

The Operational Art of War, Volume I

Scenario Design Guide

v1.1

by
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“Everything should be made as simple as possible, but not simpler.”
— Albert Einstein

Preface:

For starters, I want to say a little about the numbers used in TOAW. Norm Koger's game is built on a foundation of complicated mathematical equations. A hint of these is found on page 104 of the manual. I'm sure the combat and supply calculations are even more complicated than the ones shown. These formulas have a number of variables in them, Supply levels, Proficiency levels, Readiness, and more. Norm was kind enough to provide us with some idea of what these variables should be on page 97 of the manual. Norm, who knows the game engine in and out, provided these guidelines to help scenario designers achieve results that are in line with his intentions for the game engine.

A quick look at the formulas at the bottom of page 104 shows that Proficiency is critical for determining Unit Quality. Unit Quality determines (among other things) how long Units stay in combat during a battle. A Unit with absurdly high Quality will stay in combat longer, give and receive abnormally high casualties, and prolong the battle, which uses up far more of the turn than it normally would. Force Supply is another variable that can be placed way too high. Footnote #3 of page 97 states that Units with Force Supply above 50% will recover too quickly from combat. If Norm's model shows the U.S. Army of 1945 (the best supplied army of the period covered in the game) with a Force Supply of 40%, there can be no historical justification for setting a Force's Supply level to 90% or 100%.

What I'm getting at is this: Folks, if you're creating a scenario then you are no doubt spending a lot of time and effort doing so. You need to use Norm's recommendations if you want the scenarios to work properly. All of your hard work can be wasted if you feed numbers into the combat, supply, and recovery equations that distort the game engine and produce bizarre results.

I would also recommend that playtesters read this guide and apply the principles within to the playtesting of others' scenarios. If you see numbers that are out of whack, ask the designer why he set the values where he did. The goal, after all, is to provide everyone with fun and balanced scenarios.

Introduction:

My intent with this guide is to give the TOAW scenario designer some guidelines to follow and a step-by-step procedure for completing a well-designed, playable, and balanced scenario. What I can't do for you is the research. In Part I, I give you some possible sources for good scenario fodder, but only you can do the work required to find the data necessary for creating a scenario.

I recommend that you read this entire guide before beginning work on a scenario. It is advisable that you at least read each part in its entirety before beginning on that part of the scenario design process.

This is version 1.1 of this guide. I plan to add to it as questions arise and solutions to problems are found. There are several aspects of TOAW scenarios that I haven't had the chance to play with in the editor yet (chemical and nuclear attacks come to mind). I will add sections later if there is a demand. I hope that readers will help me out by suggesting ways this document can be improved and pointing out areas where it is lacking.

I have organized this guide into 9 Parts and 3 Appendices.

Part I: Where Do I Find Good Scenario Info?

Part II: The Map Editor

Part III: The Forces Editor

Part IV: The Deployment Editor

Part V: The Event Editor

Part VI: Replacements

Part VII: Calendar, Environment and Other Easy Stuff

Part VIII: Briefings

Part IX: Balancing the Scenario

Appendix A: Hints and Tips

Appendix B: Changes Since the Last Version of the Guide

Appendix C: Scenario Design Checklist

Although you can start by designing a scenario using Opart300.exe and 3000 units, I suggest that for your first scenario you pick something a little less ambitious. A scenario with a 40x40 map and 40-60 units per side is excellent for the beginning designer. Later on you can tackle that all-of-WWII-at-division-scale monster scenario.

I would recommend, of course, that you save your work often. Sometimes bugs crop up and scenarios, OOBs, and maps can become corrupt. Don't forget the Save Map and Save OOB commands in the File pull-down menu. If your OOB in the scenario becomes corrupt, you can always go back and get the last saved OOB file and import it into the scenario. You may have to re-deploy your units but it will save you from having to re-do the entire OOB.

Part 1: Where Do I Find Good Scenario Info?

You need 3 basic components to create a scenario: a map, an Order of Battle (OOB) and a Table of Organization and Equipment (TO&E). The OOB shows the units involved and which units were attached to which Formations. The TO&E shows equipment that each unit had.

By far the easiest way to create a scenario is to have a good magazine or board wargame on the topic. *Strategy & Tactics* magazine, *Command* magazine, and any number of boxed wargames cover almost every battle of this time period. Most are covered in several different products. The maps and OOBs are generally well-researched and reasonably accurate. Magazine wargames frequently, but not always, have partial TO&Es in the accompanying article.

A good book on the battle helps as well. Most libraries have books on at least the most famous battles of World War II. Most large city and university libraries have books on the more obscure battles.

A book I'm finding very useful is John Ellis' *World War II: The Encyclopedia of Facts and Figures*. Most libraries have a copy, although it's frequently in the reference section and cannot be checked out. If so, you can always photocopy the pages you need. Ellis' book contains OOBs for most of the major campaigns of the war and division-level TO&Es for many countries.

A fellow by the name of S. Sheckells put together a large set of Soviet, German, and U.S. TO&Es for **Steel Panthers** several years ago. They are best viewed in MS Word (because of chart and table styles) and run about 40 pages for the U.S. and 60 pages each for the Germans and Soviets. They are excellent for finding the primary equipment in battalion and regiment-level units. His organization takes a little getting used to but once you figure it out you can find a surprising amount of data. It does not cover the secondary equipment in these units, such as trucks, machine guns, etc. You can get Sheckells' TO&Es from the Gamers.net at the following URL:

<http://www.thegamers.net/wildbillsraiders/sp.htm>

Scroll down to "Charts and Data documents" and you'll find it there.

I've also used the random scenario generator in **Wargame Construction Set 2: Tanks!** to see what kinds of equipment were available to armies during a given year. If you have **Tanks!** you can go into the editor and roll up a large, random scenario with the years and armies you want and see what it comes up with. Talonsoft's **East Front** has also been recommended for TO&E suggestions but I don't own **East Front** and therefore can't vouch for its usefulness.

If anyone knows of any other good sources, let me know and I'll add them to this list.

Part II: The Map Editor

Most people don't seem to be having any trouble creating the map so I'm only going to give a brief sequence I use for creating a map and then point out some strange and/or buggy features that you might want to look out for.

The easiest way to create a map is to have a board wargame map at the same scale. Then you simply have to draw it hex by hex. Often the map is at a scale that TOAW doesn't support, like 3.6 km/hex or some such. In this case you need to figure out whether to increase the scale or decrease it. I would, 99 times out of 100, increase the scale. Why? Because of Unit density. If you try to squeeze too many Units into a small-scale map, you're going to have those little red Unit density lights coming on in every hex in which more than one Unit is stacked. With a larger scale, you probably can have 3 or more Units in a hex without suffering severe penalties.

