respect to submarine warfare in both the Atlantic and Pacific theaters, considerable effort was given to devising uniform solutions. No one wanted to return to the days of specialized rules for each theater. After much discussion and many playtest games, the following changes were implemented.

Submarine levels

One of the most significant changes was to limit the number of submarines which may be used to conduct submarine warfare to specified, roughly historical levels. This approach had proven successful in the Pacific, and has now been extended to the Atlantic and Indian Oceans.

25.13 USE OF SUBMARINES IN THE SW BOXES: In order to engage in submarine SW combat in an SW box, submarines must begin their player turn in that SW box. The use of submarines for SW combat is restricted as follows:

A. GERMANY:

- ...
- The number of German submarines that may conduct submarine warfare in the Atlantic SW box each turn is limited as follows: Fall 1939: 1; Winter 1939 to Summer 1940: 2; Fall and Winter 1940: 3; Spring and Summer 1941: 4; Fall and Winter 1941: 5; Spring and Summer 1942: 6; Fall 1942: 7; Winter 1942: 8; and so on, increasing at the rate of one additional submarine each turn. Any remaining German submarines, if built, must operate on the European mapboard or in the Indian Ocean SW box.
- ...
- The number of German submarines that may conduct submarine warfare in the Indian Ocean SW box each turn is limited as follows: 1939-1941: 1; 1942: 2; 1943: 3; 1944: 4; 1945: 5; 1946: 6.

B. ITALY:

- Italian submarines may not conduct submarine warfare in SW boxes.

C. JAPAN:

- The total number of Japanese submarines that may conduct submarine warfare each turn is limited as follows: 1939-1942: 1; 1943: 2; 1944: 3; 1945: 4; 1946: 5. Japanese submarines conducting submarine warfare may operate in both the Pacific and Indian Ocean SW boxes, up to this limit. Any remaining Japanese submarines, if built, must operate on the Pacific mapboard.
- ...

D. BRITAIN:

- British submarines may not conduct submarine warfare in SW boxes.

E. U.S.:

- The number of American submarines that may conduct submarine warfare in the Pacific SW box each turn is limited as follows: 1939-Summer 1942: 1; Fall and Winter 1942: 2; Spring and Summer 1943: 3; Fall and Winter 1943: 4; Spring 1944: 5; Summer 1944: 6; Fall 1944: 7; Winter 1944 and thereafter: 8. Any remaining American submarines, if built, must operate on the Pacific mapboard.

The implications of this change in Europe are profound. Germany may now conduct an effective submarine campaign in the Atlantic without committing nearly as many RPs to submarine production and related projects. This allows Germany to produce additional submarines for onboard use; focus on other naval research and production; or give a higher priority to either air or military (i.e., anti-Russian) research and production.

Similarly, some Western Allied RPs are freed up and more variety has been introduced into the game for the Allies as well.

The same approach applies to American submarine warfare against Japan, while Japan's use of submarines for ahistorical submarine warfare has been strictly limited.

No secret submarine projects

This change prevents the unrealistic and potentially nasty trick of accumulating RPs for submarines and transports, then triggering them all at once. This probably wouldn't work under the current rules, but out of an abundance of caution:

41.76 UNUSED RPs: Any RPs which have not been activated by the end of the year, including DPs used as RPs for intelligence projects, remain in the assigned project and are carried over into the following year (EXCEPTION: RPs allocated to conventional submarine and transport production (42.23A, 42.23C) must be activated during the year in which they are allocated). All RPs in a research project are eliminated when a die roll is made for that project. RPs in a production project are eliminated when used, but a player may elect to use only some of the RPs allocated, saving the remainder for future production.

Related changes

Other related changes include:

- a ban on all conversion (ASW and transport force pool increases must come from production – which means that the Western Allied destroyer force pool does not drop);
- the inclusion of submarines as “light” shipbuilding (so not all the German shipbuilding effort is used for submarines);
- limiting shipbuilding increases from production to one increase per year per shipyard;
- prohibiting Australian transport construction (play balance);
- simplifying the USAT by eliminating the modifier for transport losses in favor of a revived “cash and carry” rule which allows the British, when under pressure, to avail themselves of American shipbuilding capacity.

The end results of these changes are longer, more dangerous German submarine campaigns (because the Western Allied ASW levels are lower, German submarine losses are lower as well, and Germany may continue the campaign into 1943 and 1944); more variety in research (because the submarine

campaign is no longer a black hole for RPs) and a more tense, exciting game for both side.

Submarine Warfare Modifiers

SW Combat Modifiers Table	
Submarine warfare	
General:	
+/-#	Naval Nationality DRM (22.552A)
+/-#	air range research levels
+#	attacker torpedo research level
-#	defender ASW research level
Atlantic:	
-1	for every 6 CVEs in the Atlantic SW box (round down): 0-5: 0; 6-11: -1; 12-17: -2; 18-23: -3; 24+: -4
+2	Axis control Brest, Lorient, St. Nazaire or La Rochelle
+1	Axis control La Coruna, Vigo, Lisbon or Cadiz
+1	Axis control Gibraltar
+1	Germany and the U.S. are at war
#	Germany and the U.S. are at war: first turn: +2; second turn: +1 (25.66)
+1	a diplomatic result for Ireland of "7" or more
+/-1	Ultra codebreaking advantage
Indian Ocean:	
-1	for every 3 CVEs in the Indian Ocean SW box (round down): 0-2: 0; 3-5: -1; 6-8: -2; 9-11: -3; 12: -4
+1	Japan controls Colombo (Japanese submarines only)
+/-1	Ultra codebreaking advantage (German submarines only)
+/-1	Magic codebreaking advantage (Japanese submarines only)

Here is a summary of other, earlier changes to submarine warfare:

- The "heavy/light" shipbuilding restrictions extend to all major powers.
- Relative Naval Nationality DRMs modify submarine warfare. In the Atlantic, the German advantage in Naval Nationality DRM is offset by the elimination of Kiel as a +1 DRM. In Japan, this gives Japan an additional modifier until the Western Allies get a Naval Nationality DRM increase through research.
- Relative Air Range modifiers modify submarine warfare. This gives the European Axis the somewhat esoteric option of researching Air Range in order to boost the German submarine campaign in the Atlantic (and perhaps German bombing too, if the European Axis go that route). But, more importantly, this change gives the American submarines a modifier in 1942 or 1943, as Western Allied Air Range research outstrips that of Japan. Japan begins with a result of "7" [+5]. The Western Allies begin with a result of "5" [+3].
- The modifier for the outbreak of war between Germany and the U.S. is no longer dependent on USAT, and instead triggers a +3 DRM for the first turn of war, a +2 DRM for the second turn of war, and a +1 DRM thereafter. This lessens the impact of the Happy Time, but gives it a longer effect. In most games, the permanent

+1 DRM for Germany and the U.S. being at war will be offset by 1943 Western Allied research and production.

- Submarine research, now confined to Germany, is handled like jets.
- Land-based air is no longer a modifier for Pacific theater submarine warfare, either for Japan or for the Western Allies in mapboard boxes.
- Distance to the Japanese convoy route is no longer considered in Pacific theater submarine warfare, although the possession of certain key ports generates favorable modifiers.
- Transport requirements have been rationalized so that each transport may carry either five factors of ground/air units or five BRPs.
- Western Allied transports can be used to send units onto the mapboard in Southeast Asia and in the South Pacific.
- The U.S. may mobilize additional transports in place of a second shipbuilding increase.

These changes to the submarine warfare modifiers have to be assessed in conjunction with changes to SW combat, the research tables, the limitations on Western Allied shipbuilding and the scope of the Japanese and American submarine campaigns, the starting transport levels, the number of transports required to carry oil and the ban on DD conversion.

SW Combat

An important change has been made to the manner in which SW combat is resolved. A favorable net modifier for submarine warfare or bombing cannot be negated by a good ASW or bombing defense SW combat result. Therefore the attacker always gets his SW combat result and always sinks additional transports or inflicts additional bombing damage if he has a favorable net SW combat modifier, up to the number of submarines operating in the SW box. The defender's SW combat result only prevents additional effects by knocking out all the attacking units (as well as taking a toll of the enemy submarines or bombers, of course). Here is the precise wording of the revised rule:

24.64 ADDITIONAL LOSSES IN SUBMARINE WARFARE: In addition to the losses from the submarine SW combat result, before damaged transports by the submarine SW combat result return to port:

A. FAVORABLE SUBMARINE SW MODIFIERS: One additional transport is sunk for each net SW combat modifier favoring the attacker, up to the number of submarines operating in the SW box. These additional losses are unaffected by the defender's SW combat result (a plus modifier for the submarines always sinks additional transports).

B. SUBMARINES REACHING THE CONVOYS: One additional transport is sunk for each submarine factor unaffected by the defender's SW combat result (these submarines are considered to have reached the enemy convoys). These additional losses are reduced by one transport for each net SW combat modifier favoring the defender.

C. If submarines inflict additional losses, undamaged transports are sunk first, then damaged transports returning to port.

24.65 ADDITIONAL LOSSES FROM BOMBING: In addition to the losses from the bomber SW combat result:

A. FAVORABLE BOMBER SW MODIFIERS: Three additional BRPs are eliminated for each net SW combat modifier favoring the attacker. These additional losses are unaffected by the defender's SW combat result (a plus modifier for bombers always eliminated three additional BRPs).

B. BOMBERS REACHING THE TARGET: Three additional BRPs are eliminated for each bomber factor unaffected by the defender's SW combat result (these bombers are considered to have reached the target). These additional losses are reduced by three BRPs for each net SW combat modifier favoring the defender.

Research

The three key research tables relating to submarine warfare have all been substantially modified:

Anti-submarine Warfare

(European Axis, Western Allies, Japan)

ASW is a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

The Western Allies begin with a result of "4" [+2].

Restriction:

Western Allied RPs may not be placed in ASW until the 1940 YSS. Japanese RPs may not be placed in ASW until the 1942 YSS.

Modifiers:

+1 For each radar research result achieved.

-1 For each ASW result achieved by the rolling alliance faction (-1 for one ASW result; -2 for two ASW results; and so on).

Results:

1-2 No effect.

3 [+1]

4 [+2]

5 [+3]

6-7 Enemy submarine SW combat and submarine attack dice rolls are decreased by one; friendly ASW SW combat dice rolls are increased by one.

8+ Enemy submarine SW combat and submarine attack dice rolls are decreased by two; friendly ASW SW combat dice rolls are increased by two.

Explanation:

Results for ASW are implemented gradually - see 41.84.

Torpedoes

(European Axis, Western Allies, Japan)

Japan begins with one "7+" torpedo result.

The European Axis begin with a result of "4" [+2].

Restriction:

European Axis RPs may not be placed in torpedoes until the 1940 YSS. Western Allied RPs may not be placed in torpedoes until the 1942 YSS.

Modifiers:

-1 For each torpedo result achieved by the rolling alliance faction (-1 for one torpedo result, including the initial Japanese result; -2 for two torpedo results; and so on).

Results:

1-2 No effect.

3 [+1]

4 [+2]

5 [+3]

6 [+4]

7+ Friendly submarine SW combat and submarine attack dice rolls are increased by one; enemy ASW SW combat dice rolls are decreased by one.

Advanced Submarines

(Germany)

Advanced submarines are a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Restriction:

The European Axis may not allocate RPs to advanced submarines until 1943.

Results:

1-3 *Project cancelled.

4-5 No effect

6-7 [+1]

8 [+2]

9 One advanced submarine factor may be built. [+3]

10 Two advanced submarine factors may be built. [+4]

11 Three advanced submarine factors may be built. [+5]

12 Four advanced submarine factors may be built. [+6]

13 Five advanced submarine factors may be built. [+7]

14+ *Six advanced submarine factors may be built.

Explanation:

After a successful result, one advanced submarine factor is added to the German force pool at no additional RP cost at the rate of one factor per turn.

Advanced submarines resolve SW combat separately:

25.75 ADVANCED SUBMARINES: German advanced submarines make a separate SW combat dice roll against Western Allied transports after the resolution of raider combat and conventional submarine warfare:

A. Each advanced submarine factor counts as three factors on the SW Combat Table.

B. No modifiers are applied to the advanced submarine SW combat dice roll.

C. No SW combat dice roll is made by the Western Allies.

D. One Western Allied transport is eliminated for each advanced submarine in the SW box.

Here is a summary of the changes:

- European Axis torpedo and Western Allied ASW research cannot be started until 1940. Both sides are deemed to begin with a "4" result (a [+2] for their 1940 research rolls).
- For ASW and torpedo research, as well as for similar projects (Air Nationality DRM, air range, strategic bombers, air defense, Naval Nationality DRM, combat

training and radar) each successful result yields a negative modifier for all subsequent research rolls for that project. This makes it more difficult to get repeated research results for torpedoes and ASW. As a result, there are fewer torpedo and ASW results achieved each game, which keeps either side from jumping too far ahead of the other.

- Advanced submarines are cheaper (in part because no RPs need be allocated to advanced submarine production), may not be researched until 1943, but are more effective and cannot be lost as a result of SW combat.
- The restrictions on RP allocation are stricter, to prevent an early imbalance in the Pacific theater. Note also the restrictions on the allocation of RPs to jet and rocket research, as detailed below:

41.31 ...

D. DATE RESTRICTIONS: RPs may not be assigned to the following research and production projects until the indicated date. The 1942 YSS restriction for Western Allied and Japanese RPs applies regardless of when war breaks out between Japan and the Western Allies. Prohibited dates are indicated by shaded boxes on each alliance faction's research record sheets:

- 1940 YSS:
 - European Axis torpedo research.
 - Western Allied ASW research.
- 1941 YSS:
 - Controlled reaction research.
 - Western Allied ASW production.
 - Western Allied transport production.
- 1942 YSS:
 - Western Allied torpedo research.
 - Japanese ASW research and production.
 - Japanese transport production.
 - Western Allied and Japanese submarine production.
 - Western Allied and Japanese port production.
 - Uranium plant production.
- 1943 YSS:
 - European Axis jet research.
 - European Axis advanced submarine research.
 - European Axis rocket research.
 - Plutonium reactor production.
- 1944 YSS:
 - Japanese, Russian and Western Allied jet research.
 - Japanese, Russian and Western Allied rocket research.
 - Uranium separation research.
 - Plutonium production research.
 - Atomic bomb research.

42.23 NAVAL:

A. SUBMARINES:

- **CONVENTIONAL SUBMARINES:** 1 submarine factor for each RP, no limit. Germany, Italy, Japan, Britain and the U.S. only.

- **ADVANCED SUBMARINES:** 4, 5, 6, 7...; only after a "10+" Axis research result for advanced submarines. Each result allows Germany to add one advanced submarine factor to its force pool. Germany only.

Shipbuilding

The "heavy/light" naval construction rule (as it is commonly and inaccurately called) has now been extended to all major powers. This change slows the Western Allied buildup of DDs and therefore reduces the Western Allied invasion threat in 1942-1943. Britain may also now construct 2-factor named ships in Canada. Japan now starts with 20 transports, which serves to defer the ultimate collapse of its oil supplies.

27.722 RESTRICTIONS ON NAVAL CONSTRUCTION:

27.7221 DESTROYERS, CVEs, ASW AND TRANSPORTS:

A. Each turn no more than half (round up) of each major power shipbuilding rate may be used to construct destroyers, CVEs, ASW and transports. This limit applies separately to each major power shipyard to construct destroyers, CVEs, ASW and transports. This limit applies separately to each major power shipyard.

B. There is no restriction on the proportion of major power shipbuilding which may be used to construct cruisers, named ships and submarines.

27.7222 FAST CARRIERS:

A. The U.S. and Japan may build CVs, CVBs and CVLs.

B. Germany, Italy and Britain may build only CVLs.

C. Russia, France and China may not build fast carriers.

D. For restrictions on American pre-war fast carrier construction, see 27.7325.

27.7223 CVEs:

A. Only the U.S. may build CVEs.

B. The U.S. may build British CVEs once USAT reach 28, with the cost of construction counting against the American BRP grant limit. Construction of British CVEs is limited by the British naval air training rate.

C. The U.S. may build American CVEs once USAT reach 34. Construction of American CVEs is limited by the American naval air training rate.

27.7224 NOT LIMITED BY COUNTER MIX: The construction of naval units is not limited by the available counters.

Britain has the option of paying for American prewar transport construction or, once otherwise allowed, treating such construction as a BRP grant:

27.7322 TRANSPORTS: The U.S. may use its shipyards to build transports prior to the outbreak of war between the U.S. and Germany as follows:

A. CASH AND CARRY: Until USAT are over 25, the U.S. may build Western Allied transports only in turns in which more than five transports were lost during the previous Axis player turn (EXCEPTION: Transports lost to Japan - 27.7322C).

- Until USAT are over 25, Britain must pay the BRP cost of American prewar transport construction.

- This BRP expenditure counts against the American, not the British, construction limit.

- No transports are required for these British payments.

B. LEND LEASE: Once USAT are over 25, the U.S. may build Western Allied transports regardless of how many transports were lost during the previous Axis player turn.

- Once USAT are over 25, some or all of the cost of American prewar transport construction may be paid by the U.S. One American BRP

may be spent on prewar transport construction for each USAT level over 25.

- American BRP expenditures count against the American construction limit and against the limit for American BRP grants to Britain.
- Lend lease and cash and carry (27.7322A) may be combined, with the U.S. paying some of the cost of prewar transport construction and Britain paying the remainder, provided more than five Western Allied transports were lost during the previous Axis player turn.

