

A newsletter devoted to *A WORLD AT WAR*, GMT Games' strategic simulation of World War II, and *GATHERING STORM*, GMT Games' prequel to *A WORLD AT WAR*.
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A GUIDE TO AMERICAN LOGISTICS

The basics of the Western Allied buildup

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Introduction

The purpose of this article is to provide a brief guide to Western Allied research, American mobilizations and American shipbuilding, so the Allies don't find that they have painted themselves into a corner.

How these forces are used is another topic.

Research

Research is an important part of the Western Allied war effort. There are two components to the Western Allied research program. The first is how the Western Allies generate research points (RPs), and the second is

where they should put them.

Research Points (RPs)

RPs are explained in rule 41.2. There are four sources of Western Allied RPs:

41.21 BASIC RP ALLOTMENTS: The basic allotment of RPs for each major power is:

A. GERMANY: 8.

B. ITALY: 2.

C. JAPAN: 6.

D. RUSSIA: 6.

E. BRITAIN: 6.

F. FRANCE: 3.

G. U.S.: 10 (once the U.S. is at war with both Germany and Japan).

41.22 ADDITIONAL RPs FROM BRP LEVELS: In addition to its basic RP allotment, in each YSS (but not during the opening setup of the Campaign game and 1939 scenarios) each major power receives **one RP for every 50 BRPs in its BRP total.**

41.23 ADDITIONAL RPs FROM BRP GROWTH: Each major power receives **one additional RP for every 25 BRPs of growth (round down) in each YSS.** This additional RP is received for that year only and is based on BRP growth only for that year. The BRP growth itself is unaffected. Increases in the BRP value of Russian ICs and base increases from mobilizations (36.21) are not counted.

France will almost always have been conquered long before the U.S. is in the war, so the totals each year will be something like:

The rules for naval basing are found in rule 21.1. They are not complicated and can be summarized as follows:

- **Britain: 8** (basic 6 + 2 for 100+ BRPs).
- **U.S. tensions: 10** (both tension levels 50+).
- **U.S. BRP level: 6+** (“+” being “plus a lot”, once the U.S. has added 600 BRPs for all its mobilizations to its starting 100 BRPs).
- **BRP growth: ?** (this is the hardest one to estimate).

The American economy

American BRP growth (50% of what it didn't spend during the year) is the key driver of the U.S. economy, and therefore the key to the Western Allied RP rate. This is because American BRP growth compounds, at an impressive 50% rate.

Many players take American BRP growth for granted, because the U.S. seems to have an inexhaustible supply of BRPs. With careful management this might eventually be true, but it is not a given, and an experienced American player will realize that early spending decisions matter.

For example, let's say the U.S. ended 1941 with 100 BRPs:

Year	BRPs	Growth	Increase	RPs
1941	100	+50	50	3
1942	50	+25	75	2
1943	75	+37	112	3
1944	112	+56	168	5
				13

Over the course of the next four years, this 100 BRPs generates 13 RPs. It also generates lots of BRPs, but we're saying those are never spent because they are used to generate more BRP growth.

Now let's change the example, and have the U.S. end 1941 with 150 BRPs, rather than 100 BRPs:

Year	BRPs	Growth	Increase	RPs
1941	150	+75	75	4
1942	75	+37	112	3
1943	112	+56	168	5
1944	168	+84	252	8
				20

What's useful about this example is that it shows that the benefits of saving American BRPs for growth accrue throughout the game, rather than just in the year in which the initial growth takes place, because the BRPs compound. In an actual game, more RPs would be generated than shown, because the extra BRPs would be added to the other American BRPs, and might well put the American BRP level to a key level that generates RPs diplomatic points (DPs) most efficiently.

Of course there's real life too – even before it's at war, the U.S. has to build newly mobilized air and ground units, use its shipbuilding, and grant BRPs to a beleaguered Britain. Scrimping on shipbuilding and aid to Britain is a sure way to lose the war well before the effects of increase American BRP growth have an effect. But economizing once war starts, especially in 1942, can be very important.

Much of this depends on the kind of game that is being played, and that's largely up to the Axis. If Germany plays with intensity and threatens to conquer Britain or Russia, the decisive moments in the war will come early and saving American BRPs misses the point. But if Germany and Japan have a longer-term strategy, where research results in 1943 and beyond will be critical, the management of the U.S. economy is one of the essential components of the Allied strategy.

Hints on the American economy

Here are some hints on how to handle the American economy:

Remember that American mobilizations not only add 25 BRPs to the American total when they occur, but also add 25 BRPs to the American BRP base for the rest of the game.

The U.S. seems to have an infinite number of BRPs, but it doesn't, because it has huge amounts of spending to do as well. The U.S. can easily spend 200+ BRPs each turn once there is heavy fighting in both theaters.

Any BRP savings the U.S. can make in 1941 and 1942 are well worth considering, because the effects will be felt for the rest of the game.