Lacking a good board wargame map, you'll have to make due with maps from books. These are, for WWII, difficult to find of any quality. If you do find a good map, you can transfer it to TOAW by tracing it with tracing paper and superimposing it on a sheet of hexagonal graph paper. Then draw the map in as you would a boardgame map, converting the graph paper hexes into the appropriate number of TOAW hexes at the scale you need. This is not an easy process and requires a lot of time and patience. Not recommended for beginners or the mathematically challenged

By the way, 1 mile = 1.61 kilometers.

Okay, on to the map drawing.

Start by deciding how big the map should be. Getting the dimensions perfect isn't critical at this point because you can change the dimensions later if need be. Again, having a boardgame map aids in this because you can count the number of hexes it has on a side and multiply by the difference in scale to get your map size.

For example: If your boardgame map is 60x80 hexes at 3.5km/hex and you want the TOAW map to be 5km/hex, simply divide the first scale by the second ($3.5 / 5 = .7$) and multiply the number of original hexes on a side by the result ($60 \times .7 = 42$) and ($80 \times .7 = 56$). Your new map, at 5km scale, would be 42 hexes by 56 hexes.

I start roughing in the map by placing significant features in their appropriate places. These include cities and towns, major bodies of water, major mountains and such. I usually put in some place names at this point so I always know where I'm at on the map. I move on to forests, hills, rough patches, and other things that take up areas. Then I put in the roads, wadis, and rivers — things that are lines across the map and run next to the cities, forests, etc. Finally I place fortresses, airfields and ports. I finish up by putting in all the rest of the place names I want to include.

You may have to crop or enlarge the map by a hex row or two when you're done. You'll find this feature under the Edit menu. NOTE: There is a typo in the pop-up dialog box for Crop Bottom. It says Crop Top but it actually does crop the bottom.

Some final points:

- 1) Ports can only be placed in hexes next to Deep Water. I don't know why you can't place them next to Shallow Water but you can't.
- 2) Only air Units and air transported Units can go through the black, non-playable hexes.
- 3) Super Rivers require that crossing Units have either a bridge to cross or Bridging/Ferry equipment. Since it's very easy to blow bridges in TOAW you will almost certainly have to include a significant number of Units with Bridge/Ferry capability in the scenario or they won't be able to cross the river. I found in my "Lorraine 44" scenario that regiment-sized Units needed 4 to 5 Bridge/Ferry squads to cross a major river. I don't yet know if this holds true for bigger and smaller Units.
- 4) Keep in mind that fortress hexes can be built with less than 6 sides by clicking on the hex side you want to disappear. In this way you can create a line that is not fortified in the rear.
- 5) There is no on-screen button for setting a "distant" hex. It's only available from the right-click menu. Simply right-click on the hex you want to be "distant" and select "distance". Then, type in the number of hexes away you want that hex to be. This feature is most often used for airfields far away from the main battlefield, separated by black, non-playable hexes.
- 6) There is no build/destroy bridges button on-screen either. Select this feature from the right-click menu if you want the bridge in a certain hex to begin the scenario blown.
- 7) Supply does not cross water! When you get to the Deployment Editor (Part IV) remember to put Supply Points for the invading Force on the invaded side of the water. The invasion hex or hexes are good spots for this.

Part III: The Force Editor

First I'd like to detail a convention I'll be using in this section and throughout the rest of this guide. There are numerous pull-down menus and submenus used in the editor and I'll be using this symbol:



...to designate a submenu.

For example, if I write *Edit⇨Modify Current Force⇨Unit Rename*, this means go to the Edit pull-down menu at the top of the screen and then to the Modify Current Force submenu and finally select Unit Rename.

Also, it's important to understand that the Force Editor is divided into two *panes*. The left pane is for "Assigned" equipment (the equipment currently in use by that Unit); the right pane is for "Authorized" equipment (the maximum equipment the Unit can have under normal circumstances).

Furthermore, three different right panes are available, one for equipment, one to display all of a Force's Units in a list, and one for displaying Units in their Formations. The first is the default and is displayed by left-clicking on the "crossed swords" icon at the bottom of the right pane. The second is displayed by left-clicking on the "gold flag" icon. The last is displayed by left-clicking on the "star" icon.

The easiest way to create a Unit is to import it from another scenario and, if necessary, alter it for your scenario. To "borrow" a Unit from another scenario you must open that scenario in the Editor. Then go to *Edit⇨Forces* and left-click through the Units in the left pane until you find the one you want to copy. Finally, go to *File⇨Save Unit As...* and save the Unit as a .unt file. I usually save all the Units I want in a separate folder called, for example, "Soviet 44". Note that any Unit that you try to save that has the "/" character in it will not save as a .unt file. I suspect this is a DOS filenames problem. If you want to save a Unit that has the "/" character as a .unt file, you must first rename the Unit in the Editor. Do that by clicking on the name bar at the top of the left pane and typing in the new name.

Now open up your scenario, select *Edit⇨Forces*, and then *File⇨Open Unit*. Go to the folder you stored the Units in and select the one you want to import. It will show up in your Force now and you can rename and equip it as you want.

Usually you'll have several Units in your Force that are identical except for their names. After you've imported a Unit and equipped it the way you want, simply copy the Unit as many times as you need by clicking on the "copy Unit" button (it's the one with 2 solid squares on it). Then cycle through the new Units by clicking on the left or right arrows at the bottom of the left pane and rename them by clicking on the Unit name at the top of the left pane.

There is a great shortcut for naming Units. *Edit↔Modify Force↔Unit Rename* works as a global search and replace. If you have lots of Units with the word “Infantry” or “Panzer” in their names, simply use an uncommon letter or letters (like Q or XYZ) when typing the names of the Units. When you’re done select *Edit↔Modify Force↔Unit Rename* and do a search and replace, replacing “Q” with “Infantry”. This saves a lot of typing. Note: The first time I did this I selected “z” as my dummy letter. Unfortunately I had a lot of Units already named “Panzer”. The z in “Panzer” was changed to “Infantry” and I now had a lot of Units called “PanInfantryer”. Make sure you use a dummy letter or letters that don’t appear elsewhere. If you do make a mistake like mine, simply rename again (to continue my example, replacing “PanInfantryer” with “Panzer”).

You will probably have to create at least a few Units from scratch. To do this, start by making sure the equipment list is available in the right pane. If it’s not, click on the crossed swords icon at the bottom of the right pane. Then, in the left pane, click on the left arrow until you get to the end of your Units and finally come to a Unit called 1st Cadre. This is a blank Unit that is unavailable in the game until equipment is assigned to it.