C. WAR WITH JAPAN: If the United States and Japan go to war before the United States and Germany go to war, transports sunk by Japan may be rebuilt in the Pacific U.S. box without regard for the USAT level and do not count against the American BRP grant limit to Britain.

Starting Transport Levels

The Western Allied starting transport level has been increased by five and the Japanese starting transport level has been increased by three:

20.631 INITIAL LEVELS: The initial number of transports are:

A. ATLANTIC: 15 Western Allied transports.

B. INDIAN OCEAN: 5 Western Allied transports.

C. PACIFIC: 10 Western Allied transports.

D. AT LARGE: 5 Western Allied transports, to be initially allocated to the Atlantic or Indian Oceans as desired.

E. UNBUILT: 5 Western Allied transports.

F. PACIFIC (JAPAN): 20 Japanese transports.

The optimal transport levels for the Western Allies have been adjusted:

20.633 PENALTY FOR DROPPING BELOW OPTIMAL LEVELS:...

A. ATLANTIC AND INDIAN OCEAN (Western Allies): 30 Western Allied transports total. BRP penalties for Atlantic and Indian Ocean transport shortages are incurred by Britain (EXCEPTION: BRP penalties for Atlantic and Indian Ocean transport shortages are incurred by the U.S. if Axis control of all ports in Britain and Ulster prevents American BRP grants to Britain).

B. PACIFIC (Western Allies): 10 Western Allied transports. BRP penalties for Pacific transport shortages are incurred by the U.S.

The reason for these changes relate to the revamped Atlantic submarine campaign, as described above, and also the rule relating to the use of transports to ship oil.

Shipping Oil in Transports

One oil counter may now be shipped for every three, rather than every two, transports (round up):

20.64 FUNCTIONS: Each undamaged transport factor may be used once per turn for one of the following:

A. OIL SHIPMENTS: To ship one Western Allied or Japanese oil counter. The owning player may assign transports to sea escort oil counters (30.4). The number of transports which may be assigned to carry oil each turn is limited by the number of transports available in the Atlantic, Pacific and Indian Ocean SW boxes, as the case may be: 1 transport: 1 oil counter; 2 transports: 2 oil counters, 3-9 transports: 3 oil counters; 10-12 transports: 4 oil counters; 13-15 transports: 5 oil counters; 16 or more transports: 6 oil counters; and so on. See 33.4523 and 33.473.

This small change, in conjunction with the previous changes, has big implications:

- Japan will find its oil supply threatened earlier, as even Japan's initial 20 transports (plus perhaps one or two additional transports from production) don't provide a large margin of safety to ensuring shipment of the six oil counters it receives each turn from the Dutch East Indies. The U.S. will not have to inflict massive damage on the Japanese transports in order to cause the Japanese player concern.
- The U.S. will require at least ten transports in the Pacific in order to ship four oil per turn to Pearl Harbor. Once the Americans take the offensive, the transport requirements in the Pacific will be even greater, which is why the Western Allies need five more transports to start the game.
- Until the U-boats are defeated, oil will always be on the British player's mind, despite the additional transports.

Shipping Units and BRPs in Transports

Some of the shipping pressure has been taken off the Western Allies by simplifying the transport requirements for shipping units and BRPs. One effect of this change is to let the U.S. ship replacements, small infantry units and one- and two-factor air units out of the U.S. box more easily:

20.64 FUNCTIONS: Each undamaged transport factor which begins its player turn in an SW box (20.63) may be used once per turn for one of the following naval activities:

...

C. SEA TRANSPORT, INVASIONS OR NRing UNITS: One transport is required for every five ground or air factors which sea transport (21.434), invade (ground units only; 21.513) or are NRed using transports as sea escort (21.64). Ground and air units may be carried in any combination, but the ground units may not be split between two transports: a transport could carry a 3-4 infantry unit, a replacement and an army air factor, or two 2-5 armor units and three naval air squadrons, but two transports could not be used to carry three 3-4 infantry units.

Similarly, each transport may ship five BRPs:

D. BRP GRANTS BY SEA: One transport is required to sea escort each BRP grant of up to five BRPs by sea, including grants by Murmansk convoy and through Persia, Turkey and Siberia (40.22). Atlantic transports are used for Murmansk convoys and grants to Britain, France or the South Africa box; Indian Ocean transports are used for grants through the South Africa box and Persia and Turkey to Russia or through India to China; Pacific transports are used for Siberian grants, grants to Australia and grants from the Pacific U.S. box to China.

The requirement that DDs be used for some BRP grants, such as Murmansk convoys, has been eliminated.

In addition, the use of Western Allied transports to send units onto the board using Pacific and Indian Ocean transports has been rationalized:

20.644 SEA ESCORT USING WESTERN ALLIED PACIFIC TRANSPORTS: Western Allied Pacific transports may be used to sea escort units between any of the following locations:

A. The Pacific U.S. box.

B. The Australia box.

C. The Pacific U.S. box (only) and Dutch Harbor, Pearl Harbor or Papeete (Tahiti), including from one port to another.

D. The Australia box (only) and Townsville, Port Moresby, Lae, Rabaul, Noumea, Suva, Pago Pago and any port constructed in the Solomon, New Hebrides, Fiji or Ellice Islands, including from one port to another.

20.645 SEA ESCORT USING WESTERN ALLIED INDIAN OCEAN TRANSPORTS: Western Allied Indian Ocean transports may be used to sea escort units between any of the following locations:

- A. The India box.
- B. South Africa box.
- C. The Australia box.
- D. Suez, Basra or Abadan, including from one port to another.
- E. Ethiopia.
- F. Colombo, Trincomalee, Madras, Calcutta, Rangoon or Singapore, including from one port to another.

The restriction on using transports to reinforce newly captured areas applies to both Japan and the Western Allies:

21.64 DESTROYER AND TRANSPORT REQUIREMENTS:

...

G. Transports may be used to sea escort between the following locations provided they were controlled by the escorting player at the start of its player turn:

- Western Allied sea escorts between ports on the Western front (Atlantic transports).
- Western Allied sea escorts between Townsville, Port Moresby, Lae, Rabaul, Noumea, Suva, Pago Pago and any port constructed in the Solomon, New Hebrides, Fiji or Ellice Islands (Pacific transports).
- Western Allied sea escorts between Colombo, Trincomalee, Madras, Calcutta, Rangoon or Singapore (Indian Ocean transports).
- Japanese sea escorts between any ports or eligible island hexes (21.37) on the Pacific mapboard.

American Prewar Involvement

As part of the rebalancing of the Atlantic submarine campaign, American prewar involvement has been altered:

- 25. The U.S. may grant BRPs to Britain or France (one BRP per turn for each additional USAT level). One American ASW may be deployed to the Atlantic SW box and used against German submarines in subsequent turns.
- 28. The U.S. may construct British CVEs, using the British naval air training level.
- 30. The U.S. mobilizes 20 BRPs of units.
- 35. The U.S. mobilizes 20 BRPs of units. The U.S. may construct American CVEs, using the American naval air training level. The second American ASW may be deployed to the Atlantic SW box and used against German submarines in subsequent turns.

Western Allied Invasions

The problem of limiting the Western Allied invasion capability, while at the same time permitting variance from the historical invasion schedule, has proven to be one of the most difficult design challenges. In the end, a number of changes were made.

Defensive Air Support

The first involved penalizing the invading player for invading without air superiority, by tripling the effect of defensive air support flown against invasions:

18.611 ...

B. The strength of defensive air support flown against seaborne invasions is tripled. Each NAS adds one factor and each AAF adds three factors to the defense of the attacked ground units. The tripled strength of defensive air support against seaborne invasions is not affected by factors which modify the DM of the defending ground units, such as the use of marines by the attacker, and applies when determining combat losses inflicted on the attacker (15.61).

This change, by definition, has no effect at all on invasions where the attacker has sufficient air bases and air units within range of the invasion hex to negate any defending air units (Sea Lion, Husky, Overlord) or has sufficient carrier-based air to overpower the defender's air units (American Pacific invasions). The change does affect shoestring and long-range invasions, which can now be defended against with a small number of AAF.

This change doesn't affect the ahistorically early invasions of France which were plaguing the game, but an elegant solution was found. The problem was that bridgeheads placed by seaborne invasion were immune from attrition occupation, so that once the Western Allies got ashore, they were there to stay unless the Germans could cut sea supply to the invasion bridgehead (which is rarely possible and wrecks the Axis position when it is).

Shore Bombardment

Invasions themselves are now more difficult early in the game, because shore bombardment is limited by the invader's Naval Nationality DRM:

21.526 LIMITS ON SHORE BOMBARDMENT: The total number of combat factors added to a ground attack by shore bombardment depends on the Naval Nationality DRM of the naval units providing shore bombardment. This limitation is distinct from the limitation on ground support from air units.

A. NAVAL NATIONALITY DRM OF ONE: For naval units with a Naval Nationality DRM of one, the number of combat factors added to a ground attack by shore bombardment may not exceed the total number of ground factors involved in the invasion attack.

B. NAVAL NATIONALITY DRM OF TWO: For naval units with a Naval Nationality DRM of two, the number of combat factors added to a ground attack by shore bombardment may not exceed twice the total number of ground factors involved in the invasion attack.

C. NAVAL NATIONALITY DRM OF THREE OR MORE: For naval units with a Naval Nationality DRM of three or more, the number of combat factors added to a ground attack by shore bombardment may not exceed three times the total number of ground factors involved in the invasion attack.

D. MIXED NATIONALITIES: If naval units with different Naval Nationality DRMs conduct shore bombardment, the above limits are applied to each category of Naval Nationality DRMs; naval units with a Naval Nationality DRM of one are limited to the number of ground factors involved in the invasion attack; naval units with a Naval Nationality DRM of two are limited to twice the number of ground factors involved in the invasion attack.

Exploitation by Invading Armor

A combination of two more general rule changes reduces the effect of early Western Allied invasions:

15.33 NEGATIVE DMs: Ground units are subject to a negative DM as follows:

A. Infantry, replacements and partisans incur a -1 DM if attacked by exploiting armor with a CTL of two or more, unless defending in a capital, objective hex, IC, bridgehead or railhead. Airborne, marine, commando, Chindit and armor units (subject to 15.331) are not subject to this -1 DM when attacked by exploiting armor.

And:

16.15 SEABORNE INVASIONS: The CTL of armor units exploiting from a breakthrough created by a seaborne invasion is reduced by one during the attacker's exploitation. This CTL reduction applies whether the seaborne invasion was conducted against an occupied or unoccupied hex.

The effect of these changes is to prevent exploitation by invading Western Allied armor units while their CTL is one (because their CTL would be reduced to zero, and armor units with a CTL of zero may not exploit - 15.82C), and to strengthen the defense of Axis ground units attacked on exploitation by Western Allied armor units once their CTL is two (because their CTL would be reduced to one, which isn't enough to trigger a -1 DM for exploitation attacks - 15.33A). This change also reduces the effectiveness of exploiting Italian armor (German armor is now better than Italian armor in the desert and in Russia) and also makes Russian spring exploitation less effective, but the biggest effect is to reduce early Western Allied invasions to their historic level of (in)effectiveness.

Attritions

Three additional changes now make a German attrition an effective response to a Western Allied invasion, provided the attrition level is high enough in comparison to the number of invading ground units:

- invasion bridgeheads may be taken by attrition occupation.
- to prevent attrition occupation of a hex, a player must either eliminate all the units in the hex (no change) or take the largest ground units if some units remain in the hex.
- if all units in an attrition zone are eliminated, the attritioning player may occupy hexes adjacent to his attritioning units.

14.62 HEXES NOT ELIGIBLE FOR ATTRITION OCCUPATION: The following hexes may not be selected for attrition occupation:

...

B. A hex from which the defender has taken all the attrition losses inflicted on him by the attacker's attrition die roll for that attrition zone, even if the defender has non-partisan ground units remaining in the hex after taking the losses, provided the defender takes the ground unit(s) with the largest ground combat factor(s) as losses from the hex. If there is more than one ground unit with the same combat factor, the defender decides which unit to remove.

C. A hex containing a capital, objective, IC, fortress, fortification, railhead or bridgehead placed as a result of attacking across a river or crossing-arrow (31.23 - bridgeheads placed as a result of a seaborne invasion may be selected for attrition occupation). Luxembourg, which does not have a capital, may be selected for attrition occupation. Maginot and West Wall hexes may be occupied by units attritioning across their unfortified hexsides, but units attritioning across fortified hexsides may not occupy

Maginot or West Wall hexes, even in conjunction with attrition occupation across an unfortified hexside.

And:

14.65 ELIMINATION OF ALL DEFENDING UNITS IN AN ATTRITION ZONE: If all the non-partisan ground units in an attrition zone are eliminated as a result of attrition combat, all hexes in that attrition zone adjacent to attritioning units may be occupied by attrition advance regardless of the presence of defender counters and the number of "H" attrition results, subject to the restrictions on attrition occupation in 14.62C-E.

For consistency:

31.64 ATTRITION OCCUPATION: Bridgeheads placed as a result of attacking across a river or crossing-arrow may not be selected for attrition occupation. This benefit does not apply to bridgeheads placed as a result of a seaborne invasion, which may be selected for attrition occupation (14.62C).

Beach Defenses

The defender now has the option of constructing beach defenses, rather than regular fortifications. Beach defenses are only effective against invasions, but two beaches may be fortified for the cost of a single regular fortification:

32.5 BEACH DEFENSES:

32.51 NATIONALITY AND COST: Beach defenses may be constructed by the same major powers and at the same BRP and RP cost as fortifications (32.11, 32.12).

32.52 ELIGIBLE HEXES: Beach defenses may be constructed only on fully supplied beach hexes which were controlled by the constructing major power at the start of its player turn. Beach defenses may not be constructed on one-hex islands.

32.53 TWO BEACH DEFENSE COUNTERS PER TURN: Two beach defense counters may be placed on the board instead of a single fortification counter. Fortifications and beach defenses may not be constructed in the same turn.

32.54 ONE BEACH DEFENSE COUNTER PER HEX: No more than one beach defense counter may be placed in a hex.

32.55 EFFECTS OF BEACH DEFENSES: Ground units in a hex containing a beach defense counter receive a +1 DM when defending against seaborne invasion. This +1 DM is negated if the ground units are also attacked by enemy ground units from an adjacent land hex, but is not negated solely by an airdrop. Beach defenses have no effect on attrition, ZoCs or supply.

32.56 FORTIFICATION OF HEXES CONTAINING BEACH DEFENSES: A beach defense counter and a fortification may be constructed in the same hex, provided this is done in different turns (32.53). If a hex contains both a fortification and a beach defense counter, ground units defending against seaborne invasion receive a +2 DM and ground units defending against other ground attacks receive a +1 DM. The land hexsides of such a hex are fortified for attrition, ZoC and supply purposes.

Attacks on Fortifications

Fortifications may no longer be attacked at less than 1:1 odds, so beach defenses have no direct effect on that aspect of seaborne invasions (this restriction has long applied to seaborne invasions). However, attacks on fortifications, including beach defenses, now usually result in an "Ex-1" or "Ex-2" result, and this has a significant impact on the viability of some invasions:

15.55 ATTACKS AGAINST FORTIFICATIONS: When resolving

ground combat against any hex containing a fortification, fortress, beach defense or a fortified one-hex island, other than beach defenses attacked from land, directional fortifications attacked from behind and tactical atomic attacks (43.424A):

A. If the attacker has a CTL of 1, all “Ex-2”, “d” and “D” results are, at the defender’s option, treated as “Ex-1” results.

B. If the attacker has a CTL of 2, all “d” and “D” results are treated as “Ex-2” results.

C. If the attacker has a CTL of 3 or more, all “d” and “D” results are treated as “Ex-3” results.

15.551 MIXED FORCES: If a force containing units with different CTLs attacks a fortified hex, 15.55 is applied based on the lowest attacking CTL. If all the attacking units with the lowest CTL are eliminated, additional units are only eliminated if needed to meet the loss requirement for the next highest CTL, and so on. Higher CTL units may be eliminated in place of lower CTL units in order to preserve the lower CTL units

15.61 COMBAT RESULTS:

...

Ex-3: The same as an “Ex-1”, except the defender’s DM is reduced by three before determining the attacker’s losses. This result may only occur as a result of an attack against a fortified defender when the attacking units have a CTL of 3 or more.

The effect of these two changes is, quite intentionally, to increase the attacker’s casualties when storming fortifications and fortresses, rather than besieging them to reduce their DM.

Invading Portugal

To make it more difficult, although not impossible, for the Western Allies to end-run the German anti-invasion efforts by going through Portugal and Spain :

49.632 SPAIN: The Axis may make a reaction die roll for Spain during the Axis diplomatic phase following a Western Allied declaration of war on Portugal. Spain automatically associates with Germany if the Western Allies declare war on Portugal when Spain is neutral, but the diplomatic modifiers resulting from Spanish association do not apply to the reaction die roll. If the Axis reaction die roll results in a “10+” diplomatic result for Spain, Spain becomes a German minor ally, rather than associating with Germany.

+1 *If the Western Allies declare war on Portugal.*

Keep in mind also the restriction on using transports to reinforce newly-captured areas.

The Baltic and the Adriatic

Two particularly ahistorical and annoying invasions – of the Adriatic beach in Italy and the Baltic beach at Parnu – have been eliminated for all practical purposes. At the same time, movement in and out of Leningrad has been curtailed:

21.211 RESTRICTIONS ON NAVAL MOVEMENT THROUGH STRAITS: Naval movement through certain straits is prohibited as set out below. Entry into a prohibited strait to carry out a naval activity is permitted provided the naval units leave the strait on the same side they entered, without passing through the strait. The requirements for control of the locations to which these prohibitions apply are:

...