The goal for the U.S. is to reach a "take-off point" where the U.S. has more money that it can spend (so it always gets growth). This usually can only be achieved by carefully considering spending earlier in the game.

RPs are more valuable early in the game than later in the game, when the Western Allies have more of them.

Allocating RPs

There are so many ways to assign research points (RPs) that it's impossible to recommend a "standard approach". In addition, the best research plans seldom survive first contact with the dice, and in any case can be affected by GATHERING STORM research results one players move on from classic A WORLD AT WAR.

Instead, I will list the projects and categorize them in terms of importance to the Allied war effort, then discuss a few of the most important projects in a bit more detail.

Overall rankings

I have placed each Western Allied research and production projects in one of five categories, each identified by a different color:

Crucial	Important	Average	Unimportant	For fun
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Air general	Critical because many air projects are important.
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Nationality DRM (All)	At least one result is essential; a second result is useful in 1944-45.
Jets (B,US)	A complete luxury.
Air Range (B,US)	Fights U-boats and assists in strategic bombing.
Strategic Bombers (All)	Adds modifiers to strategic bombing, which can be very painful to Germany.
Air Defense (All)	One level, especially early, is useful. A second result might not be worth it.
Air Production (B,US)	Essential to add NAS early, then later interceptors to escort strategic bombers.
Str. B. Europe (B,US)	A gradual build up is almost always useful, because it drains German resources.
Str. B. Pacific (US)	May only be produced in 1944 – almost always worth maximum effort, because there aren't that many alternatives by then.
Air Transports (B,US)	Useful for airdrops; produce when air breakthroughs reduce the cost to 1 RP.
Airbases (B,US)	Actually very useful in the Pacific early on, but hard to find the RPs for.
Naval general	Critical for the same reasons air general is critical.
Nationality DRM (All)	Modifies fleet combat, makes ships tougher against air attacks and fight U-boats. One result is essential; a second result is very useful (but expensive).
ASW Tech. (B,US)	Losing the Battle of the Atlantic usually means losing the war. At least four results are essential.
Torpedoes (B,US)	Japan's transports will collapse anyway, but some torpedo results may speed this up, and additional modifiers may also sink Japanese fighting ships.
Harbor Attack (B, US)	The main advantage might be surprise, because no one ever researches this for the Western Allies.
Submarine FP (B,US)	Worth maximizing the pressure on the Japanese transports (25.13E), but on-board submarines are better than most players realize.
ASW FP (B,US)	Almost always best to maximize ASW production for the first few years of the war, until the Atlantic is "safe".

Transport FP (<i>All</i>)	Often neglected, but well worth increasing in mid-war, because the Western Allies are always short transports.
Naval Air Train. (<i>B, US</i>)	Maximizing NAS builds is essential; NAT should always be increased for a cost of 1 RP per increase, and often at a cost of 2 RPs per increase.
Shipbuilding (<i>All</i>)	Very important for Britain early in the war; later American mobilizations can cover this and shipbuilding can be increased for 1 RP per increase if needed.
Ports (<i>US</i>)	Worth doing, especially when the cost is only 1 RP each. Ports give the U.S. additional flexibility in the Pacific.
Military general	The Western Allies should probably aim for two or three breakthroughs by the end of the game, so that they can efficiently produce at least 10 BRPs (one American 5-6 armor unit) each year.
Training (<i>All</i>)	It is critically important for the Western Allies to get a CTL increase to +2 in the first year a CTL roll is permitted.
Rockets (<i>US</i>)	A complete luxury, just as they are for German. Fun though.
Military Prod. (<i>All</i>)	The Western Allies should always produce military units at the most efficient rate (1 RP for 5 BRPs of units).
Specialized Units (<i>All</i>)	Airborne units are nice, but American marines are essential. Four is the minimum, five is good and the maximum of six is desirable for the big invasions in the Pacific late in the war.
Fortifications (<i>B, US</i>)	The Western Allies should always put an RP or two in fortifications early in the game, because they might save Britain. These should also not be used unless necessary, as fortifications have tactical uses when on the strategic offensive.
Railheads (<i>B, US</i>)	Much like airbases, railheads are very useful in some situations, and otherwise are a luxury. They are a good place for a surplus point, depending on the position.
Winter Preparation (<i>All</i>)	The Western Allies need to be able to exploit in Winter turns once they invade France, so some Winter Preparation research is necessary.