Give the Unit a name by clicking on the bar at the top of the left pane. Now give it a size by clicking on the left-most button just above the equipment list in the left pane (see the bottom of page 55 in the manual for size designations). Then select a color scheme by clicking on the second button above the equipment list. And then give it a Unit type symbol by clicking on the third button above the equipment list (see page 56 in the manual for Unit type symbols).

Note that the color scheme plays an important part in Formation Support. Formation Support is discussed later in this Part.

To give the Unit its Authorized equipment, left click on the appropriate equipment in the right pane and type in a number. The equipment will show up in the left pane and the Assigned equipment will automatically be set to match. There are two ways to cycle more quickly through the equipment in the right pane. You can either right-click on the down arrow, which acts like a page-down button when right-clicked, or right-click anywhere in the right pane that isn’t a button. This brings up another window showing broad groupings of equipment.

To alter the Assigned equipment, click on that equipment’s button in the left pane and type a number. You can assign more equipment than is authorized. The surplus will be used but will not be replaced above the authorized level when lost. To delete a type of equipment from the Unit entirely, click on the equipment’s button in the right pane and type 0.

Note: Since the release of the first version of this guide, it has been brought to my attention by several poeple that there is a limit of 24 types of equipment that can be given to each Unit. If you try to add a 25th equipment type, one of the first 24 disappears.

Once all the equipment is assigned to all of your Units, you can globally edit the equipment amounts for an entire Force's Units or a Formation's Units. To edit a FORCE'S assigned equipment, go to *Edit↔Modify Current Force↔Unit Assigned Equipment*. Here you will find several options: Add, Subtract, Set and Randomize Equipment. Select Add and type in a number to raise the amount of all equipment in the entire Formation by that percentage. Subtract works the same way except it subtracts a percentage of equipment. Set sets all the equipment in the entire Force at the percentage level you type in. Randomize is not explained well in the manual and I haven't really tested it yet.

To edit a FORMATION'S assigned equipment, go to *Edit↔Modify Current Formation↔Unit Assigned Equipment*. Here, again, you will find several options: Add, Subtract, Set and Randomize Equipment. Select Add and type in a number to raise the amount of all equipment in all the Units in the currently selected Formation by that percentage. Subtract works the same way except it subtracts a percentage of equipment. Set sets all the Formation's equipment at the percentage level you type in. Note: I have noticed that there may be a bug in this function. Sometimes the effects are not limited to the current Formation and other Formations are effected. Use with caution and save often, only after making sure the modification you just made did not effect other Formations.

I don't recommend setting the equipment levels for the entire Force at this time. Equipment levels are a quick and easy way to balance a scenario so I tend to leave them all at 100% of authorized levels until I get ready to balance the scenario.

When all your Units are done it's time to put them in Formations. Click on the Force button (the gold flag) in the right pane. You'll want to group your Units by Formation. Most often Formations will be composed of the Units that belong to the organizational level just above that of the Units. For example: If your Units are regiments, they should most often be organized in division-level Formations. If the Units are mostly battalions or smaller, they should probably be formed into regiment- or brigade-level Formations. The reason for this is that, as the manual states, the Programmed Opponent (PO) does not work efficiently with Formations of more than 12 Units. If you group battalion-sized Units in division-level Formations, you will end up with far more than 12 Units in the Formation. Keep your Formations small.

To move a Unit up or down in the list, right-click on that Unit in the right pane to cut it from the list, then right-click again to paste the Unit back into the list in the appropriate spot. When all the Units are grouped correctly, left-click on the button that says "unassigned" at the very top of the list. Left-click again and all the Units in the Force will be assigned to the first Formation. Scroll down the list to the first Unit you want to be in the second Formation and left-click on the "1st Formation" button. A dialog box will open up. Select "New Formation". All Units from there to the bottom will be assigned to the second Formation. Scroll down to the Unit you want to begin the 3rd Formation, click again, and select "New Formation". Continue this process until you get to the bottom.

Note: If you decide to copy/paste a Unit after Formation assignments, the Unit will become a member of the Formation you paste it into.

Now would also be a good time to name this Force. Click on the Force's name at the top of the right pane and give it a name.

Now it's time to name the Formations and set their support levels. Click on the Formations button (the star) at the bottom of the right pane. Click on the left arrow button to get to the first Formation. Simply click on the "1st Formation" button at the top of the right pane and give the Formation a name. The right button at the top is for Support. You have 4 options here: Internal, Army, Force and Free.

- Internal Support means the Formation can cooperate fully in combat only with Units of the same Formation and can cooperate somewhat with Units of the same exact color scheme.
- Army support means the Formation can cooperate fully with any Unit with the same exact color scheme and cooperate somewhat with Units that have the same background color, but not the same symbol color.
- Force support means the Formation can cooperate fully with Units that have the same background color and somewhat with Units that have a different background color.
- Free support means the Formation can cooperate fully with all Units in the same Force.

Note: Units can always cooperate fully with Units of the same Formation, even if they have totally different icon color schemes.

Now it's time to configure the Proficiency, Supply, and Readiness levels for the Units, Formations, and Force. I'm going to mention again that these values need to be set at reasonable levels, per Norm's recommendations. In each section below I'm going to suggest minimum and maximum values, most of which are within 5-10% of the minimum and maximum values provided on page 97 of the manual.

We'll go from the top down this time, starting at the Force level and working down to individual Units. To edit a Force's Flag Symbol, Proficiency and Supply levels, simply click on the multi-colored flag button at the bottom of the right pane. If it's not currently visible in the pane, click on the Unit list button (the gold flag) and it will appear. Pick a flag symbol for the Force. Now click again on the multi-colored flag symbol and select "Force Proficiency" and input a number. Referring to page 97 in the manual, the recommendations for Force Proficiency range from a low of 50 to a high of 80. I would suggest that you go no lower than 40 and no higher than 90 for any Force, no matter what you might think of its quality. Straying further away from the recommendations could produce very odd results. Now set the Force Supply Stockpile level. The manual's recommendations range from 15 to 40, so it's not a good

idea to set it lower than 10 or higher than 50. Forces with Force Supply set above 50 recover too quickly from combat. If you set Force Supply too high, your Units will be able to fight every turn throughout the game and still be fresh at the end which is, obviously, unrealistic.

There are two ways to set a Formation's Supply and Proficiency levels. You can either do it on a per Formation basis by click on the appropriate buttons at the bottom of the right pane while that Formation is visible (the lightning bolt button is for Proficiency and the half-filled circle button is for Supply). You can also set the Supply and Proficiency levels for every Formation in the Force at once by going to *Edit⇌Modify Current Force⇌Formation Proficiency⇌Set Proficiency* and *Edit⇌Modify Current Force⇌Formation Supply⇌Set Supply* and typing in a number. This will set every Formation in the Force to this level. For Formation Proficiency, don't go below 50 and don't go above 95. The range in the manual for Formation Supply Distribution goes from a low of 10 to a high of 100, so apparently anything goes.