E. GULF OF FINLAND (D41, E41): Helsinki (D41) and Tallinn (E41) must be under friendly or neutral control.

F. GULF OF RIGA (G39, F40): Naval movement and operations to and

from Parnu (F40), including seaborne invasions, require control of Saare (F39), the one-hex island off the coast of Estonia.

G. STRAIT OF OTRANTO (AA25, AA26): Brindisi (AA25) and Durazzo (AA26) must be under friendly control.

Commandos

Finally, the annoying power of the British commando unit has been reined in by limiting its range and restricting it to invading undefended ports:

10.81 SPECIAL ABILITY: Commandos may conduct seaborne invasions against any undefended port hex. The range of an invading commando unit is restricted to 10 (Europe) or five (Pacific) hexes (21.3613C). Ports which contain enemy ground units at the start of the Allied combat phase may not be invaded by commandos. This does not permit seaborne invasions of otherwise ineligible ports by non-commando units. A bridgehead may not be placed in a port invaded by a commando using this special ability. Commandos are not affected by partial supply or oil effects, except as this affects their ability to conduct seaborne invasions.

Pacific Invasions

Several other changes which affect invasions, directly and indirectly, must be mentioned:

Fortifying Island Groups

Rather than building one fortification or two beach defenses, the Japanese and Americans may elect to fortify an island group.

Pacific Island Stacking Limits

The normal stacking limit of two ground units is reduced to one ground unit per hex for Pacific one-hex islands, unless the island contains a port or port counter.

The combined effect of these changes in the Pacific is to make direct attacks on one-hex islands with ports very costly, while at the same time reducing the Japanese commitment of units to the Pacific to more realistic levels. Key islands (those with ports – or port counters, which now have a defensive value) will usually be bypassed and besieged, to reduce their DM, while other islands take a toll on the attacker. A second Western Allied CTL increase to three is also more justified than before.

Midway, Johnston and Wake

One more change to the seaborne invasion rules is worth noting. The general rule for seaborne invasion ranges is:

21.3614 OFFENSIVE NAVAL MISSIONS: Offensive naval missions may not exceed 40 (Europe) or 20 (Pacific) hexes, and must touch a port (21.36C) at least once every 20 (Europe) or 10 (Pacific) hexes...

However, Midway, Johnston and Wake islands have been given greater meaning by tying the range of naval operations from Pearl Harbor to their possession:

21.3615 ALLIED RANGE EXCEPTIONS IN THE PACIFIC:

A. HAWAIIAN ISLANDS: If the Western Allies control and fully supply both Midway and Johnston Island, the initial leg of a Western Allied naval activity beginning in the Hawaiian Islands may cross up to 15 hexes before touching a port (21.36C). If the Western Allies also control and fully

supply Wake, the initial leg of a Western Allied naval activity beginning in the Hawaiian Islands may cross up to 20 hexes before touching a port (21.36C).

And for Japan:

21.3616 JAPANESE RANGE EXCEPTIONS IN THE PACIFIC:

A. JAPAN: The initial leg of a Japanese naval activity beginning in Japan may cross up to 20 hexes before touching a port (21.36C). (EXCEPTION: Midway – 21.3616B)

B. MIDWAY, JOHNSTON ISLAND, HAWAIIAN ISLANDS:

- Midway is only within range for a Japanese naval activity beginning in Japan if Japan controls and fully supplies Wake. The activity must pass through Wake and proceed by the shortest route.
- Johnston Island is within range for a Japanese naval activity beginning in Japan if Japan controls and fully supplies Wake. The activity must pass through Wake and proceed by the shortest route.
- Ground units used in invasions of Midway or Johnston Island originating in Japan may be in Japan or Wake.
- Japanese naval activities between Japan and the Hawaiian Islands may exceed the normal range limits and require no intervening ports if Japan controls and fully supplies Wake and either Midway or Johnston Island. Naval activities must pass through the required islands and proceed by the shortest route. Specifically:
 - Naval units based in Japan may patrol within three hexes of a Hawaiian Island.
 - Naval units based in Japan may be used to invade or shore bombard a Hawaiian Island; the ground units used in such an invasion must be in Japan, Wake, Midway or Johnston Island.

It is worth mentioning that the prohibition on Japan using transports to sea escort units to newly-captured areas has been extended to the Western Allies. This means the number of available destroyers limits the number of factors which can get into a newly-captured area in the turn of capture, which makes Western Allied invasions more problematic (the Western Allied invasion of Portugal is a good example – previously the Western Allies could use destroyers for the invasion and transports to send reinforcements from the United States).

Russia

None of the corrections in the west directly deal with the problems in Russia. The main source of these problems was felt to be in-depth initial deployments by Russian players who better appreciated the blitzkrieg potential of the German army than did their historical counterparts. By setting up far back from the territories acquired by the Nazi-Soviet Pact, Russian players could escape the encirclements which created a crisis for the Soviet regime.

Much historical discussion and several false starts preceded the following changes.

Russian Garrison Requirements

To force the Russians to set up aggressively, as they did historically, Russia must set up much of its air and stronger units close to the Russo-German frontier:

Russian Garrison Requirements

At the end of any Russian player turn in which RGT are 20 or greater:

- Ten Russian 2-3 infantry units, four Russian 3-3 infantry units and six Russian 3-5 armor units must end their turn within four hexes of an Axis-controlled east Prussian, Baltic, Polish or neutral Rumanian hex.
- 15 Russian AAF must end their turn within three hexes of an Axis-controlled east Prussian, Baltic or Polish hex.

These requirements do not apply to Russian one-factor infantry or airborne units, Russian ground and air units added to the Russian force pool after Fall 1939, Russian units which begin the game in the Pacific theater, or to Russian associated or minor ally units. These restrictions are lifted once Russia and Germany go to war or when RGT reach 50.

Russian Prewar Force Pool Additions

Until Russia and Germany have gone to war or the RGT level is 40 or more, half of each type of newly-produced Russian unit must be constructed and remain in Leningrad or Moscow; the other half may be deployed without restriction. If there is an odd number of a certain type of unit, it may be deployed without restriction. This restriction does not apply to units mobilized with the assistance of deferred production (42.336B).

These restrictions have to be read in conjunction with what follows, but essentially they force the Russians to set up most of their forces in exposed positions, with half of the units added to their force pool by production forming a reserve in Moscow and Leningrad. We have, to some extent, come full circle – the original *Third Reich* mandated an armored garrison in Moscow, using a similar mechanism to allow the Germans to duplicate their historic blitz into Russia, while at the same giving the Russians the possibility of a successful defense later on.

Russian Unpreparedness

In the initial turn of a surprise German attack, Russian infantry units in eastern Poland, the Baltic States and Russia which are overrun or attacked by at least one Axis armor unit during movement or regular combat are subject to a -1 DM. Russian infantry units in the Finnish border hexes and, more importantly, Bessarabia are not subject to this -1 DM. This is an important refinement of an earlier version of the rule, which required complicated restrictions on Axis attacks from Rumania to achieve a somewhat historical flavor to Barbarossa. Now Russia has a good reason to take Bessarabia, and the Axis have a good reason to make their main attack in the center and the north.

In addition, Russian air units are subject to a -1 DRM and Russian ZoCs are less effective. The adverse effects of the German attack continue into the Russian player turn, reducing the movement abilities of Russian armor and infantry units, thereby hampering the ability of the Russians to react to the German onslaught, either by counter-attacking coherently or retreating. This exposes the Russians to Fall 1941 encirclements:

Russian Unpreparedness

If the RGT level is less than 40 at the moment Germany declares war on Russia, the following apply in the first turn of a German invasion, in addition to all normal modifiers and movement impairments:

- During the Axis movement phase:
 - Russian armor units adjacent to Axis-controlled hexes at the start of the Axis player turn have no ZoC.
 - Russian armor units which are not adjacent to Axis-controlled hexes cause Axis ground units to expend only one additional movement factor to leave a hex in their ZoC or to move from one such hex to another, rather than the normal two additional movement factors. During exploitation movement, the ZoC of Russian armor units impairs Axis movement normally.
- During the Axis movement phase and regular combat, Russian infantry units in eastern Poland, the Baltic States and Russia that are overrun or attacked by at least one Axis armor unit are subject to a -1 DM unless defending in an objective hex or IC. Other DMs apply normally to such attacks. This -1 DM does not apply to Russian units in the Finnish border hexes, Bessarabia or conquered Balkan countries and does not apply during exploitation movement and combat.
- During the Axis player turn, Russian air units have their Air Nationality DRM reduced by one.
- During the Russian player turn following the Axis attack, Russian armor units have a movement factor of two and Russian infantry units have a movement factor of one. Russian specialized units and Russian units in the Pacific theater move normally.
- The above impairments also apply to Russian associated and minor ally units outside their home country.

The combined effect of these changes is to prevent ahistorical “forward armor defenses” that were rumored to stop the Axis too near the frontier and instead more or less guarantee that the Red Army and Air Force is destroyed in Summer 1941. However, Russia’s recuperative powers are formidable, and unless Germany can lay the groundwork for a decisive campaign in 1942, Russia will bounce back.

Fall 1941

With their forces largely destroyed on the frontier in Summer 1941, Russian players developed a plan of defense – run away. By leaving nothing to be attacked, the Russians at least prevented German breakthroughs and exploitation attacks against Leningrad, Moscow and Rostov. The only Axis option was to simply march forward and attrition, gaining a favorable winter modifier. The outcome of the 1941 campaign in Russia often came down to the Russian winter die roll.

When an ahistorical course of play becomes standard, this is a sure sign of design issues, and now there is fighting in Russia in Fall 1941, just as occurred in the real war.

The first part of the solution was to give the Russians a reason to fight:

49.154 LOSS OF RUSSIAN DPs FOR UNDEFENDED OBJECTIVES AND ICs: Russia loses one DP for each undefended Russian objective or IC occupied by the Axis during an Axis movement phase:

A. An objective or IC is considered to be “undefended” if it did not contain any Russian or Russian minor ally ground units at the start of the Axis player turn in which it is occupied.

B. Objectives and ICs which are isolated or were adjacent to Axis-controlled hexes at the start of the Russian player turn immediately preceding their occupation are exempt.

C. The penalty only applies to objectives inside Russia. Russian-controlled objectives outside Russia, such as Riga and Lvov, do not count.

D. The penalty is not cumulative: undefended objective hexes which also contain an IC, such as Kharkov, would cost Russia only one DP if occupied by Axis forces.

E. The Axis capture of Russian objectives and ICs as a result of regular combat, airdrops or exploitation does not trigger the penalty.

F. The penalty applies during both the current year, when calculating the Russian DP level for Russian resistance purposes, and in the ensuing YSS.

If Russia now adopts the previous strategy of abandoning everything the Germans can reach, it loses DPs in the next YSS. But this penalty also applies for resistance purposes, and if things aren’t going well, this might trigger a Russian surrender, either immediately or in 1942.

So now the Russians had a reason to fight for their major cities, just as they did historically. But in avoiding the Scylla of a reduced resistance level, would Russia succumb to the Charybdis of deep Axis exploitations in Fall 1941? No, because of this change:

16.31 MOVEMENT OF EXPLOITING ARMOR UNITS: Exploiting armor units may remain in a breakthrough hex or move from a breakthrough hex as set out below. Exploitation movement is limited as follows:

...

E. European Axis armor units exploiting from ICs or objectives in Russia which were defended by three or more ground factors have their movement factor reduced by three, although they may always move at least one hex (13.411).

It was considered that anything less than three factors could only be an attempt to circumvent the diplomatic penalty for giving up key cities without a fight, but the Russian player still has a wide latitude in just how strongly he tries to defend his ICs and objectives. They will often fall, but any German armor exploiting from those cities can only move three hexes, which puts the Germans just about to where they got in the real war.

These changes worked – there is now continuous fighting in Russia and how Russia sets up its defense for Fall 1941 and how the Germans attack it are important in shaping the critical 1942 campaign in Russia.

Russian mobilizations - Timing and Units

Another aspect of the Russian problem was that Russia was invariably mobilizing nothing but infantry, allowing it to clog up the battlefield, with its 3-5 armor units providing a sufficient network of ZoCs to prevent deep exploitations. By 1942, there were just too many Russians for Germany to make any progress in Russia. In addition, Allied players attempted to manipulate Russo-German tensions in order to trigger the first Russian mobilization in Summer 1940, rather than Fall 1940. Axis players were forced to follow suit, and RGT became a meaningless, bottomless pit for DPs.

These problems have been solved by a series of direct, simple changes.

The first change compels Russia to take its half of Poland, preventing it from manipulating RGT in Fall 1939 by

renewing on the Nazi-Soviet Pact before the game has really started:

64.35 RUSSIAN ENTRY INTO EASTERN POLAND: Eastern Poland automatically comes under Russian control at the end of the Russian Fall 1939 player turn without the need for a declaration of war or offensive operations. Russia may not refuse to take control of eastern Poland. Russian units may not move across the Polish partition line unless Russia is at war with Germany.

The second change prohibits the placement of DPs in RGT (the use of covert operations in Russia is also prohibited):

49.33 RGT: DPs may not be placed in RGT.

These changes ensure that Russia will not mobilize before Fall 1940 unless German aggression triggers additional modifiers.

The next change deals with what Russia can mobilize:

36.32 ELIGIBLE UNITS: Force pool increases from mobilization, even if deferred and combined with production, can only be used to generate the following types of units:

...

C. Armor:

- ...
- Russia must mobilize one 4-5 armor unit or 5-6 armor unit each mobilization. The Russian player may mobilize the required armor unit in either the first or second turn of a peacetime mobilization. The remaining units for each Russian mobilization must consist of infantry, additional armor or army air units, in whatever combination the Russian player wishes. Russia may not mobilize 5-6 armor units unless it has achieved a heavy armor research result. If Russia does not have any armor units available, it may mobilize army air units instead.

Finally, the mobilization times have been standardized for all major powers:

36.11 TIMING OF FORCE POOL INCREASES: Force pool increases from mobilization are subject to the following delays:

A. SHIPBUILDING: None.

B. AIR: Four turns.

C. INFANTRY: Two turns.

D. MECHANIZED INFANTRY: Four turns.

E. ARMOR: Six turns.

Russian infantry still only takes two turns to mobilize, but Russian armor, like that of all other major powers, now takes six turns to mobilize. This presents Russia with an interesting choice in Fall 1940. Russia must mobilize one armor unit. If it mobilizes a 4-5 armor unit in Fall 1940, it will enter the Russian force pool in Spring 1942 and be available to defend against an Axis Summer 1942 offensive – but the four 3-3 infantry units mobilized in Winter 1940 will not be built until Summer 1941, and therefore will not be available to defend against the likely German invasion in Summer 1941. By switching the order, Russia can get three 3-3 infantry units built in Spring 1941, but the mandatory 4-5 armor unit will not be built until Summer 1942, and therefore will not be available to defend against an Axis Summer 1942 offensive.

Russian Production

The restriction on the placement of units produced by Russia prior to the Axis attack has already been discussed.

Russia's Comeback

These changes, together with the Russian winter changes discussed below, made 1941 work, but games showed that Russia's comeback in 1942 and 1943 was too attenuated, allowing the Axis to keep pressure on Russia for too many turns. Russian surrenders were not common, but there was little Russia could do in 1942 other than run away, and this made for boring games for both sides.

This led to changes in the timing of Russia's post-attack mobilizations and some consequent simplifications of the way ICs were handled. It was then determined that the pendulum had swung too far, and Russia revived too quickly in 1942, so there was no real possibility of a Russian collapse, even when the Axis were doing everything right (including rolling well). Additional refinements rectified this problem, and the end result is that in many games both the German and Russian players have shattered nerves by mid-1943, no matter who wins. And in the end, it's all about having fun, right?

Wartime Russian Mobilizations

The main change was that when Russia is attacked, it mobilizes every turn, even if it hasn't completed its last peacetime mobilization. In most games this means Russia's last three mobilizations are in Summer, Fall and Winter 1941.

36.11 TIMING: Mobilization represents the conversion of civilian factories to military production and has the economic and military effects set out below in each turn in which mobilization occurs. Mobilization increments are triggered for each major power in the following turns.

...

D. RUSSIA: Russia mobilizes when the RGT level reaches 10, 20, 30, 40 and 50 at the end of the Allied diplomatic phase. Russian mobilizations triggered by events during the Allied player turn, such as a French surrender, are considered to have occurred at the start of the Russian player turn. Until the RGT level reaches 50, each Russian mobilization takes two turns to complete; after the RGT level reaches 50, each Russian mobilization is completed in a single turn. Until Russia is at war with Germany, each Russian mobilization must be completed before the next Russian mobilization occurs; Russia may thus never mobilize faster than one mobilization every two turns until RGT reach 50; however, if a Russian peacetime mobilization is partially completed when war breaks out between Germany and Russia, Russia mobilizes during the Russian player turn, at the same time that the second half of the peacetime mobilization is completed. The RGT level is considered to go to 50 when war breaks out between Russia and Germany.

36.31 FORCE POOL INCREASES: Mobilization increases the force pool of the mobilizing major power. In the turn of mobilization, the mobilizing major power announces and records the types of units being mobilized and when they enter its force pool, then places the units in the appropriate location on the turn record track (EXCEPTIONS: Shipbuilding increases - 36.34; deferred force pool additions - 36.351). The size of force pool increases from mobilization is proportional to the mobilizing major power's growth rate:

A. JAPAN, RUSSIA, U.S.: 20 BRPs of units for each turn of mobilization (EXCEPTION: Russia adds 10 BRPs of units in the first turn of a peacetime mobilization and another 10 BRPs of units in the following turn).