Atomic general	The Western Allies should almost always go for the atomic bomb, if only because atomic research is a valuable outlet for RPs late in the game. The Western Allied goal should be one atomic breakthrough every two years.
<i>Radar</i>	Perhaps the most valuable Western Allied project, as explained below.
Controlled Reaction	As a general rule, all of the Western Allied atomic projects should get the maximum investment each year when allowed (1 RP in the first year; 2 RPs in the second year; and so on).
<i>Uranium Separation</i>	As above.
<i>Plutonium Production</i>	As above.
<i>Atomic Bomb (US)</i>	As above.
<i>Uranium Plants (US)</i>	As above.
<i>Pluton. Reactors (US)</i>	As above.
Intelligence general	The emphasis placed on intelligence is a matter of taste. Normally DPs are used for intelligence research, and a breakthrough or two lays the groundwork for later results when diplomatic targets start to disappear.
<i>Counter-intelligence (B)</i>	A priority project, so that Axis or Japanese spy rings don't give the Axis free research modifiers.
<i>Covert Operations (B)</i>	Useful but not essential.
<i>Espionage (B)</i>	Useful but not essential.
<i>Anglo-French Co. (B)</i>	Very effective in some situations, not worth the effort in most games.
<i>Ultra (B)</i>	An ASW card is almost always worth the RPs; tactical and strategic cards are harder to assess, because in some games there is an intense naval struggle, and in others there isn't.
<i>Magic (US)</i>	Handy, but less important than European codebreaking, because the U.S. has a big edge on Japan anyway.
<i>Partisans (B)</i>	Annoying for the Axis, but other things are more annoying.

Research Categories

Air

The strength of the Western Allies lies in their air and naval power, especially considering they have to

fight not only in Europe but also in the Pacific.

This is why most of the Western Allied air projects get a high priority. In fact, the problem the Western Allies run into is that they may only roll for four air projects each year, and since air general research is one of them, the Western Allies can find themselves in a bind if they don't plan ahead.

The Western Allies should aim for at least three, and possibly four, air breakthroughs, to make their air research easier and their air production cheaper. ANDRM (at least one result, preferably two) and air production (a must for interceptors to escort strategic bombers; NAS and AAF, which are blue chip, are produced early, then mobilized).

Naval

The Western Allies should aim for three naval breakthroughs – unlike air, a fourth breakthrough isn't that important.

NNDRM and ASW research are critically important, because they affect the Battle of the Atlantic (among other things). ASW production is a priority one project for the same reason, while NAT is essential to build and sustain the naval air arm that is needed to defeat Japan.

Military

Russia can't be expected to defeat Germany on its own (although sometimes it can), so the Western Allies need some muscle on the ground. CTL is the most important factor in the equation – the Western Allies must invest RPs in CTL before they are allowed to roll for it (usually in 1942). Winter preparation is often ignored, but the Western Allies always regret doing so.

In the Pacific, specialized units are also key.

Atomics

The Western Allies should always keep the atomic door open, because in a close game the atomic bomb can steal a victory or avoid a defeat. Atomic research doesn't require many RPs early in the game (which is good, because everyone is short of RPs early on), and it absorbs near-surplus RPs in 1944 and especially 1945.

I will deal with radar research below.

Intelligence

Intelligence strategies are always fun and more experienced player experiment with them from time to time, but in most games the choice is between intelligence research and diplomacy:

41.24 USE OF DPs AS RPs FOR INTELLIGENCE: The intelligence category as a whole is considered an eligible project for DP allocation. DPs allocated to intelligence act as RPs. A player may therefore allocate up to half his RPs (41.31A) and one-third of his DPs (49.31) to intelligence. The limit on the number of points (the total of RPs and DPs) allocated to each intelligence project, including general research, still applies (41.31B).

It's a good idea to make use of this rule and keep the most important intelligence projects going early in the game using DPs. Later, as diplomatic targets disappear because of conquests, the shift from diplomacy to intelligence will become more pronounced.

Date Restrictions

Players must be aware of (and abide by!) the date restrictions for assigning RPs. Since the cells for the prohibited dates are shaded on the research record sheets for each alliance, reference to the actual rule is rarely necessary:

41.31D. 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 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.
 - Western Allied torpedo research.
 - Japanese ASW research and production.
 - Japanese transport production.
 - Plutonium reactor production.
- 1944 YSS:
 - Japanese, Russian and Western Allied jet research.
 - Japanese, Russian and Western Allied rocket research.
 - American Pacific strategic bomber production.
 - Uranium separation research.
 - Plutonium production research.
 - Atomic bomb research.

Relativity

The modifiers for research set out in rule 41.75 are fairly straightforward: RPs (41.75A), general research results (41.75B), modifiers from previous rolls (41.75C) and a handful of idiosyncratic modifiers peculiar to certain projects ((41.75E).

The other modifier is the adverse modifier associated with obtaining results (41.75D) - each successive result gets more difficult. This modifier applies to a wide range of projects:

41.75 RESEARCH DIE ROLLS: Whenever the research rules refer to “die roll(s)”, the rolling player rolls three dice and disregards the highest and lowest die rolls. The remaining die roll is used to determine what level of research result is achieved. The following modifiers are applied to the die roll and the resulting number is used to determine the research result achieved:

A. +1 for each unused RP in the project;

B. +1 for each breakthrough in the project’s research category; and

C. +/-# for any modifier from a previous research result for the project, as indicated by a number in square brackets (“[]”) at the end of a research result (prewar results appear in square brackets in the 1939 column of the research record sheets).