Units have 3 stats that you can set in the Force Editor: Proficiency, Readiness and Supply. The fourth Unit stat, Veteran/Untried status, is set in the Deployment Editor because it is scenario dependent and not stored in the Force OOB. I'll cover the Veteran/Untried toggle in Part V: Deployment.

You can set the stats for individual Units by clicking on the Unit stat button at the bottom of the left pane (it's the half-filled circle). You can also set the stats for all Units in the currently selected FORMATION by going to:

Edit⇌Modify Current Formation⇌Unit Proficiency⇌Set Proficiency.

Edit⇌Modify Current Formation⇌Unit Supply⇌Set Supply.

Edit⇌Modify Current Formation⇌Unit Readiness⇌Set Readiness.

You can also set these values globally for every Unit in the entire FORCE by going to:

Edit⇌Modify Current Force⇌Unit Proficiency⇌Set Proficiency.

Edit⇌Modify Current Force⇌Unit Supply⇌Set Supply.

Edit⇌Modify Current Force⇌Unit Readiness⇌Set Readiness.

The recommended values for Unit Proficiency range from 50 to 80, so try not to set them below 40 or above 90. Unless the Unit has been in combat very recently, the Readiness and Supply values should be set at 100. If the Unit is combat weary or just plain bad you can set the Readiness and Supply levels lower, but it probably shouldn't be set below 50. Note that Supply can be set as high as 150 to indicate a large stockpile but the value will immediately drop to 100 or below when the Unit moves for the first time in the game.

Part IV: The Deployment Editor

The Deployment Editor is, well, it's a bit of a mess. There are a lot of things that have to be done and it seems as though the buttons for doing these things are scattered all over. I'm going to give you a step-by-step process for deploying Units and setting Formation orders but, be warned, it's a little bit chaotic. Follow the steps in the order below and you should be able to get everything set the way you want. If it seems that I'm skipping things as I go, it's because I am. There are several places to set a lot of the things you'll want to set but some places are better than others. I've tried to make it as linear as possible, but, as I said, the Deployment Editor is a bit of a mess.

The most important thing to keep track of in the Deployment Editor is which *mode* you are in. The mode is shown in the text box underneath the Unit box in the upper right of the screen. There are 6 modes: Place Unit, Remove Unit, Place Supply, Place Objective, Objective Value, and Toggle Ownership. The two small buttons with an arrow and a filled square are for cycling through Units. The two buttons under those, the ones with an arrow and a star, are for cycling through Formations. The button with flags on it switches sides. Note that under the 3D graphic for each Unit, there is text that describes the deployment status of each Unit.

To deploying your Units, make sure you are in Place Unit mode and the Unit you want to place is in the Unit box. Then, simply right-click in the hex you want the Unit to start in. I usually start by placing all the Units that will begin the game on the map. Reinforcement Units require an objective hex of entry so I wait until the objective placement step to deploy them.

Once all your starting Unit are deployed it's time to give objectives to the Formations. It's a good idea to limit the number of a Formations objectives to less than 6 or so. The Programmed Opponent (PO) has a difficult time if it has too many objectives to work through, particularly if the objectives are scattered all over the map. Left-click on the mode button until Place Objective is shown. Right-click to place objectives for the Formation of the Unit shown in the Unit box.

For attacking Formations, the objectives represent a line of advance. The Units will move along this line of objectives, starting at number 1 and moving up. For defensive Formations, the higher numbered objectives represent higher priorities and the Formation will defend those first.

Now it's time to place the Reinforcements. To place Reinforcements, make sure you have the Unit you want to place showing in the Unit box. Cycle the mode button until it reads Place Objective. Now, place that Formation's first objective where you want that Formation's Units to move towards when they enter the game. Later, you will set the entry hex, but the button for doing that is located on another screen that we will get to later. After placing objective 1, place the rest of the objectives for this Formation as you would normally. Don't worry about the turn of entry shown in the Unit box; you'll change that later when you change the entry hex.

When you think all your starting Units are deployed and have objectives and your Reinforcements have objectives go to *View→Properties* and check to make sure. If it says that some of your Units are not deployed, you need to cycle through the Units one-by-one in the Unit box and make sure none of them say “Not deployed”. If it says some Formations don’t have objectives, you need to cycle through your Formations and look at the micromap, making sure that each Formation has objective numbers showing on the micromap. If any Units are not deployed or any Formations do not have objectives, deploy and set them now.

Now it’s time to set the general orders for each Formation and the Units in those Formations. We will also set the entry hexes and entry turns for Reinforcement Units now. Right-click on the 3D graphic of the Unit in the Unit box. This will call up the Unit info screen. You can set the entry turn here but it’s easier to set it in the Formation info screen where you can see the entire Formation’s orders. From the Unit screen, click on the Star button to call up the Formation info screen. This display the name, orders, hex, and condition for all the Units in the currently selected Formation. It also shows the Programmed Opponent orders (bottom left) and Order Emphasis for loss tolerances (bottom right).

If the Unit is already on the map, you will see a button for each Unit that allows you to set it’s starting orders. For some reason a lot of the orders are not available here. It’s easier to do the Unit orders on a Unit-by-Unit basis by right-click on the Unit on the map, just as you do when playing the game. We’ll save that for later. Right now we’re interested in setting Formation orders and getting the Reinforcements to enter at the right time and place. Left-clicking on the orders button in the bottom left of the Formation screen cycles through the available orders for Formations. These orders are described in detail on page 90 of the manual so I won’t repeat the information here. They seem to work as described most of the time. There is a problem that occurs occasionally with Formations that are given the Attack order, which I’ve described in the notes at the end of this section. Formations given Static, Delay, Wait, or Hold orders get an extra button for setting the turn of release for that Formation. Note that Formations will be released before that turn if enemy Units move adjacent to them or any Unit in the Formation is attacked.

The button on the bottom right of the Formation screen sets the general loss tolerances for that Formation. This is a guide for the Programmed Opponent only and does NOT set the loss tolerance for individual Units. This is done on a Unit-by-Unit basis and you will do that when you set each Units’ starting orders.