36.41 MOBILIZATION STAGGERED: Each major power may mobilize only once per turn, subject to the following exceptions:

A. RUSSIA: Russia may mobilize only every second turn until RGT reach 50. Russia may complete its final peacetime mobilization in the same turn it starts its wartime mobilizations (36.11D).

...

EXAMPLES: ...

Russia mobilizes in Fall 1940 and Spring 1941. Germany attacks Russia in Summer 1941. Russia's remaining mobilizations will occur in Summer, Fall and Winter 1941. Russia will add an IC every second turn and mobilize 10 BRPs of units from Fall 1940 to Summer 1941, and add an IC and mobilize 20 BRPs of units in Summer, Fall and Winter 1941.

The effects of these changes, while beneficial to Russia, are not as great as one would first think. Russia gets some 3-3 infantry units more quickly in 1942, but the difference from before is not that significant. The main effect is that Russia's armor units come into play several turns earlier, allowing Russia to turn the tide more quickly in 1943 - assuming it lasts that long.

Industrial Centers

Russia receives 10 BRPs for new ICs, and once Russia has mobilized all its ICs (usually by the end of 1941, if Germany attacks Russia in Summer 1941), Russia receives an additional 10 BRPs from its ICs each turn, until all Russian-controlled ICs are worth 20 BRPs. The Russian construction limit therefore increases steadily in 1942 and 1943 unless the Axis capture ICs.

37.13 INCREASES IN IC VALUE TRIGGERED BY GERMAN ATTACK: If Germany declares war on Russia, the total value of the ICs under Russian control increase by 10 BRPs each turn as follows:

A. Starting in the first Russian player turn after the last mobilized IC has been placed on the board (36.11D), each turn the BRP value of two ICs increases by 5 BRPs each during the Russian unit construction phase. The Russian BRP total immediately increases by the same amount.

B. An IC worth 15 BRPs may increase its BRP value to 20 BRPs, even though other ICs are still only worth 10 BRPs.

C. An IC worth 10 BRPs may only increase its BRP value to 20 BRPs in a single turn if no other Russian-controlled ICs may increase in value.

D. The maximum BRP value of each IC is 20 BRPs.

E. The BRP value of an IC which was unable to trace from the eastern edge of the mapboard may not be increased. This does not preclude a later BRP increase in a subsequent turn if the supply status of the IC is restored.

...

37.62 BRPs FROM NEW ICs: Newly constructed ICs are worth 10 BRPs. When a new IC is constructed, Russia immediately adds the 10 BRP value of the IC to its BRP total at the start of its unit construction phase during the turn of construction.

37.63 INCREASES IN VALUE: The BRP value of newly constructed ICs increases in the same manner as other ICs (37.13).

37.64 NEW ICs INCREASE THE RUSSIAN CONSTRUCTION LIMIT: The construction of a new IC increases the Russian construction limit in the turn of construction.

The cumbersome RP credit for voluntarily eliminating ICs has also been scrapped: when the Axis capture an IC, Russia

simple loses the BRPs, with no RP credit or compensating increase to the Russian BRP base, while the BRP value of the IC as a conquest drops by five BRPs:

37.4 CAPTURE OF ICs:

37.42 EFFECTS OF CAPTURE: When a Russian-controlled IC is captured by the Axis, Russia immediately loses the prorated value of the IC from its current BRP level and the Russian construction limit is recalculated accordingly.

37.43 VALUE OF CAPTURED ICs: When the Axis capture an IC, its value is reduced by five BRPs. The IC is then treated as a conquest worth the BRP value of the IC at the time it is captured minus five BRPs. Its value remains fixed for the remainder of the game, regardless of any subsequent changes in control.

37.44 EFFECTS OF RUSSIAN RECAPTURE: If Russia regains control of a captured IC, Russia's construction limit increases (27.31). The IC is treated as a conquest for BRP purposes (35.73A).

37.5 ELIMINATION OF ICs:

37.51 RUSSIA: Russia may voluntarily eliminate an IC under its control which has been bombed by the Axis (26.75), but may not otherwise voluntarily eliminate ICs. This results in an immediate Russian loss of BRPs equal to the full value of the IC.

37.52 AXIS: The Axis may not eliminate captured ICs.

Two other simplifications are worth mentioning. The first is that Russia counts ICs towards its construction limit even if it can't trace a supply line to them:

27.32 DETERMINING CONSTRUCTION LIMITS: Construction limits are determined as follows:

A. BASIC CONSTRUCTION LIMIT: The basic construction limit for each major power is one-third of its BRP base, rounded down, subject to the following adjustments. These adjustments are made each turn :

- If a key economic area which was originally controlled by a major power is under enemy control, the value of that key economic area is deducted from the originally controlling major power's BRP base before determining its basic construction limit.
- Russia includes the BRP value of ICs under its control.

The second simplification is that ICs are no longer "burned" at the rate of five BRPs per turn to generate supply. Instead ICs are a limited supply source for Russian units in them, with the BRP value of the IC determining how many turns besieged units may go before incurring negative DMs:

37.71 LIMITED SUPPLY SOURCE: Russian-controlled ICs are a limited supply source for Russian and Russian minor country units in them only.

37.72 EFFECTS OF ISOLATION: If a Russian-controlled IC is unable to draw full supply from the eastern edge of the mapboard, the units in them incur a -1 DM for each turn of isolation until they defend at face value. This effect is delayed by one turn for every five BRPs in the IC. If full supply to the IC is re-established, the negative DM effects are negated.

EXAMPLE: In Fall 1941, Leningrad, which contains an IC worth 10 BRPs, is encircled. In Winter 1941 and Spring 1942, Russian units in Leningrad defend normally. In Summer 1942, they would be subject to a -1 DM, in Fall 1942 they would be subject to a -2 DM, and so on, until they defended at face value or until the siege was broken.

These changes increase Russia's fighting power as the game goes on, but it's not all good news for Russia.

With respect to ICs, it was found that Russia had it too easy near the end of the game, and could attack recklessly, without regard to BRPs or construction limits. In the real war, even

the Russians had some constraints. Therefore, as noted above in 37,13, the maximum value of each IC is now 20 BRPs, not 25 BRPs.

Other changes make things more difficult for Russia, balancing some of the changes set out above.

The Russian Winter

The Winter Table, winter preparation and winter attrition rules have been revised to allow for more effective attacks by both sides in winter turns in Russia.

First of all, the Winter Table has been revised, as shown on the previous page.

The other winter changes must be considered along with the Winter Table changes.

From the Axis point of view, their offensive capabilities during Russian winters are tied to the applicable winter level. The Axis will often be able to conduct some offensive operations in Russia during winter, but their abilities are limited:

34.32 WINTER EFFECTS:

...

C. RUSSIA: A winter die roll is made at the beginning of every winter game turn to determine winter effects on all eastern front hexes east of the Nazi-Soviet Pact line (the "Russian winter zone"; EXCEPTION: Winter effects do not apply to a border war between Russia and Rumania for Bessarabia). The Russian winter die roll is subject to a +5 modifier, and is modified by the applicable winter preparation levels. In addition, if the Axis did not exploit in the Russian winter zone in the preceding Fall turn, the Axis winter preparation level for that winter is increased by one; and if the Axis did not conduct any offensive air operations in the Russian winter zone in the preceding Fall turn, the Axis winter preparation level for that winter is also increased by one (+1 for each, +2 for both).

- **AXIS OFFENSIVES:** If the winter level in the Russian winter zone is "9" or more, Axis ground attacks against non-partisan units and offensive air operations are prohibited. For every Axis winter effect level in the Russian winter zone below "9", the Axis may make one ground attack of any size; use 15 or more air factors for offensive operations; or, if permitted by a winter result of "5" or less, exploit from one breakthrough hex. Ground attacks on partisans and the use of up to 14 air factors do not count. These offensive operations are cumulative:

In an "8" winter, the Axis may make one ground attack, using less than 15 AAF as ground support; or use all their AAF for offensive operations, but not both.

In a "7" winter, the Axis may make one ground attack using 15 or more AAF as ground support or make two ground attacks using a total of less than 15 AAF as ground support.

In a "6" winter, the Axis may make two ground attacks using 15 or more AAF as ground support; or make three ground attacks using a total of less than 15 AAF as ground support.

In a "5" winter, the Axis may make three ground attacks using 15 or more AAF as ground support; make four ground attacks using a total of less than 15 AAF as ground support; or make fewer ground attacks and use some of the limited Axis logistical capabilities to create a breakthrough and exploit from the breakthrough hex.

As the winter levels become milder, the Axis options increase. Each ground attack, except those against partisans, regardless of size, counts against the Axis logistical limit. Similarly, exploitation from two different breakthrough hexes counts against the Axis logistical

limit more than exploitation from a single breakthrough hex.

Air operations by Axis strategic bombers and interceptors are counted against the limit on air operations.

- **ATTRITIONS:** Russian attritions in the Russian winter zone are governed by 14.531.

From the Russian point of view, Russian winter attritions may be severe on the Axis, depending on the difference in winter preparation levels:

14.521 RUSSIAN WINTER ATTRITIONS: If Russia attritions on the eastern front east of the Nazi-Soviet Pact line in a winter turn, Russia may designate hexes from which Axis attrition losses must be taken and hexes to be captured by attrition occupation, as follows:

A. Each hex designated must be adjacent to an attritioning Russian ground unit and must contain at least one Axis ground unit.

B. Hexes designated for attrition losses must have been subject to attrition combat. Fortified hexes may not be designated. The total number of hexes designated for attrition losses may not exceed the "C" result achieved by the attrition.

C. Hexes designated for attrition occupation must be eligible for attrition occupation (14.62). The total number of hexes designated for attrition occupation may not exceed the "H" result achieved by the attrition.

D. The total number of hexes designated for both attrition losses and attrition occupation for all Russian attritions may not exceed the difference in winter levels applying to Russia and Germany.

E. Hexes may not be designated for both attrition losses and attrition occupation.

F. Hexes containing only Finnish and Swedish units may not be designated.

G. The Axis must eliminate one ground unit from each hex designated for attrition losses. Until the Axis winter preparation level has reached its maximum level of six, other Axis attrition losses must be taken from eligible Axis ground units within three hexes by land of an attritioned Axis ground unit. Attrition losses may be taken from hexes which have been designated for attrition losses, to prevent their occupation, but may not be taken from hexes designated for attrition occupation.

H. Russia must occupy hexes designated for attrition occupation once the Axis player has taken all his attrition losses. All other "H" results are implemented normally. Russia may occupy hexes which have been designated for attrition losses provided they contain at least one Axis ground unit after the Axis player has taken all his attrition losses.

Finally, the Axis get an automatic +2 increase in their winter preparation level for each Russian winter they experience, and the production cost of winter preparation is reduced from four to three:

34.44 WINTER PREPARATION INCREASES:

34.441 PRODUCTION: The European Axis, Japan and the Western Allies may increase their winter preparation levels by production. Russia may not (42.24I).

34.442 AUTOMATIC INCREASES: The European Axis and Japan automatically achieve winter preparation results at the end of winter turns as follows:

A. EUROPEAN AXIS: Two winter preparation results for each previous winter turn in which Germany was at war with Russia and had at least one ground unit east of the Nazi-Soviet Pact line.

B. JAPAN: Two winter preparation results for each previous winter turn in which Japan was at war with Russia and had at least one ground unit in Siberia, Manchuria, Mongolia or Tannu Tuva.

34.443 Automatic winter preparation increases do not count against the production limit of one winter preparation result per year.

34.444 APPLICATION OF WINTER PREPARATION:

A. Winter preparation results apply to all members of the alliance faction which achieves the result.

B. Each alliance faction must reveal its winter preparation level at the start of each winter turn. Winter preparation results triggered during a winter turn do not affect play during that turn and are not announced until the following year.

42.24 MILITARY:

...

I. WINTER PREPARATION: 3, once per year, up to a maximum winter preparation level of six. In addition, the European Axis and Japan may achieve automatic winter preparation results (34.442). Such automatic results do not count against the production limit of one winter preparation result per year. Winter preparation results apply to all members of the alliance faction which achieves the result. Germany, Japan and the Western Allies only.

Here's how it works. A winter roll is made to determine the applicable winter levels and the Winter Table is consulted. Unless the winter level is "9" or more, Axis units may conduct offensive operations, but only subject to various impediments - Axis armor loses the ability to exploit at a winter level of "6"; Axis ground units have their CTL reduced and are more vulnerable to attack at a winter level of "7"; and Axis air is more vulnerable at a winter level of "8". While the ability of the Axis to conduct some offensive operations in Winter 1941 might lead to the capture of key cities like Leningrad or Rostov, the overall effect of winter preparation (and a good winter die roll) is mitigated by the fact that overruns are prohibited at a winter level of "3", so there is no danger that the Russian position will collapse entirely due to a mild winter. The lower cost of winter preparation production makes it feasible for the Axis to obtain one or even two winter preparation results for Winter 1941, but the effects should not be decisive.

Winter Table - 34.41	
0	No effect.
1	Movement of armor units during exploitation reduced by 1.
2	Movement of armor units during exploitation reduced by 2.
3	Movement of armor units during exploitation reduced by 3; overruns and airdrops are prohibited.
4	Movement of armor units during exploitation is reduced by 4.
5	Movement of armor units during exploitation is reduced by 5. Fortifications and railheads may not be constructed.
6	Exploitation is prohibited.
7	CTL reduced by one. Infantry units and replacements are subject to a -1 DM unless defending in a capital, objective hex, IC, bridgehead or railhead.
8	Air Nationality DRM reduced by one.
9	Ground attacks against non-partisan units and offensive air operations are prohibited. Defensive air support is restricted to the hex in which the air factors are based.
10	Enemy units must expend only one, not two, movement factors to leave the ZoC of armor units.
11	Armor units are treated as infantry units.

Modifiers	
+5	winter turns in the Russian winter zone.
+5	winter turns in Siberia, Manchuria, Mongolia and Tannu Tuva.
+2	fall turns in Siberia, Manchuria, Mongolia and Tannu Tuva.
Explanation: Each level of winter effects includes all the effects of all lower results.	
The "Russian winter zone" is the area on the eastern front east of the Nazi-Soviet Pact line.	
Winter preparation: Winter effects are reduced by winter preparation. The starting winter preparation levels are: Russia, Finland, Sweden: 6; Japan: 2; Other: 0. Winter preparation levels may be increased by production, but may not exceed 6.	
Attrition combat: The difference in winter preparation levels modifies attrition die rolls (+/-1 for each level). Russian attritions in the Russian winter zone permit the Russian player some control over attrition results (14.521).	
Offensive operations in the Russian winter zone: For every Axis winter effect level below "9", the Axis may make one ground attack of any size; use 15 or more air factors for offensive operations; or, if permitted by a winter result of "5" or less, exploit from one breakthrough hex. Ground attacks on partisans and the use of up to 14 air factors do not count.	
Exploitation: Exploiting armor units may always move at least one hex.	
Pacific effects: Movement reductions for exploiting armor for winter effects 1-5 are halved, round down, in the Pacific theater. Winter effect 10 does not apply in the Pacific theater.	
Winter turns in the Russian winter zone; winter and fall turns in Siberia, Manchuria, Mongolia and Tannu Tuva: One die is rolled, subject to the above modifiers.	
Automatic winter levels:	
6	Eastern front west of the Nazi-Soviet Pact line
6	Western front
4	Mediterranean front hexes in continental Europe

While the Axis may have some opportunities during Winter 1941, they also face considerable dangers when the Russians move.

As in First Edition *A World at War*, the relative winter levels applying to Russia and Germany modify the attrition result. But now, the Russian player also gets to select either hexes which must take one unit as an attrition loss or hexes which cannot take losses, and therefore are vulnerable to attrition occupation, up to a combined maximum equal to the difference in applicable winter levels.

The results are interesting and demanding on both players. If Axis armor units exploit during the Axis winter player turn, Russia may respond by attritioning and selecting the hexes containing the exploiting Axis armor units for attrition losses. If the Axis restrain themselves and form a line, the Russians may select key hexes for attrition occupation. Either way, the Axis suffer more in winter, especially in Winter 1941, than in the past. Winter 1941 still provides a much-needed respite for Russia, although 1942 is often a scary year for both sides.

Russian oil

With the Axis receiving an automatic +2 winter preparation as their reward for enduring the 1941 Russian winter, the Axis are fairly likely to get a moderate winter result in 1942. The effects of the Russian mobilization changes are discussed above, but there are two other changes which somewhat offset the increase in Russian strength in 1942.

The first is oil. Russia only tracks oil consumption if it loses an objective linked to its oil reserve (this speeds play), but its oil situation may become precarious if the Axis adopt a southern strategy, going for Maikop, Grozny and especially Baku.

33.4624 INITIAL RUSSIAN OIL RESERVE: Until the Axis capture Maikop, Grozny or Baku, Russia does not track its oil consumption. If the Axis capture a Russian oil center, Russia tracks its oil consumption and the Russian oil reserve is considered to be at the maximum level permitted by 33.422C.

33.422 MAXIMUM OIL RESERVES: Each oil reserve may contain a maximum number of oil counters. These maximums apply to each oil reserve at the end of each player turn, and any oil counters in excess of the maximum are eliminated. The maximums and starting levels for each oil reserve are set out below:

...

C. RUSSIA:

- **Maximum:** One for each of Moscow, Leningrad, Stalingrad, Grozny, Maikop and the Urals box under Russian control, for a total maximum of six and a minimum of one.
- **At Start:** Six.