D. Negative modifiers based on the alliance faction’s current level for that project:

- **Air Nationality DRM:** # for the Air Nationality DRM of the senior partner in the rolling alliance faction (-1 for an Air Nationality DRM of 1; -2 for an Air Nationality DRM of 2; and so on).
- **Air Range:** # for the air range of the rolling alliance faction (-1 for one air range result; -2 for two air range results; and so on).
- **Strategic Bombers:** -1 for each strategic bomber result achieved by the rolling alliance faction (-1 for one strategic bomber result, including the initial Western Allied result; -2 for two strategic bomber results; and so on. The Western Allies do not incur a -1 modifier from their pre-war strategic bomber research result - 41.87B).
- **Air Defense:** -1 for each air defense result achieved by the rolling alliance faction (-1 for one air defense result; -2 for two air defense results; and so on).
- **Naval Nationality DRM:** # for the Naval Nationality DRM of the senior partner in the rolling alliance faction (-1 for a Naval Nationality DRM of 1; -2 for a Naval Nationality DRM of 2; and so on).
- **Torpedoes:** -1 for each torpedo result achieved by the rolling alliance faction (-1 for one torpedo result; -2 for two torpedo results; and so on. Japan does not incur a -1 modifier from its pre-war torpedo research result - 41.87D).
- **ASW:** -1 for each ASW result achieved by the rolling alliance faction (-1 for one ASW result; -2 for two ASW results; and so on).
- **CTL:** # for the CTL of the senior partner in the rolling alliance faction (-1 for a CTL of 1; -2 for a CTL of 2; and so on).
- **Radar:** -1 for each radar result achieved by the rolling alliance faction (-1 for one radar result; -2 for two radar results; and so on).

E. +/-# for any other modifiers listed in the research tables.

I term this the “relativity effect” because, just as the mass of an object increases as it moves faster, it gets harder and harder to continue to achieve research results in the same project. This is the rule that stops runaway research results in these projects.

For example, let’s say the Western Allies put the maximum one RP in ASW research in 1940 and they get lucky and roll well, getting an “8+” result (-2 in their favor when defending against German submarine warfare and onboard submarine attacks).

This is great for the Western Allies, but all future Western Allied ASW research rolls now incur a -2 modifier. The Western Allies can still get to -3 or -4 for ASW research, but it requires more and more general research breakthroughs and RPs to do so.

All players must keep this relativity effect in mind when planning their research.

Warp speed?

Despite this immutable law of A WORLD AT WAR physics, there is a way around it, and it involves one of the most high tech of the high technology project: radar.

High technology projects, including radar, are difficult to research because of the limits on RP placement in 41.31C – one RP in the first year, two RPs in the second year, and so on:

41.31C. HIGH TECHNOLOGY LIMITS: High technology research and production projects:

- **Air:** Air range, jets;
- **Naval:** Anti-submarine warfare, advanced submarines;
- **Military:** Rockets;
- **Atomic:** Radar, controlled reaction, uranium separation, plutonium production, the atomic bomb, uranium plants and plutonium reactors;

are subject to the following limits: no more than one RP may be placed in the first year in which RPs are placed in the project; no more than two RPs may be placed in the second year in which RPs are placed in the project; and so on, with the number of RPs permitted increasing by one for each year in which RPs are placed in the project, up to the maximum number of RPs allowed for that year (41.31B).

One of the most important Western Allied projects – ASW research – is subject to both the high tech limit on RP placement and the relativity impediment to higher result. Two other top priority projects – ANDRM and NNDRM – are exempt from the high tech limit but also suffer from the relativity impediment and have an intimidating “10+” threshold for a result. All three factors (high tech RP restrictions, “10+” threshold, relativity impediment) apply to radar itself:

Radar

(European Axis, Western Allies, Russia, Japan)

Radar 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 “7” [+5].

Modifiers:

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

Results:

1-2 No effect.
 3 [+1]
 4 [+2]
 5 [+3]
 6 [+4]
 7 [+5]
 8 [+6]
 9 [+7]
 10+ Radar result achieved.

The key that unlocks the door is found in the “other modifiers” for ANDRM, NNDRM and ASW research:

Air Nationality DRM

(European Axis, Western Allies, Russia, Japan)

Modifiers:

+1 For each radar research result achieved.

-# For the Air Nationality DRM of the senior partner in the rolling alliance faction (-1 for an Air Nationality DRM of 1; -2 for an Air Nationality DRM of 2; and so on).

Naval Nationality DRM

(European Axis, Western Allies, Japan)

Modifiers:

+1 For each radar research result achieved.

-# For the Naval Nationality DRM of the senior partner in the rolling alliance faction (-1 for a Naval Nationality DRM of 1; -2 for a Naval Nationality DRM of 2; and so on).

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 “3” [+1].