Cycle through your Formations and set the Programmed Opponent orders and Loss Tolerances. When you come to a Formation that has Reinforcement Units, you will see buttons for each Unit that show the hex of entry and the turn of entry for those Units. Now is a good time to set them. You can set Units to become Reinforcements based on a turn of entry or an Event. Most of the time you will want them to enter on a specific turn. If so, simply click on the turn of entry button to set the values for each Unit. If you want the Units to enter based on the occurrence of an Event, set the entry turn button to the Event number of the Event that calls for the Reinforcements (you’ll have to come back and do this after you’ve assigned Events in the Event

Editor). Now set the entry hex for each Unit. You will probably have to exit the Formation screen and look on the map to find the coordinates for the hexes you want your Reinforcements to come in on. Write them down and then go back to the Formation screen, then set the entry hex values. Note that Units from the same Formation can enter in different hexes and on different turns by setting those values in the Formation screen. You can even have some enter on a turn and others enter based on an Event.

Exit the Formation screen and go back to the Deployment Editor. It's time to set the orders for each Unit. Make sure Place Unit is showing in the mode button and, starting at the top of the map, left-click on a Unit, then right click on the Unit and set its orders, just as you do when playing the game. You can set the orders to: Defend, Entrench, Fortify, Local Reserve, Tactical Reserve, Minimize Losses, Limit Losses, and Ignore Losses. Do this for every unit on the map. You can also call up the Unit and Formation screens from here as well.

There's one more value to set for all your Units and that's the Veteran/Untried Unit toggle. To set this value, right-click on the Unit in the Unit box. This will call up the Unit info screen. The left-most button, the one with a lightening bolt on it, is the Veteran/Untried toggle. You can see the status of the Unit in the first line of gold text at the top of the info screen. Click on the Lightning Bolt button if you want to change the status of the Unit. Cycle through all the Units in both Forces and set this value.

There are a few things left to do still. You need to calculate ownership, set Supply hexes, and set Victory Point values for certain objectives.

To calculate ownership of hexes, go to *Edit↔Automatic Ownership*. Selecting this will calculate ownership of all the hexes on the map based on proximity to Units. It does a good job, but you might want to change the ownership of some hexes yourself. To do that, click on the mode button until Toggle Ownership is shown. Right-click on any hexes you want to change. When you're done with ownership, go to *View↔Options↔Possession↔Invisible* to turn off those flags.

Change the mode button to read Place Supply and right-click on the map to put a Supply point on your map. Supply points should be located along the map edge on major roads and railways and in cities that were supply depots historically. You don't need a lot of Supply points since one can supply an entire Force. It's a good idea to make sure that all major roads or rails on your map are in some way connected to at least one Supply point. The Place Supply works as a toggle. Right-click again on the same hex to remove it. Note that Supply points are Force-specific. You have to put two of them in the same hex, one for each side, if you want both sides to be able to draw Supply from that point. If there are Supply points for both sides in a given hex, whichever side controls that hex draws Supply from it. Also remember that Supply does not cross Water or black, non-playable hexes so don't forget to place Supply points on invasion hexes and "distant" locations separated by non-playable hexes.

The very last thing to do is give Victory Point values to your objectives. Not all objectives require victory points. As a matter of fact, it's a good idea to keep the number of Victory Locations low. That way the player has a clear idea of what he's trying to achieve. Placing a bunch of 1 VP objectives does little more than clutter the map. I would suggest that no matter what size scenario you do, you have no more than 8 to 12 VP locations.

Divide your VP locations into three categories: Primary, Secondary and Tertiary. At this time there is little point in assigning real values to these objectives since you will probably want to play with the actual values when it comes time to balance the scenario. For now, assign 20 point to the Primary objectives, 10 points to the Secondary objectives, and 5 points to the Tertiary objectives. To assign values, change the mode button to read Objective Value and right-click on an objective hex. Type in a number. That's it. Again, keep the number of objectives low so the player knows what needs to be done. Note that a hex must be an assigned objective for at least one Formation before you can give it an Objective Value.

Some points about the deployment editor:

- 1) Even Units with appropriate Ferry/Bridging capabilities cannot be deployed on Super Rivers. They must move onto those hexes during the game.
- 2) Air Formations need objectives too. I usually give them one objective on their airfield and that's it. You can give them more objectives and they might, depending on how the scenario goes, move towards forward airfields as they are captured. Sometimes this works, sometimes not.
- 3) Sometimes Formations with Attack orders will not move towards their objectives. This was a problem with Age of Rifles and it remains in TOAW. The best thing to do in this case is to remove the Units from the map, remove their objectives, and re-deploy the Units in a slightly different location, perhaps one hex away from the original spot. Then re-place the objectives, one hex away from their original hex if possible. Sometimes this works, sometimes not.

Part V: The Event Editor

The Event Editor is the feature in TOAW that is the most revolutionary. By allowing designers access to certain internal game functions it gives the designer an incredible amount of freedom for controlling the “action” of a scenario.

I’m going to assume as I write this that you have read the section on the Event Editor in the manual (pgs. 81-85) and understand that each Event must have a trigger and an effect. I’m not going to detail all the Event effects and what they do. I’m only going to detail some tips for getting the Events to do what you intend and also touch on some of the trickier ones, including the Replacement Event, which even the Talonsoft designers used incorrectly in their scenarios.

You can select the Event Trigger and Event Effect with either mouse button. Left-clicking will cycle through the list one at a time. Right-clicking will bring up a non-scrolling list that you can use to select the Event you want. Note that at some screen resolutions, right-clicking on the Event Effect list will bring up a list that is too long to fit on the screen. To get to the Events that fall below the last one on the screen, select the last one and then left-click until you come to the one you want. On my 17” monitor at 800x600 resolution the last Event on the screen is Guerrillas 2. Below, and unseen, are several key Event effects: Air Transport 1 & 2, Rail Transport 1 & 2, Sea Transport 1 & 2, and Withdraw Army. If your monitor isn’t too small you can edit the scenario Events in 1024x768 resolution, which should display the entire list.

The first 5 Events in the Editor are already set up for you. All you need to do is input a value or some text. The first is a news only Event and should be used to indicate that the battle has begun. An example would be, “Axis Forces cross the border and invade Yugoslavia” or something similar.

The next 2 Events (Events 2 and 3) are Theater Recon 1 and Theater Recon 2. For some reason most user-made scenarios designed so far do not have values set for Theater Recon. You should set a value for Theater Recon, even if it’s a token 5%. When Theater Recon is set to 0 your Forces are effectively stumbling around in the dark and cannot see the enemy until they are next to each other. I recommend giving both Forces a 15-25% value for Theater Recon, more if a particular Force has broken the enemy codes and would have a good idea of where enemy Units are located. I don’t recommend going over 50% unless a Force has an extraordinary spy network/code intercept system and a ton of recon aircraft.