The effect of these changes must be considered in conjunction with the increased use of oil for unit construction described below.

Resistance effects of ICs

A second change, which only has an effect if Russia gets in trouble, is that the break even point for Russian resistance has been increased from five to seven ICs, which happens to be the precise number with which Russia begins the game.

Shock armies

Many years after *Advanced Third Reich/A World at War* icon Joe Brophy first suggested the idea in a post-convention open discussion, Russian shock armies have made their way into the game, although in a more abstract form than Joe first suggested:

42.24 MILITARY:

...

J. SHOCK ARMIES: 2, 3, with two results permitted each year, to a maximum of six results. Each shock army result allows the Russian player to designate one 3-3 infantry unit as a shock army each turn. Shock armies may overstack at the end of the movement phase and may attack in excess of the normal limit of two ground units from a hex. Shock armies may be taken as combat losses in the same manner as other ground units, but otherwise are eliminated once ground combat is resolved, prior to advancing after combat, regardless of the outcome. Shock armies may not be used for overruns, seaborne invasions, exploitation attacks or attritions. Russia only.

Russia can't afford to spend very many RPs on shock tactics early in the war, but later on it can't afford not to. By allowing overstacking attacks, shock tactics allow the Russians to batter their way into Europe despite Germany's best efforts at defense – although at a terrible cost in casualties, since the overstacked units are always eliminated, one way or the other. This change is simple, elegant, and a lot of fun to play.

Russian airbase placement

One source of frustration to Allied players has been the inability of Russia to effectively employ its air superiority late in the war. In some games, this has allowed Germany to prolong the game longer than it should. The rules therefore now provide that, starting in Spring 1943, Russia may place one airbase during its movement phase and a second airbase during its unit construction or redeployment phase. By definition, this has no effect on the (in)ability of the Russians to position their air for defensive purposes in 1941-42.

Russian spring offensives

A final change involved relaxing the restrictions on Russian offensive operations in mud. Experienced German players realized that a timely retreat in Russia in 1943 would save units, allowing for German growth in the 1944 YSS, while at the same time allowing Germany to transfer its air force to the west to blunt any developing Western Allied initiative. The solution to this problem was to allow Russian offensives in eastern front spring turns:

34.22 MUD: Offensive operations in areas afflicted by mud are subject to the following effects (EXCEPTION: Russian offensive operations – 34.221):

A. FULL OFFENSIVES PROHIBITED: Full offensives may not be conducted.

B. OVERRUNS AND EXPLOITATION PROHIBITED: Overruns and exploitation, including exploitation attacks from non-afflicted hexes into hexes afflicted by mud, are prohibited.

C. BREAKTHROUGHS PROHIBITED: Breakthroughs may not be created in hexes afflicted by mud. Eligible armor units in hexes afflicted by mud may be placed in and exploit from breakthrough hexes created in hexes which are not afflicted by mud, with the BRP offensive cost being charged to the front containing the breakthrough hex.

34.221 RUSSIAN OFFENSIVE OPERATIONS: Russia may conduct full offensives, overrun, create breakthroughs and exploit in areas afflicted by mud. The CTL of exploiting Russian armor units is reduced by one in mud (41.925).

Italy

Italy proved to be too resilient early in the war, and too difficult to conquer later on. As part of the reining in of Western Allied invasions, Italy had to be brought back down to earth as well.

Italian weakness in North Africa

It was rare that the British could repeat their historical late 1940/early 1941 successes against Italy – or that they would

even spend the BRPs to try. This problem was addressed by a more general rule, which provides that units with a CTL of zero incur a -1 DM in normal hexes:

15.33 NEGATIVE DMs: Ground units are subject to a negative DM as follows:

...

C. Infantry and replacements with a CTL of zero or less incur a -1 DM unless defending in a capital, objective hex, IC, bridgehead or railhead; or in their home country. Canadian, South African and Free French units are considered to be "in their home country" when defending in Britain (82.13, 58.624). Partisans always incur a -1 DM.

Conveniently, the rules already state that units which are only partially supplied or which incur the army oil effect have their CTL reduced by one. Unless the Axis increase their CTL, Italian units in North Africa which fail to receive full supply from Rome (instead receiving partial supply from Tripoli) are now more vulnerable to attack. But the rule can also apply to Western Allied units prior to a CTL increase, so it cuts both ways.

Italian negative DMs

Italy's weaknesses are not confined to a partially supplied North Africa. While Italy was part of the European Axis and sent some units to the Russian front (and offered Germany "help" elsewhere, although these proposals were usually politely declined), Italy primarily fought a parallel Mediterranean war, or tried to. To this end:

15.33 NEGATIVE DMs: Ground units are subject to a negative DM as follows:

...

B. Italian and minor country units are subject to a negative DM as follows:

- Italian infantry and replacement units defending in any type of hex outside the Mediterranean front incur a -1 DM.
- Italian armor, infantry and replacement units incur a -1 DM if Rome is under Allied control or there are no Axis units in Africa (56.111).

Gone are the halcyon days of Italian troops lolling on the French beaches. The Germans have to defend France, and the Italians will fight in North Africa and the Balkans.

An Italian surrender becomes more likely once Africa falls, because of the second change in 15.33B. Italy also may not be fortified until it has surrendered, so the Axis have good reason to fight hard in North Africa.

Corsica and Sardinia

Italian players can take some comfort in the fact that Italy no longer loses a DP for Allied control of Corsica and Sardinia. This gives the Western Allies reason to conduct a historical invasion of Sicily, rather than an ahistorical occupation of Corsica and Sardinia (to which there was no real defense, because the Western Allies can cut supply to both islands). But this change was made so soon after publication that most players have likely forgotten that Corsica and Sardinia were once a shortcut to an Italian surrender.

Another change which affects Italy is best discussed under the next heading.

Economics

The purpose of the Russian changes is to make Russia a fight that either side can win. While Russia may now come closer to collapse, it will also come back more quickly. Even so, games revealed an additional problem – that Germany simply had too much staying power and could resist too strongly in 1943-45. This problem had two sources: the German BRP base, and therefore its construction limit, was often too large by the time the Allies took over the initiative; and Germany did not feel any real oil pressure.

Graduated BRP growth rates

The solution to the first problem was the introduction of graduated growth rates for the four western European major powers:

35.31 GROWTH RATES: During each YSS, unspent BRPs from the previous year, as determined at the end of the previous winter game turn, are multiplied by the major power's growth rate. Fractions are dropped and the result is added to the major power's BRP base. The remaining BRPs are lost. The major power growth rates are:

A. Germany, Britain, France, Italy: 1940 YSS: 10%; 1941 YSS: 20%; 1942 YSS: 30%; 1943 YSS: 40%; 1944-1946 YSS: 50%; up to the maximum allowed for each country:

- Germany: 50%
- Britain: 40%
- France: 30%
- Italy: 20%

For German players accustomed to fighting in 1940 and 1941, this change will make little difference. A major power that uses all its BRPs by the end of the year doesn't have to worry about its growth rate. But this change significantly slows German growth in games in which Germany avoids fighting and doesn't use all its BRPs in 1940 and 1941. In fact, German growth is reduced by such an extent that trying to turn Germany into an economic superpower without conquering Europe is no longer a viable option. Nor should it be.

German conquests

The second change relates to the historic importance of German conquests and minor countries to the German war economy. This is reflected by the requirement that Germany have two BRPs from conquests and minors for each BRP of growth, both during the YSS and prior to each Axis unit construction phase. The loss of its external territories therefore reduces the German BRP base and construction limit, until they reach their original levels (or possibly less).

35.33 BRP base growth is restricted as follows:

A. GERMANY: For each BRP of German growth, Germany must receive two BRPs from conquests and minor countries (35.51A-G). Excess growth is disregarded.

35.42 DECREASES: A major power's BRP base may decrease during the year as follows:

...

C. LOSS OF GERMAN CONQUESTS: If the German BRP base exceeds its original value (150 BRPs), Germany must be receiving two BRPs from conquests and minor countries (35.51A-G), for each additional BRP of German base. At the end of any Axis combat phase in which this condition is not met, the German BRP base is reduced, at no BRP cost to Germany, to 150 BRPs plus half the value of its conquests and minor countries.

This means that while Germany may be able to hold off the Western Allies longer and hammer Russia, the German construction limit in 1942-43 will be around 50-70 BRPs, rather than the absurd 100+ BRPs previously seen in some games.

Oil construction effects

The third change altered the impact of oil use on construction. In the published game, the construction oil effect, which could be offset by the use of one oil counter, cut an affected major power's construction limit in half. This crude all-or-nothing (half, actually) approach would have been fine, had it worked. But it didn't.

The oil rules have been restructured so that each oil counter used for construction beyond the first 25 BRPs of units allows an additional 25 BRPs of units to be built at normal construction cost. Any surplus costs double, as for isolated units:

27.35 CONSTRUCTION OIL EFFECTS: For each major power, the number of oil counters expended by its alliance faction to offset construction oil effects affects construction costs as follows:

A. No oil counters: normal construction costs (27.11) apply to the first 25 BRPs of builds; additional builds are subject to construction oil effects.

B. One oil counter: normal construction costs apply to the first 50 BRPs of builds; additional builds are subject to construction oil effects.

C. Two oil counters: normal construction costs apply to the first 75 BRPs of builds; additional builds are subject to construction oil effects; and so on.

D. Units subject to construction oil effects are built at double the normal construction cost (27.13D).

E. Isolated or voluntarily eliminated units which are also built subject to construction oil effects are built at triple the normal construction cost (27.14).

F. Oil counters may be used to offset construction oil effects in conjunction with uninverting air and naval factors and exploiting armor units (33.72).

G. Using oil counters to prevent construction oil effects avoids increased construction costs, but does not allow a major power to exceed its construction limit.

H. A major power is considered to have incurred the construction oil effect for resistance level purposes unless its alliance faction spends at least one oil counter to reduce unit construction costs (33.61D).

The precise application of additional construction costs is set out in 27.13 and 27.14:

27.13 RECONSTRUCTION COSTS DOUBLED: The following units are built at double the normal construction cost:

A. Units rebuilt in the turn they are eliminated as set out below. Such units may be rebuilt in a subsequent turn at the normal construction cost:

- Units eliminated by isolation.

- Isolated units which made offensive attacks without paying the normal BRP costs (9.82).

- Units which were voluntarily eliminated.

B. Units built subject to construction oil effects (27.35).

27.14 RECONSTRUCTION COSTS TRIPLED: Isolated or voluntarily eliminated units (27.13A) which are rebuilt subject to construction oil effects (27.13B) are rebuilt at triple the normal construction cost.

For consistency, the flexible application of oil counters has been extended both to construction, so a player might build a few more units at normal construction cost, and invert some air and naval units, in whatever combination works best. But the overall construction limit always remains, regardless of oil and construction costs, and at different times in the game every player may be faced with decisions about oil use which he previously didn't have to make.

It turned out this wasn't enough, so another very important change was made. It is found at the tail end of 27.35, and mustn't be overlooked:

27.35 CONSTRUCTION OIL EFFECTS: For each major power, the number of oil counters expended by its alliance faction to offset construction oil effects affects construction costs as follows:

...

I. German and Italian construction costs are combined when determining the effects of European Axis oil expenditures for construction purposes, although each major power has a distinct construction limit; building Italian units at normal construction cost requires additional oil if Germany spends 25 BRPs or more on construction.

J. British and French construction costs are similarly combined when determining the effects of Western Allied oil expenditures for construction purposes, although in practice this rarely affects play. British and French oil expenditures for construction purposes must come from the Western Allied oil reserve or oil transported from the United States. American construction costs are ignored, as the United States has unlimited oil.

27.35I applies to Germany and Italy, and 27.35J applies to the British and French, mainly for consistency. While Germany and Italy have distinct construction limits, for oil consumption purposes, total Axis construction is what matters. This means Italian construction, which used to be almost "free" (in the sense that Italy's 20% growth rate was so low that it wasn't worth saving any Italian BRPs) counts against "German" oil, so building Italian units may mean leaving German units unbuilt, or consuming additional oil.

To a certain extent, Germany can spend its way out of its oil problems, by paying double for construction not covered by oil. But this is only really feasible in 1944, when the German construction level is high and Germany has BRPs that won't generate BRP growth because Germany will have reached its BRP base limit based on conquests and allies. "Feasible" also has to be used guardedly, because German losses will also be higher in 1944 and Germany may not be able to rebuild fully even using oil. In the end the German player may have to comfort himself with the thought that "you can't take it with you" – there's no point in surrendering with a full oil reserve.

A number of the other changes since publication favor Germany, but with more realistic constraints on its construction and a world of enemies, the *Reich* now not just wants, but *needs*, to do well in the first years of the war.

Synthetic oil plants

Finally, it is harder for Germany to solve its oil problems simply by building synthetic oil plants, as only one synthetic oil plant may be placed in each objective. This exposes additional synthetic oil plants both to bombing and to direct capture.

Deficit spending

Another change was to rationalize deficit spending, which previously distinguished between involuntary deficits, which did not affect a major power's BRP base, and voluntary deficits, which did. This distinction proved confusing in practice, and led to many mistakes in YSS calculations. The Gordian Knot was cut by introducing the concept of "negative growth", which simply means that if a major power finishes a year in debt, its BRP base is reduced by its growth rate, just as it increases when it finishes a year with a surplus. The simplest formulation of the change is found in the new 35.53:

35.53 BRP DEFICITS: If a major power ends a year with a BRP deficit, regardless of its cause, part of that deficit reduces the major power's BRP base (35.35) and the remainder is deducted from the major power's BRP total for the ensuing year (35.51H).

The effects of this change are interesting.

It is evident that at the end of 1940 a British BRP deficit will tend to have less effect on the British BRP base, because normally that deficit is largely caused by British construction (a voluntary expenditure which previously reduced the British BRP base by the entire amount of the expenditure). Now the British BRP base will be reduced only by 20% of the British deficit, although deficits from German bombing and transport shortages have the same effect, and the British BRP *level* for 1941 would be reduced by the entire deficit.

Less obvious is the fact that Germany also benefits from the change, as it can deficit spend in Winter 1940 and reduce its BRP base by only 20% of the deficit – an effect which could normally be reversed without too much effort in the 1942 YSS.

The change affects other major powers as well, but the end results are simplification and more fighting, which are both a good thing.

The "Big Three" High Tech Projects

Mention was made in earlier of the problems with the "big three" high technology projects.

Advanced Submarines

The changes to advanced submarines were discussed above. Jets and rockets have been dealt with in similar fashion.

Jets

European Axis jet research is cheaper, but may not begin until 1943. The other alliance factions may not research jets until 1944. Jets are no longer produced, but are simply added to the force pool after a successful research result:

Jets

(Germany, Britain, U.S., Russia, Japan)

Jets are a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Restrictions

The European Axis may not allocate RPs to jets until 1943. The Western Allies, Russia and Japan may not allocate RPs to jets until the 1944 YSS.

Results:

1-3 *Project cancelled.

4-5 No effect

6-7 [+1]

8 [+2]

9 One jet factor may be built. Jets have a range of two hexes in Europe and one hex in the Pacific. [+3]

10 Two jet factors may be built. [+4]

11 Three jet factors may be built. Jet range improves to three hexes in Europe and two hexes in the Pacific. [+5]

12+ *Four jet factors may be built. Jets achieve their full range of four hexes in Europe and three hexes in the Pacific.

Explanation:

After a successful result, jet factors are added to successful alliance faction's force pool at no additional RP cost at the rate of one factor per turn.

Rockets

While jets were all too common as a European Axis research projects, rockets were rarely seen, other than as part of a German atomic program, which, for obvious reasons, is hardly common. Perversely, it also turned out that *American* rocket research, as an adjunct Western Allied bombing and an atomic program, proved to be a near-perfect strategy. Since historically the Germans *did* develop both flying bombs and rockets, and the Western Allies *didn't*, this area of the game has caused many difficulties and various solutions have been tried.

The current approach is the same as for jets and advanced submarines; the European Axis may research rockets in 1943 (other alliance factions must wait until 1944), but in return results are cheaper and rocket factories are no longer needed:

Rockets

(Germany, U.S., Russia, Japan)

Rockets are a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Restriction:

The European Axis may not allocate RPs to rockets until 1943. The Western Allies, Russia and Japan may not allocate RPs to rockets until the 1944 YSS.

Results:

1-3 *Project cancelled.

4-5 No effect

6-7 [+1]

8 [+2]

9 Prototype flying bombs developed with a range of 3 hexes (2 hexes in the Pacific); prototype rockets developed with a range of 4 hexes (3 hexes in the Pacific). One rocket base may be used to launch flying bombs; one rocket base may be used to launch rockets. [+3]

10 Flying bomb and rocket production increased. Two rocket bases may be used to launch flying bombs; two rocket bases may be used to launch rockets. [+4]

11 Flying bomb and rocket mass production. Three rocket bases may be used to launch flying bombs; three rocket bases may be used to launch rockets. [+5]

12+ *Rocket range and payload capacity also improved; rocket attacks may be made at a range of 6 hexes (4 hexes in the Pacific). Rockets may be used to carry atomic weapons, with a maximum range of 3 hexes (2 hexes in the Pacific).

Explanation:

Each successive rocket result allows one rocket base to be placed each turn, at no additional RP cost, up to a maximum of six rocket bases. In addition, one existing or eliminated rocket base may be placed each turn.

More games are likely to see some rocket results, but on a limited scale. However, even one or two rocket bases can benefit a hard-pressed Germany by raising the flagging morale of the German public, as measured by the German construction limit:

27.341 GERMAN CONSTRUCTION LIMIT INCREASES: The German construction limit is increased by one BRP beyond its normal level for each BRP lost by Britain or Russia to German flying bombs and rockets. This effect is determined each turn; losses inflicted in previous turns have no additional effect.