Restrictions:

Western Allied RPs may not be placed in ASW until the 1940 YSS. Japanese RPs may not be placed in ASW until the 1943 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).

The dynamic is:

- Atomic general research results (“breakthroughs”) make radar research easier.
- Radar results make ANDRM, NNDRM and ASW research easier.

Atomic general result ➡ +1 Radar ➡ +1 ANDRM
 NNDRM
 ASW research

The first radar result, together with air and naval general research breakthroughs, makes ANDRM and NNDRM research rolls, even with only one RP, a good idea; and makes higher level ASW research results attainable, despite the -2 effect from the first two results.

The Western Allies therefore must research atomic general research, both for the atomic bomb and to make radar easier; then they use the modifier from their radar results to make the other three projects easier. A second radar result, difficult as it is to get, gives the Western Allies +1 modifiers in three key projects, as well as the combat benefits associated with radar itself, so investing RPs in radar gives a good return.

Boosting Bad Research Rolls

One rule is so important it has to be specifically mentioned – if the result of the three-die research roll is a “1” or “2”, unused RPs from other projects in the same category may be switched to boost the research roll to a “3” (but no more). This allows you to guarantee a “3” die roll for crucial projects, provided you create a reserve of RPs in other, less-important, research or production projects in that category.

One caveat – this is not permitted for atomic projects.

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. DPs 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.

Research Hints

It's difficult to give useful hints on research other than reminders, because players will always have to look at the modifiers as research rolls succeed (and fail). For the Western Allies:

Always conduct general research in all five research categories until at least two general research breakthroughs are obtained (one intelligence breakthrough might do; more than two air breakthroughs are required).

Do not scrimp on key projects.

Get at least one result in each of the "Big Three" (ANDRM, NNDRM, CTL).

Always have a result of RPs to increase crucial research rolls to a "3", then assign your RPs each YSS knowing that the crucial research rolls won't be any lower than that.

Conduct atomic research at least until 1943, when you will know better where both the game and the atomic research itself is headed.

When you assign your RPs in the YSS, also pencil in the season you intend to roll for each project, so you don't accidentally roll out of sequence.

Research radar, because radar results modify ANDRM, NNDRM and ASW research.

American Mobilizations

As discussed above, the American economy gets very big, although never as big or as fast as the Western Allied would like. Most of this growth is a result of American mobilizations.

But American mobilizations do more than increase the American economy. They also generate units and shipbuilding increases, with the Western Allied players having to decide on the American priorities.

Timing

The U.S. mobilizes 12 times in each theater. The timing of the American mobilizations has been simplified since publication, when every American mobilization was tied to the USAT or USJT levels until the U.S. was at war:

36.11G. U.S.: The U.S. mobilizes independently in each theater, as set out below. The effective tension level for each theater is determined at the end of the Allied diplomatic phase, immediately after a die roll is made to determine the effective tension level for that turn (49.851A, 49.852A):

- In Europe:
 - The first American mobilization occurs when the effective USAT tension level reaches 10, or Summer 1940, whichever is earlier.
 - The second American mobilization occurs when the effective USAT tension level reaches 20, or Winter 1940, whichever is earlier.
 - The third American mobilization occurs when the effective USAT tension level reaches 30, or Summer 1941, whichever is earlier.
 - All subsequent American mobilizations occur every turn, until all 12 of American mobilizations are completed.
 - The U.S. mobilizes every turn, regardless of the USAT level, if war breaks out between the U.S. and Germany.
- In the Pacific:
 - The first American mobilization occurs when the effective USJT tension level reaches 10, or Winter 1940, whichever is earlier.
 - The second American mobilization occurs when the effective USJT tension level reaches 20, or Summer 1941, whichever is earlier.
 - The third American mobilization occurs when the effective USJT tension level reaches 30, or Winter 1941, whichever is earlier.
 - All subsequent American mobilizations occur every turn, until all 12 of American mobilizations are completed.
 - The U.S. mobilizes every turn, regardless of the USJT level, if war breaks out between the U.S. and Japan.

These changes were made to counter sophisticated Axis peace plans which aimed at keeping USAT low so as to delay American mobilizations as long as possible. This created a backlog of American mobilizations, because the U.S. may only mobilize once per turn in each theater. Now there is a "worst case scenario" for the American mobilizations – the U.S. may mobilize faster if the European Axis or Japan are more aggressive than normal (this may be especially true in A WORLD AT WAR games arising out of GATHERING STORM), but the Western Allied players know that the American mobilizations can't happen any later than the specified turns.

Mobilization Mechanics

The U.S. mobilizes a lot, so it's important to understand how it works.

Force Pool Increases

The U.S. gets 20 BRPs of units from each mobilization (for a total of 480 BRPs). Each shipbuilding increase counts as 5 BRPs of units (36.34).

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: For its first two peacetime mobilizations, Russia adds 10 BRPs of units in the first turn of the mobilization and another 10 BRPs of units in the following turn).