Events 4 and 5 are Rail Transport values for both Forces. Whether a Force has rail transport in a given scenario will depend on the historical situation. You’ll have to use your research and judgment for this. To locate the transport cost of a Unit you’ll have to dive back into the Deployment Editor. Once in the Deployment Editor, left click on the Unit you want to know the transport cost of and right-click in the Unit box in the upper-right. The Unit info screen will come up. The first line of gold text at the top will tell you the transport cost of the Unit. It varies from Unit to Unit and, if you want to transport, for example, 3 regiments by rail per turn, you should check

out several regiments' transport costs and use that as your basis for calculating transport. You might also want to check out different types of Units (Armor, Infantry, Recon, etc.) and use an average of the various types of Units in your scenario.

I recommend that you set the effects for Events 6 and 7 to Sea Transport 1 and Sea Transport 2, even if you're not planning on using them in your scenario. Why? Because it never hurts to be organized. If you should decide later that you want to use these Events you'll have them placed with the other transport Events and can locate the transport values quickly. If you don't plan on using Sea Transport, set the values to 0. You can always change them later.

For Events 8 and 9 I recommend setting the effects to Air Transport 1 and Air Transport 2. Again, even if you don't plan to use them you'll know where they're at.

The rest of the Events are limited only by your creativity. If you're curious as to what the Event engine is capable of, you can open the Event Editor in any of the scenarios and check it out. Norm's own Korea scenario is an excellent example of the uses the Event Editor can be put to.

Notes:

- 1) Some Event triggers require the use of two Events instead of one. If you set an Event trigger and the Event effect you want is not available, then the effect requires two separate Events. "Force 1 occupies" is a good example. To do this type of Event, set the first trigger (for example, Event number 12) to "Force 1 occupies" and leave it as a news only Event. Then set the second Event's trigger (Event number 13 in this example) to "Event activated", set the effect to whatever effect you want, and the turn activated (the third button on the first line) to, in our example, Event number 12. This tells Event 13 to put into action the effect you want only after Event 12 is activated. Yes, this is 1 more Event than it seems it should take. I don't know why some Events are programmed this way but they are.
- 2) Ah, the Replacement Event. This one is causing people difficulties. All of the other Events effects, such as Supply and victory, are additive. In other words, if you type a "Supply 1+" value of 10, then 10 is added to the Force Supply value of Force 1. Simple enough. However, Replacement Events are MULTIPLIERS. That's why the Effect shows up as "Replacements 1*" instead of "Replacements 1+".

An excellent example of this is the Korsun scenario on the TOAW disc. The intro text states that if the German player takes a certain hill his replacements go up. Upon playing this scenario and taking the hill, I noticed that my replacements went down instead of up. I looked in the Event editor and, sure enough, the value is set to 50, meaning the replacements are multiplied by 50%, or cut in half (quite an incentive for taking that hill!). The designer should have set the value to 150, which would have raised the replacements as the intro text states. Kharkov is even worse. It has 3 such Events for the Soviets, knocking their replacements down by 70% each time instead of raising them by 30% (the designer has 30 for a

value instead of 130). Simply put: If you want the replacements to go up, set the replacement value ABOVE 100. If you want the replacements to go down, set the value BELOW 100. (Note: version 1.03 of TOAW has several revised scenarios, including Kharkov and Korsun. The Replacement Event error has been corrected in these revised versions.)

Also remember that the effects are cumulative, so if you have 3 Replacement Events set to values of 50 and all 3 Events are triggered, the replacements will have fallen to 12.5% ($50\% \times 3$) of their original value. Likewise, if all 3 are set to values of 200 and all 3 are triggered, replacements will have grown to 800% ($200\% \times 3$) of their original value.

- 3) As with the Forces Editor in Part III, you shouldn't use the Event Editor to raise or lower values too much above or below the recommended values. When giving a Supply bonus for taking a city or receiving a Supply shipment, consult the original value and raise it by, at most, 5 or 10%. Don't set the Event Value at 50. If the original Force Supply is 30% and you boost it by 50% to 80%, you're once again giving the game numbers it wasn't designed for.

Part VI: Replacements

It's hard to go wrong with the Default 1% Replacement setting. This setting gives good results without creating Units That Will Not Die. If you want to edit the specific replacements for a particular piece of equipment, go to *Edit↔Set Replacements↔Replacement Editor*. Here you can set the amount of equipment on hand to be doled out to Units, the number of replacements of each weapon type that side receives each turn, and the start and end turns for getting those replacements.

There is an explanation on page 87 of the manual for how to simulate equipment translations within Units. I may expand this part of the guide if more explanation is needed.

Again, keep in mind when setting replacements that the Replacement Event in the Event Editor is a multiplier. If you set the value below 100, the number of replacements will drop. If you want replacements to go up, set it above 100.

Note: If one side in a scenario is totally isolated and has no chance of getting replacements (Iwo Jima and Okinawa are good examples of this, what with the U.S. Navy totally blockading the islands) then set all the replacements for that side to 0. That Force will still be able to recover damaged equipment and repair it, but they will get no more equipment than what they start with.

Lastly, if you do set the replacements for one side to 0, they can never be raised or lowered by use of the Replacement Event because 0 multiplied by anything is still 0.

Part VII: Calendar, Environment, and Other Easy Stuff

As with the Map Editor, no one seems to be having difficulty with these settings so I'll breeze through them quickly. I'll add more here if, after others have read this guide, any significant questions are raised.

Let's start with the Environment, which is under the Edit pull-down menu. There are several options here, starting with map scale. Hopefully you chose a scale before you designed the map. Enter the scale by clicking on the Map Scale button and cycling through the choices.

For the other environmental settings you should choose those best suited for your scenario based on the research you have done on the battle you are designing.

The Calendar is also simple. The first entry, Turn Length, depends on the length of the battle being simulated. For now, use the following guidelines for setting the turn length.

<u>Battle length</u>	<u>Turn length</u>
less than two weeks	half-day
2-4 weeks	full day
1-4 months	half-week
4 months+	full week

You may or may not change the turn length later, depending on such factors as movement rates and overall scenario length.

For the rest of the calendar, simply enter the information according to your research. For the last item, Last Turn, enter a number that will end the scenario on the date that the actual battle ended. Later on you might want to extend this by several turns, depending on the victory conditions you want.

For First Force, select which side you want to go first. Keep in mind that, unless you're playing a PBEM game, this only applies to the first turn. After that, the first Force in a turn is based on other game factors out of your control. For PBEM games, the first Force remains first throughout the entire game.

Now jump to the Deployment Editor and you can set a couple of other minor details: Microview icons and 3D icon tint. Choose *Edit↔Set Microview Icons* to set which colors you want each side to display in the microview. Choose *Edit↔Set 3D Icon Tint* to choose a shade for the equipment displayed in the 3D view. Note that this tint is not used in the information box at the top right of the screen in 2D view.