The Atomic Bomb

First Edition *A World at War* gave the players wide latitude in researching the atomic bomb, but it turned out this was the problem. As is often the case in systems such as this, atomic research was very sensitive to early die rolls. A lucky controlled reaction result, for example, could result in atomic bombs in 1943.

Obtaining the atomic bomb

After many tries, it was decided to fix the starting times for various aspects of the atomic program:

- **Atomic general** research may be conducted at any time, just as for other categories, and is no longer a high technology project.
- **Controlled reaction** research may begin in 1941, whether or not an atomic general research breakthrough has been achieved.

- **Uranium separation** and **plutonium production** research may not be started until 1944.
- **Atomic bomb** research may not be started until 1944.
- RPs may not be placed in **uranium plant production** before 1942.
- RPs may not be placed in **plutonium reactor production** before 1943.

While RPs may not be allocated to uranium separation, plutonium production and atomic bomb research until the 1944 YSS, these projects are now less costly and have been fine tuned so that there is a fair trade off between rolling in 1944 (with one RP) in the hope of getting a 1944 atomic bomb and waiting until 1945. The number of atomic general research breakthroughs achieved by 1944 will be an important factor in this decision. Here are the research tables themselves:

Uranium Separation (Germany, U.S., Russia)

Uranium separation is a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Restriction:

RPs may not be placed in uranium separation research until the 1944 YSS.

Results:

1-3 [-2]

4-5 [-1]

6-7 No effect.

8 Each uranium plant produces material for one uranium bomb in three turns and produces material for one additional uranium bomb every four turns thereafter. [+1]

9 Each uranium plant produces material for one uranium bomb in two turns and produces material for one additional uranium bomb every four turns thereafter. [+2]

10 Each uranium plant produces material for one uranium bomb in one turn and produces material for one additional uranium bomb every four turns thereafter. [+3]

11 Each uranium plant produces material for one uranium bomb immediately and produces material for one additional uranium bomb every three turns thereafter. [+4]

12+ *Each uranium plant produces material for one uranium bomb immediately and produces material for one additional uranium bomb every two turns thereafter.

Plutonium Production (Germany, U.S., Russia)

Plutonium production is a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Restriction:

RPs may not be placed in plutonium production research until the 1944 YSS and may not be activated until an "8+" result for controlled reaction research has been achieved.

Modifiers:

- +1 If a controlled reaction result was achieved in 1941.
- 1 If a controlled reaction result was achieved in 1943 or later.

Results:

- 1-3 [-2]
- 4-5 [-1]
- 6-7 No effect.
- 8 Each plutonium reactor produces material for one plutonium bomb in three turns and produces material for one additional plutonium bomb every two turns thereafter. [+1]
- 9 Each plutonium reactor produces material for one plutonium bomb in two turns and produces material for one additional plutonium bomb every two turns thereafter. [+2]
- 10 Each plutonium reactor produces material for one plutonium bomb in one turn and produces material for one additional plutonium bomb every two turns thereafter. [+3]
- 11+ *Each plutonium reactor produces material for one plutonium bomb immediately and produces material for one additional plutonium bomb every two turns thereafter.

Atomic Bomb**(Germany, U.S., Russia)**

The atomic bomb is a high technology project. Only one RP may be allocated in the first year in which research is done, two RPs in the next year in which research is done, and so on.

Preconditions:

Before RPs allocated to the atomic bomb may be activated, a player must have produced a controlled reaction and must also have the material for at least one bomb.

Restriction:

RPs may not be placed in atomic bomb research until the 1944 YSS.

Results:

- 1-2 No effect.
- 3 [+1]
- 4-6 Uranium bomb gun trigger successfully designed. The number of uranium bombs which may be constructed and used is limited by the amount of available fissionable material from uranium separation plants. Bombs may be stockpiled before use. [+2]
- 7+ *Plutonium implosion trigger designed. One die is rolled whenever a plutonium bomb is used in a strategic or tactical atomic attack: the bomb detonates only on a die roll of "6". The material in a bomb which fails to detonate is wasted. The detonation die roll is modified by +1 for each turn after the first plutonium bomb is available for use and by +1 for each failed detonation.
- A detonation roll is no longer required once a plutonium bomb is successfully used in a strategic or tactical atomic attack or if a plutonium bomb is tested (no detonation roll is required for a test).
- The number of plutonium bombs which may be constructed and used is limited by the amount of available fissionable material from plutonium reactors. Bombs may be stockpiled before use.

Another important refinement is the uncertainty of plutonium bombs. This may be eliminated by a test (Trinity), but Axis players may find themselves in a situation where the new weapon must be tested in combat.

Delivery of the atomic bomb

Atomic bombs may still be delivered by rocket, but only at a range of three hexes. This allows Germany to attack Britain,

but makes it problematic for the Western Allies to attack Berlin.

43.222 ROCKETS: Rockets may be used to deliver atomic bombs at a range of three European (two Pacific) hexes if a "12+" research result for rockets is in effect.

As for strategic bombers, it was felt that allowing an atomic attack whenever the net SW combat modifier favored the Western Allies (which is most of the time) was just too powerful, as it meant the strength of the target's defenses were irrelevant. The revised rule reads:

43.24 RESOLUTION OF ATOMIC ATTACKS BY STRATEGIC BOMBER: A strategic atomic attack may be made by strategic bomber if at least one strategic bomber factor is unaffected both by air combat with the defender's air units, if any, and the defender's SW combat dice roll. Once it is determined whether a strategic atomic attack by strategic bomber is permitted, the attacker announces whether he is making the attack.

Strategic effects of atomic attacks

The strategic effects of atomic bombs have been simplified somewhat (atomic markers are permanent, allowing a simplification of the resistance tables), but were found to be too strong, so now each successive strategic atomic attack is less, rather than more, effective:

43.321 SURRENDER AND RESISTANCE EFFECTS: Successful strategic atomic attacks trigger the following political effects:

A. GERMAN SURRENDER: The first successful strategic atomic attack against a target in Germany permanently reduces the German surrender level by three; the second such attack permanently reduces the German surrender level by an additional two; each additional attack permanently reduces the German surrender level by an additional one.

And so on, for Japanese, Russian and British resistance, as well as U.S. election effects.

Tactical effects of atomic attacks

With atomic bombs more difficult to mass produce, it is likely that most games will only see a handful of atomic bombs. Bearing this in mind, the tactical effect, which would have had a significant psychological component, has been increased:

43.421 OFFENSIVE: An atomic attack may be made by the moving player against enemy ground unit(s) during the regular combat phase immediately before making the combat die roll to resolve an offensive ground attack of 1:1 odds or greater against those units. The defending units must be adjacent to a fully supplied attacking ground unit or in a hex which is the target of a seaborne invasion. Atomic attacks may not be made by airborne units which have airdropped or during exploitation.

43.424 EFFECTS: Tactical atomic attacks against enemy ground units have the following effects for all combat rounds of the ground combat for which they are made:

A. OFFENSIVE: The defender automatically incurs a "d" combat result.

B. DEFENSIVE: The attacker automatically incurs an "a" combat result and the CTL of all surviving attacking units is reduced by one until the ground combat is resolved.

C. CUMULATIVE EFFECTS: If a player uses more than one atomic bomb in ground combat, the effects are cumulative. For example, if the attacker made two tactical atomic attacks in conjunction with a ground attack, the defender would incur two "d" combat results.

D. MUTUAL ATOMIC ATTACKS: If both sides use atomic bombs in the same ground combat, each side suffers the effects set out in 43.424A and B. Thus both the attacker and defender could incur “a” and “d” results, respectively.

While offensive atomic attacks are limited to attacks at 1:1 odds or greater, they insure a “d” result, while the defensive use of atomic bombs stops the attacker cold.

The German Bomb

The greatest single factor motivating the Western Allied atomic bomb program was the fear that the Germans would get the bomb first. Historically the two programs were comparable until 1942, when the Allied program went into high gear and the German program was effectively discontinued, although the Allies didn’t know this until after the war ended.

A World at War is an ideal vehicle to explore the possibility of a German atomic bomb, although it has never really dealt with the Allied fears and the consequences of Germany getting the atomic bomb first. Western Allied players research the atomic bomb because, with the benefit of hindsight, they realize it will likely help them end the game sooner, giving them victory points.

Things have changed. If Germany manages to successfully attack London with an atomic weapon and the Western Allies don’t have an atomic bomb themselves, the Western Allies shut down until they get the atomic bomb:

43.321 SURRENDER AND RESISTANCE EFFECTS: Successful strategic atomic attacks trigger the following political effects:

...

C. BRITISH RESISTANCE AND U.S. ELECTION: The effect of a successful German strategic atomic attack against Britain or the U.S. depends on whether the Western Allies also have the atomic bomb. This is defined as having either a uranium bomb or a plutonium bomb which is assured of successful detonation.

- If the Western Allies also have the atomic bomb:
 - The first successful strategic atomic attack against a hex in Britain permanently reduces the British resistance level by three; the second such attack permanently reduces the British resistance level by an additional four; the third such attack permanently reduces the British resistance level by an additional five; and so on.
 - The first successful German strategic atomic attack against a hex in Britain or against the Atlantic U.S. box permanently reduces future U.S. election results by three; the second such attack permanently reduces future U.S. election results by an additional four; the third such attack permanently reduces future U.S. election results by an additional five; and so on.
- If the Western Allies do not have the atomic bomb:
 - In addition to the above effects, the first successful strategic atomic attack against a hex in Britain or against the Atlantic U.S. box causes the Western Allies to suspend hostilities against the European Axis at the start of the next Allied player turn should the European Axis player wish to do so (the European Axis player has the option of declining the Western Allied offer and continuing to fight). If hostilities are suspended neither side may engage in offensive operations against the other until the Western Allies resume hostilities. The Western Allies may resume hostilities at the start of any Western Allied player turn in which

the Western Allies are guaranteed to obtain an atomic bomb which is sure to detonate. The suspension of hostilities between the European Axis and the Western Allies does not affect any hostilities between the European Axis and Russia or Japan and the Allies.

This radically changes the dynamics of the situation. A Western Allied player who deliberately avoids atomic research in order to use RPs elsewhere now runs a risk: if Germany develops the atomic bomb and a delivery system (most likely rockets), the Western Allies may be stopped dead in their tracks in 1944 or even 1945 (the Russians are made of sterner stuff and must be hammered into submission). Because of the limited range of atomic rockets, the Western Allies can offset this danger by conquering Germany or, more modestly, clearing the French coast before the Germans can attack. Given the uncertainty of plutonium bomb detonation and the basic strategic fact that the longer the Germans hold off the Western Allies, the more likely the Russians will break into Germany, the potential exists for some exciting finishes...

Diplomacy: Spain and Turkey

To make it more difficult to obtain game-determining favorable results in Spain and Turkey, the following “inertial” modifiers were introduced for both countries:

+1 If the net diplomatic modifier, after any covert operations have been played, is negative.

-1 If the net diplomatic modifier, after any covert operations have been played, is positive.

Another way of achieving this effect would have been to spread out the Spanish and Turkish diplomatic tables (so Axis hex control would have required a “9”, rather than an “8”, result), but it was thought it better to keep the Spanish and Turkish diplomatic results the same as those for other minor countries.

The basic modifier for Spain was also changed from +1 to 0, to make it that much more difficult for the Axis to achieve a fluky 1941 or 1942 result for Spain.

For historical consistency and accuracy, Sweden has also been reduced from a basic +1 to 0.

Air-naval rules

The air-naval rules (rules 20-23), which have always been the most difficult rules to follow, have been completely rewritten and rationalized. Exceptions and repetition have been eliminated. Naval battles will continue to be easier (and more enjoyable) to play than to read about.

Accumulated damage

One of the most important changes to the naval combat rules is that damage to named ships accumulates during naval combat:

20.512 ACCUMULATING HITS:

A. DURING NAVAL COMBAT: During naval combat, combat effects on named ships accumulate during and between rounds. Combat results

which are insufficient to damage or sink a named ship are repaired at sea after all naval combat in the hex has been resolved, before the named ship leaves the hex in which the naval combat took place.

B. OUTSIDE NAVAL COMBAT: Outside naval combat, combat effects from air and submarine attacks on named ships which are insufficient to damage or sink a named ship are repaired at sea after all air and submarine attacks in a hex have been resolved, before the named ship leaves the hex in which the air and submarine attacks took place.

C. RAIDERS: Combat effects on named ships accumulate during the first and second raider engagements (21.5341, 21.538), but do not carry over from the first engagement to the second. Combat results which are insufficient to damage or sink a named ship are repaired at sea as soon as each engagement ends.

D. MURMANSK CONVOYS: Combat effects accumulate when Murmansk convoys are resolved as naval combat (20.512A); but otherwise are repaired at sea after each round of air or submarine attacks (20.512B).

E. SHIPS IN PORT: Combat effects from air and harbor attacks against named ships in port which are insufficient to damage or sink a named ship are repaired immediately and have no effect.

The effects of this simple change are interesting. For one thing, it makes even one or two CVLs an effective component of a task force, as a small air strike which inflicts one or two hits on the enemy's battleships will often knock them out of the battle line for the ensuing fleet combat. Another beneficial effect of this rule is that five-factor battleships are far from indestructible, as they may become battered after a round or two of naval combat.

Initially concerns were expressed that this change would involve too much bookkeeping, but these fears turned out to be exaggerated. In fact, because naval battles tend to be more intense, they often involve fewer rounds of naval combat, so the change had the incidental effect of speeding play. The change seems to have been neutral in terms of play balance.

Effects of search on naval combat

With respect to the frequency of naval battles, the conclusion was reached that when naval battles did occur, too often they were "Jutland style" battles, where the larger side simply overwhelmed the smaller side. While it was true that the combat group/search system made it possible for the smaller side to win, it was also (more) possible that the smaller side would suffer a serious defeat if the search rolls, bolstered by the larger side's greater number of combat groups, went against the smaller side.

The solution to this problem was to limit the number of combat groups which may engage a found, enemy combat group to the number of search results applying to that combat group:

22.453 ATTACKS ON ENEMY COMBAT GROUPS LIMITED BY SEARCH RESULTS: For each search result relating to an enemy combat group, one friendly combat group may attack that enemy combat group by either launching an air strike (22.47) and/or engaging in fleet combat (22.5). One search result allows one combat group to engage the found enemy combat group; two search results allow two combat groups to engage the found enemy combat group; and so on. Compulsory fleet combat between corresponding combat groups (22.511) counts towards this limit. The number of search results has no effect on attacks by land-based air units (22.48), which may attack any found enemy combat

groups.

It is still possible for a combat group to be attacked by two, three or even more enemy combat groups, but this is unlikely, because now a player would have to roll that many search rolls with the same result. A more likely outcome is a series of smaller encounters, with the larger side still holding the overall advantage because it will have more staying power.

The main effect of this change is in the Pacific, although it is a change to the naval rules which applies to both theaters. But naval combat in Europe tends to involve smaller forces and fewer combat groups, so many naval battles play out exactly as they did before.

CVBs

CVBs (four-factor carriers) have a Naval Nationality DRM one higher than other Japanese and American fast carriers and add one to the air defense level of their naval force, in the same manner as five-factor battleships. This balances the extra time it takes to construct them and is cool.

British carrier use

After many games, it became apparent that the optimal strategy for the British was to mass their CVLs in a single TF, creating a Pacific-style fighting force which the Axis could not counter without the assistance of land-based air. While the Axis admirals feared the British carriers, this ahistorical employment was never contemplated by the British and arguably was not even possible early in the war, for technical and doctrinal reasons.

Historically the British dispersed their CVLs throughout their fleet, using them for scouting and fleet combat support – the roles for which they were designed. To bring British carrier use in line with reality, the massing of British carriers had to be inhibited, while at the same time the fighting force of one or two CVLs had to be enhanced.

A key part of a reorganized 23.71 restricts the number of NAS which may be used for air strikes against enemy naval forces at sea, based on the Air Nationality DRM of the attacking NAS. This limit also applies to raider combat (23.72):

23.71 RESTRICTIONS:

...

E. SIZE OF AIR STRIKES: The number of NAS which may carry out air strikes from a combat group against one or more enemy combat groups during naval combat is limited by the Air Nationality DRM of the attacking NAS, as follows:

- NAS with an Air Nationality DRM of one: up to four NAS.
- NAS with an Air Nationality DRM of two: up to eight NAS.
- NAS with an Air Nationality DRM of three or more: up to 12 NAS.
- This limit applies separately to forces containing NAS with different Air Nationality DRMs. The first four NAS conducting air strikes may have an Air Nationality DRM as low as one; the next four must have an Air Nationality DRM of at least two; and the final four must have an Air Nationality DRM of at least three.

Until the Western Allies increase their Air Nationality DRM, which is usually in 1942 or 1943, the British may only attack with four NAS from a single TF. Massing the British CVLs therefore has limited value, apart from launching attacks on enemy bases or for defensive purposes.

The value of smaller carrier forces was enhanced in two ways. The first relates to naval interception (the Naval Interception Table being amended accordingly):

22.232 UNFAVORABLE MODIFIERS:

A. SLOW SHIPS: One fewer die is rolled if the intercepting naval force contains slow ships and does not contain an operational fast carrier.

The second, as mentioned above, results from the accumulation of damage during naval combat.

Damaged ships in fleet combat

Another change is the elimination of the annoying adverse modifier for damaged ships in fleet combat:

B. NAVAL ACTIVITIES: DRMs are applied to fleet combat according to the activity being carried out by the respective combatants.