Eligible Units

Rule 36.22 sets out the restrictions on what units may (and may not) be mobilized. Here are the rules that apply to the U.S.:

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:

A. Army air.

- A major power may mobilize no more than five AAF in one turn (EXCEPTION: If the U.S. mobilizes in both theaters in the same turn, the U.S. may mobilize up to ten AAF in that turn).

B. Naval air.

C. Armor:

- The U.S. may mobilize only one 5-6 armor unit each European theater mobilization. Pacific theater mobilizations may not be used to mobilize 5-6 armor units.

D. Infantry.

E. Mechanized infantry. Britain may mobilize only one 3-4 infantry unit.

F. Transports. Transports may only be mobilized by the U.S, subject to the following restrictions:

- Transports may only be mobilized once the U.S. is at war in a theater, including the turns in which war breaks out between the U.S. and Germany and the U.S. and Japan.
- Each mobilized transport is equivalent to five BRPs of units.
- No more than one transport may be mobilized for each American mobilization.
- A transport may not be mobilized in the same mobilization as two shipbuilding increases (36.341).

Prohibited Units

More specialized units must be produced, rather than mobilized:

36.33 PROHIBITED UNITS: The force pools of units other than those listed in 36.32, including submarines, ASW, strategic bombers, interceptors, air transports, specialized units, flak and partisans, may only be increased by the investment of RPs in production.

Shipbuilding

American mobilizations may be used to increase American shipbuilding:

36.34 SHIPBUILDING: Subject to the restrictions in 36.341, a mobilizing major power may increase its shipbuilding rate rather than its ground or air force pools. Each shipbuilding rate increase is equivalent to five BRPs of units.

36.341 RESTRICTIONS: Shipyard mobilization is subject to the following restrictions:

A. Shipbuilding rates may not be increased more than once per turn, whether by mobilization or production (42.23E) (EXCEPTIONS: The U.S. may increase its shipbuilding rate in each theater in the same turn; once the U.S. is at war in a theater, including the turns in which war breaks out between the U.S. and Germany and the U.S. and Japan, the U.S. may increase its shipbuilding twice per turn in that theater, whether by mobilization or production. The same mobilization may not generate a second shipbuilding increase if a transport is generated as part of that mobilization).

B. American shipbuilding increases from mobilization must be assigned to the theater in which the mobilization occurs.

C. American shipbuilding increases from production in a theater are prohibited until the U.S. is at war in that theater or U.S. tensions in that theater have reached 50.

Mobilization Delays

Some units take longer to arrive than others:

36.35 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.

F. TRANSPORTS: None.

Summing up

The most important points coming out of these rules are:

- Each American mobilization creates 20 BRPs of units, with a shipbuilding increase counting as a5 BRPs.
- American 5-6 armor units (10 BRPs) take 6 turns to arrive in the American force pool and may only be mobilized using European theater mobilizations.
- No more than five AAF (15 BRPs) may be mobilized in each mobilization, but if the U.S. mobilizes in both theaters in the same turn, it could mobilize ten AAF (30 BRPs).
- Mechanized infantry (3-4 infantry units) take 4

(such as at the BPA convention) is taken into account, it is easy to make an impulsive, erroneous or even illegal mobilization. Any advantages from the additional information available when the mobilization is actually made are usually outweighed by the benefits of calm, sober analysis and the implementation of a sound plan.

Suggested Targets

With this in mind, I suggest these approximate American force pool targets:

- **NAS:** 80.
- **AAF:** 71.
- **5-6 armor units:** 7.
- **3x4 infantry units:** 10.
- **Other infantry:** 15 factors.
- **Shipbuilding:** 9 (Europe) + 13 (Pacific) = 22.

The mobilizations necessary to achieve these targets are set out in the accompanying graphic, which assumes that no American mobilizations are accelerated in either theater and that war breaks out in Winter 1941 in both theaters. The only production assumed is American NAS in 1940 and 1941 and American NAT.

Any player following this, or any other, American mobilization plan will have to make adjustments as the game is played.

Mobilization Hints

The basics of American mobilizations can be put in the form of hints:

Every pre-war mobilization should increase American shipbuilding by one (the maximum).

Once war breaks out, the first few mobilizations should increase shipbuilding by two (the maximum once the U.S. is at war in the theater in which the mobilization occurs).

Always end shipbuilding on an odd number in each theater, because this maximums light shipbuilding (ASW, transports, DDs, CVEs).

Try to ensure that the U.S. has NAS to build, so it doesn't waste the builds allowed by its limited naval air training (NAT) rate. Combat losses will tend to solve this problem.

Once war breaks out in the Pacific and NAS combat losses are incurred, it is a mistake to mobilize NAS that can't be built.

The first European mobilization should consist of a shipbuilding increase and a mix of AAF and NAS.

It's not that useful to have more than one American 5-6 armor unit before 1942. AAF and mechanized infantry is more effective and arrives in the American force pool more quickly.