Part VIII: Briefings

The Briefing Editor is found under the Edit menu. Briefings are more art than science so it's hard to do more than give you some general guidelines. For the Scenario Briefing, it's a good idea to use a set format for all your scenarios. The one Talonsoft uses for the scenarios on the disc is excellent. I use it, with some minor additions, for my scenarios. I added my name and e-mail address near the top and requested comments and suggestions from players. I added a line stating which side gets the first turn. I put asterisks between sections just for the look of it. And I added a Notes section at the bottom to give some player tips and, if necessary, act as a catch-all for information pertaining to the scenario, such as why it doesn't model a particular historical event correctly.

The Victory Briefings should tell who won and what the historical outcome might have been had that side done as well in real life as the player has.

The No Victory (Draw) Briefing should state that the battle is a draw and then detail briefly the outcome of the historical battle and, possibly, what happened as a result.

Part IX: Balancing the Scenario

The home stretch, and possibly the most frustrating part of the design process, is balancing the scenario.

Let me start by declaring that I prefer the old wargame convention that if the Forces achieve the same results as their historical counterparts, then the game is a draw. I don't believe that just because Force A was much too powerful to defeat in real life, that the scenario should be the same way. I occasionally see scenario designers declaring that Force B cannot win their scenario because Force A was too powerful historically. In such a case, the designer should come up with a way or ways in which the more powerful Force could have won better, either by doing so faster, or with less casualties, or by pushing further than they historically did. If Force A is so powerful, make them really work for that victory.

For example, my Balkans 41 scenario is based on the Axis invasion of Yugoslavia and Greece. In real life, the Germans were unstoppable. If I set the game up with victory conditions that reflect that, then what's the point of playing either side? Instead, I made it difficult for the German's to win by giving the Allies victory points for every turn they held out past a certain date. Sure, the Allies are going to lose the battle, but they can still win the scenario by doing better than their historical counterparts.

Okay, on to play balancing. The best way to start play balancing is to let the computer play against itself. A computer vs. computer game will quickly show you if the Formations are doing what you want them to do. It will also give you some idea of how quickly the battle develops and how strong the Forces are relative to each other.

A tip: If you know how to edit your program shortcut (like you hopefully did by adding the parameter "nointro" to the command line) then you can also add "nodelay" to the command line. This command line parameter makes the Units move and fight faster. You can still see what's going on but the scenario will go much faster than it normally would. You'll probably be running several comp. vs. comp. games and this will speed up the process.

As you watch the battle, take notes as to when important objectives were taken and how long the various Formations hold out in battle. There will no doubt be several problems with the scenario. It will most likely progress too quickly or too slowly. Certain Formations may collapse much quicker than anticipated. Do the Units have too much or too little movement? Are Units able to move and attack in the same turn?

The first thing to look at seriously is the turn scale. Units should be able to both move and attack in the same turn. Perhaps when TOAW gets to World War I this may change, but most World War II battles were fluid. Most Units should have at least 7 to 10 movement points per turn. If they have less, consider raising the turn scale by 1 level, from 1 day to half-week, for example. It's also possible for Units to have too much movement. If you have a 1 day per turn scenario of a battle that historically lasted 25 days, you want it to last about 25 turns in your scenario. If it's over by turn 5, you might want to raise the turn scale to half-week turns and have a 7 or 8 turn

scenario instead. If you change the turn scale, you'll also have to remember to alter the arrival dates of Reinforcements and change any Events in the Event Editor that are tied to any turn except the first. Keep in mind that there's nothing wrong with a short scenario if it simulates the battle well and it's fun to play.

After deciding on a turn scale, replay the scenario comp. vs. comp. As you watch the second time, pay particular attention to the strengths of Formations. Do they hold out as long as they should on defense? Are they too weak on offense? Make notes and then head off to the Forces Editor.

There are several ways to strengthen and weaken Units and Formations. For now, leave Force Proficiency, Force Supply, Formation Proficiency, Formation Supply, and Unit Proficiency at the recommended levels. Instead, concentrate on altering the Equipment levels, Readiness levels and Supply levels of Units globally. If a Formation is too strong, you can adjust these levels downward by 10% or 20%. Refer to Part III: The Force Editor to see how to change these values quickly for entire Forces or Formations.

You can justify cutting 10% of the equipment from a Formation's Units because units almost never had their full authorized amounts. If the unit has been in combat recently, you can cut it even more. The same can be said of Unit Readiness and Supply. The reason I like to adjust these levels first is because they change during the course of the game. If you lower a Unit's Readiness at the start, it can be recovered slowly. The same cannot be said of Unit Proficiency.

As for Formations that are too weak, you can strengthen a Formation by pushing it's equipment and Supply above 100% but I prefer to weaken the opposing Force rather than strengthen an already full-strength Formation.

After you've adjusted your Formations and Units it's time to run the computer against itself again. You will probably have to do this a number of times before you get the Formations and Units set to the levels you want. Keep in mind that there is a significant randomness to the game's combat results and just because the scenario played out correctly once doesn't mean it will again. When you think you've got the two Forces properly balanced, let the computer play itself 4 or 5 times and record the results each time. Don't worry about the Victory Points. Concentrate on getting the battle to play the way you want.

Once you get the battle playing the way you want it to, it's time to set the final Victory Point values. As I wrote earlier, you want the scenario to be a draw if both sides achieve the historical result. Therefore, figure out which objectives were controlled by which side at the end of the real battle. Go to the Deployment Editor and select the Objective Value mode. Give values to the victory objectives in such a way that if the scenario ends with both Forces in possession of their historical objectives, both side will receive the same number of Victory Points. Keep in mind when doing so that you should have Primary, Secondary, and Tertiary Objectives that you set earlier to 20, 10, and 5 points respectively.

For example, if, at the end of the real battle, Force A held 1 Primary, 2 Secondary and 4 Tertiary objectives and Force B held 2 Primary, 1 Secondary and 2 tertiary Objectives, you can assign values like this:

Force A:	1 Primary: 50	(50)
	2 Secondary: 25 each	(50)
	4 Tertiary: 10 each	(40)

For a total of 140 points. Force B should also have 140 points, so assign them like this:

Force B:	2 Primary: 50 each	(100)
	1 Secondary: 25	(25)
	2 Tertiary: 10 each	(20)

Which adds up to 145...close enough. If you want to make it exactly 140, lower one of Force B's objectives by 5 points. As this is now set up, both sides have to possess more than their historical number of objectives to win the game. How many of those objective they can reach will determine how big a victory it will be.