• ...

- The presence of fast carriers or damaged ships does not modify fleet combat dice rolls.

Naval Interception

Two modifiers, both of which increase the chance of naval interception in the relevant situation, have been added:

22.231 FAVORABLE MODIFIERS:

...

B. SUBMARINES: One additional die is rolled for each patrolling submarine within three hexes of the interception hex, up to a maximum increase of three additional dice.

...

F. COUNTER-INTERCEPTION IN SUPPORT OF TRANSPORT ACTIVITIES: Three additional dice are rolled for counter-interceptions of naval forces intercepting a transport activity from a U.S. box.

Raiders

Several simplifications to the raider rules were made, to reflect actual play. Two relate to the composition of raider groups:

21.532 RAIDER GROUPS:

A. ELIGIBLE SHIPS: Cruisers, capital ships and fast carriers may raid; Japanese five-factor battleships, destroyers and slow ships may not.

...

E. COMPOSITION: Each raider group may consist of no more than three ships, no more than one of which may be a fast carrier. Each two-factor cruiser is considered one ship.

This eliminates the ahistorical and imbalancing Japanese "super-raiders" in the Indian Ocean, although the Western Allies must still pay attention to that area.

Defending naval units based on non-operational ports may not engage raiders (previously they incurred an adverse

modifier); the defender may not exempt specific naval units from engaging raiders (which was intended only to counter the adverse modifier for naval units in non-operational ports), although the defender may elect to just let raiders sail unopposed; raider groups may no longer split up on their return voyage (because no sane Axis player would ever do this).

Which ships engage raiders has been simplified, and it is no longer optimal to use slow ships against raiders wherever possible.

Raider Table - 21.5342

The first defending ship to engage is always a cruiser. The type of additional defending ships which engage each raiding group is determined by rolling one die. If no ship of the required type is available, substitutions are not permitted:

1	Cruiser
2	Cruiser or 2-factor battlecruiser
3	3-factor battleship or battlecruiser
4	4-factor battleship
5	5-factor battleship or a fast carrier
6	Defender's choice of any eligible ship

Slow ships may still engage raiders, but only for one round of naval combat:

21.537 RETURNING TO PORT:

...

C. Undamaged fast defending naval units which engaged in the first round of naval combat with a raider group must fight a second round of naval combat against that group.

D. Damaged and slow defending naval must disengage after the first round of naval combat and return to port.

This gives the Allied player an interesting and realistic choice where the option exists of sending a fast or slow ship against enemy raiders for the initial round of raider combat. A fast ship, which is otherwise more valuable than a slow ship of the same size, can, if it survives the first round of raider combat intact, stay with the raiders and fight in the second round, hopefully reinforced by additional forces. Engaging with fast ships therefore increases the chance of damaging or sinking the raiders. But if the Allies are content with defense, don't want to risk their fast battleships, or simply don't have any fast battleships available, they can send slow battleships instead. This change gives raider pursuit a better and more historical feel, while at the same time giving the Allied admirals a little something to think about when deciding which naval units to send against the enemy raiders.

Finally, the defender has the option of declining to engage raiders as they return to port. This prevents the senseless sacrifice of ships after a poor second raider die roll.

Murmansk Convoys

Murmansk convoys are now resolved using the standard naval rules. The most important change is that Axis forces which oppose Murmansk convoys simply base in Bergen, where they

can perform other functions as well (including defending Bergen itself).

Other Changes

BRP Grants

BRP grants have been significantly simplified, by having all BRP grants take only one turn, regardless of how far the BRPs must travel. It was realized after countless games that BRP grants were really constrained by two factors: what grant routes were open, and the availability of Western Allied transports. Whether the BRP grant took one or two turns wasn't really relevant.

BRP grants are also now made during either initial or post-combat supply determination. This made sense both because BRP grants require the tracing of a supply line, with transports providing sea escort for BRP grants by sea, and because it is sometimes more convenient for BRP grants to be made before the recipient spends for offensive operations (German BRP grants to Italy come to mind, but this change might also make managing China's fragile economy easier).

For consistency and post-British surrender play balance, the U.S. may grant BRPs to India.

The Commonwealth

While it may not make any difference in most games, all Commonwealth units may be lent to the U.S. after a British surrender:

52.7 LENT COMMONWEALTH UNITS:

52.71 AUSTRALIANS: Australian units may be lent to the United States once both countries are at war with Japan or if Britain surrendered in a previous game turn (59.53).

52.72 OTHER COMMONWEALTH UNITS: Canadian, South African and Indian units may be lent to the United States if Britain surrendered in a previous game turn (59.53).

52.73 There is no limit to the number or types of Canadian, South African, Australian and Indian units which may be lent once lending is permitted.

American Units and British Concessions

American air and naval units no longer prevent Germany from acquiring British territory after a British surrender:

59.62 TERRITORIAL DEMANDS: Germany may select any combination of eligible territorial and economic concessions up to the value allowed, subject to the restrictions that only European territories which do not contain American units may be selected (59.62A) and a higher priority territory may only be selected if all eligible lower priority territories have been selected as well or are already under Axis control or contain American units when Britain surrenders. Concessions are implemented as follows:

A. AREAS CONTAINING AMERICAN UNITS: Areas which contain an American ground unit may not be ceded to the Axis. Areas containing only other types of American counters, such as air and naval units, airbases, artificial ports and rocket bases, may be taken by the Axis as concessions.

The 1940 invasion of Russia

The 1940 German invasion of Russia is fun to play, even though it is at the very edge of reality (even for *A World at War*, which is saying a lot). Curiously, the plan of ignoring France and invading Russia was actually working in some games, but rather than outlaw it, the following more subtle changes were made:

Anglo-French cooperation restrictions

53.21 COOPERATION RESTRICTIONS TEMPORARY: Friction between Britain and France early in the war limits cooperation between the two powers as set out below. Some or all of the Anglo-French cooperation restrictions can be lifted by a successful Anglo-French cooperation research result. Regardless of the current Anglo-French cooperation level from research, all Anglo-French cooperation restrictions are lifted at the earliest of the following three times:

A. The start of the second Allied player turn following any one of:

- ...
- A German declaration of war on Russia.

Fortification in France permitted

29.25 JOINT WESTERN ALLIED CONTROL:

A. Hexes controlled by Britain and France are jointly controlled by both countries if Russia is at war with Germany.

B. Hexes controlled by Britain and the U.S. are jointly controlled by both countries once the U.S. is at war in that theater.

32.14 RESTRICTIONS: Fortification construction is subject to the following restrictions:

...

D. The Western Allies may only construct fortifications in eligible hexes which are controlled by Britain or the United States.

This rule prevents the construction of forts in French hexes unless France has fallen (29.22B) or Germany has attacked Russia before France has fallen (29.25A).

The Western Allies fight on in France

58.41 HEX CONTROL: At the end of the Allied player turn in which France surrenders, all non-Vichy hexes in France pass to Axis control (EXCEPTION: French surrender after U.S. entry – see 58.411). All non-French Allied ground units and airbases still in France are eliminated, and all non-French air and naval units are displaced to British-controlled bases. Western Allied units in France may operate freely in France, including that part of France which may constitute Vichy France and French colonies which may come under Vichy control, until the end of the Allied player turn in which France surrenders.

58.411 HEX CONTROL AFTER U.S. ENTRY: If the U.S. is at war with Germany when France surrenders, all French-controlled hexes in France and Corsica pass to British control. Non-French Western Allied ground, air and naval units and airbases may remain in France.

The combined effect of these changes is that if Germany attacks Russia, Anglo-French cooperation restrictions are lifted; the Western Allies may build forts in France; and, if all else fails, the British and Americans keep control of their hexes in France even if France surrenders.

None of these changes helps Russia directly, but they make for a more balanced game (France, Britain and the U.S. vs. Germany and Italy) if the Germans manage to knock out Russia with a 1940 attack.

Finland

Recreating the Russian aggression against Finland and Rumania in 1939 and 1940 has always been a difficult design challenge. After several unsuccessful attempts, the rules relating to Finland are now ruthlessly simple:

- Russia may not demand the Finnish border hexes in Fall 1939.
- When Russia does demand the Finnish border hexes, Finland automatically resists.
- Finland may choose to cede the Finnish border hexes at the start of any Axis player turn in which two of the Finnish border hexes are occupied by Russia. If Finland then refuses to cede the Finnish border hexes, Russia and Finland are considered to be at war without the need for a Russian declaration of war on Finland (so there are no USAT or RGT tension effects) and Russian units may enter Finland proper and conquer it (if they can). Swedish units can then help Finland, at the rate of one per turn.
- Russia receives a +1 modifier for its first CTL research roll after attacking Finland.
- If Russia has demanded the Finnish border hexes, Finland automatically associates with Germany when Germany attacks Russia. This does not preclude the Axis from making a diplomatic die roll for Finland in the year of the German attack.

In addition, Russia starts with an additional 10 BRPs at the start of the game, so they can conduct a Winter 1939 offensive against the Finns, whose initial deployment is restricted to one 2-3 infantry unit in each of the Finnish border hexes:

67.21 FINNISH DEPLOYMENT: If Russia engages in a border war with Finland for the Finnish border hexes, one Finnish 2-3 infantry units must deploy in each of the three Finnish border hexes. The other two Finnish 2-3 infantry units and the Finnish AAF must deploy in Helsinki.

Axis railhead and fort construction

European Axis railhead and fort construction has been rationalized:

28.654 RESTRICTIONS: Railhead construction is subject to the following restrictions:

...

E. European Axis railheads must be constructed by Germany (EXCEPTION: Italy may construct railheads in Italy and in any Mediterranean front islands and colonies that contain an Italian unit at the moment of construction).

32.14 RESTRICTIONS: Fortification construction is subject to the following restrictions:

...

D. European Axis fortifications must be constructed by Germany (EXCEPTION: Italy may construct fortifications in Italy and in any Mediterranean front islands and colonies that contain an Italian unit at the

moment of construction).

Deferred oil tracking for the European Axis

Only those who enjoy bookkeeping will oppose this simplification:

33.4425 INITIAL EUROPEAN AXIS OIL RESERVE: Until the start of the first Axis player turn following the outbreak of war between Germany and Russia or the RGT level reaching 45, European Axis oil consumption is not tracked and the European oil reserve is deemed to contain ten oil counters (33.422A).

Vichy French Colonies

At the risk of eliminating one of the most frequent topics of questions, the Vichy French colonial rules have been simplified, mainly to prevent pre-American entry “Torch” campaigns in North Africa. It’s easiest to set out the rules themselves:

77.61 NO DECLARATION OF WAR REQUIRED: Britain and the U.S. may attack Vichy colonies without a declaration of war on Vichy France or the Vichy colony, even if the Axis have control of the Vichy colonies following a diplomatic result of “8” for Vichy France. Such attacks on Vichy colonies do not cost 10 BRPs for a declaration of war and do not trigger a decrease in the USAT level.

If Vichy France has associated or allied with the Axis, Vichy France and its colonies will be at war with the Western Allies and this rule does not apply.

77.62 VICHY COLONIAL RESISTANCE: The resistance offered by Vichy colonies attacked by the Western Allies is determined as follows:

A. RESISTANCE DIE ROLL: For each European Vichy colony attacked by the Western Allies, one die is rolled at the moment the attack occurs (the movement phase if Western Allied ground units enter the Vichy colony by land; the combat phase if the Western Allies conduct a seaborne invasion, ground attack or exploit).

B. MODIFIERS: The die roll is modified by all the diplomatic modifiers applying to Vichy France at that moment, including DPs placed in Vichy France in that year, whether previously used or not, any spy rings in Vichy France, and any covert operations successfully used against Vichy France when the die roll is made.

C. RESULTS: The resistance offered by the attacked Vichy colony depends on the result of the modified die roll:

- On a result or “2” or less, the attacked Vichy colony capitulates. All Vichy French units in the colony become Free French, and all hexes in the colony immediately come under Western Allied control.
- On a result or “3” or “4”, the attacked Vichy colony disintegrates. All Vichy French units in the colony are permanently eliminated, and all hexes in the colony are controlled by no one.
- On a result or “5” or more, the attacked Vichy colony resists. All Vichy French units in the colony are controlled by Germany and may stack, attack and defend with Axis units, and all hexes in the colony immediately come under German control.

D. EACH COLONY SEPARATE: Morocco, Algeria, Tunisia and Lebanon-Syria are each treated as separate colonies for the purposes of this rule.

77.63 VICHY REACTION TRIGGERED: Regardless of the outcome of the die roll(s) for Vichy colonial resistance, the Axis may make a reaction die roll for Vichy France during their diplomatic phase following any Western Allied attack on a Vichy colony (49.633). No reaction die roll is permitted if Vichy France was associated or allied with Germany when the colony is attacked.

77.64 EFFECT OF AXIS UNITS IN ATTACKED VICHY COLONIES: Axis units in Vichy French colonies which have been attacked by the Western Allies (77.6) are not counted against the ten-factor

limit for Vichy France which applies following a diplomatic result of "8" for Vichy France and do not modify subsequent diplomatic die rolls for Vichy France.

The additional modifiers for Vichy France are now:

Additional Modifiers:

- 1 For each Vichy French colonial capital controlled by the Allies.
- 1 If no Axis units are in Africa (including Egypt east of the Suez canal).
- 1 If U.S./British armor or infantry forces are in a bridgehead or port on the European continent outside of France (Gibraltar, Norway and Sicily and other islands do not count).
- 2 If U.S./British armor or infantry forces are in a bridgehead or port in France.
- 1 If the U.S. is at war with the Axis.
- 1 If Spain has activated as an Axis minor ally.
- 1 If the French surrender level is negative.
- +1 If the French surrender level is positive.
- +1 If the USAT level is less than 25.
- +1 Axis control of Malta, either Suez or Alexandria, or Gibraltar (+1 for each).

Greek Force Pool

The Greek force pool was changed from four 2-3 infantry units to one 2-3 infantry unit and five 1-3 infantry units. This doesn't change Greece's ability to withstand an Italian attack, but makes possible a swift German conquest of Greece with modest forces, as occurred historically.

Interceptors

A significant number of players felt that AAF could do pretty much everything interceptors could do, and could do much more besides. For this reason, in most games Germany and Japan produced AAF, rather than interceptors.

The solution to this problem was to give interceptors a +1 Air Nationality DRM. This makes them more effective in air combat against bombers (which, as dedicated air defence units, they should be), and therefore makes them worth producing for their own sake.

The National Redoubt

After many attempts to make the German National Redoubt in Berchtesgaden work, it has been abolished. Another old *Third Reich* variant bites the dust! But with experienced players always stretching the game out by a turn or two by super-stacking a fortified Berchtesgaden, no half measures were effective.

In part out of sentiment, German resistance is increased by one as long as the Reich holds Berchtesgaden.

The Pacific

Japanese Intelligence

Opinions were divided on whether Japanese intelligence projects had become a neglected backwater, or whether competent Japanese players found intelligence projects to be as worthy of RP investment as air, naval and military projects.

We ended up with:

41.25 ADDITIONAL JAPANESE RPs FOR INTELLIGENCE: In addition to its normal RP allotment, during the 1939 opening setup and in each subsequent YSS Japan receives one additional RP which may only be allocated to intelligence projects. This RP is not taken into account in determining the number of Japanese RPs which may be assigned to other research categories (41.31A).

INA and Wangs

While now a little easier to get, because of the intelligence-dedicated RP received by Japan each year, the INA and Wangs are each limited to three 1-2 and three 2-2 infantry units. The loss of Calcutta, Dacca, Colombo or Rangoon has no effect on the size of the Indian Army.

The Initial Japanese Attack

The best way to understand the revisions to the Western Allied surprise effects is to review the tricks the Japanese developed for its initial attack since *A World at War* was published.

Japanese Tricks

- In the first turn of its attack, Japan avoided using destroyers by invading the Philippines with a small force, then used transports to sea escort ground units into the Philippines in preparation for a second turn attack against Manila.
- Japan saved additional destroyers by taking Balikpapan by land, after invading the western coast of Borneo.
- Japan attacked Burma in the first turn of its attack, several months before it attacked historically.
- Japan neutralized Western Allied pressure in the South Pacific by invading New Guinea in the first turn of its attack, using transports to sea escort air units into New Guinea, then capturing and holding Port Moresby until 1944.

Solutions

Identifying these abuses took some time, but few rule changes were required to prohibit them:

Japanese Destroyer Availability: Japan starts with only 12 DDs and may use only half its shipbuilding for DD construction, but the Pearl Harbor strike force no longer requires DDs and the conquest of the Philippines has been made a bit easier.

Deployment Limits (Asia): U.S. forces must remain in the following locations until war breaks out between the U.S. and Japan, the USJT level reaches 45 or Japan attacks Britain:

- Pearl Harbor: One 2-2 infantry unit, one 1-2 infantry unit and one AAF.
- Philippines: Three 1-2 infantry units and two Filipino 1-2 infantry units. These one-factor units may not stack together.
- Midway: One NAS.

- U.S. box (Pacific): One 1-2 marine unit, six replacements, two AAF and one air transport factor.
- Pacific Fleet: Nine NAS.

Additional units may be deployed to the Pacific as allowed by the USJT level.

In addition, the number of Indian infantry factors which may be placed in Burma, Malaya and Singapore has been reduced from eight to five. This means a strong defense of Singapore will come at the expense of Burma or New Guinea and the south Pacific.