The final Pacific mobilizations should be used to create transports, because the American shipbuilding levels will be high enough and ground and air units will arrive too late to affect the outcome of the game.

American Shipbuilding

A final topic that also involves American research and mobilizations is American shipbuilding. This is probably one of the many areas of the game where it is easiest to go wrong.

There are two aspects to American shipbuilding. One is the American ability to build ships. The other is what types of ships to build.

American Shipbuilding Capacity

The U.S. can generate an almost unlimited naval construction ability, but always at the expense of something else.

How Much Shipbuilding?

This is difficult to answer in the abstract – the only completely correct answer is “not too little and not too much”. “Not too little” because if the Western Allies don't have a big enough navy and sufficient transports, they will grind to a halt (or collapse in the Atlantic, which is even worse). “No too much” because if things are going well Western Allied shipbuilding tails off in the last part of the war, and mobilized shipbuilding increases no longer assist the Allied war effort.

But how do the Western Allies find the “Goldilocks Zone”?

Experience has shown that in a hard-fought game (always assume your opponents are at least as good as you are, until they prove otherwise) the Western Allies need around 20 American shipbuilding points. The

American mobilization projection uses a more conservative figure (23 American shipbuilding points) – if some of this can be diverted into ground or air units, so much the better.

Atlantic or Pacific?

Initially the American Atlantic shipyards will expand more rapidly, because the European mobilizations occur earlier. Once the U.S. is at war in both theaters, the Pacific will catch up, and ultimately it is better if the Pacific shipbuilding level is higher, because ships launched from Pacific shipyards arrive on the Pacific mapboard a turn sooner. That's why the American mobilization projection has 13 Pacific shipbuilding vs. 9 Atlantic shipbuilding.

Even or Odd?

When American shipbuilding increases level off in both theaters, end at an odd number. This is because only half (round up) of shipbuilding may be used for light ships:

27.722 RESTRICTIONS ON NAVAL CONSTRUCTION:

27.7221 ONE-FACTOR NAVAL UNITS:

A. Each turn no more than half (round up) of each major power's shipbuilding rate may be used to construct destroyers, CVEs, submarines, 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 and named ships.

Since these are the ships that ultimately will be built in large numbers, and since "light shipbuilding" can always be used for cruisers and named ships, the Western Allies want both the Atlantic and Pacific shipyards to round up to a higher number.

What Ships?

This question really involves the Pacific theater, as the Royal Navy, with some help, should be able to handle the German and Italian navies.

Heavy Ships

Carriers

To win in the Pacific, the U.S. needs carriers, and lots of them. The proven late-war technique for breaking Japanese resistance is the American "carrier sweep", which involves sailing all the American carriers the length of the Japanese home islands and counterairing every Japanese air unit on the board. This requires about six full carrier TFs (12 carrier factors per TF x 6 = 72 carrier factors).

It's impossible to know exactly how many carriers the U.S. should build to reach this target, because that depends on how many carriers the U.S. loses in combat, including at Pearl Harbor. As a rule of thumb, though, the U.S. should aim at launching about 12-15 carrier factors per turn, starting in mid-1943.

American carrier building is constrained until war breaks out in the Pacific:

27.7325 RESTRICTIONS ON AMERICAN FAST CARRIER CONSTRUCTION: Prior to the outbreak of war between the U.S. and Japan, American construction of fast carriers is prohibited except as permitted by the events set out below. This restriction does not affect the continued construction of American fast carriers laid down prior to the start of the game. For each of the following events, the U.S. may begin the construction of one American fast carrier of any type:

A. The launch of the *Hiryu* (Fall 1939), *Shokaku* (Spring 1941) and *Zuikaku* (Summer 1941) (one fast carrier for each launching);

B. The laying down of any other Japanese fast carrier (one fast carrier for each Japanese fast carrier placed on the Japanese Naval Construction Chart).

This means that Winter 1941 will normally be the first turn in which the U.S. can freely lay down carriers. The U.S. should try to lay down three or four CVs in Winter 1941 and in the next four or five turns as well.

CVBs

Four-factor CVBs are the carrier equivalent of five-factor battleships and they are just too cool not to build. It is probably worth laying one or two in Winter 1941 and early 1942.

CVLs

Two-factor CVLs are the opposite of CVBs. They are cheaper, arrive faster, and are much more easily damaged or sunk.

There are two schools of thought to building CVLs. One is to build them early, because they only take a year to arrive. The other is to build them late, when Japanese resistance is weakening and they provide quick, relatively cheap NAS platforms.

In between is the school that favors moderate CVL building, with CVs as the backbone of the carrier force.

Overbuilding Carriers

Is it possible to build too many carriers? Absolutely, for two distinct reasons:

- Carriers need NAS to be of any use, and having significantly more carriers than NAS to put on them is a waste of carriers (although some reverse carriers can be very useful).
- Carriers need an equivalent number of non-carrier

ships (capital ships and cruisers, normally) to function. Therefore some American shipbuilding has to be devoted to these supporting ships.