If you have a scenario where one side completely owns the map at the end, consider giving that side a time limit, like I did in Balkans 41. You can also give the weaker side some points for holding a hex the stronger Force cannot conceivably reach.

Now that you've got the Victory Conditions where you want them, run the scenario comp. vs. comp. several more times. At this point it really isn't necessary to watch the whole thing. You're primarily interested in the final outcome. Run it at least 5 times. Hopefully you'll get a couple of draws and 1 to 2 wins for one side or the other. If one side never wins, the scenario probably isn't balanced yet. Consider lowering the VP values of the winning side's objectives a few points or raising the value of the losing side's objectives by a few points. If all of your playtests are draws, the scenario is too balanced. In this case, select an objective, or two, or three, that are likely to go to either side at the end and raise the VP values of those objectives. This should tilt the scenario one way or the other, hopefully not the same way every time.

Again, run the scenario several times and look at the results. Hopefully by now things are working well. It's time for the final playtesting which requires the human touch. You can do this several ways. You can play as either side against the computer or play both sides yourself. You can give the scenario to other people and have them playtest it for you. You can play via e-mail or hotseat a game with someone else. Your final, minor adjustments made after these playtests should bring the scenario design to a close.

Appendix A: Hints and Tips

This section will hopefully expand greatly as time goes by and people contribute ideas. I will try to credit ideas here, so if you see something that you came up with let me know and I'll credit you.

- 1) There is a well-known problem with the Programmed Opponent (PO). It tends to take objectives and forget about them, moving on and leaving them for the enemy to take back all too easily. Erik Rutins came up with a promising solution. Create some Reinforcement Units in the Forces Editor to act as garrisons for these objectives. Set up a Reinforcement Event such that, when the appropriate Force take the objective, the Reinforcement Unit appears and occupies the objective. Make sure the garrison Unit is its own Formation. In this way, you can give the attacking Formation attack orders and the garrison Unit defend orders. It should then hang around and defend the objective.
- 2) Numerous folks have pointed out that crafty enemy players have taken to dropping paratroops on "distant" airfields separated by non-playable hexes. To prevent this trick, deploy several anti-aircraft (flak) Units in the hexes along with the off-map air Units. This also greatly increases the damage inflicted on enemy air Units attacking these airfields.
- 3) Kurt Mussler has noted that creating one extremely powerful unit can, because of the way Unit strengths are scaled in TOAW, throw off your entire scenario. He noted this when several of his normal strength Units plunged to 1-1 strength after adding a very powerful naval Unit. If you have created a very powerful Unit, consider splitting it up into several smaller Units so as not to throw the Unit strength scaling for a loop. This is especially necessary with ships because most naval equipment is considerably more powerful than land equipment. It's best to make each ship its own Unit.

Appendix B: Changes Since the Last Version of the Guide

- 1) Corrected numerous typos.
- 2) Added note regarding 24 equipment type limit to Part III: The Forces Editor (p.7).
- 3) Added note regarding lack of Supply across black, unplayable hexes to Part II: The Map Editor (p.8).
- 4) Added note regarding Supply across water and unplayable hexes to Part IV: The Deployment Editor (p.13).
- 5) Updated Appendix A: Hints and Tips.
- 6) Added this Appendix.
- 7) Took out paragraphs noting bugs that have been fixed in version 1.03.

Appendix C: Scenario Design Checklist

Organize your research materials

- ☐ Map
- ☐ OOB Force 1
- ☐ OOB Force 2
- ☐ TO&E Force 1
- ☐ TO&E Force 2

Map

- ☐ Determine map scale and size
- ☐ Draw major landmarks
- ☐ Draw area map features (forests, lakes, mountain ranges, etc.)
- ☐ Draw linear map features (roads, rails, rivers, etc.)
- ☐ Draw place names

Forces

Force 1 Force 2

Create Units

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Assign equipment |
| ☐ | ☐ | Name Units |
| ☐ | ☐ | Assign Unit size designations (manual, p.55) |
| ☐ | ☐ | Assign Unit icon color scheme |
| ☐ | ☐ | Assign Unit type symbols (manual, p.56) |

Assign Units to their Formations

- | | | |
|--------------------------|--------------------------|------------------------------|
| ☐ | ☐ | Name Formations |
| ☐ | ☐ | Set Formation support levels |

Name Force

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | |
|--------------------------|--------------------------|--|

Assign Force stats

- | | | |
|--------------------------|--------------------------|------------------------------------|
| ☐ | ☐ | Force flag |
| ☐ | ☐ | Force Proficiency (min.40, max.90) |
| ☐ | ☐ | Force Supply (min.10, max.50) |

Assign Formation stats

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Formation Proficiency (min.50, max.95) |
| ☐ | ☐ | Formation Supply (min.10, max.100) |

Assign Unit stats

- | | | |
|--------------------------|--------------------------|-----------------------------------|
| ☐ | ☐ | Unit Proficiency (min.40, max.90) |
| ☐ | ☐ | Unit Readiness (min.40, max.100) |
| ☐ | ☐ | Unit Supply (min.40, max.100) |

Deployment

Force 1 *Force 2*

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Deploy starting Units |
| ☐ | ☐ | Assign objectives to starting and Reinforcement Units |
| ☐ | ☐ | Set general Programmed Opponent orders and loss tolerances
for Formations |
| ☐ | ☐ | Assign entry hexes and turns for Reinforcements |
| ☐ | ☐ | Set starting orders for individual Units |
| ☐ | ☐ | Set Veteran/Untried toggle for all Units |
| ☐ | ☐ | Place Supply |
| ☐ | | Calculate hex ownership |
| ☐ | | Set temporary Victory Points for objectives |

Events

Force 1 *Force 2*

- | | | |
|--------------------------|--------------------------|--|
| ☐ | ☐ | Set Events 2 and 3: Theater Recon (min.5) |
| ☐ | ☐ | Set Events 4 and 5: Rail Transport (set this even if value is 0) |
| ☐ | ☐ | Set Events 6 and 7: Sea Transport (set this even if value is 0) |
| ☐ | ☐ | Set Events 8 and 9: Air Transport (set this even if value is 0) |

Replacements

- ☐ Set replacement levels

Environment

- ☐ Map scale
☐ Precipitation
☐ Temperature
☐ Visibility

Calendar

- ☐ Turn scale
☐ Start hour
☐ Start day
☐ Start month
☐ Start year
☐ Last turn

Miscellaneous

- ☐ Select First Force
☐ Select Micromap colors
☐ Select 3D icon tint

Briefings

- ☐ Scenario briefing
☐ Force 1 Victory briefing
☐ Force 2 Victory briefing
☐ No Victory briefing