51.73 WESTERN ALLIED SURPRISE EFFECTS:

A. FIRST TURN: During the Allied player turn following a Japanese declaration of war on either Britain or the U.S:

- Western Allied units in the Philippines may not move.
- Western Allied units may not enter non-port jungle/mountain hexes.
- Western Allied offensive operations are prohibited in the Pacific theater.
- Dutch units may not move or conduct offensive operations.
- The construction of Filipino units and Western Allied airbases, ports and fortifications is prohibited in the Pacific theater.
- Western Allied naval units which change base to the Pacific U.S. box or the South Africa box, then NR to the Pacific theater, are inverted and may not be uninverted until the following turn.
- If Japan attacked Pearl Harbor:
 - only half of the American DDs in the Pacific theater (round up) at the start of the Allied player turn may be used for sea escort. Other Western Allied DDs are unaffected by this restriction.
 - only half of the Western Allied transports in the Pacific SW box (round up) at the start of the Allied player turn may be used.

B. SECOND TURN: During the second Allied player turn following a Japanese declaration of war on either Britain or the U.S:

- Western Allied units may not enter non-port jungle/mountain hexes.

One effect of these changes is that if Japan doesn't capture the Philippines within two turns of attacking, the U.S. can reorganize its defenses by placing two 1-3 infantry units in Manila.

Another effect is that Wake is empty when Japan first attacks, but can be reinforced by the U.S. if Japan ignores it. Wake is significant, although it is not crucial because port construction in Wake is not permitted.

Since all reinforcements now begin the game in the Pacific U.S. box, it will be easier to remember the American set up. But the Allied player will also have some hard choices to make, as only half the surviving American destroyers in the Pacific may be used for sea escort. Both for the sake of simplification and to stabilize the number of American destroyers, after the Japanese attack on Pearl Harbor is resolved, all American carrier TFs now return to either Pearl Harbor or the Pacific U.S. box (assuming they weren't caught in the Japanese attack).

The Japanese will have the same urgency in capturing the main islands in the Dutch East Indies, because oil shipments from Brunei and Palembang are now contingent on the

capture of Balikpapan and Batavia, respectively, because of their proximity to the oil centers.

33.4523 ASSIGNING TRANSPORTS TO CARRY OIL: During initial supply determination and in the construction and redeployment phases of the Japanese player turn, Japan may assign transports to carry oil. One transport is required to carry each oil counter produced in Brunei and Palembang. Japanese transports may carry oil from Brunei only if Japan controls Balikpapan; Japanese transports may carry oil from Palembang only if Japan controls Batavia. The number of transports which Japan may assign to carry oil each turn is limited by the number of transports available: 1-3 transports: 1 oil counter; 4-6 transports: 2 oil counters; 7-9 transports: 3 oil counters; and so on, up to a maximum of 6 oil counters per turn (the maximum oil production of Brunei and Palembang per turn). Transports which are not used to carry oil may be used for other purposes.

In addition to the above changes, it should be kept in mind that Japan is also bound by the rule prohibiting the use of transports to sea escort units into newly-captured areas. This prevents the Japanese from substituting transports for destroyers during the redeployment phase of their first attacking turn, thereby inflating their invasion capabilities. The Japanese capacity to project their forces is determined solely by the number of destroyers they have built before the outbreak of war. The Japanese have some control over this, but expanding the Japanese capacity will always come at a cost.

The overall effect of these changes will be to force the Japanese to give the Philippines and the Dutch East Indies a high priority, preventing ahistorical expansion in the first two turns of the Japanese attack, followed by mop up operations inside the Greater East Asia Co-Prosperity Sphere.

Burma

It became standard for Japan to conquer Burma in the first turn of its attack, even though the Japanese actually conquered Burma on the "second turn" of their attack. When an ahistorical strategy becomes the norm, it is always time to look more closely at the rules. This led to the following change:

89.51 THAILAND:

A. DIPLOMATIC STATUS: Thailand starts the game as a neutral minor country. Thailand associates with Japan when Japan declares war on Britain, provided Japan has occupied all of French Indochina on a previous turn. If Japan delays the occupation of French Indochina until after it declares war on Britain, Thailand associates with Japan in the turn following the Japanese occupation of French Indochina. If Japan does not declare war on Britain or does occupy all of French Indochina, Thailand remains neutral unless attacked.

B. HEXES: All Thai hexes are deemed to have been controlled and fully supplied by Japan from the start of the Japanese player turn in which it declared war. Japan may thus operate air units out of Thailand and construct and use an airbase in a Thai hex in the turn in which it declares war on Britain. Until then, neither sides' units may enter Thailand.

C. FORCES: The Thai forces consist of two 1-2 infantry units, which are placed on the board at the start of the game. Until Thailand is conquered by the Allies, one 1-2 Thai infantry unit may be rebuilt at no BRP cost each turn (84.47). Thai units may enter enemy-controlled hexes but may not attack Western Allied units.

Coupled with the prohibition on Western Allied units setting

up in or entering jungle/mountain hexes until after the second turn of the Japanese attack, the Japanese conquest of Burma will usually unfold historically.

New Guinea and the South Pacific

In most games, New Guinea and the South Pacific islands are the scene of most of the Pacific fighting, just as they were historically. The challenge from the design point of view is to ensure that there is fighting in this area and that both sides have a roughly even chance in 1942-43, with a host of factors determining just which side gets the advantage.

It was found that Port Moresby was just too important, as it was the gateway to Allied attacks both north and south of New Guinea, but was impossible to recapture if the Japanese took it early (which smart Japanese players always tried to do). This led to several related changes, some of which are set out above. One important change is that Port Moresby is now, for supply purposes, an island, which means that the Japanese must control the sea routes to Port Moresby in order to hold onto it:

30.327 NEW GUINEA: Partial supply may be traced into, but not out of, jungle/mountain hexes in New Guinea (EXCEPTION: Full supply may be traced by sea into Port Moresby or Sorong, but only partial supply may be traced by land out of those hexes until it terminates in a jungle/mountain hex).

From the Allied point of view, Port Moresby is valuable as an air base, but not as a jumping off point for invasions (which means the ahistorical Allied route into the Dutch East Indies south of New Guinea no longer exists):

21.36 RANGE AND DISTANCES: When determining the range of naval units:

...

C. PORTS: Ports used to meet range restrictions set out in 21.361 must be:

- controlled by the alliance in question (the Western Allies may not use Russian ports, and vice versa - 53.46).
- fully supplied during initial supply determination of the turn in question. Ports captured during the movement and combat phases may not be used to meet range requirements until the following turn, even if supplied during post-combat supply determination.
- operational.
- not in a jungle/mountain hex.

The net result is that Port Moresby is less important to both sides, the Western Allies have a chance of defending it, and (more importantly, from the design standpoint) a chance of retaking it if the Japanese take it, because cutting the sea supply route to Port Moresby now weakens its defences over time.

Air basing

Here there are two changes, one small and one important. The small change is that the Western Allies may not place airbase counters in the Pacific before the outbreak of war. The other is that the air basing capacity of Pacific one-hex islands, jungle and jungle/mountain hexes has been reduced

from five to three air factors:

18.12 Each city, port, airbase and artificial port may base five air factors (EXCEPTION: Each city, port, airbase and artificial port in a Pacific theater one-hex island or hex containing jungle or jungle/mountain may base only three air factors). A hex containing two cities or a city and an airbase may therefore base ten air factors; a hex containing two cities and an airbase may base 15 air factors (or, in Pacific theater one-hex islands and hexes containing jungle or jungle/mountain, six or nine air factors, respectively).

18.13 Each one-hex island, in either theater, may base one NAS, in addition to whatever air factors it may base. A hex containing a one-hex island with a city or airbase counter may thus base five (or, in Pacific theater one-hex islands or jungle or jungle/mountain hexes, three) air factors and one NAS; a one-hex island with a city and an airbase counter may base ten (or, in Pacific theater one-hex islands or jungle or jungle/mountain hexes, six) air factors and one NAS.

While it is convenient to list this change under the heading “New Guinea and the South Pacific”, it applies throughout the Pacific theater, and therefore could impact the fighting in Southeast Asia. This is unlikely, however, as usually the amount of air in that area doesn’t strain the available air basing capacity. In the air-naval fighting that typifies the central and south Pacific, this change prevents the excessive concentration of air in key areas, and therefore gives naval forces more opportunities to fight.

Port Costs

Another small change was made to encourage more naval combat. The RP cost of port construction was reduced from 4 RPs to 3 RPs.

Codebreaking

The codebreaking rules have been simplified, mainly to limit the effects of codebreaking to a single modifier in each category and to allow players to play Magic and Ultra cards one at a time. While these changes apply to both theaters, they have a greater effect in the Pacific.

Indian Ocean Raiders

Another question which was raised during discussions was “why would the Japanese ever use only two CVs at Coral Sea?” This was a fair question, because historically the Japanese used their other fleet carriers to attack Ceylon and raid in the Indian Ocean, which the game did not allow. But it does now, although the Raider Table has been amended to give the Allies a +1 modifier for Japanese raiders based in Singapore:

21.532 RAIDER GROUPS:

...

C. INDIAN OCEAN SW BOX: Up to three German or Italian ships may raid from Suez if the Axis control the Suez canal and Ethiopia. Up to three Japanese ships may raid from each of Colombo, Madras and Singapore.

Pacific Resistance Modifiers

Tactical changes aside, it was still found that the game did not give Japan a sufficient incentive to expand, did not give the Americans a sufficient incentive to resist Japanese

expansion, and finally did not give the Japanese sufficient incentive to oppose the inevitable American counter-attacks in the Pacific. As a result, many games still saw little fighting until there was a final, cataclysmic battle as the U.S. approached the inner ramparts of the Japanese defences.

The solution devised was to give Japan *permanent* resistance modifiers each turn they expand beyond their historical perimeter. The more Japan expands, and the longer they hold onto what they take, the higher they build their resistance. This is intended to give Japan a reason to expand, and to give the U.S. a reason to context that expansion. A beneficial side effect of these changes will be to trigger more variety in the Japanese resistance level, in both directions, in 1945, giving Japan chances to win larger victories and giving the Allies chances for the type of higher-level victory they can get in Europe.

It was also concluded that it would be an improvement to give Japan a +1 resistance modifier for each Pacific objective it controls, rather than +1 for every two Pacific objectives.

The Japanese Resistance Table now looks like this:

Japanese Resistance Table - 57.11	
Situation Modifiers	
+20	Basic Japanese resistance level.
+1	For every Pacific front objective under Japanese control.
+1	Japanese control of Singapore or Manila (one for each).
-3	Allied control of Tokyo.
-2	Allied control of Kagoshima or Osaka (-2 for each).
-1	Allied control of each non-objective hex in Japan.
-1	Allied control of Peking, Shanghai, Nanking, Canton, Harbin, Mukden, Seoul or Okinawa (-1 for each).
-#	For each atomic attack against Japan (-3 for the first attack; an additional -4 for the second attack; an additional -5 for the third attack; and so on).
-1	For each Japanese city firestormed (cumulative).
-1	For each oil effect currently applicable to Japan.
-1	For every ten unbuilt Japanese ground/army air factors.
Cumulative Modifiers	
+1	If Japan controls all five Chinese objectives. Peking, Shanghai, Nanking, Canton and Chungking.
+1	If Japan controls both Vladivostok and Irkutsk.
+1	If Japan controls at least three of Calcutta, Colombo, Dacca and Rangoon.
+1	If Japan controls at least three of Cairns, Darwin, Port Moresby and Townsville.
+#	If Japan controls 8 or more island groups (+1 for control of 8 island groups; +2 for 9 island groups; +3 for 10 island groups, etc., up to a maximum modifier of +7 per turn).
-1	If the Western Allies control 8 or more island groups (-1 maximum for each turn this condition is met).
Explanation: Check at the end of each Allied player turn. If the net result is zero or less, Japan surrenders and the war in the Pacific ends.	
Situation Modifiers are recalculated at the end of each turn, in the same manner as modifiers for other resistance tables.	

Cumulative Modifiers for control of objectives and island groups are determined at the end of each turn, starting at the end of the second game turn following the outbreak of war between Japan and the U.S. (the end of Spring 1942 if Japan attacks the U.S. in Winter 1941).
 Chinese, Russian and Indian objectives and island groups must be fully supplied to count as controlled.
 Control of one or more fully supplied islands in an island group which also contains at least one isolated or enemy-controlled island counts as half an island group. Totals are rounded down for both sides each turn. Midway is considered to be part of the Hawaiian Islands solely for the purpose of determining cumulative Japanese resistance modifiers.

Other Pacific Changes

Pacific bombing

While bombing Japan can be fun, fewer and fewer Allied players would divert American strategic bombers to the Pacific until Germany was defeated. Historically the Americans were not so inhibited. The solution devised was to allow the Western Allies to produce European and Pacific bombers (the former starting in 1940, as now; the latter starting in 1944), and never the twain to meet:

24.262 WESTERN ALLIED STRATEGIC BOMBER FORCE POOLS: The Western Allies have three distinct strategic bomber force pools:

A. BRITAIN: British strategic bombers may only be used in the European theater. Britain begins the game with one strategic bomber factor in its force pool.

B. U.S. (EUROPEAN): American European strategic bombers may only be used in the European theater. The U.S. begins the game with one strategic bomber factor in its European bomber force pool.

C. U.S. (PACIFIC): American Pacific strategic bombers may only be used in the Pacific theater. There are no American Pacific strategic bombers in existence at the start of the game.

D. STRATEGIC BOMBER PRODUCTION: Western Allied European strategic bomber force pool additions must be allocated so that the British and American European strategic bomber force pools remain at equal strength, with any odd factor going to either major power at the Western Allied player's discretion. American Pacific strategic bombers are produced independently of Western Allied European strategic bombers. RPs may not be allocated to the production of American Pacific strategic bombers until the 1944 YSS.

Monsoons

Many players have found the monsoon rules to be confusing, both as to what areas are affected by monsoons in what seasons; and the monsoon effects themselves. After considerable discussion, it was decided to limit the application of monsoons and to confine their effects to land-based attacks.

The winter monsoons have been eliminated and the summer monsoons no longer affect the Philippines:

34.33 MONSOONS: Monsoons occur in summer in India, Ceylon, Burma, Thailand and French Indochina.

Monsoons themselves do not affect air and naval operations, other than those which involve ground units:

34.24 MONSOONS: Operations in areas affected by monsoons are subject to the following restrictions. These restrictions apply to all ground units, including Japanese ground units, partisans and the Chindit.

A. MOVEMENT: Swamp, jungle and jungle/mountain hexes affected by monsoons may not be entered by ground units during the movement phase, including by sea and air transport.

B. COMBAT: Ground units in swamp, jungle and jungle/mountain hexes affected by monsoons may not participate in offensive operations, including embarking for sea or air transport, seaborne invasions or airdrops; ground units in other hexes may not attack into or enter swamp, jungle and jungle/mountain hexes affected by monsoons during the combat phase. Attrition combat is permitted, although swamp, jungle and jungle/mountain hexes affected by monsoons may not be selected for attrition occupation or retreat.

C. UNIT CONSTRUCTION AND REDEPLOYMENTS PERMITTED: Unit construction in and redeployments to, from and through swamp, jungle and jungle/mountain hexes affected by monsoons are permitted.

Lent Chinese

The logistics of using Nationalist Chinese units to assist the Western Allies has been streamlined:

52.61 NATIONALIST CHINESE GROUND UNITS MAY NOT BE LENT: Nationalist Chinese ground units may not be lent. Starting in the second Allied player turn following the outbreak of war between Japan and Britain, Nationalist Chinese ground units may move and attack into the Southeast Asian Front unless the Chinese resistance level is -1 or less (80.31A).

52.62 FLYING TIGERS MAY BE LENT: Starting in the second Allied player turn following the outbreak of war between Japan and Britain, the Flying Tigers may also base on and operate from bases on the Southeast Asian front, unless the Chinese resistance level is -1 or less (80.31B). When based on the Southeast Asian front, the Flying Tigers are considered to be lent to the U.S. and the BRP cost for offensive operations by the Flying Tigers is paid for by the U.S.

Chindits

Everyone loves the idiosyncratic Chindit unit, except that it was so weak compared to the airborne and marine units (not to mention that other quintessentially British unit, the commando) that it seldom got built.

In an effort to make the Chindit more attractive, it now has an inherent airdrop capability, and can reduce the DM of Japanese units in any type of terrain.

BRP Grants Over the Hump

The scope and cost of Western Allied BRP grants to China over the Himalayas have been simplified:

40.85 THE HUMP: Up to five BRPs may be granted to China over the Himalayas each turn.

40.851 MECHANICS: One uninverted Western Allied air transport factor must be used to fly BRPs to China from a Western Allied air base in India or Burma to Kunming. Both must be operational air bases. The air route of the grant may be traced over hexes adjacent to Japanese units, but not over hexes under Japanese control.

40.852 INTERCEPTION: BRP grants to China using air transport may be intercepted by Japanese air units (18.621), which can in turn be counter-intercepted by Allied air units (18.622).

Kamikazes

The kamikazes rules have been simplified and rationalized. There's no need to set the changes out here.

Conclusion

The other substantive changes to Second Edition *A World at War* are minor and relate to the more important changes described above.

The entire game now has a better “feel” to it, with both sides being nervous. This has always been intended, but the people who play our game are clever and find comfort zones.

The overall result of the changes is to give the Axis more opportunities early in the game, and more need to take advantage of them. There is a sense of urgency to every turn. The design goal in *Advanced Third Reich*, *Rising Sun* and *A World at War* has always been to force the Axis to win in order to avoid defeat. The potential for a stalemate or running out the clock still exists, but it is now much more difficult to find a safe path for the Axis.