Mobilizations and shipbuilding can be adjusted to try to balance these variables, but there is always a time delay and it is frustrating to realize that there is too much of something or not enough of something else.

Battleships and Cruisers

Five-factor battleships are certainly useful and the U.S. should some, starting early, but at the same time the U.S. has to be able to rebuild transports should a crisis arise in the Atlantic.

The U.S. obviously will complete the four-factor battleships which have been laid down when the game starts, but will usually not build any more.

Three-factor battleships take less time to build and also can support carrier operations, especially if the U.S. has lost some of its heavier battleships. But usually the U.S. switches to cruisers, which only take two turns to complete and can be churned out in significant numbers, while using up any surplus American heavy shipbuilding capability.

Light Ships

ASW

ASW are the highest priority light ships to build because they reduce transport losses. ASW are produced, starting in 1941, so each Spring turn the Western Allies will start their shipbuilding by building the ASW they produced that year.

Transports

Transports are the next priority. They should always be rebuilt – it's actually hard to imagine a crisis that would supersede this.

CVEs

The Western Allies can't really turn the corner in the Atlantic without the submarine warfare modifiers from CVEs, so they are the next priority. They are also very useful for providing ground support for seaborne invasions in the Pacific later in the war.

Destroyers

Even though winning the submarine campaign in the Atlantic comes first, destroyers are vital because they carry ground units for invasions and provide sea escort for ground and air units that are navally redeployed.

One of the main points of the submarine warfare campaign is to delay Western Allied destroyer construction.

The importance of knowing the number of Western Allied destroyers – and therefore the Western Allied invasion capability – in each theater is the main reason for this often overlooked rule:

20.167 WESTERN ALLIED NAVAL STRENGTH IN EACH THEATER: Despite the use of TF counters to conceal naval units, the Western Allies must reveal to their opponents, on request, the number and types of naval units available for use in each theater. This reflects the ability of Axis intelligence to determine the general allocation of Western Allied naval resources, although not their specific location.

Submarines

The American submarine campaign eventually destroys Japan's oil situation, although the rest of the USN might do this as well, and the U.S. should always produce and build at least enough submarines to meet the targets in rule 25.13E:

25.13E. U.S.:

- The number of American submarines that may conduct submarine warfare in the Pacific SW box each turn is limited as follows: 1939-1942: 1; Spring and Summer 1943: 2; Fall and Winter 1943: 3; Spring and Summer 1944: 4; Fall and Winter 1944: 5; Spring 1945 and thereafter: 6. Any remaining American submarines, if built, must operate on the Pacific mapboard.

Shipbuilding Hints

The U.S. should lay down 12-15 carrier factors each turn from Winter 1941 to Winter 1942, then ease up.

The U.S. should lay down several five-factor battleships, launch their four-factor battleships, then switch to cruisers.

For light shipbuilding, the priorities are ASW, transports, then a mix of CVEs and destroyers, in that order.

The U.S. must try to balance the number of carriers, the non-carrier ships required for their TFs, and the number and build rate of NAS. Unused carriers and unbuilt NAS are both inefficient.

Conclusion

Western Allied logistics are a fascinating and creative part of the game, but it is possible to ruin the Allied war effort with an excess of creativity. The purpose of this article is not to inhibit the creativity of

players, but rather to help them avoid basic errors that will take away many of their options.

Hints

The hints found in this article are reproduced below.

The American economy

Remember that American mobilizations not only add 25 BRPs to the American total when they occur, but also add 25 BRPs to the American BRP base for the rest of the game.

The U.S. seems to have an infinite number of BRPs, but it doesn't, because it has huge amounts of spending to do as well. The U.S. can easily spend 200+ BRPs each turn once there is heavy fighting in both theaters.

Any BRP savings the U.S. can make in 1941 and 1942 are well worth considering, because the effects will be felt for the rest of the game.

The goal for the U.S. is to reach a "take-off point" where the U.S. has more money that it can spend (so it always gets growth). This usually can only be achieved by carefully considering spending earlier in the game.

RPs are more valuable early in the game than later in the game, when the Western Allies have more of them.

Research

Always conduct general research in all five research categories until at least two general research breakthroughs are obtained (one intelligence breakthrough might do; more than two air breakthroughs are required).

Do not scrimp on key projects.

Get at least one result in each of the "Big Three" (ANDRM, NNDRM, CTL).

Always have a result of RPs to increase crucial research rolls to a "3", then assign your RPs each YSS knowing that the crucial research rolls won't be any lower than that.

Conduct atomic research at least until 1943, when you will know better where both the game and the atomic research itself is headed.

When you assign your RPs in the YSS, also pencil in the season you intend to roll for each project, so you don't accidentally roll out of sequence.

Research radar, because radar results modify ANDRM, NNDRM and ASW research.

Mobilizations

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